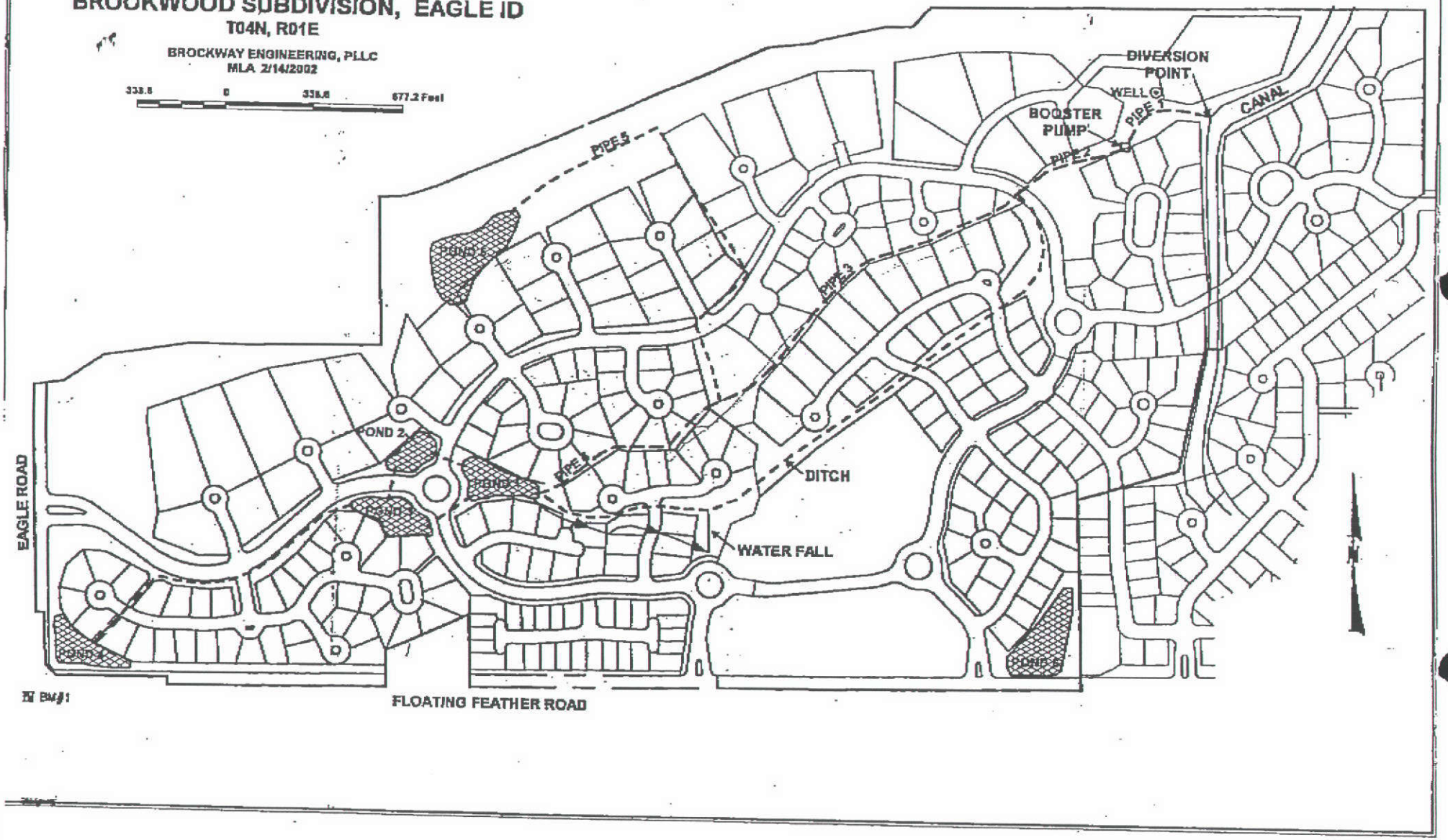
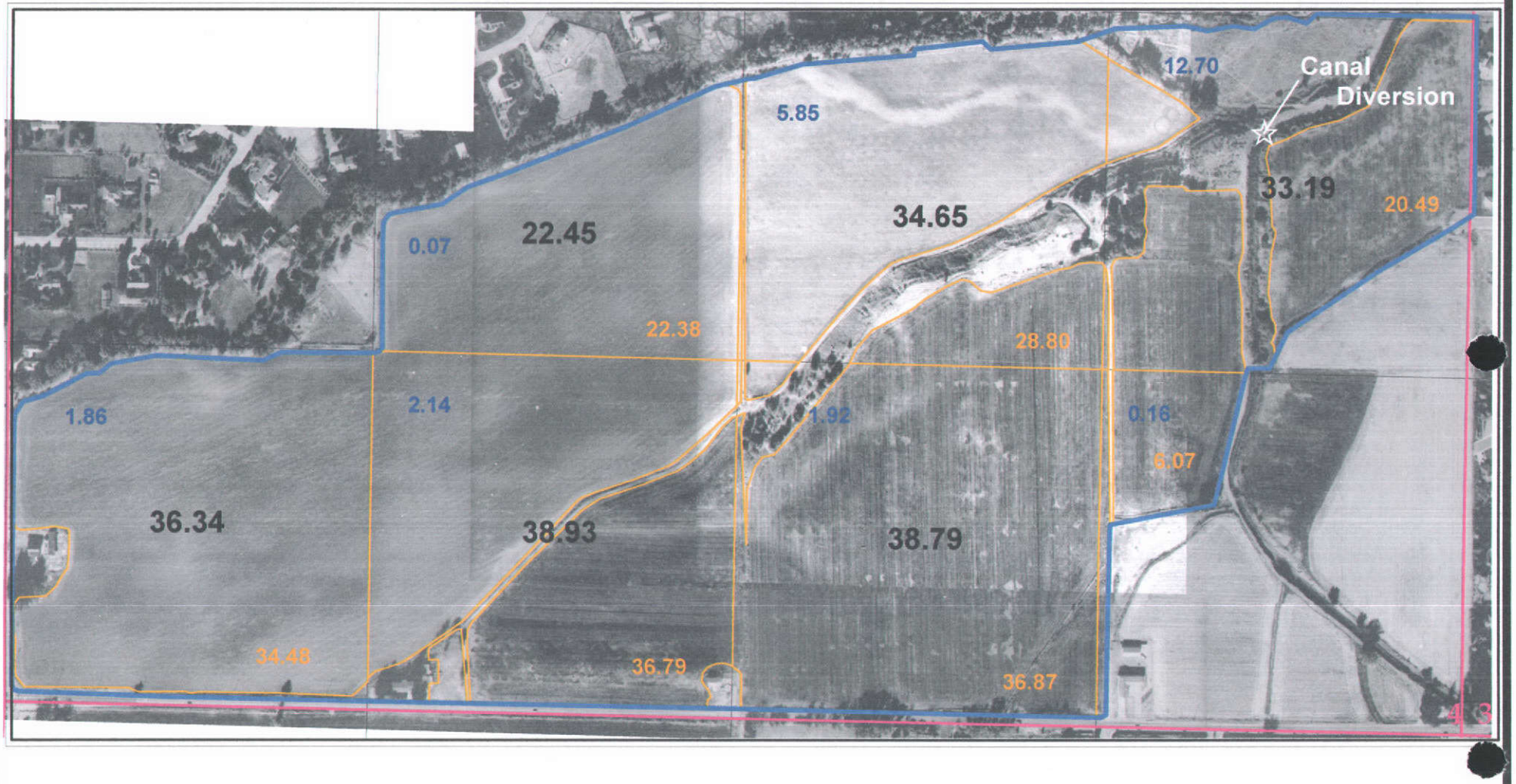
FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet





600 0 600 1200 1800 2400 Feet

N
W E
S

Figure 2.
Brookwood Subdivision
Irrigated Acreage

Property Boundary

Irrigated Acreage
Overall Acreage = 185.92

Brockway Engineering, PLLC
MLA 5/28/2002

FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet

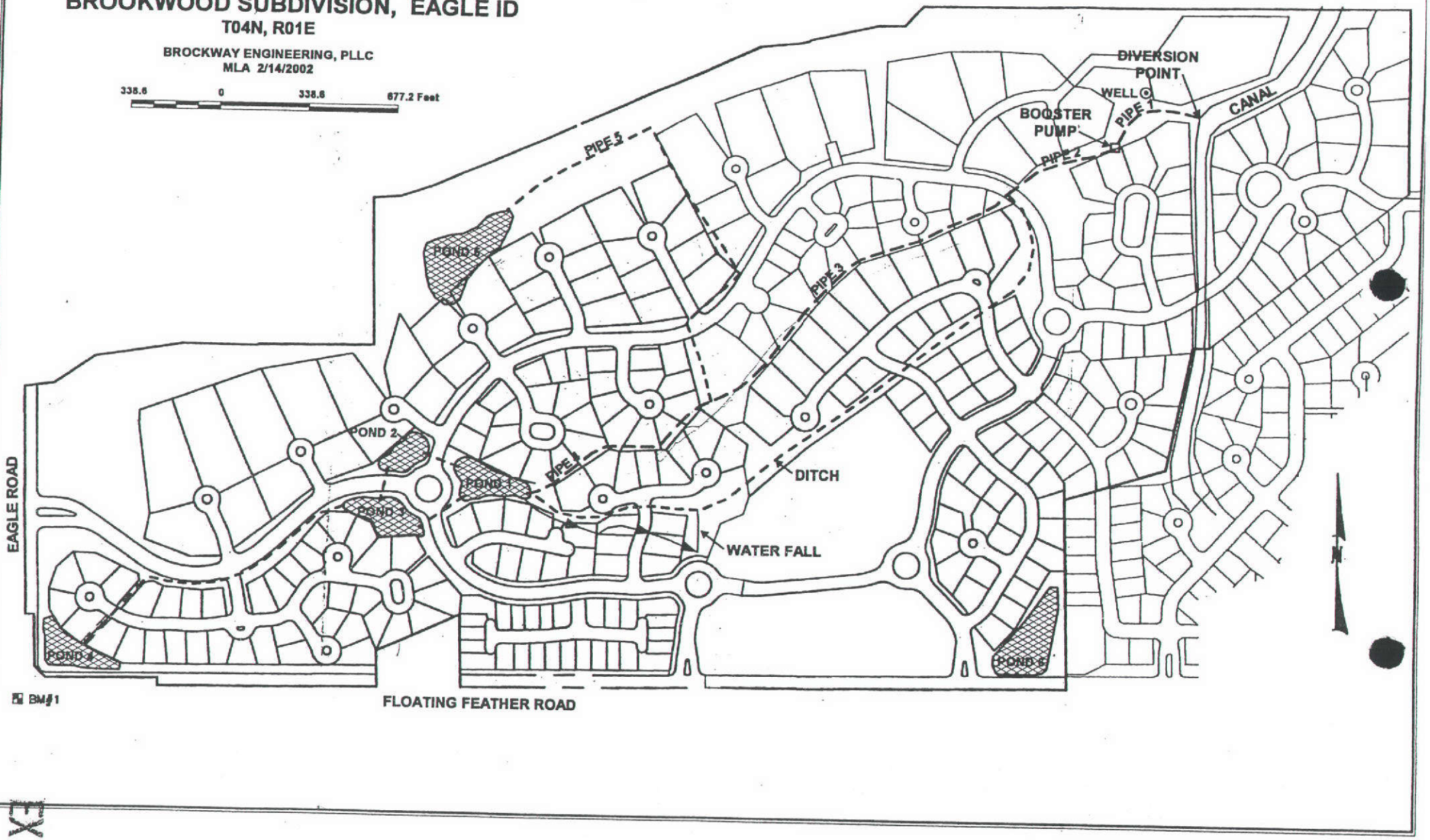
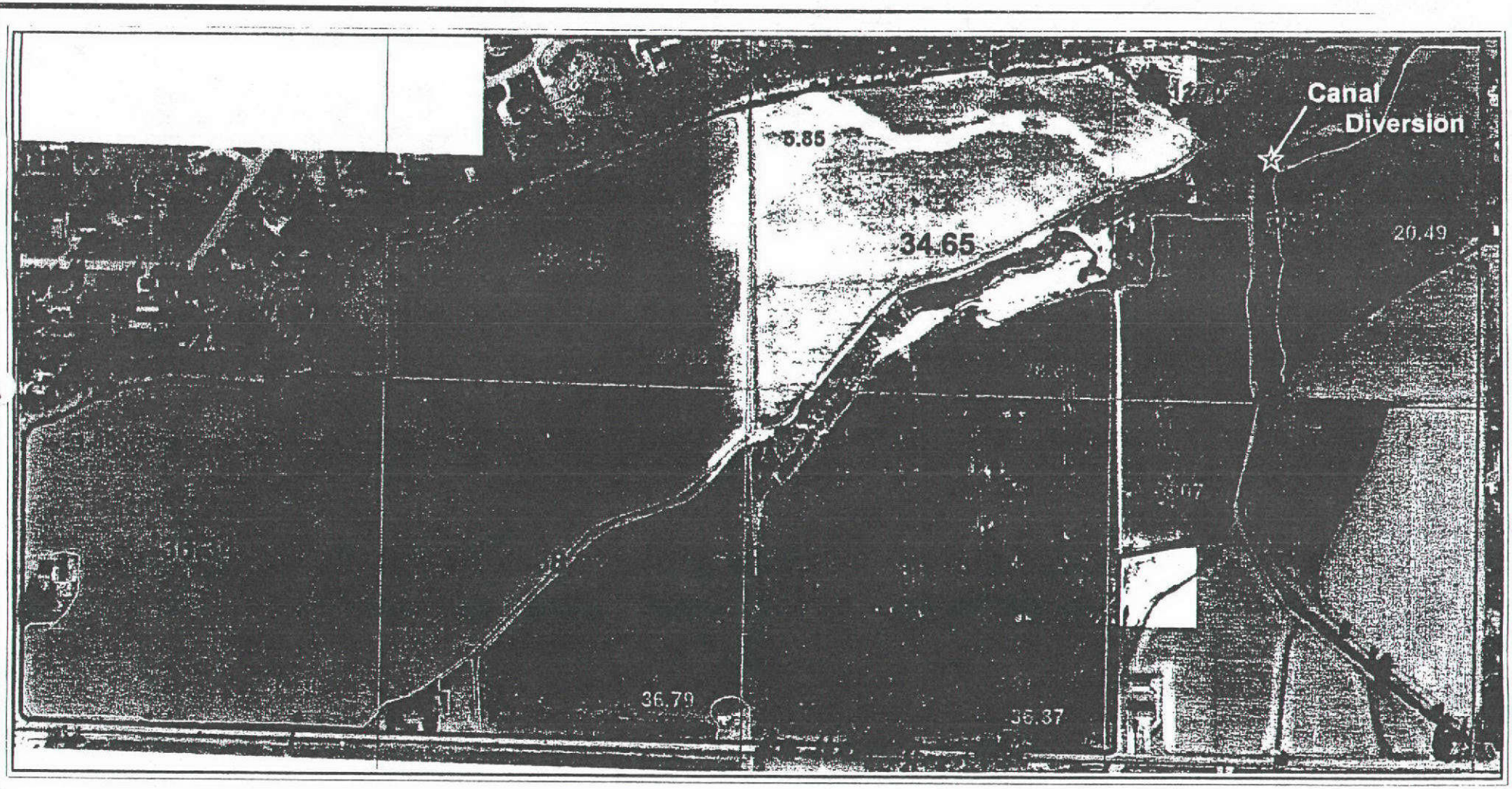


EXHIBIT A



600 0 600 1200 1800 2400 Feet

N
W E
S

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Brockway Engineering, PLLC
MLA 5/28/2002

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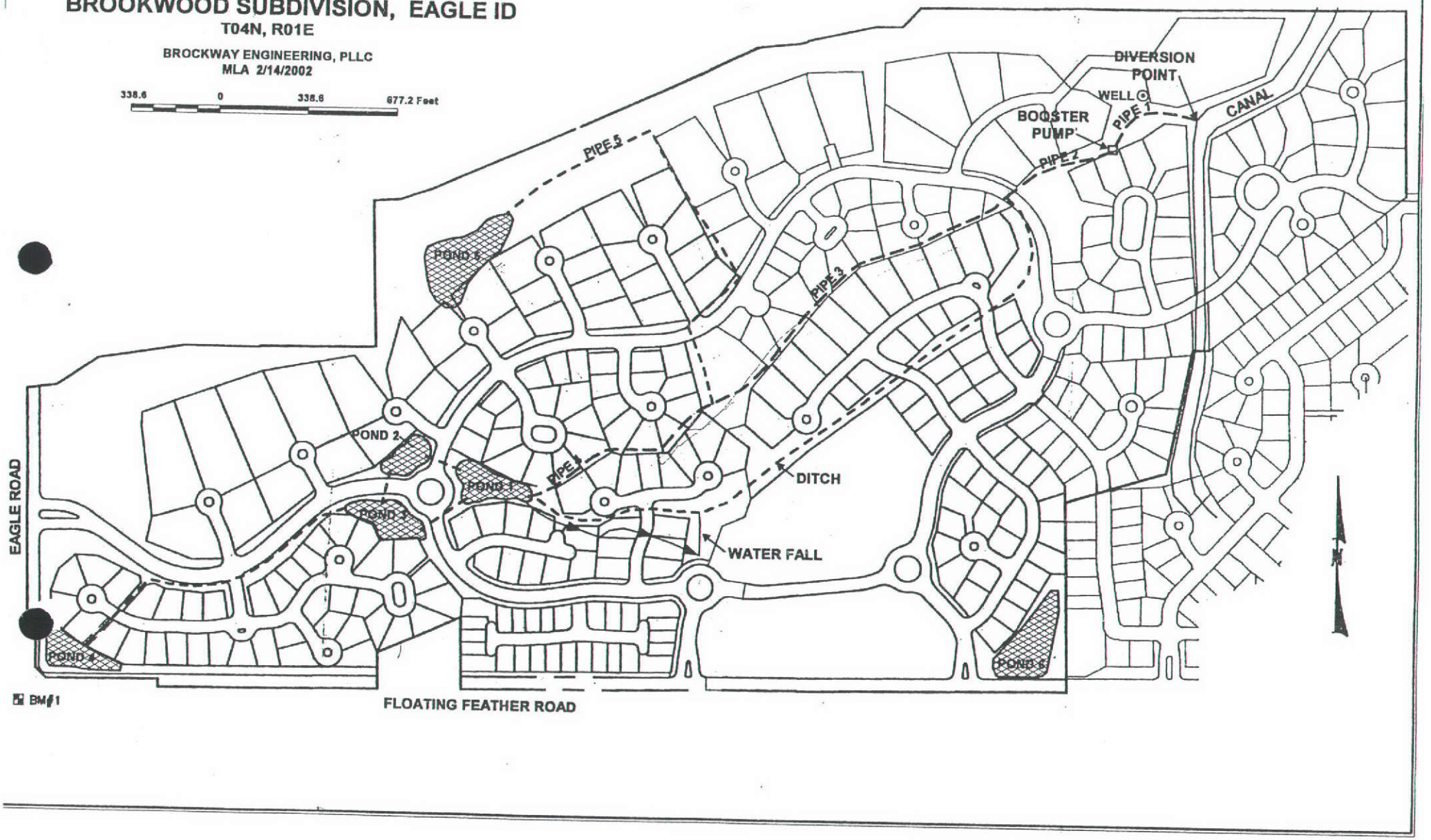
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet



Form 235-1
1/31/03

Drilling Permit No.: _____
Drilling Permit I.D. Tag No.: _____
Water Right Permit No.: _____
Injection Permit No.: _____

Copy

State of Idaho
Department of Water Resources

APPLICATION FOR DRILLING PERMIT
(FOR THE CONSTRUCTION OF A WELL)

1. **Owner (please print):** Aries Development LLC

2. **Mailing Address:** P.O. Box 6887 ~~336-2200~~

   City: Boise **State:** ID **Zip Code:** 83707 **Telephone:** (208) ~~939-2552~~

3. **Proposed Well Location:** Twp. 04N, Rge. 01E, Sec. 4, ____ ¼, NE ¼, SE ¼;

   Gov't Lot No. _____ County Ada Lat. ____: ____: ____ Long. ____: ____: ____

   Street Address of Well Site 1/3 mile North of Floating Feather Road City Eagle
   Give at least name of road + Distance to Road or Landmark

   Lot, block and subdivision Brookwood Subdivision

4. **Proposed Use of Well:**

   ☐ DOMESTIC: The use of water fro homes, organization camps, public campgrounds, livestock and for any other purpose in connection therewith, including irrigation of up to ½ acre of land, if the total use is not in excess of 13,000 gpd; or any other uses, if the total use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

   Domestic does not include water for multiple ownership subdivisions, mobile home parks, commercial or business establishments, unless the use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

   NON-DOMESTIC:
   ☐ Irrigation ☐ Municipal ☐ Industrial
   ☐ Livestock ☐ Test ☒ Other: Aesthetic pond mitigation (Describe)
   Type _____ # Head _____

   ☐ INJECTION

   ☐ MONITORING: A well bore schematic and map is required for each blanket permit. No. of proposed wells: ____

5. **Well Construction Information:**

   A. ☒ New Well ☐ Modify ☐ Replace

   B. Proposed Casing Diameter 6 Proposed Maximum Depth 100

   C. Anticipated bottom hole temperature:
   ☒ 85°F or less (Cold Water Well) ☐ 85°F to 212°F (Low Temp. Geo. Well) ☐ 212°F or more (Geothermal Well)

6. **Construction Start Date:** ~~October 2004~~ May/June 2005

7. **Anticipated Well Driller:** TBD Driller's Lic. No. _____
   NOTE: The actual well driller must be identified prior to drilling.

8. **Applicant's Signature:** [signature] Date: 4/28/05

   Address (if different than owner): Brockway Engineering PLLC, 2016 Washington Street North, Suite 4

   City: Twin Falls State: ID Zip Code: 83301 Telephone: 208-736-8543

   Title: Charles E. Brockway, Engineer (Owner Representative)
   (Owner, Firm Representative, Other)

ACTION OF THE DEPARTMENT OF WATER RESOURCES

This Permit is _____. Date: _____

If approved, this permit authorizes the construction of modification of a well subject to the following conditions. **READ CAREFULLY!**

GENERAL CONDITIONS:

1. This drilling permit is valid for two (2) months from the above approval date for the start of construction and is valid for one (1) year from the approval date for completion of the well unless an extension has been granted.
2. This permit does not constitute an approval of the District Health Department or the Idaho Department of Health and Welfare, which may be required before construction of the well. All wells must be drilled a minimum distance of 100 feet from a drain field. Domestic and Public Water Supply wells must be drilled a minimum of 50 feet and 100 feet respectively from a septic tank.
3. The well shall be constructed by a driller currently licensed in the State of Idaho who must maintain a copy of the drilling permit at the drilling site.
4. Approval of this drilling permit does not authorize trespass on the land of another party.
5. This permit does not represent a right to divert and use the water of the State of Idaho.
6. This drilling permit does not represent a right to divert and use the water of the State of Idaho.
7. If a bottom hole temperature of 85° or greater is encountered, well construction shall cease and the well driller and the well owner shall contact the Department immediately.
8. Idaho Code, S 55-2201 – 55-2210 requires the applicant and/or his contractors to contact "DigLine" (DigLine is a one-call center for utility notification) not less than 2 working days prior to the start of any excavation for this project. The "DigLine" number for your area is 1-800-342-1585.
9. Please be advised that this drilling permit should be considered and treated as a preliminary permit. If you are in disagreement with this preliminary permit you have fourteen (14) days of the service date of this permit to petition the Department for reconsideration pursuant to Section 67-5243, Idaho Code.
10. The well tag for the drilling permit/start card shall be securely and permanently attached to the well casing through welding or by the use of four closed and domed stainless steel pop rivets. The tag attachment will be done at the time of completion of the well, and prior to removing the drill rig from the drill site.

SPECIFIC CONDITIONS:

Copy

_____ _____

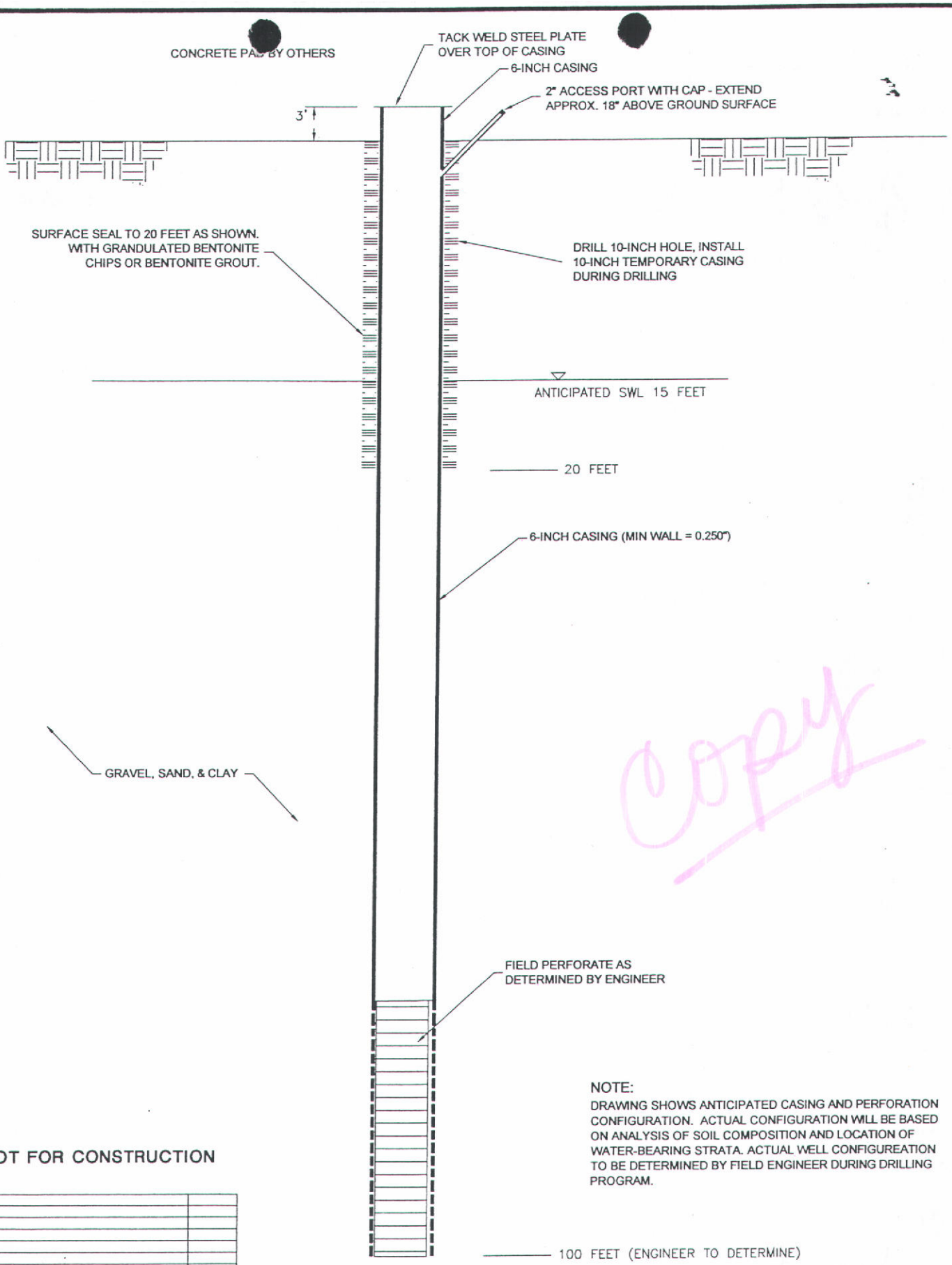
Signature of Authorized Department Representative Title

Receipt No.: _____ Receipted by: _____ Fee: _____ Date: _____

EXTENSION OF DRILLING PERMIT

Extension approved by: _____ Approval Date: _____

This extension expires: _____



Copy

NOTE:
DRAWING SHOWS ANTICIPATED CASING AND PERFORATION CONFIGURATION. ACTUAL CONFIGURATION WILL BE BASED ON ANALYSIS OF SOIL COMPOSITION AND LOCATION OF WATER-BEARING STRATA. ACTUAL WELL CONFIGUREATION TO BE DETERMINED BY FIELD ENGINEER DURING DRILLING PROGRAM.

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE

THIS DRAWING HAS BEEN PREPARED BY BROCKWAY ENGINEERING, PLLC FOR A SPECIFIC PROJECT TAKING INTO ACCOUNT THE SPECIFIC AND UNIQUE REQUIREMENTS OF THE PROJECT. REUSE OF THIS DRAWING FOR ANY PURPOSE IS PROHIBITED UNLESS WRITTEN PERMISSION FROM BOTH BROCKWAY ENGINEERING & THE CLIENT IS GRANTED.

SCALE 0"-000'
(8.5 X 11 DWG ONLY)
DESIGNED BY CEB
DRAWN BY ALR

BROCKWAY ENGINEERING, PLLC
HYDRAULICS - HYDROLOGY - WATER RESOURCES
2016 NORTH WASHINGTON, SUITE 4
WTIN FALLS, ID 83301
(208) 736-8543

ARIES DEVELOPMENT-BROOKWOOD SUBDIVISION

WELL SECTION & CONFIGURATION PROPOSED NEW WELL

PROJECT # 521-01-2001
DATE 10/04/04
REV △

FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet

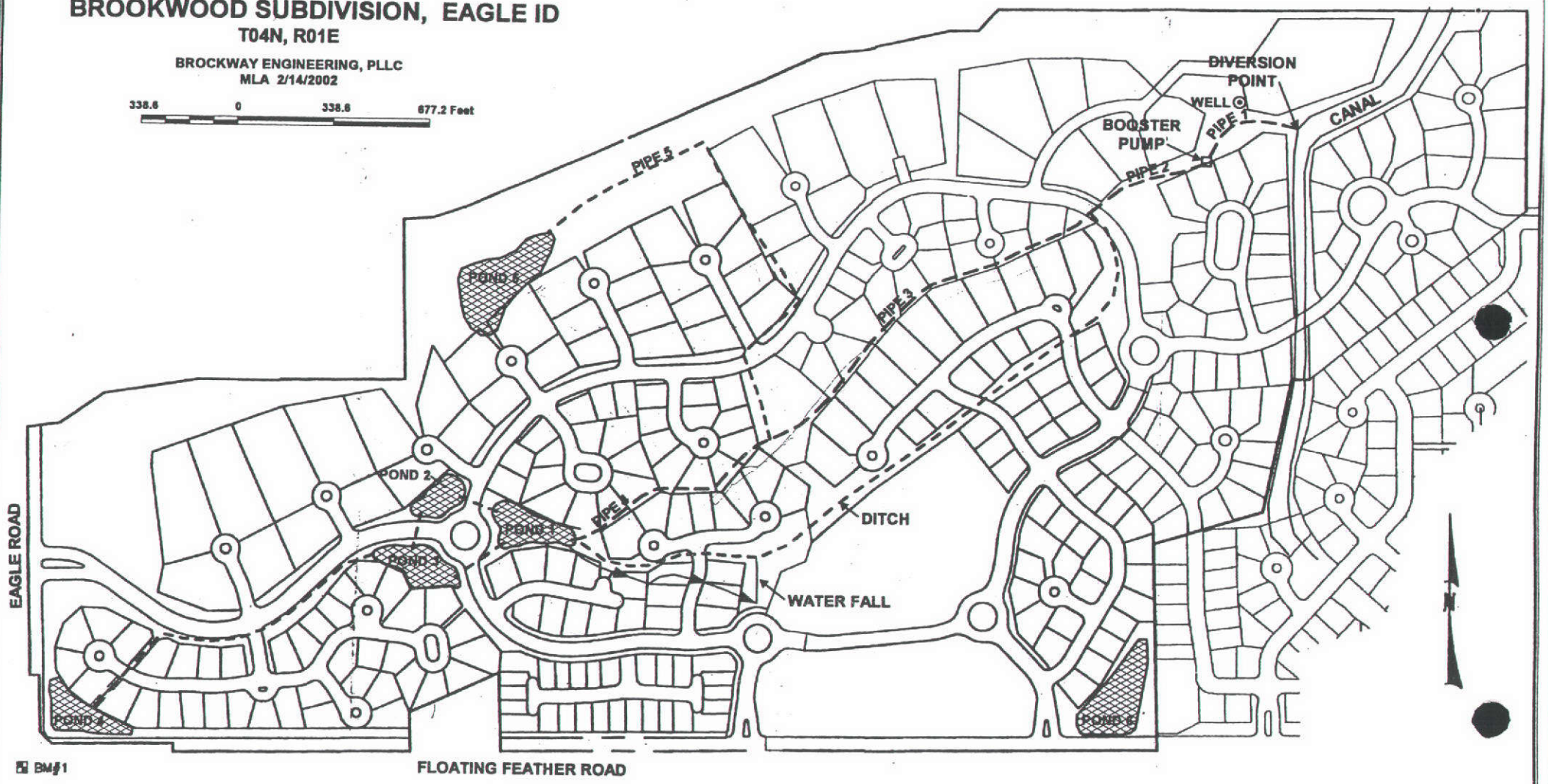
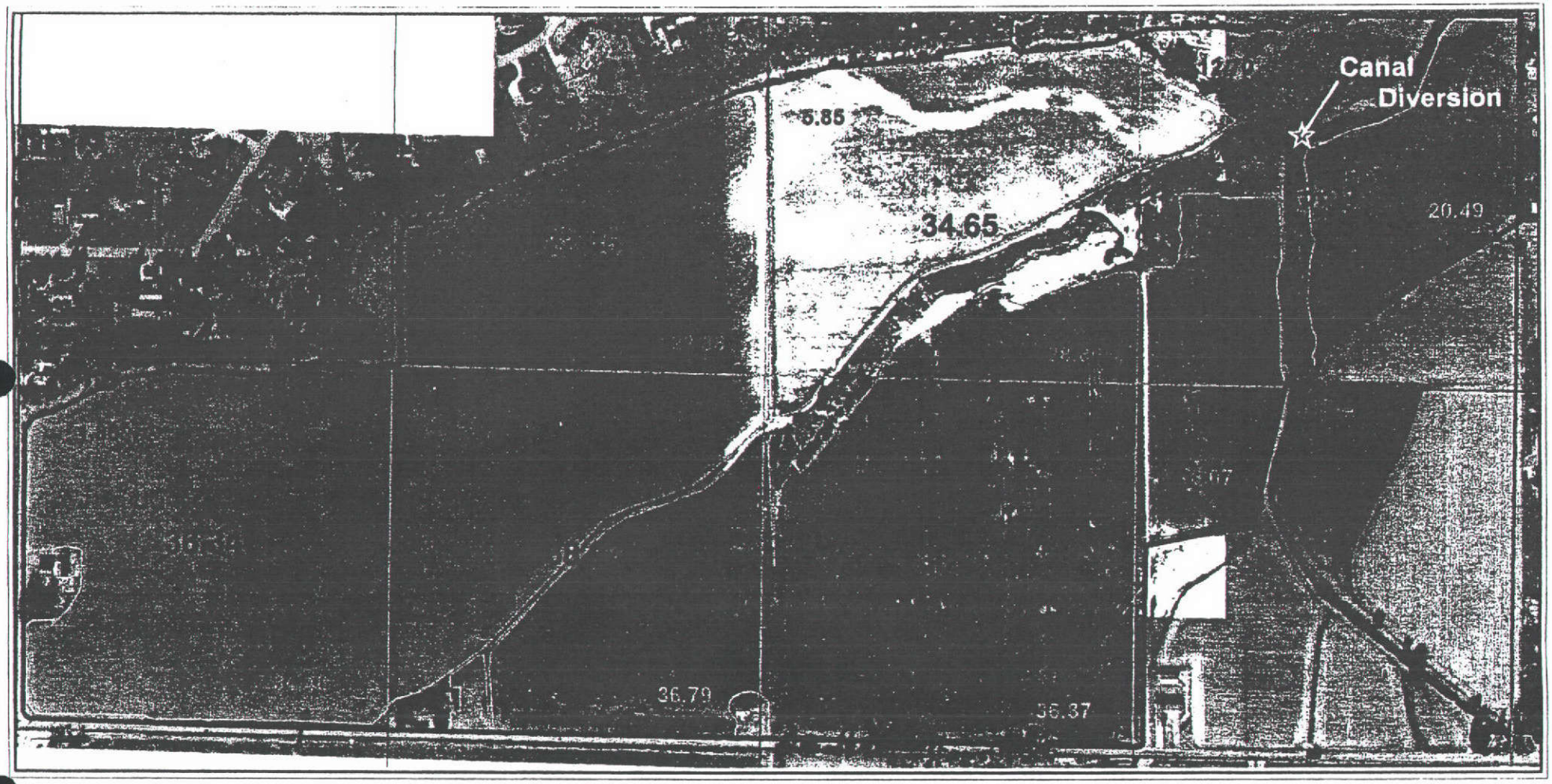


EXHIBIT A



600 0 600 1200 1800 2400 Feet

N
W E
S

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Brookwood Subdivision
Irrigated Acreage

Property Boundary

Irrigated Acreage
Overall Acreage = 185.92

Brockway Engineering, PLLC
MLA 5/28/2002

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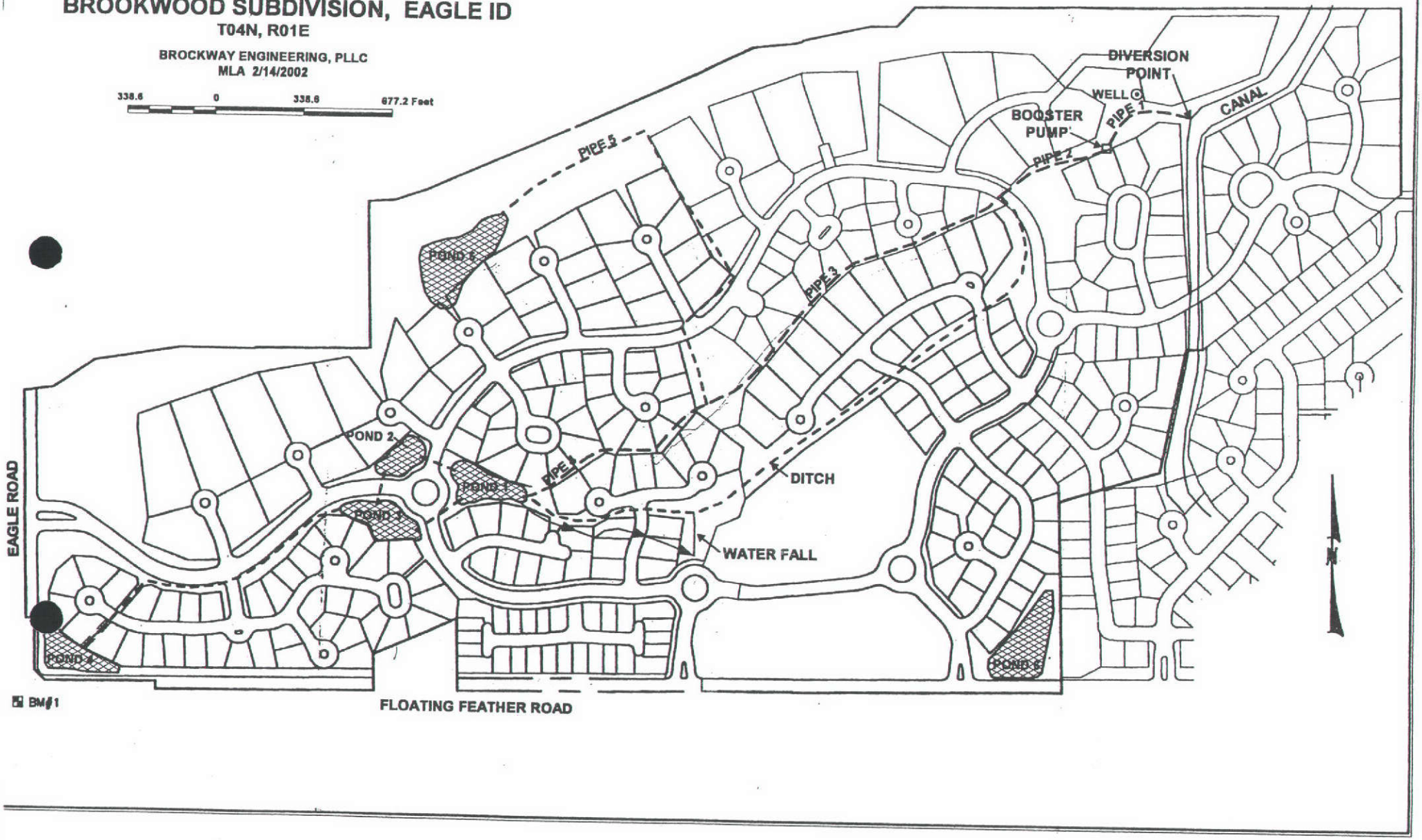
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

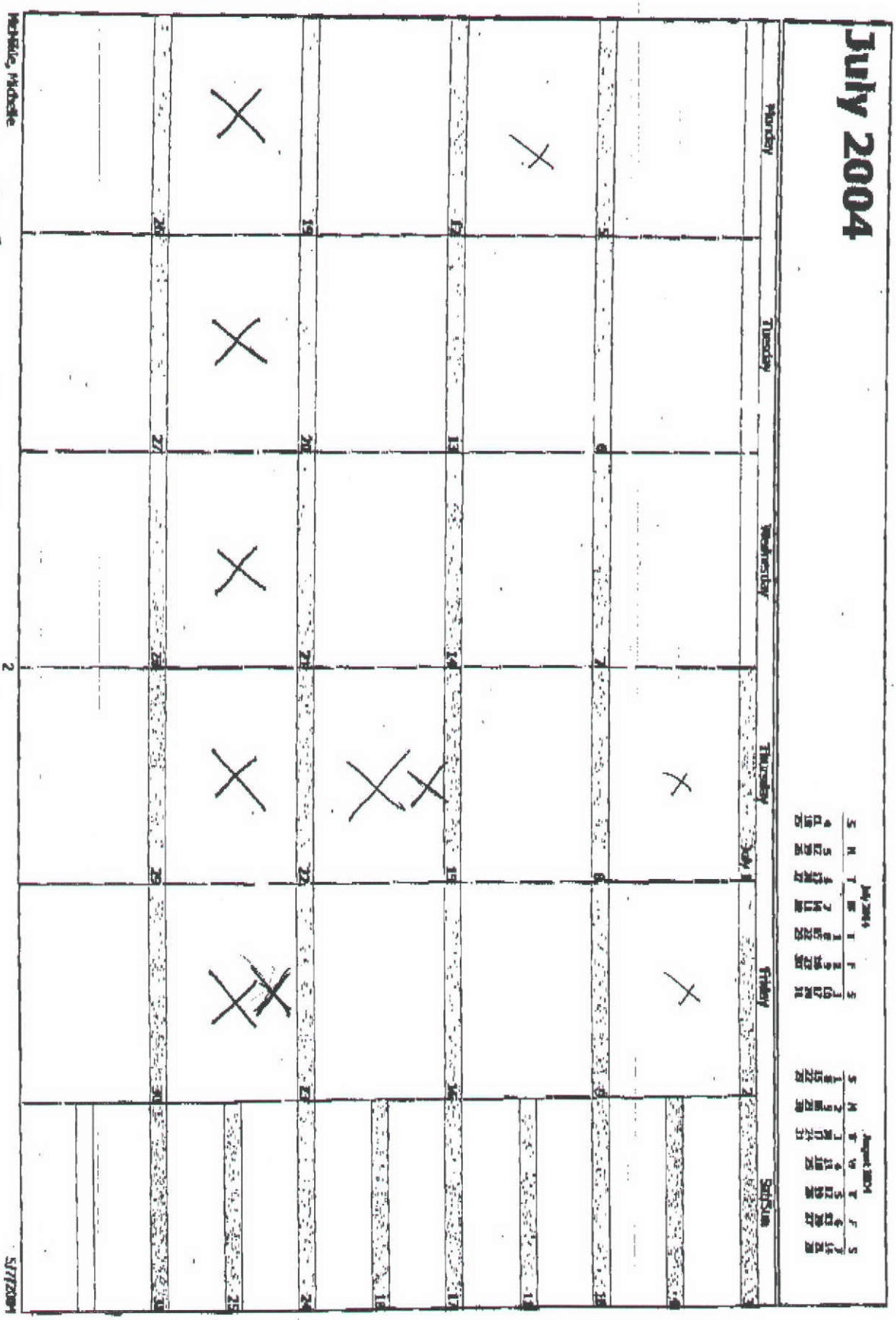
BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet



MAY-12-2004 WED 03:40 PM RHSW&S FAX NO. 12087360041 P. 02

X = C.E. Brockway Unavailable
XX = J. Evan Robertson unavailable



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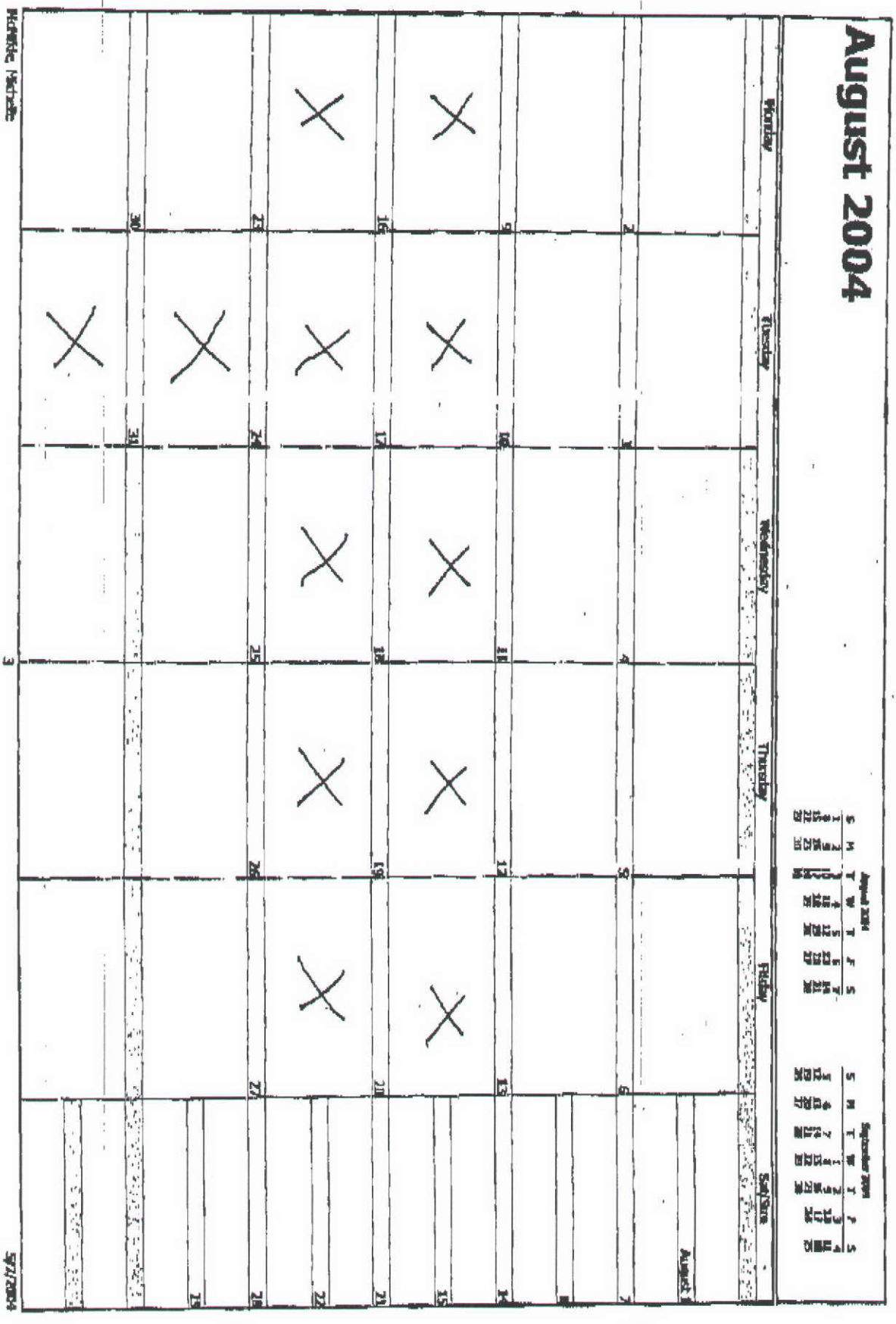

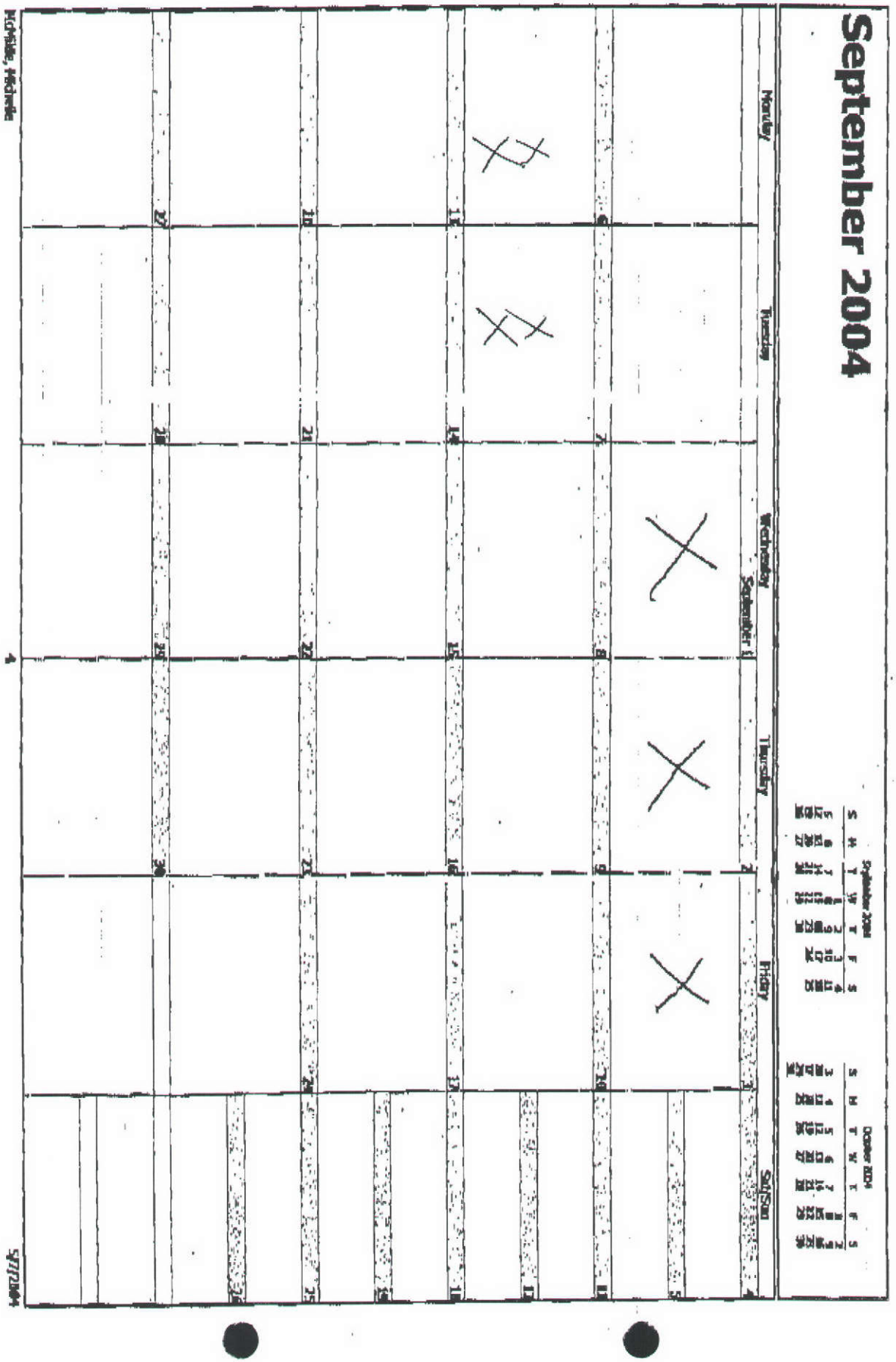
September 2004
Monday
Tuesday
Wednesday
September 1
Thursday
Friday
Saturday
X
X
X
X

July 2004

EAGLE NEIGHBORS, INC
AIRES DEV. APPLICATION

July 2004

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

August 2004

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Monday	Tuesday	Wednesday	Thursday	Friday	Sat/Sun
		1 X 9-11	2 X 8-12	3 X 9-12	4
5 HOLIDAY X	6	7 X 9-11	8 X 8-12	9 X 9-12	10 11
12 BUS TRAVEL → X	13 X	14 X	15 X	16 X	17 18
19	20	21 X 9-11	22 X 8-12	23 X 9-12	24 25
26	27	28 X 9-11	29 X 8-12	30 X 9-12	31

May 20 2004 3:31PM HP LASERJET 3200 p.2

August 2004

EAGLE NEIGHBORS, INC
ARIES DEV. APPLICATION

August 2004

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

September 2004

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Monday	Tuesday	Wednesday	Thursday	Friday	Sat/Sun
					August 1
2	3	4 X 9-11	5 X 8-12	6 X 9-12	7 8
9	10	11 X 9-11	12 X 8-12	13 X 9-12	14 15
16	17	18	19 X 8-12	20 X 9-12	21 22
23 BOS TRAVEL X	24 X	25 X	26 X	27 X	28 29
30	31				

5/7/2004

McMikle, Michelle

3

May 20 2004 3:31PM HP LASERJET 3200 p.3

September 2004

EAGLE NEIGHBORS, INC.
ROLES DEV. APPLICATION

September 2004

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

October 2004

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Monday	Tuesday	Wednesday	Thursday	Friday	Sat/Sun
		September 1 X 9-11	X 8-12	X	4 5
6 HOLIDAY X	7 BUS TRAVEL - EU → X	8 X	9 X	10 X	11 12
13 BUS TRAVEL - EU → X	14 X	15 X	16 X	17 X	18 19
20 X	21 X	22 X 9-11	23 X 8-12	24 X	25 X 26 X
27 X	28 X	29 X 9-11	30 X 8-12		

5/7/2004

McMikle, Michelle

May 20 2004 3:31PM HP LASERJET 3200 P.4

July 2004

July 2004

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

August 2004

S	M	T	W	T	F	S
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8	9	10	11	12	13	14
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22	23	24	25	26	27	28
29	30	31				

Monday	Tuesday	Wednesday	Thursday	Friday	Sat/Sun
			1	2	3 4
5	6	7	8	9	10 11
12	13	14	15	16	17 18
19	20	21	22	23	24 25
26	27	28	29	30	31

05/11/2004 15:49 FAX 3331202 MOORE SMITH BUXTON TURCK 002

August 2004

August 2004

S	M	T	W	T	F	S
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8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

September 2004

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Monday	Tuesday	Wednesday	Thursday	Friday	Sat/Sun
					August 1
2	3	4	5	6	8
9	10	11	12	13	14 15
16	17 Ok	18	19	20	21 22
23	24	25	26	27	28 29
30	31				

05/11/2004 15:50 FAX 3331202 MOORE SMITH BUXTON TURCK 003

September 2004

September 2004

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

October 2004

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Monday	Tuesday	Wednesday	Thursday	Friday	Sat/Sun
		September 1	2	3	4 5
6	7	8	9	10	11 12
13	14	15	16	17	18 19
20	21	22	23	24	25 26
27	28	29	30		

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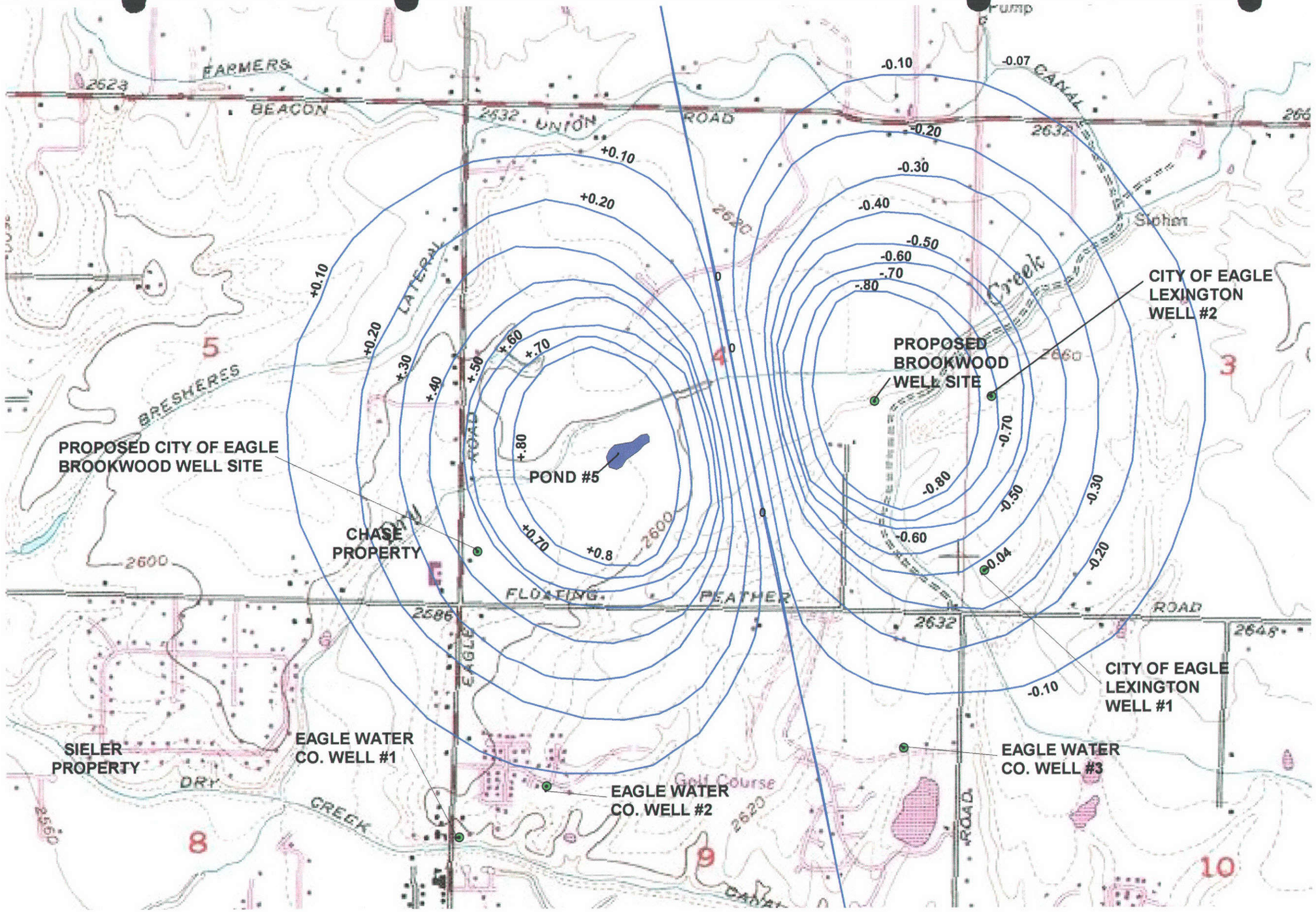
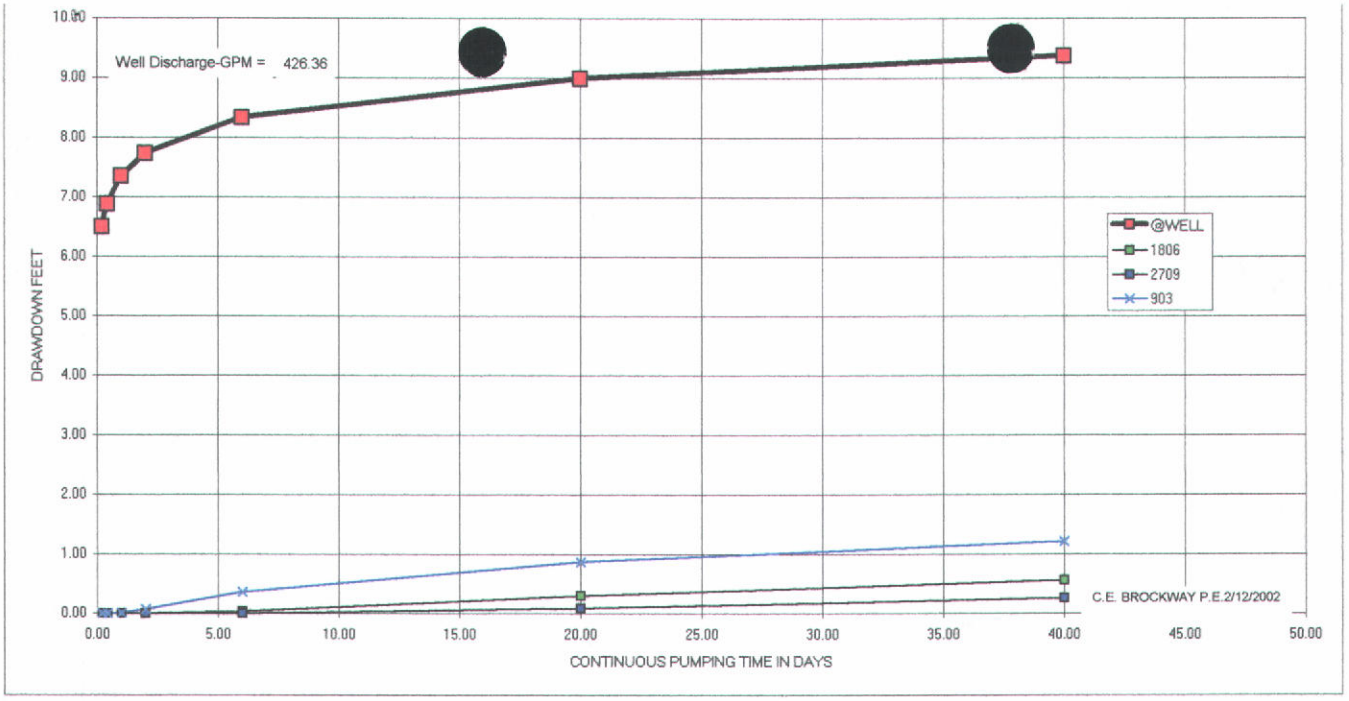


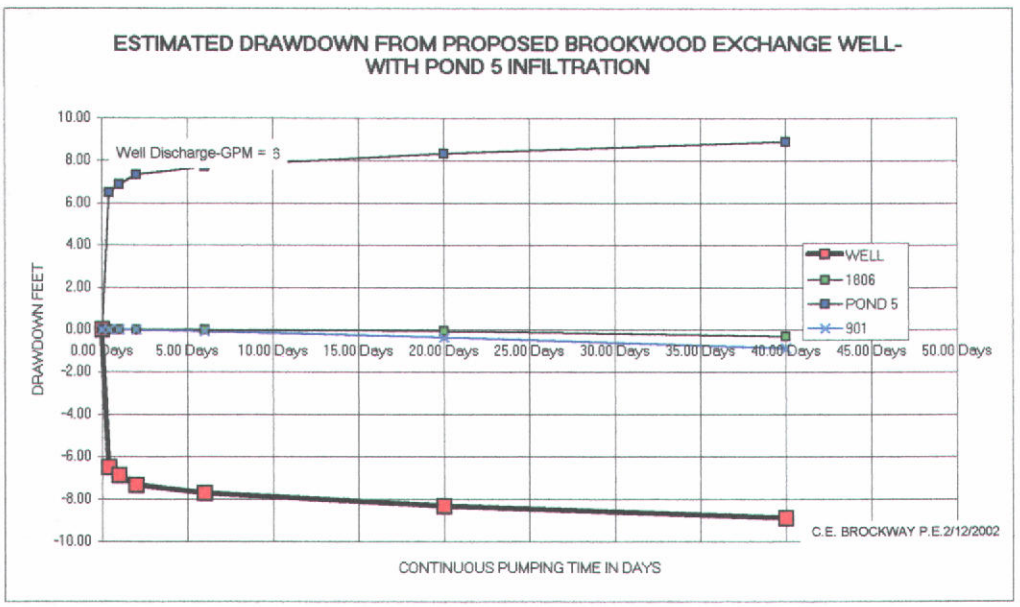
BROOKWOOD SUBDIVISION
WATER TABLE ANALYSIS

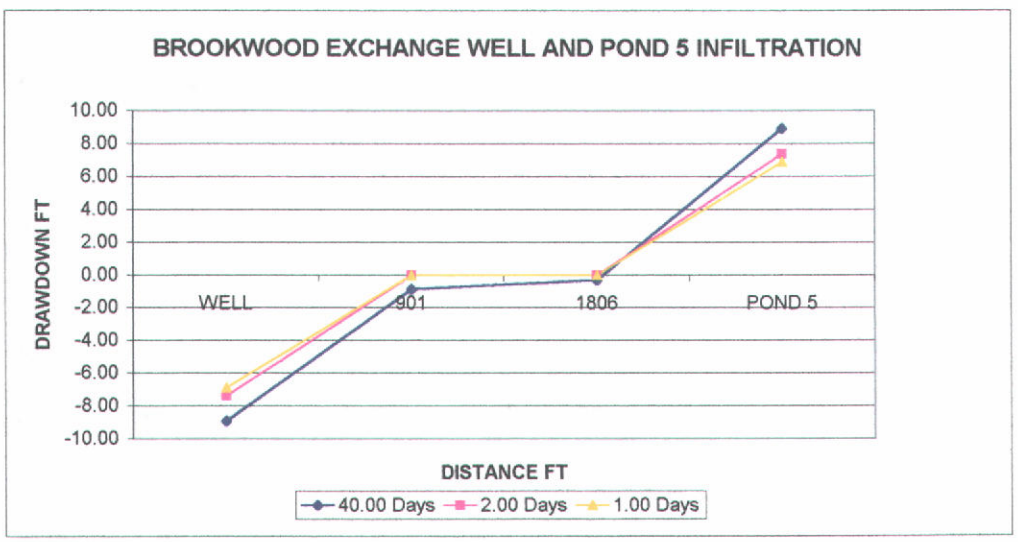
Net Draw Down Lines
Pond #5
New well

N

BROCKWAY ENGINEERING, PLLC.
ALR MARCH 18, 2004


Well Discharge-GPM = 426.36
DRAWDOWN FEET
CONTINUOUS PUMPING TIME IN DAYS
@WELL
1806
2709
903
C.E. BROCKWAY P.E.2/12/2002


ESTIMATED DRAWDOWN FROM PROPOSED BROOKWOOD EXCHANGE WELL-
WITH POND 5 INFILTRATION
Well Discharge-GPM = 3
DRAWDOWN FEET
CONTINUOUS PUMPING TIME IN DAYS
WELL
1806
POND 5
901
C.E. BROCKWAY P.E.2/12/2002


BROOKWOOD EXCHANGE WELL AND POND 5 INFILTRATION
DRAWDOWN FT
WELL
901
1806
POND 5
DISTANCE FT
40.00 Days
2.00 Days
1.00 Days

PROBABLE COST - PROPOSED EAGLE MUNICIPAL WELL - Project No. 091698

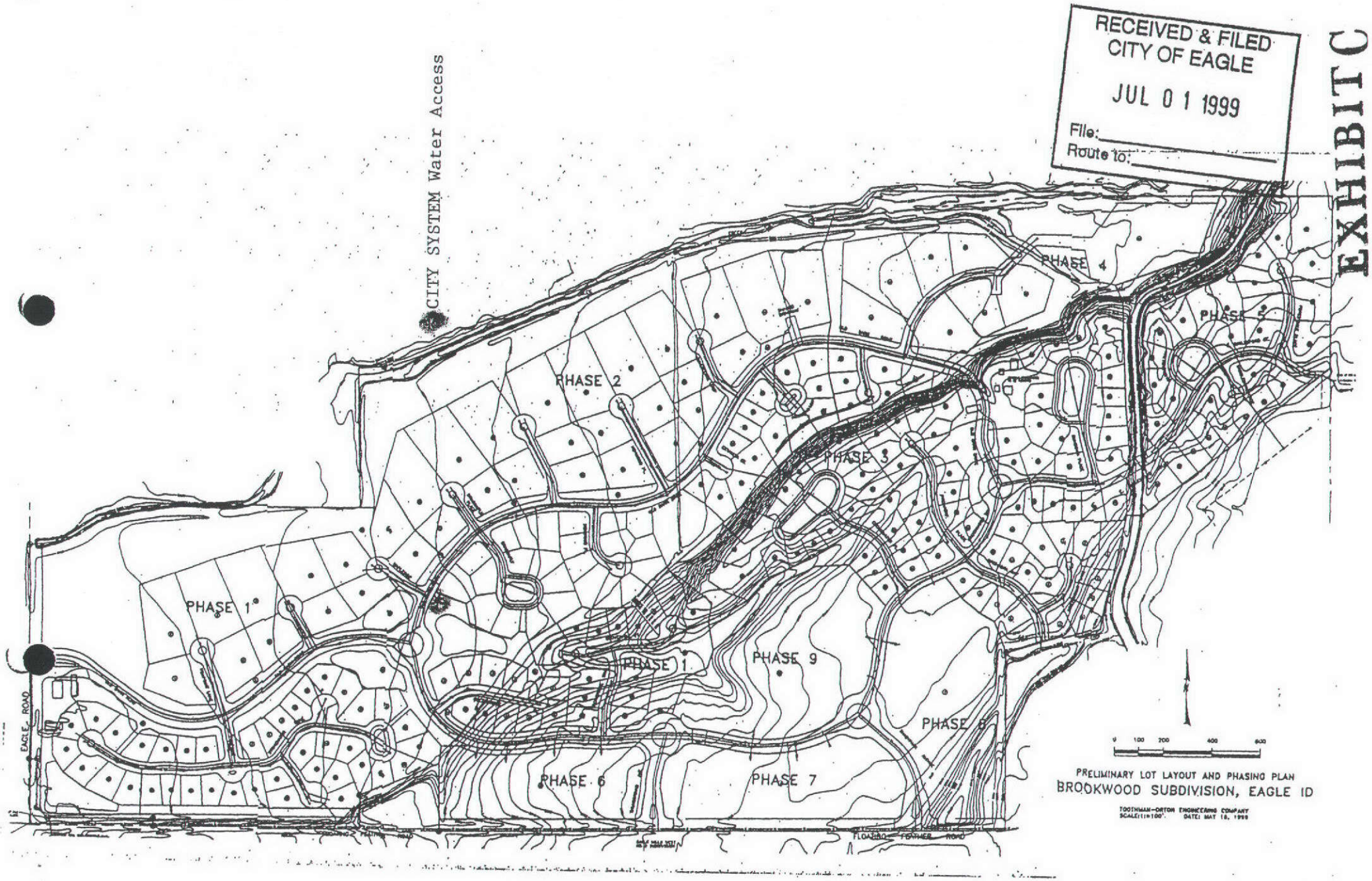
ITEM	UNITS	UNIT COST	ITEM COST	PHASE COST
WELL CONSTRUCTION & TESTING				[illegible]
Design & Permitting	40 hrs	75.00	3,000.00	
24-inch Drilling	160 ft	58.00	9280.00	
16-inch Drilling	190 ft	58.00	11,020.00	
16-inch Casing	160 ft	28.35	4,536.00	
10-inch Well Screen	110 ft	107.00	11,770.00	
10-inch Casing	65 ft	19.86	1,291.00	
Colo Silica Sand Filter	7 yds	527.00	3,689.00	
Packer/Reducer	1	2,500.00	2,500.00	
Well Development	40 hrs	135.00	5,400.00	
Surface Seal	160 ft	17.86	2,858.00	
Pump Test	10 hrs	130.00	1,300.00	
Mobilization	1	2,500.00	2,500.00	
Geoscience (permit, design & inspecting)	200 hrs	75.00	15,000.00	
Outside Labor (lab water testing)	LS	1,500.00	1,500.00	
ELECTRICAL				[illegible]
Three-Phase Power	1	10,000.00	10,000.00	
Pump & Motor (800 gpm @ 300 ft TDH)	1	16,000.00	16,000.00	
Discharge Pipe	1	10,000.00	10,000.00	
Flow Meter	1	1,750.00	1,750.00	
Electrical Equipment	1	29,000.00	29,000.00	
Installation Labor	1	1,380.00	1,380.00	
Engineering	LS	13,000.00	13,000.00	
WELL TIE IN				[illegible]
Labor & Materials	LS	10,000.00	10,000.00	
Engineering Inspection	LS	2,000.00	2,000.00	
PUMPHOUSE / LANDSCAPING / PAVEMENT				[illegible]
Engineering Design & Constr. Inspection	LS	3,000.00	3,000.00	
Materials & Installation	LS	20,000.00	20,000.00	
TREATMENT EQUIPMENT				[illegible]
Chlorine Equipment	1	17,500.00	17,500.00	
Engineering	LS	2,500.00	2,500.00	
CONTINGENCY - 15%				[illegible]
TOTAL				[illegible]

EXHIBIT A

C

EXHIBIT C

RECEIVED & FILED
CITY OF EAGLE
JUL 01 1999
File:
Route to:

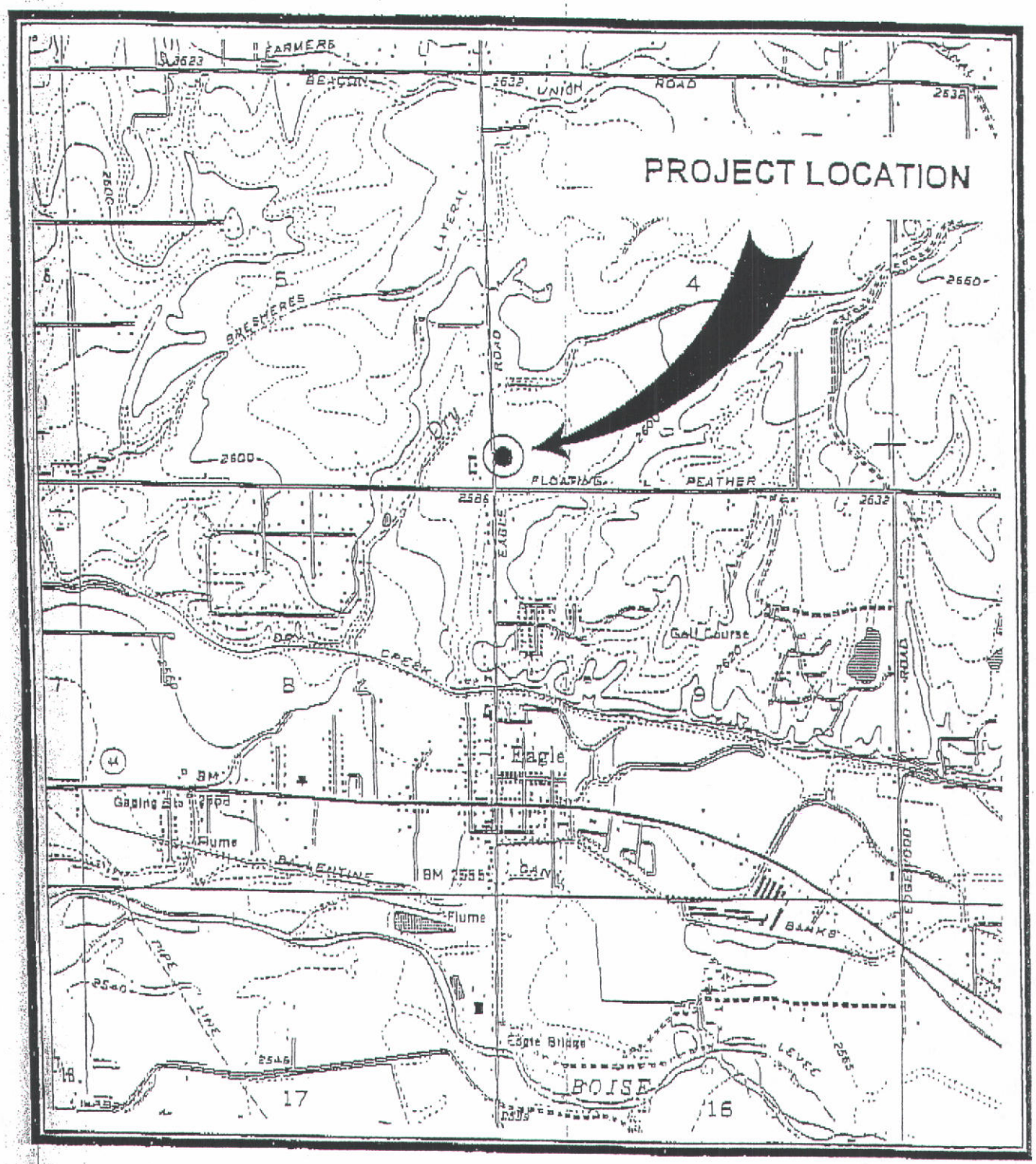


PRELIMINARY LOT LAYOUT AND PHASING PLAN
BROOKWOOD SUBDIVISION, EAGLE ID

TOOTHMAN-ORTON ENGINEERING COMPANY
SCALE: 1"=100' DATE: MAY 18, 1999

Complete the following map by showing land and point of diversion as proposed by this amendment. Show 1/4 1/4, section, township, range and ditches. (The smallest subdivision represents 40 acres.)

The following map shows the City of Eagle Well #3 (Brookwood Subdivision Well) site now under construction. It is labeled "Project Location":



VICINITY MAP

MODIFIED FROM EAGLE, ID. 7 1/2-MIN. TOPOGRAPHIC MAP

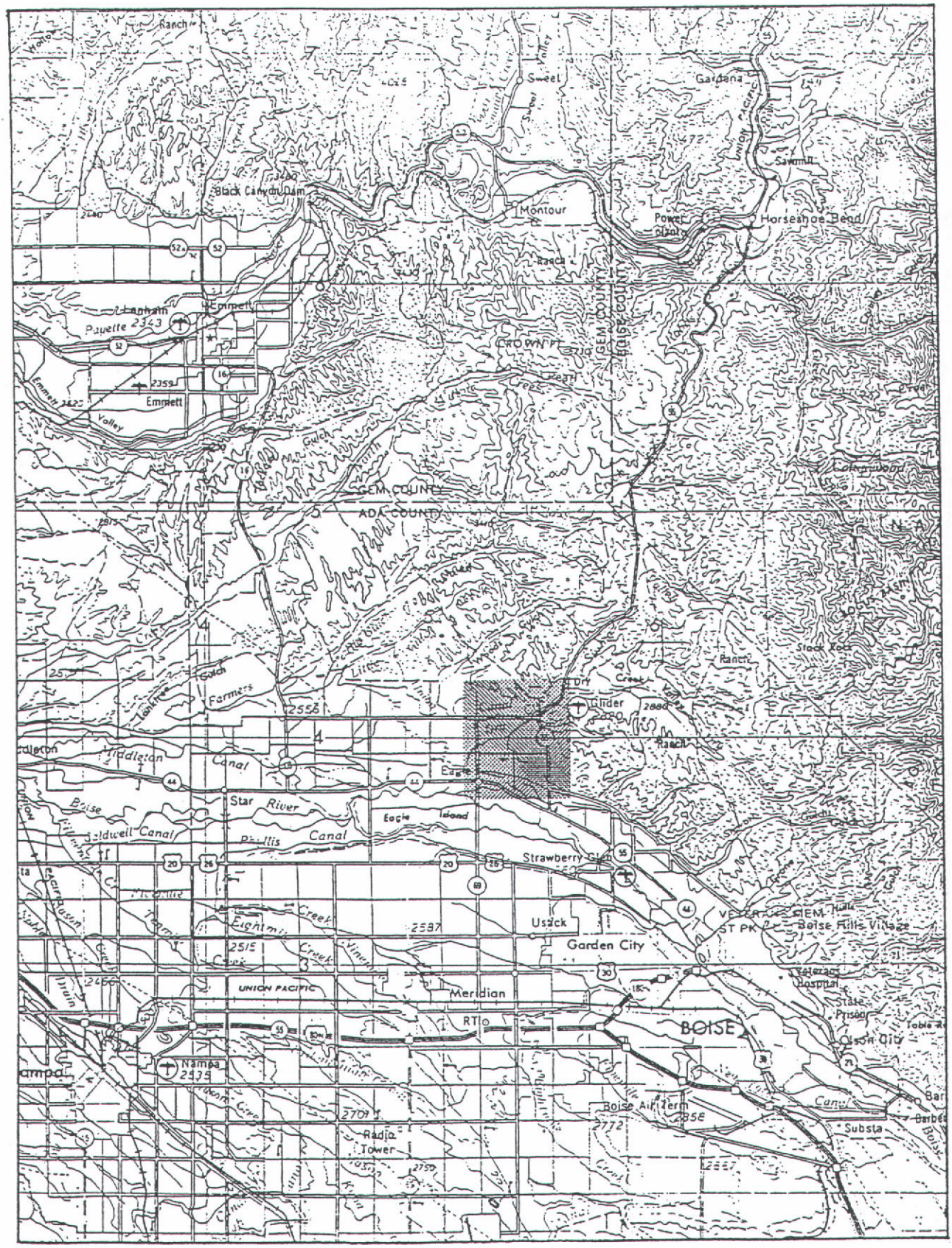


Figure 1. Location of study area

DRY CREEK AREA

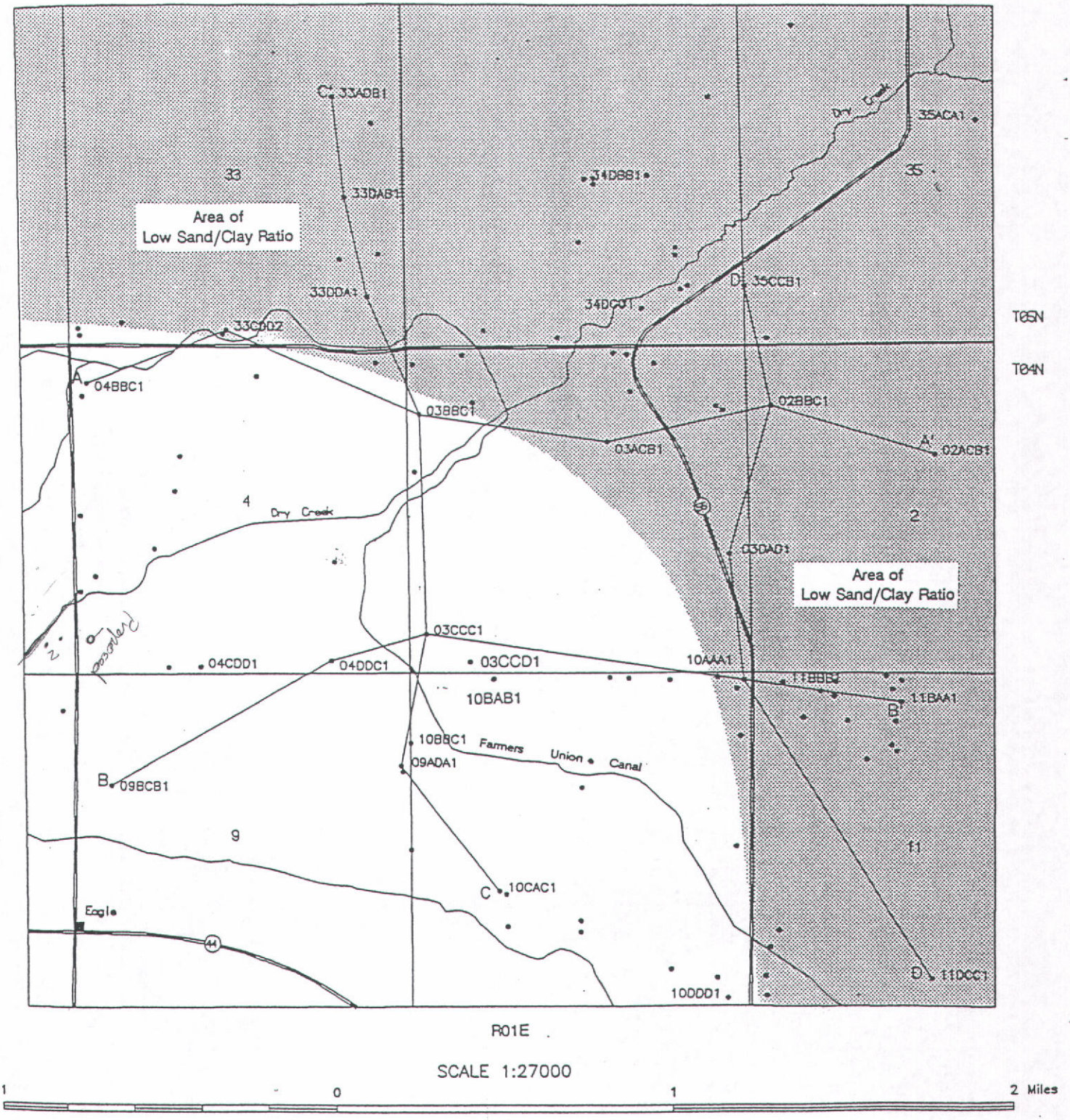
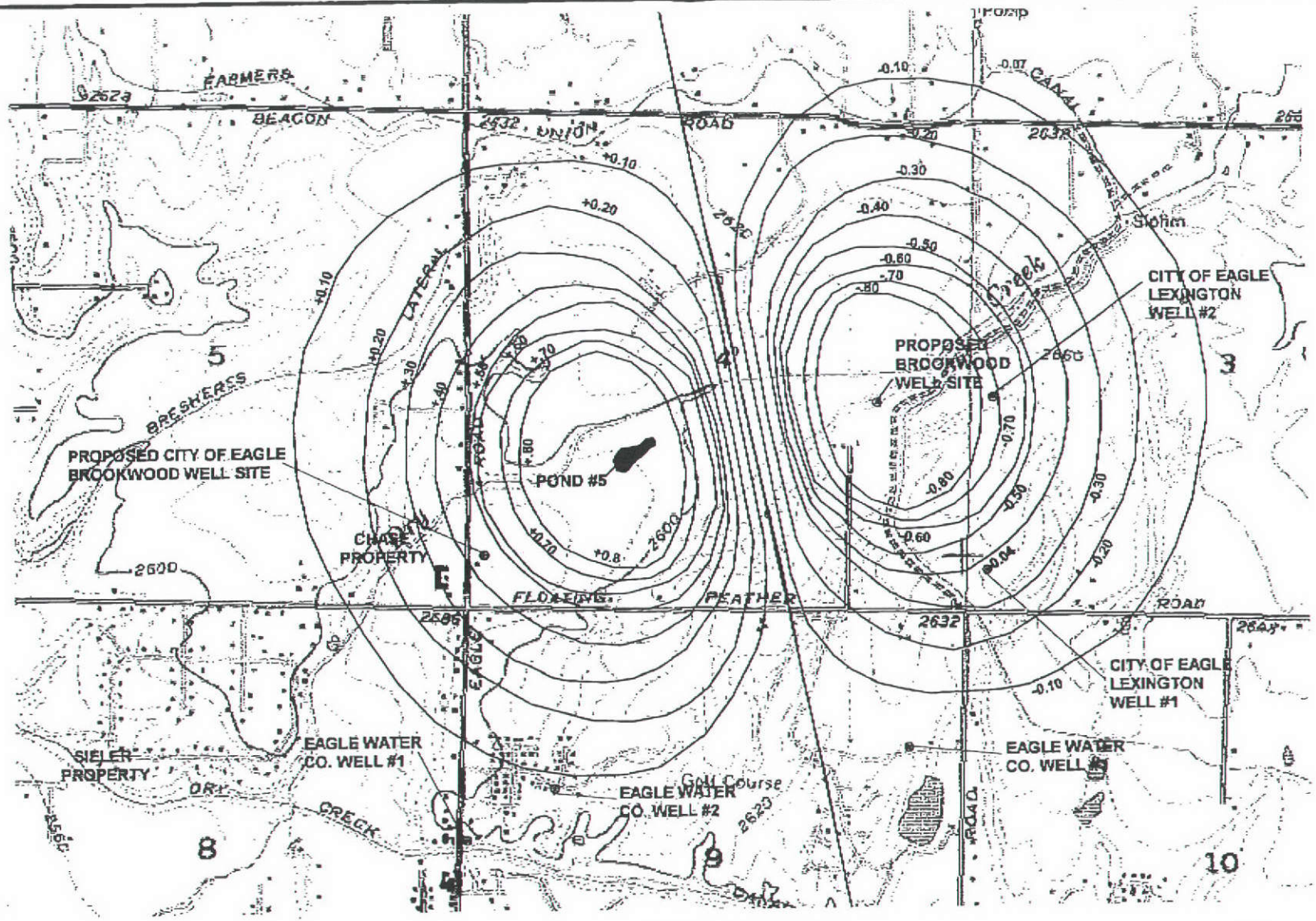


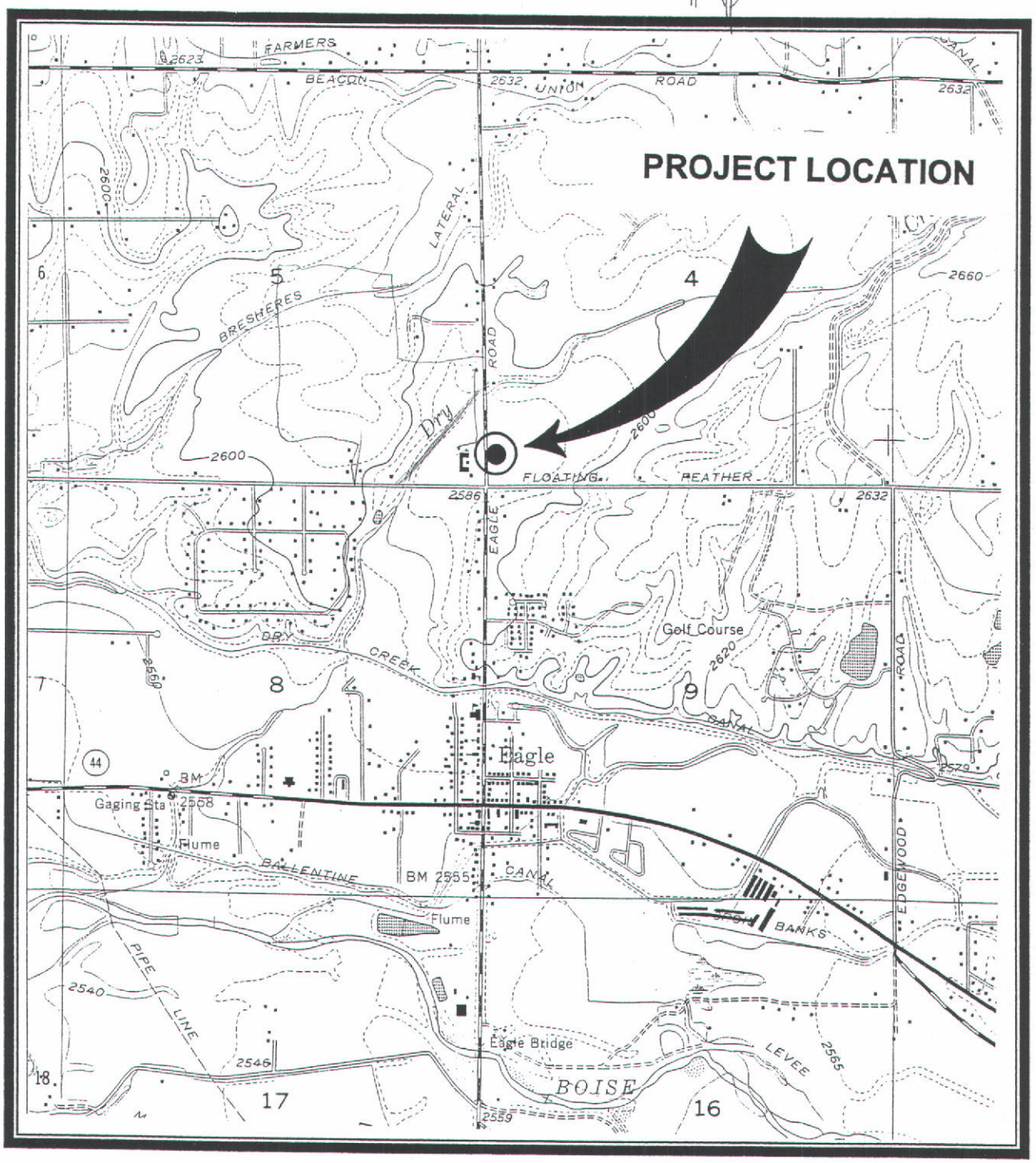
Figure 2. MAP SHOWING LOCATIONS OF INVENTORIED WELLS AND GEOLOGIC CROSS SECTIONS



BROOKWOOD SUBDIVISION
WATER TABLE ANALYSIS

Net Draw Down Lines
Pond #5
New well

BROCKWAY ENGINEERING, PLLC.
ALR MARCH 18, 2004

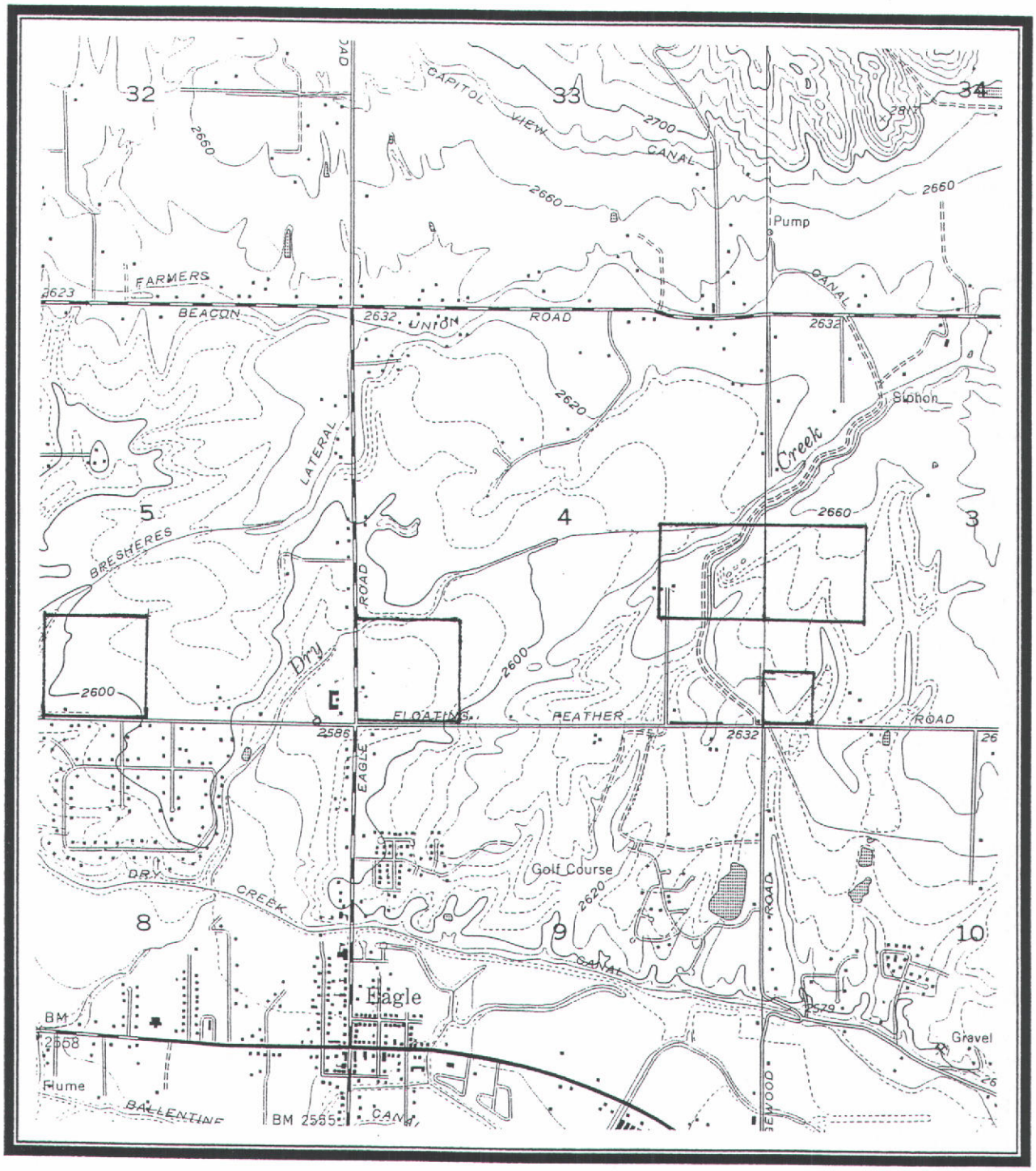


VICINITY MAP

MODIFIED FROM EAGLE, ID, 7 1/2-MIN. TOPOGRAPHIC MAP

HOLLADAY ENGINEERING CO.

SITE EVALUATION
BROOKWOOD WELL



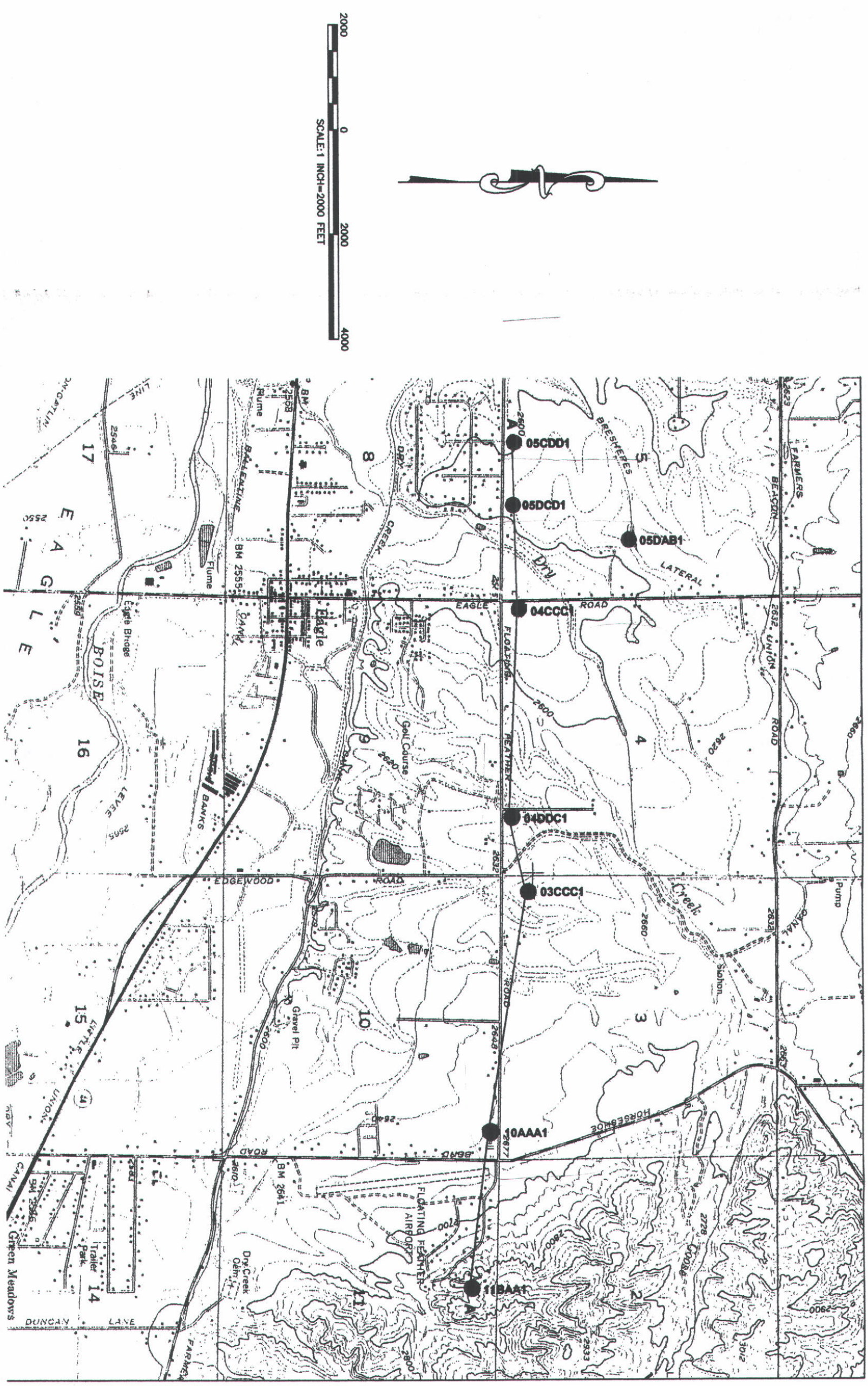
1 inch = 2,000 feet

CITY OF EAGLE WATER RIGHTS MAP

MODIFIED FROM EAGLE, ID, USGS, 7 1/2-MIN. TOPOGRAPHIC MAP

HOLLADAY ENGINEERING CO.

SITE EVALUATION
BROOKWOOD WELL



CROSS SECTION A-A' WITH WELL LOCATIONS
CITY OF EAGLE, IDAHO

HOLLADAY ENGINEERING CO.
ENGINEERS • CONSULTANTS
32 N. MAIN P.O. BOX 235 PAYETTE, ID 83661
(208) 642-3304 • FAX# (208) 642-2159
EMAIL: holladay@srvinet.com

JOB NO:	014100A
CADD FILE:	S:\014000\014100A.DWG
DATE:	8/8/01
REVISED:	
PLOTTED:	8/8/01
DRAWN BY:	FGD
CHECKED BY:	WBS
SHEET	

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GEOLOGIC CROSS SECTION A - A'
(MODIFIED FROM , IDWR,1991)
JOB NO. 01410OB
DATE 8/13/01
REVISED
PLOTTED 8/13/01
DRAWN BY WES
CHECKED BY FGD
SCALE 1" = 2000' HORZ.
1" = 200' VERT.
A
A'
2200
2400
2600
2800
3000
FLOATING FEATHER WELL
(05CDD1)
ELEANOR CHASE WELL (05DAB1)
(NOTE: OFF SECTION LINE
2200 FEET NORTH)
BROOKWOOD WERLL
(04CCC1)
(04DDC1)
(03CCC1)
(10AAA1)
(11BAA1)
DRY CREEK AREA
STATIC WATER LEVEL
CLAY
SAND
SAND - GRAVEL

2000 0 2000 4000

SCALE: 1 INCH = 2000 FEET

ESTIMATED 6 - MONTH DRAW DOWN BASED ON 1000 GPM SUSTAINED PUMPING

HOLLADAY ENGINEERING CO.
ENGINEERS · CONSULTANTS
32 N. MAIN P.O. BOX 235 PAYETTE, ID 83661
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PROPOSED BROOKWOOD WELL
CITY OF EAGLE, IDAHO

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JOB NO:	014100M
CADD FILE:	P:\JOBS\014100\014100M.DWG
DATE:	08/08/01
REVISED:	
PLOTTED:	08/08/01
DRAWN BY:	FGD
CHECKED BY:	WBS
SHEET	

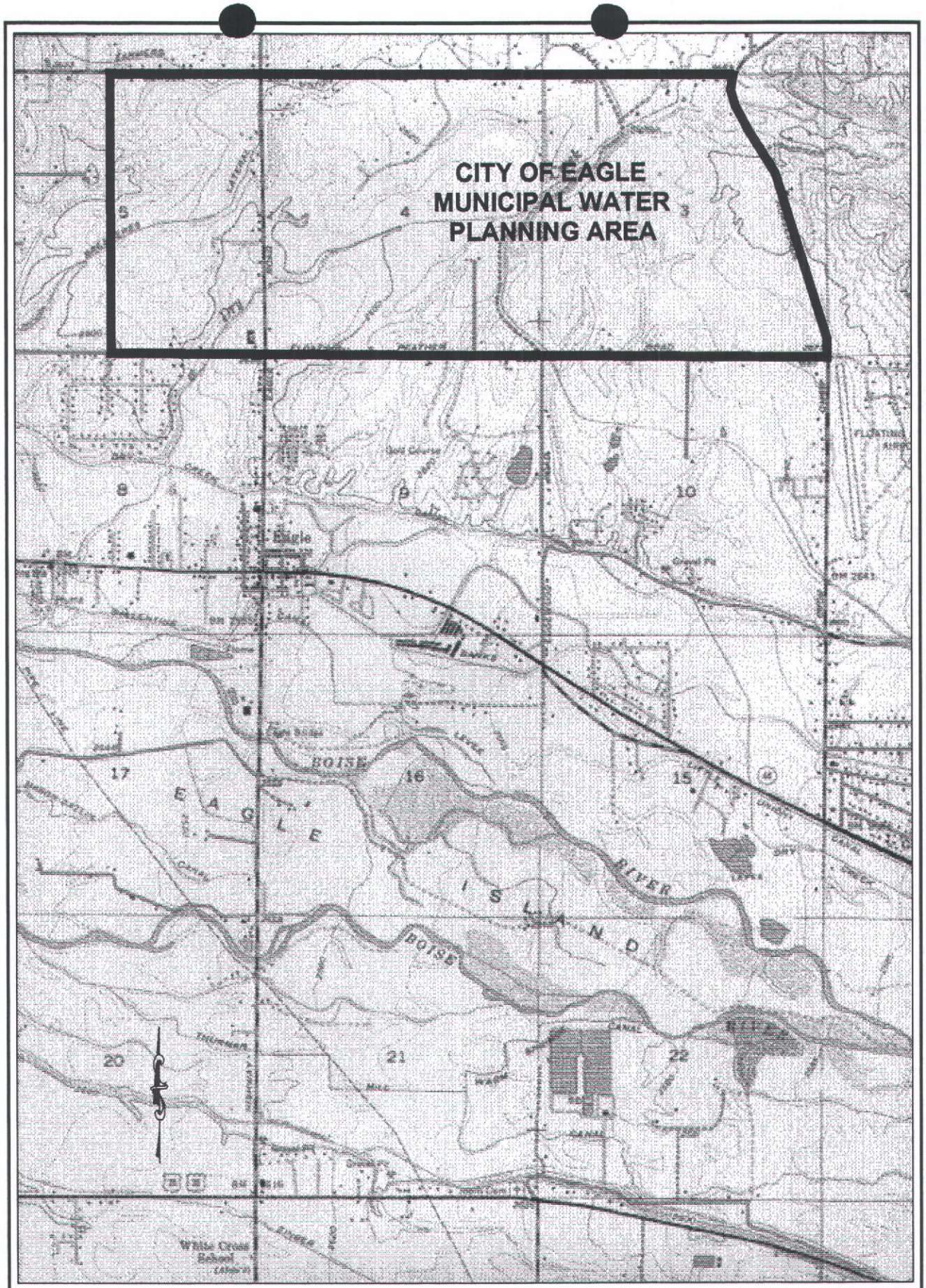
SUSAN'S COPY

RECEIVED
MAR 2 3 2004
Department of Water Resources

CITY OF EAGLE

Municipally-Owned Water System Master Plan and Budget Study

Prepared by:
HOLLADAY ENGINEERING COMPANY



HOLLADAY ENGINEERING CO.
ENGINEERS · CONSULTANTS
32 N. MAIN P.O. BOX 235 PAYETTE, ID 83661
(208) 642-3304 · FAX (208) 642-2159
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WATER PLAN VICINITY MAP
CITY OF EAGLE
ADA COUNTY, ID

JOB NO:	EG 072401
DATE:	4/2/02
REVISED:	4/25/02
PLOTTED:	4/25/02
DRAWN BY:	MGM
CHECKED BY:	KRR

UNITED WATER IDAHO
CERTIFICATED AREA

CITY OF EAGLE
WATER SYSTEM

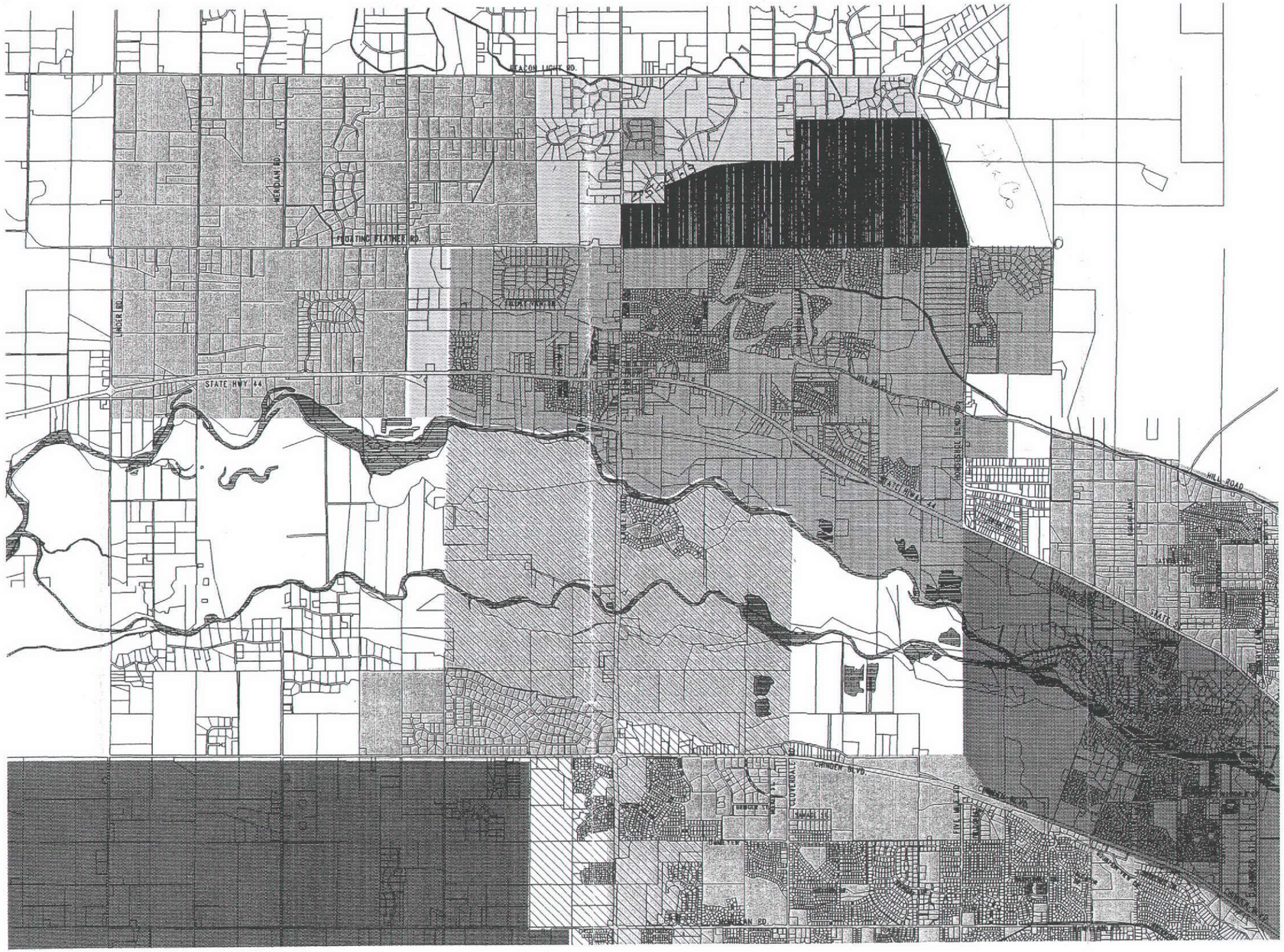
CITY OF MERIDIAN
AREA OF IMPACT

RAINTREE MUTUAL
WATER COMPANY

EAGLE WATER COMPANY
CERTIFICATED AREA

GARDEN CITY
AREA OF IMPACT

UNCERTIFICATED BUFFER



United Water

N

NO SCALE

THIS DRAWING IS TO BE USED ONLY FOR REFERENCE PURPOSES AND UNITED WATER IS NOT RESPONSIBLE FOR ANY INACCURACIES HEREIN CONTAINED.

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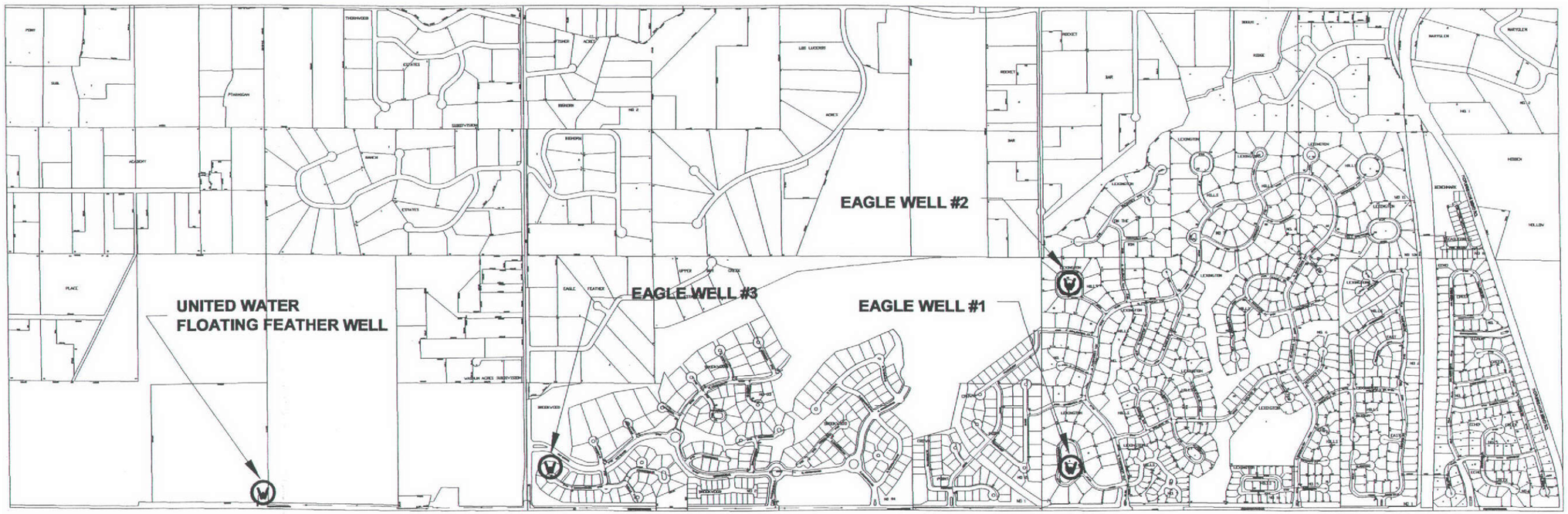
REVISED DATE: 11-06-97 plotaml/eaglepit.aml

1200 0 1200 2400

SCALE: 1 INCH=1200 FEET



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WELL LOCATION MAP
CITY OF EAGLE
ADA COUNTY, ID

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JOB NO: EG 072401

CADD FILE: G:\maps\eg\EG_WAT02.dwg

DATE: 02/28/02

REVISED:

PLOTTED: 02/28/02

DRAWN BY: MGM

CHECKED BY: VB

SHEET

1200 0 1200 2400

SCALE:1 INCH=1200 FEET

System Planning Area

Eagle Water Co.
Certificated Area

SYSTEM PLANNING AREA MAP
CITY OF EAGLE
ADA COUNTY, ID

HOLLADAY ENGINEERING CO.
ENGINEERS • CONSULTANTS
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CADD FILE: G:\engwk\eg\EG_WA102.dwg
DATE: 02/28/02
REVISED: 02/28/02
PLOTTED: 02/28/02
DRAWN BY: MGM
CHECKED BY: VB
SHEET

WATER SYSTEM WITH RECOMMENDED IMPROVEMENTS

CITY OF EAGLE
ADA COUNTY, ID

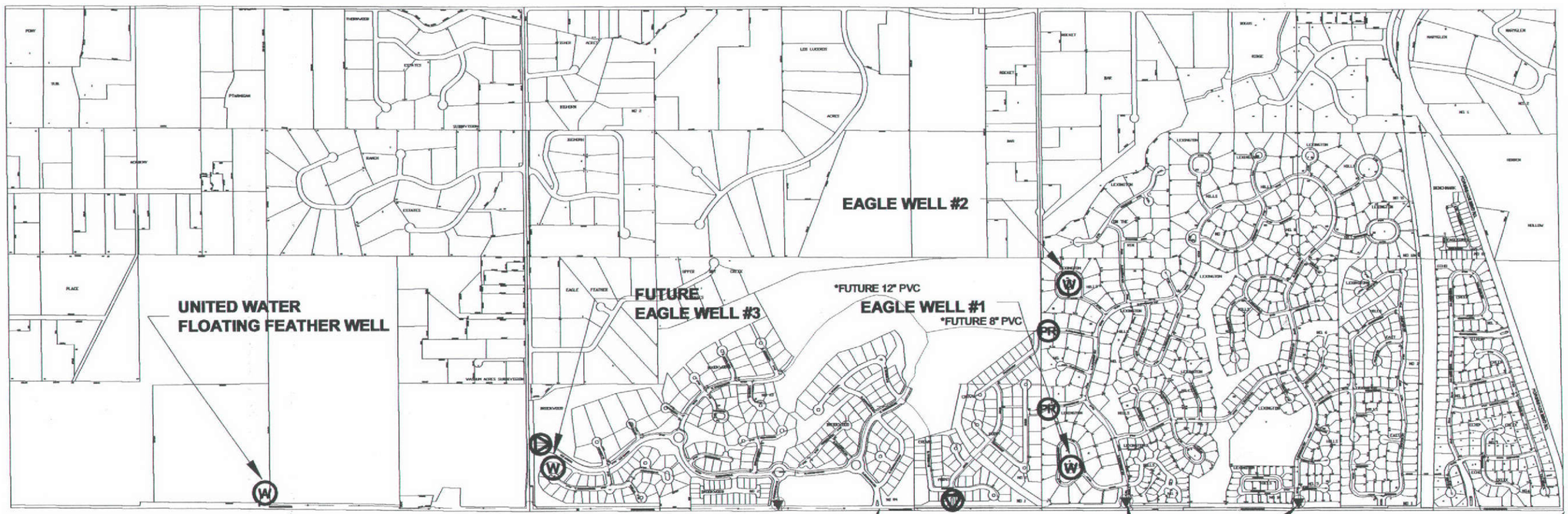
1200 0 1200 2400

SCALE: 1 INCH=1200 FEET

LEGEND:

- FUTURE CHECK VALVE
- EXISTING CHECK VALVE
- (PR) FUTURE PRESSURE REDUCING PER DETAIL (LOCATION APPROX. PENDING FINAL DESIGN.)

* Future mains = only principal system mains are shown, and locations and diameters are approximate pending sinal design.



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Revised June 2002

HOLLADAY ENGINEERING CO.

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G:\maps\eg\WATMP.dwg

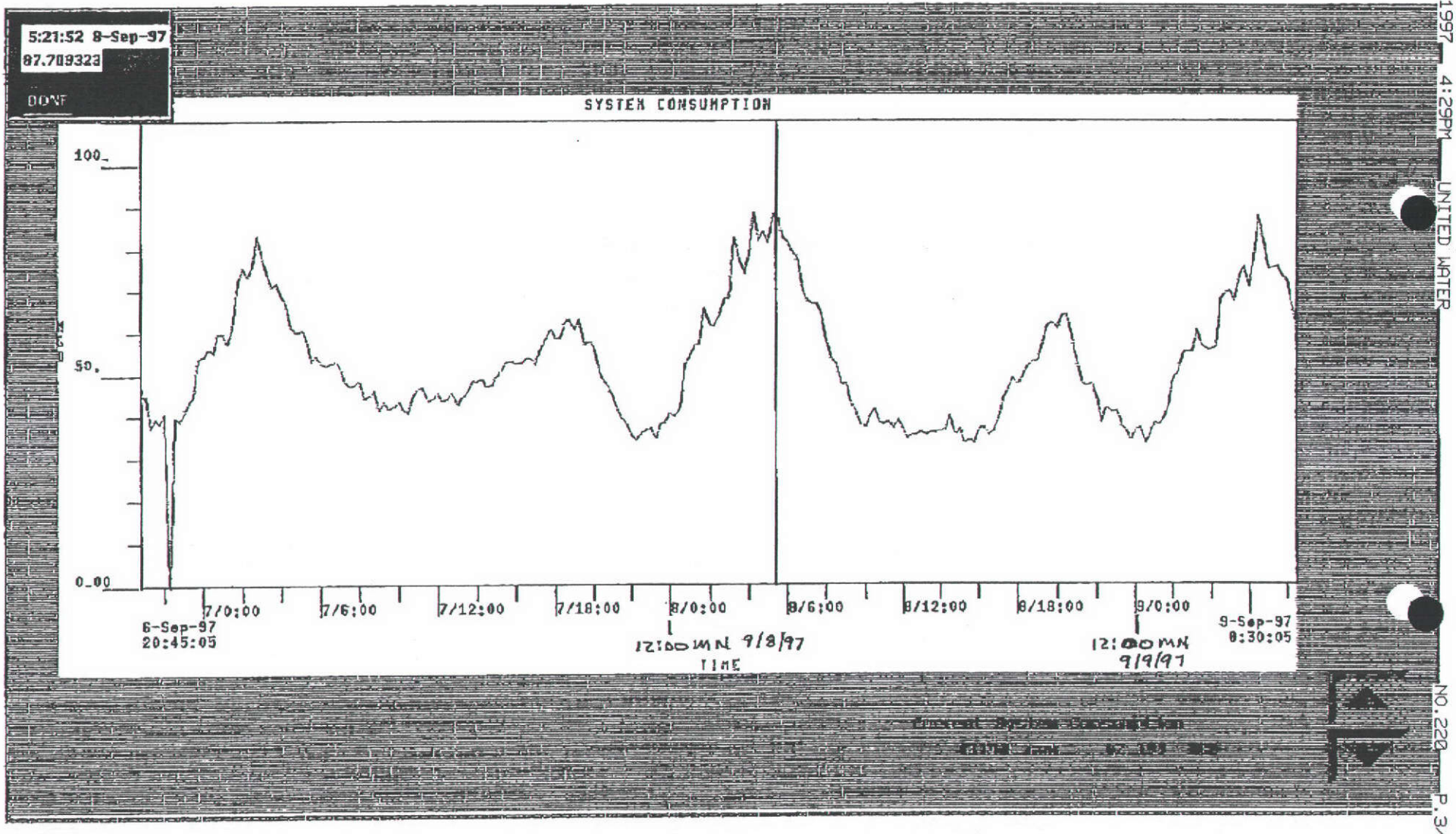
2001 LEXINGTON HILLS WATER QUALITY SAMPLES

INORGANIC RESULTS		Iron	Manganese	Nitrate	Arsenic	Antimony	Barium	Beryllium	Cadmium	Chromium
LOCATION	DATE			(MCL = 10)	(MCL = .05)	(MCL = .006)	(MCL = 2.0)	(MCL = .004)	(MCL = .005)	(MCL = .10)
LEXINGTON HILLS #1	8/9/01	0	0	1.19	0.006	0	0.07	0	0	0

Mercury	Nickel	Selenium	Sodium	Thallium	Fluoride	Hardness	pH	Temp
(MCL = .002)	(MCL = .1)	(MCL = .05)		(MCL = .002)	(MCL = 4.0)			
0.0005	0	0	49.2	0	0.39	160	6.96	17.5

ORGANIC RESULTS				
LOCATION	DATE	VOCs	MTBE	SOCs
LEXINGTON HILLS #1	8/9/01	ND	ND	ND

	FREQUENCY
TOTAL COLIFORM	2/MONTH


5:21:52 8-Sep-97
87.709323
DONE
SYSTEM CONSUMPTION
100.
50.
0.00
7/0:00
7/6:00
7/12:00
7/18:00
8/0:00
8/6:00
8/12:00
8/18:00
9/0:00
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9/9/97
9-Sep-97
8:30:05

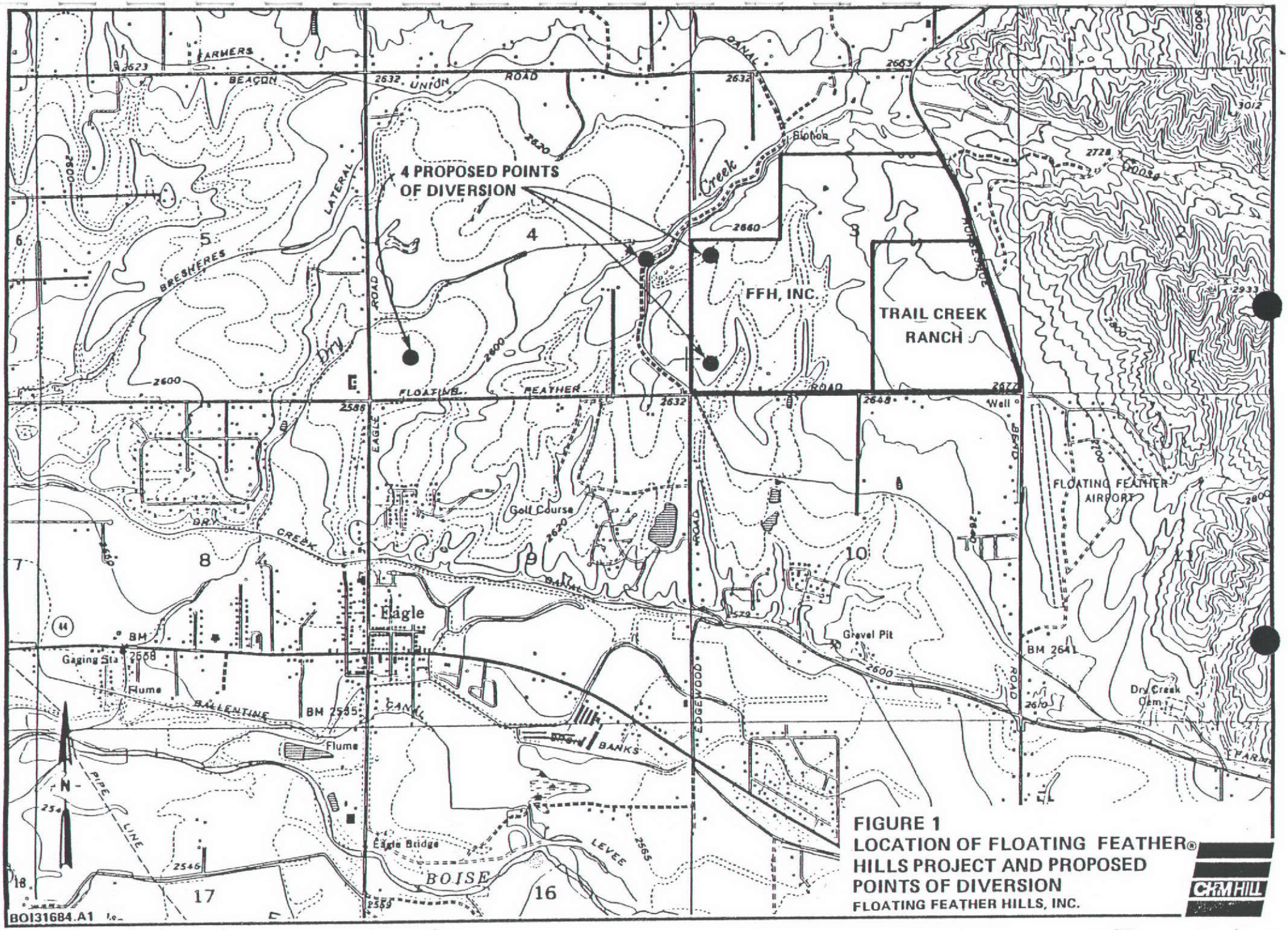


FIGURE 1
LOCATION OF FLOATING FEATHER® HILLS PROJECT AND PROPOSED POINTS OF DIVERSION
FLOATING FEATHER HILLS, INC.

CH2MHILL

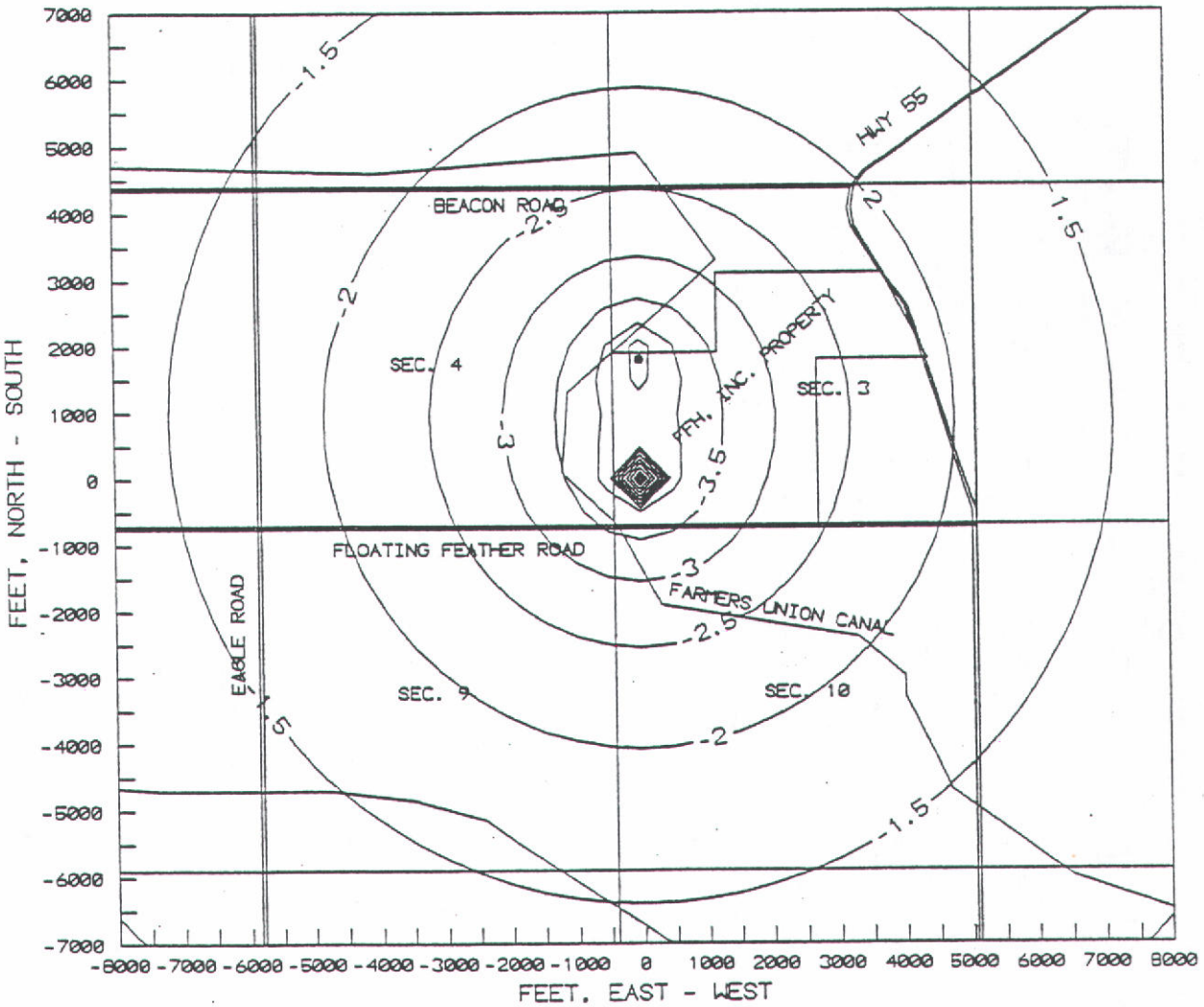


FIGURE 30
DRAWDOWN SIMULATION
T=174K, Q=1000gpm, t=6 MONTHS
FLOATING FEATHER HILLS, INC.

BOI31684 A1

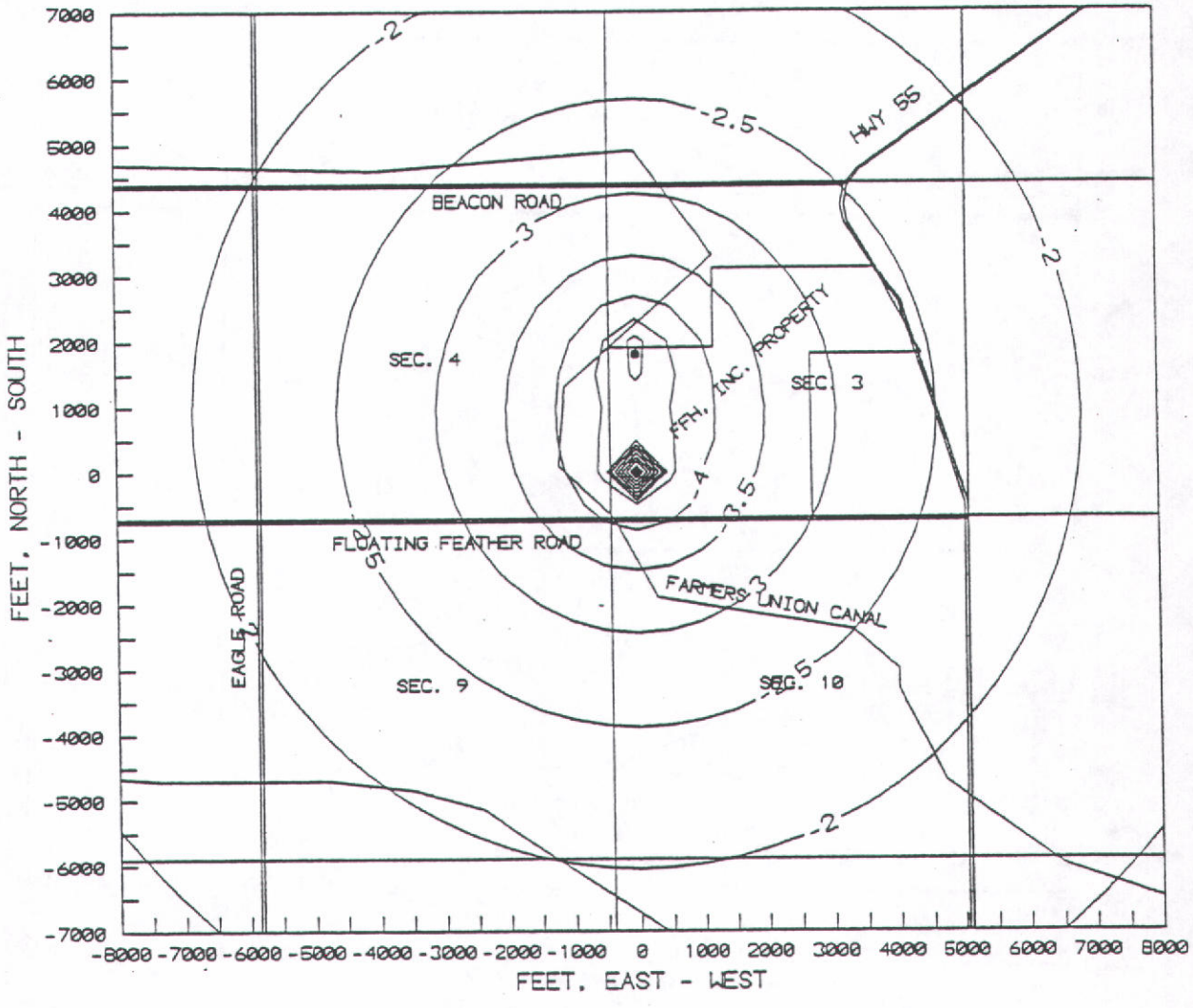


FIGURE 31
DRAWDOWN SIMULATION
T=174 K, Q=1000 gpm, t=1YEAR
FLOATING FEATHER HILLS, INC.

BOI31684 A1

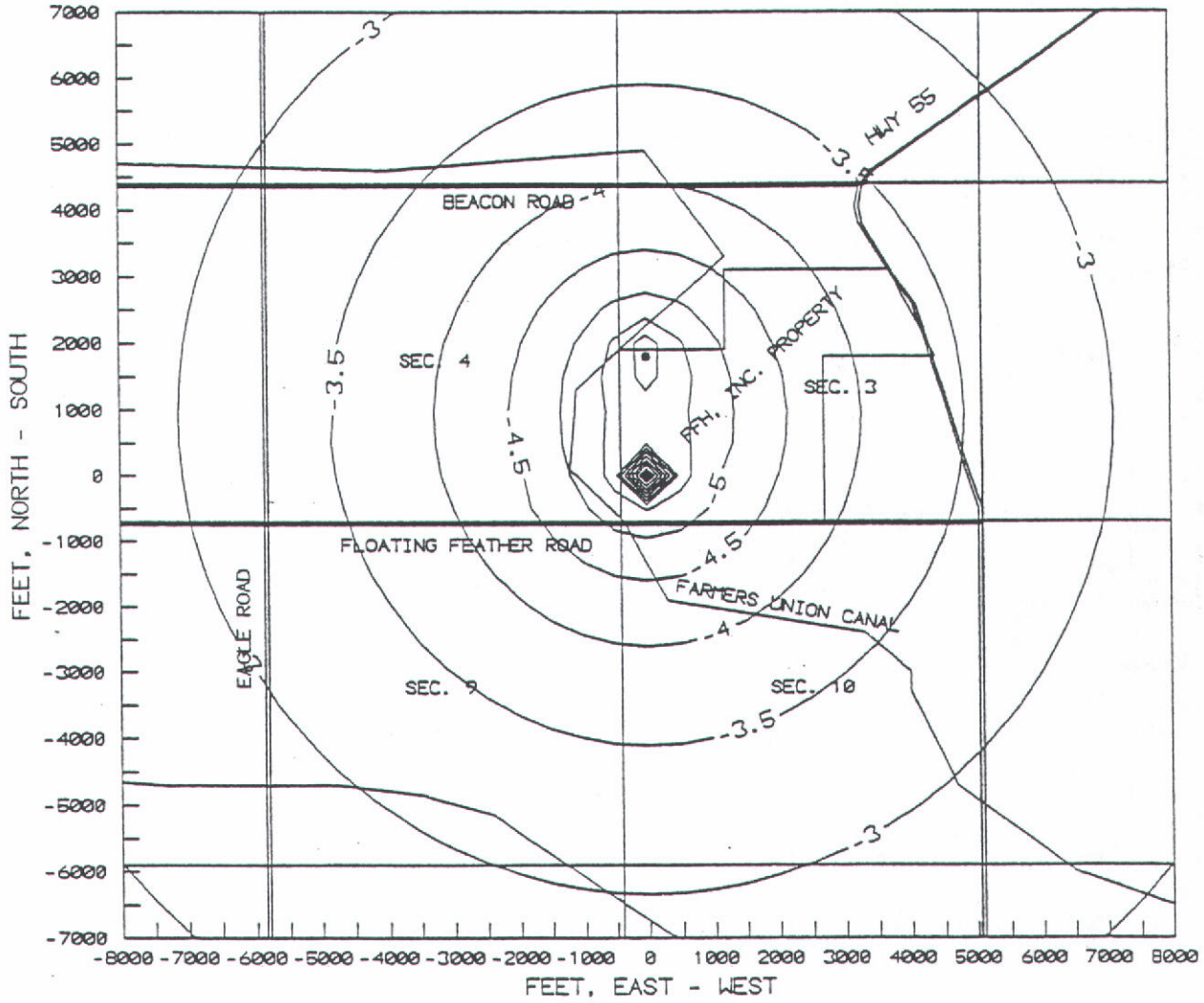


FIGURE 32
DRAWDOWN SIMULATION
T=174K, Q=1000 gpm, t=5YEARS
FLOATING FEATHER HILLS, INC.

BOI31684 A1

CH2MHILL

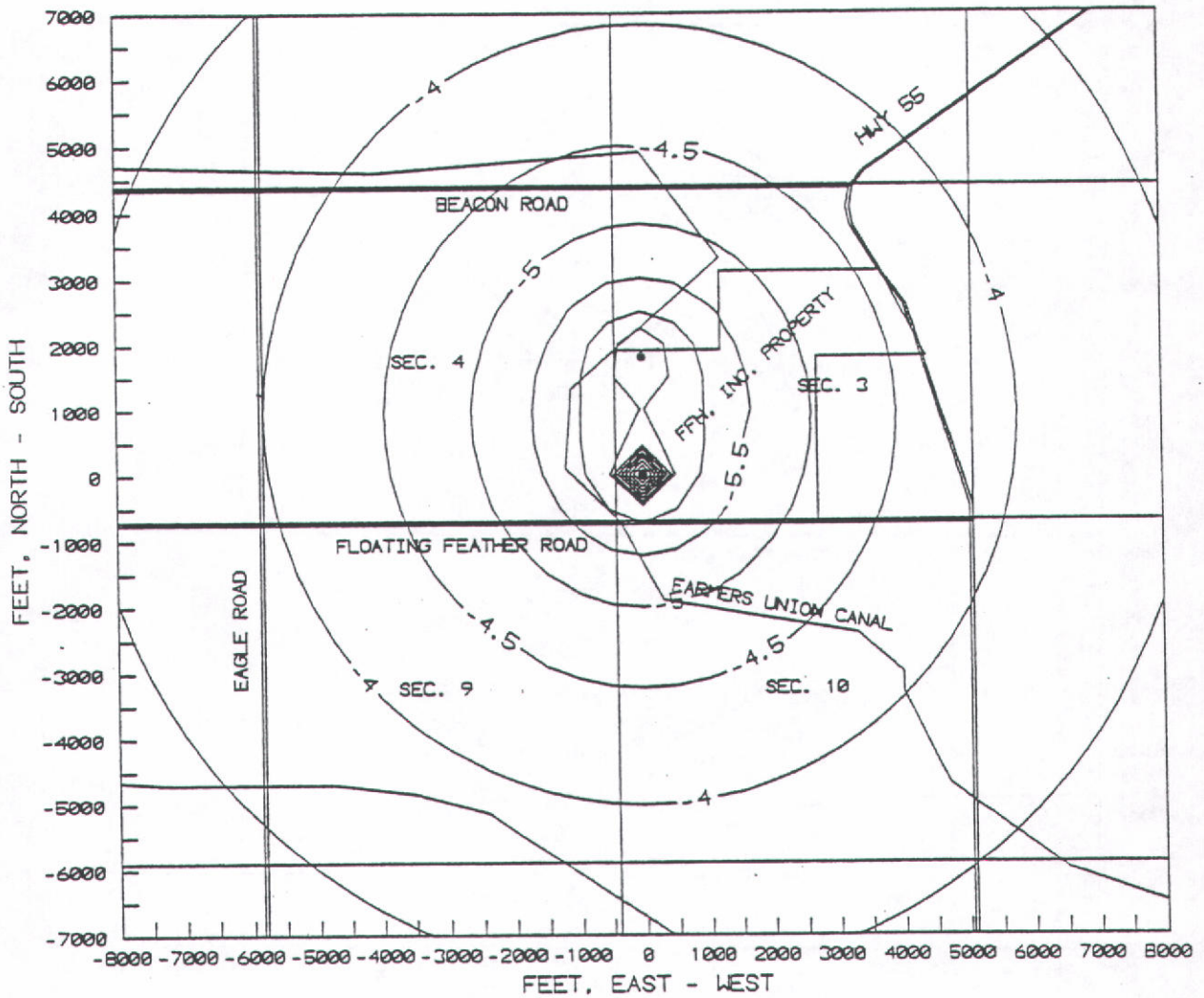


FIGURE 33
DRAWDOWN SIMULATION
T=174K, Q=1000 gpm, t=15YEARS
FLOATING FEATHER HILLS, INC.

BOI31684 A1

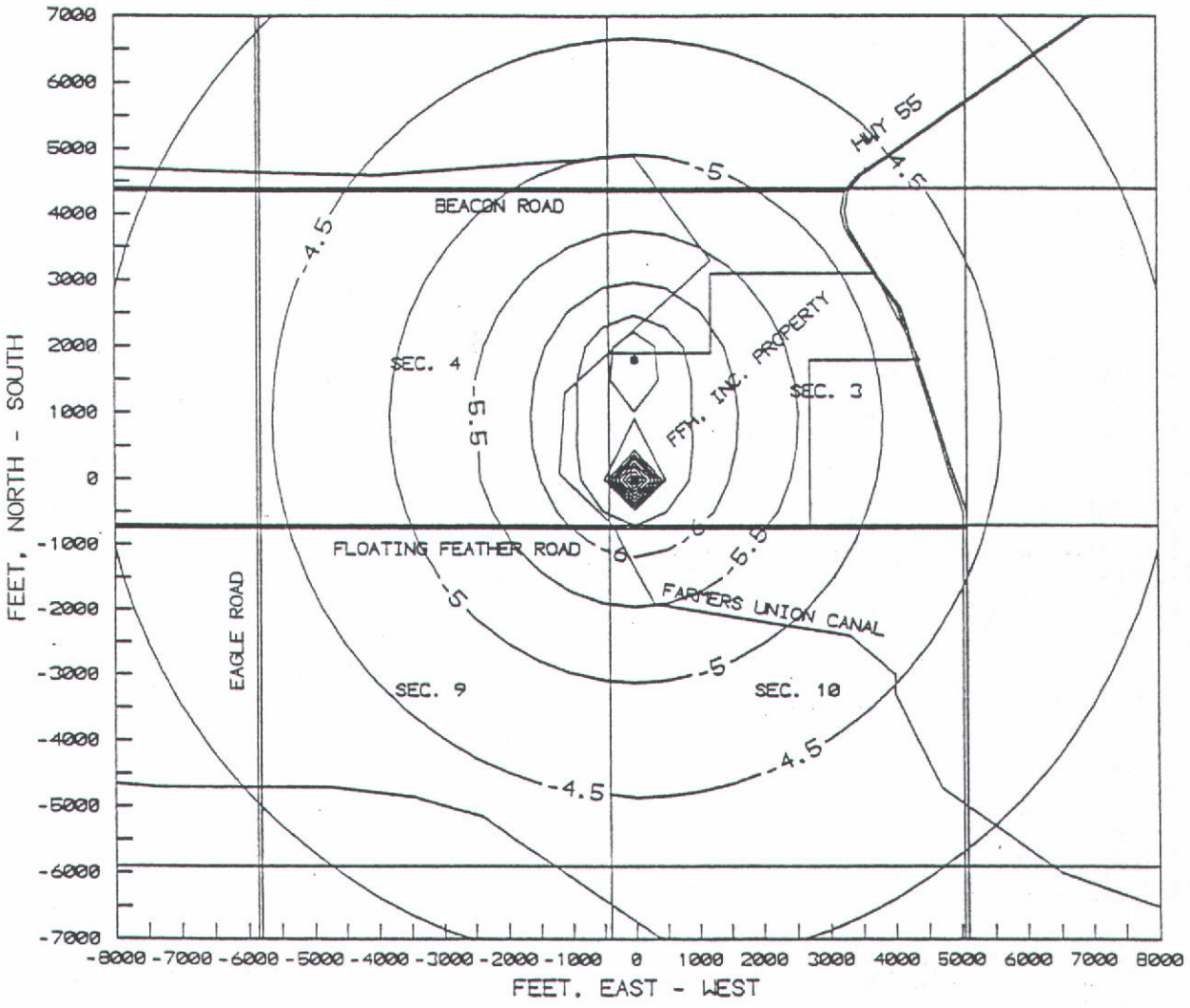


FIGURE 34
DRAWDOWN SIMULATION
T=174K, Q=1000 gpm, t=30YEARS
FLOATING FEATHER HILLS, INC.

BOI31684 A1

CH2MHILL

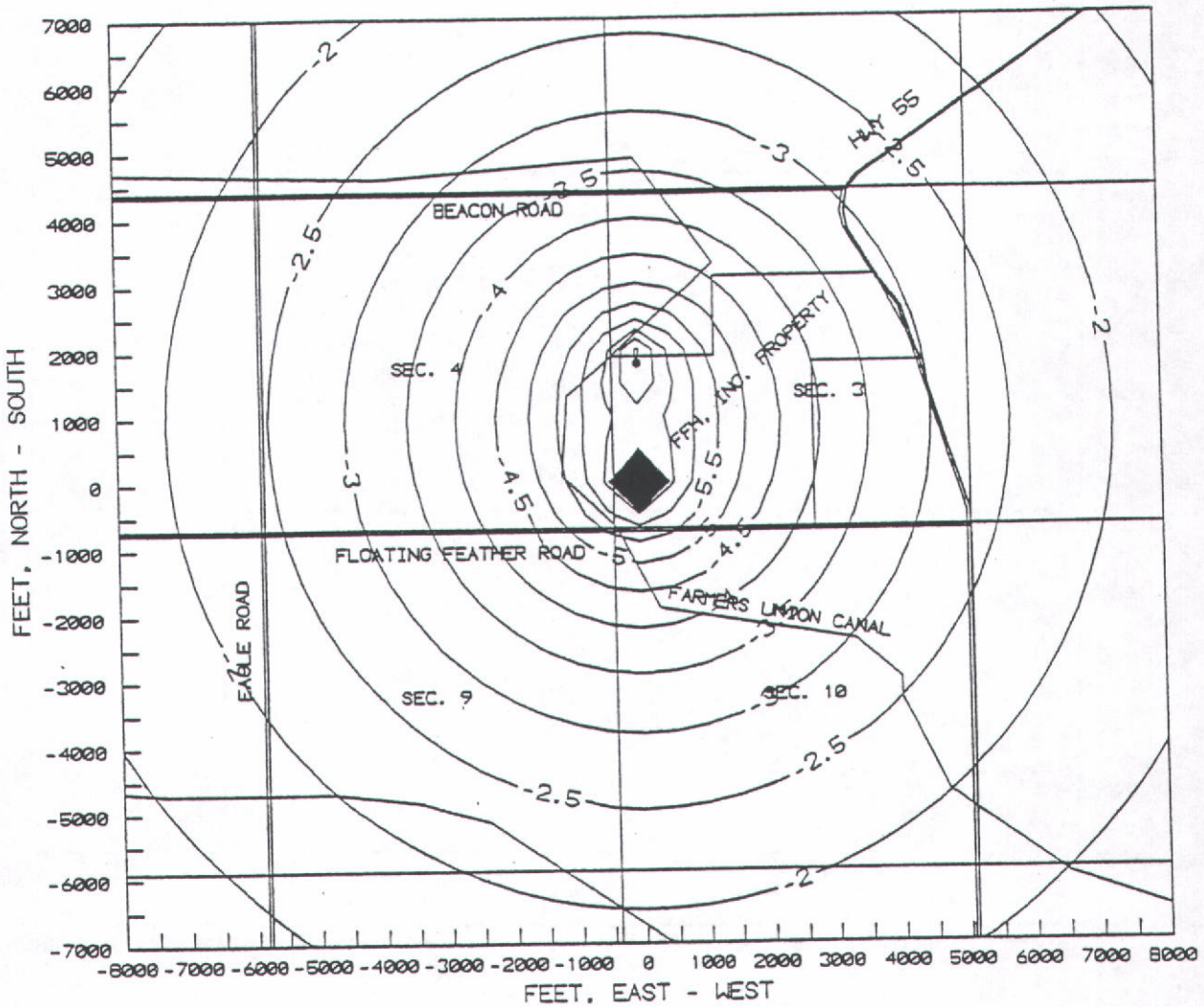


FIGURE 35
DRAWDOWN SIMULATION
T=100K, Q=1000 gpm, t=6MONTHS
FLOATING FEATHER HILLS, INC.

BOI31684 A1

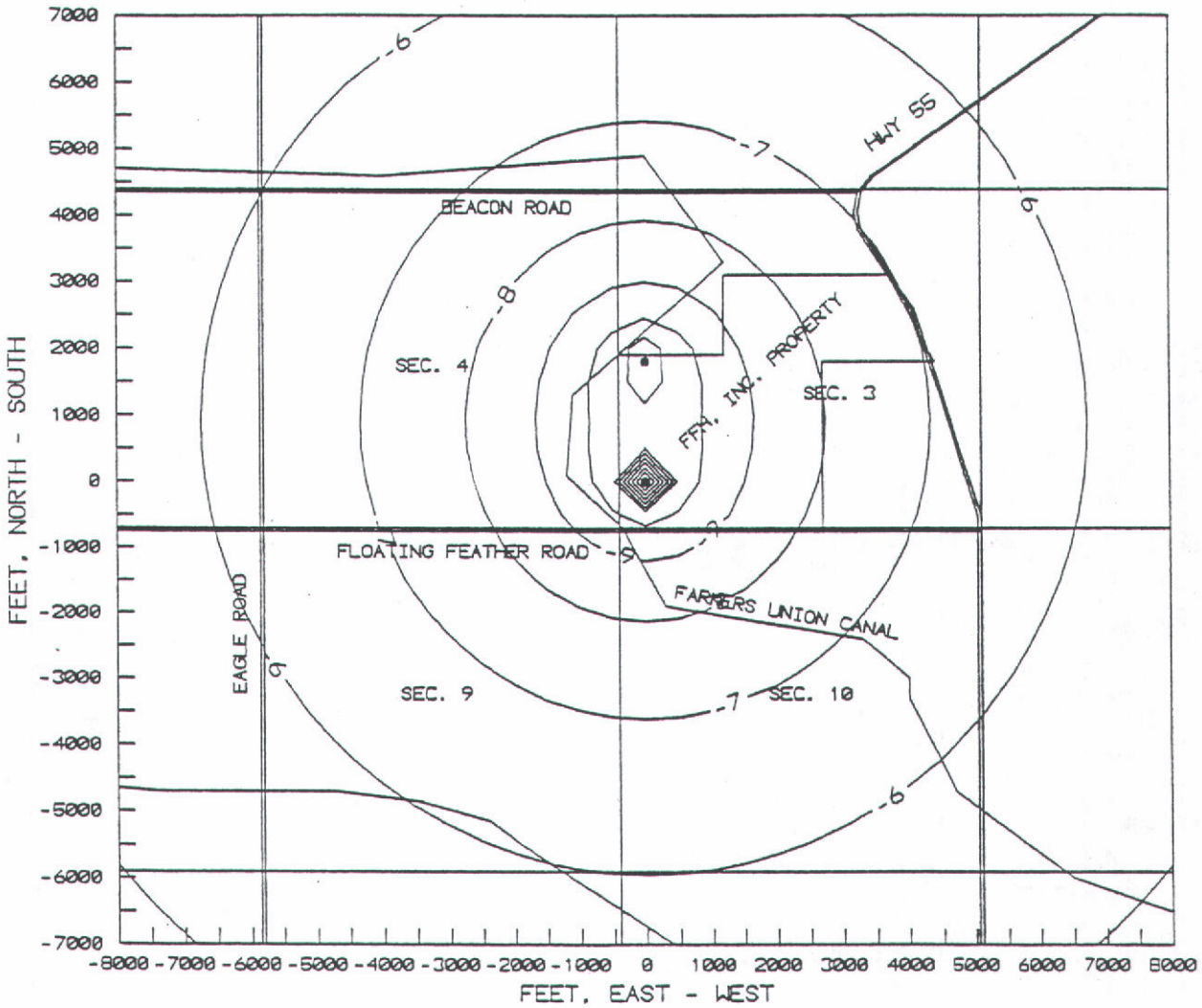


FIGURE 36
DRAWDOWN SIMULATION
T=100K, Q=1000 gpm, t=15YEARS
FLOATING FEATHER HILLS, INC.

BO131684 A1

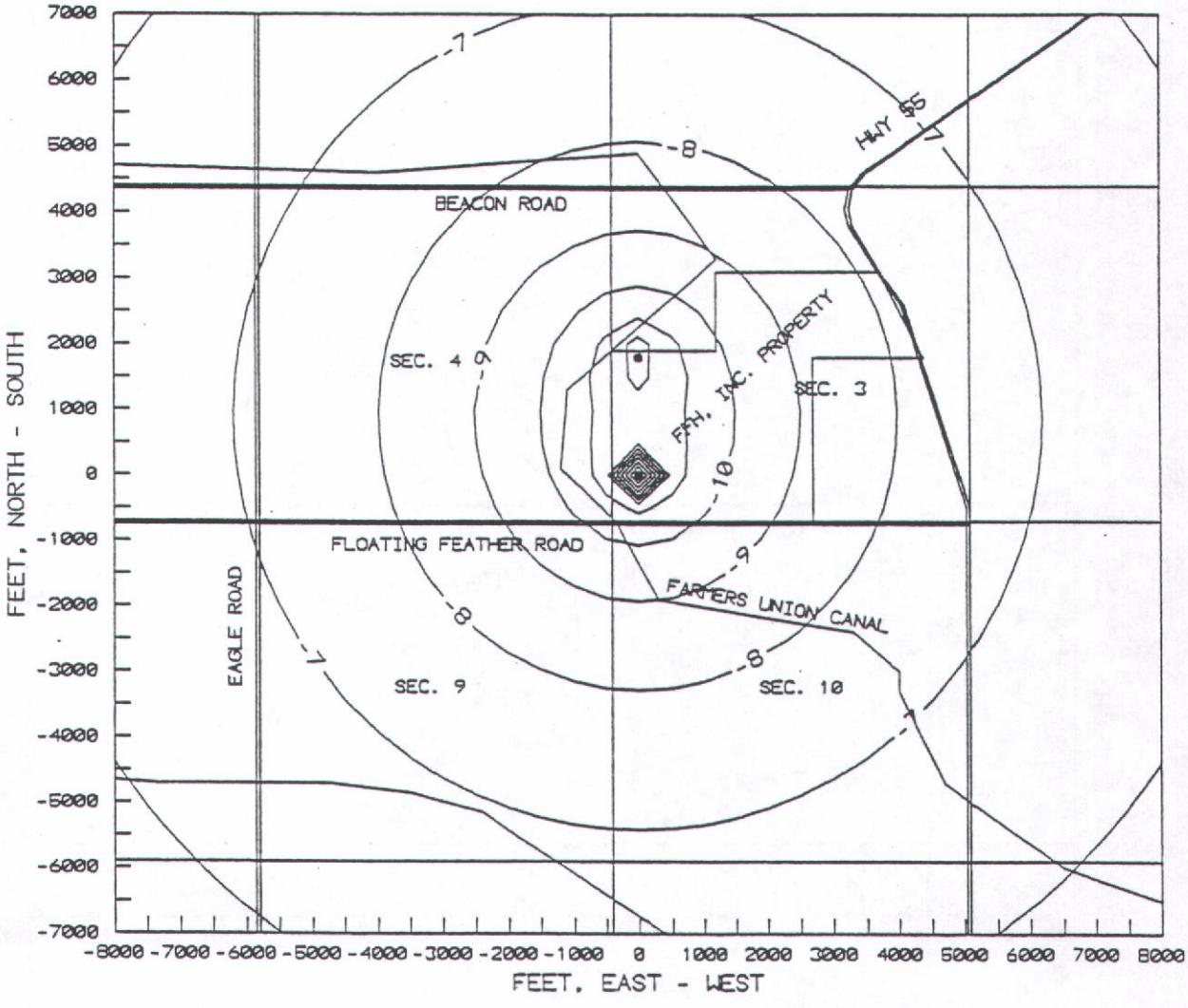


FIGURE 37
DRAWDOWN SIMULATION
T=100K, Q=1000 gpm, t=30YEARS
FLOATING FEATHER HILLS, INC.

BOI31684 A1

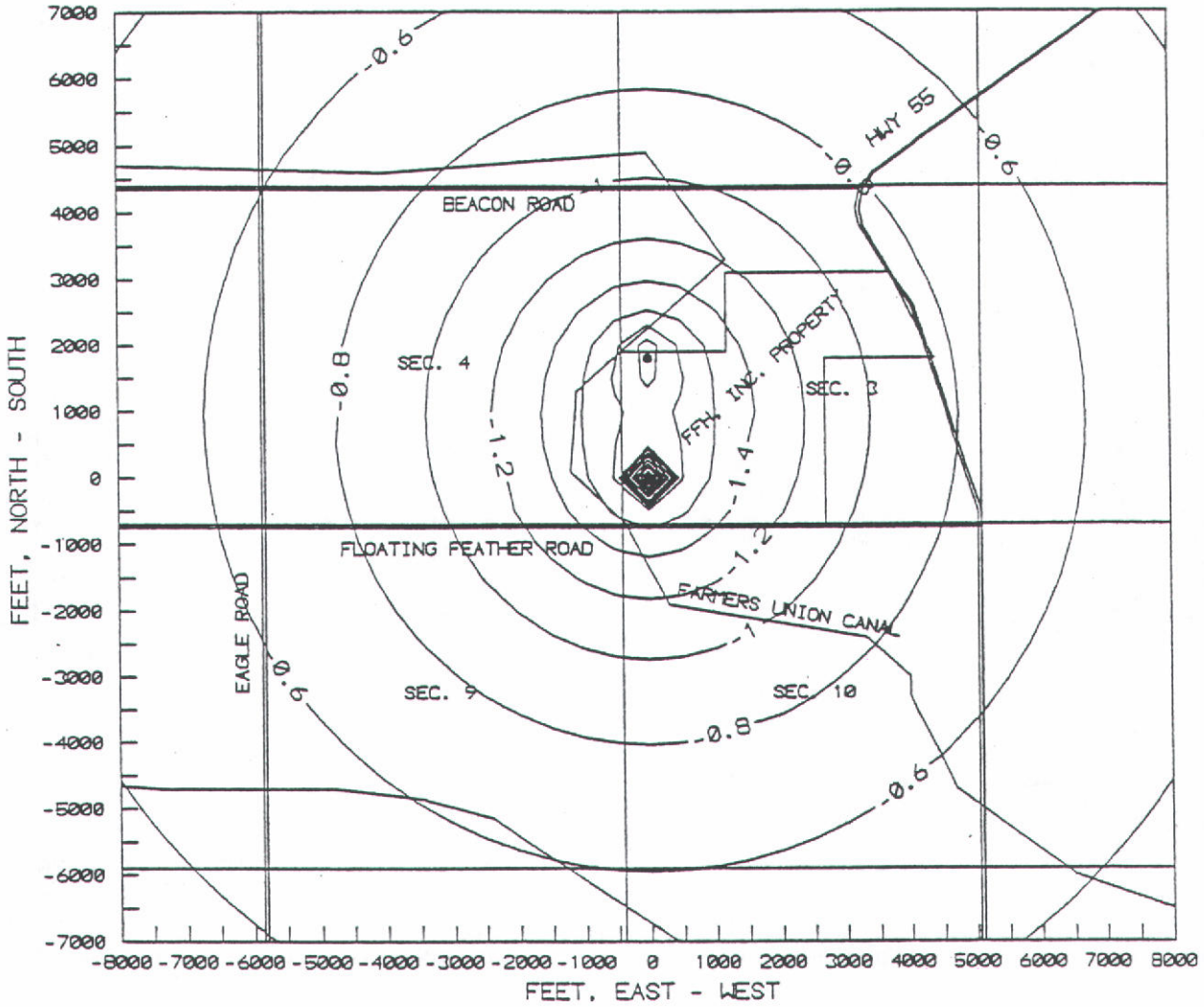


FIGURE 38
DRAWDOWN SIMULATION
T=100K, Q=278 gpm, t=6MONTHS
FLOATING FEATHER HILLS, INC.

BOI31684 A1

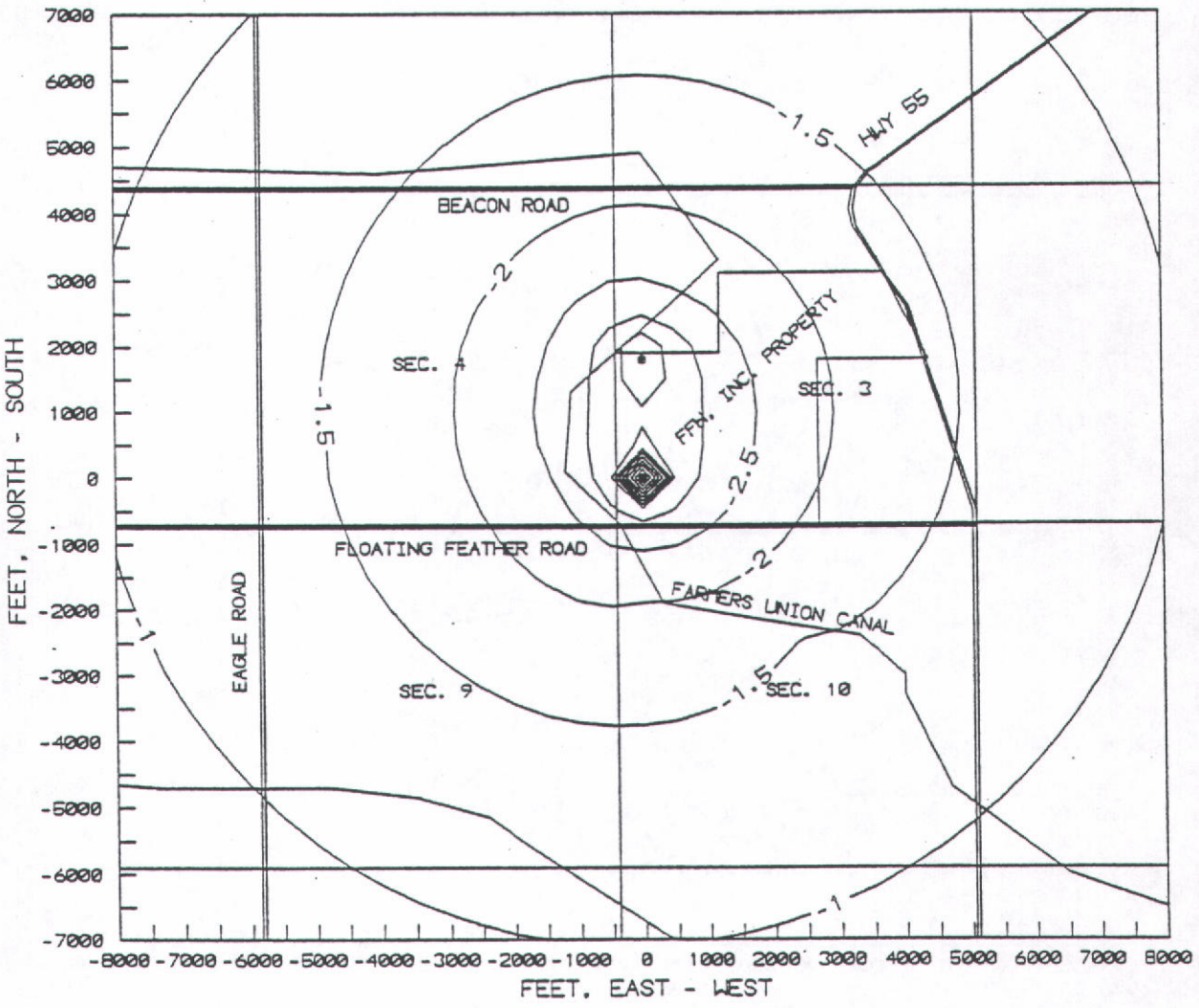


FIGURE 39
DRAWDOWN SIMULATION WITH RECHARGE T=174K, Q=1000 gpm, t=6MONTHS R=250 gpm
FLOATING FEATHER HILLS, INC.

BOI31684 A1

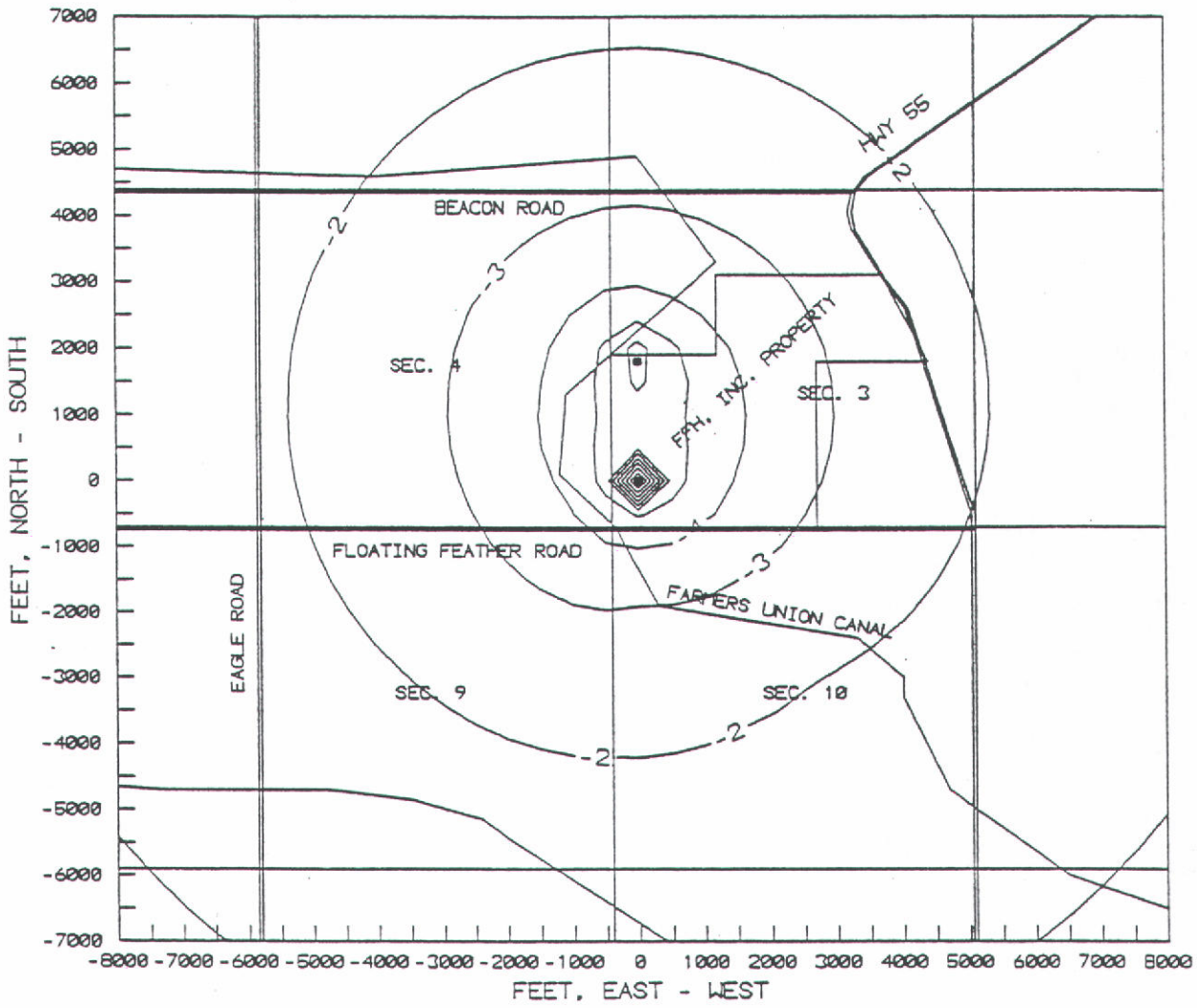


FIGURE 40
DRAWDOWN SIMULATION WITH RECHARGE T=100K, Q=1000 gpm, t=6MONTHS, R=250 gpm
FLOATING FEATHER HILLS, INC.

BOI31684 A1

CH2MHILL

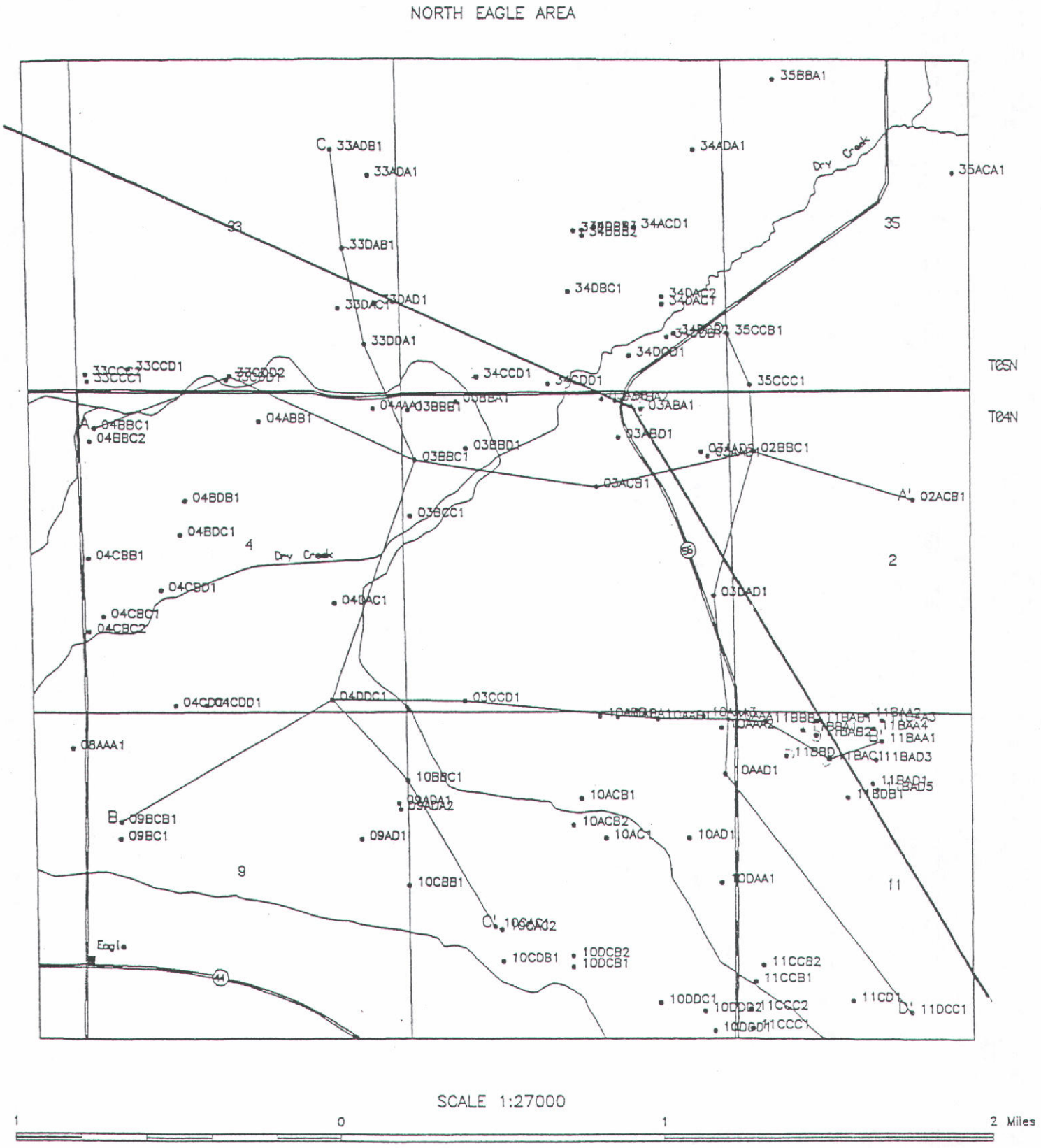


Figure 1. MAP SHOWING LOCATIONS OF INVENTORIED WELLS

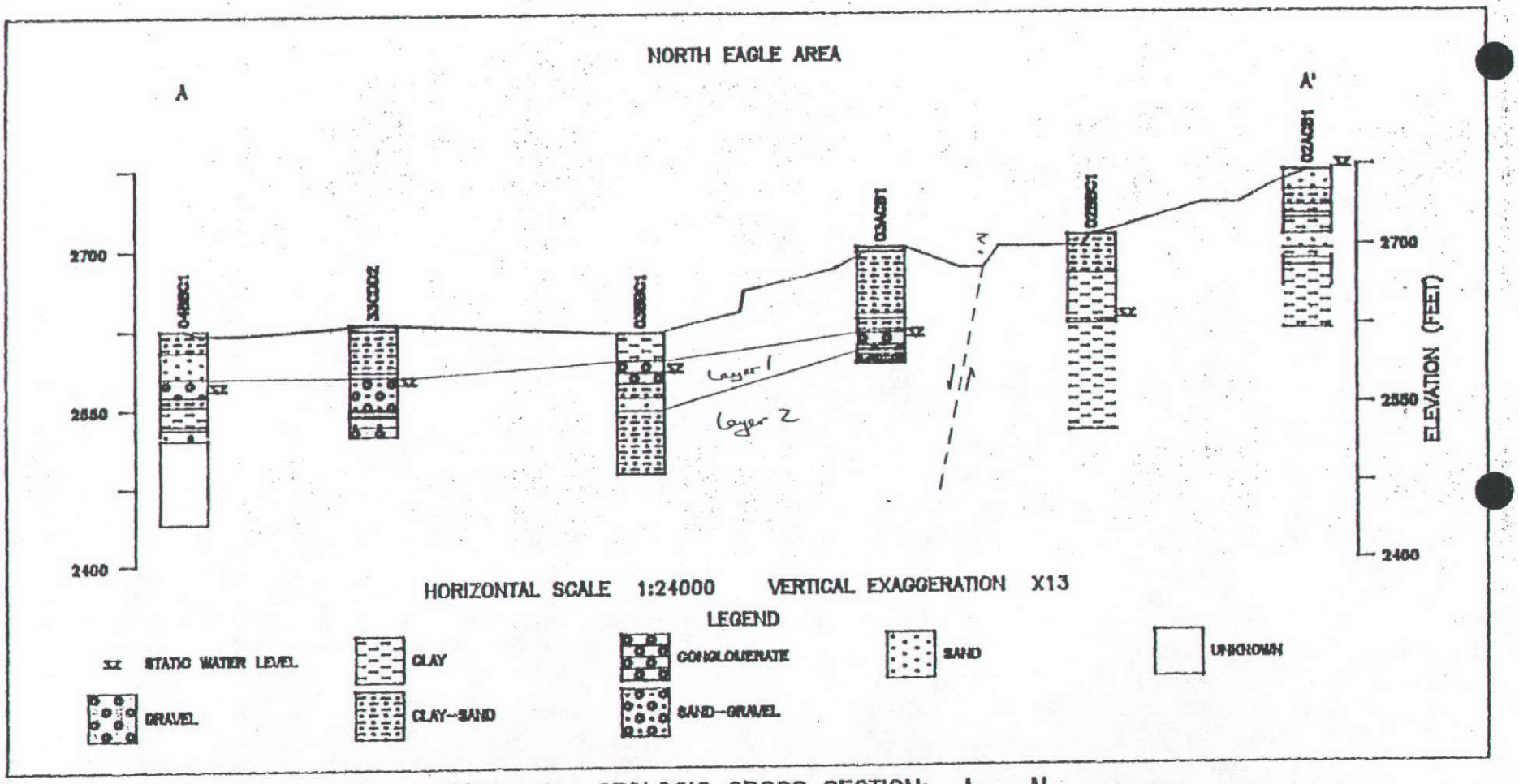


Figure 1. GEOLOGIC CROSS SECTION: A – A'

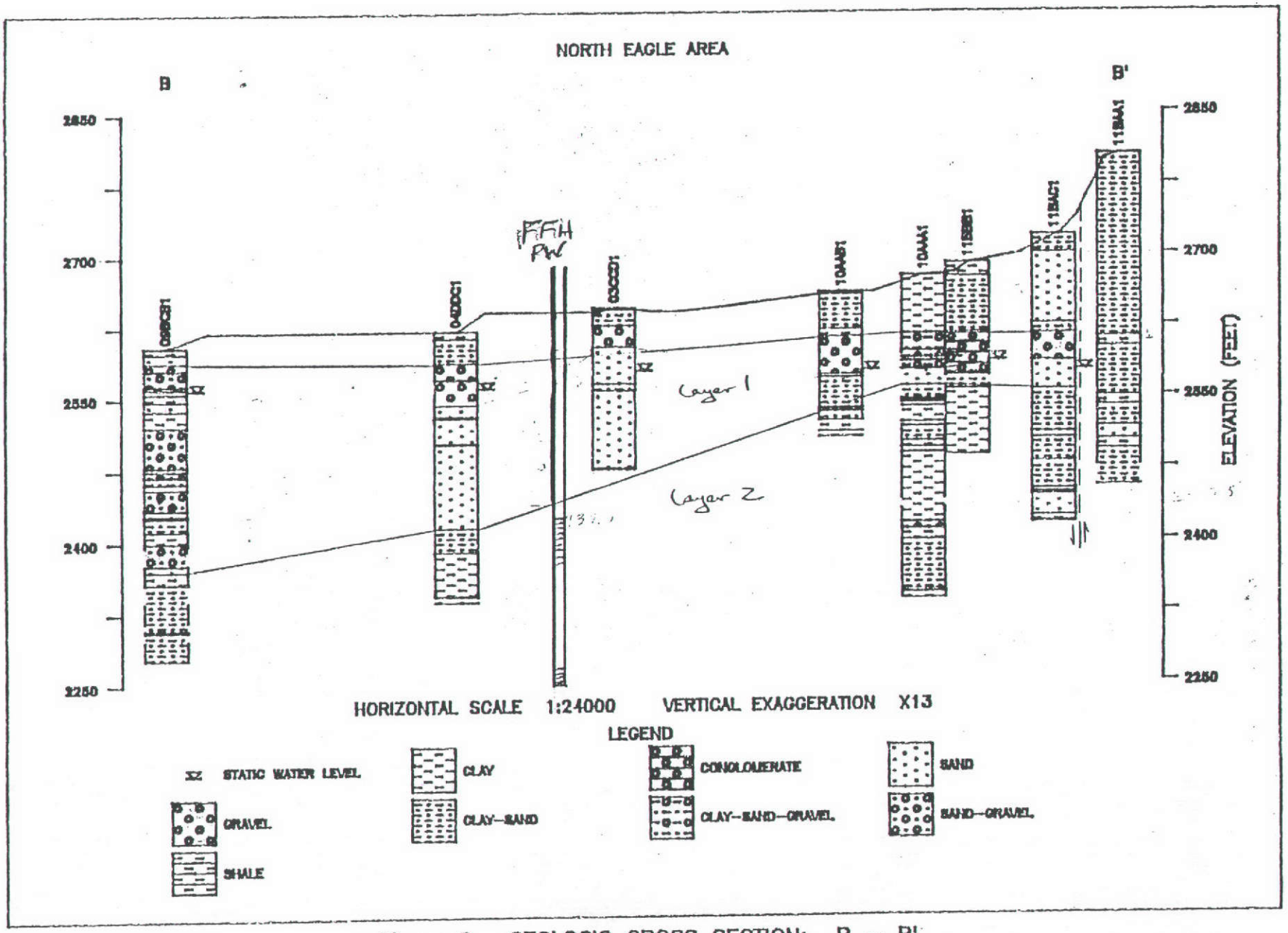


Figure 2. GEOLOGIC CROSS SECTION: B – B'

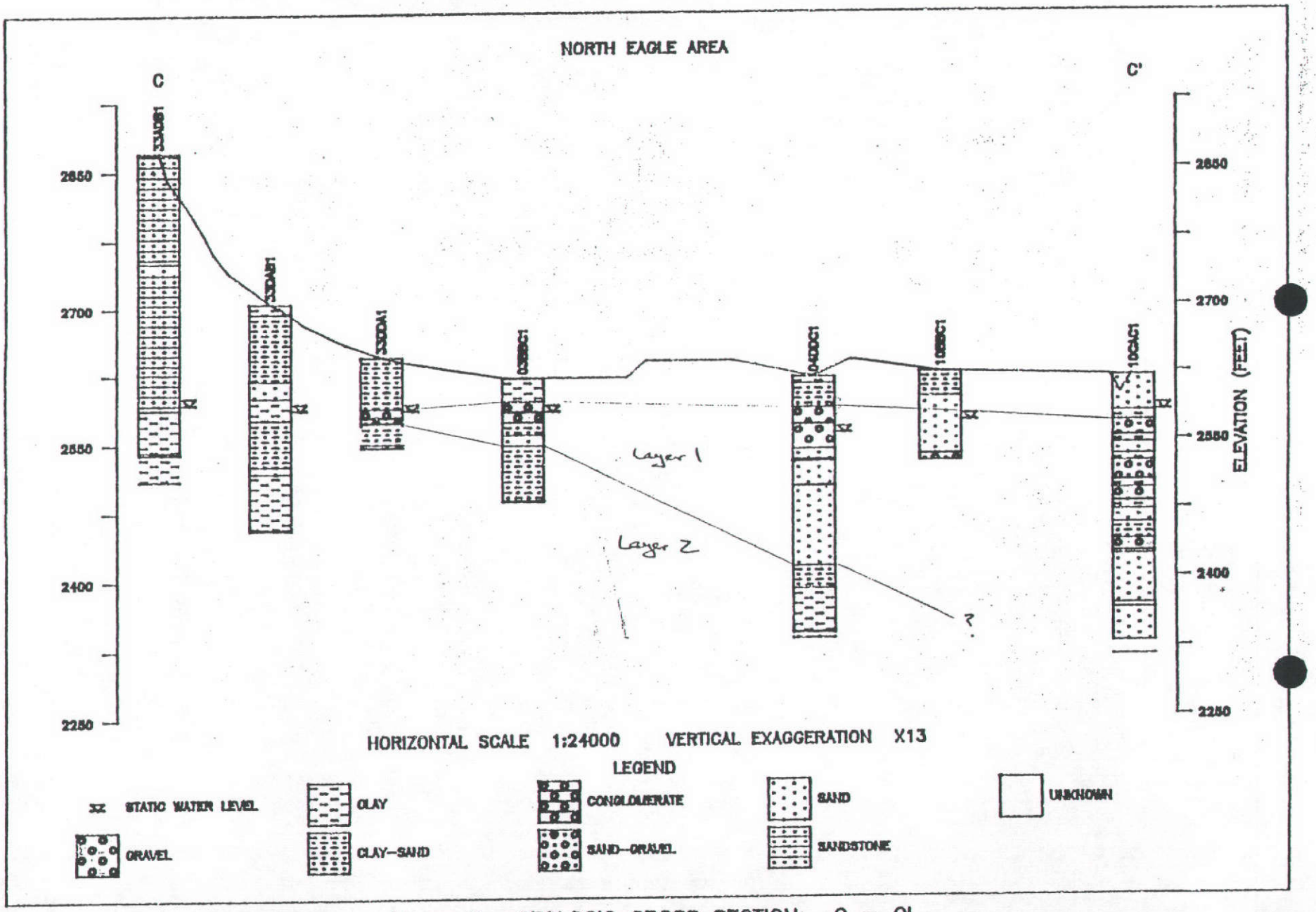


Figure 3. GEOLOGIC CROSS SECTION: C – C'

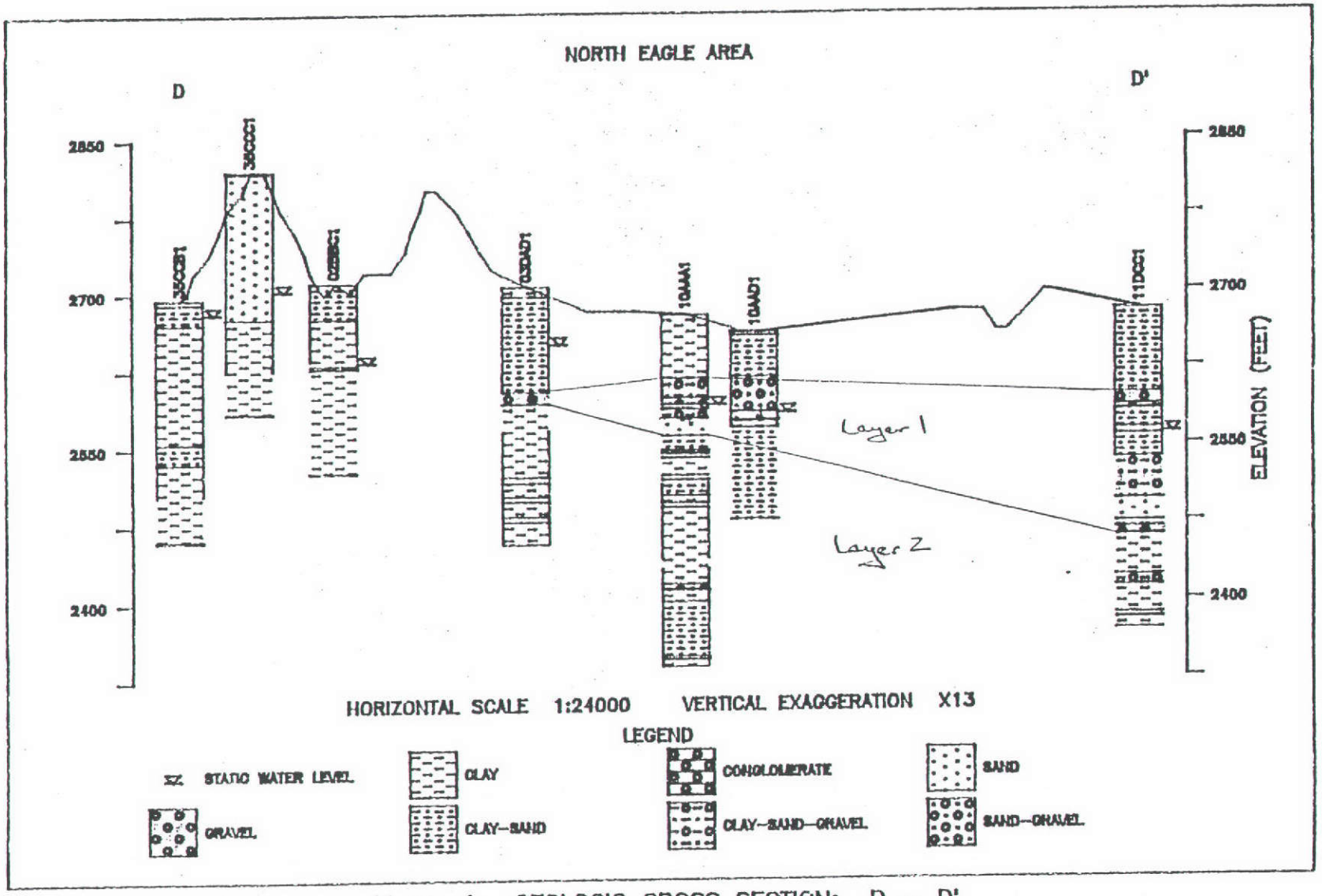
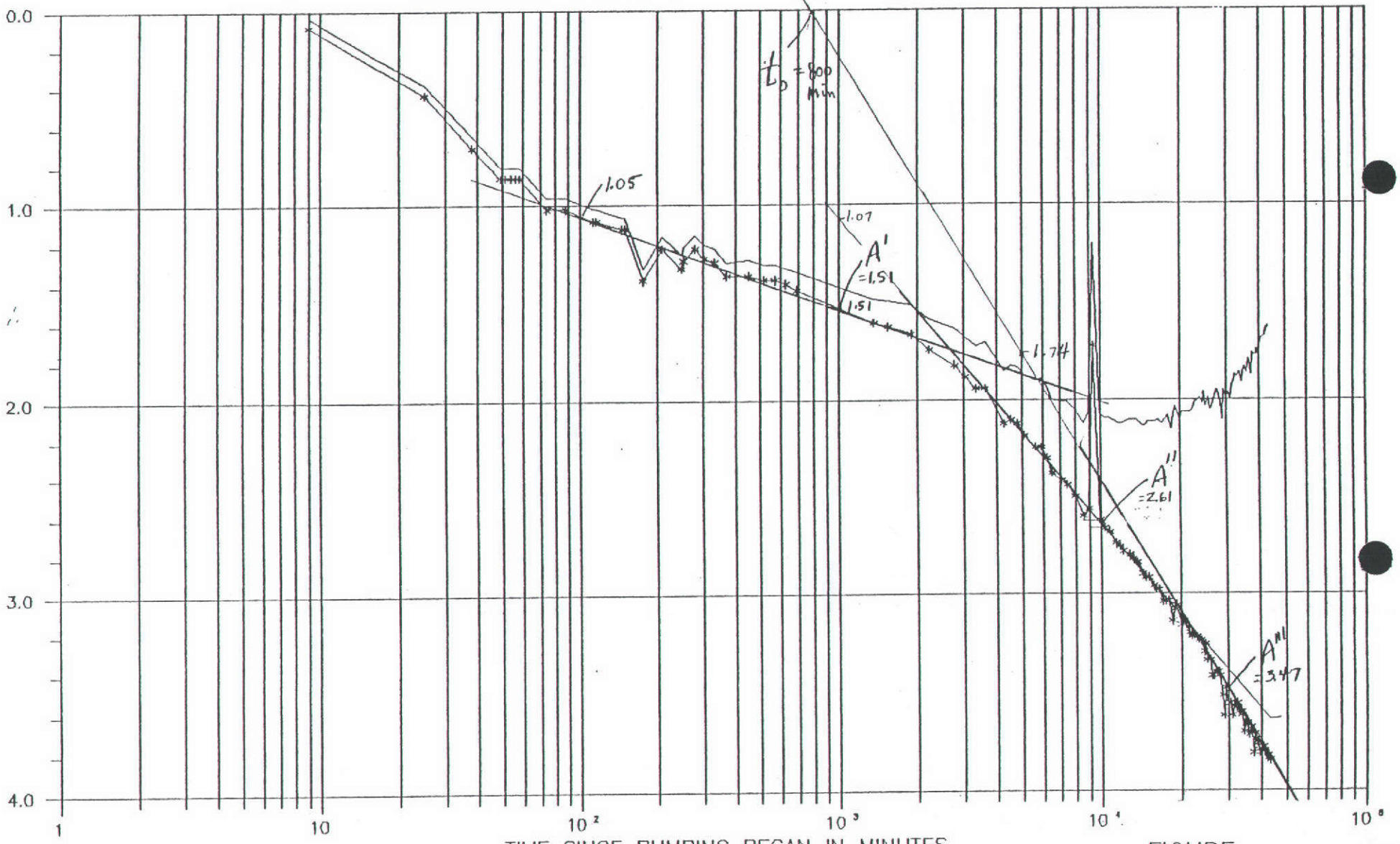


Figure 4. GEOLOGIC CROSS SECTION: D – D'

MAY 24, 1991

FLOATING FEATHER HILLS, INC.



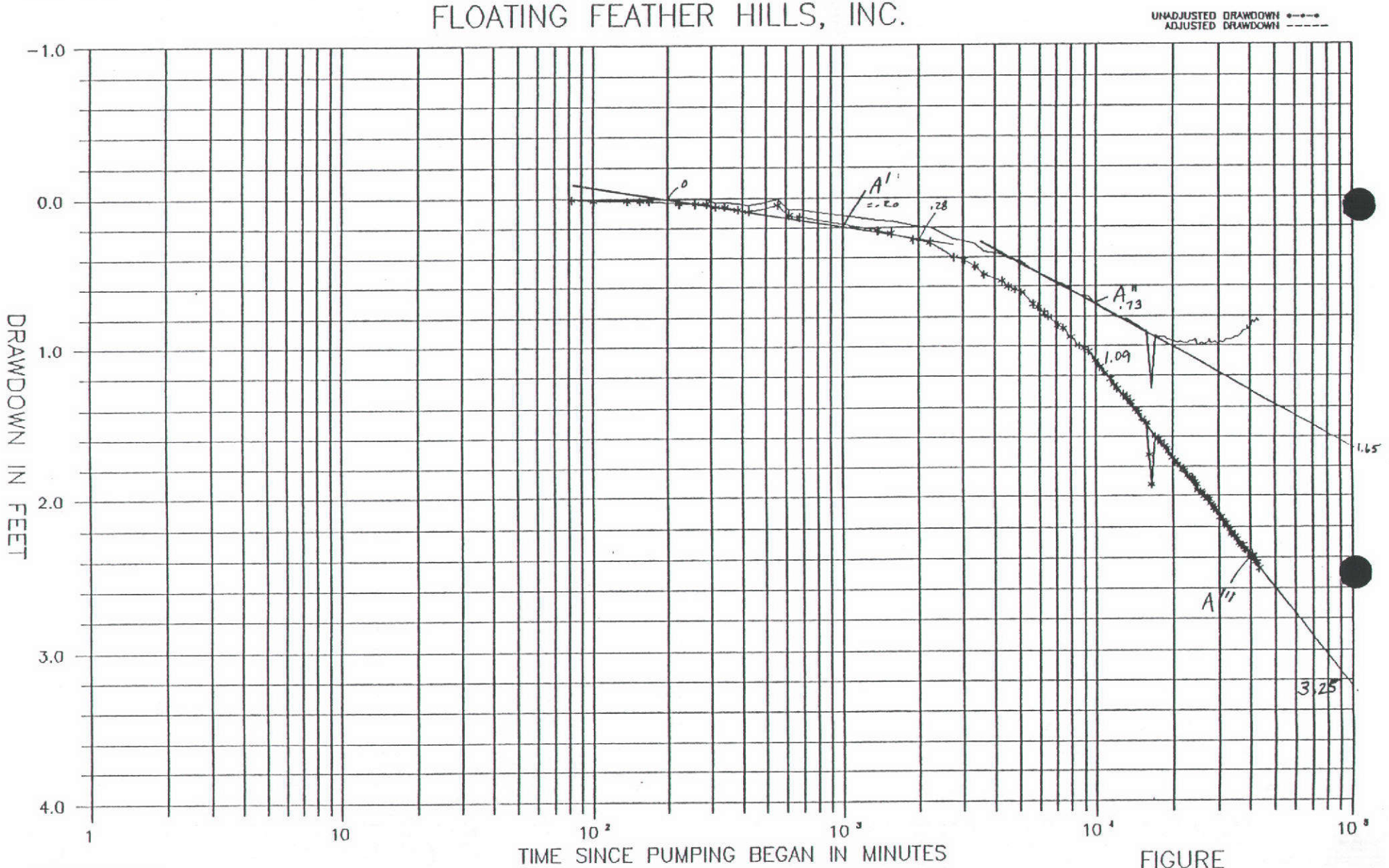
CH2M HILL
B0131684.A1

FIGURE

HOLGATE WELL
TIME DRAWDOWN

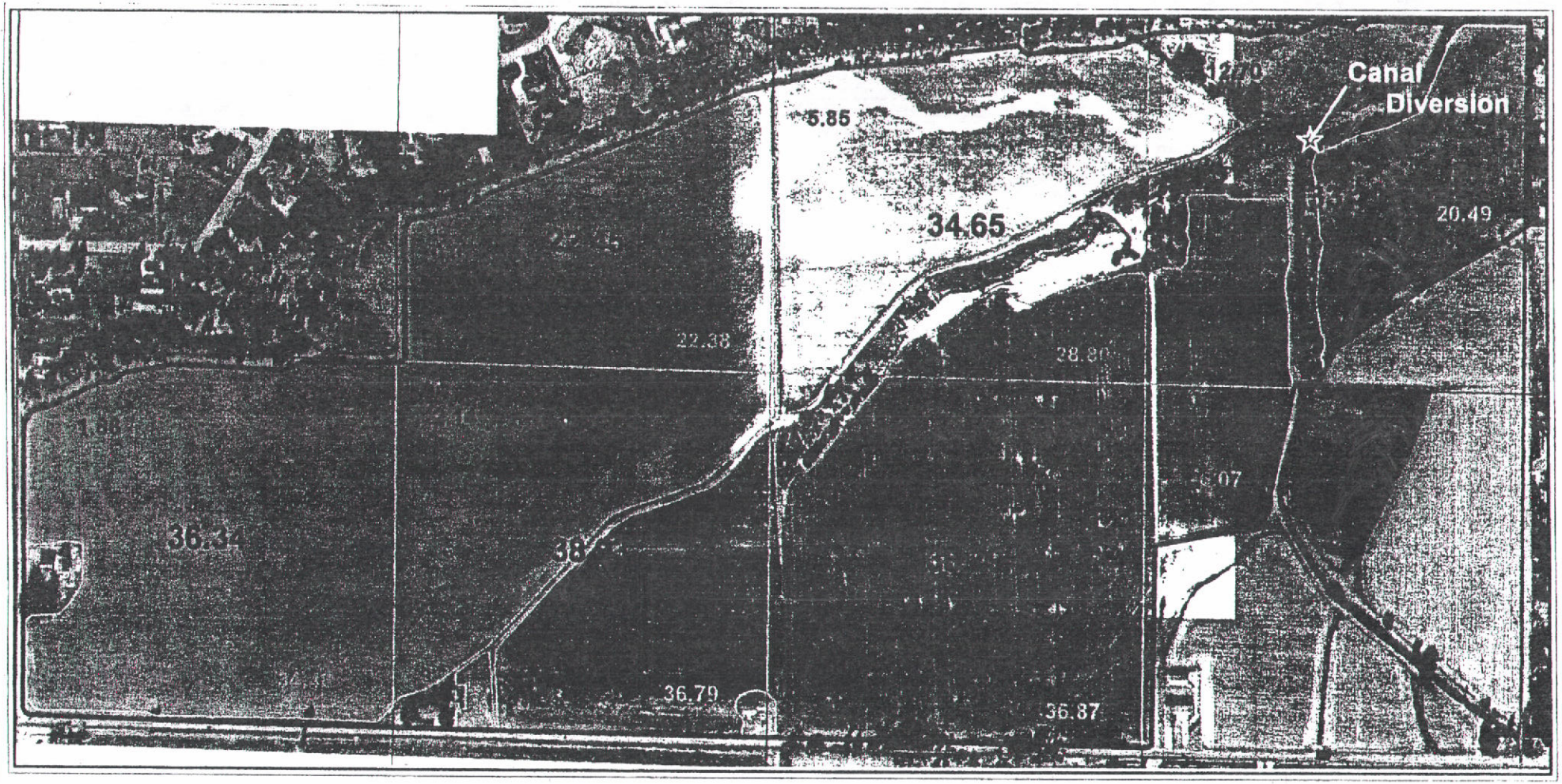
MAY 24, 1991

FLOATING FEATHER HILLS, INC.



CH2M HILL
B0131684.A1

FIGURE
CARSON WELL
TIME DRAWDOWN



600 0 600 1200 1800 2400 Feet

N
W E
S

Figure 2.
Brookwood Subdivision
Irrigated Acreage

Property Boundary

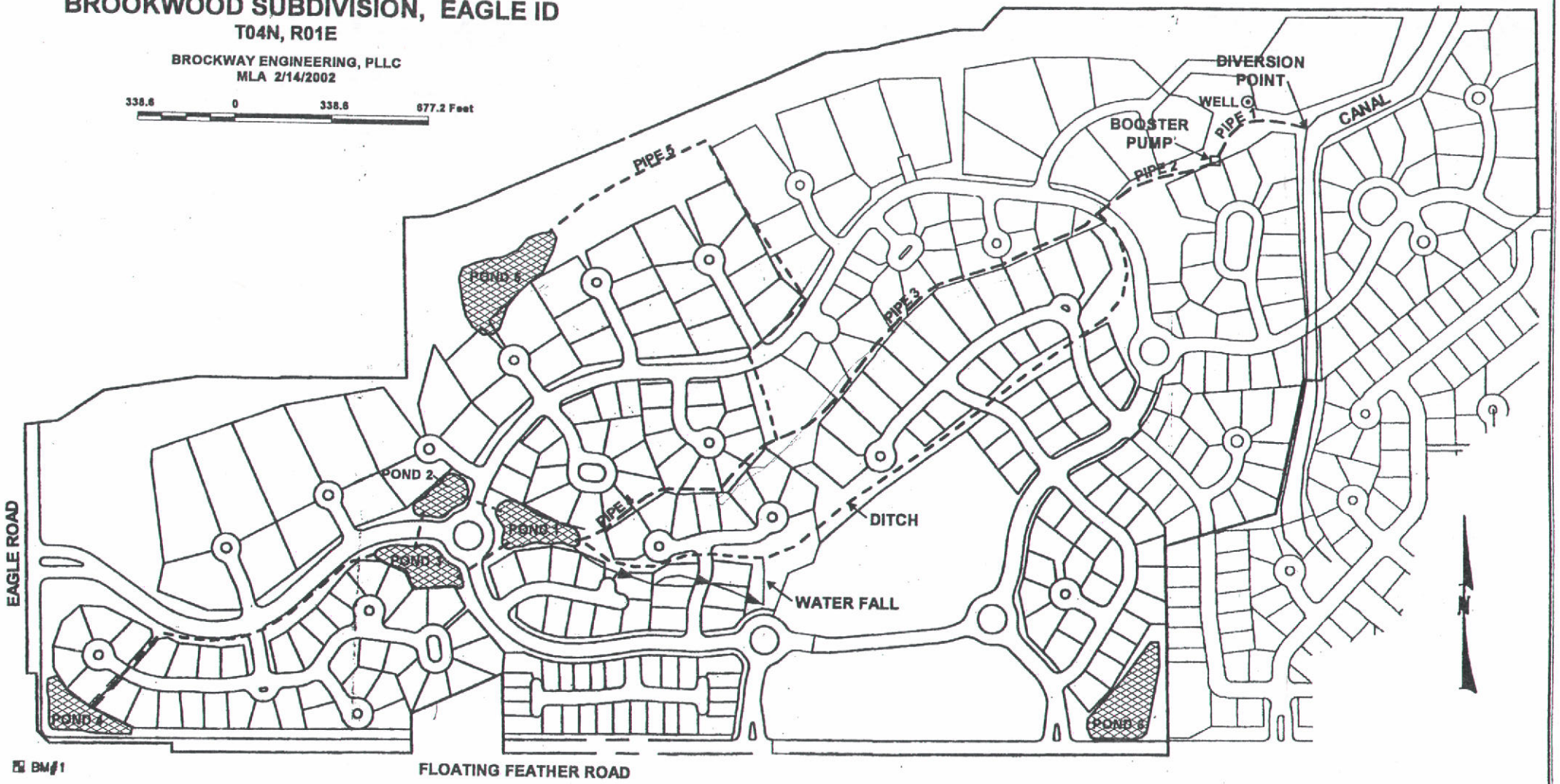
Irrigated Acreage
Overall Acreage = 185.92

Brockway Engineering, PLLC
MLA 5/28/2002

FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet



Well Interference Analysis Brookwood Proposed Exchange Well Estimated Well Drawdown

C.E. BROCKWAY February 12, 2002 Brockway Engineering, L.C.

AQUIFER PROPERTIES BASED ON USBR GROUNDWATER MANUAL-ALLUVIAL SAND AND GRAVEL
AND LOCAL WELL DRILLER'S LOGS
EST. HOLE DIA. 12 INCHES

USING THEIS FORMULA S=114.6*Q/T*W(U)
S= DRAWDOWN IN FT
Q= PUMPING RATE GPM
T= COEFFICIENT OF TRANSMISSIBILITY GPD/FT
W(U)= WELL FUNCTION OF 'U'

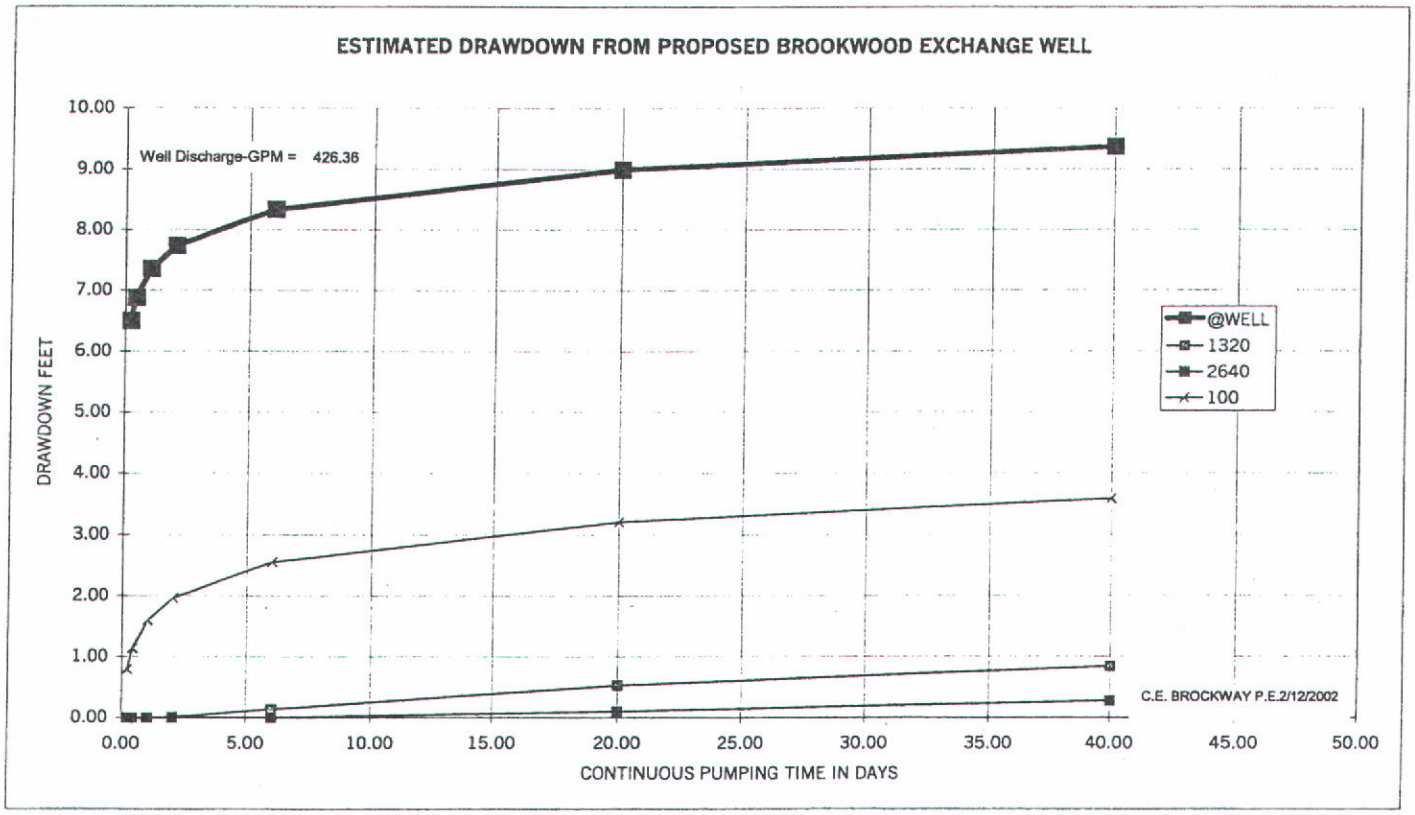
W(U)=-.5772-LOGeU +U-U^2/(2*2!)+U^3/(3*3!)-U^4/(4*4!) .....
U=1.87*r^2*S/(T*t)
r=DISTANCE IN FT. FROM CENTER OF PUMPED WELL TO DRAWDOWN POINT
S=COEFFICIENT OF STORAGE
T=COEFFICIENT OF TRANSMISSIBILITY, GPD/FT
t= TIME SINCE PUMPING STARTED, DAYS

INPUT

r1=	0.500 FT	K=	40.00	FT/DAY
r2=	100 FT	K=	0.00046296	CFS/FT^2
r3=	1320 FT	K=	2.98E+02	GPD/FT^2
r4=	2640 FT	WRIGHT SAT. DEPTH EST.=	300	FT
r5=	5280 FT	TRANSMISSIVITY=	89520	GPD/FT
S=	0.15	TRANSMISSIVITY=	1.39E-01	FT^2/SEC
T=	89520 GPD/FT	TRANSMISSIVITY=	11967.9	FT^2/DAY
Q/WELL	426.36 GPM =	0.950 CFS		

TIME HOURS	TIME t DAYS	U w/r1 0.5	WELL FUNCT. W(U)1	DRAW DOWN @WELL	SPEC. CAP GPM/FT	U W/r2 100	WELL FUNCT. W(U)2	DRAW DOWN @ 100	U W/r3 1320	WELL FUNCT. W(U)3	DRAW DOWN @ 1320	U W/r4 2640	WELL FUNCT. W(U)4	DRAW DOWN @ 2640
5	0.21	3.760E-06	11.9139	6.50	66	1.504E-01	1.4622	0.80	2.621E+01	0.0000	0.00	1.048E+02	0.0000	0.00
10	0.42	1.880E-06	12.6070	6.88	62	7.520E-02	2.0842	1.14	1.310E+01	0.0000	0.00	5.241E+01	0.0000	0.00
24	1.00	7.833E-07	13.4825	7.36	58	3.133E-02	2.9169	1.59	5.460E+00	0.0000	0.00	2.184E+01	0.0000	0.00
48	2.00	3.917E-07	14.1756	7.74	55	1.567E-02	3.5946	1.96	2.730E+00	0.0184	0.01	1.092E+01	0.0000	0.00
144	6.00	1.306E-07	15.2743	8.34	51	5.222E-03	4.6828	2.56	9.099E-01	0.2558	0.14	3.640E+00	0.0032	0.00
480	20.00	3.917E-08	16.4782	8.99	47	1.567E-03	5.8832	3.21	2.730E-01	0.9766	0.53	1.092E+00	0.1885	0.10
960	40.00	1.958E-08	17.1714	9.37	45	7.833E-04	6.5755	3.59	1.365E-01	1.5463	0.84	5.460E-01	0.5076	0.28

HOURS	DAYS	@WELL	100	1320	2640 DISTANCE FEET
0	0.00	0	0	0	0
5	0.21	-6.50	-0.80	0.00	0.00
10	0.42	-6.88	-1.14	0.00	0.00
24	1.00	-7.36	-1.59	0.00	0.00
48	2.00	-7.74	-1.96	-0.01	0.00
144	6.00	-8.34	-2.56	-0.14	0.00
480	20.00	-8.99	-3.21	-0.53	-0.10
960	40.00	-9.37	-3.59	-0.84	-0.28



9046013

WARRANTY DEED

ADA COUNTY IDAHO
FOR Lawyers Title

'90 AUG 28 PM 3 24
JOHN BASTIDA, RECORDER
BY

For Value Received

Quarter Circle DJ Ranch, an Idaho general partnership,

the grantor, does hereby grant, bargain, sell, and convey unto

Richard M. Hormaechea and Mary B. Hormaechea, Husband and Wife

the grantee, whose current address is P. O. Box 6887, Boise, Idaho 83707

the following described premises, to-wit:

The South 10 acres of Lot 3 and the Southeast Quarter of the Northwest Quarter and the Northeast Quarter of the Southwest Quarter of Section 3, Township 4 North, Range 1 West, Boise Meridian, Ada County, Idaho.

EXCEPT DITCH AND ROAD RIGHTS-OF-WAY.

TO HAVE AND TO HOLD the said premises, with their appurtenances unto the said Grantee, his heirs and assigns forever. And the said Grantor does hereby covenant to and with the said Grantee, that Grantor is the owner in fee simple of said premises; that said premises are free from all encumbrances except current years taxes, levies, and assessments, and except U. S. Patent reservations, restrictions, easements of record, and easements visible upon the premises, and that Grantor will warrant and defend the same from all claims whatsoever.

Dated: August 28, 190

Quarter Circle DJ Ranch

BY: _____
James C. Warren, General Partner

David M. Harney by
James C. Warren His attorney
in fact

BY: _____
David M. Harney, General Partner
by James C. Warren, his Attorney
in Fact

STATE OF IDAHO)
: ss
COUNTY OF ADA)

On This 28th day of August, in the year 1990, before me, a Notary Public in and for said State, personally appeared James C. Warren, known or identified to me to be one of the partners in the partnership of Quarter Circle DJ Ranch, and the partner or one of the partners who subscribed said partnership name to the foregoing instrument, and acknowledged to me that he executed the same in said partnership name.

_____
Notary Public of Idaho
Residing at Boise, Idaho
Commission Expires: 6/21/92

STATE OF IDAHO
COUNTY OF ADA

On this 28th day of August, in the year 1990, before me, a Notary Public in and for said State, personally appeared, James C. Warren, partner of the partnership of Quarter Circle DJ Ranch, known to be the person whose name is subscribed to the within instrument as the attorney-in-fact of David M. Harney, partner of the partnership of Quarter Circle DJ Ranch, and acknowledged to me that he subscribed the name of David M. Harney thereto as principal, and his own name as attorney-in-fact.

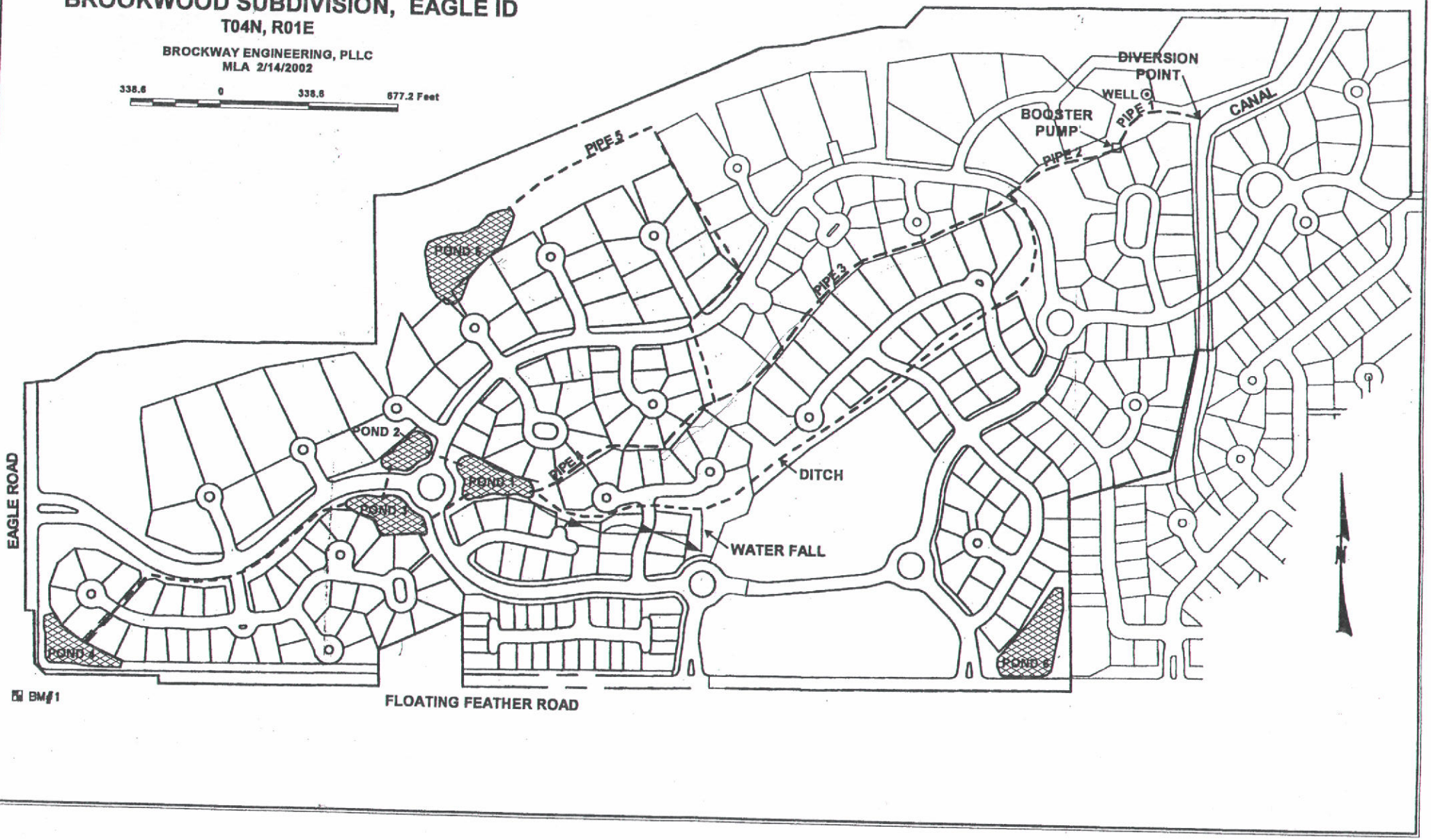
_____
6/21/92

First American Title Company of Idaho

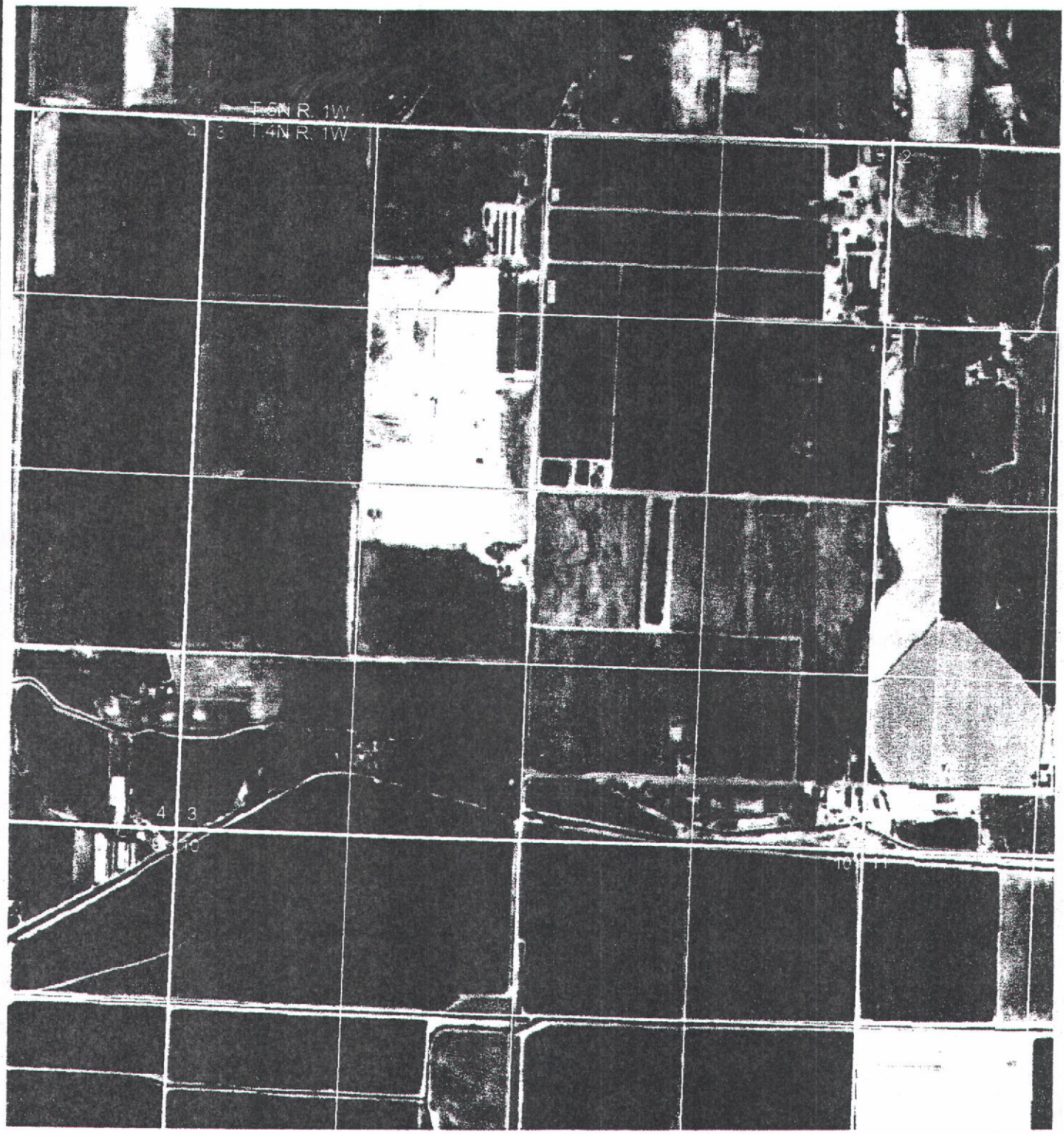
FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet



Quarter Circle DJ Ranch Feedlot



PROPERTY DESCRIPTION
The South 10 acres of Lot 3 and the Southeast Quarter of the Northwest Quarter and the Northeast Quarter of the Southwest Quarter of Section 3, Township 4 North, Range 1 West, Boise Meridian, Ada County, Idaho

N
W E
S

Brockway Engineering, PLLC.

November 11, 2002

FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet

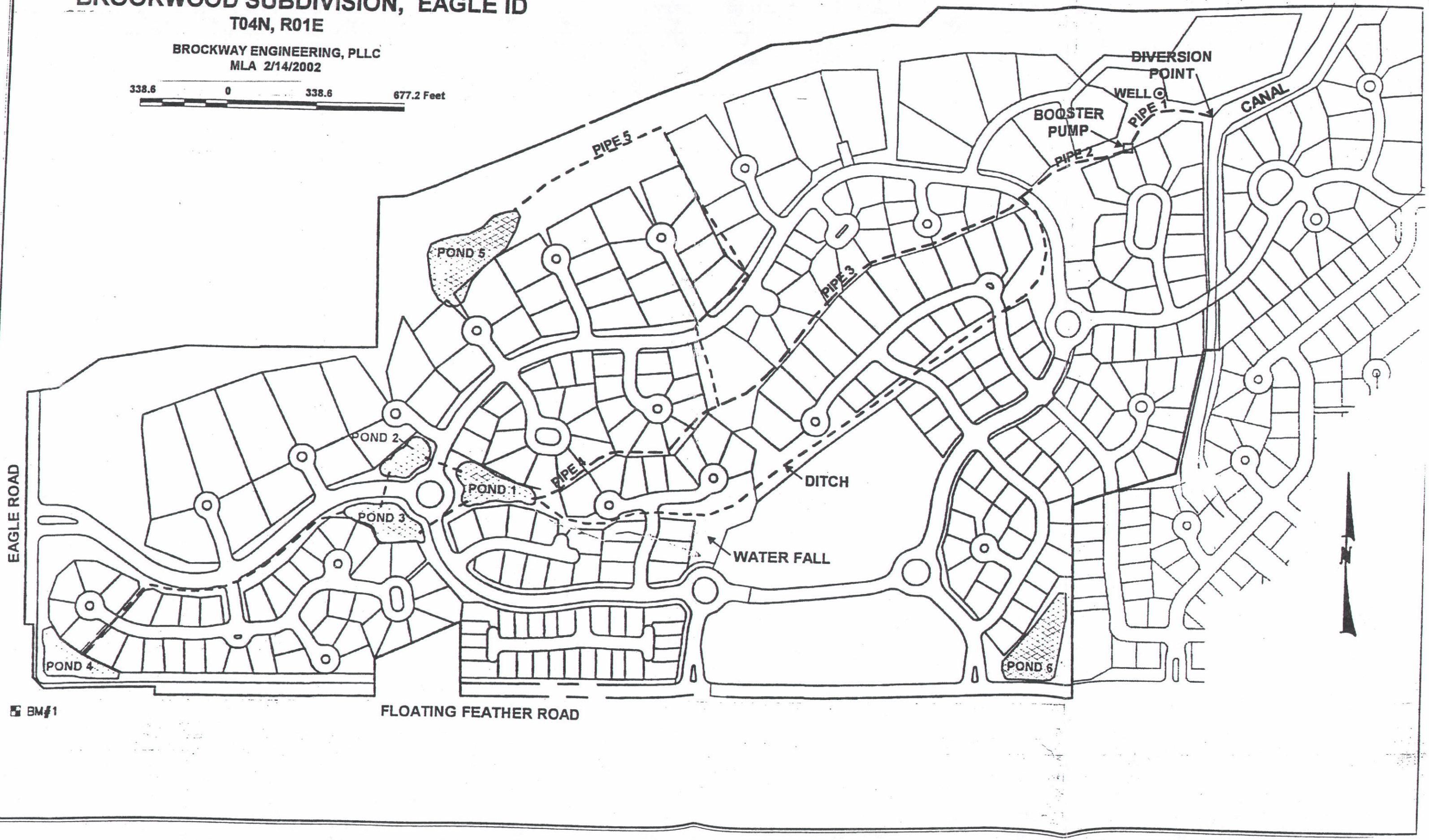
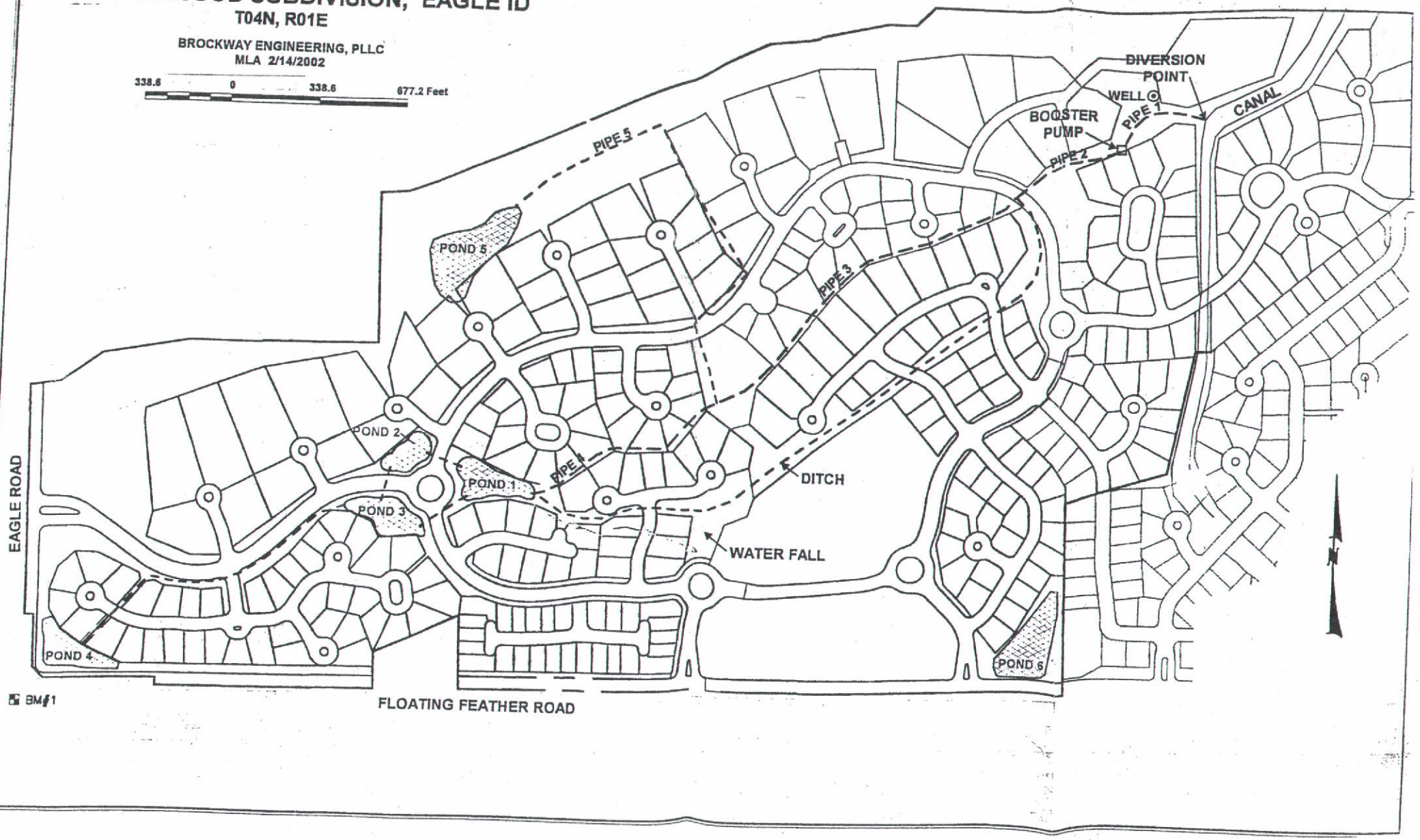
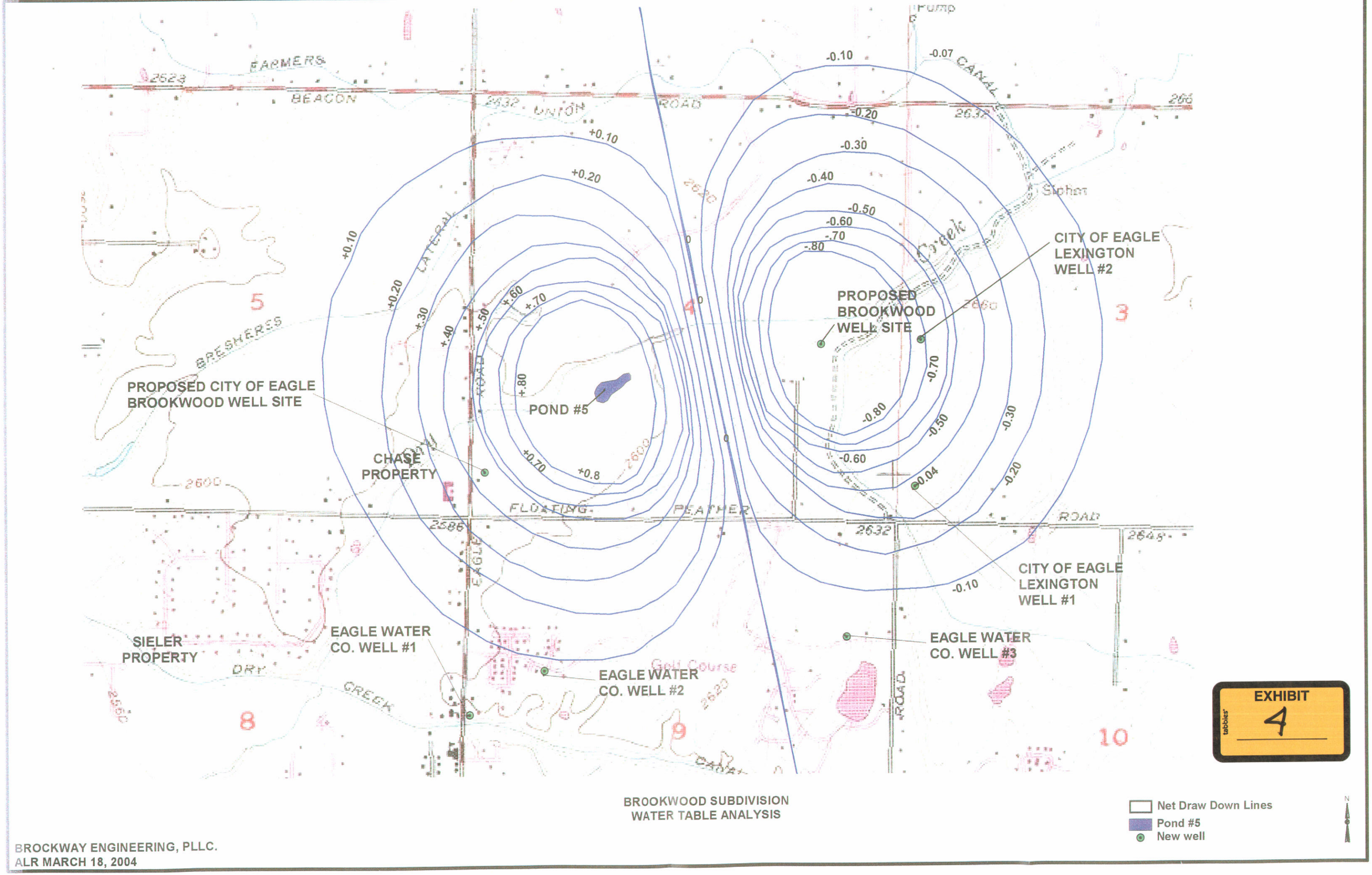


FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet

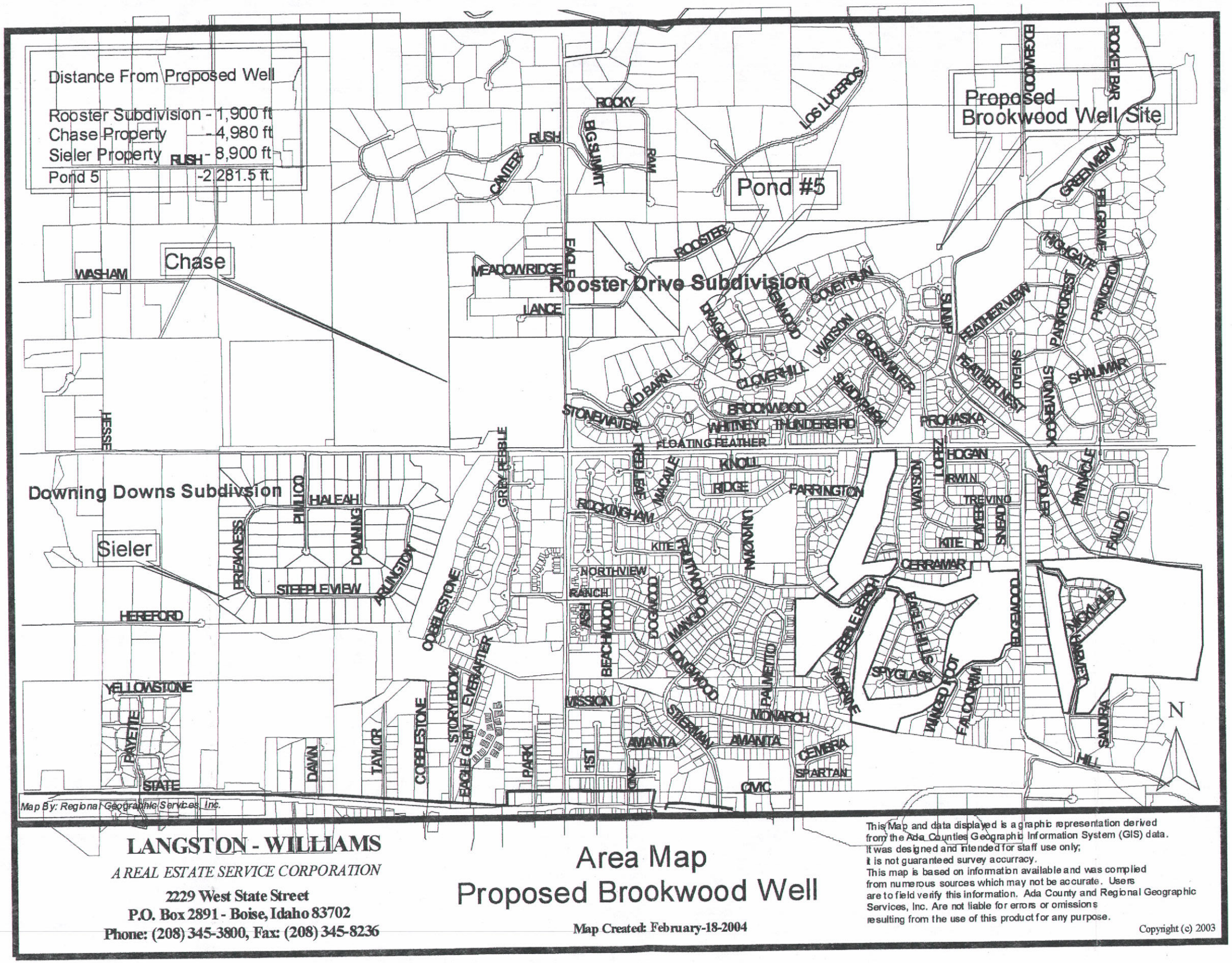




BROOKWOOD SUBDIVISION
WATER TABLE ANALYSIS

Net Draw Down Lines
Pond #5
New well

BROCKWAY ENGINEERING, PLLC.
ALR MARCH 18, 2004



LANGSTON - WILLIAMS

A REAL ESTATE SERVICE CORPORATION

2229 West State Street
P.O. Box 2891 - Boise, Idaho 83702
Phone: (208) 345-3800, Fax: (208) 345-8236

Area Map
Proposed Brookwood Well

Map Created: February-18-2004

This Map and data displayed is a graphic representation derived from the Ada Counties Geographic Information System (GIS) data. It was designed and intended for staff use only; it is not guaranteed survey accurracy. This map is based on information available and was complied from numerous sources which may not be accurate. Users are to field verify this information. Ada County and Regional Geographic Services, Inc. Are not liable for errors or omissions resulting from the use of this product for any purpose.

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EXHIBIT
6
tabbies

BROCKWAY ENGINEERING, PLLC.
ALR MARCH 3, 2004

N

0 150 300 600 900

DRY CREEK

FUTURE SUBDIVISIONS

SUBDIVISION NO. 3

SUBDIVISION NO. 1

SUBDIVISION NO. 4

SUBDIVISION NO. 2

EAGLE ROAD

FLOATING FEATHER ROAD

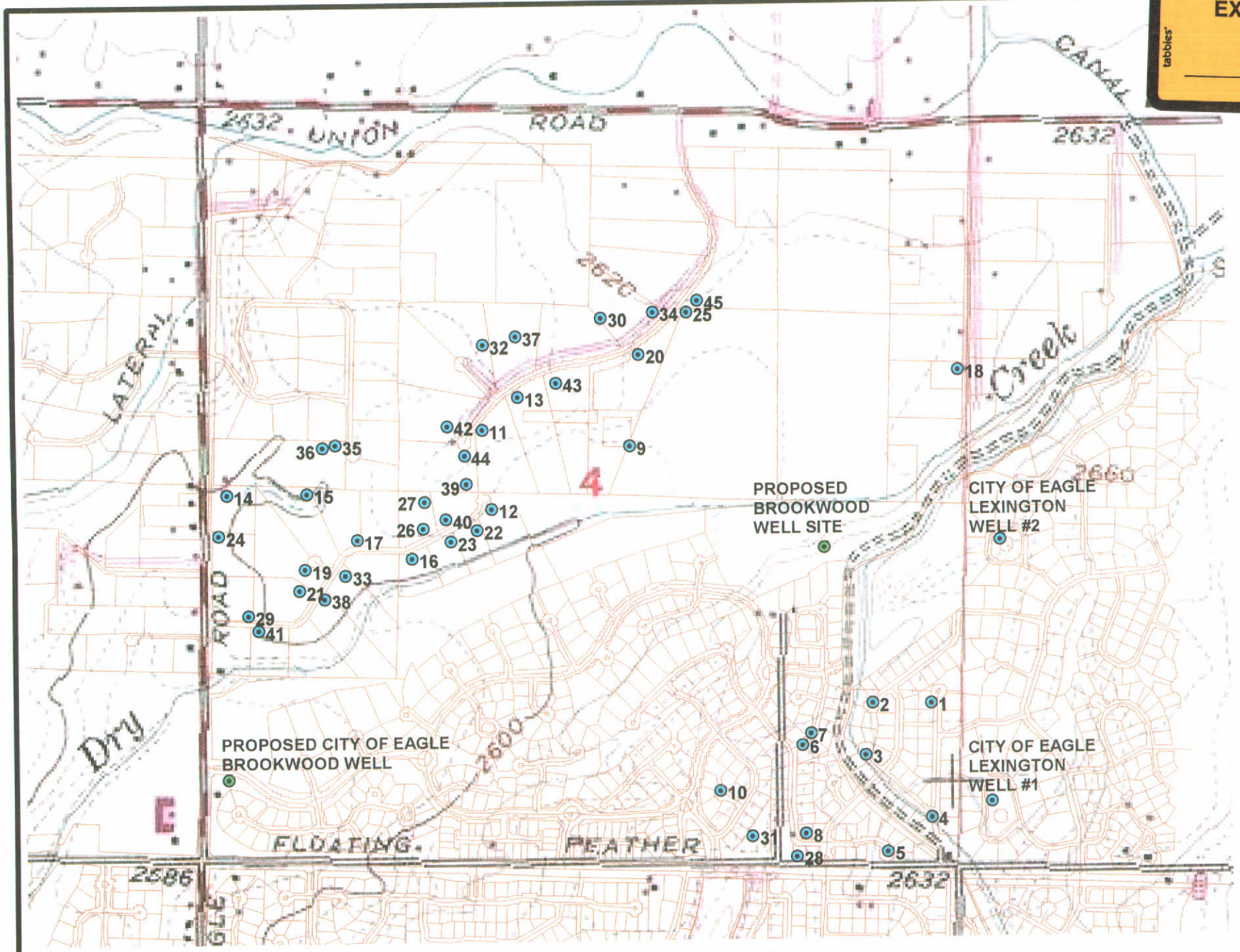
MOORFIELD PL.
KENWOOD PL.
DRAGONFLY PL.
TADPOLE CT.
DRAGONFLY CT.
MAPLESIDE
BROOKWOOD DR.
CREENFIELD
OLD BARN ROAD
FOXPOINT LANE
STONEWATER LANE
BASIL LANE
CLOVERHILL CT.
GREENCREEK PL.
HONEYBROOK WAY
E. BROOKWOOD DRIVE
N. THUNDERBIRD AVE.
E. WATSON PLACE
N. CROSSWATER WAY
N. WATSON AVE.
E. BROOKWOOD
N. SHADYPARK DRIVE
E. PASTORAL COURT
PENINSULA DR.

BM#1

EXHIBIT 7

tabbies

EXHIBIT 8



BROOKWOOD
WELL STUDY
TOPO MAP

Surrounding Wells (Approximate Location Based off of Public Land Survey)

Proposed Wells

BROCKWAY ENGINEERING, PLLC.
ALR MAY, 5 2004

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Reclamation

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

Received 3-29-71 Dept of Water Administration

1. WELL OWNER

Name Quarter Circle D J Ranch

Address Box 278, Eagle, Idaho

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotory ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 361 feet

Casing schedule: ☐ Steel ☐ Concrete

Thickness	Diameter	From	To
250 inches	6 inches	+1 feet	355 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seal used? ☐ Yes ☐ No

Perforated? ☐ Yes ☐ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation ____ inches by ____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____

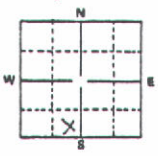
Placed from _____ feet to _____ feet

Surface seal? ☒ Yes ☐ No To what depth 20 feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Ada

SE ¼ SW ¼ Sec. 4, T. 4 N/S, R. 1 E/W BM

7. WATER LEVEL

Static water level 30 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow _____

Temperature _____ °F. Quality _____

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☒ Pump ☐ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped
40	10	10

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	34	Clay		X
[illegible]	34	60	Sand & Clay layers		X
	60	76	Brown Sand	X	
	76	94	Yellow Clay		X
	94	107	Sand Hardening		X
	107	158	Sand & Clay layers		X
	158	291	Hardening Sand		X
	291	360	Blue Clay	[illegible]	X
	360	361	Blue Sand	X	

10. Work started 9-16-70 finished 11-4-70

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

Harvey Sitonot
Driller's or Firm's Name Number

Boise 116
Address

Signed By _____ Date _____

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

(11)

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Resources

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Larry Hamm

Address

Owner's Permit No.

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Other (specify type)

☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

4. METHOD DRILLED

☐ Cable ☒ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 123 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	+ 1 feet	123 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was casing drive shoe used? ☒ Yes ☐ No

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation inches by inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name

Type Model No.

Diameter Slot size Set from feet to feet

Diameter Slot size Set from feet to feet

Gravel packed? ☐ Yes ☒ No Size of gravel

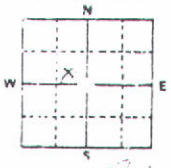
Placed from feet to feet

Surface seal depth 20 Material used in seal ☐ Cement grout ☒ Puddling clay ☐ Well cuttings

Sealing procedure used ☐ Slurry pit ☐ Temporary surface casing ☒ Overbore to seal depth

6. LOCATION OF WELL

Sketch map location must agree with written location. 63



Subdivision Name

Lot No Block No.

County Ada

SE ¼ NW ¼ Sec. 4 T. 4 N R. 1 E

7. WATER LEVEL

Static water level 43 feet below land surface

Flowing? ☐ Yes ☐ No G.P.M. flow

Temperature F Quality

Artesian closed in pressure p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	6	Hard pan & topsoil		X
	6	12	Coarse sand		X
	12	68	Gravel	X	
	68	120	Sand	X	
	120	122	Joint clay		X
	122	123	Coarse sand & gravel	X	

Department of Water Resources

10. Work started 5/22/78 finished 5/23/78

11. DRILLERS CERTIFICATION

Firm Name Davis Well Drilling Firm No. 101

Address 415 N. Pitt Lane Nampa Date 5/30/78

Signed by (Firm Official) Charles Davis

and

(Operator)

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE COPY TO THE DEPARTMENT

(12)

Form 238-7
1/78

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Stan Bastian

Address Eagle, Idaho

Owner's Permit No.

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☒ Rotary ☒ Air ☐ Hydraulic ☐ Reverse rotary
☐ Cable ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other

Thickness	Diameter	From	To
250 inches	6 inches +	1 feet	55'5" feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

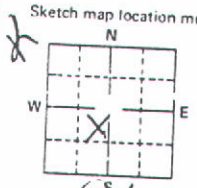
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name
Type _____ Model No.
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel
Placed from _____ feet to _____ feet
Surface seal depth 48' Material used in seal: ☐ Cement grout ☐ Puddling clay ☒ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name

Lot No. _____ Block No. _____

County Ada

NE ¼ SW ¼ Sec. 4, T. 4 N, R. 1 E

7. WATER LEVEL

Static water level 15 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other

Discharge G.P.M.	Pumping Level	Hours Pumped
No	Test	

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
9"	0	2	topsoil		X
9"	2	6	Hardpan		X
9"	6	13	Sand		X
9"	13	45	Gravel		X
9"	45	48	Brown Clay		X
6"	48	56	" "		X
6"	56	63	Sand	X	

RECEIVED
AUG 9 1978
Department of Water Resources
Western Regional Office

10.

Work started 9/14/78 finished 9/14/78

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name S.O.S. Well Drilling & Pump Co. Firm No. 212
Address 4145 N. Blackcats Merriam, Ida Date 9/20/78
Signed by (Firm Official) Frank Shinn
and
(Operator) Wayne Fairbanks

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

(14)

Form 238-7
1/78

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Gregory Canyon Construction

Address

Owner's Permit No.

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other

Thickness	Diameter	From	To
0.250 inches	6⅝ inches	+ 1 feet	43 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation ___ inches by ___ inches

Number		From	To
	perforations	feet	feet
	perforations	feet	feet
	perforations	feet	feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name
Type ___ Model No.
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel
Placed from ___ feet to ___ feet
Surface seal depth 20 Material used in seal: ☐ Cement grout ☐ Puddling clay ☒ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port

6. LOCATION OF WELL 63

Sketch map location must agree with written location.

Subdivision Name Syringa [illegible]

Lot No. 3 Block No. 2

County

NW ¼ SW ¼ Sec. 14, T. 4N N/S, R. 1E E/W.

7. WATER LEVEL

Static water level 20 feet below land surface
Flowing? ☐ Yes ☒ No G.P.M. flow
Artesian closed-in pressure ___ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ___ °F. Quality Good

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other

Discharge G.P.M.	Pumping Level	Hours Pumped
30	Not known	3

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	11	Topsoil		X
6"	11	23	Sandy Clay		X
6"	23	39	Sand		X
6"	39	45	Clay		X
6"	45	49	good water Bearing Sand	X	
			Well Casing blank open bottom		

10. Work started 6-20-77 finished 6-25-77

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name [illegible] Well Drilling Firm No. 205

Address [illegible] Date 6-27-77

Signed by (Firm Official) [illegible]

and

(Operator) [illegible]

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

(16)

Form 238-7
7-73

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Rick Bechtold

Address

Owner's Permit No.

2. NATURE OF WORK

☑ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☑ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☑ Cable ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Casing schedule: ☑ Steel ☐ Concrete ☐ Other

Thickness	Diameter	From	To
.250 inches	6 inches +	1 feet	74 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was casing drive shoe used? ☑ Yes ☐ No
Was a packer or seal used? ☐ Yes ☑ No
Perforated? ☐ Yes ☑ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation inches by inches

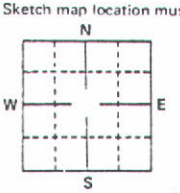
Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☑ No
Manufacturer's name
Type Model No.
Diameter Slot size Set from feet to feet
Diameter Slot size Set from feet to feet
Gravel packed? ☐ Yes ☑ No ☐ Size of gravel
Placed from feet to feet
Surface seal depth 20' Material used in seal: ☐ Cement grout ☐ Puddling clay ☑ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☑ Overbore to seal depth
Method of joining casing: ☐ Threaded ☑ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port

6. LOCATION OF WELL

(6)

Sketch map location must agree with written location.



Subdivision Name Fox Farms Sub
Lot No. Block No. 13
County Ada
NE ¼ SW ¼ Sec. 4, T. 4 N/S, R. 1 E/W.

7. WATER LEVEL

Static water level 13 feet below land surface.
Flowing? ☐ Yes ☑ No G.P.M. flow
Artesian closed-in pressure p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature °F. Quality

8. WELL TEST DATA

☑ Pump ☑ Bailer ☐ Air ☐ Other

Discharge G.P.M.	Pumping Level	Hours Pumped
15	75	16

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	3	Top Soil		✓
	3	10	Clay		✓
	10	15	Sand very gravel		✓
	15	20	Sand & Gravel		✓
	20	45	Gravel	✓	✓
	45	55	Sand & Gravel	✓	
	55	60	Sandy Clay		✓
	60	62	Sand	✓	
	62	72	Coarse Sand some gravel	✓	
	72	73	Sandy Clay		✓
	73	90	Clay		✓
	90	—	Coarse Sand	✓	

10.

Work started 4/15/75 finished 4/16/75

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Dave Wolfley Pump & Drilling Firm No. 207
Address 2252 S Garden Date 4/24/75
Signed by (Firm Official)
and
(Operator) Dwight Wolfley

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(17)

State of Idaho
Department of Water Resources

WELL DRILLER'S REPORT

RECEIVED

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER
Gregory Design Construction
Address 3122 Eagle Hills

2. NATURE OF WORK
X New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandonment)

3. PROPOSED USE
X Domestic ☐ Irrigation ☐ Test ☐ Other (specify type)
☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

4. METHOD DRILLED
X Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION
Diameter of hole 6" inches Total depth 45' feet
Completed in: X Steel ☐ Concrete

Thickness	Diameter	From	To
0250 inches	6 5/8 inches	+1 feet	43 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was casing drive shoe used? X Yes ☐ No
Was a packer or seal used? ☐ Yes X No
Perforated? ☐ Yes X No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation ____ inches by ____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes X No
Manufacturer's name
Type Model No.
Diameter Slot size Set from feet to feet
Diameter Slot size Set from feet to feet

Gravel packed? ☐ Yes X No Size of gravel
Placed from feet to feet

Surface seal depth 20 Material used in seal ☐ Cement grout ☐ Puddling clay X Well cuttings
Seating procedure used ☐ Slurry pit ☐ Temporary surface casing X Overbore to seal depth

6. LOCATION OF WELL
Sketch map location must agree with written location.

63

N / W / E / S

Subdivision Name Eagle Feather
Lot No. 3 Block No. 2
County Ada
NW¼SW¼ Sec. 4 T. 4N N/S, R 1E E/W

7. WATER LEVEL
Static water level 10 feet below land surface
Artesian pressure ____ lbs. GPM flow
Temperature ____ Quality good
Artesian water controlled by ____ (Valve, Cap, Plug)

8. WELL TEST DATA
Pump ☐ Bailer ☐ Other Compressor

Discharge G.P.M.	Draw Down	Hours Pumped
30	Not Known	4

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	9'	Topsoil	X	
6"	9	24	Sandy Clay	X	
6"	24	36	Sand	X	
6"	36	45	gravel clay		X
		46	Cased and Developed		
			Water right 63-11		
			Exp		

10. Work started June 24/77 finished June 27/77

11. DRILLERS CERTIFICATION
Firm Name David Wells Drilling & Pump Service Firm No. 208
Address 7711 Overland Rd Boise Date 6-29-77
Signed by (Firm Official) David W Wells
and
(Operator) [signature]

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Form 2 [illegible] 7
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STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

20

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Bill Taylor

Address Eagle Idaho

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning) _____

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.156 inches	6 inches	+ 2 feet	14 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number		From		To	
_____	perforations	_____	feet	_____	feet
_____	perforations	_____	feet	_____	feet
_____	perforations	_____	feet	_____	feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout ☐ Puddling clay ☒ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port Top of well

6. LOCATION OF WELL 63

Sketch map location must agree with written location.

N / W / E / S

Subdivision Name _____
Eagle Feather Sub
Lot No. 2 Block No. 2

County Ada

SW ¼ NE ¼ Sec. 4, T. 4 N/S, R. 1 E/W.

7. WATER LEVEL

Static water level 14 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ____ °F. Quality _____

8. WELL TEST DATA

☒ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
50	45	24

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
10	0	18	Sandy clay & Gravel		1
6	18	32	Cemented "		1
	32	34	Clay Cliff		1
	34		Sand & Gravel	X	

1548

JUL 1913
Department of Water Resources

DEC 02 1913
Department of Water Resources
Western Regional Office

10.

Work started 7/3/29 finished 7/6/29

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Pacific Coast Firm No. 250
Address [illegible] Date 7/7/29
Signed by (Firm Official) [illegible]
and
(Operator) _____

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STATE OF [illegible]
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well

1

1 OWNER

Name L & A Wright

Address [illegible] La Mesa Calif

State Well No. 13-9685

7 WATER LEVEL

Static water level [illegible] feet below land surface

Measured [illegible] Date [illegible]

Artesian pressure [illegible]

Controlled by [illegible] Valve [illegible] Cap [illegible]

Temperature [illegible] of [illegible] Quality [illegible]

2 NATURE OF WORK

X New well Deepened Reconstructed

Abandoned (describe method of abandoning)

8 WELL TEST DATA

Pump Bailer Air Other

Depth to Water	Pumping Level	Hours Pumped
54	57	#48

3 PROPOSED USE

X Domestic Irrigation Test Monitoring

Industrial Stock Air conditioning or injection

Other (Specify type)

9 LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No.
8	0	3	Top Soil		1
8	3	19	Sandy Clay		1
8	19	31	Sandy Clay Soft		1
8	31	54	Clay Sandy Clay Medium	X	1
8	54	75	White Silt Hard Medium		1
8	75	85	Yellow Clay	X	
8	85	92	Granite		

4 METHOD DRILLED

Rotary Air Hydraulic Reverse rotary

X Cable Dug Other

5 WELL CONSTRUCTION

Casing schedule X Steel Concrete Other

Casing	Diameter	From	To
	inches	feet	feet
	inches	feet	feet
	inches	feet	feet
	inches	feet	feet

Was casing drive shoe used? Yes No

Was a packer or seal used? Yes No

Perforated? Factory Knife Torch

How perforated? inches by inches

Size of perforations From feet to feet

Number perforations From feet to feet

perforations From feet to feet

perforations From feet to feet

Well screen installed? Yes X No

Manufacturer's name Model No.

Type Diameter Slot size Set from feet to feet

Diameter Slot size Set from feet to feet

Gravel packed? Yes No Size of gravel

Placed from feet to feet

Surface seal used? Material used in seal Cement grout

Puddling clay X Well casing

Sealing procedure used Slurry pit Temp. surface casing

Overbore to seal depth

Method of joining casing Threaded Welded Solvent Weld

Cemented between strata

Describe access port Type of well

10. Work started 1/1/81 finished 8/4/81

6 LOCATION OF WELL

Sketch map location must agree with written location

N W E S

Subdivision Name [illegible]

Lot No. 16 Block No.

County San Diego

NE 1/4 SW 1/4 Sec. 4 T. 15 N R. 3 W EM

11 DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name [illegible] Co. Inc. No. 250

Address [illegible] Date 1/5/81

Signed by (Firm Official) [illegible]

and "

(Operator)

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NE SW Sec 4 T 15 N R 3 EBM SC

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4/92

POOR QUALITY

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

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Department of Water Resources
Western Regional Office

USE TYPEWRITER OR BALLPOINT PEN

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WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

pg 2 of 3

1. WELL OWNER

Name L.D.S. CHURCH

Address 2710 NW SUNRISE RIM. RD. SUITE 200

Drilling Permit No. 93-73-W-0321-000

Water Right Permit No. 63-11392

2. NATURE OF WORK NEW WELL

☐ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase ☐ Modification
☐ Abandoned (describe abandonment or modification procedures such as liners, screen, materials, plug depths, etc. in lithologic log, section 9.)

3. PROPOSED USE CULLINARY

☐ Domestic ☐ Irrigation ☐ Monitor
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED MUD ROTARY

☐ Rotary ☐ Air ☐ Auger ☐ Reverse rotary
☐ Cable ☐ Mud ☐ Other _____ (backhoe, hydraulic, etc.)

5. WELL CONSTRUCTION

Casing schedule: ☐ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
0.25 inches	6" inches	+ 437 feet	450 feet
0.25 inches	6" inches	465 feet	470 feet
.25 inches	10" inches	418" feet	42 feet

Was casing drive shoe used? ☐ Yes ☐ No
Was a packer or seal used? ☐ Yes ☐ No
Perforated? ☐ Yes ☐ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation? _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☐ No
Manufacturer _____ Type _____
Top Packer or Headpipe _____
Bottom of Tailpipe _____

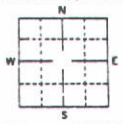
Diameter ____ Slot size ____ Set from [illegible] feet to [illegible] feet
Diameter ____ Slot size ____ Set from 450 feet to 465 feet
Gravel packed? ☐ Yes ☐ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet

Surface seal depth [illegible] Material used in seal: ☐ Cement grout
☐ Bentonite ☐ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit
☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☐ Welded
☐ Solvent Weld ☐ Cemented between strata

Describe access port WELL CAP

6. LOCATION OF WELL

Sketch map location **must** agree with written location.



Subdivision Name _____

Lot No. _____ Block No. _____

County ADA

Address of Well Site EAGLE RD. BTWN BEACON LITE & Floating Feather Rd.
(give at least name of road)

T. 4N N ☐ or S ☐
SW ¼ NW ¼ Sec. 4, R. 1E E ☐ or W ☐

7. WATER LEVEL

Static water level 23' feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 65 °F. Quality Good
Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
10"	436	443	CLAY		Y
	443	444	SAND		Y
	444	446	CLAY		Y
	446	470	FINE SAND	Y	

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Department of Water Resources

10.

Work started _____ finished _____

11. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name [illegible] CORE DRILL Firm No. 213

Address [illegible] Date [illegible]

Signed by Drilling Supervisor [signature]

and

(Operator) [signature]
(If different than the Drilling Supervisor)

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USE TYPEWRITER OR BALLPOINT PEN

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

State Department of Water Resources: This report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

POOR QUALITY

pg 1 of 3

1. WELL OWNER

Name _____

Address _____

Drilling Permit No. _____

Water Right Permit No. _____

2. NATURE OF WORK

☐ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase ☐ Modification
☐ Abandoned (describe abandonment or modification procedures such as liners, screen, materials, plug depths, etc. in lithologic log, section 9.)

3. PROPOSED USE

☐ Domestic ☐ Irrigation ☐ Monitor
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Auger ☐ Reverse rotary
☐ Cable ☐ Mud ☐ Other _____ (backhoe, hydraulic, etc.)

5. WELL CONSTRUCTION

Casing schedule: ☐ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
_____ inches	_____ inches	+ _____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☐ Yes ☐ No
Was a packer or seal used? ☐ Yes ☐ No
Perforated? ☐ Yes ☐ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation? _____ inches by _____ inches

Number		From	To
_____	perforations	_____ feet	_____ feet
_____	perforations	_____ feet	_____ feet
_____	perforations	_____ feet	_____ feet

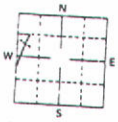
Well screen installed? ☒ Yes ☐ No
Manufacturer _____ Type _____
Top Packer or Headpipe _____
Bottom of Tailpipe _____

Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Gravel packed? ☒ Yes ☐ No ☐ Size of gravel 3-12
Placed from 490 feet to 315 feet
Surface seal depth 315 Material used in seal: ☐ Cement grout
☐ Bentonite ☐ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit
☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☐ Welded
☐ Solvent Weld ☐ Cemented between strata

Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. ____ Block No. ____
County _____
Address of Well Site _____ (give at least name of road)
SW ¼ NW ¼ Sec. 4, T. 4N N ☐ or S ☐, R. 1E E ☐ or W ☐

7. WATER LEVEL

Static water level _____ feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 65 °F. Quality Good
Describe artesian or temperature zones below.

8. WELL TEST DATA

Time [illegible] This
☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
100	52'	4

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No

10.

Work started _____ finished _____

11. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name _____ Firm No. _____
Address _____ Date _____
Signed by Drilling Supervisor Joseph Jones
and
(Operator) _____ (If different than the Drilling Supervisor)

Floating Feather Rd

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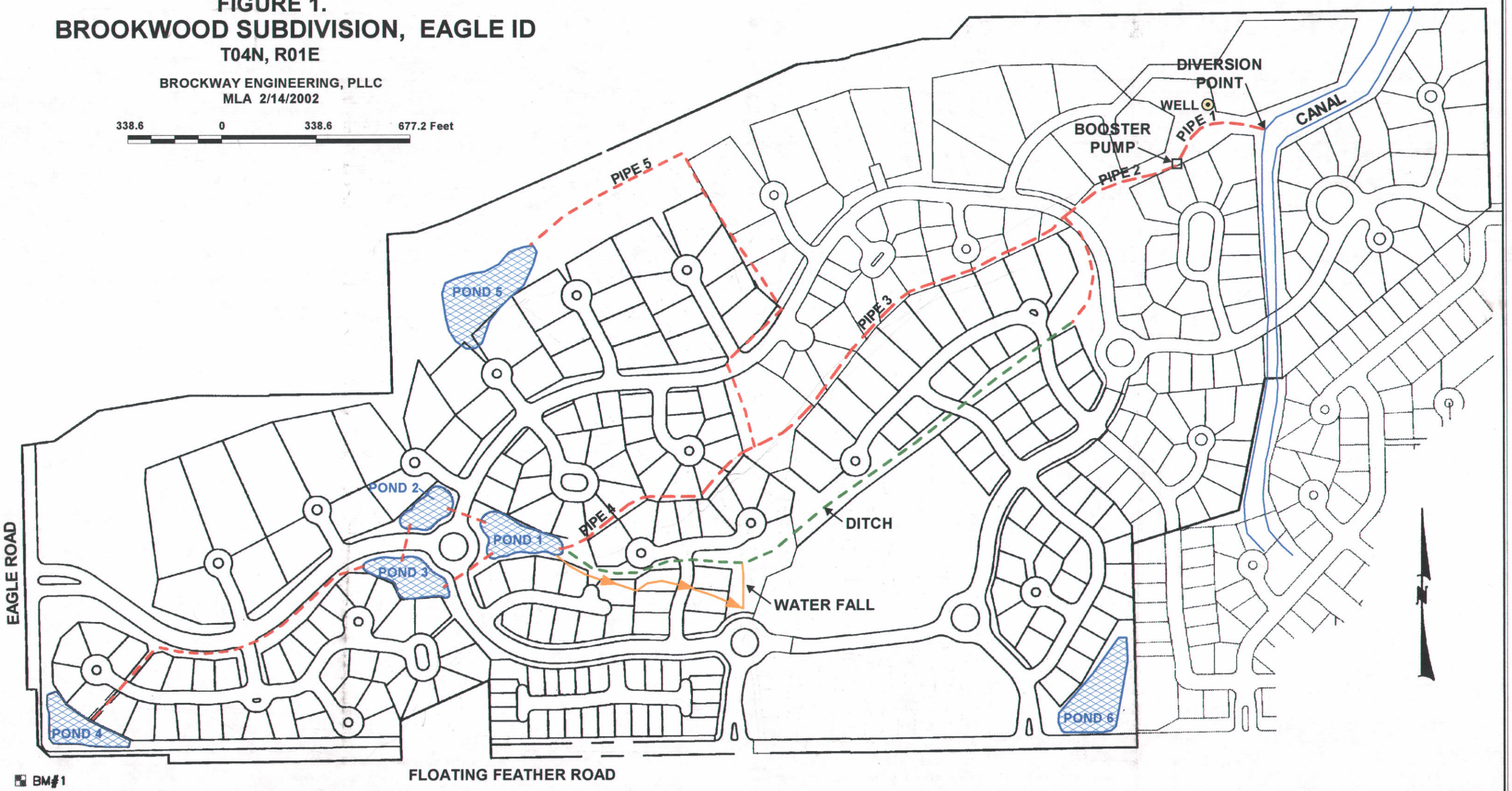
FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet



The Idaho Statesman

P.O. Box 40, Boise, Idaho 83707-0040

LEGAL ADVERTISING PROOF OF PUBLICATION

Account #	DTI#	Identification	Amount:
047628	904606	APPLICATION 63-31689	$143.00

Attention:	P.O. #	Run Dates
SUE TAYLOR		JULY 3, 10, 2003

	Number of Lines	
IDAHO DEPT. WATER RESOURCES WEST 2735 AIRPORT WY. BOISE, ID 83705	3 X 32	
	Affidavit	Legal #
	1	16796

RECEIVED
JUL 16 2003
WATER RESOURCES
WESTERN REGION

LEGAL NOTICE

The following application(s) have been filed to appropriate the public waters of the State of Idaho:
63-31689
ARIES DEVELOPMENT LLC
PO BOX 6887
BOISE ID 83707

Point(s) of Diversion	NESE S4	T04N R01E	ADA County Source GROUND WATER
Use:	AESTHETIC	10/01 To 04/01	0.95 CFS
Use:	AESTHETIC STORAGE	01/01 To 12/31	60.7 AFA
Total Diversion:		0.95 CFS	60.7 AFA
Date Filed:	01/07/2003		
Place Of Use:	AESTHETIC	T04N R01E S4 NESW SWSW SESW NESE NWSE SWSE SESE	
Place Of Use:	AESTHETIC STORAGE	T04N R01E S4 NESW SWSW SESW NESE NWSE SWSE SESE	

Remark: Mitigation is proposed for consumptive use.
Water bearing zone to be appropriated is from 80 to 200 feet.
Permits will be subject to all prior water rights. Protests may be submitted based on the criteria of Sec 42-203A, Idaho Code.
Any protest against the approval of this application must be filed with the Director, Dept. of Water Resource, Western Region, 2735 Airport Wy, Boise ID 83705 together with a protest fee of $25.00 for each application on or before 07/21/2003. The protestant must also send a copy of the protest to the applicant.

KARL J DREHER, Director

Pub. Jul. 3,10, 2003

16796

JANICE HILDRETH, being duly sworn, deposes and says: That she is the Principal Clerk of *The Idaho Statesman,* a daily newspaper printed and published at Boise, Ada County, State of Idaho, and having a general circulation therein, and which said newspaper has been continuously and uninterruptedly published in said County during a period of twelve consecutive months prior to the first publication of the notice, a copy of which is attached hereto: that said notice was published in The Idaho Statesman, in conformity with Section 60-108, Idaho Code, as amended, for:

TWO

[X] consecutive weekly [ ] single

[ ] consecutive daily insertion(s) [ ] odd skip

beginning issue of: JULY 3, 2003

ending issue of: JULY 10, 2003

Janice Hildreth

STATE OF IDAHO)
.ss
COUNTY OF ADA)

On this 10 day of JULY in the year of 2003 before me, a Notary Public, personally appeared before me Janice Hildreth known or identified to me to be the person whose name subscribed to the within instrument, and being by me first duly sworn, declared that the statements therein are true, and acknowledged to me that she executed the same.

Tami Wilkins

Notary Public for Idaho
Residing at: Boise, Idaho
My Commission expires: 9-30-08

TAMI WILKINS NOTARY PUBLIC STATE OF IDAHO

State of Idaho
Department of Water Resources

Permit to Appropriate Water

NO. 63-31689

Priority: January 7, 2003

Maximum Diversion Rate: 0.18 CFS
Maximum Diversion Volume: 40.0 AF

This is to certify, that ARIES DEVELOPMENT LLC
PO BOX 6887
BOISE ID 83707

has applied for a permit to appropriate water from:

Source: GROUND WATER

and a permit is APPROVED for development of water as follows:

BENEFICIAL USE	PERIOD OF USE	RATE OF DIVERSION	ANNUAL VOLUME
AESTHETIC STORAGE	01/01 to 12/31		40.0 AF
DIVERSION TO STORAGE	01/01 to 12/31	0.18 CFS	40.0 AF

LOCATION OF POINT(S) OF DIVERSION:
GROUND WATER NE¼SE¼ Sec. 4, Twp 04N, Rge 01E, B.M. ADA County

PLACE OF USE: AESTHETIC STORAGE

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
04N 01E 4									X		X	X	X	X	X	X	

CONDITIONS OF APPROVAL

1. Proof of application of water to beneficial use shall be submitted on or before **August 1, 2011.**
2. Subject to all prior water rights.
3. Project construction shall commence within one year from the date of permit issuance and shall proceed diligently to completion unless it can be shown to the satisfaction of the Director of the Department of Water Resources that delays were due to circumstances over which the permit holder had no control.
4. Right holder shall comply with the drilling permit requirements of Section 42-235, Idaho Code and applicable Well Construction Rules of the Department.
5. Water bearing zone to be appropriated is from 80 to 100 feet.
6. The well constructed and used as the point of diversion for this right shall not exceed a maximum depth of 100 feet and a maximum diameter of six inches.
7. Aesthetic storage under this right is to replace seepage losses in six ponds located within Brookwood Subdivision.
8. Storage of water within the six ponds is authorized under right no. 63-32169.
9. The ponds constructed in connection with this right shall be lined with bentonite or other impervious material to minimize seepage losses.

State of Idaho
Department of Water Resources

Permit to Appropriate Water

NO. 63-31689

CONDITIONS OF APPROVAL CONTINUED

10. Rights 63-31726 and 63-31689 when combined shall not exceed a total diversion rate of 0.18 cfs and a total annual maximum diversion volume of 40.0 af.
11. Because Right 63-31726 provides for all of the evaporation losses in connection with the six ponds, water shall not be diverted under this right if Right 63-31726 is transferred, leased, used on any other place of use, or not confirmed as a valid water right in the Snake River Basin Adjudication or other court or administrative proceeding, unless the Department approves an alternative plan to offset the evaporation losses resulting from the impoundment of water in connection with the ponds.
12. Water diverted and stored under this right shall not be used for irrigation purposes.
13. Prior to diversion of water under this right, the right holder shall install and maintain a measuring device and lockable controlling works of a type acceptable to the Department as part of the diverting works.
14. Noncompliance with any condition of this right, including the requirement for mitigation, is cause for the director to issue a notice of violation, cancel or revoke the right, or, if the right is included in a water district, request that the watermaster curtail diversion and use of water.
15. The diversion and use of water described in this right may be subject to additional conditions and limitations agreed to by the protestant(s) and the right holder under separate agreement to which the Department is not a party and which may be enforceable by a court of law.

This permit is issued pursuant to the provisions of Section 42-204, Idaho Code. Witness the signature of the Director, affixed at Boise, this 8th day of August, 20 06.

Gary Spackman

KARL J DREHER, Director

Form 202
1/96

Ident. No. _____

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

RECEIVED
APR 28 2005
Department of Water Resources

To appropriate the public waters of the State of Idaho

1. Name of applicant Aries Development L.L.C Phone 208-336-2200
   Post Office address P.O. Box 6887 Boise, ID 83707
2. Source of water supply Ground water which is a tributary of _____
3. Location of point of diversion is _____ 1/4 of NE 1/4 of SE 1/4, Govt. Lot _____
   Sec. 4 Township 4N Range 1E B.M. Ada County; additional points of diversion, if any: _____
4. Water will be used for the following purposes:
   Amount 0.18 cfs (cfs or acre-feet per annum) for Aesthetics purposes from 1-1 to 12-31 (both dates inclusive)
   Amount 40 af* (cfs or acre-feet per annum) for Storage purposes from 1-1 to 12-31 (both dates inclusive)
   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)
   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)
5. Total quantity being appropriated is (a) 0.18 cubic feet per second and/or (b) 40* acre-feet per annum
6. Proposed diverting works:
   a. Description of ditches, flumes, pumps, headgates, etc. *Limit of annual pumped volume. Pond system volume is 60.7 acre feet. Well and pipe/ditch distribution to ponds within Brookwood Subdivision. See attached narrative
   b. Height of storage dam 0 feet; active reservoir capacity _____ acre-feet; total reservoir capacity 60.7 acre-feet; period of year when water will be diverted to storage: 1/1 to 12/31 inclusive.
   c. Proposed well diameter is 6 inches; proposed depth of well is 100 feet
   d. Is groundwater with a temperature of greater than 85 degrees being sought? No
   e. If well is already drilled, when? _____; Drilling firm _____;
      Well was drilled for *(well owner)* _____
7. Time required for completion of works and application of water to proposed beneficial use is 5 years *(minimum 1 year)*
8. Description of proposed uses (if irrigation only, go to item 9):
   a. Hydropower; show total feet of head and proposed capacity in KW. _____
   b. Stockwatering; list number and kind of livestock. _____
   c. Municipal; show name of municipality. _____
   d. Domestic; show number of households _____;
   e. Other; describe fully. Ground water for wintertime maintenance of aesthetic ponds and mitigation for evaporation See attached narrative

9. Description of place of use:

   a. If water is for irrigation, indicate acreage in each subdivision in the tabulation below.

   b. If water is used for other purposes, place a symbol of the use (example: D for Domestic) in the corresponding place of use below. See instructions for standard symbols.

TWP	RANGE	SEC	NE 1/4				NW 1/4				SW 1/4				SE 1/4				TOTALS
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	
4N	1E	4									A		A	A	A	A	A	A	

Total number of acres to be irrigated _____

10. Describe any other water rights used for the same purposes as described above. Canal shares for irrig. Transfer from stockwater right 63-5087 for mitigation of pond evaporation

11. a. Who owns the property at the point of diversion? Applicant

    b. Who owns the land to be irrigated or place of use? Applicant

    c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing: _____

12.. Remarks: See attached narrative and mitigation plan

13. MAP OF PROPOSED PROJECT ATTACHED _____ show clearly the proposed point of diversion, place of use, section number, township and range number.

BE IT KNOWN that the undersigned hereby makes this application for permit to appropriate the public waters of the State of Idaho as herein set forth.

(Applicant)

Received by kw Date 4/29/05 Time 1:45 pm Preliminary check by _____

Fee $ N/A Receipted by _____ # _____ Date _____

Publication prepared by _____ Date _____ Published in _____

Publication approved _____ Date _____

Narrative in Support of Revised Application for Permit

Brookwood Subdivision Exchange Well
Aries Development L.L.C.
by Brockway Engineering P.L.L.C.

October 3, 2004

Brookwood is a 382 unit subdivision located in Section 4, T 4N R 1E Boise Meridian north of Eagle, Idaho. This subdivision, located on bottom land and bench areas of Dry Creek, is being developed on irrigated farmland served by the Farmers Union Canal. The Farmer's Union Canal is the east boundary of the subdivision and the historical irrigation diversion from the canal will continue to serve the irrigation requirements for a pressure irrigation system serving all lots and common areas. Domestic water is provided by the municipal system of the City of Eagle.

The subdivision will include water amenities including six (6) multi-purpose ponds providing irrigation storage and aesthetic benefits, Figure 1. The ponds serve as storage for diversions of shares from the canal system during the irrigation season and will be supplemented by ground water provided from a small exchange well during the non-irrigation season.

The purpose of this Application is to obtain a permit for a well to provide water for maintenance of the pond and ditch system. Year round evaporation from the aesthetic/recreational ponds will be mitigated by transfer of a portion of water right 63-5087 from a feedlot owned by the applicant. No mitigation for evaporation from the irrigation/storage ponds is contemplated.

Figure 1 shows the plat of the subdivision, canal diversion, distribution system and the six (6) ponds. Ponds 1,2,3, and 4 are lined with bentonite and compacted earth and Pond 6 is lined with a membrane liner. Pond 5 was lined in 2004 with a bentonite liner. During the non-irrigation season, the pond levels will be maintained with ground water pumped as necessary.

Brookwood owns 11 shares in the Farmer's Union Canal. Each share represents 11 miner's inches of discharge so the canal discharge available to the project is 121 miner's inches or 2.42 cfs. Historically, 186.0 acres have been irrigated on the Brookwood property from the canal, see Figure 2.

The project plan includes 382 single family lots with approximately 50 acres of common area. Irrigation of landscaping and turf on each lot and the common area will be from a pressure distribution system with two booster pumps from the pipe/pond system. The upper booster is located near the canal diversion, and the lower booster diverts from Pond 1 near the west end of the subdivision. Based on the average lot size of 0.22 acres, a residence footprint and paved area of 4200 square feet, the irrigated area on each lot is estimated to be 0.12 acres. For the 382 residences the irrigated area is therefore 45.8 acres. The total irrigated area is therefore 50 + 45.8 or 95.8 acres.

Ponds 1,2, and 3 are utilized as irrigation storage and are tied together hydraulically. The pumping plant for the irrigation system is located at the southwest corner of Pond 1. Ponds 4, 5, and 6 are off-line ponds and are primarily recreational; however, Pond 4 does provide storage for waste water which would normally flow off the property at the corner of Eagle Road and Floating Feather Road. The combined area of ponds 4,5, and 6 is 3.69 acres. The six ponds are designed with an average surface area of 5.17 acres and a volume of 60.7 acre feet.

A model of the pipe, ditch and pond system was prepared to simulate the operation of the system during the irrigation season and evaluate the various components of the water balance. A summary of the spreadsheet model results is attached to this narrative.

Evapotranspiration for the project was determined using procedures outlined in Allen and Brockway, 1983, using the Boise WSO AP station meteorological and Et data. Free water surface evaporation was determined using procedures outlined in 'Monthly Shallow Pond Evaporation in Idaho by Molnau, Kpordze, and Craine, 1992. ASAE paper PNW 92-111.

The lined ponds and ditch were estimated to have operating loss rates of 0.005 ft/day (1/16 in).

The pond model indicates that the system can operate during the irrigation season utilizing the 0.18 cfs inflow from the exchange well with irrigation demand furnished from the canal. The total seepage through all ponds during the irrigation season is estimated to be 0.011 cfs. Evaporation from the pond system during the irrigation season is 16.2 acre feet which includes all ponds and ditches used for irrigation storage and recreation/aesthetics.

The total consumptive use of the project including turf and landscape irrigation, pond evaporation, and residential in-house consumptive use (not provided by the irrigation system) is 258 af/year whereas the pre-project consumptive use from crop irrigation on 185.96 acres is 489 acre feet per year.

Infiltration back to the aquifer through the pond system is estimated at 4.0 acre feet during the irrigation season and 4.0 acre feet during the non-irrigation season. Ground water extraction from the exchange well required to maintain pond seepage and evaporation is estimated at an average of 20.7 acre feet and a maximum of 40 acre feet..

The maximum required discharge from the exchange well is 80 gpm or 0.178 cfs.

The water balance and pond model indicates that pumping from an exchange well on the project of not-more-than 40 acre feet during the non-irrigation season at a rate of 0.178 cfs will maintain pond water levels. Current and any future consumptive use from the pond system will be mitigated. Evaporation from the ponds will be mitigated by transfer of 0.04 cfs and 14 af of ground water under water right 63-5087. The 14 af/a is the calculated evaporation from open water surfaces associated with the non-irrigation ponds during the irrigation season and all ponds during the non-irrigation season. Water right 63-5087 is a stockwater right located in the NE1/4 NW1/4 Sec 3 T 4N R1W in Ada County.

The proposed exchange well would be located near the canal diversion so that discharge can be integrated into the entire distribution system. The aquifer underlying the area is

composed of alluvial sand and gravels with a hydraulic conductivity estimated at 40 ft/day based on well driller's logs in the area. The well will be designed to extract water from the upper water bearing zone which is estimated to be not more than 100 feet below ground surface. An estimate of the draw down from a 6 inch diameter well pumping 0.178 cfs was estimated using a Theis analysis assuming continuous pumping for a 40 day period from the aquifer with an estimated depth of 100 feet. The Theis analysis output is on the spreadsheet included the Appendix. This analysis shows the estimated draw down at 100 feet from the pumped well of 1.68 feet and a draw down of 0.21 feet at 1320 feet from the well. This analysis assumes no return of water to the aquifer through seepage from ponds. The nearest well to the exchange well is approximately 1200 feet. Operation of the pumped well will not significantly affect aquifer water levels in the area.

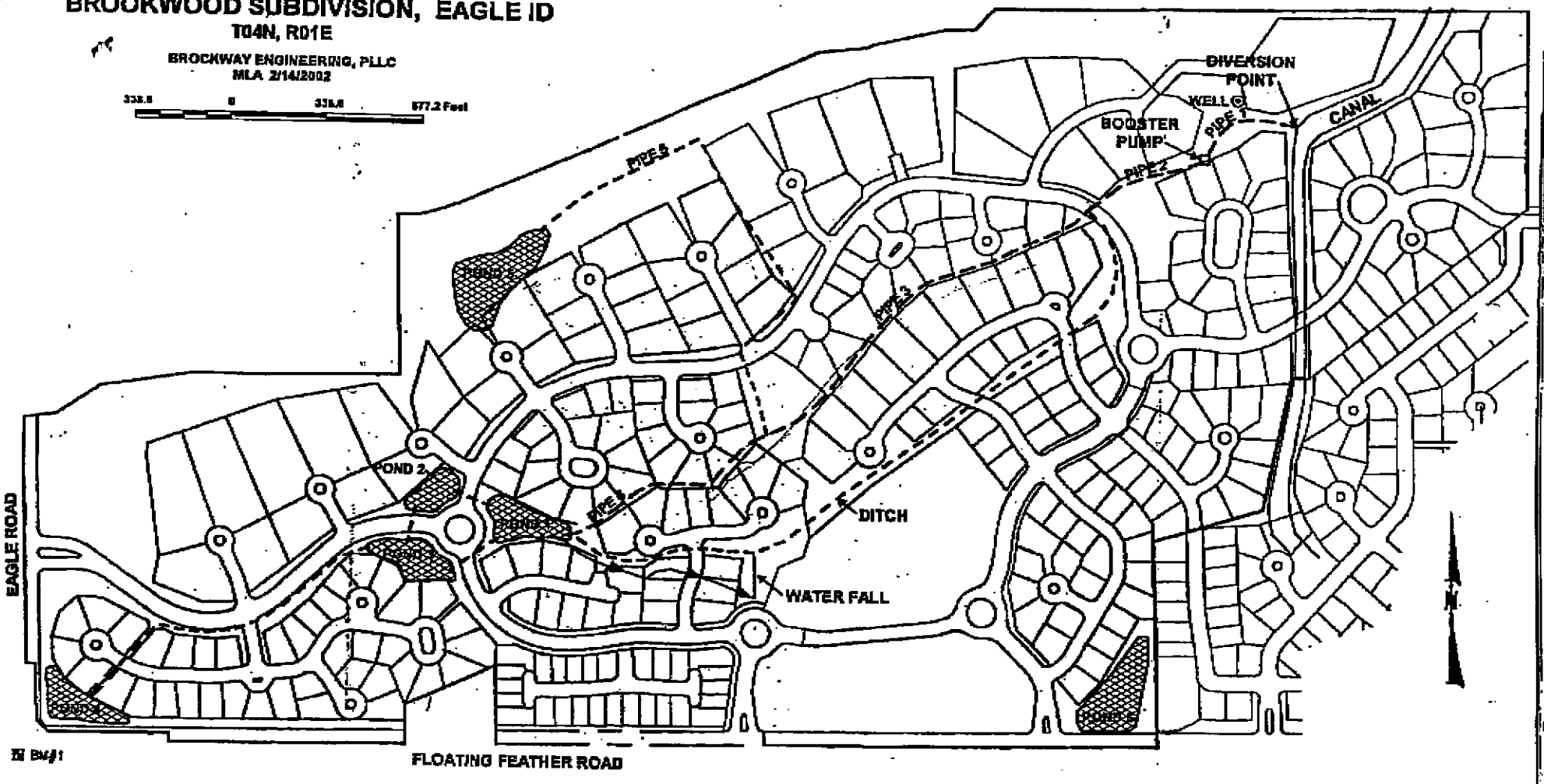
During the non-irrigation season operation of the exchange well, a maximum of 80 gpm (0.178 cfs) will be pumped from the well. The pond water levels will be maintained in all ponds and the seepage back into the aquifer from all ponds will return to the aquifer system so that impact will not be significant.

Aries Development L.L.C. members are: Mike Hormachea, Amy Wray, Richard Hormachea, and the Hormachea Grandchildren's Trust.

FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet



600 0 600 1200 1800 2400 Feet

N
W E
S

Figure 2.
Brookwood Subdivision
Irrigated Acreage

Property Boundary

Irrigated Acreage
Overall Acreage = 185.92

Brockway Engineering, PLLC
MLA 5/28/2002

BEFORE THE DEPARTMENT OF WATER RESOURCES

IN AND FOR THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER 70604 AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME OF ARIES DEVELOPMENT, L.L.C.	)	**FINAL ORDER DISMISSING CONTESTED CASE**

On December 10, 2004, a hearing officer for the Idaho Department of Water Resources ("Department") issued a Recommended Order Dismissing Contested Case for the above captioned matter. Petitions for Reconsideration were due on or before December 26, 2004. No Petitions for Reconsideration were filed with the Department.

The Director, having reviewed the *Settlement Agreement* signed by all current parties to this contested case and dated October 31, 2004, and the *IDWR Staff Memorandum* dated December 3, 2004; and all other parties having been previously dismissed from this contested case, and good cause appearing therefore:

IT IS HEREBY ORDERED that the above-entitled contested case is DISMISSED and shall be processed by the Idaho Department of Water Resources in accordance with the *Settlement Agreement,* a copy of which is attached as exhibit A.

Dated this 17th day of February, 2005.

Karl J. Dreher
Director

SETTLEMENT AGREEMENT

THIS AGREEMENT is made this 31st day of October, 2004, between and among **ARIES DEVELOPMENT, L.L.C.**, an Idaho limited liability company ("Applicant"), by and through its attorney of record, J. EVAN ROBERTSON; and the following entities (hereinafter referred to collectively as "Protestants"): **EAGLE WATER COMPANY, INC.**, by and through its attorney of record, MOLLY O'LEARY; **CITY OF EAGLE, IDAHO**, by and through its attorney of record, TAMMY ZOKAN; **EAGLE NEIGHBORS, INC.** (formerly Homeowners of Downing Downs Subdivision), by and through its appointed agent, MICHAEL J. SEILER; and **THE CHASE FAMILY**, by and through their attorney of record, CHARLES L. HONSINGER.

RECITALS:

A. Applicant is the owner and developer of the Brookwood Subdivision ("Brookwood").

B. Brookwood contains certain aesthetic water features including a series of small streams and ponds, as shown generally on Figure 1 prepared by Brockway Engineering, PLLC, dated February 14, 2002, a copy of which is attached hereto as **Exhibit "A"** ("Water Features").

C. In connection with the Water Features, the Applicant has heretofore filed and has pending before the Idaho Department of Water Resources an application for a permit to appropriate ground water (Permit Application No. 63-31689) and an application for transfer of a portion of an existing water right (Transfer No. 70604/Claim No. 63-5087), which are collectively hereinafter referred to as "Applications".

D. The Protestants have duly filed protests of the Applications with the Idaho Department of Water Resources, and a hearing on the Applications and protests is pending.

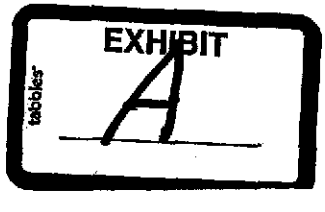
E. In an effort to resolve the above-referenced protests, the parties hereto have negotiated the terms and conditions of this Settlement Agreement.

NOW, THEREFORE, the parties hereto, agree as follows:

1. This Agreement, and all the terms and conditions hereinafter set forth, shall become effective only upon the full execution of this Agreement by all of the parties named herein, and its approval by the Idaho Department of Water Resources.

2. The Applicant agrees to line Pond No. 5 of the Water Features with betonite and compacted earth to specifications approved by Brockway Engineering, PLLC. The location of Pond No. 5 is identified on Exhibit "A" hereto.

3. The above-referenced Application for Permit No. 63-31689 shall be amended by the submittal of a new Application for Permit in its stead, a copy of which is attached hereto as **Exhibit "B"**. Applicant agrees that said new Application for Permit, and the above-referenced Application for Transfer of Water Right No. 70604, if approved by the Idaho Department of Water Resources, shall limit the total ground water diversion rate and annual volume of water for the Water Features



from both Applications, and he proposed well to be drilled in Brookwood in connection therewith, as follows:

(a) Maximum total diversion rate - 80 gpm. (.18 cfs)
(b) The maximum annual volume of water diverted - 40 acre feet
(c) Maximum well depth - 100 feet
(d) Maximum well size - 6 inch diameter

4. Immediately upon full execution of this Agreement, the Applicant shall submit a copy of it, including attachments, to the Idaho Department of Water Resources for its review and approval. Should the Department approve, the Applicant shall formally submit, in lieu of Application for Permit No. 63-31689, the new Application for Permit in the form attached hereto as Exhibit "B".

5. Upon the formal submittal of said new Application for Permit, and its assignment of an identification number by the Idaho Department of Water Resources, Applicant shall provide Protestants with evidence thereof, upon the receipt of which the Protestants shall formally withdraw their existing protests, and agree not to thereafter file, support or participate in any further protests of Applicant's applications to divert ground water for the Brookwood Water Features consistent with the limitations set forth in paragraph 3 hereinabove.

6. This Agreement shall be construed under the laws of the State of Idaho. Should any action be brought to interpret or enforce any provision hereof, or for damages for breach hereof, the prevailing party shall be entitled to recover all attorney's fees and costs wherein such action is brought, including all attorney's fees and costs on appeal.

7. The parties hereby declare that the terms of this Agreement have been completely read and are fully understood and voluntarily accepted. The parties acknowledge that they enter into this Agreement without any coercion, threats or duress. All of the parties fully understand all of the provisions of this Agreement, and believe them to be fair, just, adequate and reasonable, and accordingly accept the provisions of this Agreement freely and voluntarily.

8. This Settlement Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, and all of which together will constitute one and the same instrument. Facsimile signatures shall be deemed as originals thereof.

IN WITNESS WHEREOF, the parties hereto have executed this' Agreement on the day and year first written above.

"APPLICANT"

ARIES , L.L.C.

By: _____
J. Evan Robertson
Attorney of Record

"PROTESTANTS"

EAGLE WATER COMPANY, INC.

By:_____
Molly O'Leary
Attorney of Record

CITY OF EAGLE, IDAHO

By:_____
_____, Mayor

ATTEST:

_____
_____, City Clerk

EAGLE NEIGHBORS, INC.
f/k/a Homeowners of Downing Downs Subd.

By:_____
Michael J. Sieler
Its: _____

THE CHASE FAMILY

By:_____
Charles L. Honsinger
Attorney of Record

lrlm\settlement agree Aries_water

"PROTESTANTS"

EAGLE WATER COMPANY, INC.

By:_____
Molly O'Leary
Attorney of Record

CITY OF EAGLE, IDAHO

By: _____
Nancy G. Merrill, Mayor

ATTEST:

_____
Sharon Bergmann, City Clerk

CITY OF EAGLE CORPORATE SEAL INCORPORATED 1971 STATE OF IDAHO

EAGLE NEIGHBORS, INC.
f/k/a Homeowners of Downing Downs Subd.

By:_____
Michael J. Sieler
Its: _____

THE CHASE FAMILY

By:_____
Charles L. Honsinger
Attorney of Record

!rlm\settlement agree Aries_water

"PROTESTANTS"

EAGLE WATER COMPANY, INC.

By:_____
Molly O'Leary
Attorney of Record

CITY OF EAGLE, IDAHO

By:_____
Tammy Zokan
Attorney of Record

EAGLE NEIGHBORS, INC.
f/k/a Homeowners of Downing Downs Subd.

By:_____
Michael J. Sieler
Its: _____

THE CHASE FAMILY

By:_____
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!rlm\settlement agree Aries_water

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By:_____
Michael J. Sieler
Its: _____

THE CHASE FAMILY

By: Charles L. Honsinger
Charles L. Honsinger
Attorney of Record

!rlm\settlement agree Aries_water

FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet

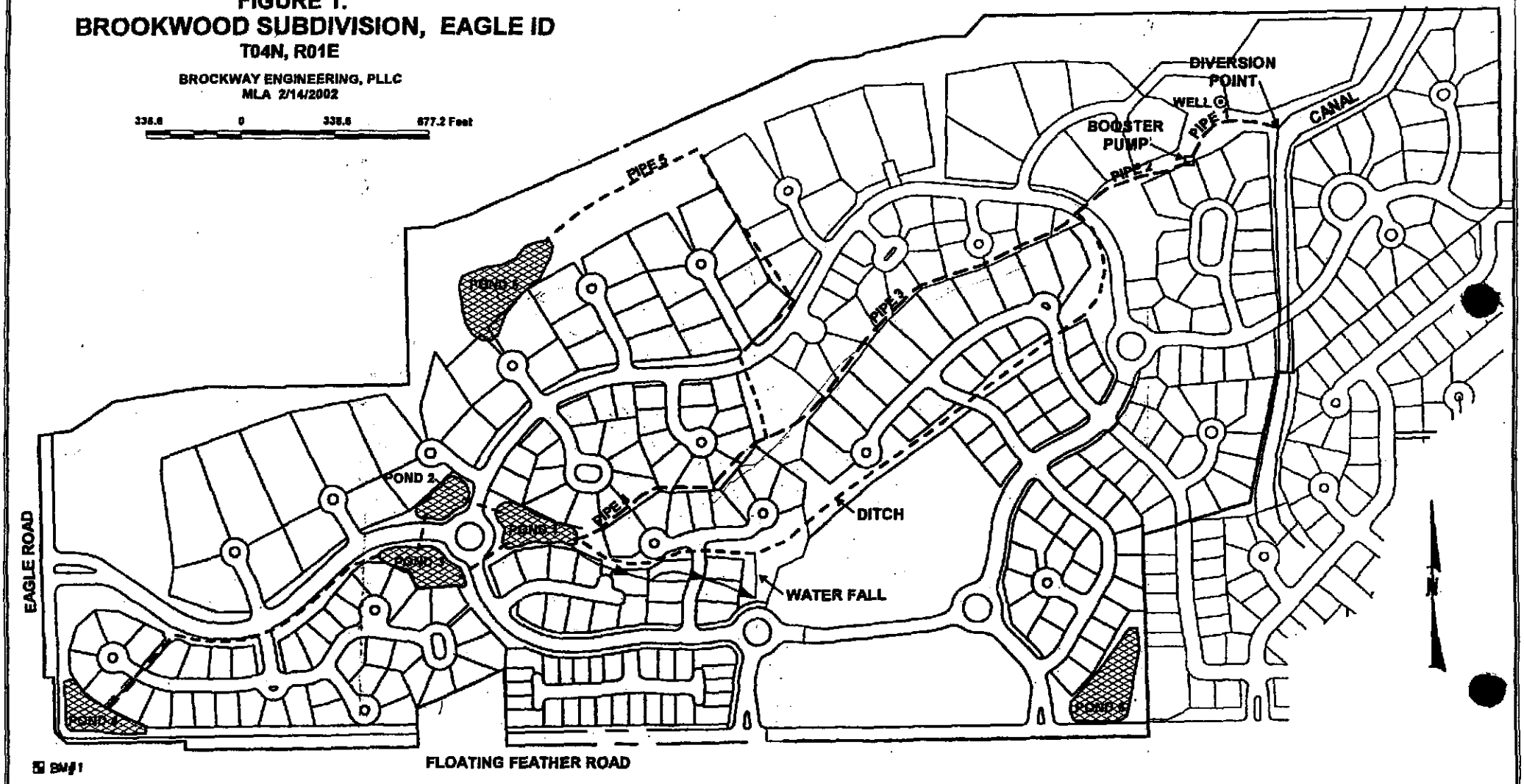


EXHIBIT A

Form 202
1/96

Ident. No. _____

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR PERMIT

To appropriate the public waters of the State of Idaho

1. Name of applicant Aries Development L.L.C Phone 208-336-2200
   Post Office address P.O. Box 6887 Boise, ID 83707
2. Source of water supply Ground water which is a tributary of _____
3. Location of point of diversion is _____ 1/4 of NE 1/4 of SE 1/4, Govt. Lot _____
   Sec. 4 Township 4N Range 1E B.M. Ada County; additional points of diversion, if any: _____
4. Water will be used for the following purposes:
   Amount 0.18 cfs (cfs or acre-feet per annum) for Aesthetics purposes from 1-1 to 12-31 (both dates inclusive)
   Amount 40 af* (cfs or acre-feet per annum) for Storage purposes from 1-1 to 12-31 (both dates inclusive)
   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)
   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)
5. Total quantity being appropriated is (a) 0.18 (cubic feet per second) and/or (b) 40* (acre-feet per annum)
6. Proposed diverting works:
   a. Description of ditches, flumes, pumps, headgates, etc. *Limit of annual pumped volume. Pond system volume is 60.7 acre feet. Well and pipe/ditch distribution to ponds within Brookwood Subdivision. See attached narrative
   b. Height of storage dam 0 feet; active reservoir capacity _____ acre-feet; total reservoir capacity 60.7 acre-feet; period of year when water will be diverted to storage: 1/1 to 12/31 inclusive.
   c. Proposed well diameter is 6 inches; proposed depth of well is 100 feet
   d. Is groundwater with a temperature of greater than 85 degrees being sought? No
   e. If well is already drilled, when? _____; Drilling firm _____;
      Well was drilled for *(well owner)* _____
7. Time required for completion of works and application of water to proposed beneficial use is 5 years *(minimum 1 year)*
8. Description of proposed uses (if irrigation only, go to item 9):
   a. Hydropower; show total feet of head and proposed capacity in KW. _____
   b. Stockwatering; list number and kind of livestock. _____
   c. Municipal; show name of municipality. _____
   d. Domestic; show number of households _____;
   e. Other; describe fully. Ground water for wintertime maintenance of aesthetic ponds and mitigation for evaporation See attached narrative

EXHIBIT B

9. Description of place of use:

a. If water is for irrigation, indicate acreage in each subdivision in the tabulation below.

b. If water is used for other purposes, place a symbol of the use (example: D for Domestic) in the corresponding place of use below. See instructions for standard symbols.

			NE 1/4				NW 1/4				SW 1/4				SE 1/4				
TWP	RANGE	SEC	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	TOTALS
4N	1E	4									A		A	A	A	A	A	A	

Total number of acres to be irrigated _____

10. Describe any other water rights used for the same purposes as described above. Canal shares for irrig. Transfer from stockwater right 63-5087 for mitigation of pond evaporation

11. a. Who owns the property at the point of diversion? Applicant

b. Who owns the land to be irrigated or place of use? Applicant

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing: _____

12.. Remarks: See attached narrative and mitigation plan

13. MAP OF PROPOSED PROJECT ATTACHED _____ show clearly the proposed point of diversion, place of use, section number, township and range number.

BE IT KNOWN that the undersigned hereby makes this application for permit to appropriate the public waters of the State of Idaho as herein set forth.

_____

(Applicant)

Received by _____ Date _____ Time _____ Preliminary check by _____

Fee $ _____ Receipted by _____ # _____ Date _____

Publication prepared by _____ Date _____ Published in _____

Publication approved _____ Date _____

Narrative in Support of Revised Application for Permit

Brookwood Subdivision Exchange Well
Aries Development L.L.C.
by Brockway Engineering P.L.L.C.

October 3, 2004

Brookwood is a 382 unit subdivision located in Section 4, T 4N R 1E Boise Meridian north of Eagle, Idaho. This subdivision, located on bottom land and bench areas of Dry Creek, is being developed on irrigated farmland served by the Farmers Union Canal. The Farmer's Union Canal is the east boundary of the subdivision and the historical irrigation diversion from the canal will continue to serve the irrigation requirements for a pressure irrigation system serving all lots and common areas. Domestic water is provided by the municipal system of the City of Eagle.

The subdivision will include water amenities including six (6) multi-purpose ponds providing irrigation storage and aesthetic benefits, Figure 1. The ponds serve as storage for diversions of shares from the canal system during the irrigation season and will be supplemented by ground water provided from a small exchange well during the non-irrigation season.

The purpose of this Application is to obtain a permit for a well to provide water for maintenance of the pond and ditch system. Year round evaporation from the aesthetic/recreational ponds will be mitigated by transfer of a portion of water right 63-5087 from a feedlot owned by the applicant. No mitigation for evaporation from the irrigation/storage ponds is contemplated.

Figure 1 shows the plat of the subdivision, canal diversion, distribution system and the six (6) ponds. Ponds 1,2,3, and 4 are lined with bentonite and compacted earth and Pond 6 is lined with a membrane liner. Pond 5 was lined in 2004 with a bentonite liner. During the non-irrigation season, the pond levels will be maintained with ground water pumped as necessary.

Brookwood owns 11 shares in the Farmer's Union Canal. Each share represents 11 miner's inches of discharge so the canal discharge available to the project is 121 miner's inches or 2.42 cfs. Historically, 186.0 acres have been irrigated on the Brookwood property from the canal, see Figure 2.

The project plan includes 382 single family lots with approximately 50 acres of common area. Irrigation of landscaping and turf on each lot and the common area will be from a pressure distribution system with two booster pumps from the pipe/pond system. The upper booster is located near the canal diversion, and the lower booster diverts from Pond 1 near the west end of the subdivision. Based on the average lot size of 0.22 acres, a residence footprint and paved area of 4200 square feet, the irrigated area on each lot is estimated to be 0.12 acres. For the 382 residences the irrigated area is therefore 45.8 acres. The total irrigated area is therefore 50 + 45.8 or 95.8 acres.

Ponds 1,2, and 3 are utilized as irrigation storage and are tied together hydraulically. The pumping plant for the irrigation system is located at the southwest corner of Pond 1. Ponds 4, 5, and 6 are off-line ponds and are primarily recreational; however, Pond 4 does provide storage for waste water which would normally flow off the property at the corner of Eagle Road and Floating Feather Road. The combined area of ponds 4,5, and 6 is 3.69 acres. The six ponds are designed with an average surface area of 5.17 acres and a volume of 60.7 acre feet.

A model of the pipe, ditch and pond system was prepared to simulate the operation of the system during the irrigation season and evaluate the various components of the water balance. A summary of the spreadsheet model results is attached to this narrative.

Evapotranspiration for the project was determined using procedures outlined in Allen and Brockway, 1983, using the Boise WSO AP station meteorological and Et data. Free water surface evaporation was determined using procedures outlined in 'Monthly Shallow Pond Evaporation in Idaho by Molnau, Kpordze, and Craine, 1992. ASAE paper PNW 92-111.

The lined ponds and ditch were estimated to have operating loss rates of 0.005 ft/day (1/16 in).

The pond model indicates that the system can operate during the irrigation season utilizing the 0.18 cfs inflow from the exchange well with irrigation demand furnished from the canal. The total seepage through all ponds during the irrigation season is estimated to be 0.011 cfs. Evaporation from the pond system during the irrigation season is 16.2 acre feet which includes all ponds and ditches used for irrigation storage and recreation/aesthetics.

The total consumptive use of the project including turf and landscape irrigation, pond evaporation, and residential in-house consumptive use (not provided by the irrigation system) is 258 af/year whereas the pre-project consumptive use from crop irrigation on 185.96 acres is 489 acre feet per year.

Infiltration back to the aquifer through the pond system is estimated at 4.0 acre feet during the irrigation season and 4.0 acre feet during the non-irrigation season. Ground water extraction from the exchange well required to maintain pond seepage and evaporation is estimated at an average of 20.7 acre feet and a maximum of 40 acre feet..

The maximum required discharge from the exchange well is 80 gpm or 0.178 cfs.

The water balance and pond model indicates that pumping from an exchange well on the project of not-more-than 40 acre feet during the non-irrigation season at a rate of 0.178 cfs will maintain pond water levels. Current and any future consumptive use from the pond system will be mitigated. Evaporation from the ponds will be mitigated by transfer of 0.04 cfs and 14 af of ground water under water right 63-5087. The 14 af/a is the calculated evaporation from open water surfaces associated with the non-irrigation ponds during the irrigation season and all ponds during the non-irrigation season. Water right 63-5087 is a stockwater right located in the NE1/4 NW1/4 Sec 3 T 4N R1W in Ada County.

The proposed exchange well would be located near the canal diversion so that discharge can be integrated into the entire distribution system. The aquifer underlying the area is

composed of alluvial sand and gravels with a hydraulic conductivity estimated at 40 ft/day based on well driller's logs in the area. The well will be designed to extract water from the upper water bearing zone which is estimated to be not more than 100 feet below ground surface. An estimate of the draw down from a 6 inch diameter well pumping 0.178 cfs was estimated using a Theis analysis assuming continuous pumping for a 40 day period from the aquifer with an estimated depth of 100 feet. The Theis analysis output is on the spreadsheet included the Appendix. This analysis shows the estimated draw down at 100 feet from the pumped well of 1.68 feet and a draw down of 0.21 feet at 1320 feet from the well. This analysis assumes no return of water to the aquifer through seepage from ponds. The nearest well to the exchange well is approximately 1200 feet. Operation of the pumped well will not significantly affect aquifer water levels in the area.

During the non-irrigation season operation of the exchange well, a maximum of 80 gpm (0.178 cfs) will be pumped from the well. The pond water levels will be maintained in all ponds and the seepage back into the aquifer from all ponds will return to the aquifer system so that impact will not be significant.

Aries Development L.L.C. members are: Mike Hormachea, Amy Wray, Richard Hormachea, and the Hormachea Grandchildren's Trust.

Well Interference Analysis Brookwood Proposed Exchange Well

Estimated Well Drawdown
Revised 7/9/2004 80 gpm

C.E. BROCKWAY February 12, 2002 Brockway Engineering P.L.L.C.
AQUIFER PROPERTIES BASED ON USBR GROUNDWATER [redacted]L-ALLUVIAL SAND AND GRAVEL
AND LOCAL WELL DRILLER'S LOGS
EST. HOLE DIA. 6 INCHES

/Pond5/Pond5Lined

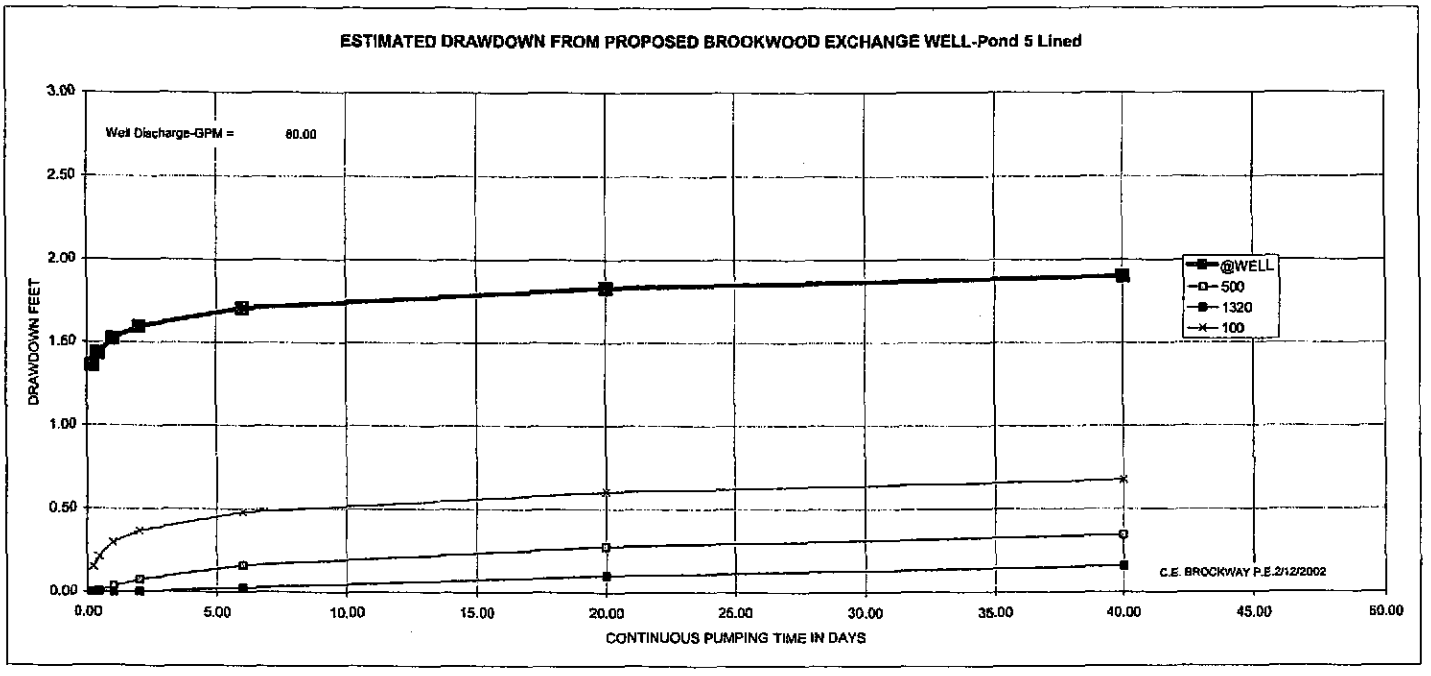
USING THEIS FORMULA S=114.6*Q/T*W(U)
S= DRAWDOWN IN FT
Q= PUMPING RATE GPM
T= COEFFICIENT OF TRANSMISSIBILITY GPD/FT
W(U)= WELL FUNCTION OF 'U'

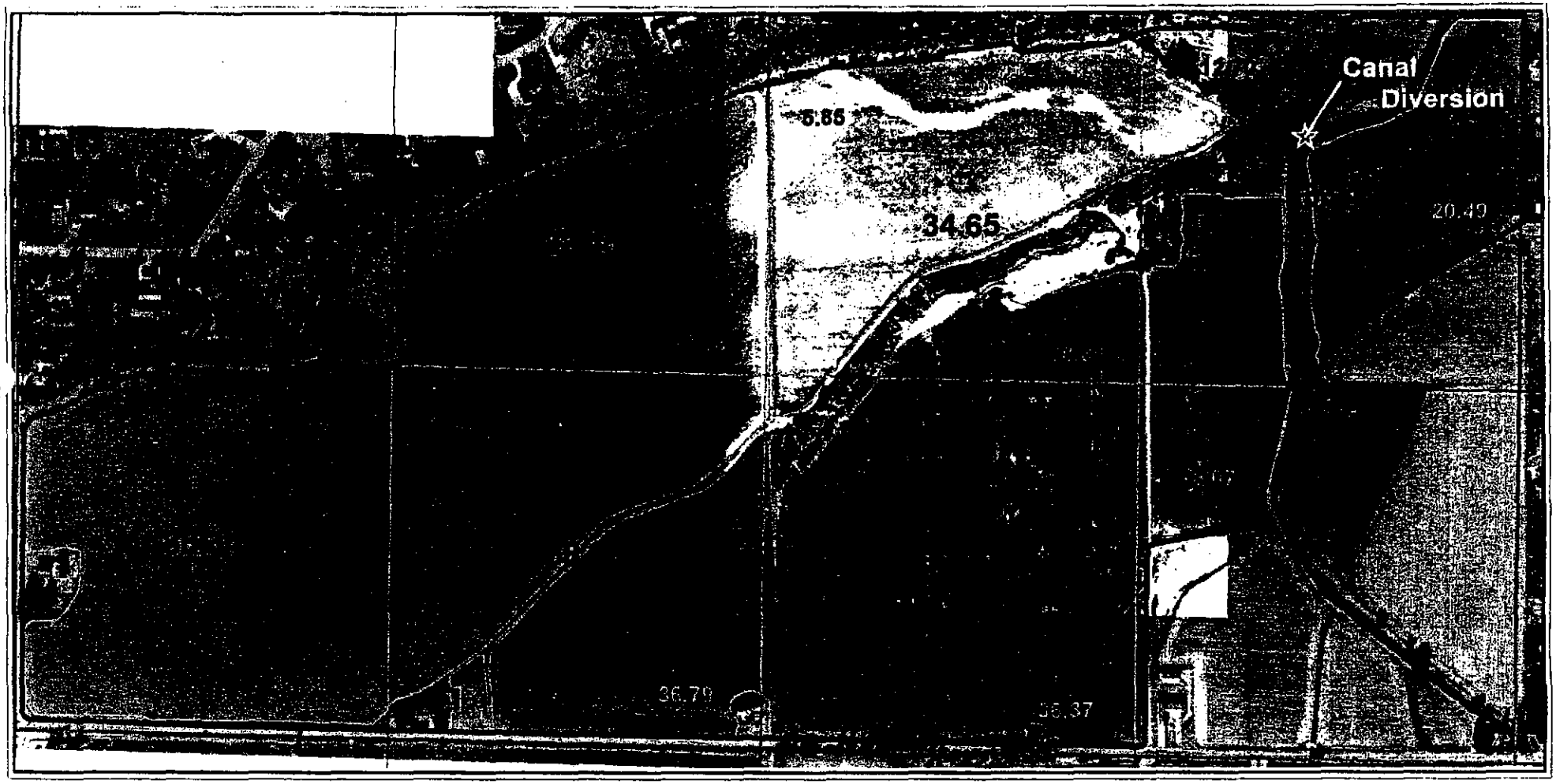
W(U)=-.5772-LOGeU +U-U^2/(2*2!)+U^3/(3*3!)-U^4/(4*4!) ....
U=1.87*r^2*S/(T*t)
r=DISTANCE IN FT. FROM CENTER OF PUMPED WELL TO DRAWDOWN POINT
S=COEFFICIENT OF STORAGE
T=COEFFICIENT OF TRANSMISSIBILITY, GPD/FT
t= TIME SINCE PUMPING STARTED, DAYS
PUMPING WELL

r1=	0.250	FT	K=	40.00	FT/DAY
r2=	100	FT	K=	0.000462963	CFS/FT^2
r3=	500	FT	K=	2.98E+02	GPD/FT^2
r4=	1320	FT	SAT. DEPTH EST.=	300	FT
r5=	5280	FT	TRANSMISSIVITY=	89520	GPD/FT
S=	0.15		TRANSMISSIVITY=	1.39E-01	FT^2/SEC
T=	89520	GPD/FT	TRANSMISSIVITY=	11967.9	FT^2/DAY
Q/WELL	80.00	GPM =	0.178	CFS	

TIME HOURS	TIME t DAYS	U w/r1 0.25	WELL FUNCT. W(U)1	DRAW DOWN @WELL	SPEC. CAP GPM/FT	U W/r2 100	WELL FUNCT. W(U)2	DRAW DOWN @ 100	U W/r3 500	WELL FUNCT. W(U)3	DRAW DOWN @ 500	U W/r4 1320	WELL FUNCT. W(U)4	DRAW DOWN @ 1320
5	0.21	9.400E-07	13.3002	1.36	59	1.504E-01	1.4622	0.15	3.760E+00	0.0013	0.00	2.621E+01	0.0000	0.00
10	0.42	4.700E-07	13.8933	1.43	56	7.520E-02	2.0842	0.21	1.880E+00	0.0578	0.01	1.310E+01	0.0000	0.00
24	1.00	1.958E-07	14.8688	1.52	53	3.133E-02	2.9169	0.30	7.833E-01	0.3201	0.03	5.460E+00	0.0000	0.00
48	2.00	9.792E-08	15.5619	1.59	50	1.567E-02	3.5946	0.37	3.917E-01	0.7166	0.07	2.730E+00	0.0184	0.00
144	6.00	3.264E-08	16.6605	1.71	47	5.222E-03	4.6828	0.48	1.306E-01	1.5852	0.16	9.099E-01	0.2558	0.03
480	20.00	9.792E-09	17.8645	1.83	44	1.567E-03	5.8832	0.60	3.917E-02	2.7015	0.28	2.730E-01	0.9766	0.10
960	40.00	4.896E-09	18.5577	1.90	42	7.833E-04	6.5755	0.67	1.958E-02	3.3754	0.35	1.365E-01	1.5463	0.16

HOURS	DAYS	@WELL	100	500	1320 DISTANCE FEET
0	0.00	0	0	0	0
5	0.21	-1.36	-0.15	0.00	0.00
10	0.42	-1.43	-0.21	-0.01	0.00
24	1.00	-1.52	-0.30	-0.03	0.00
48	2.00	-1.59	-0.37	-0.07	0.00
144	6.00	-1.71	-0.48	-0.16	-0.03
480	20.00	-1.83	-0.60	-0.28	-0.10
960	40.00	-1.90	-0.67	-0.35	-0.16





600 0 600 1200 1800 2400 Feet

N
W E
S

Figure 2.
Brookwood Subdivision
Irrigated Acreage

Property Boundary

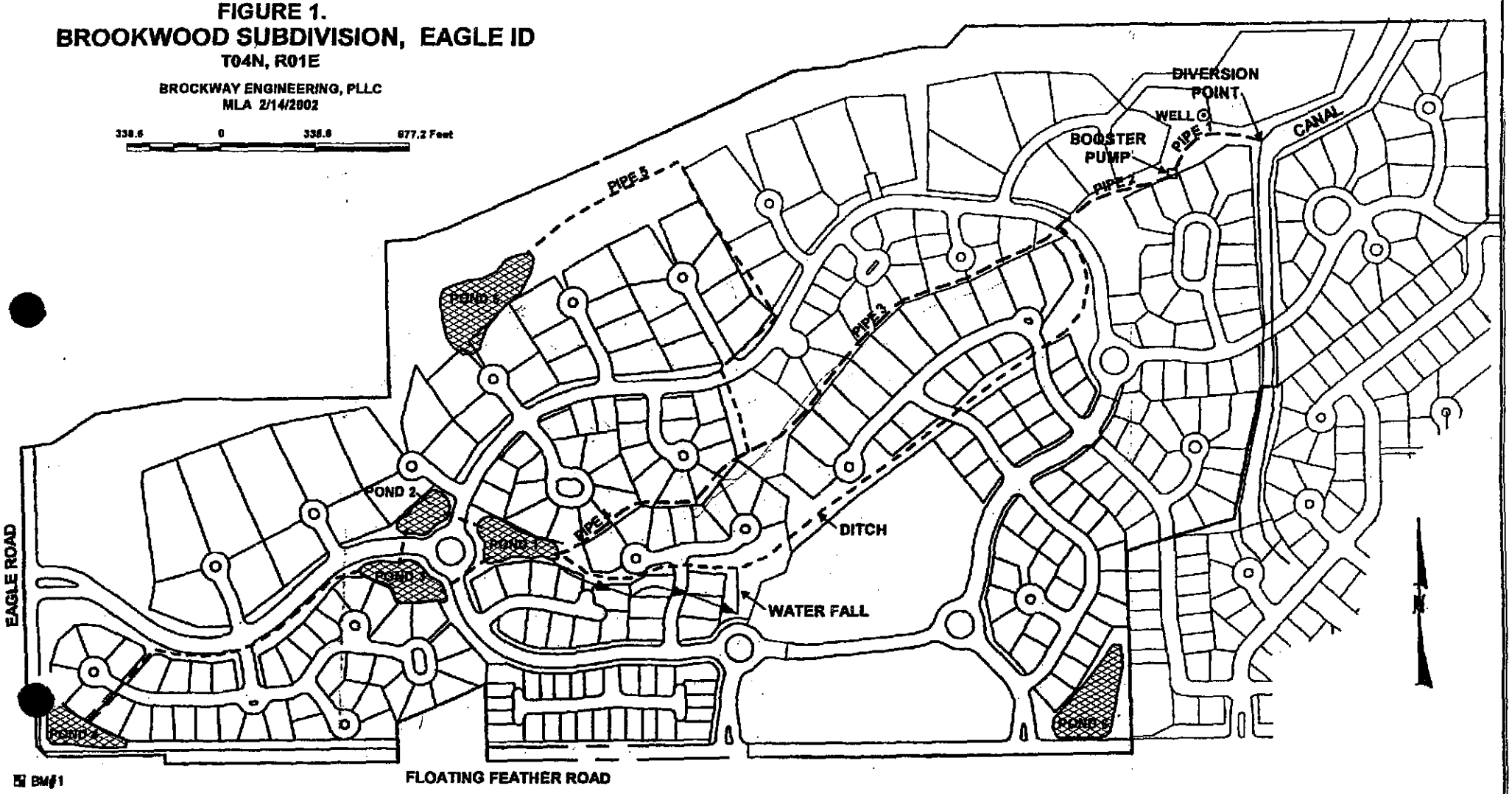
Irrigated Acreage
Overall Acreage = 185.92

Brockway Engineering, PLLC
MLA 5/28/2002

FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet



BROOKWOOD SUBDIVISION WATER REQUIREMENTS
POND EVAPORATION MITIGATION* REVISED

		IRRIGATION SEASON 180 DAYS	NON IRRIGATION 185 DAYS
MAX EVAP RATE in/day		0.230323 x.07	0.081
	AREA acres	POND EVAPORATION AF/DAY	
POND 1	0.48		0.003
POND 2	0.34		0.002
POND 3	0.53		0.004
POND 4	0.46	0.01	0.003
POND 5	2.07	0.04	0.014
POND 6	1.16	0.02	0.008
Total	5.04		
Ponds 4,5,6	3.69		
TOTAL AF/DAY		0.07	0.034
TOTAL CFS		0.04	0.017
TOTAL GPM		16.04	7.741
TOTAL MINERS IN.		1.79	0.862
SEASON EVAP IN.		33.60	8.820
TOTAL VOL AF		10.32	3.705
ANNUAL VOL AF			14.03

FOR EVAP MITIGATION	IN.	1.79		0.86
	AF	10.32		3.71
TOTAL EVAP MITIGATION			14.03	

MITIGATION OF EVAPORATION FROM PONDS 1,2, AND 3 IS REQUIRED ONLY IN THE WINTER TIME SINCE THESE PONDS ARE PART OF THE IRRIGATION SYSTEM. PONDS 4,5, AND 6 ARE NOT PART OF THE IRRIGATION SYSTEM AND EVAPORATION FROM THESE SURFACES CONSTITUTES ADDITIONAL CONSUMPTIVE USE WHICH WOULD BE MITIGATED WITH THE TRANSFER OF A PORTION OF GROUND WATER RIGHT

POND SEEPAGE* REVISED

		IRRIGATION SEASON 180.00 DAYS	NON IRRIGATION 185.00 DAYS
	Seepage Rate cfs	POND SEEPAGE AF/DAY	
POND 1	0.001		0.002
POND 2	0.001		0.002
POND 3	0.002		0.003
POND 4	0.001	0.002	0.002
POND 5	0.006	0.011	0.011
POND 6	0.001	0.001	0.001
Total	0.011		
Ponds 4,5,6	0.007		
TOTAL AF/DAY		0.015	0.022
TOTAL CFS		0.007	0.011
TOTAL GPM		3.314	4.990
TOTAL MINERS IN.		0.369	0.556
TOTAL ANNUAL VOL AF		2.632	4.072
ANNUAL VOL AF			6.704

Brookwood Subdivision — C.E. Brockway 7/12/2004

Estimated Design Parameters-Pond 5 Lined

Max Summertime Evap loss	16.04	gpm for Ponds 4,5,6	required by water right for mitigation
Summertime Seepage Loss	33.21	gpm for Ponds 4,5,6	This could likely be made up from shares
Total	49.25		
Max Non-Irrig Evap Loss	7.74	gpm all ponds	Needed to keep ponds full
Max Non-Irrig seepage loss	4.69	gpm all ponds	Needed to keep ponds full
Total	12.43		
Est. discharge for evap=	16.04	gpm	
Est dischrge for seepage	33.21	gpm	
Est. design smaller well	49.25	gpm	
Safety Factor	1.65		
Recommended well discharge	81.26	gpm	**Use 80 gpm for well-maximum diversion rate**

Annual Volume Requirement			
Yearly Evap	14.03	af	
Yearly est seepage	6.70	af	Ponds 4,5,6 summer. All ponds winter
Total Est seepage	20.73	af/year	
Est Design Volume	34.21	af/year	**Use 40 af/year**

Form 235-1
1/31/03

Drilling Permit No.:_____
Drilling Permit I.D. Tag No.:_____
Water Right Permit No.:_____
Injection Permit No.:_____

State of Idaho
Department of Water Resources

APPLICATION FOR DRILLING PERMIT
(FOR THE CONSTRUCTION OF A WELL)

1. **Owner (please print):** Aries Development LLC

2. **Mailing Address:** P.O. Box 6887

   City: Boise **State:** ID **Zip Code:** 83707 **Telephone:** (208) 939-2552

3. **Proposed Well Location:** Twp. 04N, Rge. 01E, Sec. 4, ____¼, NE ¼, SE ¼;

   Gov't Lot No. _____ County Ada Lat. ____:____:____ Long. ____:____:____

   Street Address of Well Site 1/3 mile North of Floating Feather Road City Eagle
   Give at least name of road + Distance to Road or Landmark

   Lot, block and subdivision Brookwood Subdivision

4. **Proposed Use of Well:**

   ☐ DOMESTIC: The use of water fro homes, organization camps, public campgrounds, livestock and for any other purpose in connection therewith, including irrigation of up to ½ acre of land, if the total use is not in excess of 13,000 gpd; or any other uses, if the total use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

   Domestic does not include water for multiple ownership subdivisions, mobile home parks, commercial or business establishments, unless the use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

   NON-DOMESTIC: ☐ Irrigation ☐ Municipal ☐ Industrial
   ☐ Livestock ☐ Test ☒ Other: Aesthetic pond mitigation (Describe)
   Type _____ # Head _____

   ☐ INJECTION

   ☐ MONITORING: A well bore schematic and map is required for each blanket permit. No. of proposed wells:____

5. **Well Construction Information:**

   A. ☒ New Well ☐ Modify ☐ Replace

   B. Proposed Casing Diameter 6 Proposed Maximum Depth 100

   C. Anticipated bottom hole temperature:
   ☒ 85°F or less (Cold Water Well) ☐ 85°F to 212°F (Low Temp. Geo. Well) ☐ 212°F or more (Geothermal Well)

6. **Construction Start Date:** October 2004

7. **Anticipated Well Driller:** TBD Driller's Lic. No. _____
   NOTE: The actual well driller must be identified prior to drilling.

8. **Applicant's Signature:** Charles E Brockway Date: 10/24/04

   Address (if different than owner): Brockway Engineering PLLC, 2016 Washington Street North, Suite 4

   City: Twin Falls State: ID Zip Code: 83301 Telephone: 208-736-8543

   Title: Charles E. Brockway, Engineer (Owner Representative)
   (Owner, Firm Representative, Other)

ACTION OF THE DEPARTMENT OF WATER RESOURCES

This Permit is _____. Date: _____

If approved, this permit authorizes the construction of modification of a well subject to the following conditions. **READ CAREFULLY!**

GENERAL CONDITIONS:

1. This drilling permit is valid for two (2) months from the above approval date for the start of construction and is valid for one (1) year from the approval date for completion of the well unless an extension has been granted.
2. This permit does not constitute an approval of the District Health Department or the Idaho Department of Health and Welfare, which may be required before construction of the well. All wells must be drilled a minimum distance of 100 feet from a drain field. Domestic and Public Water Supply wells must be drilled a minimum of 50 feet and 100 feet respectively from a septic tank.
3. The well shall be constructed by a driller currently licensed in the State of Idaho who must maintain a copy of the drilling permit at the drilling site.
4. Approval of this drilling permit does not authorize trespass on the land of another party.
5. This permit does not represent a right to divert and use the water of the State of Idaho.
6. This drilling permit does not represent a right to divert and use the water of the State of Idaho.
7. If a bottom hole temperature of 85° or greater is encountered, well construction shall cease and the well driller and the well owner shall contact the Department immediately.
8. Idaho Code, S 55-2201 – 55-2210 requires the applicant and/or his contractors to contact "DigLine" (DigLine is a one-call center for utility notification) not less than 2 working days prior to the start of any excavation for this project. The "DigLine" number for your area is 1-800-342-1585.
9. Please be advised that this drilling permit should be considered and treated as a preliminary permit. If you are in disagreement with this preliminary permit you have fourteen (14) days of the service date of this permit to petition the Department for reconsideration pursuant to Section 67-5243, Idaho Code.
10. The well tag for the drilling permit/start card shall be securely and permanently attached to the well casing through welding or by the use of four closed and domed stainless steel pop rivets. The tag attachment will be done at the time of completion of the well, and prior to removing the drill rig from the drill site.

SPECIFIC CONDITIONS:

_____ _____

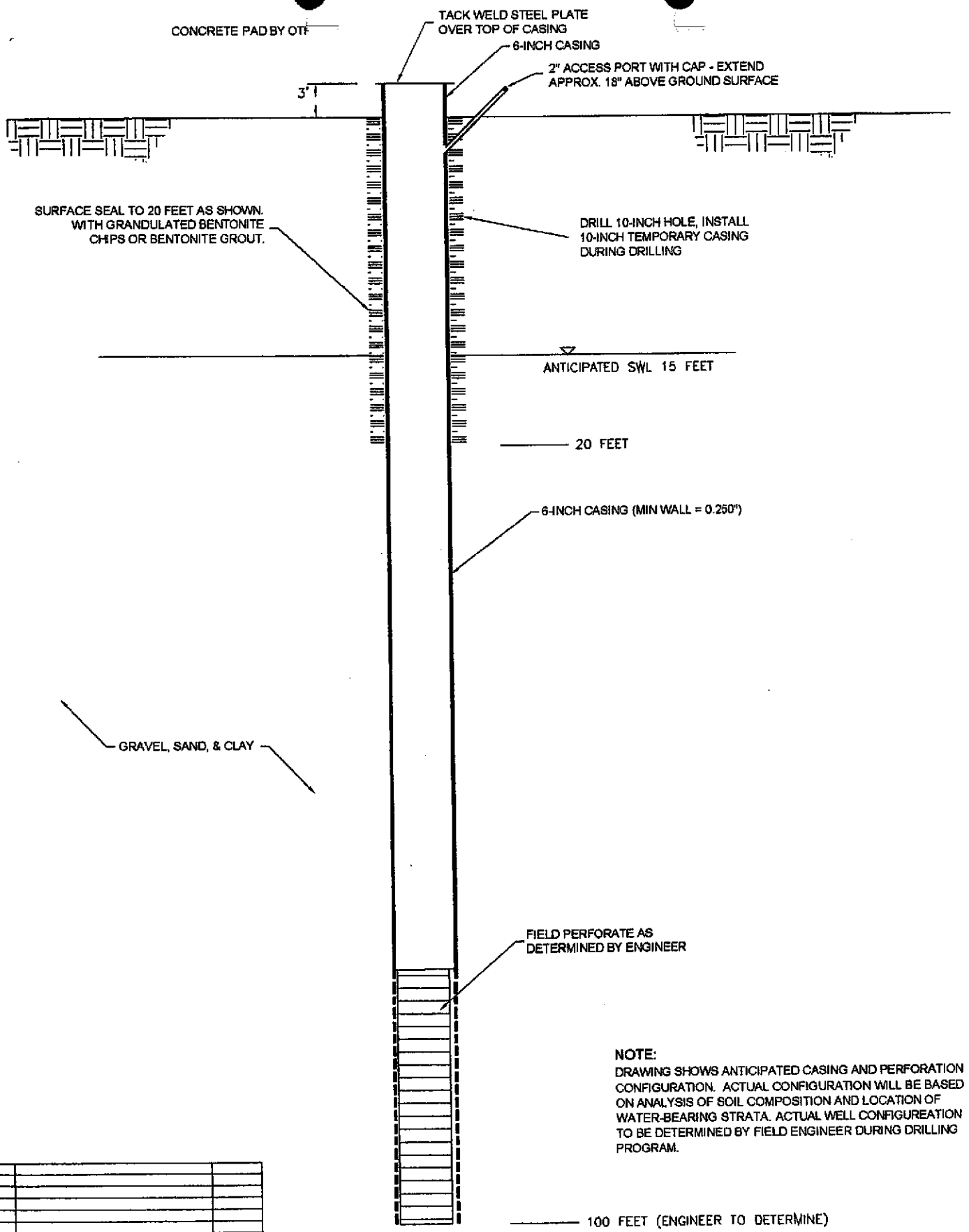
Signature of Authorized Department Representative Title

Receipt No.: _____ Receipted by: _____ Fee: _____ Date: _____

EXTENSION OF DRILLING PERMIT

Extension approved by: _____ Approval Date: _____

This extension expires: _____



NOTE:
DRAWING SHOWS ANTICIPATED CASING AND PERFORATION CONFIGURATION. ACTUAL CONFIGURATION WILL BE BASED ON ANALYSIS OF SOIL COMPOSITION AND LOCATION OF WATER-BEARING STRATA. ACTUAL WELL CONFIGUREATION TO BE DETERMINED BY FIELD ENGINEER DURING DRILLING PROGRAM.

REV	DESCRIPTION	DATE

THIS DRAWING HAS BEEN PREPARED BY BROCKWAY ENGINEERING, PLLC FOR A SPECIFIC PROJECT TAKING INTO ACCOUNT THE SPECIFIC AND UNIQUE REQUIREMENTS OF THE PROJECT. REUSE OF THIS DRAWING FOR ANY PURPOSE IS PROHIBITED UNLESS WRITTEN PERMISSION FROM BOTH BROCKWAY ENGINEERING & THE CLIENT IS GRANTED.

SCALE 0"-000'
(8.5 X 11 SHEET SIZE)

DESIGNED BY
CEB

DRAWN BY
ALR

BROCKWAY ENGINEERING, PLLC
HYDRAULICS - HYDROLOGY - WATER RESOURCES
2016 NORTH WASHINGTON, SUITE 4
WTIN FALLS, ID 83301
(208) 736-8543

ARIES DEVELOPMENT-BROOKWOOD SUBDIVISION

WELL SECTION & CONFIGURATION
PROPOSED NEW WELL

PROJECT #
521-01-2001

DATE
10/04/04

REV
△

CERTIFICATE OF MAILING

I HEREBY CERTIFY that on this 18th day of February, 2005, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
225 N 9TH ST STE 420
BOISE ID 83702

CHARLES HONSINGER
RINGERT CLARK
PO BOX 2773
BOISE ID 83701

MICHAEL J SIELER
EAGLE NEIGHBORS, INC.
1125 STEEPLE VIEW DR
EAGLE ID 83616

Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

EXPLANATORY INFORMATION
TO ACCOMPANY A
FINAL ORDER

(Required by Rule of Procedure 740.02)

The accompanying order is a "**Final Order**" issued by the department pursuant to section 67-5246 or 67-5247, Idaho Code.

Section 67-5246 provides as follows:

(1) If the presiding officer is the agency head, the presiding officer shall issue a final order.

(2) If the presiding officer issued a recommended order, the agency head shall issue a final order following review of that recommended order.

(3) If the presiding officer issued a preliminary order, that order becomes a final order unless it is reviewed as required in section 67-5245, Idaho Code. If the preliminary order is reviewed, the agency head shall issue a final order.

(4) Unless otherwise provided by statute or rule, any party may file a petition for reconsideration of any order issued by the agency head within fourteen (14) days of the issuance of that order. The agency head shall issue a written order disposing of the petition. The petition is deemed denied if the agency head does not dispose of it within twenty-one (21) days after the filing of the petition.

(5) Unless a different date is stated in a final order, the order is effective fourteen (14) days after its issuance if a party has not filed a petition for reconsideration. If a party has filed a petition for reconsideration with the agency head, the final order becomes effective when:

(a) the petition for reconsideration is disposed of; or

(b) the petition is deemed denied because the agency head did not dispose of the petition within twenty-one (21) days.

(6) A party may not be required to comply with a final order unless the party has been served with or has actual knowledge of the order. If the order is mailed to the last known address of a party, the service is deemed to be sufficient.

(7) A non-party shall not be required to comply with a final order unless the agency has made the order available for public inspection or the nonparty has actual knowledge of the order.

(8) The provisions of this section do not preclude an agency from taking immediate action to protect the public interest in accordance with the provisions of section 67-5247, Idaho Code.

PETITION FOR RECONSIDERATION

Any party may file a petition for reconsideration of a final order within fourteen (14) days of the service date of this order as shown on the certificate of service. **Note: the petition must be received by the Department within this fourteen (14) day period.** The department will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. See section 67-5243(4) Idaho Code.

APPEAL OF FINAL ORDER TO DISTRICT COURT

Pursuant to sections 67-5270 and 67-5272, Idaho Code, any party aggrieved by a final order or orders previously issued in a matter before the department may appeal the final order and all previously issued orders in the matter to district court by filing a petition in the district court of the county in which:

i. A hearing was held,
ii. The final agency action was taken,
iii. The party seeking review of the order resides, or
iv. The real property or personal property that was the subject of the agency action is located.

The appeal must be filed within twenty-eight (28) days a) of the service date of the final order, b) of an order denying petition for reconsideration, or c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration, whichever is later. See section 67-5273, Idaho Code. The filing of an appeal to district court does not in itself stay the effectiveness or enforcement of the order under appeal.

Form 202
1/96

AMENDED

Ident. No. _____

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

To appropriate the public waters of the State of Idaho

1. Name of applicant Aries Development L.L.C Phone 208-336-2200
   Post Office address P.O. Box 6887 Boise, ID 83707
2. Source of water supply Ground water which is a tributary of _____
3. Location of point of diversion is _____ 1/4 of NE 1/4 of SE 1/4, Govt. Lot _____
   Sec. 4 Township 4N Range 1E B.M. Ada County; additional points of diversion, if any: _____
4. Water will be used for the following purposes:
   Amount 0.18 cfs (cfs or acre-feet per annum) for Aesthetics purposes from 1-1 to 12-31 (both dates inclusive)
   Amount 40 af* (cfs or acre-feet per annum) for Storage purposes from 1-1 to 12-31 (both dates inclusive)
   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)
   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)
5. Total quantity being appropriated is (a) 0.18 cubic feet per second and/or (b) 40* acre-feet per annum
6. Proposed diverting works:
   a. Description of ditches, flumes, pumps, headgates, etc. *Limit of annual pumped volume. Pond system volume is 60.7 acre feet. Well and pipe/ditch distribution to ponds within Brookwood Subdivision. See attached narrative
   b. Height of storage dam 0 feet; active reservoir capacity _____ acre-feet; total reservoir capacity 60.7 acre-feet; period of year when water will be diverted to storage: 1/1 to 12/31 inclusive.
   c. Proposed well diameter is 6 inches; proposed depth of well is 100 feet
   d. Is groundwater with a temperature of greater than 85 degrees being sought? No
   e. If well is already drilled, when? _____; Drilling firm _____;
      Well was drilled for *(well owner)* _____
7. Time required for completion of works and application of water to proposed beneficial use is 5 years *(minimum 1 year)*
8. Description of proposed uses (if irrigation only, go to item 9):
   a. Hydropower; show total feet of head and proposed capacity in KW. _____
   b. Stockwatering; list number and kind of livestock. _____
   c. Municipal; show name of municipality. _____
   d. Domestic; show number of households _____;
   e. Other; describe fully. Ground water for wintertime maintenance of aesthetic ponds and mitigation for evaporation See attached narrative

9. Description of place of use:

a. If water is for irrigation, indicate acreage in each subdivision in the tabulation below.

b. If water is used for other purposes, place a symbol of the use (example: D for Domestic) in the corresponding place of use below. See instructions for standard symbols.

TWP	RANGE	SEC	NE 1/4				NW 1/4				SW 1/4				SE 1/4				TOTALS
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	
4N	1E	4									A		A	A	A	A	A	A	

Total number of acres to be irrigated _____

10. Describe any other water rights used for the same purposes as described above. Canal shares for irrig. Transfer from stockwater right 63-5087 for mitigation of pond evaporation

11. a. Who owns the property at the point of diversion? Applicant

b. Who owns the land to be irrigated or place of use? Applicant

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing: _____

12.. Remarks: See attached narrative and mitigation plan

13. MAP OF PROPOSED PROJECT ATTACHED _____ show clearly the proposed point of diversion, place of use, section number, township and range number.

BE IT KNOWN that the undersigned hereby makes this application for permit to appropriate the public waters of the State of Idaho as herein set forth.

Robert W. Kramer

(Applicant)

Received by _____ Date _____ Time _____ Preliminary check by _____

Fee $ _____ Receipted by _____ # _____ Date _____

Publication prepared by _____ Date _____ Published in _____

Publication approved _____ Date _____

BEFORE THE DEPARTMENT OF WATER RESOURCES

IN AND FOR THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER 70604 AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME OF ARIES DEVELOPMENT INC.	)	**RECOMMENDED ORDER DISMISSING CONTESTED CASE**

Having reviewed the *Settlement Agreement* signed by all current parties to this contested case and dated October 31, 2004 and the *IDWR Staff Memorandum* dated December 3, 2004; and all other parties having been previously dismissed from this contested case, and good cause appearing therefore:

IT IS HEREBY ORDERED that the above-entitled contested case is DISMISSED and shall be processed by the Idaho Department of Water Resources in accordance with the *Settlement Agreement*.

PROCEDURAL RIGHTS

This is the recommended order of the Hearing Officer. It will not become final without action of the Director of the Idaho Department of Water Resources. Any party may file a petition for reconsideration of this recommended order with the Hearing Officer within fourteen (14) days of the service date of this order. The Hearing Officer will dispose of any petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. *See* Section 67-5243(3) Idaho Code.

Within fourteen (14) days after (a) the service date of this recommended order, (b) the service date of a denial of a petition for reconsideration from this recommended order, or (c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration from this recommended order, any party may in writing support or take exceptions to any part of this recommended order and file briefs in support of the party's position with the Director or Director's designee on any issue in the proceeding.

If no party files exceptions to the recommended order with the Director or Director's designee, the Director or Director's designee will issue a final order within fifty-six (56) days after:

i. The last day a timely petition for reconsideration could have been filed with the hearing officer;
ii. The service date of a denial of a petition for reconsideration by the hearing officer; or
iii. The failure within twenty-one (21) days to grant or deny a petition for reconsideration by the hearing officer.

Written briefs in support of or taking exceptions to this recommended order shall be filed with the Director or Director's designee. Opposing parties shall have fourteen (14) days to respond. The Director or Director's designee may schedule oral argument in the matter before issuing a final order. The Director or Director's designee will issue a final order within fifty-six (56) days of receipt of the written briefs or oral argument, whichever is later, unless waived by the parties or for good cause shown. The agency may remand the matter for further evidentiary hearings if further factual development of the record is necessary before issuing a final order.

Dated this 10th day of December, 2004.

Peter R. Anderson
Hearing Officer

CERTIFICATE OF MAILING

I HEREBY CERTIFY that on this 13th day of December, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
225 N 9TH ST STE 420
BOISE ID 83702

CHARLES HONSINGER
RINGERT CLARK
PO BOX 2773
BOISE ID 83701

MICHAEL J SIELER
EAGLE NEIGHBORS, INC.
1125 STEEPLE VIEW DR
EAGLE ID 83616

JOHN WESTRA
IDWR WESTERN REGION
2735 AIRPORT WAY
BOISE ID 83705-5082

Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

RECEIVED
DEC - 7 2004
DEPARTMENT OF
WATER RESOURCES

BEFORE THE DEPARTMENT OF WATER RESOURCES

FOR THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	**ORDER VACATING**

Pursuant to the discussions at the September 23, 2004, prehearing conference, the hearing for this matter currently set for October 6, 2004, is VACATED. Applicant Aries Development, Inc., shall submit the settlement agreement and related documents to the Idaho Department of Water Resources by October 6, 2004.

Dated this 23rd day of September, 2004.

PETER R. ANDERSON
HEARING OFFICER

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 24th day of September, 2004, the foregoing document was served by placint a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
225 N 9TH ST STE 420
BOISE ID 83702

CHARLES HONSINGER
RINGERT CLARK
PO BOX 2773
BOISE ID 83701

MICHAEL J SIELER
HOMEOWNERS OF DOWNING
DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

Victoria Wigle
Director's Administrative Assistant
Idaho Department of Water Resources

BEFORE THE DEPARTMENT OF WATER RESOURCES

FOR THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	))))))	**ORDER SUBSTITUTING EAGLE NEIGHBORS, INC. FOR CITIZENS OF DOWNING DOWNS SUBDIVISION**

There being no objection, as required by the *Aries Development Second Prehearing Order and Notice of Hearing*, it is hereby ORDERED that Eagle Neighbors, Inc., shall be substituted for Citizens of Downing Downs Subdivision.

Dated this 23rd day of September, 2004.

Peter R. Anderson

PETER R. ANDERSON
HEARING OFFICER

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 23rd day of September, 2004, the foregoing document was served by hand delivery on the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

Delivered via U.S. mail VW

TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
225 N 9TH ST STE 420
BOISE ID 83702

CHARLES HONSINGER
RINGERT CLARK
PO BOX 2773
BOISE ID 83701

And via United States Mail, postage prepaid and properly addressed to the following:
MICHAEL J SIELER
HOMEOWNERS OF DOWNING
DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

Victoria Wigle
Director's Administrative Assistant
Idaho Department of Water Resources

BEFORE THE DEPARTMENT OF WATER RESOURCES

FOR THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	)	**ORDER TO VACATE HEARING**

Good cause having been shown, it is hereby ordered that the hearing set for May 12, 13 and 14, 2004, is **VACATED**. The hearing will be reset at a later date.

Dated this 7th day of May, 2004.

Peter R. Anderson
Hearing Officer

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 7th day of May, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
225 N 9TH ST STE 420
BOISE ID 83702

MICHAEL J SIELER
HOMEOWNERS OF DOWNING
DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

MATT HOWARD
P.O. BOX 190012
BOISE, ID 83719

Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	))))))	ARIES DEVELOPMENT SECOND PREHEARING ORDER AND NOTICE OF HEARING

A pretrial conference was held on April 29, 2004, with all parties participating. As a result of the discussions at that conference it is ORDERED that the following procedures shall control the hearing in this matter:

FINAL INFORMATION DISCLOSURE

1. Applicant Aries Development Inc. shall provide to all other parties on or before **May 6, 2004**, copies of all well logs, and all other documents not previously disclosed by any party, that were relied upon by Charles Brockway in forming his opinions in this matter.

2. Parties shall exchange witness and exhibit lists on or before **May 7, 2004**. The Parties shall pre-mark their exhibits with the following numbers:

Aries Development L.L.C.	1-99
Eagle Water Co., Inc.	100-199
City of Eagle	200-299
Citizens of Downing Downs Subdivision	300-399
Chase Family	400-499

3. Protestants shall disclose any exhibits responsive to the May 7 disclosures by Aries Development prior to the hearing on **May 12, 2004**.

EAGLE NEIGHBORS, INC.

Any party wishing to object to the substitution of Eagle Neighbors, Inc. for the citizens of Downing Downs Subdivision shall do so on or before **May 6, 2004.**

CONDUCT OF HEARING

The following procedures apply to the hearing commencing May 12, 2004:

1. Opening Statements: Parties may give an opening statement briefly describing their position before they present their evidence. Opening statements may not exceed 5 minutes and may be waived.
2. Order of Presentation: Aries Development shall present its testimony and evidence first; followed by Eagle Water Co., Inc., City of Eagle, Citizens of Downing Downs Subdivision and the Chase Family
3. Closing Argument: Oral closing arguments will be allowed at the close of the hearing. A schedule for submission of written proposed findings of fact and conclusions of law shall also be developed at that time.

NOTICE OF HEARING

PLEASE TAKE NOTICE that the hearing in this matter is set for **MAY 12, 13 AND 14, 2004, starting at 9:00 a.m.**, at the Idaho Department of Water Resources, Conference Room C, 1301 N. Orchard St., Boise, Idaho. The hearing will be held in accordance with the provisions of Chapters 2 and 17, Title 42 and Chapter 52, Title 67, Idaho Code, and the adopted Rules of Procedure of the department. IDAPA 37.01.01. A copy of the rules may be obtained from the department upon request. The presiding officer at the hearing will be the Peter R. Anderson.

If you plan to offer exhibits for the record, note that Rule 606 of the department's Rules of Procedure requires that a copy be provided to each party and to the presiding officer.

The hearing will be conducted in a facility which meets the accessibility requirements of the Americans with Disabilities Act. If you require special accommodations in order to attend, participate in or understand the hearing, please advise the department within five (5) days prior to the hearing. Inquires about scheduling, hearing facilities, etc., should be directed to Victoria Wigle, Administrative Assistant, Idaho Department of Water Resources, 1301 N. Orchard St., Boise, Idaho 83706-2237, telephone: (208)327-7910, fax: (208)327-7866.

All parties to the matter will have the opportunity to respond and present evidence and argument on all issues involved.

Dated this 20th day of April, 2004.

Peter R. Anderson
Hearing Officer

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 30th day of April, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MARK L BUTLER
LAND CONSULTANTS INC
1640 W WASHAM RD
EAGLE ID 83616

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
225 N 9TH ST STE 420
BOISE ID 83702

MICHAEL J CHASE
3482 HWY 30 W
NEW PLYMOUTH ID 83655

MICHAEL J SIELER
HOMEOWNERS OF DOWNING
DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

ALFRED & WANDA THORNTON
9601 PRAIRIE RD
Boise, ID 83714

Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

Charles & James Chase Recom. Order Dismissing

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	))))))	RECOMMENDED ORDER DISMISSING CHARLES W. AND JAMES L. CHASE

Based upon the representations of Michael J. Chase at the April 29, 2004 prehearing conference that Charles W. Chase and James L. Chase no longer have an interest in pursuing their protest in this matter, Protestants Charles W. Chase and James L. Chase are DISMISSED.

PROCEDURAL RIGHTS

This is the Recommended Order of the Hearing Officer. It will not become final without action of the Director of the Idaho Department of Water Resources. Any party may file a petition for reconsideration of this recommended order with the Hearing Officer within fourteen (14) days of the service date of this order. The Hearing Officer will dispose of any petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. *See* Section 67-5243(3) Idaho Code.

Within fourteen (14) days after (a) the service date of this recommended order, (b) the service date of a denial of a petition for reconsideration from this recommended order, or (c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration from this recommended order, any party may in writing support or take exceptions to any part of this recommended order and file briefs in support of the party's position with the Director or Director's designee on any issue in the proceeding. If no party files exceptions to the recommended order with the Director or Director's designee, the Director or Director's designee will issue a final order within fifty-six (56) days after:

i. The last day a timely petition for reconsideration could have been filed with the hearing officer;
ii. The service date of a denial of a petition for reconsideration by the hearing officer; or
iii. The failure within twenty-one (21) days to grant or deny a petition for reconsideration by the hearing officer.

Written briefs in support of or taking exceptions to this recommended order shall be filed with the Director or Director's designee. Opposing parties shall have

fourteen (14) days to respond. The Director or Director's designee may schedule oral argument in the matter before issuing a final order. The Director or Director's designee will issue a final order within fifty-six (56) days of receipt of the written briefs or oral argument, whichever is later, unless waived by the parties or for good cause shown. The agency may remand the matter for further evidentiary hearings if further factual development of the record is necessary before issuing a final order.

Dated this 30th day of April, 2004.

PETER R. ANDERSON
HEARING OFFICER

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 30th day of April, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MARK L BUTLER
LAND CONSULTANTS INC
1640 W WASHAM RD
EAGLE ID 83616

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
225 N 9TH ST STE 420
BOISE ID 83702

MICHAEL J CHASE
3482 HWY 30 W
NEW PLYMOUTH ID 83655

MICHAEL J SIELER
HOMEOWNERS OF DOWNING
DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

ALFRED & WANDA THORNTON
9601 PRAIRIE RD
BOISE ID 83714

Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

State of Idaho
DEPARTMENT OF WATER RESOURCES
322 East Front Street, P.O. Box 83720, Boise, ID 83720-0098
Phone: (208) 287-4800 Fax: (208) 287-6700 Web Site: www.idwr.idaho.gov.

JAMES E. RISCH
Governor
KARL J. DREHER
Director

August 8, 2006

ARIES DEVELOPMENT LLC
PO BOX 6887
BOISE ID 83707

RE: Permit No. 63-31689

Permit Approval Notice

Dear Permit Holder:

The Department of Water Resources has issued the enclosed permit authorizing you to establish a new water right. Please be sure to thoroughly review the conditions of approval and remarks listed on your permit.

The permit is a PRELIMINARY ORDER issued by the Department pursuant to Section 67-5243, Idaho Code. It can and will become a final order without further action by the Department unless a party petitions for reconsideration or files an exception and/or brief within fourteen (14) days of the service date as described in the enclosed information sheet.

As a permit owner you must commence the excavation or construction of the diverting works within one year of the date the permit was issued, and you must proceed diligently until the project is completed. The date shown under condition no. 1 is the date when the project must be completed.

The Department will send you a 'Proof Due Notice' approximately 60 days prior to the above referenced date requesting you to file either a Proof of Beneficial Use form or a Request for Extension of Time form.

The right to drill a well is not a part of this permit to appropriate water. Beginning in July of 1987, a statute was enacted which requires a drilling permit for new well construction and deepening of existing wells. If the well(s) proposed for use under this water right permit were drilled or deepened after July 1, 1987, a separate drilling permit must be obtained from this Department. Please contact the Ground Water Protection Section located here at this office or our regional office nearest you.

Also, please note that water right owners are required to report any change of water right ownership and/or mailing address to the Department within 120 days of the change. Failure to report these changes could result in a $100 late filing fee. Contact any office of the Department or visit the Department's homepage on the Internet to obtain the proper forms and instructions.

If you have any questions, please contact me at 208-287-4947.

Sincerely,

Kara A Keen

For Shelley W Keen
Water Rights Supervisor

SWK:ka

Enclosure(s)

cc: CITY OF EAGLE
EAGLE WATER CO INC
MICHAEL CHASE
DOWNING DOWNS SUBDIVISION

CERTIFICATE OF SERVICE

I hereby certify that on August 8, 2006 I mailed a true and correct copy, postage prepaid, of the foregoing PRELIMINARY ORDER(Approved Permit) to the person(s) listed below:

RE: WATER RIGHT NO. 63-31689

ARIES DEVELOPMENT LLC
PO BOX 6887
BOISE ID 83707

CITY OF EAGLE
C/O TAMMY ZOKAN
225 N 9TH ST STE 420
BOISE ID 83702

EAGLE WATER CO INC
172 W STATE ST
PO BOX 455
EAGLE ID 83616-0455

MICHAEL CHASE
3482 HWY 30 W
NEW PLYMOUTH ID 83655

DOWNING DOWNS SUBDIVISION
1125 STEEPLE VIEW DR
EAGLE ID 83616

Kara A Alder
Secretary

EXPLANATORY INFORMATION
TO ACCOMPANY A
PRELIMINARY ORDER

(To be used in connection with actions when a hearing was not held)

(Required by Rule of Procedure 730.02)

The accompanying order or approved document is a "**Preliminary Order**" issued by the department pursuant to section 67-5243, Idaho Code. It can and will become a final order without further action of the Department of Water Resources ("department") unless a party petitions for reconsideration, files an exception and brief, or requests a hearing as further described below:

PETITION FOR RECONSIDERATION

Any party may file a petition for reconsideration of a preliminary order with the department within fourteen (14) days of the service date of this order. The department will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. See Section 67-5243(3) Idaho Code.

EXCEPTIONS AND BRIEFS

Within fourteen (14) days after (a) the service date of a preliminary order, (b) the service date of a denial of a petition for reconsideration from this preliminary order, or (c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration from this preliminary order, any party may in writing support or take exceptions to any part of a preliminary order and may file briefs in support of the party's position on any issue in the proceeding with the Director. Otherwise, this preliminary order will become a final order of the agency.

REQUEST FOR HEARING

Unless a right to a hearing before the Department or the Water Resource Board is otherwise provided by statute, any person aggrieved by any final decision, determination, order or action of the Director of the Department and who has not previously been afforded an opportunity for a hearing on the matter may request a hearing pursuant to section 42-1701A(3), Idaho Code. A written petition contesting the action of the Director and requesting a hearing shall be filed within fifteen (15) days after receipt of the denial or conditional approval.

ORAL ARGUMENT

If the Director grants a petition to review the preliminary order, the Director shall allow all parties an opportunity to file briefs in support of or taking exceptions to the preliminary order and may schedule oral argument in the matter before issuing a final order. If oral arguments are to be heard, the Director will within a reasonable time period notify each party of the place, date and hour for the argument of the case. Unless the Director orders otherwise, all oral arguments will be heard in Boise, Idaho.

CERTIFICATE OF SERVICE

All exceptions, briefs, requests for oral argument and any other matters filed with the Director in connection with the preliminary order shall be served on all other parties to the proceedings in accordance with IDAPA Rules 37.01.01302 and 37.01.01303 (Rules of Procedure 302 and 303).

FINAL ORDER

The Director will issue a final order within fifty-six (56) days of receipt of the written briefs, oral argument or response to briefs, whichever is later, unless waived by the parties or for good cause shown. The Director may remand the matter for further evidentiary hearings if further factual development of the record is necessary before issuing a final order. The department will serve a copy of the final order on all parties of record.

Section 67-5246(5), Idaho Code, provides as follows:

> Unless a different date is stated in a final order, the order is effective fourteen (14) days after its issuance if a party has not filed a petition for reconsideration. If a party has filed a petition for reconsideration with the agency head, the final order becomes effective when:
>
> (a) the petition for reconsideration is disposed of; or
>
> (b) the petition is deemed denied because the agency head did not dispose of the petition within twenty-one (21) days.

APPEAL OF FINAL ORDER TO DISTRICT COURT

Pursuant to sections 67-5270 and 67-5272, Idaho Code, if this preliminary order becomes final, any party aggrieved by the final order or orders previously issued in this case may appeal the final order and all previously issued orders in this case to district court by filing a petition in the district court of the county in which:

i. A hearing was held,
ii. The final agency action was taken,
iii. The party seeking review of the order resides, or
iv. The real property or personal property that was the subject of the agency action is located.

The appeal must be filed within twenty-eight (28) days of this preliminary order becoming final. See section 67-5273, Idaho Code. The filing of an appeal to district court does not itself stay the effectiveness or enforcement of the order under appeal.

RICHARDSON & O'LEARY
ATTORNEYS AT LAW

Molly O'Leary

Tel: 208-938-7900 Fax: 208-938-7904
molly@richardsonandoleary.com
P.O. Box 7218 Boise, ID 83707 - 515 N. 27th St. Boise, ID 83702

June 7, 2005

State of Idaho
Department of Water Resources
322 East Front Street
P.O. Box 83720
Boise, Idaho 83720-0098

Re: File #63-31689 (Aries Development)

Dear Sir/Madam:

We are writing to advise you of a change of address for our office; future correspondence should be mailed to the address shown above in our letterhead.

This new address would apply to all correspondence to our office, whether related to the case shown, or future cases.

Please let us know if there is anything further you need from us.

Sincerely,

Nina M. Curtis, Administrative Assistant

updated 1-12-06 CR

105 E. Old Barn Road
Eagle, ID
83616
208-939-2552
Fax: 208-939-2772
www.brookwood-eagle.com

RECEIVED
SEP 07 2005
Department of Water Resources

Brookwood

Jeff Peppersack, Manager
State of Idaho
Department of Water Resources
322 East Front Street
Boise, ID 83720-0098

Re: Application for Permit No. 63-31689

I appreciated the opportunity of speaking to you on the phone concerning the experiments going on with specifically one of our future ponds at Brookwood Subdivision. I have watched Engineers trying to pump water from underneath pond. I understand that this process has completely failed and all equipment has been removed. Failure was due to actual pond water seeping through existing liner and being pumped up to surface actually lowering pond level The pond continues to seep water out and the existing liner of pond is not holding water. The only way water can be kept at a level is by using the Homeowners surface water. This surface water source has been used for the last few weeks. We are concern and do not want a cost item in the future or no way to fill this pond. If this pond is not holding water on its own, I assume you want to know and limit any progress that does not relate to this issue.

Please keep us informed of any dicission your department is about to make on this issue.

Sincerely,

Jim Johnson
(Brookwood Board of Director)

State of Idaho
DEPARTMENT OF WATER RESOURCES
322 East Front Street, P.O. Box 83720, Boise, ID 83720-0098
Phone: (208) 287-4800 Fax: (208) 287-6700 Web Site: www.idwr.idaho.gov.

August 18, 2005

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

ARIES DEVELOPMENT LLC
PO BOX 6887
BOISE ID 83707

Re: Application for Permit No. 63-31689

Dear Applicant:

On May 19, 2005, the Department sent a letter to Charles E. Brockway, with copy to J. Evan Robertson, regarding the application referenced above (copy attached). The letter raised a question that will need to be addressed before the Department can continue processing the application.

The application, as amended, does not appear to cover the storage volume of the ponds as proposed in the application. The letter indicated that the Department would hold processing of the application to provide time to address the concern. To date, the Department has not received any response.

It is my understanding that the ponds have been partially or fully completed and water has been diverted to the ponds. Water cannot be diverted without a valid permit authorizing the diversion and use. The Department has not taken any enforcement action to date because steps were being taken to complete the application. To avoid future enforcement action, additional water must not be diverted until a permit is approved. In this case, an amendment or a second application may be required for the additional water.

The Department will continue to hold your application for permit for an additional 30 days to await your response. After that time, if we do not receive an adequate response from you regarding the application, the Department will initiate action to void the application pursuant to Section 42-204, *Idaho Code* for failure to submit the requested information. In addition, or as an alternative, the Department may initiate enforcement action against the applicant if water is being diverted without an approved permit.

If you have any questions regarding this matter, please feel free to contact me at 208-287-4948.

Sincerely,

Jeff Peppersack, Manager
Water Right Permits Section

JP:klt

Enclosure

cc: Charles E. Brockway - Brockway Engineering
J Evan Robertson - Robertson Hepworth Slette Worst & Stover PLLC
John Westra – IDWR Western Region
Jim Johnson - Brookwood Homeowners Association (with enclosure)
481 E. Mapleside Ct.
Eagle, ID 83616

State of Idaho
DEPARTMENT OF WATER RESOURCES
322 East Front Street, P.O. Box 83720, Boise, ID 83720-0098
Phone: (208) 287-4800 Fax: (208) 287-6700 Web Site: www.idwr.idaho.gov.

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

May 19, 2005

CHARLES E BROCKWAY
BROCKWAY ENGINEERING PLLC
2016 N WASHINGTON ST SUITE 4
TWIN FALLS ID 83301

Re: Application for Permit No. 63-31689

Dear Mr. Brockway:

The Department of Water Resources acknowledges receipt of the amended Application for Permit No. 63-31689 to replace the application filed on January 7, 2003 by Aries Development LLC. The amended application was submitted pursuant to the Settlement Agreement dated October 31, 2004 for the contested case resulting from protests to the original application. The contested case was dismissed by the Director on February 17, 2005.

Review of the amended application has raised a question that will need to be addressed before the Department can continue processing the application. It is my understanding that the application for permit seeks to provide ground water in the amount of 0.18 cfs and 40 afa to maintain pond levels. More specifically, the application together with Application for Transfer No. 70604, seeks to provide for year-round seepage losses and non-irrigation season evaporation losses for three irrigation ponds and year-round seepage and evaporation losses for three aesthetic ponds. It is also my understanding that the total capacity of the six ponds is 60.7 af. My concern is described below.

The application, as amended, does not appear to cover the storage volume of the ponds in the amount of 60.7 af. Water Appropriation Rule 35.03b requires that the application shall list the quantity of water to be stored and shall not exceed the capacity of the impoundment structure unless the application includes a plan of operation for filling, if the reservoir is to be filled more than once per year. Maintenance of pond levels can be included as an acceptable plan of operation to allow for a volume greater than the capacity of the impoundment structure(s). The application provides for refill to cover evaporation and seepage in the amount of 40 afa, but does not include the capacity of the ponds in the amount of 60.7 af. There may be some question regarding the need for a permit for the irrigation ponds associated with canal shares for irrigation use during the irrigation season; however, it is clear that all six ponds require a permit for the storage volume that will be impounded for the year-round use.

The Department will hold processing of the applications to provide the applicants additional time to address the concern. If you have any questions regarding this matter, please feel free to contact me at 208-287-4948.

Sincerely,

Jeff Peppersack, Manager
Water Right Permits Section

JP:klt

cc: J. Evan Robertson - Robertson Hepworth Slette Worst & Stover PLLC
John Westra – IDWR Western Region

APPLICATIONS CHECKLIST FOR **PROTESTED** FILES

APPLICATION NO: 63 31689 APPLICANT: Arca

☑ Green sticker on file ☑ Protest information sheet

☐ Put protest names & date in data base ☐ Change bar code ☑ Put protest in apps.lis

☑ Reserve Room ☑ Protest letters ☑ Conference notices

☑ Copy to vault (thru ~~Norm~~ Glen) ☐ Copies of interventions to vault thru Norm (if any)

☑ Copy of conference notice to Glen ☑ Make sure rooms are handicap approved

☑ Double check mailing list. ☐ Attendance sheet ☒ Room confirmation letter

☐ Put conf. dates on Gary's calendar, and

☐ Sue's calendar

☐ Western's calendar (if applicable).

AFTER PREHEARING CONFERENCE

☐ Protestants/intervenors updated ☐ Hearing notices sent ☐ Copy to Glen

☐ Dates on my, Gary's, and Western's calendars (if applicable).

PROTEST OR APPLICATION WITHDRAWN

☐ Protest withdrawn ☐ Application withdrawn

☐ Change bar code ☐ Change apps.lis ☐ Change database

☐ Sent to S.O. (Kari Lynn) Date _____

Comment Report

63-31689

1. lgraves 5/29/2003 Legal Notice Remarks
Comment: Mitigation is proposed for consumptive use.
Water bearing zone to be appropriated is from 80 to 200 feet.

2. lgraves 5/29/2003 Comment/Analysis
Comment: Priority date advance to date additional info was received.

3. kwalker 4/29/2005 Permit Review
Comment: Received the amended, signed application for permit for this filing this day. Application does not fall within any problem areas. Was protested but issues were resolved through an agreement and by way of Final Order Dismissing Contested Case issued 2/17/2005. Recommend final action be taken.

BROCKWAY
ENGINEERING
P.L.L.C.

Hydraulics
Hydrology
Water Resources

RECEIVED
APR 28 2005
Department of Water Resources

April 26, 2005

Ms. Kay Walker
Idaho Department of Water Resources
P.O. Box 83720
Boise, ID 83720-0098

RE: Application for permit 63-31689

Dear Kay:

Enclosed, please find a signed application for permit # 63-31689 for Aires Development regarding the Brookwood Subdivision.

The revised application for permit comports with the October 31, 2004 agreement among Aries Development LLC, Eagle Water Company Inc., the City of Eagle, Eagle Neighbors Inc, and the Chase Family.

Also enclosed is an application for a drilling permit for said well. ← to well construction section 4/29/05 KW

Please feel free to call me should you have any questions or concerns regarding this matter.

Sincerely,

Charles E. Brockway, P.E., Ph.D.

Enclosures

cc: Mike Hormachea
Evan Robertson

CHARLES E. BROCKWAY, PH.D., P.E.

CHARLES G. BROCKWAY, PH.D., P.E.

2016 NORTH WASHINGTON STREET • SUITE 4

TWIN FALLS, IDAHO 83301

208•736•8543

FAX: 736•8506

Form 235-1
1/31/03

Drilling Permit No.:_____
Drilling Permit I.D. Tag No.:_____
Water Right Permit No.:_____
Injection Permit No.:_____

State of Idaho
Department of Water Resources

APPLICATION FOR DRILLING PERMIT
(FOR THE CONSTRUCTION OF A WELL)

1. **Owner (please print):** Aries Development LLC

2. **Mailing Address:** P.O. Box 6887 ~~336-2200~~

   City: Boise **State:** ID **Zip Code:** 83707 **Telephone:** (208) ~~939-2552~~

3. **Proposed Well Location:** Twp. 04N, Rge. 01E, Sec. 4, ____¼, NE ¼, SE ¼;

   Gov't Lot No. _____ County Ada Lat. ____: ____: ____ Long. ____: ____: ____

   Street Address of Well Site 1/3 mile North of Floating Feather Road City Eagle
   Give at least name of road + Distance to Road or Landmark

   Lot, block and subdivision Brookwood Subdivision

4. **Proposed Use of Well:**

   ☐ DOMESTIC: The use of water fro homes, organization camps, public campgrounds, livestock and for any other purpose in connection therewith, including irrigation of up to ½ acre of land, if the total use is not in excess of 13,000 gpd; or any other uses, if the total use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

   Domestic does not include water for multiple ownership subdivisions, mobile home parks, commercial or business establishments, unless the use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

   NON-DOMESTIC: ☐ Irrigation ☐ Livestock Type _____ # Head _____ ☐ Municipal ☐ Test ☐ Industrial ☒ Other: Aesthetic pond mitigation (Describe)

   ☐ INJECTION

   ☐ MONITORING: A well bore schematic and map is required for each blanket permit. No. of proposed wells:____

5. **Well Construction Information:**

   A. ☒ New Well ☐ Modify ☐ Replace

   B. Proposed Casing Diameter 6 Proposed Maximum Depth 100

   C. Anticipated bottom hole temperature:
   ☒ 85°F or less (Cold Water Well) ☐ 85°F to 212°F (Low Temp. Geo. Well) ☐ 212°F or more (Geothermal Well)

6. **Construction Start Date:** ~~October 2004~~ May/June 2005

7. **Anticipated Well Driller:** TBD Driller's Lic. No. _____
   NOTE: The actual well driller must be identified prior to drilling.

8. **Applicant's Signature:** Date: 4/28/05

   Address (if different than owner): Brockway Engineering PLLC, 2016 Washington Street North, Suite 4

   City: Twin Falls State: ID Zip Code: 83301 Telephone: 208-736-8543

   Title: Charles E. Brockway, Engineer (Owner Representative)
   (Owner, Firm Representative, Other)

ACTION OF THE DEPARTMENT OF WATER RESOURCES

This Permit is _____. Date: _____

If approved, this permit authorizes the construction of modification of a well subject to the following conditions. **READ CAREFULLY!**

GENERAL CONDITIONS:

1. This drilling permit is valid for two (2) months from the above approval date for the start of construction and is valid for one (1) year from the approval date for completion of the well unless an extension has been granted.
2. This permit does not constitute an approval of the District Health Department or the Idaho Department of Health and Welfare, which may be required before construction of the well. All wells must be drilled a minimum distance of 100 feet from a drain field. Domestic and Public Water Supply wells must be drilled a minimum of 50 feet and 100 feet respectively from a septic tank.
3. The well shall be constructed by a driller currently licensed in the State of Idaho who must maintain a copy of the drilling permit at the drilling site.
4. Approval of this drilling permit does not authorize trespass on the land of another party.
5. This permit does not represent a right to divert and use the water of the State of Idaho.
6. This drilling permit does not represent a right to divert and use the water of the State of Idaho.
7. If a bottom hole temperature of 85° or greater is encountered, well construction shall cease and the well driller and the well owner shall contact the Department immediately.
8. Idaho Code, S 55-2201 – 55-2210 requires the applicant and/or his contractors to contact "DigLine" (DigLine is a one-call center for utility notification) not less than 2 working days prior to the start of any excavation for this project. The "DigLine" number for your area is 1-800-342-1585.
9. Please be advised that this drilling permit should be considered and treated as a preliminary permit. If you are in disagreement with this preliminary permit you have fourteen (14) days of the service date of this permit to petition the Department for reconsideration pursuant to Section 67-5243, Idaho Code.
10. The well tag for the drilling permit/start card shall be securely and permanently attached to the well casing through welding or by the use of four closed and domed stainless steel pop rivets. The tag attachment will be done at the time of completion of the well, and prior to removing the drill rig from the drill site.

SPECIFIC CONDITIONS:

_____ _____

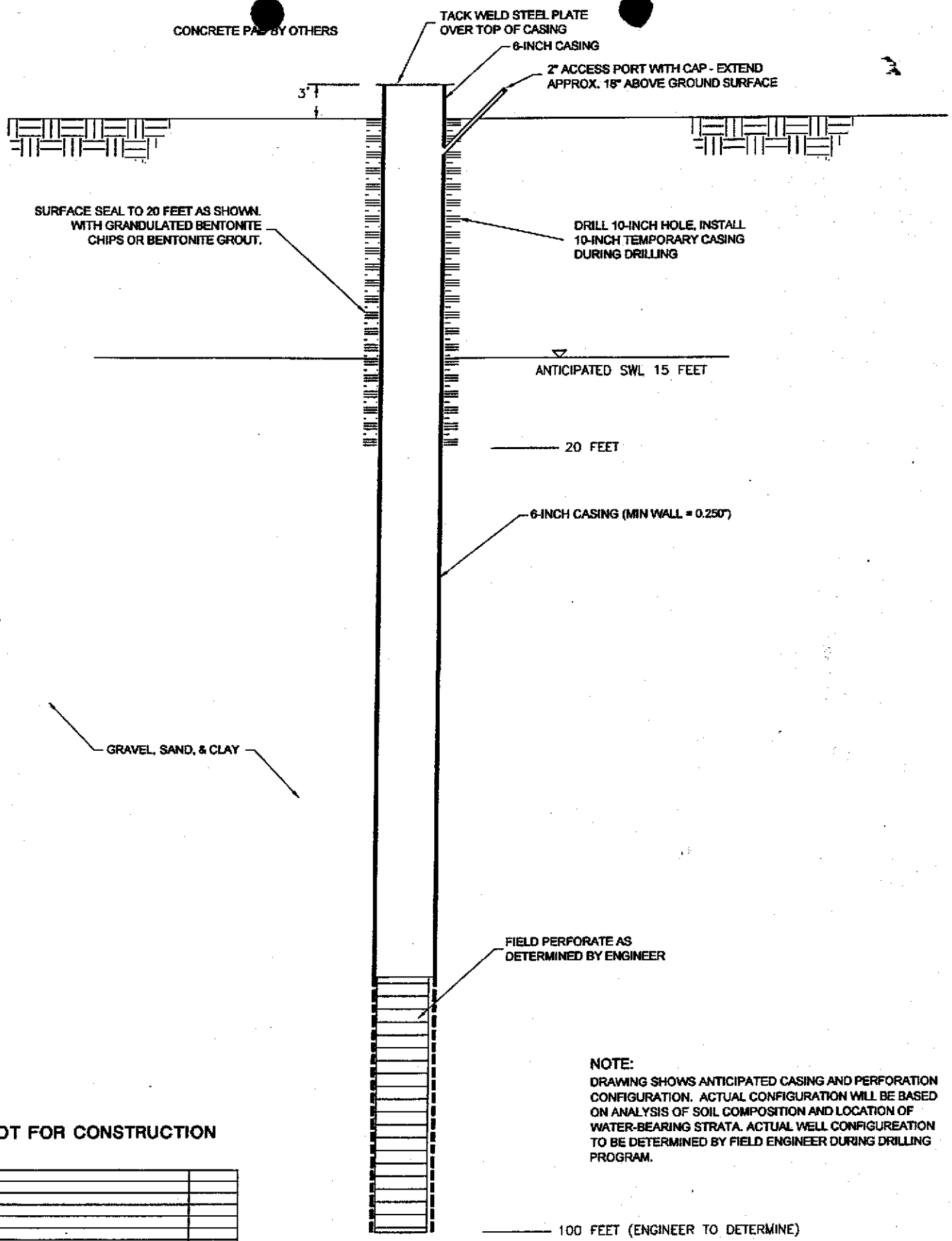
Signature of Authorized Department Representative Title

Receipt No.: _____ Receipted by: _____ Fee: _____ Date: _____

EXTENSION OF DRILLING PERMIT

Extension approved by: _____ Approval Date: _____

This extension expires: _____



NOTE:
DRAWING SHOWS ANTICIPATED CASING AND PERFORATION CONFIGURATION. ACTUAL CONFIGURATION WILL BE BASED ON ANALYSIS OF SOIL COMPOSITION AND LOCATION OF WATER-BEARING STRATA. ACTUAL WELL CONFIGUREATION TO BE DETERMINED BY FIELD ENGINEER DURING DRILLING PROGRAM.

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE

THIS DRAWING HAS BEEN PREPARED BY BROCKWAY ENGINEERING, PLLC FOR A SPECIFIC PROJECT TAKING INTO ACCOUNT THE SPECIFIC AND UNIQUE REQUIREMENTS OF THE PROJECT. REUSE OF THIS DRAWING FOR ANY PURPOSE IS PROHIBITED UNLESS WRITTEN PERMISSION FROM BOTH BROCKWAY ENGINEERING & THE CLIENT IS GRANTED.

SCALE 0"-000'
DESIGNED BY CEB
DRAWN BY ALR

BROCKWAY ENGINEERING, PLLC
HYDRAULICS - HYDROLOGY - WATER RESOURCES
2015 NORTH WASHINGTON, SUITE 4
WTIN FALLS, ID 83301
(208) 736-8543

ARIES DEVELOPMENT-BROOKWOOD SUBDIVISION

WELL SECTION & CONFIGURATION
PROPOSED NEW WELL

PROJECT # 521-01-2001
DATE 10/04/04
REV △

State of Idaho
DEPARTMENT OF WATER RESOURCES
322 East Front Street, P.O. Box 83720, Boise, ID 83720-0098
Phone: (208) 287-4800 Fax: (208) 287-6700 Web Site: www.idwr.idaho.gov.

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

March 28, 2005

ARIES DEVELOPMENT LLC
PO BOX 6887
BOISE ID 83707

RE: Application for Permit 63-31689

Gentlemen:

In review of the above application for permit and the settlement agreement signed on October 31, 2004, we find that we need a signed application for permit form that reflects the changes agreed to in the settlement agreement. Please submit the signed form to my attention at your earliest convenience.

If you have any questions, feel free to contact me at 287-4953.

Sincerely,

Kay Walker

KAY WALKER
Sr. Water Resource Agent

KW:k

Chuck Brockway called concerning delay - will pursue obtaining signed, amended app. form.
KW

IDWR STAFF MEMORANDUM
Application for Permit #63-31689
Transfer #70604
Aries Development LLC

RECEIVED
DEC - 7 2004
DEPARTMENT OF
WATER RESOURCES

From: Western Region Allocations Section
J. Westra, Manager Western Region JFW
Date: 12/3/04

RE: Applications for Permit #63-31689 & Transfer #70604
Conditional Protest Withdrawal

With regard to the Aries Development contested applications, our Allocations Section has reviewed the settlement agreement executed by the protestants and applicant. Calculations of flows and volumes have been checked and reconfirmed with the consultant, Mr. Brockway. Application #63-31689 will be amended to reflect decreased flow rate and volume. Restrictions will also be placed on well construction. No changes will take place in the point of diversion or place of use locations; therefore, the amendment should not cause injury/effect to new (3rd) parties outside the contested case.The amendment and agreement appear acceptable to the Department.

Once the applicant submits the signed amended application for permit and withdrawal agreement, our office will continue processing the applications.

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	))))))	**REQUEST FOR SUBMISSION OF IDWR STAFF MEMORANDUM**

WHEREAS IDAPA 37.01.01.600 allows the Idaho Department of Water Resources ("IDWR's") "experience, technical competence and specialized knowledge" to be used in the evaluation of evidence; and

WHEREAS IDAPA 37.01.01.602 allows a hearing officer to notice technical or scientific facts within IDWR's specialized knowledge, including agency staff memoranda and data; and

WHEREAS the hearing officer is not an employee of IDWR and has no means to utilize IDWR's experience, technical competence and specialized knowledge other than by querying IDWR;

WHEREAS a Settlement Agreement dated October 31, 2004, has been executed by the Applicant and all Protestants;

THEREFORE the hearing officer invites IDWR to present staff memoranda or other data compilations evaluating whether this Settlement Agreement should be approved without an evidentiary hearing pursuant to IDAPA 37.01.01.612 which provides:

> Settlements must be reviewed under this rule. ... [T] he presiding officer could summarily accept settlement of essentially private disputes that have no significant implication for administration of the law for persons other than the affected parties. ... [W]hen the settlement presents issues of significant implication for other persons, the presiding officer may convene an evidentiary hearing to consider settlement and whether acceptance of the settlement is consistent with the agency's charge under the law.

Any such staff memoranda or data compilations shall be submitted to the hearing officer on or before **December 31, 2004**, and served upon the parties to this matter. IDWR would be required to make relevant staff available for cross-examination at any hearing set in this matter pursuant to IDAPA 37.01.01.201 and 602.

Dated this 19th day of November, 2004.

Peter R. Anderson
Hearing Officer

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 23rd day of November, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
225 N 9TH ST STE 420
BOISE ID 83702

CHARLES HONSINGER
RINGERT CLARK
PO BOX 2773
BOISE ID 83701

MICHAEL J SIELER
EAGLE NEIGHBORS, INC.
1125 STEEPLE VIEW DR
EAGLE ID 83616

JOHN WESTRA
IDWR WESTERN REGION
2735 AIRPORT WAY
BOISE ID 83705-5082

Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

State of Idaho
DEPARTMENT OF WATER RESOURCES
322 East Front Street, P.O. Box 83720, Boise, ID 83720-0098
Phone: (208) 287-4800 Fax: (208) 287-6700 Web Site: www.idwr.idaho.gov.

DIRK KEMPTHORNE
Governor
KARL J. DREHER
Director

November 15, 2004

Michael J. Sieler
Eagle Neighbors, Inc.
1125 Steeple View Drive
Eagle, ID 83616-4757

RE: AESTHETIC USE OF GROUND WATER

Dear Mr. Sieler:

I have reviewed your letter dated November 7, 2004, that you submitted on behalf of Eagle Neighbors, Inc. ("ENI") in connection with use of ground water for aesthetic purposes. Department files show that ENI was a protestant in the matter of Application for Permit No. 63-31689 filed in the name of Aries Development, LLC. and also show that ENI subsequently entered into a settlement agreement withdrawing its protest against the application.

With respect to the matters raised in your letter, perhaps a brief review of some of the principles of water rights in Idaho might be helpful for your association. Article XV, section 3 of the Idaho Constitution provides in pertinent part as follows:

> The right to divert and appropriate the unappropriated waters of any natural stream to beneficial uses, shall never be denied, except that the state may regulate and limit the use thereof for power purposes.

Aesthetic use is one of a number of recognized beneficial uses of water in Idaho for which a water right can be developed. Section 42-203A, Idaho Code, provides that whether an application is protested or not protested, the Department must evaluate the application relative to the following criteria:

a. Whether the proposed use will reduce the quantity of water under existing water rights;
b. Whether the water supply itself is insufficient for the purpose for which it is sought to be appropriated;
c. Whether the application is made in good faith, or is made for delay or speculative purposes;
d. Whether the applicant has sufficient financial resources with which to complete the work involved therein;

e. Whether the proposed use will conflict with the local public interest;
f. Whether the proposed use is contrary to conservation of water resources within the state of Idaho; and
g. Whether the proposed use will adversely affect the local economy of the watershed or local area within which the source of water for the proposed use originates, in the case where the place of use is outside of the watershed or local area where the source of water originates.

If an application does not comply with one or more of these criteria, the Director of the Department may reject the application, may partially approve the application or may grant a permit upon conditions.

In your letter you seek to protest any future use of ground water intended for the sole use of aesthetic purposes. IDAPA 37.03.08.40.03.a.iii (Water Appropriation Rule 40.03.a.iii) reads as follows:

> General statements of protest (blanket protests) against appropriations for a particular class of use or from a particular source of water will not be considered as valid protests by the director.

Hence, the Department can't consider your letter as a protest against all future applications for permit that seek to use ground water for aesthetic purposes.

I also note in your letter that you refer to the potential contamination of ground water by pesticides, insecticides, fertilizers, roadway runoff and other contaminants. In general, this Department is charged with water administration matters relative to "quantity" rather than to water "quality" which is primarily the responsibility of the Department of Environmental Quality. This is not to say, however, that there could not be some overlap of water quality responsibility as related to the "local public interest" criterion that this Department considers in the issuance of a new water right or in a change to an existing water right.

Thank you for the interest of ENI in the use of water in your area. If you have other questions that this Department can answer, please feel free to contact us.

Sincerely,

L. GLEN SAXTON, P.E.
Administrator
Water Management Division

c: John Westra - IDWR
Peter Anderson

RECEIVED
NOV 0 8 2004
WATER RESOURCES
WESTERN REGION

RECEIVED
NOV - 9 2004
DEPARTMENT OF
WATER RESOURCES

J. Evan Robertson
ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, P.L.L.C.
Attorneys at Law
P. O. Box 1906
Twin Falls, Idaho 83303-1906
Telephone: (208) 734-0700
Facsimile: (208) 736-0041
ISB# 1801
c:\rlm\idwr\petition to apprv settlmt

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME OF ARIES DEVELOPMENT, LLC	**PETITION FOR APPROVAL OF SETTLEMENT AND DISMISSAL OF PROTESTS**

****

COMES NOW ARIES DEVELOPMENT, L.L.C. the applicant ("Applicant") in the above-captioned applications pending before the Idaho Department of Water Resources, by and through its attorney of record, J. Evan Robertson, of the firm Robertson, Hepworth, Slette, Worst & Stover, PLLC, and avers as follows:

A. That the above applications are presently pending before the Idaho Department of Water Resources, which applications have been duly protested by the following parties: The Chase Family; Eagle Neighbors, Inc.; City of Eagle; and Eagle Water Company, Inc. (collectively "Protestants").

B. The Applicant and Protestants, with the exception of Eagle Neighbors, Inc., have reached a written settlement of their differences pertaining to the above-captioned applications, a copy of which is attached hereto as Exhibit "A" ("Proposed Settlement

Agreement"), and which, by its terms, is expressly contingent upon approval of its terms and conditions by the Idaho Department of Water Resources pursuant to its applicable rules of procedure.

Based upon the foregoing, the Applicant hereby moves:

1. For approval of the Proposed Settlement Agreement;

2. Voluntary dismissal of the protests filed in this matter by those protestants who have executed the Proposed Settlement Agreement, to-wit: The Chase Family; City of Eagle; and Eagle Water Company, Inc.;

3. Involuntary dismissal of the protest filed in this matter by Eagle Neighbors, Inc.; and

4. An indefinite stay of any further proceedings in this matter until such time as the Proposed Settlement Agreement has been ruled upon.

DATED this 5th day of November, 2004.

ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, PLLC

By: _____
J. EVAN ROBERTSON

CERTIFICATE OF MAILING

I hereby certify that on this 5th day of November, 2004, I served a copy of the foregoing instrument, by depositing same in the United States mail, postage prepaid, in an envelope, addressed to the following:

Original:

Idaho Department of Water Resources
Attn: Peter R. Anderson
2735 Airport Way
Boise, Idaho 83705-5082
Facsimile 208-334-2348

Copies to:

Charles L. Honsinger
Attorney at Law
P. O. Box 2773
Boise, ID 83701
Attorney for Chase Family

Eagle Neighbors, Inc.
c/o Michael J. Sieler
1125 Steeple View Drive
Eagle, ID 83616

Tammy Zokan
City of Eagle
Moore, Smith, Buxton & Turcke, Chtd.
225 N. 9th, Ste 420
Boise, ID 83702
Attorney for City of Eagle

Molly O'Leary
Richard & O'Leary
99 E. State Street, Ste. 200
Eagle, ID 83616
Attorney for Eagle Water Co., Inc.

J. EVAN ROBERTSON

SETTLEMENT AGREEMENT

THIS AGREEMENT is made this 31st day of October, 2004, between and among **ARIES DEVELOPMENT, L.L.C.**, an Idaho limited liability company ("Applicant"), by and through its attorney of record, J. EVAN ROBERTSON; and the following entities (hereinafter referred to collectively as "Protestants"): **EAGLE WATER COMPANY, INC.**, by and through its attorney of record, MOLLY O'LEARY; **CITY OF EAGLE, IDAHO**, by and through its attorney of record, TAMMY ZOKAN; **EAGLE NEIGHBORS, INC.** (formerly Homeowners of Downing Downs Subdivision), by and through its appointed agent, MICHAEL J. SEILER; and **THE CHASE FAMILY**, by and through their attorney of record, CHARLES L. HONSINGER.

RECITALS:

A. Applicant is the owner and developer of the Brookwood Subdivision ("Brookwood").

B. Brookwood contains certain aesthetic water features including a series of small streams and ponds, as shown generally on Figure 1 prepared by Brockway Engineering, PLLC, dated February 14, 2002, a copy of which is attached hereto as **Exhibit "A"** ("Water Features").

C. In connection with the Water Features, the Applicant has heretofore filed and has pending before the Idaho Department of Water Resources an application for a permit to appropriate ground water (Permit Application No. 63-31689) and an application for transfer of a portion of an existing water right (Transfer No. 70604/Claim No. 63-5087), which are collectively hereinafter referred to as "Applications".

D. The Protestants have duly filed protests of the Applications with the Idaho Department of Water Resources, and a hearing on the Applications and protests is pending.

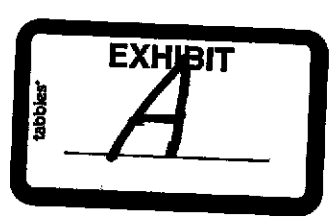
E. In an effort to resolve the above-referenced protests, the parties hereto have negotiated the terms and conditions of this Settlement Agreement.

NOW, THEREFORE, the parties hereto, agree as follows:

1. This Agreement, and all the terms and conditions hereinafter set forth, shall become effective only upon the full execution of this Agreement by all of the parties named herein, and its approval by the Idaho Department of Water Resources.

2. The Applicant agrees to line Pond No. 5 of the Water Features with betonite and compacted earth to specifications approved by Brockway Engineering, PLLC. The location of Pond No. 5 is identified on Exhibit "A" hereto.

3. The above-referenced Application for Permit No. 63-31689 shall be amended by the submittal of a new Application for Permit in its stead, a copy of which is attached hereto as **Exhibit "B"**. Applicant agrees that said new Application for Permit, and the above-referenced Application for Transfer of Water Right No. 70604, if approved by the Idaho Department of Water Resources, shall limit the total ground water diversion rate and annual volume of water for the Water Features



from both Applications, and he proposed well to be drilled in Brookwood in connection therewith, as follows:

(a) Maximum total diversion rate - 80 gpm. (.18 cfs)
(b) The maximum annual volume of water diverted - 40 acre feet
(c) Maximum well depth - 100 feet
(d) Maximum well size - 6 inch diameter

4. Immediately upon full execution of this Agreement, the Applicant shall submit a copy of it, including attachments, to the Idaho Department of Water Resources for its review and approval. Should the Department approve, the Applicant shall formally submit, in lieu of Application for Permit No. 63-31689, the new Application for Permit in the form attached hereto as Exhibit "B".

5. Upon the formal submittal of said new Application for Permit, and its assignment of an identification number by the Idaho Department of Water Resources, Applicant shall provide Protestants with evidence thereof, upon the receipt of which the Protestants shall formally withdraw their existing protests, and agree not to thereafter file, support or participate in any further protests of Applicant's applications to divert ground water for the Brookwood Water Features consistent with the limitations set forth in paragraph 3 hereinabove.

6. This Agreement shall be construed under the laws of the State of Idaho. Should any action be brought to interpret or enforce any provision hereof, or for damages for breach hereof, the prevailing party shall be entitled to recover all attorney's fees and costs wherein such action is brought, including all attorney's fees and costs on appeal.

7. The parties hereby declare that the terms of this Agreement have been completely read and are fully understood and voluntarily accepted. The parties acknowledge that they enter into this Agreement without any coercion, threats or duress. All of the parties fully understand all of the provisions of this Agreement, and believe them to be fair, just, adequate and reasonable, and accordingly accept the provisions of this Agreement freely and voluntarily.

8. This Settlement Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, and all of which together will constitute one and the same instrument. Facsimile signatures shall be deemed as originals thereof.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first written above.

"APPLICANT"

ARIES , L.L.C.

By: _____
J. Evan Robertson
Attorney of Record

"PROTESTANTS"

EAGLE WATER COMPANY, INC.

By:_____
Molly O'Leary
Attorney of Record

CITY OF EAGLE, IDAHO

By:_____
Tammy Zokan
Attorney of Record

EAGLE NEIGHBORS, INC.
f/k/a Homeowners of Downing Downs Subd.

By:_____
Michael J. Sieler
Its: _____

THE CHASE FAMILY

By:_____
Charles L. Honsinger
Attorney of Record

!rlm\settlement agree Aries_water

"PROTESTANTS"

EAGLE WATER COMPANY, INC.

By:_____
Molly O'Leary
Attorney of Record

CITY OF EAGLE, IDAHO

By: Nancy G. Merrill
Nancy G. Merrill, Mayor

ATTEST:

Sharon K Bergmann
Sharon Bergmann, City Clerk

CITY OF EAGLE CORPORATE SEAL INCORPORATED 1971 STATE OF IDAHO

EAGLE NEIGHBORS, INC.
f/k/a Homeowners of Downing Downs Subd.

By:_____
Michael J. Sieler
Its: _____

THE CHASE FAMILY

By:_____
Charles L. Honsinger
Attorney of Record

!rlm\settlement agree Aries_water

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By: _____
Molly O'Leary
Attorney of Record

CITY OF EAGLE, IDAHO

By: _____
_____, Mayor

ATTEST:

_____
_____, City Clerk

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f/k/a Homeowners of Downing Downs Subd.

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Michael J. Sieler
Its: _____

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lrlm\settlement agree Aries_water

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By: _____
Michael J. Sieler
Its: _____

THE CHASE FAMILY

By: _____
Charles L. Honsinger
Attorney of Record

!rlm\settlement agree Aries_water

FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.8 0 338.6 677.2 Feet

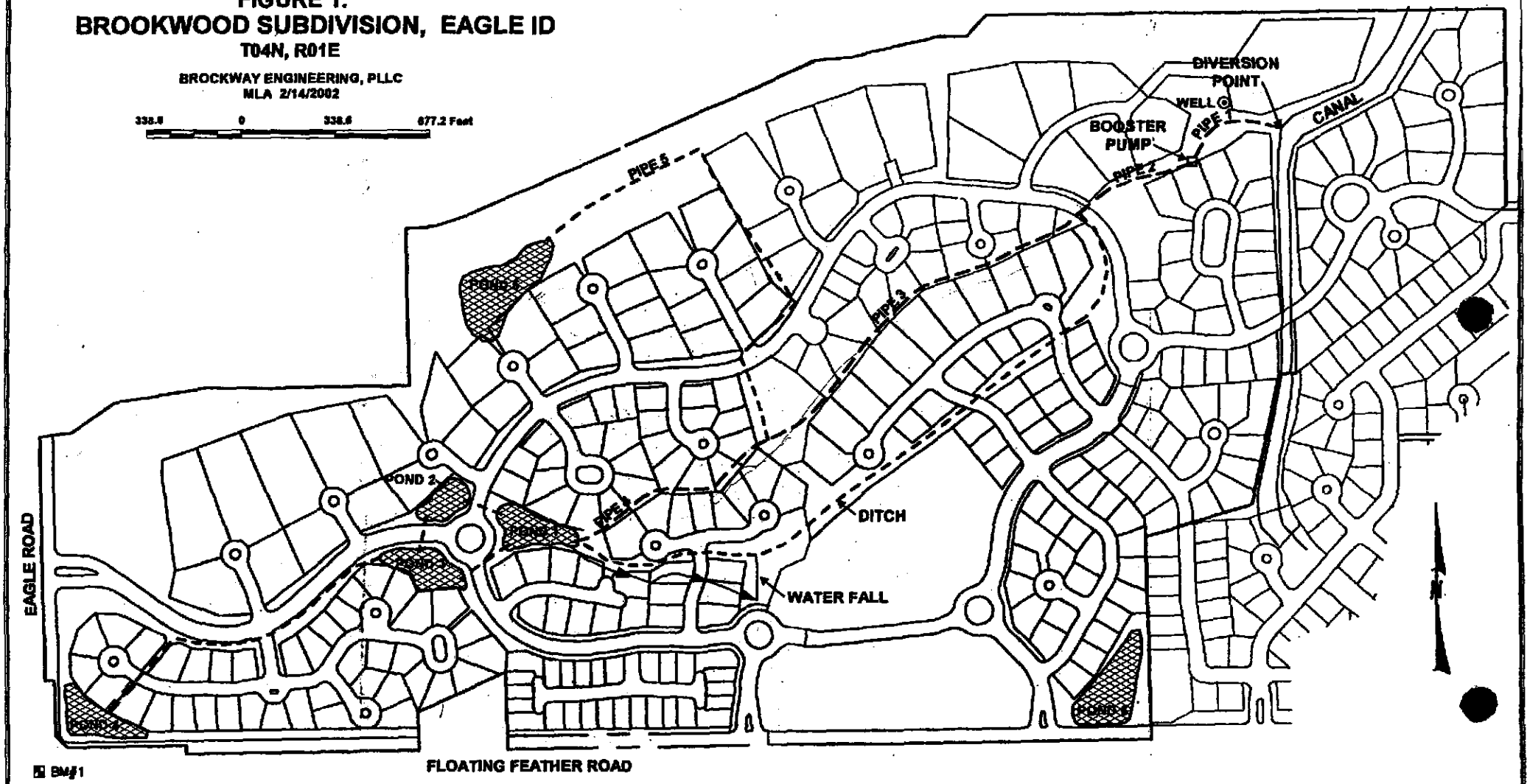


EXHIBIT A

Form 202
1/96

Ident. No. _____

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR PERMIT

To appropriate the public waters of the State of Idaho

1. Name of applicant Aries Development L.L.C Phone 208-336-2200
   Post Office address P.O. Box 6887 Boise, ID 83707
2. Source of water supply Ground water which is a tributary of _____
3. Location of point of diversion is _____ 1/4 of NE 1/4 of SE 1/4, Govt. Lot _____
   Sec. 4 Township 4N Range 1E B.M. Ada County; additional points of diversion, if any: _____
4. Water will be used for the following purposes:
   Amount 0.18 cfs (cfs or acre-feet per annum) for Aesthetics purposes from 1-1 to 12-31 (both dates inclusive)
   Amount 40 af* (cfs or acre-feet per annum) for Storage purposes from 1-1 to 12-31 (both dates inclusive)
   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)
   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)
5. Total quantity being appropriated is (a) 0.18 (cubic feet per second) and/or (b) 40* (acre-feet per annum)
6. Proposed diverting works:
   a. Description of ditches, flumes, pumps, headgates, etc. *Limit of annual pumped volume. Pond system volume is 60.7 acre feet. Well and pipe/ditch distribution to ponds within Brookwood Subdivision. See attached narrative
   b. Height of storage dam 0 feet; active reservoir capacity _____ acre-feet; total reservoir capacity 60.7 acre-feet; period of year when water will be diverted to storage: 1/1 to 12/31 inclusive.
   c. Proposed well diameter is 6 inches; proposed depth of well is 100 feet
   d. Is groundwater with a temperature of greater than 85 degrees being sought? No
   e. If well is already drilled, when? _____; Drilling firm _____;
      Well was drilled for *(well owner)* _____
7. Time required for completion of works and application of water to proposed beneficial use is 5 years *(minimum 1 year)*
8. Description of proposed uses (if irrigation only, go to item 9):
   a. Hydropower; show total feet of head and proposed capacity in KW. _____
   b. Stockwatering; list number and kind of livestock. _____
   c. Municipal; show name of municipality. _____
   d. Domestic; show number of households _____;
   e. Other; describe fully. Ground water for wintertime maintenance of aesthetic ponds and mitigation for evaporation See attached narrative

EXHIBIT B

9. Description of place of use:

a. If water is for irrigation, indicate acreage in each subdivision in the tabulation below.

b. If water is used for other purposes, place a symbol of the use (example: D for Domestic) in the corresponding place of use below. See instructions for standard symbols.

TWP	RANGE	SEC	NE 1/4				NW 1/4				SW 1/4				SE 1/4				TOTALS
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	
4N	1E	4									A		A	A	A	A	A	A	

Total number of acres to be irrigated _____

10. Describe any other water rights used for the same purposes as described above. Canal shares for irrig. Transfer from stockwater right 63-5087 for mitigation of pond evaporation

11. a. Who owns the property at the point of diversion? Applicant

b. Who owns the land to be irrigated or place of use? Applicant

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing: _____

12.. Remarks: See attached narrative and mitigation plan

13. MAP OF PROPOSED PROJECT ATTACHED _____ show clearly the proposed point of diversion, place of use, section number, township and range number.

BE IT KNOWN that the undersigned hereby makes this application for permit to appropriate the public waters of the State of Idaho as herein set forth.

_____

(Applicant)

Received by _____ Date _____ Time _____ Preliminary check by _____

Fee $ _____ Receipted by _____ # _____ Date _____

Publication prepared by _____ Date _____ Published in _____

Publication approved _____ Date _____

Narrative in Support of Revised Application for Permit

Brookwood Subdivision Exchange Well
Aries Development L.L.C.
by Brockway Engineering P.L.L.C.

October 3, 2004

Brookwood is a 382 unit subdivision located in Section 4, T 4N R 1E Boise Meridian north of Eagle, Idaho. This subdivision, located on bottom land and bench areas of Dry Creek, is being developed on irrigated farmland served by the Farmers Union Canal. The Farmer's Union Canal is the east boundary of the subdivision and the historical irrigation diversion from the canal will continue to serve the irrigation requirements for a pressure irrigation system serving all lots and common areas. Domestic water is provided by the municipal system of the City of Eagle.

The subdivision will include water amenities including six (6) multi-purpose ponds providing irrigation storage and aesthetic benefits, Figure 1. The ponds serve as storage for diversions of shares from the canal system during the irrigation season and will be supplemented by ground water provided from a small exchange well during the non-irrigation season.

The purpose of this Application is to obtain a permit for a well to provide water for maintenance of the pond and ditch system. Year round evaporation from the aesthetic/recreational ponds will be mitigated by transfer of a portion of water right 63-5087 from a feedlot owned by the applicant. No mitigation for evaporation from the irrigation/storage ponds is contemplated.

Figure 1 shows the plat of the subdivision, canal diversion, distribution system and the six (6) ponds. Ponds 1,2,3, and 4 are lined with bentonite and compacted earth and Pond 6 is lined with a membrane liner. Pond 5 was lined in 2004 with a bentonite liner. During the non-irrigation season, the pond levels will be maintained with ground water pumped as necessary.

Brookwood owns 11 shares in the Farmer's Union Canal. Each share represents 11 miner's inches of discharge so the canal discharge available to the project is 121 miner's inches or 2.42 cfs. Historically, 186.0 acres have been irrigated on the Brookwood property from the canal, see Figure 2.

The project plan includes 382 single family lots with approximately 50 acres of common area. Irrigation of landscaping and turf on each lot and the common area will be from a pressure distribution system with two booster pumps from the pipe/pond system. The upper booster is located near the canal diversion, and the lower booster diverts from Pond 1 near the west end of the subdivision. Based on the average lot size of 0.22 acres, a residence footprint and paved area of 4200 square feet, the irrigated area on each lot is estimated to be 0.12 acres. For the 382 residences the irrigated area is therefore 45.8 acres. The total irrigated area is therefore 50 + 45.8 or 95.8 acres.

Ponds 1,2, and 3 are utilized as irrigation storage and are tied together hydraulically. The pumping plant for the irrigation system is located at the southwest corner of Pond 1. Ponds 4, 5, and 6 are off-line ponds and are primarily recreational; however, Pond 4 does provide storage for waste water which would normally flow off the property at the corner of Eagle Road and Floating Feather Road. The combined area of ponds 4,5, and 6 is 3.69 acres. The six ponds are designed with an average surface area of 5.17 acres and a volume of 60.7 acre feet.

A model of the pipe, ditch and pond system was prepared to simulate the operation of the system during the irrigation season and evaluate the various components of the water balance. A summary of the spreadsheet model results is attached to this narrative.

Evapotranspiration for the project was determined using procedures outlined in Allen and Brockway, 1983, using the Boise WSO AP station meteorological and Et data. Free water surface evaporation was determined using procedures outlined in 'Monthly Shallow Pond Evaporation in Idaho by Molnau, Kpordze, and Craine, 1992. ASAE paper PNW 92-111.

The lined ponds and ditch were estimated to have operating loss rates of 0.005 ft/day (1/16 in).

The pond model indicates that the system can operate during the irrigation season utilizing the 0.18 cfs inflow from the exchange well with irrigation demand furnished from the canal. The total seepage through all ponds during the irrigation season is estimated to be 0.011 cfs. Evaporation from the pond system during the irrigation season is 16.2 acre feet which includes all ponds and ditches used for irrigation storage and recreation/aesthetics.

The total consumptive use of the project including turf and landscape irrigation, pond evaporation, and residential in-house consumptive use (not provided by the irrigation system) is 258 af/year whereas the pre-project consumptive use from crop irrigation on 185.96 acres is 489 acre feet per year.

Infiltration back to the aquifer through the pond system is estimated at 4.0 acre feet during the irrigation season and 4.0 acre feet during the non-irrigation season. Ground water extraction from the exchange well required to maintain pond seepage and evaporation is estimated at an average of 20.7 acre feet and a maximum of 40 acre feet..

The maximum required discharge from the exchange well is 80 gpm or 0.178 cfs.

The water balance and pond model indicates that pumping from an exchange well on the project of not-more-than 40 acre feet during the non-irrigation season at a rate of 0.178 cfs will maintain pond water levels. Current and any future consumptive use from the pond system will be mitigated. Evaporation from the ponds will be mitigated by transfer of 0.04 cfs and 14 af of ground water under water right 63-5087. The 14 af/a is the calculated evaporation from open water surfaces associated with the non-irrigation ponds during the irrigation season and all ponds during the non-irrigation season. Water right 63-5087 is a stockwater right located in the NE1/4 NW1/4 Sec 3 T 4N R1W in Ada County.

The proposed exchange well would be located near the canal diversion so that discharge can be integrated into the entire distribution system. The aquifer underlying the area is

composed of alluvial sand and gravels with a hydraulic conductivity estimated at 40 ft/day based on well driller's logs in the area. The well will be designed to extract water from the upper water bearing zone which is estimated to be not more than 100 feet below ground surface. An estimate of the draw down from a 6 inch diameter well pumping 0.178 cfs was estimated using a Theis analysis assuming continuous pumping for a 40 day period from the aquifer with an estimated depth of 100 feet. The Theis analysis output is on the spreadsheet included the Appendix. This analysis shows the estimated draw down at 100 feet from the pumped well of 1.68 feet and a draw down of 0.21 feet at 1320 feet from the well. This analysis assumes no return of water to the aquifer through seepage from ponds. The nearest well to the exchange well is approximately 1200 feet. Operation of the pumped well will not significantly affect aquifer water levels in the area.

During the non-irrigation season operation of the exchange well, a maximum of 80 gpm (0.178 cfs) will be pumped from the well. The pond water levels will be maintained in all ponds and the seepage back into the aquifer from all ponds will return to the aquifer system so that impact will not be significant.

Aries Development L.L.C. members are: Mike Hormachea, Amy Wray, Richard Hormachea, and the Hormachea Grandchildren's Trust.

Well Interference Analysis Brookwood Proposed Exchange Well

Estimated Well Drawdown
Revised 7/9/2004 80 gpm well

C.E. BROCKWAY February 12, 2002 Brockway Engineering P.L.L.C.
AQUIFER PROPERTIES BASED ON USBR GROUNDWATER M[redacted]L-ALLUVIAL SAND AND GRAVEL
AND LOCAL WELL DRILLER'S LOGS
EST. HOLE DIA. 6 INCHES

Pond5Pond5Lined

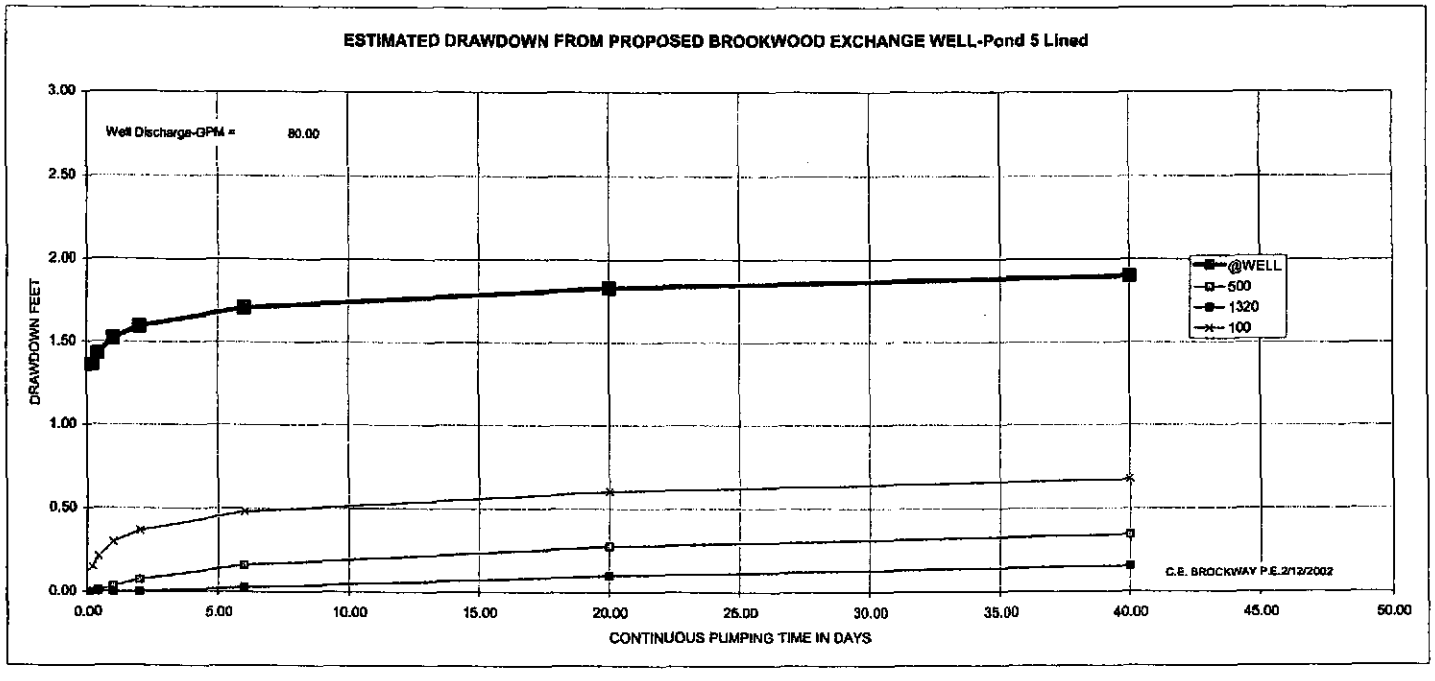
USING THEIS FORMULA S=114.6*Q/T*W(U)
S= DRAWDOWN IN FT
Q= PUMPING RATE GPM
T= COEFFICIENT OF TRANSMISSIBILITY GPD/FT
W(U)= WELL FUNCTION OF 'U'

W(U)=-.5772-LOGeU +U-U^2/(2*2!)+U^3/(3*3!)-U^4/(4*4!) .....
U=1.87*r^2*S/(T*t)
r=DISTANCE IN FT. FROM CENTER OF PUMPED WELL TO DRAWDOWN POINT
S=COEFFICIENT OF STORAGE
T=COEFFICIENT OF TRANSMISSIBILITY, GPD/FT
t= TIME SINCE PUMPING STARTED, DAYS
PUMPING WELL

r1=	0.250 FT	K=	40.00	FT/DAY	
r2=	100 FT	K=	0.000462963	CFS/FT^2	
r3=	500 FT	K=	2.98E+02	GPD/FT^2	
r4=	1320 FT	SAT. DEPTH EST.=	300	FT	
r5=	5280 FT	TRANSMISSIVITY=	89520	GPD/FT	
S=	0.15	TRANSMISSIVITY=	1.39E-01	FT^2/SEC	
T=	89520 GPD/FT	TRANSMISSIVITY=	11967.9	FT^2/DAY	
Q/WELL	80.00 GPM =	0.178 CFS			

TIME HOURS	TIME t DAYS	U w/r1 0.25	WELL FUNCT. W(U)1	DRAW DOWN @WELL	SPEC. CAP GPM/FT	U W/r2 100	WELL FUNCT. W(U)2	DRAW DOWN @ 100	U W/r3 500	WELL FUNCT. W(U)3	DRAW DOWN @ 500	U W/r4 1320	WELL FUNCT. W(U)4	DRAW DOWN @ 1320
5	0.21	9.400E-07	13.3002	1.36	59	1.504E-01	1.4622	0.15	3.760E+00	0.0013	0.00	2.621E+01	0.0000	0.00
10	0.42	4.700E-07	13.9933	1.43	56	7.520E-02	2.0842	0.21	1.880E+00	0.0578	0.01	1.310E+01	0.0000	0.00
24	1.00	1.958E-07	14.8688	1.52	53	3.133E-02	2.9169	0.30	7.833E-01	0.3201	0.03	5.460E+00	0.0000	0.00
48	2.00	9.792E-08	15.5619	1.59	50	1.567E-02	3.5946	0.37	3.917E-01	0.7166	0.07	2.730E+00	0.0184	0.00
144	6.00	3.264E-08	16.6805	1.71	47	5.222E-03	4.6828	0.48	1.306E-01	1.5852	0.16	9.099E-01	0.2558	0.03
480	20.00	9.792E-09	17.8645	1.83	44	1.567E-03	5.8832	0.60	3.917E-02	2.7015	0.28	2.730E-01	0.9766	0.10
960	40.00	4.896E-09	18.5577	1.90	42	7.833E-04	6.5755	0.67	1.958E-02	3.3754	0.35	1.365E-01	1.5463	0.16

HOURS	DAYS	@WELL	100	500	1320 DISTANCE FEET
0	0.00	0	0	0	0
5	0.21	-1.36	-0.15	0.00	0.00
10	0.42	-1.43	-0.21	-0.01	0.00
24	1.00	-1.52	-0.30	-0.03	0.00
48	2.00	-1.59	-0.37	-0.07	0.00
144	6.00	-1.71	-0.48	-0.16	-0.03
480	20.00	-1.83	-0.60	-0.28	-0.10
960	40.00	-1.90	-0.67	-0.35	-0.16



600 0 600 1200 1800 2400 Feet

N
W E
S

Figure 2.
Brookwood Subdivision
Irrigated Acreage

Property Boundary

Irrigated Acreage
Overall Acreage = 185.92

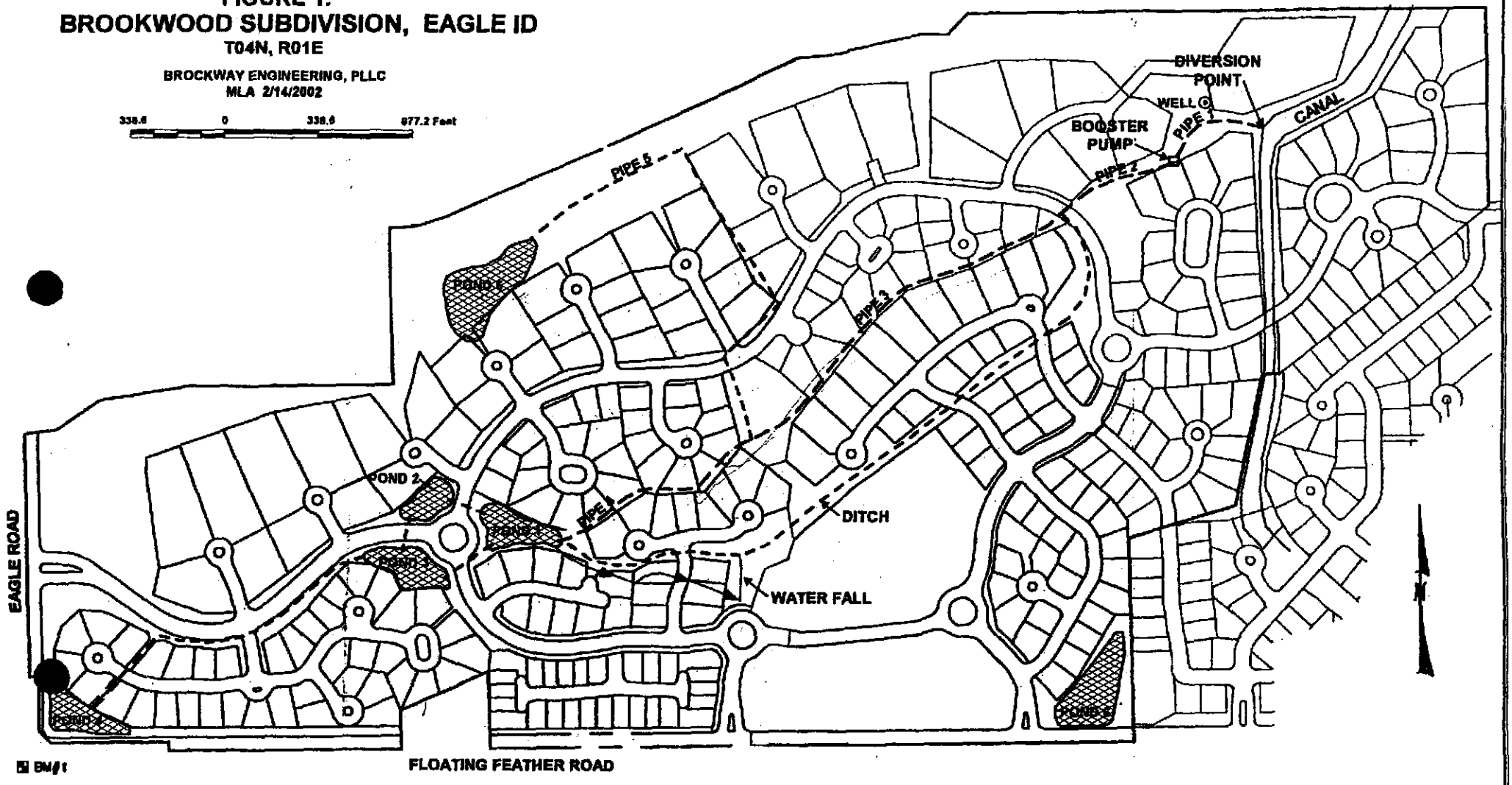
Brockway Engineering, PLLC
MLA 5/28/2002

FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID

T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet



BROOKWOOD SUBDIVISION WATER REQUIREMENTS
POND EVAPORATION MITIGATION* REVISED

		IRRIGATION SEASON 180 DAYS	NON IRRIGATION 185 DAYS
MAX EVAP RATE in/day		0.230323 x.07	0.081
	AREA acres	POND EVAPORATION AF/DAY	
POND 1	0.48		0.003
POND 2	0.34		0.002
POND 3	0.53		0.004
POND 4	0.46	0.01	0.003
POND 5	2.07	0.04	0.014
POND 6	1.16	0.02	0.008
Total	5.04		
Ponds 4,5,6	3.69		
TOTAL AF/DAY		0.07	0.034
TOTAL CFS		0.04	0.017
TOTAL GPM		16.04	7.741
TOTAL MINERS IN.		1.79	0.862
SEASON EVAP IN.		33.60	8.820
TOTAL VOL AF		10.32	3.705
ANNUAL VOL AF			14.03
FOR EVAP MITIGATION	IN.	1.79	0.86
	AF	10.32	3.71
TOTAL EVAP MITIGATION			14.03

MITIGATION OF EVAPORATION FROM PONDS 1,2, AND 3 IS REQUIRED ONLY IN THE WINTER TIME SINCE THESE PONDS ARE PART OF THE IRRIGATION SYSTEM. PONDS 4,5, AND 6 ARE NOT PART OF THE IRRIGATION SYSTEM AND EVAPORATION FROM THESE SURFACES CONSTITUTES ADDITIONAL CONSUMPTIVE USE WHICH WOULD BE MITIGATED WITH THE TRANSFER OF A PORTION OF GROUND WATER RIGHT

POND SEEPAGE* REVISED

		IRRIGATION SEASON 180.00 DAYS	NON IRRIGATION 185.00 DAYS
	Seepage Rate cfs	POND SEEPAGE AF/DAY	
POND 1	0.001		0.002
POND 2	0.001		0.002
POND 3	0.002		0.003
POND 4	0.001	0.002	0.002
POND 5	0.006	0.011	0.011
POND 6	0.001	0.001	0.001
Total	0.011		
Ponds 4,5,6	0.007		
TOTAL AF/DAY		0.015	0.022
TOTAL CFS		0.007	0.011
TOTAL GPM		3.314	4.990
TOTAL MINERS IN.		0.369	0.556
TOTAL ANNUAL VOL AF		2.632	4.072
ANNUAL VOL AF			6.704

Brookwood Subdivision — C.E. Brockway 7/12/2004

Estimated Design Parameters-Pond 5 Lined

Max Summertime Evap loss	16.04	gpm for Ponds 4,5,6	required by water right for mitigation
Summertime Seepage Loss	33.21	gpm for Ponds 4,5,6	This could likely be made up from shares
Total	49.25		
Max Non-Irrig Evap Loss	7.74	gpm all ponds	Needed to keep ponds full
Max Non-Irrig seepage loss	4.69	gpm all ponds	Needed to keep ponds full
Total	12.43		
Est. discharge for evap=	16.04	gpm	
Est dischrge for seepage	33.21	gpm	
Est. design smaller well	49.25	gpm	
Safety Factor	1.65		
Recommended well discharge	81.26	gpm	**Use 80 gpm for well-maximum diversion rate**

Annual Volume Requirement			
Yearly Evap	14.03	af	
Yearly est seepage	6.70	af	Ponds 4,5,6 summer. All ponds winter
Total Est seepage	20.73	af/year	
Est Design Volume	34.21	af/year	**Use 40 af/year**

Form 235-1
1/31/03

Drilling Permit No.: _____
Drilling Permit I.D. Tag No.: _____
Water Right Permit No.: _____
Injection Permit No.: _____

State of Idaho
Department of Water Resources

APPLICATION FOR DRILLING PERMIT
(FOR THE CONSTRUCTION OF A WELL)

1. **Owner (please print):** Aries Development LLC

2. **Mailing Address:** P.O. Box 6887

   City: Boise **State:** ID **Zip Code:** 83707 **Telephone:** (208) 939-2552

3. **Proposed Well Location:** Twp. 04N, Rge. 01E, Sec. 4, ____ ¼, NE ¼, SE ¼;

   Gov't Lot No. _____ County Ada Lat. ____: ____: ____ Long. ____: ____: ____

   Street Address of Well Site 1/3 mile North of Floating Feather Road City Eagle
   Give at least name of road + Distance to Road or Landmark

   Lot, block and subdivision Brookwood Subdivision

4. **Proposed Use of Well:**

   ☐ DOMESTIC: The use of water fro homes, organization camps, public campgrounds, livestock and for any other purpose in connection therewith, including irrigation of up to ½ acre of land, if the total use is not in excess of 13,000 gpd; or any other uses, if the total use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

   Domestic does not include water for multiple ownership subdivisions, mobile home parks, commercial or business establishments, unless the use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

   NON-DOMESTIC: ☐ Irrigation ☐ Municipal ☐ Industrial
   ☐ Livestock ☐ Test ☒ Other: Aesthetic pond mitigation (Describe)
   Type _____ # Head _____

   ☐ INJECTION

   ☐ MONITORING: A well bore schematic and map is required for each blanket permit. No. of proposed wells: ____

5. **Well Construction Information:**

   A. ☒ New Well ☐ Modify ☐ Replace

   B. Proposed Casing Diameter 6 Proposed Maximum Depth 100

   C. Anticipated bottom hole temperature:
   ☒ 85°F or less (Cold Water Well) ☐ 85°F to 212°F (Low Temp. Geo. Well) ☐ 212°F or more (Geothermal Well)

6. **Construction Start Date:** October 2004

7. **Anticipated Well Driller:** TBD Driller's Lic. No. _____
   NOTE: The actual well driller must be identified prior to drilling.

8. **Applicant's Signature:** Charles E. Brockway Date: 10/07/04

   Address (if different than owner): Brockway Engineering PLLC, 2016 Washington Street North, Suite 4

   City: Twin Falls State: ID Zip Code: 83301 Telephone: 208-736-8543

   Title: Charles E. Brockway, Engineer (Owner Representative)
   (Owner, Firm Representative, Other)

ACTION OF THE DEPARTMENT OF WATER RESOURCES

This Permit is _____. Date: _____

If approved, this permit authorizes the construction of modification of a well subject to the following conditions. **READ CAREFULLY!**

GENERAL CONDITIONS:

1. This drilling permit is valid for two (2) months from the above approval date for the start of construction and is valid for one (1) year from the approval date for completion of the well unless an extension has been granted.
2. This permit does not constitute an approval of the District Health Department or the Idaho Department of Health and Welfare, which may be required before construction of the well. All wells must be drilled a minimum distance of 100 feet from a drain field. Domestic and Public Water Supply wells must be drilled a minimum of 50 feet and 100 feet respectively from a septic tank.
3. The well shall be constructed by a driller currently licensed in the State of Idaho who must maintain a copy of the drilling permit at the drilling site.
4. Approval of this drilling permit does not authorize trespass on the land of another party.
5. This permit does not represent a right to divert and use the water of the State of Idaho.
6. This drilling permit does not represent a right to divert and use the water of the State of Idaho.
7. If a bottom hole temperature of 85° or greater is encountered, well construction shall cease and the well driller and the well owner shall contact the Department immediately.
8. Idaho Code, S 55-2201 – 55-2210 requires the applicant and/or his contractors to contact "DigLine" (DigLine is a one-call center for utility notification) not less than 2 working days prior to the start of any excavation for this project. The "DigLine" number for your area is 1-800-342-1585.
9. Please be advised that this drilling permit should be considered and treated as a preliminary permit. If you are in disagreement with this preliminary permit you have fourteen (14) days of the service date of this permit to petition the Department for reconsideration pursuant to Section 67-5243, Idaho Code.
10. The well tag for the drilling permit/start card shall be securely and permanently attached to the well casing through welding or by the use of four closed and domed stainless steel pop rivets. The tag attachment will be done at the time of completion of the well, and prior to removing the drill rig from the drill site.

SPECIFIC CONDITIONS:

_____ _____

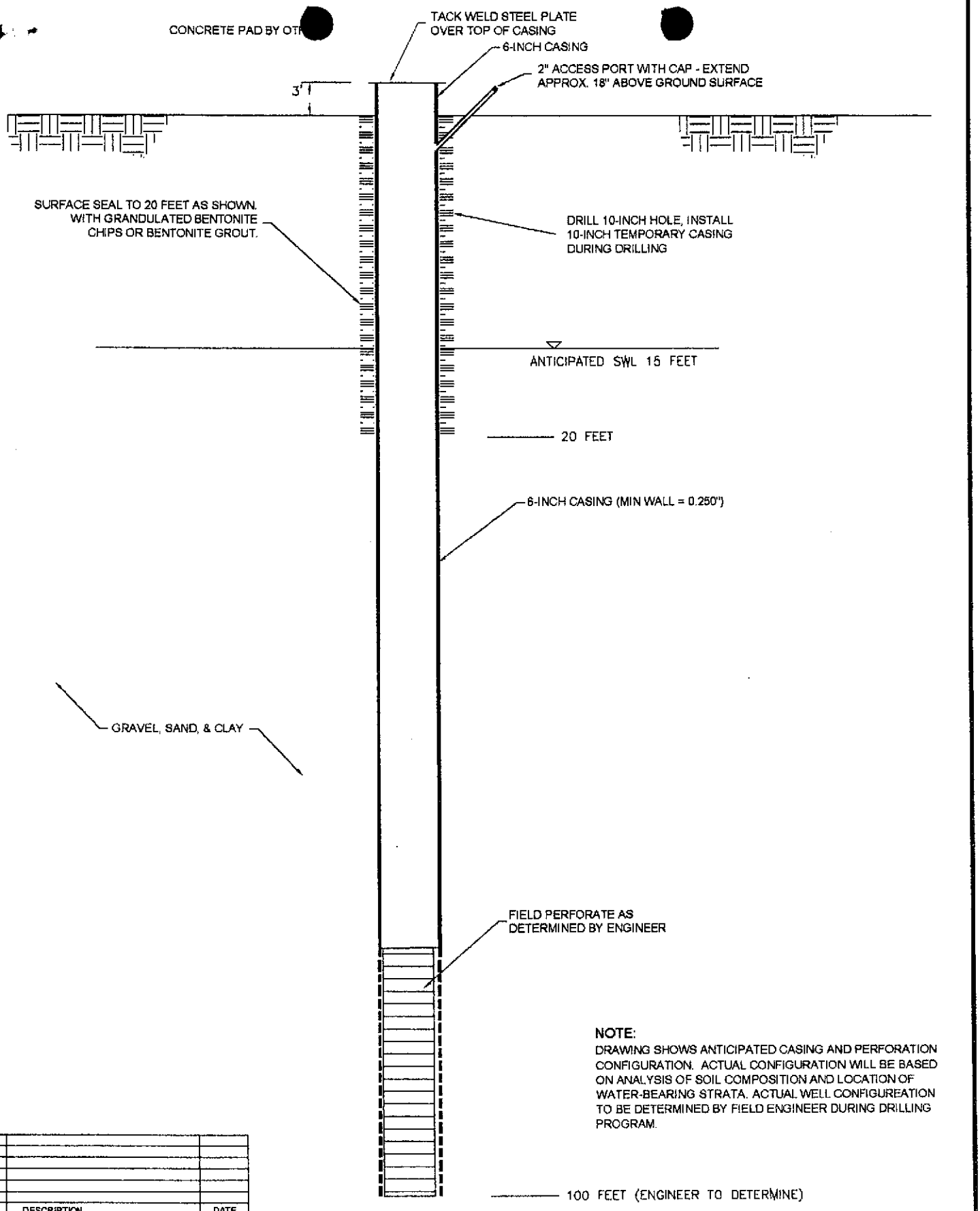
Signature of Authorized Department Representative Title

Receipt No.: _____ Receipted by: _____ Fee: _____ Date: _____

EXTENSION OF DRILLING PERMIT

Extension approved by: _____ Approval Date: _____

This extension expires: _____



NOTE:
DRAWING SHOWS ANTICIPATED CASING AND PERFORATION CONFIGURATION. ACTUAL CONFIGURATION WILL BE BASED ON ANALYSIS OF SOIL COMPOSITION AND LOCATION OF WATER-BEARING STRATA. ACTUAL WELL CONFIGUREATION TO BE DETERMINED BY FIELD ENGINEER DURING DRILLING PROGRAM.

REV	DESCRIPTION	DATE

THIS DRAWING HAS BEEN PREPARED BY BROCKWAY ENGINEERING, PLLC FOR A SPECIFIC PROJECT TAKING INTO ACCOUNT THE SPECIFIC AND UNIQUE REQUIREMENTS OF THE PROJECT. REUSE OF THIS DRAWING FOR ANY PURPOSE IS PROHIBITED UNLESS WRITTEN PERMISSION FROM BOTH BROCKWAY ENGINEERING & THE CLIENT IS GRANTED.

SCALE 0"-000'
(8.5 X 11 SHEET)

DESIGNED BY
CEB

DRAWN BY
ALR

BROCKWAY ENGINEERING, PLLC
HYDRAULICS - HYDROLOGY - WATER RESOURCES
2016 NORTH WASHINGTON, SUITE 4
WTIN FALLS, ID 83301
(208) 736-8543

ARIES DEVELOPMENT-BROOKWOOD SUBDIVISION

WELL SECTION & CONFIGURATION
PROPOSED NEW WELL

PROJECT #
521-01-2001

DATE
10/04/04

REV
△

SETTLEMENT AGREEMENT

THIS AGREEMENT is made this _____ day of October, 2004, between and among **ARIES DEVELOPMENT, L.L.C.**, an Idaho limited liability company ("Applicant"), by and through its attorney of record, J. EVAN ROBERTSON; and the following entities (hereinafter referred to collectively as "Protestants"): **EAGLE WATER COMPANY, INC.,** by and through its attorney of record, MOLLY O'LEARY; **CITY OF EAGLE, IDAHO,** by and through its attorney of record, TAMMY ZOKAN; **EAGLE NEIGHBORS, INC.** (formerly Homeowners of Downing Downs Subdivision), by and through its appointed agent, MICHAEL J. SEILER; and **THE CHASE FAMILY**, by and through their attorney of record, CHARLES L. HONSINGER.

RECITALS:

A. Applicant is the owner and developer of the Brookwood Subdivision ("Brookwood").

B. Brookwood contains certain aesthetic water features including a series of small streams and ponds, as shown generally on Figure 1 prepared by Brockway Engineering, PLLC, dated February 14, 2002, a copy of which is attached hereto as **Exhibit "A"** ("Water Features").

C. In connection with the Water Features, the Applicant has heretofore filed and has pending before the Idaho Department of Water Resources an application for a permit to appropriate ground water (Permit Application No. 63-31689) and an application for transfer of a portion of an existing water right (Transfer No. 70604/Claim No. 63-5087), which are collectively hereinafter referred to as "Applications".

D. The Protestants have duly filed protests of the Applications with the Idaho Department of Water Resources, and a hearing on the Applications and protests is pending.

E. In an effort to resolve the above-referenced protests, the parties hereto have negotiated the terms and conditions of this Settlement Agreement.

NOW, THEREFORE, the parties hereto, agree as follows:

1. This Agreement, and all the terms and conditions hereinafter set forth, shall become effective only upon the full execution of this Agreement by all of the parties named herein, and its approval by the Idaho Department of Water Resources.

2. The Applicant agrees to line Pond No. 5 of the Water Features with betonite and compacted earth to specifications approved by Brockway Engineering, PLLC. The location of Pond No. 5 is identified on Exhibit "A" hereto.

3. The above-referenced Application for Permit No. 63-31689 shall be amended by the submittal of a new Application for Permit in its stead, a copy of which is attached hereto as **Exhibit "B"**. Applicant agrees that said new Application for Permit, and the above-referenced Application for Transfer of Water Right No. 70604, if approved by the Idaho Department of Water Resources, shall limit the total ground water diversion rate and annual volume of water for the Water Features

from both Applications, and he proposed well to be drilled in Brookwood in connection therewith, as follows:

(a) Maximum total diversion rate - 80 gpm. (.18 cfs)
(b) The maximum annual volume of water diverted - 40 acre feet
(c) Maximum well depth - 100 feet
(d) Maximum well size - 6 inch diameter

4. Immediately upon full execution of this Agreement, the Applicant shall submit a copy of it, including attachments, to the Idaho Department of Water Resources for its review and approval. Should the Department approve, the Applicant shall formally submit, in lieu of Application for Permit No. 63-31689, the new Application for Permit in the form attached hereto as Exhibit "B".

5. Upon the formal submittal of said new Application for Permit, and its assignment of an identification number by the Idaho Department of Water Resources, Applicant shall provide Protestants with evidence thereof, upon the receipt of which the Protestants shall formally withdraw their existing protests, and agree not to thereafter file, support or participate in any further protests of Applicant's applications to divert ground water for the Brookwood Water Features consistent with the limitations set forth in paragraph 3 hereinabove.

6. This Agreement shall be construed under the laws of the State of Idaho. Should any action be brought to interpret or enforce any provision hereof, or for damages for breach hereof, the prevailing party shall be entitled to recover all attorney's fees and costs wherein such action is brought, including all attorney's fees and costs on appeal.

7. The parties hereby declare that the terms of this Agreement have been completely read and are fully understood and voluntarily accepted. The parties acknowledge that they enter into this Agreement without any coercion, threats or duress. All of the parties fully understand all of the provisions of this Agreement, and believe them to be fair, just, adequate and reasonable, and accordingly accept the provisions of this Agreement freely and voluntarily.

8. This Settlement Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, and all of which together will constitute one and the same instrument. Facsimile signatures shall be deemed as originals thereof.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first written above.

"APPLICANT"

ARIES , L.L.C.

By:_____
J. Evan Robertson
Attorney of Record

"PROTESTANTS"

EAGLE WATER COMPANY, INC.

By:_____
Molly O'Leary
Attorney of Record

CITY OF EAGLE, IDAHO

By:_____
Tammy Zokan
Attorney of Record

EAGLE NEIGHBORS, INC.
f/k/a Homeowners of Downing Downs Subd.

By:_____
Michael J. Sieler
Its: _____

THE CHASE FAMILY

By:_____
Charles L. Honsinger
Attorney of Record

!rlm\settlement agree Aries_water

MICHAEL J. SIELER

November 7, 2004

RECEIVED
NOV 8 2004
DEPARTMENT OF WATER RESOURCES

Gary Saxton
Administrator
Idaho Department of Water Resources
THE IDAHO WATER CENTER
322 E. Front St., Boise, Idaho
PO Box 83720
Boise, ID 83720-0098

Mr. Saxton,

As President of Eagle Neighbors, Incorporated, I represent a significant number of homeowners in the Eagle, Idaho area. We were recently a part of the Aries Development Application (70604, claim no. 63-5087 and 63-31689) administered by Mr. Peter Anderson. As a group we felt this aesthetic use of ground water was not in the best interest of this state's citizens and certainly not for those of us who use this source for domestic purposes.

From our engagement in this public dialogue we came to understand that the IDWR cares little about the specific use of ground water sources unless it is taken to task. Our impression is that were it not for our direct engagement the IDWR would have rubber-stamped the application without taking into account the benefits to or the detraction from the resources of the citizens of Idaho. ENI formally expresses this concern.

Additionally, we hereby protest any future use of ground water resources for mere aesthetic purposes. ENI requests that the IDWR in future deliberations of ground water applications ban or otherwise severely restrict such uses as to effectively create a ban since such applications are not proper use of the public's limited and valuable water resources.

If an outright ban or severe restriction is not possible then such use requests should require that all ponds, streams, and other aesthetic water features be properly lined to prevent any contamination of underground water sources by pesticides, insecticides, fertilizers, roadway runoff and other contaminants. Since these elements are not regulated nor, in our view, particularly paid proper attention by the general public it is up to the water resource administrators to ensure the public's welfare.

If further discussion is warranted we will make ourselves available to you and your staff. We will follow up this letter with a phone call to ensure proper attention.

Sincerely,

President,
Eagle Neighbors, Inc.

CC: The Honorable Mayor of Eagle, Idaho, Nancy Merrill

1125 STEEPLE VIEW DRIVE • EAGLE, IDAHO • 83616-4757
PHONE: 208 939-7306 • mjsieler@yahoo.com

MICHAEL J. SIELER

GALEN ?

RECEIVED
NOV 16 2004
DEPARTMENT OF
WATER RESOURCES

November 7, 2004

Gary Saxton
Administrator
Idaho Department of Water Resources
THE IDAHO WATER CENTER
322 E. Front St., Boise, Idaho
PO Box 83720
Boise, ID 83720-0098

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Sincerely,

President,
Eagle Neighbors, Inc.

CC: The Honorable Mayor of Eagle, Idaho, Nancy Merrill

1125 STEEPLE VIEW DRIVE • EAGLE, IDAHO • 83616-4757
PHONE: 208 939-7306 • mjsicler@yahoo.com

Eagle Neighbors, Incorporated
c/o 1125 Steeple View Drive
Eagle, ID 83616-4757

Peter Anderson
IDWR
1301 North Orchard Street
POB 83720
Boise, ID 83720-0098

Mr. Anderson,

As the representative for Eagle Neighbors, Inc. I am unable to attend the Status meeting scheduled for 23 September 2004 at 3:30 pm. However, in the interest of reaching a viable compromise to the issues at hand and in an attempt to reach an expeditious conclusion ENI offers the following information.

Although all members of our organization have not been contacted directly we appear to have a consensus of opinion that is supportive of the proposal offered by Aries Development submitted by their legal representative dated 13 July 2004. However, we remain concerned with two specific items at this time—maximum flow rate potential and the consequences from the planned transfer of well ownership.

The first concern is the potential upper limits of Aquifer draw down or, rather, the maximum flow rate that could be pumped from the Aquifer via a six-inch well. Our research discovered that it is conceivable that flow rates could approach 500 gallons per minute (GPM) from this well diameter. This flow rate is far higher than the proposed 80 GPM rate in the Aries Proposal. As such, we would like to see a restricted flow rate maximum added to whatever eventual decision is made regarding the Aries Application. We suggest that 80 GPM would be an appropriate upper limit restriction.

Secondly, we are also concerned about the well being eventually used for applications other than simply replenishing Pond losses. From the minutes of the Brookwood Homeowners annual meeting we understand that ownership of the well will eventually transfer from Aries Development to this organization. Will the usage be similarly restricted or will it revert to an open, unlimited usage profile? Additionally, what provisions will exist to ensure the well maintains its integrity vis-à-vis the issues at the heart of the communities protest and, in particular, contamination of the Aquifer, over-pumping, unauthorized usage by the Homeowners Association, to mention a few that immediately come to mind.

If a separate IDWR application is required to affect a transfer of ownership from Aries to the Brookwood Homeowners Association then we will raise these issues at that time.

Sincerely,

Michael J. Sieler
President, Eagle Neighbors, Inc.
(Delivered by email to vwigle@idwr.state.id.us 23 September 2004)

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 23rd day of September, 2004, the foregoing document was served by hand delivery to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
225 N 9TH ST STE 420
BOISE ID 83702

CHARLES HONSINGER
RINGERT CLARK
PO BOX 2773
BOISE ID 83701

Peter R. Anderson
Hearing Officer

ROSTER OF ATTENDANCE

IN THE MATTER OF APPLICATION
FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087)
AND APPLICATION FOR PERMIT NO. 63-31689
IN THE NAME Of ARIES DEVELOPMENT L.L.C.

Conducted by Peter Anderson, Hearing Officer
Beginning at 3:30 p.m.
September 23, 2004

NAME	ADDRESS	REPRESENTING
Charles Honsinger	P.O. 2773 Boise 83701	Chase
Mike Chase	3482 Hwy 30 W New Plymouth ID 83655	"
Evan Robertson	Box 1906 Twin Falls, 83303	Aries Dev.
Mike Hormaechea	Box 6867 Boise, ID 83707	Aries Dev.
Molly O'Leary	99 E. State Street, Suite 200, Eagle, 83616	Eagle Water
Tammy Zokan	225 N. 9th St, Suite 420 Boise 83702	C. of Eagle

BEFORE THE DEPARTMENT OF WATER RESOURCES

FOR THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	))))))	**AMENDED NOTICE OF HEARING**

PLEASE TAKE NOTICE that the hearing in this matter is set for **October 6 through 8, 2004 starting at 9:00 a.m.**, at the **DEPARTMENT OF ENVIORNMENTAL QUALITY, CONFERENCE ROOM D, 1410 N. Hilton, Boise, Idaho**. The hearing will be held in accordance with the provisions of Chapters 2 and 17, Title 42 and Chapter 52, Title 67, Idaho Code, and the adopted Rules of Procedure of the department. IDAPA 37.01.01. A copy of the rules may be obtained from the department upon request. The presiding officer at the hearing will be the Peter R. Anderson.

If you plan to offer exhibits for the record, note that Rule 606 of the department's Rules of Procedure requires that a copy be provided to each party and to the presiding officer.

The hearing will be conducted in a facility which meets the accessibility requirements of the Americans with Disabilities Act. If you require special accommodations in order to attend, participate in or understand the hearing, please advise the department within five (5) days prior to the hearing. Inquires about scheduling, hearing facilities, etc., should be directed to Victoria Wigle, Administrative Assistant to the Director, Idaho Department of Water Resources, 1301 N. Orchard St., Boise, Idaho 83706-2237, telephone: (208)327-7910, fax: (208)327-7866.

All parties to the matter will have the opportunity to respond and present evidence and argument on all issues involved.

Dated this 15 day of September, 2004.

Peter R. Anderson
Hearing Officer

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 16th day of September, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
225 N 9TH ST STE 420
BOISE ID 83702

CHARLES HONSINGER
RINGERT CLARK
PO BOX 2773
BOISE ID 83701

MICHAEL J SIELER
HOMEOWNERS OF DOWNING
DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

ALFRED & WANDA THORNTON
9601 PRAIRIE RD
BOISE ID 83714

Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

BEFORE THE DEPARTMENT OF WATER RESOURCES

FOR THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	))))))	**NOTICE OF STATUS CONFERENCE**

PLEASE TAKE NOTICE, pursuant to the request of the hearing officer, that an informal status conference is set in this matter for **September 23, 2004, starting at 3:30 p.m. (MST)**, at the Idaho Department of Water Resources located at 1301 North Orchard Street, Boise, Idaho.

The status conference will be held in accordance with the provisions of Chapters 2 and 17, Title 42 and Chapter 52, Title 67, Idaho Code, and the adopted Rules of Procedure of the department. IDAPA 37.01.01. A copy of the rules may be obtained from the department upon request.

The status conference will be conducted in accordance with the accessibility requirements of the Americans with Disabilities Act. If you require special accommodations in order to participate in or understand the status conference, please advise the department within twenty-four hours prior to the teleconference. Inquires for special accommodations should be directed to Victoria Wigle, Director's Administrative Assistant, Idaho Department of Water Resources, 1301 N. Orchard St., Boise, Idaho 83706-2237, telephone: (208) 327-7910, fax: (208) 327-7866.

Dated this 9th day of September, 2004.

PETER R. ANDERSON
HEARING OFFICER

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 9th day of September, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

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225 N 9TH ST STE 420
BOISE ID 83702

CHARLES HONSINGER
RINGERT CLARK
PO BOX 2773
BOISE ID 83701

MICHAEL J SIELER
HOMEOWNERS OF DOWNING
DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

ALFRED & WANDA THORNTON
9601 PRAIRIE RD
BOISE ID 83714

Victoria Wigle
Director's Administrative Assistant
Idaho Department of Water Resources

RINGERT CLARK
CHARTERED LAWYERS

RECEIVED
JUN 09 2004
Department of Water Resources

Laura E. Burri
Jeffrey R. Christenson
David P. Claiborne
D. Blair Clark
Michael J. Doolittle
S. Bryce Farris
David Hammerquist
Charles L. Honsinger
Joseph B. Jones
James P. Kaufman
Jennifer Reid Mahoney
James G. Reid
Daniel V. Steenson
Allyn L. Sweeney

William F. Ringert, of Counsel
Samuel Kaufman (1921-1986)

June 8, 2004

Mr. Peter Anderson
Hearing Officer
Idaho Department of Water Resources
1301 N. Orchard Street
Boise, ID 83706

Re: Aries Development's Transfer No. 70604 and Permit Application 63-31689

Dear Mr. Anderson:

We are in receipt of the Notice of Hearing you issued in the above-referenced matter on June 4, 2004. Unfortunately, the hearing scheduled for October 6 through 8, 2004 conflicts with a previously scheduled trial that I must attend in Twin Falls. Therefore, I must request that the hearing be rescheduled.

As Ms. Wigle's correspondence of May 10, 2004 requested, I enclosed calendars for the months of July, August, and September setting forth my available dates for a hearing in this matter, but did not enclose a calendar for any other month as it was not requested.

To assist you in resetting the hearing, I am enclosing my calendar for the months of October and November, 2004. I look forward to receiving an Amended Notice of Hearing. Please contact me with questions or concerns.

Sincerely,

Charles L. Honsinger

enclosure

cc: Mike Chase
Kathryn Cock
J. Evan Robertson
Molly O'Leary
Tammy Zokan
Michael J. Sieler
Alfred and Wanda Thornton

2004

January

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26	27	28	29	30	31	

BEFORE THE DEPARTMENT OF WATER RESOURCES

FOR THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	))))))	**NOTICE OF HEARING**

PLEASE TAKE NOTICE that the hearing in this matter is set for **October 6 through 8, 2004 starting at 9:00 a.m.**, at the Idaho Department of Water Resources, Conference Rooms A&B, 1301 N. Orchard St., Boise, Idaho. The hearing will be held in accordance with the provisions of Chapters 2 and 17, Title 42 and Chapter 52, Title 67, Idaho Code, and the adopted Rules of Procedure of the department. IDAPA 37.01.01. A copy of the rules may be obtained from the department upon request. The presiding officer at the hearing will be the Peter R. Anderson.

If you plan to offer exhibits for the record, note that Rule 606 of the department's Rules of Procedure requires that a copy be provided to each party and to the presiding officer.

The hearing will be conducted in a facility which meets the accessibility requirements of the Americans with Disabilities Act. If you require special accommodations in order to attend, participate in or understand the hearing, please advise the department within five (5) days prior to the hearing. Inquires about scheduling, hearing facilities, etc., should be directed to Victoria Wigle, Administrative Assistant to the Director, Idaho Department of Water Resources, 1301 N. Orchard St., Boise, Idaho 83706-2237, telephone: (208)327-7910, fax: (208)327-7866.

All parties to the matter will have the opportunity to respond and present evidence and argument on all issues involved.

Dated this 4th day of June, 2004.

Peter R. Anderson
Hearing Officer

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 4th day of June, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
225 N 9TH ST STE 420
BOISE ID 83702

CHARLES HONSINGER
RINGERT CLARK
PO BOX 2773
BOISE ID 83701

MICHAEL J SIELER
HOMEOWNERS OF DOWNING
DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

ALFRED & WANDA THORNTON
9601 PRAIRIE RD
BOISE ID 83714

Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

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Department of Water Resources

MATT J. HOWARD
Attorney at Law
P. O. Box 190012
Boise, Idaho 83719
Telephone: (208) 333-0622
Facsimile: (208) 333-8409

Attorney for the Kathryn L. Cock, Michael J. Chase, and William D. Chase

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME OF ARIES DEVELOPMENT, LLC	NOTICE OF SUBSTITUTION OF COUNSEL

PLEASE TAKE NOTICE that Matt J. Howard, Attorney at Law, has been substituted by Charles L. Honsinger, of the firm Ringert Clark, Chtd, P. O. Box 2773, Boise, Idaho 83701, to serve as the legal counsel for Kathryn L. Cock, Michael J. Chase, and William D. Chase, protestants in the above-entitled action.

DATED this 17 day of May, 2004.

MATT J. HOWARD

DATED this 1st day of June, 2004.

CHARLES L. HONSINGER

CERTIFICATE OF SERVICE

I hereby certify that on this 12th day of June, 2004, I caused to be served a true and correct copy of the foregoing by the method indicated below, and addressed to the following:

Idaho Department of Water Resources State Office 1301 N. Orchard Street P.O. Box 83720 Boise, ID 83720-0098	x U.S. Mail _____ Facsimile _____ Hand Delivery _____ Overnight Mail
Peter R. Anderson, Esq. Hearing Officer 729 W. Braemere Rd. Boise, ID 83702	x U.S. Mail _____ Facsimile _____ Hand Delivery _____ Overnight Mail
J. Evan Robertson Robertson, Hepworth et al P. O. Box 1906 Twin Falls, ID 83303-1906	x U.S. Mail _____ Facsimile _____ Hand Delivery _____ Overnight Mail
Molly O'Leary Richardson & O'Leary P. O. Box 1849 Eagle, ID 83616-1849	x U.S. Mail _____ Facsimile _____ Hand Delivery _____ Overnight Mail
Michael J. Sieler 1125 Steeple View Dr. Eagle, ID 83616	x U.S. Mail _____ Facsimile _____ Hand Delivery _____ Overnight Mail
Bruce M. Smith, Esq. Tammy Zokan, Esq. Moore, Smith, Buxton & Turcke, Chtd. 225 North 9th St., Ste. 420 Boise, ID 83702	x U.S. Mail _____ Facsimile _____ Hand Delivery _____ Overnight Mail

Charles L. Honsan
Person serving document

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CLARK
CHARTERED
LAWYERS

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Department of Water Resources

Laura E. Burri
Jeffrey R. Christenson
David P. Claiborne
D. Blair Clark
Michael J. Doolittle
S. Bryce Farris
David Hammerquist
Charles L. Honsinger
Joseph B. Jones
James P. Kaufman
Jennifer Reid Mahoney
James G. Reid
Daniel V. Steenson
Allyn L. Sweeney

William F. Ringen, of Counsel
Samuel Kaufman (1921-1986)

June 1, 2004

Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources
1301 N. Orchard Street
Boise, ID 83706

Re: Aries Development's Transfer No. 70604 and Permit Application 63-31689

Dear Ms. Wigle:

Enclosed herewith please find an executed Notice of Substitution of Counsel notifying the parties and IDWR that this law firm has replaced Matt J. Howard, Attorney at Law as counsel for Kathryn L. Cock, Michael J. Chase, and William D. Chase in the above referenced matters.

Also enclosed, pursuant to your letter of May 10, 2004 are calendars for the months of July, August and September, 2004 setting forth my unavailable dates during that period. Please contact me with any questions or concerns.

Sincerely,

Charles L. Honsinger

cc: Mike Chase
Kathryn Cock

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Department of Water Resources

MATT J. HOWARD
Attorney at Law
P. O. Box 190012
Boise, Idaho 83719
Telephone: (208) 333-0622
Facsimile: (208) 333-8409

Attorney for the Kathryn L. Cock, Michael J. Chase, and William D. Chase

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME OF ARIES DEVELOPMENT, LLC	NOTICE OF SUBSTITUTION OF COUNSEL

PLEASE TAKE NOTICE that Matt J. Howard, Attorney at Law, has been substituted by Charles L. Honsinger, of the firm Ringert Clark, Chtd, P. O. Box 2773, Boise, Idaho 83701, to serve as the legal counsel for Kathryn L. Cock, Michael J. Chase, and William D. Chase, protestants in the above-entitled action.

DATED this 17 day of May, 2004.

MATT J. HOWARD

DATED this 1st day of June, 2004.

CHARLES L. HONSINGER

COPY

CERTIFICATE OF SERVICE

I hereby certify that on this 1st day of June, 2004, I caused to be served a true and correct copy of the foregoing by the method indicated below, and addressed to the following:

Idaho Department of Water Resources State Office 1301 N. Orchard Street P.O. Box 83720 Boise, ID 83720-0098	x U.S. Mail ____ Facsimile ____ Hand Delivery ____ Overnight Mail
Peter R. Anderson, Esq. Hearing Officer 729 W. Braemere Rd. Boise, ID 83702	x U.S. Mail ____ Facsimile ____ Hand Delivery ____ Overnight Mail
J. Evan Robertson Robertson, Hepworth et al P. O. Box 1906 Twin Falls, ID 83303-1906	x U.S. Mail ____ Facsimile ____ Hand Delivery ____ Overnight Mail
Molly O'Leary Richardson & O'Leary P. O. Box 1849 Eagle, ID 83616-1849	x U.S. Mail ____ Facsimile ____ Hand Delivery ____ Overnight Mail
Michael J. Sieler 1125 Steeple View Dr. Eagle, ID 83616	x U.S. Mail ____ Facsimile ____ Hand Delivery ____ Overnight Mail
Bruce M. Smith, Esq. Tammy Zokan, Esq. Moore, Smith, Buxton & Turcke, Chtd. 225 North 9th St., Ste. 420 Boise, ID 83702	x U.S. Mail ____ Facsimile ____ Hand Delivery ____ Overnight Mail

Person serving document

July 2004

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ROBERTSON, HEPWORTH, SLETTE, WORST & STOVER, P.L.L.C.
ATTORNEYS AT LAW

161 FIFTH AVE. SOUTH, STE 100
P.O. BOX 1906
TWIN FALLS, ID 83303-1906
PHONE (208) 734-0700
FAX (208) 736-0041

FACSIMILE TRANSMISSION

DATE: May 25, 2004

FAX TO: Victoria Wigle - IDWR 208-327-7866

FROM: Evan Robertson

RE: **Aries Development - Water Rights Protest**

NUMBER OF PAGES INCLUDING THIS ONE: 4

IF YOU DO NOT RECEIVE ALL OF THE PAGES, PLEASE CALL US BACK AS SOON AS POSSIBLE AT (208) 734-0700.

INFORMATION CONTAINED IN THIS FACSIMILE COMMUNICATION IS ATTORNEY/CLIENT PRIVILEGED AND/OR CONFIDENTIAL INFORMATION INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY NAMED ABOVE. IF THE READER OF THIS COVER PAGE IS NOT THE INTENDED RECIPIENT, OR THE EMPLOYEE OR AGENT RESPONSIBLE TO DELIVER IT TO THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT ANY DISSEMINATION, DISTRIBUTION OR COPYING OF THIS COMMUNICATION OR THE INFORMATION CONTAINED HEREIN IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS COMMUNICATION IN ERROR, PLEASE IMMEDIATELY CALL AT (208) 734-0700, AND RETURN THIS FACSIMILE TO US BY MAIL AT THE ABOVE ADDRESS. WE APPRECIATE YOUR COOPERATION.

ADDITIONAL MESSAGE:

MAY-12-2004 WED 03:40 PM RHSW&S FAX NO. 12087360041 P. 02

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X = C.E. BROCKWAY UNAVAILABLE
XX = J. Evan Robertson unavailable

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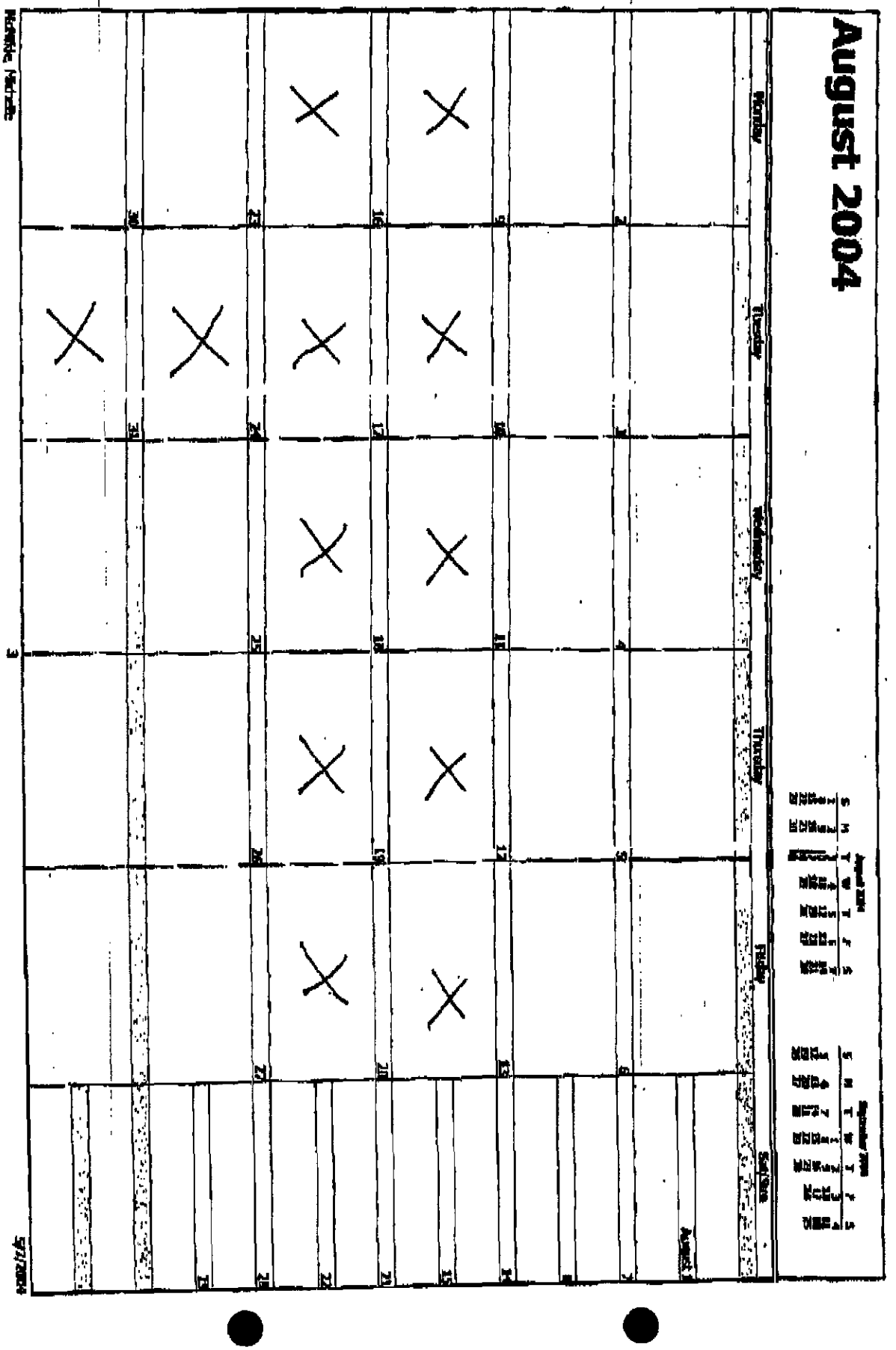

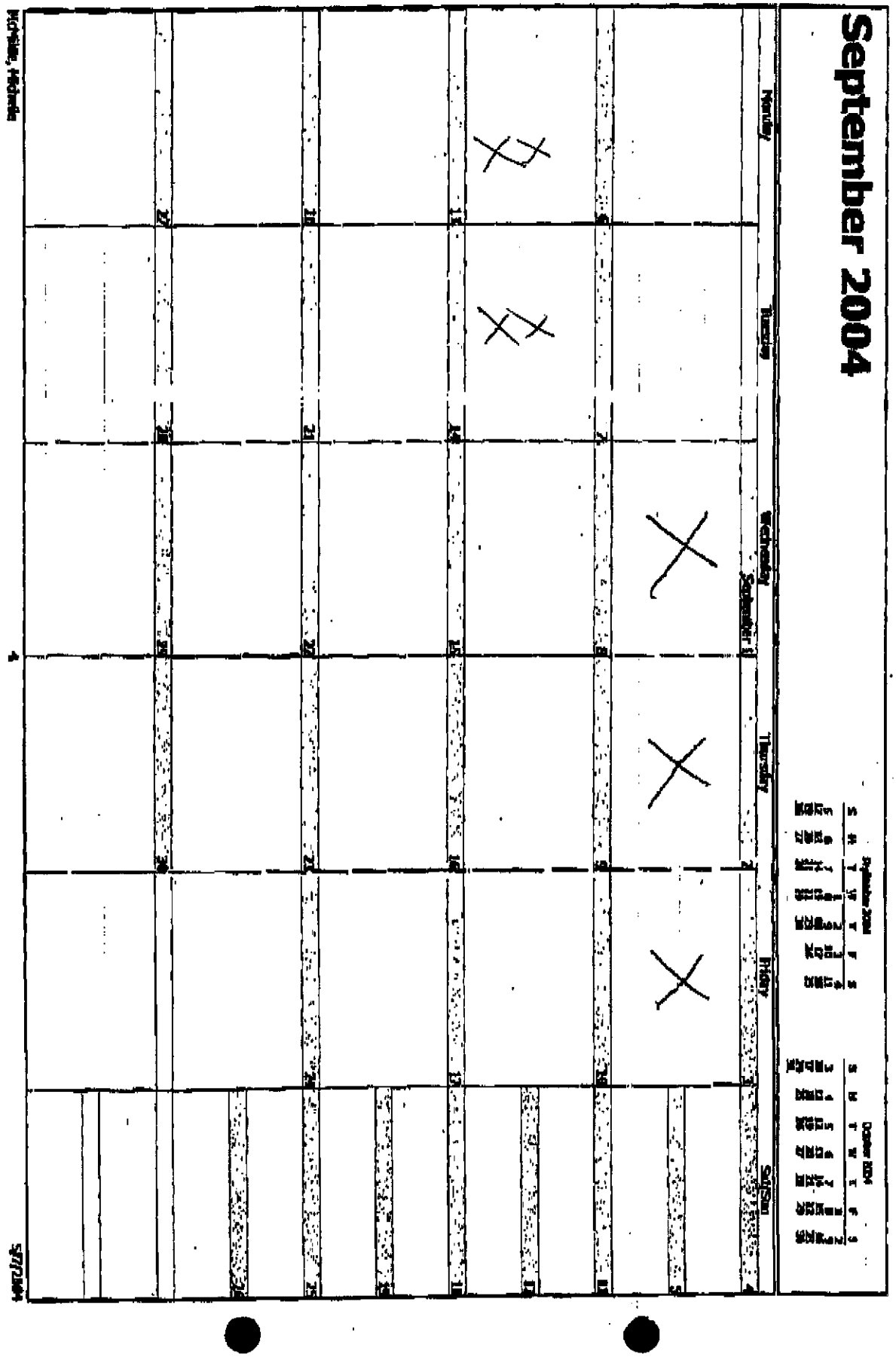
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MICHAEL J. SIELER

20 May 2004

Peter Anderson
Idaho Department of Water Resources
Fax 208 327-7866

Peter:

Enclosed, as requested, is my calendar of availability for the Aries Development Application before the IDWR.

Sincerely,

1125 STEEPLE VIEW DRIVE • EAGLE, IDAHO • 83616-4757
PHONE: 208 939-7806 • CELL: 208 841-7233

July 2004

EAGLE NEIGHBORS, INC
ARIES DEV. APPLICATION

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May 20 2004 3:31PM HP LASERJET 3200 P.2

August 2004

EAGLE NEIGHBORS, INC
ARIES DEV. APPLICATION

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September 2004

EAGLE NEIGHBORS, INC.
ARIES DEV. APPLICATION

September 2004

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MOORE SMITH BUXTON & TURCKE, CHARTERED

ATTORNEYS AT LAW

NINTH & IDAHO CENTER, SUITE 420
225 NORTH 9TH STREET, BOISE, ID 83702
TELEPHONE: (208) 331-1800 FAX: (208) 331-1202

FACSIMILE COVER SHEET

DATE: May 11, 2004 Recipient's Fax: (208) 327-7866

TO: Victoria Wigle
Director's Administrative Assistant Client: 1019-03 (Aries)

FROM: Tammy Zokan/Christina

RE: City of Eagle/Aries Development new hearing date

NUMBER OF PAGES INCLUDING THIS COVER SHEET: 4

_X_ Original will not be sent
___ Original will be sent by first class mail
___ Original will be sent by federal express

ADDITIONAL COMMENTS:

Please find enclosed our unavailable dates for the new hearing date regarding the above-referenced matter as requested in your letter of May 10, 2004.

********** IMPORTANT MESSAGE **********

THE INFORMATION CONTAINED IN THIS FACSIMILE MESSAGE IS ATTORNEY PRIVILEGED AND CONFIDENTIAL INFORMATION INTENDED ONLY FOR THE USE OF THE INDIVIDUAL NAMED ABOVE. IF THE READER OF THIS MESSAGE IS NOT THE INTENDED RECIPIENT, OR THE EMPLOYEE OR AGENT RESPONSIBLE TO DELIVER IT TO THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT ANY DISSEMINATION, DISTRIBUTION OR COPYING OF THIS COMMUNICATION IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS COMMUNICATION IN ERROR, PLEASE IMMEDIATELY NOTIFY US BY TELEPHONE, AND RETURN THE ORIGINAL MESSAGE TO US AT THE ABOVE ADDRESS VIA THE U.S. POSTAL SERVICE. THANK YOU.

July 2004

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September 2004

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hp officejet 7130
printer/fax/scanner/copier

Fax History Report for
ID Dept of Water Resource
208-327-7866
May 12 2004 11:26am

Last Transaction

Date	Time	Type	Identification	Duration	Pages	Result
May 12	11:24am	Fax Sent	9-3950222	1:52	5	OK

State of Idaho
DEPARTMENT OF WATER RESOURCES
1391 North Orchard Street, P.O. Box 83729, Boise, Idaho 83729-0098
Phone (208) 327-7900 FAX: (208) 327-7866

DIRK KEMPTHORNE
GOVERNOR

KARL J. DREHER
DIRECTOR

To:	Peter Anderson	**Fax:**	(208) 395-0222
From:	Victoria Wigle, Director's Assistant	**Date:**	May 12, 2004
Re:	Aries new hearing date	**Pages:**	5 (including cover sheet)
CC:			

☐ **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

COMMENTS:

Peter,

I heard from Matt Howard as well, and he tells me that he has accepted a job with the Bureau of Reclamation and will start working with them within the next couple of weeks. He anticipates another attorney will represent his clients in this matter, and that attorney should be filing their unavailable dates by Friday.

Victoria

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Boise, ID 83706 - P.O. Box 83720, Boise, ID 83720-0098
Phone: (208) 327-7900 Fax: (208) 327-7866 Web Site: www.idwr.state.id.us

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

May 10, 2004

Re: Aries Development

Dear Interested Parties:

In order to help us set a new hearing date for the Aries Development matter, please mark the enclosed calendars to indicate your unavailable dates. Once you have that completed, please fax the calendars to me. I appreciate your help in this matter.

Sincerely,

Victoria Wigle

Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

Encl.

July 2004

July 2004

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J. Evan Robertson
ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, P.L.L.C.
Attorneys at Law
P. O. Box 1906
Twin Falls, Idaho 83303-1906
Telephone: (208) 734-0700
Facsimile: (208) 736-0041
ISB# 1801
c:\rlw\idwr\mtn to vacate

RECEIVED
MAY 10 2004
Department of Water Resources

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MAY 06 2004
WATER RESOURCES
WESTERN REGION

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME OF ARIES DEVELOPMENT, LLC	**MOTION TO VACATE HEARING**

COMES NOW ARIES DEVELOPMENT, LLC, the Applicant in the above-captioned applications pending before the Idaho Department of Water Resources, by and through its attorney of record, J. Evan Robertson, and moves for the vacation of the hearing now set for both of said applications on May 12, 13 and 14, 2004, and for the establishment of an alternative hearing date, to be set at the discretion of the Hearing Officer, not less than 45 days thereafter. This Motion is based upon, and supported by, Applicant's Memorandum filed herewith.

DATED this 5 day of May, 2004.

ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, PLLC

By: _____
J. EVAN ROBERTSON

CERTIFICATE OF MAILING

I hereby certify that on this 5 day of May, 2004, I served a copy of the foregoing instrument, by depositing same in the United States mail, postage prepaid, in an envelope, addressed to the following:

Original:

Idaho Department of Water Resources
Attn: Peter R. Anderson
2735 Airport Way
Boise, Idaho 83705-5082
Via U.S. Mail and Facsimile 208-334-2348

Mike Chase / Chase Family
3482 Hwy 30 W
New Plymouth, ID 83655

Homeowners of Downing Downs Subdivision
c/o Michael J. Sieler
1125 Steeple View Drive
Eagle, ID 83616

Tammy Zokan
City of Eagle
Moore, Smith, Buxton & Turcke, Chtd.
225 N. 9th, Ste 420
Boise, ID 83702

Mark L. Butler
Land Consultants, Inc.
1640 W. Washam Road
Eagle, ID 83616

Alfred & Wanda Thornton
9601 Prairie Road
Eagle, ID 83616

Molly O'Leary
Richard & O'Leary
99 E. State Street, Ste. 200
Eagle, ID 83616

J. EVAN ROBERTSON

J. Evan Robertson
ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, P.L.L.C.
Attorneys at Law
P. O. Box 1906
Twin Falls, Idaho 83303-1906
Telephone: (208) 734-0700
Facsimile: (208) 736-0041
ISB# 1801
c:\rlw\idwr\mtn to vacate_memo

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME OF ARIES DEVELOPMENT, LLC	**MEMORANDUM IN SUPPORT OF MOTION TO VACATE HEARING**

This Memorandum is filed on behalf of ARIES DEVELOPMENT, LLC ("Applicant"), in the above-captioned matter by its attorney of record, J. Evan Robertson, of the firm of Robertson, Hepworth, Slette, Worst & Stover, PLLC. A hearing in this matter has been set before the Department of Water Resources of the State of Idaho for May 12, 13 and 14, 2004, and the Applicant has, simultaneously herewith, filed a Motion to have said hearing vacated, and reset, at the discretion of the presiding Hearing Officer, not less than 45 days thereafter. The vacation of the hearing date is sought on the basis of settlement negotiations which occurred between the parties present at the second pretrial conference held in this matter on April 29, 2004, which included the Protestants Eagle Water Company, Inc.; City of Eagle; Citizens of Downing Downs Subdivision; and the Chase family. The pending applications include the transfer of an existing stock water well to the Brookwood Subdivision in Eagle, Idaho, where a new well is proposed for aesthetics and aesthetic storage to benefit said subdivision. During the informal settlement discussions occurring on April 29,

all of the Protestants expressed concerns over the proposed depth of the new well, its flow rate, and possible groundwater contamination resulting from seepage losses in the proposed aesthetic pond system. While other issues were also raised by the City of Eagle, it appeared that a settlement with most, if not all, of the Protestants in attendance might be reached if the maximum potential depth of the well could be sufficiently reduced and the proposed storage pond lined to prevent seepage or infusion into the ground water, thereby lessening the potential for groundwater contamination and reducing the flows that would be required from the proposed well. Since the prehearing conference, the Applicant has retained the services of an engineering firm to review the cost and feasibility of lining the aesthetic storage pond, and has retained the services of Charles E. Brockway, P.E., Ph.D., to undertake further study of the hydrologic analyses submitted pursuant to information disclosures by various of the Protestants, to determine the potential of obtaining sufficient groundwater at a depth significantly less that that proposed in Application for Permit No. 63-31689. Dr. Brockway is further examining the extent of the reduction in seepage losses which would result from lining the aesthetic pond (Pond No. 5), and the commensurate reduction which might be acceptable in the proposed diversion rate of the well. Due to the extremely short period of time between the second prehearing conference and the proposed hearing date of May 12 through 14, 2004, the Applicant believes a vacation of the hearing date would be appropriate. The Applicant remains optimistic that some modifications to the pending application can be made which will be eliminate the pending protests altogether, or will at least minimize both the number of Protestants and the issues which will need to be decided by the Department of Water Resources.

Applicant's attorney has to date been able to contact Matt Howard, attorney for the Chase Family, and Molly O'Leary, attorney for Eagle Water Company, Inc., concerning the appropriateness of vacating the pending hearing, and the undersigned is authorized to indicate to the Hearing Officer that Mr. Howard, Ms. O'Leary, and their respective clients are in support of the Motion to Vacate, and believe further settlement negotiations will be fruitful.

RESPECTFULLY SUBMITTED this 5 day of May, 2004.

ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, PLLC

By: _____
J. EVAN ROBERTSON

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c/o Michael J. Sieler
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Tammy Zokan
City of Eagle
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225 N. 9th, Ste 420
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9601 Prairie Road
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Molly O'Leary
Richard & O'Leary
99 E. State Street, Ste. 200
Eagle, ID 83616

J. EVAN ROBERTSON

J. Evan Robertson
ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, P.L.L.C.
Attorneys at Law
P. O. Box 1906
Twin Falls, Idaho 83303-1906
Telephone: (208) 734-0700
Facsimile: (208) 736-0041
ISB# 1801
c:\rlw\idwr\mtn to vacate

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME OF ARIES DEVELOPMENT, LLC	**MOTION TO VACATE HEARING**

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DATED this 5 day of May, 2004.

ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, PLLC

By: _____
J. EVAN ROBERTSON

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Tammy Zokan
City of Eagle
Moore, Smith, Buxton & Turcke, Chtd.
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Richard & O'Leary
99 E. State Street, Ste. 200
Eagle, ID 83616

J. EVAN ROBERTSON

J. Evan Robertson
ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, P.L.L.C.
Attorneys at Law
P. O. Box 1906
Twin Falls, Idaho 83303-1906
Telephone: (208) 734-0700
Facsimile: (208) 736-0041
ISB# 1801
c:\idw\idwr\mtn to vacate_memo

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME OF ARIES DEVELOPMENT, LLC	**MEMORANDUM IN SUPPORT OF MOTION TO VACATE HEARING**

This Memorandum is filed on behalf of ARIES DEVELOPMENT, LLC ("Applicant"), in the above-captioned matter by its attorney of record, J. Evan Robertson, of the firm of Robertson, Hepworth, Slette, Worst & Stover, PLLC. A hearing in this matter has been set before the Department of Water Resources of the State of Idaho for May 12, 13 and 14, 2004, and the Applicant has, simultaneously herewith, filed a Motion to have said hearing vacated, and reset, at the discretion of the presiding Hearing Officer, not less than 45 days thereafter. The vacation of the hearing date is sought on the basis of settlement negotiations which occurred between the parties present at the second pretrial conference held in this matter on April 29, 2004, which included the Protestants Eagle Water Company, Inc.; City of Eagle; Citizens of Downing Downs Subdivision; and the Chase family. The pending applications include the transfer of an existing stock water well to the Brookwood Subdivision in Eagle, Idaho, where a new well is proposed for aesthetics and aesthetic storage to benefit said subdivision. During the informal settlement discussions occurring on April 29,

all of the Protestants expressed concerns over the proposed depth of the new well, its flow rate, and possible groundwater contamination resulting from seepage losses in the proposed aesthetic pond system. While other issues were also raised by the City of Eagle, it appeared that a settlement with most, if not all, of the Protestants in attendance might be reached if the maximum potential depth of the well could be sufficiently reduced and the proposed storage pond lined to prevent seepage or infusion into the ground water, thereby lessening the potential for groundwater contamination and reducing the flows that would be required from the proposed well. Since the prehearing conference, the Applicant has retained the services of an engineering firm to review the cost and feasibility of lining the aesthetic storage pond, and has retained the services of Charles E. Brockway, P.E., Ph.D., to undertake further study of the hydrologic analyses submitted pursuant to information disclosures by various of the Protestants, to determine the potential of obtaining sufficient groundwater at a depth significantly less that that proposed in Application for Permit No. 63-31689. Dr. Brockway is further examining the extent of the reduction in seepage losses which would result from lining the aesthetic pond (Pond No. 5), and the commensurate reduction which might be acceptable in the proposed diversion rate of the well. Due to the extremely short period of time between the second prehearing conference and the proposed hearing date of May 12 through 14, 2004, the Applicant believes a vacation of the hearing date would be appropriate. The Applicant remains optimistic that some modifications to the pending application can be made which will be eliminate the pending protests altogether, or will at least minimize both the number of Protestants and the issues which will need to be decided by the Department of Water Resources.

Applicant's attorney has to date been able to contact Matt Howard, attorney for the Chase Family, and Molly O'Leary, attorney for Eagle Water Company, Inc., concerning the appropriateness of vacating the pending hearing, and the undersigned is authorized to indicate to the Hearing Officer that Mr. Howard, Ms. O'Leary, and their respective clients are in support of the Motion to Vacate, and believe further settlement negotiations will be fruitful.

RESPECTFULLY SUBMITTED this 5 day of May, 2004.

ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, PLLC

By: _____
J. EVAN ROBERTSON

CERTIFICATE OF MAILING

I hereby certify that on this 5th day of May, 2004, I served a copy of the foregoing instrument, by depositing same in the United States mail, postage prepaid, in an envelope, addressed to the following:

Original:

Idaho Department of Water Resources
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2735 Airport Way
Boise, Idaho 83705-5082
Via U.S. Mail and Facsimile 208-334-2348

Mike Chase / Chase Family
3482 Hwy 30 W
New Plymouth, ID 83655

Homeowners of Downing Downs Subdivision
c/o Michael J. Sieler
1125 Steeple View Drive
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Tammy Zokan
City of Eagle
Moore, Smith, Buxton & Turcke, Chtd.
225 N. 9th, Ste 420
Boise, ID 83702

Mark L. Butler
Land Consultants, Inc.
1640 W. Washam Road
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Alfred & Wanda Thornton
9601 Prairie Road
Eagle, ID 83616

Molly O'Leary
Richard & O'Leary
99 E. State Street, Ste. 200
Eagle, ID 83616

J. EVAN ROBERTSON

ROSTER OF ATTENDANCE

IN THE MATTER OF APPLICATION
FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087)
AND APPLICATION FOR PERMIT NO. 63-31689
IN THE NAME Of ARIES DEVELOPMENT L.L.C.

Conducted by Peter Anderson, Hearing Officer
Beginning at 1:30 p.m.,
April 29, 2004

NAME	ADDRESS	REPRESENTING
Evan Roberts	Box 1906, Twin Falls	Applicant
Chuck [illegible]	2016 Washington St. Twin Falls	Applicant
Mike Hormaechea	P.O. Box 6887 Boise ID 83707	Aries Dev.
MIKE SIELER	1125 STEEPLE VIEW EAGLE	EAGLE NEIGHBORS, INC
Molly O'Leary	99 E. State Street, Suite 200, Eagle, ID. 83616	Eagle Water
ROBERT DESHAZO	BOX BOX 455 EAGLE, IDAHO	EAGLE WATER
Tony Zokan	225 N. 9th, Suite 420, Boise 83702	City of Eagle
Mike Chase	3482 Hwy 30 W New Plymouth ID 83655	Chases
MATT Howard	P.O. Box 190012 Boise 83719	Chases

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APR 26 2004
Department of Water Resources

MATT J. HOWARD
ATTORNEY AT LAW

P. O. BOX 190012
BOISE, IDAHO 83719
TELEPHONE (208) 333-0622
FACSIMILE (208) 333-8409

EMAIL: MHOWARD@FIBERPIPE.NET

April 23, 2004

Idaho Department of Water Resources
State Office
1301 N. Orchard Street
P.O. Box 83720
Boise, ID 83720-0098

RE: In the Matter of Transfer No. 70604 and Application No. 63-31689 (Aries)

Dear Clerk:

Enclosed for filing is a Notice of Appearance in the above-referenced matter. Also enclosed is another copy of that document that I would ask that you conform and return to me in the enclosed envelope. Thank you.

Very truly yours,

Matt J. Howard

Enclosure

RECEIVED
APR 26 2004
Department of Water Resources

MATT J. HOWARD
Attorney at Law
P. O. Box 190012
Boise, Idaho 83719
Telephone: (208) 333-0622
Facsimile: (208) 333-8409

Attorney for the Kathryn L. Cock, Michael J. Chase, and William D. Chase

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME OF ARIES DEVELOPMENT, LLC	NOTICE OF APPEARANCE

PLEASE TAKE NOTICE that Matt J. Howard, Attorney at Law, hereby enters his appearance on behalf of protestants Kathryn L. Cock, Michael J. Chase, and William D. Chase in the above-captioned matter.

DATED this 23 day of April, 2004.

MATT J. HOWARD

CERTIFICATE OF SERVICE

I hereby certify that on this 23 day of April, 2004, I caused to be served a true and correct copy of the foregoing by the method indicated below, and addressed to the following:

Idaho Department of Water Resources State Office 1301 N. Orchard Street P.O. Box 83720 Boise, ID 83720-0098	x U.S. Mail ____ Facsimile ____ Hand Delivery ____ Overnight Mail
Peter R. Anderson, Esq. Hearing Officer 729 W. Braemere Rd. Boise, ID 83702	x U.S. Mail ____ Facsimile ____ Hand Delivery ____ Overnight Mail
J. Evan Robertson Robertson, Hepworth et al P. O. Box 1906 Twin Falls, ID 83303-1906	x U.S. Mail ____ Facsimile ____ Hand Delivery ____ Overnight Mail
Molly O'Leary Richardson & O'Leary P. O. Box 1849 Eagle, ID 83616-1849	x U.S. Mail ____ Facsimile ____ Hand Delivery ____ Overnight Mail
Michael J. Sieler 1125 Steeple View Dr. Eagle, ID 83616	x U.S. Mail ____ Facsimile ____ Hand Delivery ____ Overnight Mail
Bruce M. Smith, Esq. Tammy Zokan, Esq. Moore, Smith, Buxton & Turcke, Chtd. 225 North 9th St., Ste. 420 Boise, ID 83702	x U.S. Mail ____ Facsimile ____ Hand Delivery ____ Overnight Mail

MATT J. HOWARD

BEFORE THE DEPARTMENT OF WATER RESOURCES

FOR THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	)	**NOTICE OF PREHEARING CONFERENCE**

The Department of Water Resources has scheduled this matter for an informal prehearing conference as follows:

Date:	Thursday, April 29, 2004
Location:	IDWR Conference Room A/B 1301 N. Orchard Street Boise, Idaho (208) 327-7900
Time:	1:30 p.m.

The prehearing conference will be held in accordance with the provisions of Chapters 2 and 17, Title 42 and Chapter 52, Title 67, Idaho Code, and the adopted Rules of Procedure of the department. IDAPA 37.01.01. The Department's authority to hold hearings in this matter is based in I.C. § 42-222.

The prehearing conference will be conducted in a facility meeting the accessibility requirements of the Americans with Disabilities Act. If you require special accommodations in order to attend, participate in or understand the hearing, please advise the Department within ten (10) days prior to the prehearing conference.

Dated this 16 day of April, 2004.

Peter R. Anderson

Peter R. Anderson
Hearing Officer

notice Prehearing Conf. 4/29/04

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 16th day of April, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
225 N 9TH ST STE 420
BOISE ID 83702

MICHAEL J CHASE
3482 HWY 30 W
NEW PLYMOUTH ID 83655

MICHAEL J SIELER
HOMEOWNERS OF DOWNING
DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

J. Evan Robertson
ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, P.L.L.C.
Attorneys at Law
P. O. Box 1906
Twin Falls, Idaho 83303-1906
Telephone: (208) 734-0700
Facsimile: (208) 736-0041
ISB# 1801
c:\rlw\idwr\info disclosures

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MAR 22 2004
WATER RESOURCES
WESTERN REGION

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME OF ARIES DEVELOPMENT, LLC	**INFORMATION DISCLOSURES**

********** Info Disclosures

COMES NOW ARIES DEVELOPMENT, LLC (hereinafter "Applicant"), by and through its attorney of record, J. Evan Robertson, of the firm Robertson, Hepworth, Slette, Worst & Stover, PLLC, and provides the following information disclosures pursuant to the Prehearing Order entered in this matter by Peter R. Anderson, Hearing Officer, dated February 20, 2004:

1. Persons Having Specific Knowledge Regarding Material Facts Related To The Application, And A Brief Summary Of Expected Testimony:

(a) Terry Nyborg, may be called to provide testimony concerning claimed Water Right No. 63-5087, and a history of the use made of the stock water well to which said claim relates.

(b) Michael Hormaechea, a member of the Applicant, is expected to provide testimony concerning the financial capability of the Applicant to construct a well and related

improvements set forth in Application for Permit No. 63-31689, and the intent of the Applicant to diligently pursue such completion in good faith without any intention of delay or speculation. Mr. Hormaechea may also testify concerning the incorporation of the proposed well into the aesthetic water feature system in the Brookwood Subdivision, and the importance of those aesthetics to the financial success of the Brookwood Subdivision and the excellent residential neighborhood it is creating in the city of Eagle.

(c) Denise Thiry, G.R.I., an Idaho licensed realtor with Windemere Capital Group and a resident in the Brookwood Subdivision, may provide testimony concerning the positive effects which the water amenities and aesthetic water features within the Brookwood Subdivision have on the living environment within the immediate area of the proposed well, and the significance of such aesthetic water features to the economic viability of the Brookwood Subdivision.

2. Expert Witnesses With Specific Opinions Related to the Applications, Together With a Brief Summary of Their Opinions:

(a) Charles E. Brockway, P.E., Ph.D., whose Resume' is attached, may provide expert testimony concerning the following:

(i) Explanation and augmentation of all information and narrative reports previously filed in connection with the Applications at issue.

(ii) The absence of any negative effect which granting of the Applications will have on fish and wildlife resources.

(iii) The effects, if any, that the project for which the Applications are sought will negatively impact water quality or quantity, including a comparative analysis of water expected to be diverted pursuant to Permit No. 63-31689 in comparison to water diversions and consumption currently allowable pursuant to Claim No. 63-5087. Dr. Brockway is also expected to testify concerning the adequacy of the water supply to fulfill the diversion sought by Permit No. 63-31689; the absence of any negative impacts which such diversions will have on existing water rights in the immediate area; and other components comprising "Local Public Interest". Dr. Brockway's testimony will be supplemented and enhanced by the

information previously submitted to the Idaho Department of Water Resources in connection with the Applications, together with two (2) reports prepared by him, copies of which are attached hereto:

- Brookwood Subdivision Water Table Analysis dated March 18, 2004
- "Well Interference Analysis, Brookwood Proposed Exchange Well" dated February 12, 2002

3. A List and Copy of All Documents, Audio Recordings, Pictures and Other Items Containing Information Directly Relevant to the Applications.

(a) At this time, the Applicant is proposing to submit no such additional information.

4. Subject to approval by the Hearing Officer, Applicant reserves the right to supplement the information disclosures contained herein.

DATED this 19th day of March, 2004.

ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, PLLC

By: _____
J. EVAN ROBERTSON

CERTIFICATE OF MAILING

I hereby certify that on this 19th day of March, 2004, I served a copy of the foregoing WITHDRAWAL OF APPLICATION, by depositing same in the United States mail, postage prepaid, in an envelope, addressed to the following:

Original:

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Alfred & Wanda Thornton
9601 Prairie Road
Eagle, ID 83616

Molly O'Leary
Richard & O'Leary
99 E. State Street, Ste. 200
Eagle, ID 83616

J. EVAN ROBERTSON

Charles E. Brockway, P.E., Ph.D.

Brockway Engineering
2016 North Washington St. Suite 4
Twin Falls, ID 83301
(208) 736-8543
(208) 736-8506 FAX
E-mail: cebrock@mindspring.com

Present title:

Senior Member – Brockway Engineering P.L.L.C
Formerly-Research Professor – Civil and Agricultural Engineering: Supervision of research conducted by the University Water Resources Research Institute and the College of Engineering at Kimberly, Idaho. Graduate student supervision and directed studies instruction in Water Management and Water Resources related subjects.
Associate Director – Idaho Water Resources Research Institute

Summary of education beyond high school:

Institution, Degree, Year
University of Idaho 1955-1959, B.S.-Civil Engineering, 1959
California Institute of Technology 1959-1960, M.S. – Civil Engineering, 1960
University of Colorado, Denver, Colorado, Management, 1963
University of Denver; Denver, Colorado, Civil Engineering, 1964
Utah State University, Ph.D.-Water Resources Engineering, 1977

Number of years service on U of I faculty: 32

Date of original appointment: 1965
Dates of advancement in rank:
Associate Research Professor: 1974
Professor – 50% Agricultural Engineering, 50% Civil Engineering: 1978

Subjects and courses taught:

CE 500, CE 600, CE 502

Summary of academic experience:

University of Idaho – Research Professor–Civil and Agricultural Engineering, 1978
University of Idaho – Associate Research Professor, Civil Engineering, 1974-1978
University of Idaho – Assistant Research Professor, Civil Engineering, 1965-1974
Boise College – Instructor in Engineering, 1961-1963

Summary of other experience:

Senior Member, Brockway Engineering P.L.L.C. Water Resources Engineering
University of Idaho – USAID Pakistan Project on Irrigation Systems Management Research, 1984
U.S. Bureau of Reclamation – Hydraulic Research Laboratory, Denver, Colorado – Hydraulic Research Engineer, 1963-1965
U.S. Bureau of Reclamation – Boise, Idaho – Hydraulic Engineer, 1961-1963
Converse Foundation Engineering, Inc. – Pasadena, California – Foundation Engineer, 1960-1961

California Institute of Technology – Pasadena, California – Assistant Project Engineer, U.S. Public Health Services Research Project, 1959-1960

Partial Client List:

Twin Falls Canal Company – Twin Falls, Idaho – Hydrology and water use
North Side Canal Company – Jerome, Idaho – Hydrology and water use
Micron Technology – Ground water and water supply
J.R. Simplot Company – Land disposal of processing waste, water supply, water rights
City of Twin Falls – Water supply and hydrology
Idaho Trout Processors – Hydraulics and water supply
Cedar Mesa Reservoir and Canal Co– Water Management Consultant
Clear Springs Trout Company, Buhl, Idaho – Water supply and distribution systems
Idaho Power Company, Boise, Idaho – Relationships of groundwater and surface water – Upper Snake River Basin – water right adjudication
Idaho Department of Fish and Game – Evaluation of groundwater stream relationship for litigation – Parma vicinity
Blaine County, Idaho – Waste disposal systems for high-density rural subdivisions
City of Mountain Home, ID. Water Rights, hydrologic analysis
Rinker Company, Long Beach, CA Hydrology, water rights
U.S. Bureau of Reclamation (was Maricopa County Water District) – Arizona Flood Study
Office of Technology Assessment – U.S. Congress – Irrigation Distribution Systems
U.S. Department of Justice – Indian Water Rights
Montgomery Engineers – Ground water quality evaluations
J.U.B. Engineers, Twin Falls, Idaho – Groundwater and hydraulics
Amalgamated Sugar Company, Idaho – Hydrology and waste disposal
Pioneer Irrigation District, Idaho Water rights and hydrology
Aries Development Co. Subdivision water rights
Eagle View Farms, Castleford ID-Water rights and irrigation system
Rim View Trout Company, Wendell ID- Hydraulics

Registered Professional Engineer:

Idaho, Colorado and Washington

Special Awards or Honors:

Honorary Membership ASTM, 1959
U.S. Army National Defense Transportation Award, 1958
Distinguished Military Graduate – University of Idaho
Top Ten Graduating Senior – University of Idaho, 1959
No. 2 in graduating class of 889, University of Idaho, 1959
Representative of USBR Division of Research at 1963 Intergovernmental Training Program, Denver, 1964
Scholarship – University of Denver, Graduate School of Management, 1964
National Science Foundation Fellowship – Utah State University, 1967-1968
Outstanding Young Engineer Award for Idaho, National Society of Professional Engineers, 1968
Engineer of the Year, 1997 American Society of Agricultural Engineers
Idaho Water Users Hall of Fame - 1998

Membership in professional and scholarly organizations:

National Society of Professional Engineers, 1967- present
Idaho Society of Professional Engineers, 1967- present: President 1978
American Society of Civil Engineers – Irrigation & Drainage Division Committee Chairman:

1.) Operation and Maintenance of Irrigation and Drainage Systems, 1975-1981
2.) Water Quality Committee, 1980-1984, Chairman
3.) Task Committee on Guidelines for Erosion and Sediment Control in Irrigated Agriculture, 1980-1983, Chairman
4.) Publications Committee, 1985-1992

Research Society of America
National Council of Examiners for Engineering and Surveying, 1981-1991
Idaho Board of Professional Engineers and Professional Land Surveyors, 1981-1991, Chairman
American Water Resources Association

Offices held in such organizations:

National Society of Professional Engineers
- Member – Young Engineers Committee, 1973-1974
- Chairman – Young Engineers Committee, 1975-1977
- Member – President's Committee on Board of Directors Organization, 1977
- Member – Registration and Qualification for Practice Committee, 1979-1981
- Chairman – Registration and Qualification for Practice Committee, 1982-1984
- Member – Participating Organizations Liaison Committee to NCEE, 1982-1984

Idaho Society of Professional Engineers, President 1978
- President - Magic Valley Chapter, 1970-1971
- Member – State Ethical Practices Committee, 1966-1977
- Member – State Intersociety Relations Committee, 1968
- Member – State Nominating Committee, 1975-1976
- Member – Board of Directors, 1972-1973
- Member – Board of Directors, Past President Chairman – Nominating Committee 1979
- State Director – Representative for Idaho NSPE, 1982-1983
- Nominating Committee for Idaho Board of Professional Engineers & Land Surveyors Member

American Society of Civil Engineers
- Member – Operation and Maintenance of Distribution Systems Committee Irrigation and Drainage Division, 1975-1981
- Chairman – Irrigation and Drainage Division, Operations and Maintenance Committee, 1977-1979
- Member – Water Quality Committee, Irrigation and Drainage Division, 1980-1984
- Chairman – Water Quality Committee, Irrigation and Drainage Division, 1982-1984
- Member – Task Committee on Water Measurement, 1980-1983
- Chairman – Task Committee on Guidelines for Erosion and Sediment Control in Irrigated Agriculture, 1984 – Present
- Member – Publications Committee, 1985 – Present
- Corresponding Member – ASCE irrigation and Drainage Division Committee on Operation and Maintenance of Irrigation Systems

Reviewer – ASCE Irrigation and Drainage Division Committee on Publications
Idaho Board of Professional Engineers and Land Surveyors Member, 1981
Vice Chairman, 1983-1984
Chairman, 1984-1986, 11990-1992
National Council of Engineering Examiners
Assistant Vice President, Western Zone
Member, Professional Examinations Advisory Committee
Member, Committee on Uniform Procedure and Legislative Guidelines, 1984
Member, Communications and Publications Committee, 1983
Member, Uniform Examinations and Qualifications Committee, 1984 – 1986
Member, Committee on Examination Policies and Procedures, 1987 – 1989
Member, Advisory Committee on Council Activities, 1986-1987
Assistant Vice President – Western Zone, 1986-1987
Member, Fundamentals Examination Review Committee, 1986 1988

Scholarly and creative activity:

Research:

Development of systems analysis procedures for optimization of irrigation system designs with environmental, physical, and social constrains.
Evaluation of crop consumptive use, irrigation requirements, and methods of determining basin depletion from agricultural development
Systems analysis of water use to develop mathematical methods for studying complex ground water-surface water systems – mathematical modeling of aquifers,
Ground water quality and river system water quality evaluations for nutrient load determination and river system modeling.
Development of guidelines for design of sediment removal facilities for on-farm and irrigation distribution system waste ways
Evaluation of attainable impacts on water quality of irrigation return flows due to implementation of best management practices for sediment and nutrient control.
Evaluation of alternate energy sources for irrigation and municipal needs in Idaho.
Analysis of operation and maintenance cost of water distribution systems and determination of the relationship of costs to known physical and organizational parameters and water use efficiency.
Evaluation of the economic potential for use of geothermal hot water and steam in Idaho,
Study of the movement of water from canals to local water tables under saturated and partially saturated conditions.
Studies of the mechanisms of microbial action, sedimentation and soil-water-chemical interactions involved in natural sealing phenomenon in canals and reservoirs,
Evaluation of irrigation management practices for sustained land disposal of geothermal fluids.
Evaluation of practices and systems for controlling sediment and other pollutant losses from irrigated lands.
Investigation of the response of aquifer systems to changes in recharge or withdrawal due to change in land use.
Evaluation of procedures for estimating crop water requirements,

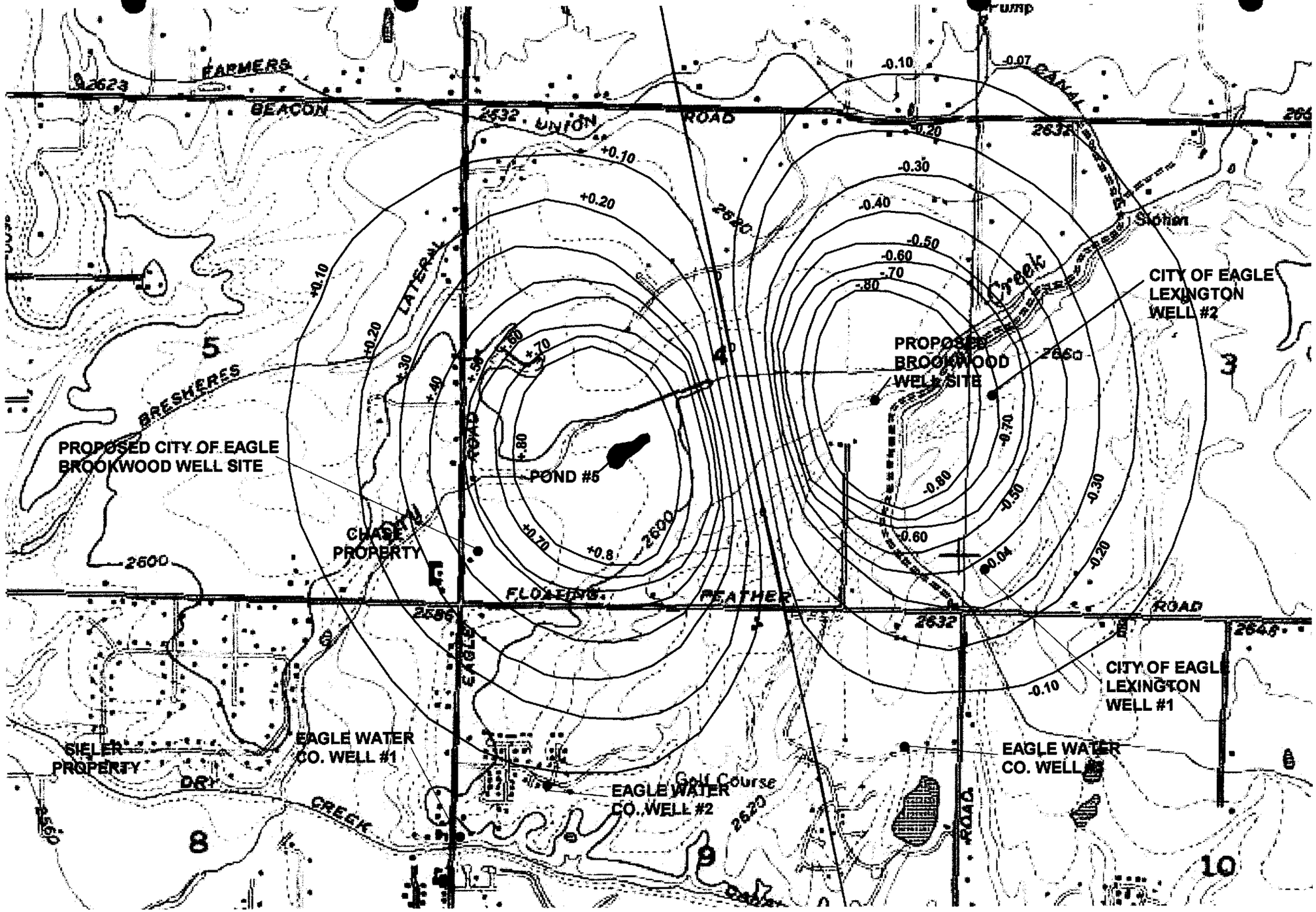
Development of cost effective procedures and equipment for measurement of irrigation diversions and power use in open and closed systems

Community services and other relevant activities:

Member – Intermountain District Church of the Nazarene; Camps Board – 1976-1984, Board of Church Properties – 1976-1979
Member and Vice President, Twin Falls Reformed Church Consistory 2000-Present
Member – Twin Falls City Planning and Zoning Commission 12/1978-9/1979
Member – College of Southern Idaho Geothermal Energy Commission
Member – Governor's Committee on Energy Use – 1980-1981
Member – Idaho Technical Advisory Committee for Sediment in Surface Water
Chairman – Snake River Technical Advisory Committee – Idaho Legislative Council, 1983-1985
Advisor – Governor's Snake River Advisory Committee – 1985
Member – Water Resources Foundation Board of Directors – 1985
Chairman – Idaho Technical Committee of Hydrology
Member – Idaho Department of Health & Welfare Sediment Citeria Committee
Member – Snake Plain Advisory Committee of Idaho Department of Health & Welfare
Member – Idaho Water Users Water Quality Committee – 1980
Member – INEL Dose Evaluation and Risk Assessment Committee
Member – Columbia River System Operations Review
Member – Mid Snake River Nutrient Management Advisory Committee
Member - Mid Snake River Irrigation Water Quality Coordination Committee
Technical Advisor – Middle Snake River Committee
Member – Liaison Committee, U.S. Geological Survey National Water Quality Assessment Program, Snake River Basin
Member – Snake River Studies Committee, Idaho Department of Water Resources
Member – City of Twin Falls Wellhead Protection Committee
Member-Eastern Snake River Plain Groundwater Modeling Committee

Publications:

Dr. Brockway is the author of over 100 technical publications in the water resource engineering field. A full list of publications can be provided at request.



BROOKWOOD SUBDIVISION
WATER TABLE ANALYSIS

Net Draw Down Lines
Pond #5
New well

N

BROCKWAY ENGINEERING, PLLC.
ALR MARCH 18, 2004

Well Interference Analysis Brookwood Proposed Exchange Well

Estimated Well Drawdown

C.E. BROCKWAY February 12, 2002 Brockway Engineering P.L.S.

AQUIFER PROPERTIES BASED ON USBR GROUNDWATER MANUAL-ALLUVIAL SAND AND GRAVEL
AND LOCAL WELL DRILLER'S LOGS
EST. HOLE DIA. 12 INCHES

USING THEIS FORMULA S=114.6*Q/T*W(U)
S= DRAWDOWN IN FT
Q= PUMPING RATE GPM
T= COEFFICIENT OF TRANSMISSIBILITY GPD/FT
W(U)= WELL FUNCTION OF 'U'

W(U)=-.5772-LOGeU +U-U^2/(2*2!)+U^3/(3*3!)-U^4/(4*4!) .....
U=1.87*r^2*S/(T*t)
r=DISTANCE IN FT. FROM CENTER OF PUMPED WELL TO DRAWDOWN POINT
S=COEFFICIENT OF STORAGE
T=COEFFICIENT OF TRANSMISSIBILITY, GPD/FT
t= TIME SINCE PUMPING STARTED, DAYS

PUMPING WELL

r1=	0.500	FT	K=	40.00	FT/DAY
r2=	903	FT	K=	0.00046296	CFS/FT^2
r3=	1806	FT	K=	2.98E+02	GPD/FT^2
r4=	2709	FT	WRIGHT SAT. DEPTH EST.=	300	FT
r5=	5280	FT	TRANSMISSIVITY=	89520	GPD/FT
S=	0.15		TRANSMISSIVITY=	1.39E-01	FT^2/SEC
T=	89520	GPD/FT	TRANSMISSIVITY=	11967.9	FT^2/DAY
Q/WELL	426.36	GPM =	0.950 CFS		

TIME HOURS	TIME t DAYS	U w/r1 0.5	WELL FUNCT. W(U)1	DRAW DOWN @WELL	SPEC. CAP GPM/FT	U W/r2 903	WELL FUNCT. W(U)2	DRAW DOWN @ 903	U W/r3 1806	WELL FUNCT. W(U)3	DRAW DOWN @ 1806	U W/r4 2709	WELL FUNCT. W(U)4	DRAW DOWN @ 2709
5	0.21	3.760E-06	11.9139	6.50	66	1.228E+01	0.0000	0.00	4.906E+01	0.0000	0.00	1.104E+02	0.0000	0.00
10	0.42	1.880E-06	12.6070	6.88	62	6.132E+00	0.0000	0.00	2.453E+01	0.0000	0.00	5.519E+01	0.0000	0.00
24	1.00	7.833E-07	13.4825	7.36	58	2.555E+00	0.0231	0.01	1.022E+01	0.0000	0.00	2.299E+01	0.0000	0.00
48	2.00	3.917E-07	14.1756	7.74	55	1.277E+00	0.1403	0.08	5.110E+00	0.0000	0.00	1.150E+01	0.0000	0.00
144	6.00	1.306E-07	15.2743	8.34	51	4.258E-01	0.6610	0.36	1.703E+00	0.0743	0.04	3.832E+00	0.0001	0.00
480	20.00	3.917E-08	16.4782	8.99	47	1.277E-01	1.6043	0.88	5.110E-01	0.5467	0.30	1.150E+00	0.1716	0.09
960	40.00	1.958E-08	17.1714	9.37	45	6.387E-02	2.2365	1.22	2.555E-01	1.0274	0.56	5.749E-01	0.4782	0.26

HOURS	DAYS	@WELL	903	1806	2709 DISTANCE FEET
0	0.00	0	0	0	0
5	0.21	-6.50	0.00	0.00	0.00
10	0.42	-6.88	0.00	0.00	0.00
24	1.00	-7.36	-0.01	0.00	0.00
48	2.00	-7.74	-0.08	0.00	0.00
144	6.00	-8.34	-0.36	-0.04	0.00
480	20.00	-8.99	-0.88	-0.30	-0.09
960	40.00	-9.37	-1.22	-0.56	-0.26

RECHARGE WELL

r1=	0.500	FT	K=	40.00	FT/DAY
r2=	901	FT	K=	0.00046296	CFS/FT^2
r3=	1806	FT	K=	2.98E+02	GPD/FT^2
r4=	2709	FT	WRIGHT SAT. DEPTH EST.=	300	FT
r5=	5280	FT	TRANSMISSIVITY=	89520	GPD/FT
S=	0.15		TRANSMISSIVITY=	1.39E-01	FT^2/SEC
T=	89520	GPD/FT	TRANSMISSIVITY=	11967.9	FT^2/DAY
Q/WELL	-426.36	GPM =	-0.950 CFS		

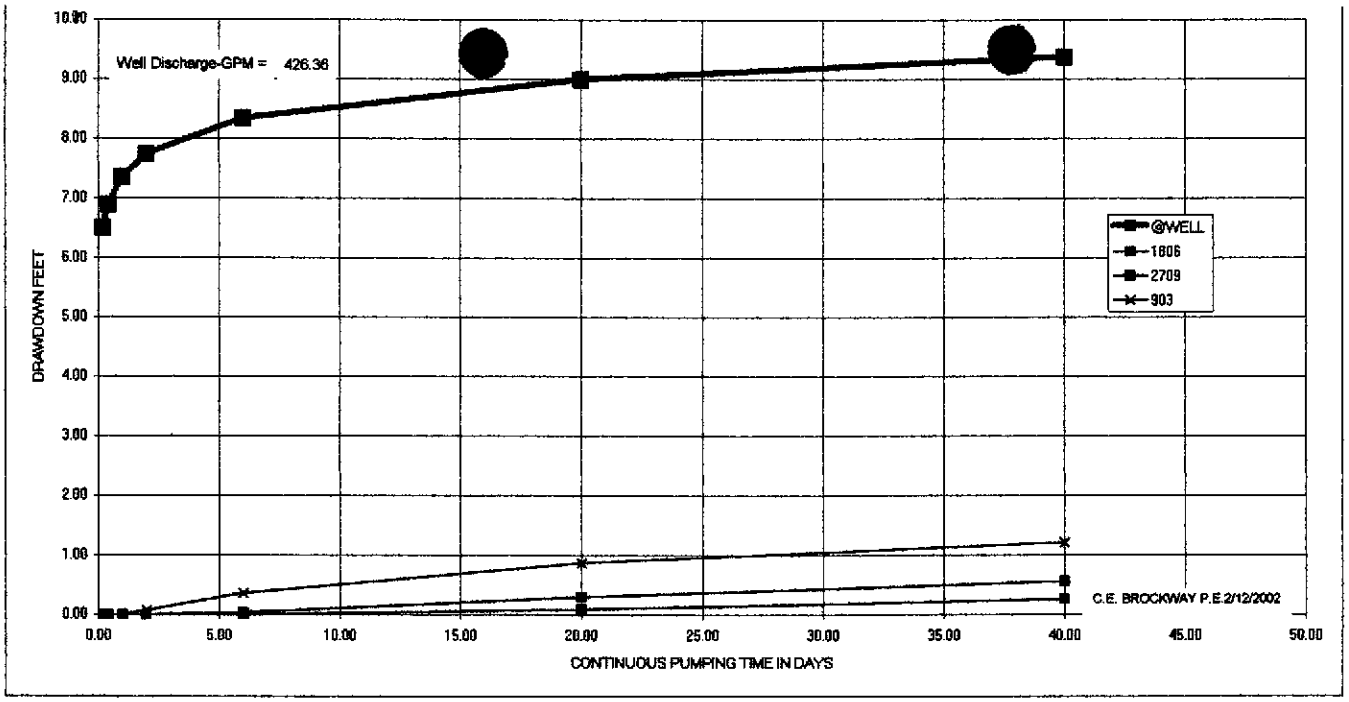
TIME HOURS	TIME t DAYS	U w/r1 0.5	WELL FUNCT. W(U)1	DRAW DOWN @WELL	SPEC. CAP GPM/FT	U W/r2 901	WELL FUNCT. W(U)2	DRAW DOWN @ 901	U W/r3 1806	WELL FUNCT. W(U)3	DRAW DOWN @ 1806	U W/r4 2709	WELL FUNCT. W(U)4	DRAW DOWN @ 2709
5	0.21	3.760E-06	11.9139	-6.50	66	1.221E+01	0.0000	0.00	4.906E+01	0.0000	0.00	1.104E+02	0.0000	0.00
10	0.42	1.880E-06	12.6070	-6.88	62	6.105E+00	0.0000	0.00	2.453E+01	0.0000	0.00	5.519E+01	0.0000	0.00
24	1.00	7.833E-07	13.4825	-7.36	58	2.544E+00	0.0235	-0.01	1.022E+01	0.0000	0.00	2.299E+01	0.0000	0.00
48	2.00	3.917E-07	14.1756	-7.74	55	1.272E+00	0.1415	-0.08	5.110E+00	0.0000	0.00	1.150E+01	0.0000	0.00
144	6.00	1.306E-07	15.2743	-8.34	51	4.239E-01	0.6639	-0.36	1.703E+00	0.0743	-0.04	3.832E+00	0.0001	0.00
480	20.00	3.917E-08	16.4782	-8.99	47	1.272E-01	1.6062	-0.88	5.110E-01	0.5467	-0.30	1.150E+00	0.1716	-0.09
960	40.00	1.958E-08	17.1714	-9.37	45	6.359E-02	2.2407	-1.22	2.555E-01	1.0274	-0.56	5.749E-01	0.4782	-0.28

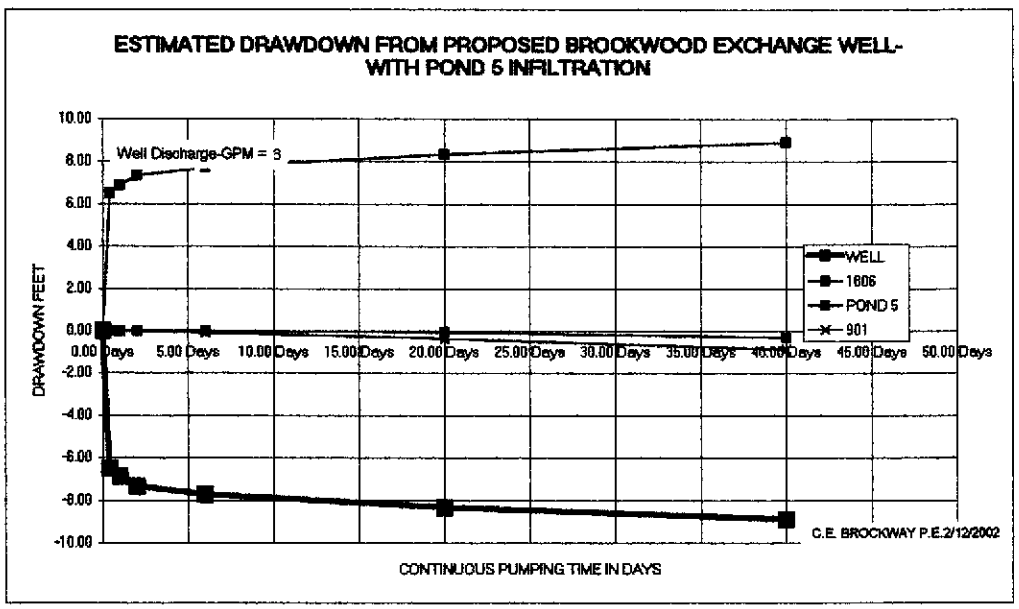
HOURS	DAYS	@WELL	901	1806	2709 DISTANCE FEET
0	0.00	0	0	0	0
5	0.21	6.50	0.00	0.00	0.00
10	0.42	6.88	0.00	0.00	0.00
24	1.00	7.36	0.00	0.00	0.00
48	2.00	7.74	0.00	0.00	0.00
144	6.00	8.34	0.00	0.00	0.00
480	20.00	8.99	0.00	0.00	0.09
960	40.00	9.37	0.00	0.00	0.26

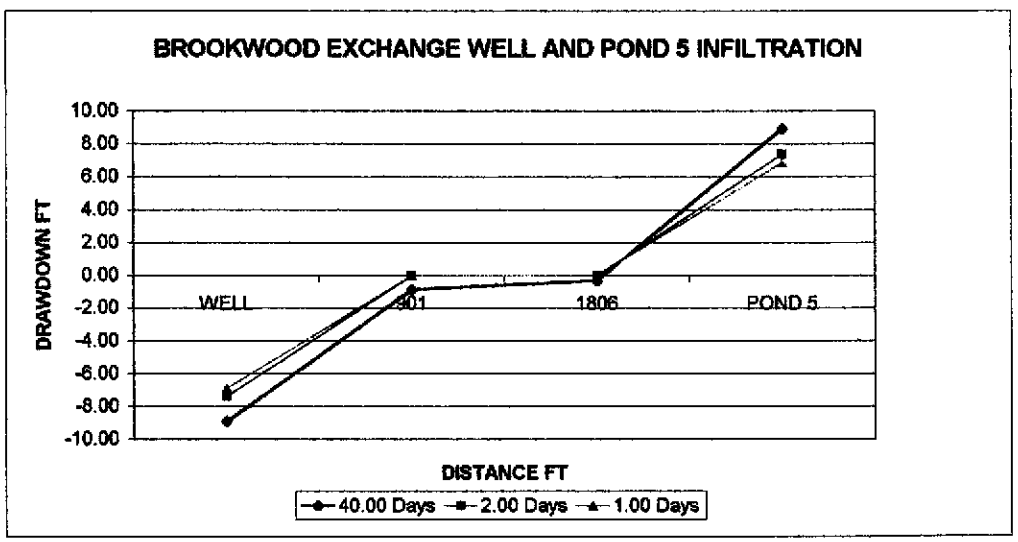
COMBINED EFFECT

HOURS	DAYS	WELL	901	1806	POND 5
0	0.00 Days	0.00	0.00	0.00	0.00
10	0.42 Days	-6.50	0.00	0.00	6.50
24	1.00 Days	-6.88	0.00	0.00	6.88
48	2.00 Days	-7.36	-0.01	0.00	7.36
144	6.00 Days	-7.74	-0.08	0.00	7.74
480	20.00 Days	-8.34	-0.36	-0.04	8.34
960	40.00 Days	-8.90	-0.88	-0.30	8.90

ESTIMATED DRAWDOWN FROM PROPOSED BROOKWOOD EXCHANGE WELL-NO POND 5


Well Discharge-GPM = 426.36
DRAWDOWN FEET
CONTINUOUS PUMPING TIME IN DAYS
@WELL
1806
2709
903
C.E. BROCKWAY P.E.2/12/2002


ESTIMATED DRAWDOWN FROM PROPOSED BROOKWOOD EXCHANGE WELL-
WITH POND 5 INFILTRATION
Well Discharge-GPM = 3
DRAWDOWN FEET
CONTINUOUS PUMPING TIME IN DAYS
WELL
1806
POND 5
901
C.E. BROCKWAY P.E.2/12/2002


BROOKWOOD EXCHANGE WELL AND POND 5 INFILTRATION
DRAWDOWN FT
WELL
901
1806
POND 5
DISTANCE FT
40.00 Days
2.00 Days
1.00 Days

BRUCE M. SMITH, ISB #3425
TAMMY A. ZOKAN, ISB #5450
MOORE SMITH BUXTON & TURCKE, CHARTERED
Attorneys at Law
225 North 9th Street, Suite 420
Boise, Idaho 83702
Telephone: (208) 331-1800
Facsimile: (208) 331-1202

RECEIVED
MAR 24 2004
WATER RESOURCES
WESTERN REGION

BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE STATE OF IDAHO

In the Matter of Transfer No. 70604, And Application for Permit No. 63-31689 Aries Development LLC, Petitioner.	)	**NOTICE OF SERVICE OF INFORMATION DISCLOSURES**

COMES NOW, the City of Eagle, and gives notice that the City served its Information Disclosures in accordance with the Hearing Officer's Prehearing Order dated February 20, 2004, on the parties on the 18th day of March, 2004 by regular U.S. mail, postage prepaid.

RESPECTFULLY SUBMITTED this 23rd day of March, 2004

TAMMY A. ZOKAN
MOORE SMITH BUXTON & TURCKE, CHARTERED

Attorneys for the City of Eagle

ORIGINAL

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on the 23rd day of March, 2004, I caused to be served a true and correct copy of the forgoing NOTICE OF SERVICE by the method indicated below, addressed to the following:

Idaho Department of Water Resources 2735 Airport Way Boise, Idaho 83705-5082	X via U.S. MAIL ____ via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE
Evan Robertson, Esq. Robertson, Hepworth, Slette, Worst & Stover, PLLC P.O. Box 1906 Twin Falls, Idaho 83303-1906	X via U.S. MAIL ____ via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE
Mike Chase 70 W. Floating Feather Rd. Eagle, Idaho 83616	X via U.S. MAIL ____ via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE
Molly O'Leary Richardson & O'Leary 99 E. State Street, Suite 200 Eagle, ID 83616	X via U.S. MAIL ____ via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE
Mike Sieler c/o Protestants 1125 Steeple View Dr. Eagle, Idaho 83616	X via U.S. MAIL ____ via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE

TAMMY A. ZOKAN

RECEIVED
MAR 2 3 2004
Department of Water Resources

BRUCE M. SMITH, ISB #3425
TAMMY A. ZOKAN, ISB #5450
MOORE SMITH BUXTON & TURCKE, CHARTERED
Attorneys at Law
225 North 9th Street, Suite 420
Boise, Idaho 83702
Telephone: (208) 331-1800
Facsimile: (208) 331-1202

RECEIVED
MAR 18 2004
WATER RESOURCES
WESTERN REGION

BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE STATE OF IDAHO

In the Matter of Transfer No. 70604, And Application for Permit No. 63-31689 Aries Development LLC, Petitioner.	)))))	**INFORMATION DISCLOSURES**

In accordance with the Hearing Officer's Prehearing Order dated February 20, 2004, the City of Eagle ("Protestant"), by and through counsel of record, MOORE SMITH BUXTON & TURCKE, CHARTERED, hereby submits the following information disclosures.

1. **List of Persons With Specific Knowledge Related to the Application.**

City of Eagle Mayor Nancy Merrill and former Mayor Rick Yzaguirre
City of Eagle Council Members
Eagle City Hall
P.O. Box 1520
Eagle, Idaho 83616
(208) 939-6813

City of Eagle Engineer
Vern Brewer, City Project Manager/Engineer Liaison
Chris Duncan, P.G.
Holladay Engineering Co.
P.O. Box 235
Payette, Idaho 83661
(208) 642-3304

Mike Hormaechea
105 Old Barn Road
Eagle, Idaho 83616
(208) 939-2552

ORIGINAL

These individuals have general knowledge of the Brookwood Subdivision planning, zoning and plat review processes and agreements between the City and the Applicant. These individuals also have general knowledge related the City's water rights, municipal water needs and municipal water system.

2. List of Documents Relevant to Application.

- Development Agreement
- Well Purchase Agreement
- Application for Transfer, 63-12448
- Idaho Department of Water Resources Open-File Report
- Summary of Groundwater Conditions in the Vicinity of Proposed Brookwood Subdivision Well Site
- City of Eagle Municipally-Owned Water System Master Plan and Budget Study
- Results of the 30-Day Pumping Test and Aquifer Analysis

3. List of Expert Witnesses

The City has not yet employed an expert witness.

The City of Eagle reserves the right to supplement these responses throughout the pendency of this action.

RESPECTFULLY SUBMITTED this 18th day of March, 2004

TAMMY A. ZOKAN
MOORE SMITH BUXTON & TURCKE, CHARTERED

Attorneys for the City of Eagle

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on the 18th day of March, 2004, I caused to be served a true and correct copy of the forgoing INFORMATION DISCLOSURES by the method indicated below, addressed to the following:

Idaho Department of Water Resources 2735 Airport Way Boise, Idaho 83705-5082	X via U.S. MAIL ____ via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE
Evan Robertson, Esq. Robertson, Hepworth, Slette, Worst & Stover, PLLC P.O. Box 1906 Twin Falls, Idaho 83303-1906	X via U.S. MAIL ____ via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE
Mike Chase 70 W. Floating Feather Rd. Eagle, Idaho 83616	X via U.S. MAIL ____ via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE
Molly O'Leary Richardson & O'Leary 99 E. State Street, Suite 200 Eagle, ID 83616	X via U.S. MAIL ____ via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE
Mike Sieler c/o Protestants 1125 Steeple View Dr. Eagle, Idaho 83616	X via U.S. MAIL ____ via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE

TAMMY A. ZOKAN

RECEIVED & FILED
CITY OF EAGLE
MAY 12 1999
File:
Route to:

ADA COUNTY RECORDER
J. DAVID NAVARRO
BOISE, IDAHO
Eagle City
RECORDED - REQUEST OF
FEE 18.00 DEPUTY
99048033

RECEIVED
MAR 23 2004
Department of Water Resources

DEVELOPMENT AGREEMENT

1999 MY 12 PM 11:20

THIS DEVELOPMENT AGREEMENT ("Agreement") is entered into this 12th day of MAY, 1998, by and between the CITY OF EAGLE, IDAHO, a municipal corporation ("City"), and HORMAECHEA LIMITHED PARTNERSHIP, an Idaho limited partnership ("Developer").

RECITALS:

A. Developer is the owner of certain real property situated in the City of Eagle, Ada County, Idaho ("Property"), which contains approximately two hundred nineteen (219) acres in the agriculture zoning of the City, and which Property is more particularly described in Exhibit "A" attached hereto.

B. Developer proposes to subdivide and develop on the Property a residential development, consisting of approximately three hundred and eighty seven (387) residential units, to be known as the Brookwood Subdivision ("Property").

C. It is the intent of the Developer that the Project be developed in multiple phases, the timing and dimensions of each phase being dependent upon market absorption rates.

D. To facilitate development of the Project, the Developer has filed an appropriate rezone application, subdivision application, a preliminary development plan ("Master Plan") and a conditional use permit application for a planned unit development.

E. Pursuant to Section 8-10-1 (C) 7 of the City of Eagle Zoning Ordinance No. 298 ("Zoning Ordinance"), this Development Agreement is intended to include certain covenants, conditions, understandings and details respecting the development of the Project and is various phases, which the parties believe are not adequately addressed in the planned unit development application submitted pursuant to Chapter 6 of the City of Eagle Zoning Ordinance.

NOW, THEREFORE, in consideration of the mutual covenants and conditions hereinafter set forth, the parties agree as follows:

1. Binding Effect. Eagle will adopt an ordinance amending the Eagle Zoning Ordinance to rezone the property that is the subject of the application to a R-2-DA-P and R-4-DA-P zoning district (residential - two dwelling units per acre maximum and four dwelling units per acre maximum - with Development Agreement and Planned Unit Development). The Properties are more particularly described in Exhibits "B" and "C" attached hereto. The ordinance will become effective after its passage, approval, and publication and the execution and recordation of this Development Agreement. This Agreement, and all representations, covenants, conditions and agreements herein contained, shall become effective after its execution and recordation in the official records of Ada County, Idaho, and in any event shall run with the ownership of the Property, and shall bind and benefit the City, the Developer, and all succeeding owners of said Property, or any portion thereof.

2. Brookwood PUD Application. Prior to the date of this Agreement, the Developer has submitted a PUD application, including required supportive documentation and narrative text for the Project. Developer hereby represents the information contained therein is true and correct to the best of the Developer's knowledge, and the same is hereby incorporated in this Development Agreement as though set forth in full.

3. Maximum Density. As mentioned herein above, Developers have filed with the City an application to rezone the Property to a combination of low density residential ("R2 Zone") and medium density residential ("R4 Zone"). Notwithstanding what might otherwise be permitted as maximum density if said zoning application and the PUD application for Brookwood Subdivision

are approved by the City, Developer agrees that the total density for the property shall not exceed three hundred and eighty seven (387) units.

4. Floodplain Alteration. If permitted by the applicable regulations of the United States Federal Emergency Management Agency ("FEMA"), the Developer desires to alter and amend the boundaries of the existing floodway situated on the Property. In order to have the matter reviewed by FEMA, the Developer's request therefore must be consented to, and signed by, the City, which the City hereby agrees to do. It is understood and agreed by the Developer that such action shall not constitute an endorsement by the City of Developer's request to alter and amend the floodway, that determination being solely within the discretion of FEMA. City of Eagle approval shall be subject to any FEMA requirements regarding the revised study for the Dry Creek Floodplain currently underway by FEMA.

5. Floodway Setback. All buildings shall be set back a minimum of 50 feet from the floodway line except that when the 100 year floodplain line is 50-feet or less from the floodway line the floodplain line shall be the setback line.

6. Floodplain Grading. Grading plans shall show that grading shall be done in such a way that the floodwater storage volume in the floodplain, as bounded by the existing surface topography and the Base Flood Elevation surface, shall not be reduced from the current quantity. Depressions which will be filled with ground water and sections of the floodplain which are restricted from floodwater conveyance due to roads built above the Base Flood Elevation shall not be considered when determining floodwater storage volumes.

7. Roadways and Manholes Within The Floodplain. Roadways and manholes within the floodplain shall be a minimum of 0.5 feet above Base Flood Elevation at center line and manhole ring respectively and all new roads built above the Base Flood Elevation shall not restrict conveyance of floodwater into sections of the floodplain which may be cut off by the proposed road. Culverts or bridges shall be provided under roads to allow floodwater conveyance for floodwater storage into sections of the floodplain which may be cut of by a road.

8. Nature trail. On the Master Plan is shown a pedestrian nature trail extending along the northern portion of the Project, denominated as the "Proposed Regional Trail, Ridge to Rivers." This trail shall be constructed by the Developer, according to plans and specifications to be mutually agreed upon by the City. Upon completion, an easement of sufficient width to include the trail, and title to all improvements constructed thereon, shall be given by the Developer to the City free of all liens and encumbrances. Thereafter, the Developer shall have no further obligation with respect to the repair and maintenance of said nature trail, nor any liability for any use made thereof by the City.

9. Water Service. Subject to the following terms and conditions, the parties understand and agree that the Project shall be served with potable water and fire flows from the municipal water system owned by the City:

   a. The Developer shall install a well, as specified by the City Engineer, to meet the potable water needs of the residents of the subdivision.

   b. On or before approval of a final development plan for the Project, the City shall provide Developer with reasonable evidence that its municipal water system will have, when the well is installed by the Developer, adequate capacity to provide required potable water needs and fire flows to the residential units planned for the Project, and that it will make such service available at the domestic rates prevailing at the time connections are requested, including monthly service rates and all other fees and charges payable at the time of connection.

10. Phasing. The City understands and agrees that the Project is planned to be developed in approximately thirteen (13) phases, the exact timing and sequencing of which shall be determined by the Developer, subject to approval from the City. Provided a final plat for each approved phase of the Project is presented to the City within two (2) years of the final plat approval for the preceding phase, the PUD approval and all related preliminary plat approvals shall remain in full force and effect.

11. Master Plan. The Master Plan represents Developer's current concept for completion of the Project. As the Master Plan evolves into preliminary plat applications, the City understands and agrees that certain changes in that concept will likely occur, such as total lot numbers and configuration, and minor alterations in the alignment of streets and configuration of open spaces. Such changes, if proposed by the Developer, shall be placed on meeting agendas and reviewed by the City as "New Business" items and not as "Public Hearing" items unless the City determines that any such changes require additional public comment due to potential impacts on surrounding property or the community. If the City determines that a public hearing shall be held on any proposed changes in the Master Plan, notice therefore shall be provided in the same manner as was provided for in the initial approval process for the Master Plan.

Notwithstanding the foregoing, no changes in the size in Lots 92, 93, 94, and 95, Block 2, as depicted on the preliminary plat of Brookwood Subdivision shall be made unless approved by the City after notice to adjoining property owners and an opportunity for said owners to be heard on the matter.

12. Resubdivision. No buildings or improvements other than streets, utilities, berms, or water features, shall be commenced within Blocks 6, 18, 21 or 22, Brookwood Subdivision, as shown on the preliminary plat thereof, until an unless said block or blocks have been resubdivided by the Developer and a preliminary plat for the same has been approved by the City.

13. Construction Management. To promote the orderly construction and development of various phases of the Project, and to prevent, to the extent practicable, construction activities from becoming a nuisance or hazard to residents within completed phases, prepare and implement a construction management plan which includes identification of a construction staging area for that phase, designated parking areas for construction employees and equipment, and, if necessary, temporary construction equipment access roads into and across the Project. A copy of said plan shall, prior to such construction, be provided to the City. Developer further agrees to instruct all of it contractors and subcontractors of the strict necessity for using the staging areas and construction parking areas exclusively for their intended purposes during the development of the Project, and further agrees to promptly respond to any complaints or concerns over these issues expressed by the City or neighboring property owners.

14. Dust and Erosion Control. The Developer acknowledges that the Subdivision is situated in the immediate vicinity of existing residences, making dust and erosion control of critical importance during the construction. The Developer will cooperate with the City in devising, amending and implementing the adequate steps to prevent erosion on the site and dust migrating from the site. Without limiting the foregoing, the Developer agrees to the following initial dust and erosion control steps.

    a. Developer shall expressly discuss the need for proper dust and erosion control with each contractor or subcontractor whose work on the site could create or promote excessive dust or erosion, and include any appropriate provisions concerning these matters in all construction and grading contracts.

    b. Developer shall ensure that all disturbed areas are watered by hose, sprinkler system, or sprinkling truck frequently enough to preclude conditions where excessive dust or dirt will drift or be blown from the site.

c. For purposes of both dust and erosion control, the Developer shall work with all contractors and subcontractors to prevent unnecessary destruction of existing ground cover and plants, and disturbance of soil areas. The Developer shall be particularly careful around areas where erosion could transport soil and other materials into existing waterways or wetland areas, as the construction schedule permits to minimize erosion and dust control.

15. Police Powers. Nothing contained herein is intended to limit the police powers of the City or its discretion in reviewing subsequent application regarding development and construction of the Property, or improvements within any phase thereof. Except as herein regulated, including without limitation, applicable building codes, fire codes, zoning ordinances, subdivision ordinances, or comprehensive plan provisions.

16. Specific Performance. On a breach of this Agreement, in addition to all other remedies at law or in equity, this Agreement may be enforced by specific performance by the City. All remedies shall be cumulative.

17. Attorney's Fees. In the event either party is required to retain counsel to enforce a provision of this Agreement, or to recover damages resulting from a breach hereof, the prevailing party shall be entitled to recover from the other party all costs and reasonable attorney's fees incurred, including costs and attorney's fees incurred on appeal.

18. Notices. All notices required or provided for under this Agreement, or which may become necessary in the event of a default in any of the terms and conditions of this Agreement, shall be in writing and deemed delivered upon delivery in person or by certified mail, postage pre-paid. Such notices to the City shall be addressed as follows:

City of Eagle
Planning & Zoning Administrator
310 East State Street
Eagle, Idaho 83616

Notices to the Developer shall be addressed as follows:

Michael Hormaechea
Hormaechea Limited Partnership
1101 River Street, Suite 300
Boise, Idaho 83702

A party may change the address to which the address to which further notices are to be sent by notice in writing to the other party, and thereafter notices shall be addressed and transmitted to the new address.

19. Wavier. The failure by the City at any time to strictly enforce the provisions of this Agreement or to remedy any breach hereof by the Developer, shall not constitute a waiver by the City of any of the covenants or conditions of this Agreement with regard to any subsequent default or breach, nor shall it be construed in any manner as an amendment of this Agreement.

20. Costs and Fees. In the event any suit or action is instituted to enforce any provision of this Development Agreement, or to remedy any breach thereof, the prevailing party shall be entitled, in addition to any other remedies or damages awarded, to recover all fees and costs reasonably incurred in said suit or action, including attorney fees.

21. Amendment. No amendments shall be made to this Development Agreement, nor to any approved plat, zoning designation or other approval issued in connection with this Project, shall be given by

the City without first complying with the notice and hearings provisions contained in Idaho Code § 67-6509, and as required by Eagle City Code Section 8-10-1.

22. Termination. In the event the Developer defaults in the performance of any of the terms and conditions of this Development Agreement or any conditions placed upon the approval of the Project by the City, the City may rescind the Development Agreement and revoke any plan approvals, preliminary plat approvals or building permits previously granted in connection with the Project; provided, however, that no such action shall be taken until and unless the City has first given Developer notice of the alleged default, granting the Developer a period of time deemed reasonable by the City in which to cure the same.

23. Entire Agreement. This Agreement constitutes the full and complete agreement and understanding between the parties hereto. There are no representations or warranties mad by either party except those expressly made in this Agreement or in subsequent written amendments hereto.

24. Authority. Each of the persons executing this Agreement represents and warrants that he has the lawful authority and authorization to execute this Agreement for and on behalf of the entity executing this Agreement.

25. Unenforceable Provisions. If any term, provision, commitment, or restriction of this Development Agreement or the application thereof to any party or circumstances shall, to any extent, be held invalid or unenforceable, the remainder of this instrument shall terminate and the zoning of the property shall revert to the Agricultural (A) zoning designation unless the portion of this instrument determined to be invalid or unenforceable is re-negotiated in good faith between the Applicant (or other appropriate party) and Eagle as an amendment to the Development Agreement processed in accordance with the notice and hearing provisions of Idaho Code Section 67-6509, as required by Eagle City Code Section 8-10-1.

IN WITNESS WHEREOF, the parties have executed this Agreement on the Day and year first above written.

CITY OF EAGLE, IDAHO,
A MUNICIPAL CORPORATION

By: _____
Richard Yzaguirre
Its: Mayor

ATTEST:

By: _____
Sharon Moore
Its: City Clerk

HORMAECHEA LIMITED PARTNERSHIP

By: _____
MICHAEL B. HORMAECHEA
Its: General Partner

STATE OF IDAHO)
)ss.
County of Ada)

On this 12 day of May, 1998, before me, a Notary Public, in and for said County and State, personally appeared RICHARD YZAGUIRRE, known or identified to me to be the Mayor of the City of Eagle, the municipality that executed the foregoing instrument, and acknowledged to me that such municipality executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

TRACY E. ROSS NOTARY PUBLIC STATE OF IDAHO

Tracy E. Ross
NOTARY PUBLIC FOR IDAHO
Residing at: Kuna Id
My commission expires: 12/23/02

STATE OF IDAHO)
)ss.
County of Ada)

On this 12th day of May, 1998, before me, a Notary Public, in and for said County and State, personally appeared Michael Hormaechea, known or identified to me to be the general partner of Hormaechea Limited Partnership, the partnership that executed the foregoing instrument, and acknowledged to me that such partnership executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

DANA KISER NOTARY PUBLIC STATE OF IDAHO

Dana Kiser
NOTARY PUBLIC FOR IDAHO
Residing at: Boise, Idaho
My commission expires: 09/02/2004

RECEIVED
MAR 2 3 2004
ORIGINAL
Department of Water Resources

WELL PURCHASE AGREEMENT

THIS WELL PURCHASE AGREEMENT is made and entered into this 26th day of September, 2000, by and between the **CITY OF EAGLE**, a municipal corporation of the State of Idaho ("Eagle"), by and through its mayor and members of the city council; and **ARIES DEVELOPMENT, L.L.C.**, an Idaho limited liability company, by and through its managing member, Michael B. Hormaechea ("Developer").

WITNESSETH:

WHEREAS, Eagle owns and operates a municipal potable water system ("City System"); and

WHEREAS, Developer is the owner of Brookwood PUD Subdivision, a residential subdivision of not more than 387 residential units, situated in the City of Eagle, Ada County, Idaho ("Brookwood"); and

WHEREAS, approval of the master plan for the development of Brookwood, and the final plats for Phases I and II thereof has been granted by the City of Eagle, subject to certain conditions and restrictions, including, *inter alia*, that potable water service to Brookwood be provided by the City System, and that in consideration therefor the Developer develop and donate to Eagle a new well of sufficient capacity to meet the anticipated potable water demands of Brookwood at build out ("Brookwood Well); and

WHEREAS, the parties have agreed that the required peak capacity of the Brookwood Well for the potable water demands of Brookwood should be calculated at .5 gallons per minute per residential unit, or a total of approximately 200 gallons per minute; and

WHEREAS, in addition to the potable water demands for Brookwood, the Developer desires to increase the capacity of the Brookwood Well by 50 gallons per minute in order to make that quantity of water available for use in the decorative streams, ponds, and other aesthetic water facilities situated within the common area of Brookwood at such times of the year as irrigation water is not readily available for that purpose; and

WHEREAS, the Developer further desires to increase the total capacity of the Brookwood Well from the above-referenced 250 gallons per minute which it is anticipated may be required by Brookwood, to a total capacity of 1000 gallons per minute for the benefit of the City System, and to sell the same to Eagle, upon completion, for a sum equal to one-half of the total costs actually incurred therefor, including costs for engineering and design, a stipulated well site acquisition cost of $25,000, drilling, construction and installation; and

WHEREAS, Eagle desires to acquire the Brookwood Well upon its completion in accordance with the terms and conditions hereinafter set forth;

NOW, THEREFORE, the parties hereto, in consideration of the mutual covenants and conditions hereinafter set forth, hereby agree, for themselves, their successors and assigns, as follows:

1. As soon as practical after the execution of this Agreement, the Developer shall contract with Holladay Engineering to prepare detailed plans and specifications for the Brookwood Well, with a design capacity of 1000 gallons per minute.

2. Upon completion of the plans and specifications, and their approval by the parties hereto, the Developer shall prepare detailed cost estimates for completion of the Brookwood Well, including, wherever possible, firm bid prices from third party contractors acceptable to the Developer and Holladay Engineering. Said cost estimates shall, to the extent possible, include all anticipated components of the Brookwood Well, and costs associated therewith, including, but not necessarily limited to, costs incurred for the following:

   (a) Design of the Brookwood Well by Holladay Engineering.
   (b) Any construction supervision or inspection services deemed appropriate by the Developer and Holladay Engineering.
   (c) The acquisition cost of the well site, consisting of approximately 8,000 square feet, situated in the Brookwood PUD Subdivision, a stipulated cost of which shall be $25,000.
   (d) The components, services, labor, and materials set forth in that certain document prepared by Holladay Engineering entitled "Probable Costs - Proposed Eagle Municipal Well - Project No. 091698", a copy of which is attached hereto as Exhibit "A".

3. Upon approval of the estimated costs by the parties hereto, Developer shall proceed to complete the Brookwood Well in accordance with the approved plans and specifications, employing the services of third party contractors acceptable to the Developer and Holladay Engineering. Construction of the Brookwood Well shall be undertaken and supervised by the Developer, in conjunction with Holladay Engineering, and Eagle shall be kept informed of the progress of construction and be provided with a full accounting of all monies expended by the Developer to complete the project.

4. Eagle represents and warrants that it has a valid water right issued by the Idaho Department of Water Resources, authorizing the development of the Brookwood Well and the diversion therefrom, for municipal water purposes, of up to 1,000 gallons per minute. Upon completion of the Brookwood Well, Eagle shall take all steps necessary to perfect said water right, and to keep it in full force and effect thereafter.

5. The parties acknowledge and agree that the cost estimates for the Brookwood Well assume that an adequate source of water will be available within 350 feet of the surface of the well site, and that no unexpected or extraordinary geological conditions or circumstances will be encountered during the drilling process. Should these

assumptions prove incorrect, the parties acknowledge that the actual costs incurred in the completion of the Brookwood Well could increase significantly over the estimated costs. During construction, Eagle will be kept fully informed, and the Developer shall consult with Eagle whenever any condition or circumstance arises which may significantly impact the cost of the project.

6. Upon completion of the Brookwood Well in substantial conformance with the approved plans and specifications, to the reasonable satisfaction of Holladay Engineering, the same shall be sold and conveyed, in its entirety, to Eagle, free and clear of all liens and encumbrances. The purchase price shall be fifty percent (50%) of the actual costs incurred for the Brookwood Well by the Developer, which costs shall include a stipulated cost of $25,000 for the above-referenced well site. The purchase price shall be paid within thirty (30) days after the Developer presents to Eagle an appropriate accounting of the costs incurred, and simultaneously with the receipt of the payment, the Developer shall transfer and convey the well to Eagle as follows

   (a) By perpetual easement, free and clear of all liens and encumbrances, the Developer shall provide to Eagle the well site, consisting of approximately 8,000 square feet situated within the Brookwood Subdivision, the approximate location of which is shown on Exhibit "B" hereto, and identified on that document as the "City of Eagle Domestic Water Well Easement", together with a perpetual easement providing vehicular access from the well site to Old Barn Road.

   (b) All other components of the Brookwood Well shall be conveyed to Eagle, free and clear of all liens and encumbrances, by bill of sale or other appropriate instrument or instruments executed by the Developer as specified by Eagle.

7. From and after its acquisition by Eagle, the Brookwood Well shall be operated as an integral part of the City System, provided, however, that in consideration for the participation of the Developer as set forth herein, water from the City System shall be available for the benefit of the Brookwood PUD Subdivision as follows:

   (a) As the Brookwood PUD Subdivision develops, all residences constructed therein shall obtain potable water from the City System, subject to the payment and performance of all connection fees, user fees, and other applicable fees, rules and regulations imposed by Eagle.

   (b) For the benefit of the Brookwood PUD Subdivision, the owners of the Common Area within that Subdivision shall be entitled to obtain from the City System, at approximately the point described in Exhibit "C" hereto, a flow of not more than 50 gallons per minute for the exclusive purpose of utilizing said water in the streams, ponds and other aesthetic water features situated within the Common Area during such times of each year as irrigation water is not available for that purpose through Farmers Union Canal. Such water shall be provided through a metered system approved by Eagle, at the prevailing rate charged for potable water from the City System.

8. If a suit or action is instituted to enforce any of the terms of this Agreement, the prevailing party shall be entitled to recover all costs and attorney fees from the non-prevailing party.

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year first written above.

"EAGLE"
CITY OF EAGLE, IDAHO

By: _____
Rick Yzaguirre
Mayor

ATTEST:

By: _____
Sharon K Moore
City Clerk

"DEVELOPER"
ARIES DEVELOPMENT, L.L.C.

By: _____
Michael B. Hormaechea
Its: Managing Member

STATE OF IDAHO)
ss.
County of Ada)

On this 27th day of September, 2000, before me, a Notary Public for said County and State, personally appeared Rick Yzaguirre and Sharon K. Moore, known or identified to me, to be the Mayor and City Clerk, respectively, of the CITY OF EAGLE that executed the said instrument, and acknowledged to me that such municipality executed the same.

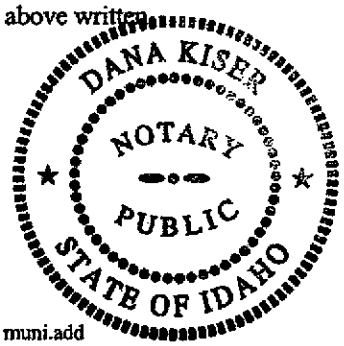
IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

Tracy E. Osborn
NOTARY PUBLIC FOR IDAHO
Residing at Kuna, Idaho
My commission expires 12/[illegible]

STATE OF IDAHO)
ss.
County of Ada)

On this 6th day of October, 2000, before me, a Notary Public for said County and State, personally appeared MICHAEL B. HORMAECHEA, known or identified to me, to be one of the members in the limited liability company of ARIES DEVELOPMENT, L.L.C., and the member or one of the members who subscribed said limited liability company name to the foregoing instrument, and acknowledged to me that he executed the same in said limited liability company name.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.



Dana Kiser
NOTARY PUBLIC FOR IDAHO
Residing at Boise, ID
My commission expires 9/2/04

!rlw\realest\well agree muni.add

PROBABLE COST - PROPOSED EAGLE MUNICIPAL WELL - Project No. 091698

ITEM	UNITS	UNIT COST	ITEM COST	PHASE COST
WELL CONSTRUCTION & TESTING				[illegible]
Design & Permitting	40 hrs	75.00	3,000.00	
24-inch Drilling	160 ft	58.00	9280.00	
16-inch Drilling	190 ft	58.00	11,020.00	
16-inch Casing	160 ft	28.35	4,536.00	
10-inch Well Screen	110 ft	107.00	11,770.00	
10-inch Casing	65 ft	19.86	1,291.00	
Colo Silica Sand Filter	7 yds	527.00	3,689.00	
Packer/Reducer	1	2,500.00	2,500.00	
Well Development	40 hrs	135.00	5,400.00	
Surface Seal	160 ft	17.86	2,858.00	
Pump Test	10 hrs	130.00	1,300.00	
Mobilization	1	2,500.00	2,500.00	
Geoscience (permit, design & inspecting)	200 hrs	75.00	15,000.00	
Outside Labor (lab water testing)	LS	1,500.00	1,500.00	
ELECTRICAL				[illegible]
Three-Phase Power	1	10,000.00	10,000.00	
Pump & Motor (800 gpm @ 300 ft TDH)	1	16,000.00	16,000.00	
Discharge Pipe	1	10,000.00	10,000.00	
Flow Meter	1	1,750.00	1,750.00	
Electrical Equipment	1	29,000.00	29,000.00	
Installation Labor	1	1,380.00	1,380.00	
Engineering	LS	13,000.00	13,000.00	
WELL TIE IN				[illegible]
Labor & Materials	LS	10,000.00	10,000.00	
Engineering Inspection	LS	2,000.00	2,000.00	
PUMPHOUSE / LANDSCAPING / PAVEMENT				[illegible]
Engineering Design & Constr. Inspection	LS	3,000.00	3,000.00	
Materials & Installation	LS	20,000.00	20,000.00	
TREATMENT EQUIPMENT				[illegible]
Chlorine Equipment	1	17,500.00	17,500.00	
Engineering	LS	2,500.00	2,500.00	
CONTINGENCY - 15%				[illegible]
TOTAL				[illegible]

EXHIBIT A

L-22	S15°04'45"E	59.61
L-23	S09°56'12"E	112.78
L-24	S84°08'21"E	19.03
L-25	S05°51'39"W	76.43
L-26	S68°09'24"E	45.78
L-27	S09°17'16"E	3.21
L-28	N09°17'16"W	50.14
L-29	S09°17'16"E	46.93
L-30	S63°45'43"W	27.48
L-31	N85°02'55"E	22.11

L-47
L-48
L-49
L-50
L-51
L-61
L-88
L-89
L-90

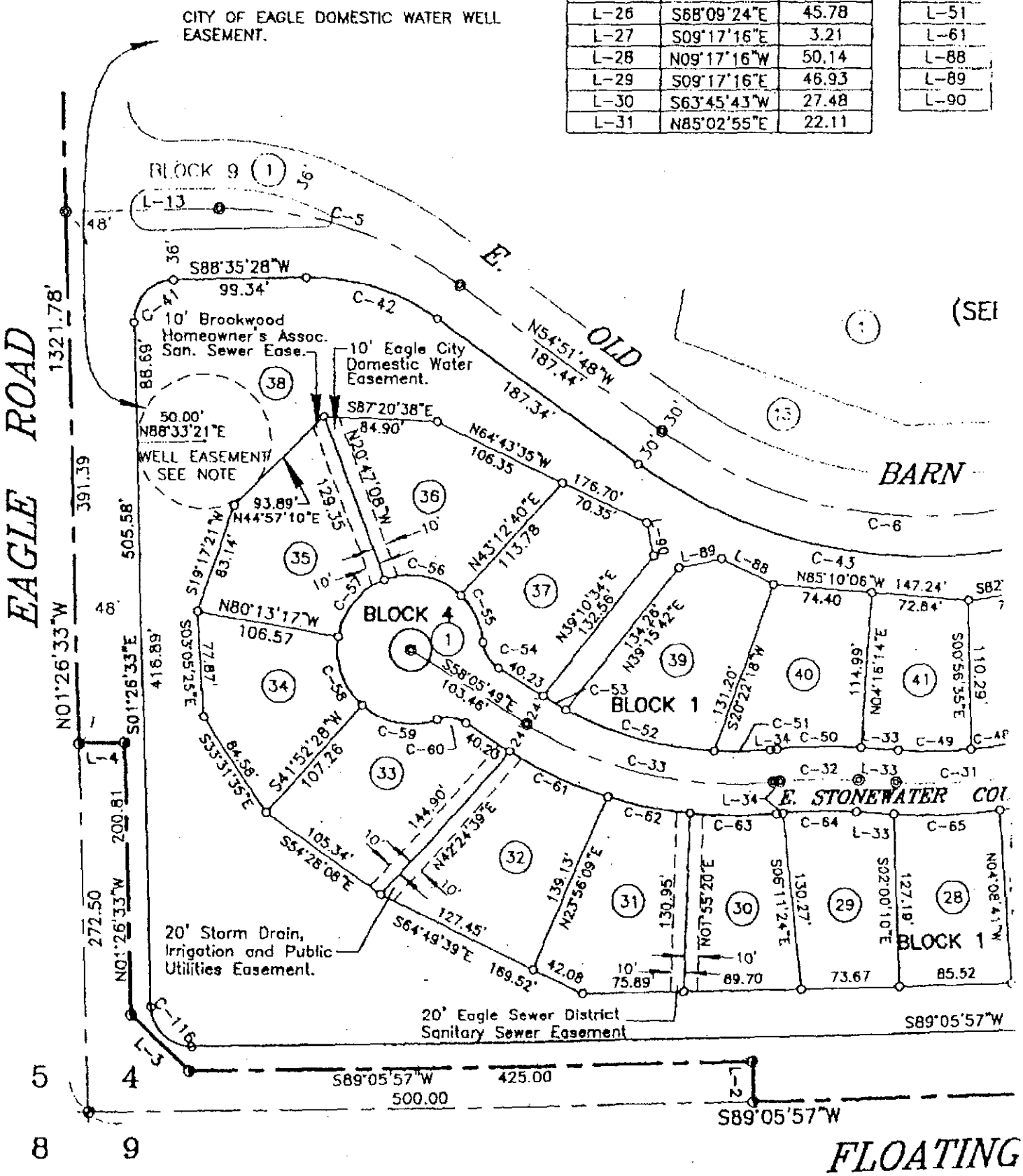
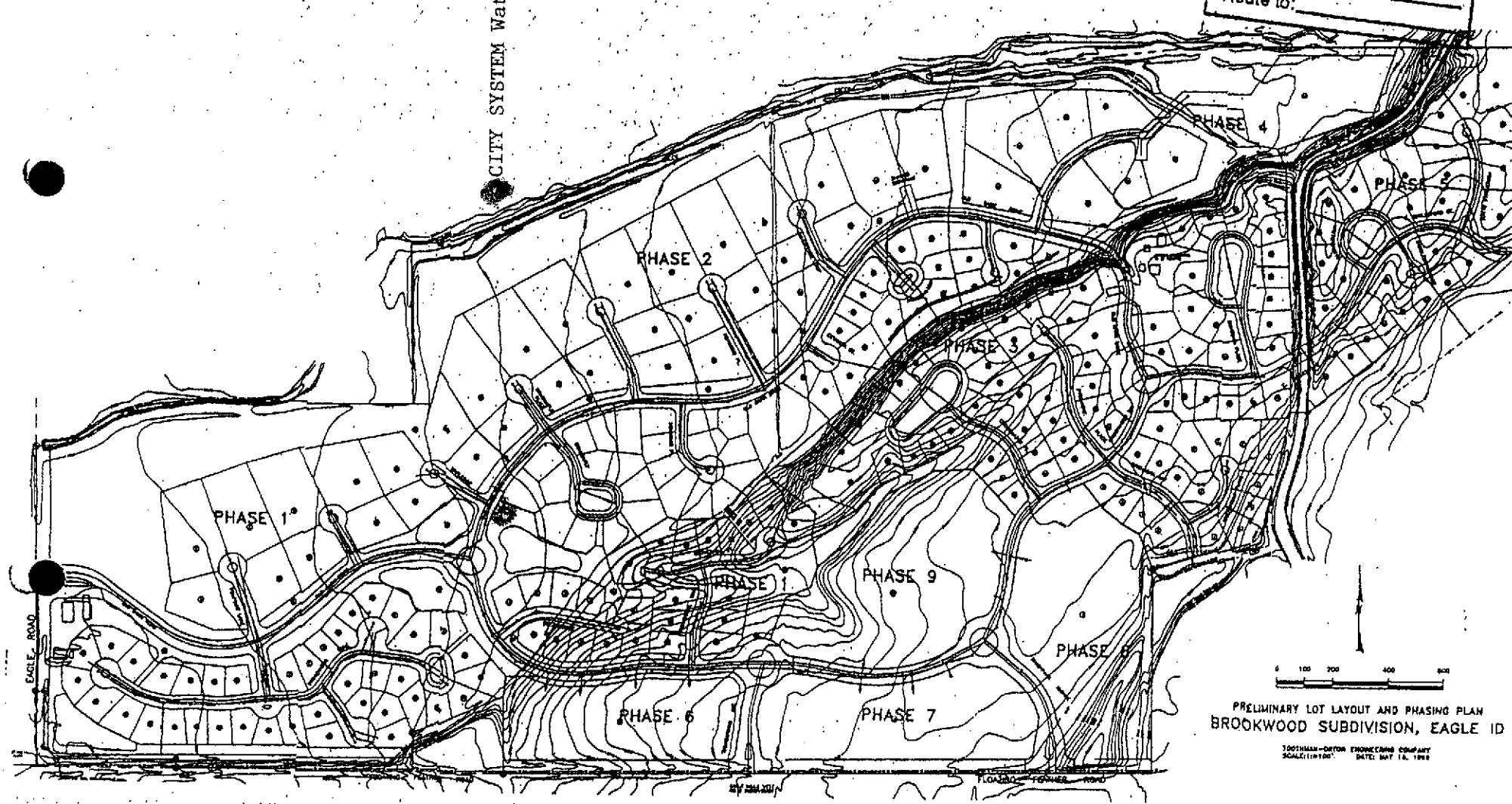


EXHIBIT B

C

RECEIVED & FILED
CITY OF EAGLE
JUL 0 1 1999
File:
Route to:

EXHIBIT C



PRELIMINARY LOT LAYOUT AND PHASING PLAN
BROOKWOOD SUBDIVISION, EAGLE ID

ADDENDUM TO WELL PURCHASE AGREEMENT

THIS ADDEDUM TO WELL PURCHASE AGREEMENT is made and entered into this 4th day of MARCH, 2004, by and between the **CITY OF EAGLE**, a municipal corporation of the State of Idaho ("City"), by and through its mayor and members of the city council; and **ARIES DEVELOPMENT, L.L.C.**, an Idaho limited liability company, by and through its managing member, Michael B. Hormaechea ("Developer").

WITNESSETH:

WHEREAS, the City and Developer entered into the Well Purchase Agreement on September 26, 2000, to set out the terms of the well to be constructed and integrated into the City's municipal potable water system; and

WHEREAS, the well site preferred by both the City and the Developer necessitated an addition of a ponit of diversion on the City's water right in the SW¼SW¼ in Section 4, Township 4 North, Range 1 East, Eagle, Idaho ("Brookwood Well"); and

WHEREAS, the City and the Developer have negotiated terms to address the increased cost of the well caused by litigation over the additional point of diversion request currently being processed by the Idaho Department of Water Resources; and

WHEREAS, the City and the Developer agree not to have the City Clerk sign the final plats for Phases 9 and 10 of the Brookwood Subdivision PUD until this Addendum has been executed by the Developer.

NOW, THEREFORE, the parties agree to amend the Well Purchase Agreement as follows:

Section 1: Paragraph 2 is amended as follows:

(c) ~~The acquisition cost of the well site, consisting of approximately 8,000 square feet, situated in the Brookwood PUD Subdivision, a stipulated cost of which shall be $25,000.~~

~~(d)~~ (c)

Section 2: Paragraph 6 is amended as follows:

Upon completion of the Brookwood Well in substantial conformance with the approved plans and specifications, to the reasonable satisfaction of Holladay Engineering, the same shall be sold and conveyed, in its entirety, to Eagle, free and clear of all liens and encumbrances. The purchase price shall be fifty percent (50%) of the actual costs incurred for the Brookwood Well by the Developer~~, which costs shall include a stipulated cost of $25,000 for the above-referenced well site~~. The estimated

$25,000 value of the well stie will be donated to the City and not included as part of the purchase price. The purchase price shall be paid within thirty (30) days after the Developer presents to Eagle an appropriate accounting of the costs incurred, and simultaneously with the receipt of the payment, the Developer shall transfer and convey the well to Eagle as follows:

Section 3: A new paragraph is added as Paragraph 9 which provides as follows:

In the event the current point of diversion, sought from IDWR by the City, is not granted by IDWR, an alternative well site in the NE¼SE¼, Sec. 4, T. 4 N., R. 1 E., Eagle, Idaho, or another location as agreed to by the parties will be provided by the Developer to the City, such site shall meet the minimum specifications of Holladay Engineering and DEQ.

Section 4: The Developer and the City agree that the unamended portions of the September 26, 2000 Well Purchase Agreement remain in full force and effect and that the Developer will construct the well as set forth therein. The Developer and the City additionally agree that the City Clerk shall not sign the final plats of Phases 9 and 10 of the Brookwood PUD Subdivision until this Addendum has been executed by the Developer.

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year first written above.

"EAGLE"
CITY OF EAGLE, IDAHO

By: _____
Nancy C. Merrill
Mayor

ATTEST:

By: _____
Sharon K. Moore
City Clerk

CITY OF EAGLE CORPORATE SEAL INCORPORATED 1971 STATE OF IDAHO

"DEVELOPER"
ARIES DEVELOPMENT, L.L.C.

By: _____
Michael B. Hormaechea
Its: Managing Member

STATE OF IDAHO)
ss.
County of Ada)

On this 4th day of March, 2004, before me, a Notary Public for said County and State, personally appeared Nancy C. Merrill and Sharon K. Moore, known or identified to me, to be the Mayor and City Clerk, respectively, of the CITY OF EAGLE that executed the said instrument, and acknowledged to me that such municipality executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

TRACY E. OSBORN NOTARY PUBLIC STATE OF IDAHO

Tracy E. Osborn
NOTARY PUBLIC FOR IDAHO
Residing at Kuna, Idaho
My commission expires 12/23/08

STATE OF IDAHO)
ss.
County of Ada)

On this 4th day of March, 2004, before me, a Notary Public for said County and State, personally appeared MICHAEL B. HORMAECHEA, known or identified to me, to be one of the members in the limited liability company of ARIES DEVELOPMENT, L.L.C., and the member or one of the members who subscribed said limited liability company name to the foregoing instrument, and acknowledged to me that he executed the same in said limited liability company name.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

LEANN HINGSBERGER NOTARY PUBLIC STATE OF IDAHO

Leann Hingsberger
NOTARY PUBLIC FOR IDAHO
Residing at Eagle, Id.
My commission expires 2/17/06

trlw\real\well agree\admi.add_am_final

RECEIVED
NOV 2 3 2001
Department of Water Resources

Form 211
10/93
(GP Version)

Receipt No. _____
Receipted by _____
Date _____

RECEIVED
JUN 0 8 2001
WATER RESOURCES
WESTERN REGION

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR AMENDMENT OF A PERMIT

Applicant *The City of Eagle*[1] Phone *208-939-[redacted]*

Address *310 E. State Street, Eagle, ID 83616*

I am the owner and holder of Permit to Appropriate the Public Waters of the State of Idaho No. *63-12448*, and request that the permit and permit map be amended and/or changed as follows:

Purpose of Amendment:

☐ Change point of diversion ☒ Add diversion point(s) ☐ Change place of use
☐ Change nature of use ☐ Change period of use ☐ Other _____

1. Point(s) of Diversion:

Lot	¼	¼	¼	Sec.	Twp.	Rge.	County	Local name for diversion
	SW	*SW*	*SW*	*§3*	*T4N*	*R1E*	*Ada*	*City of Eagle Well #1 (aka Lexington Hills Well #1)*
		NW	*SW*	*§3*	*T4N*	*R1E*	*Ada*	*City of Eagle Well #2 (aka Lexington Hills Well #2)*
		SW	*SW*	*§4*	*T4N*	*R1E*	*Ada*	*City of Eagle Well #3 (aka Brookwood Subdivision Well)*
		NE	*SE*	*§4*	*T4N*	*R1E*	*Ada*	*City of Eagle Well #4*
		SE	*SW*	*§5*	*T4N*	*R1E*	*Ada*	*Floating Feather Well*

2. Period and nature of use: (irrigation, domestic, stockwatering, industrial, etc.)
amount *3.25 cfs*[2] for *municipal (per Idaho Code § 42-202B(4))* purposes from *01/01* to *12/31*
(cfs/acre feet per annum) (water use) (begin month) (end month)

3. Place of use or land to be irrigated:

Twp.	Rge.	Sec.	NE¼				NW¼				SW¼				SE¼				Totals
			NE¼	NW¼	SE¼	SW¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
					See the City of Eagle's most recent Description of Municipal Service Area, filed separately with the Department.														

Total acres *not applicable*

4. a. Who owns the property at the point of diversion? *The City of Eagle owns, controls or will otherwise will obtain access to City of Eagle Well sites 1 through 4. United Water Idaho ("UWID") owns the Floating Feather Well. UWID has previously consented to the inclusion of this potential POD, subject to future negotiation of an agreement on use of the Floating Feather Well. This application seeks no change with respect to the Floating Feather p.o.d.*

b. Who owns the land to be irrigated at the place of use? *Not applicable to a municipal water right.*

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing: *Ownership of place of use is not applicable to a municipal water right.*

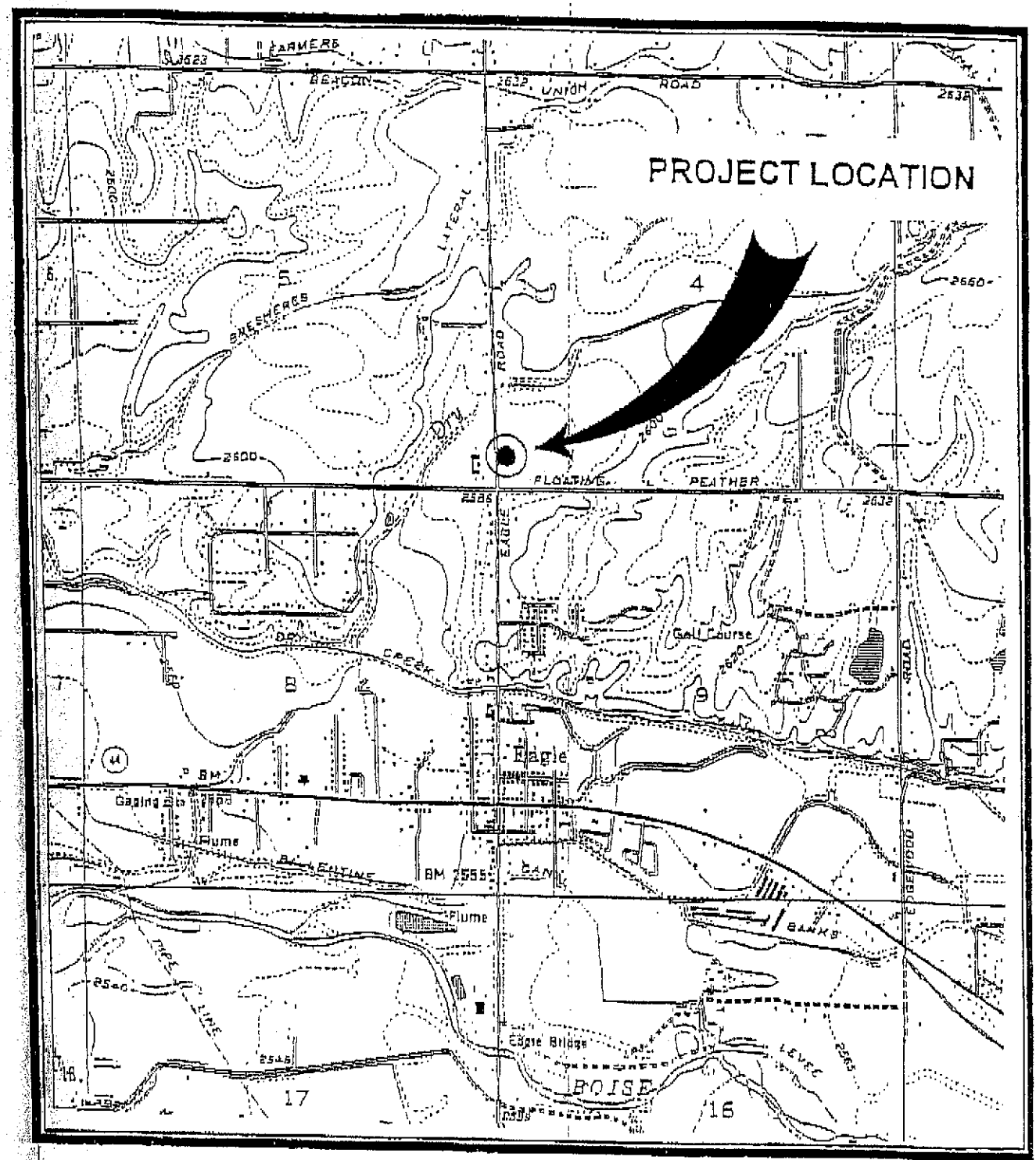
EXHIBIT 1

[1] *For city officials, see City of Eagle's most recent Description of Municipal Service Area, filed separately with the Department.*

[2] *As limited by Condition No. 11 in the Permit as Issued (limiting the total combined diversion rate to 3.25 for Nos. 63-*

Complete the following map by showing land and point of diversion as proposed by this amendment. Show 1/4 1/4, section, township, range and ditches. (The smallest subdivision represents 40 acres.)

The following map shows the City of Eagle Well #3 (Brookwood Subdivision Well) site now under construction. It is labeled "Project Location":



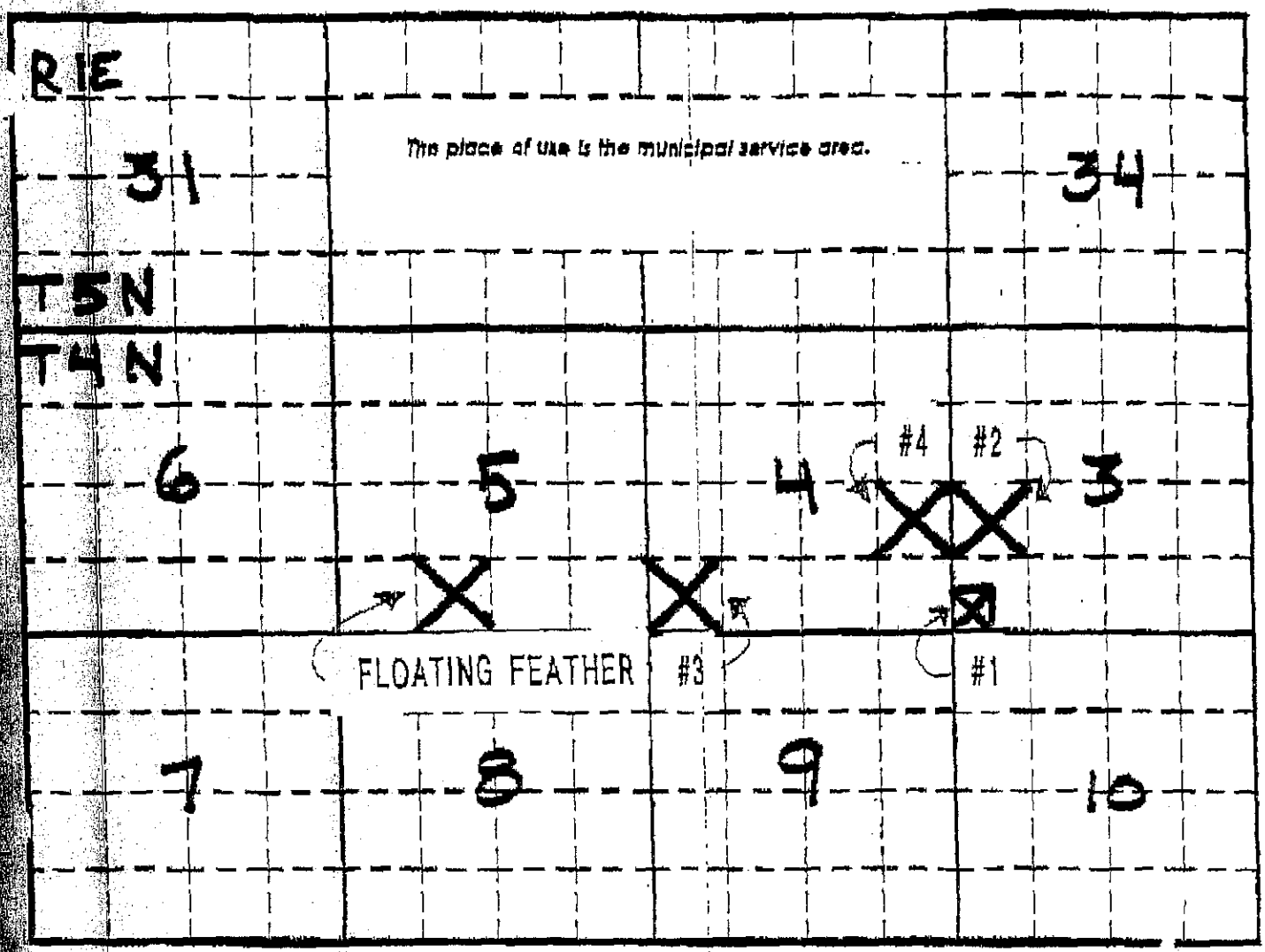
VICINITY MAP

MODIFIED FROM EAGLE, ID. 7 1/2-MIN. TOPOGRAPHIC MAP

HOLLADAY ENGINEERING CO.

SITE EVALUATION
BROOKWOOD WELL

The following map shows the five points of diversion associated with this water right:



The place of use is the municipal service area.

Scale: 2 inches equal 1 mile.

I hereby request approval of this change subject to the fact that no one will be injured by the change, and that the change will be made at my own risk.

Signed this 8th day of June, 2001.

Christopher H. Meyer
Givens Pursley LLP
277 N. 6th Street, Ste. 200
P.O. Box 2720
Boise, ID 83701-2720
(208) 388-1200
Special Water Attorney for Applicant

ACTION OF THE DEPARTMENT OF WATER RESOURCES

Preliminary check by _____ Publication prepared by _____ Date _____

Published in _____ Pub. dates _____

I, _____, of the Department of Water Resources hereby

Witness my hand this _____ day of _____, 19_____.

Idaho Department of Water Resources Receipt

Receipt ID W027880

Payment Amount $50.00 **Date Received** 6/8/01 9:02:50 AM **Region** Western **Status**

Payment Type Check **Check Number** 4281

Payer MEYER, CHRISTOPHER

Comment City of Eagle Amendment of Permit No. 63-12448

Fee Detail

Amount	Description	Fund	FD	PCA	SO
$50.00	AMENDMENTS	0229	21	62105	1155

Signature Line (Dept. Representative)

HECO
RECEIVED
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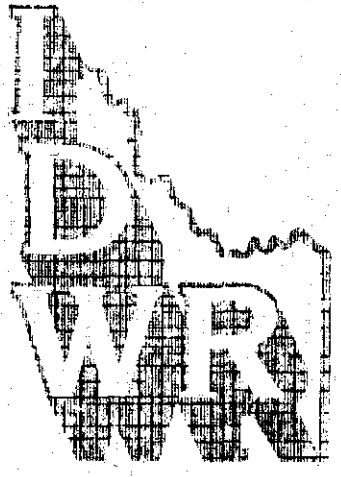
Department of Water Resources

Idaho Department of Water Resources

Open-File Report



GROUND-WATER CONDITIONS IN THE DRY CREEK AREA, EAGLE, IDAHO

by
Steven J. Baker

Idaho Department of Water Resources
Boise, Idaho

June, 1991

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INTRODUCTION

Purpose and Objectives

Due to continued growth in the Boise Valley, increased use of the ground-water resources has brought about concerns of over-development in certain areas. Land that was once used for growing crops or raising livestock is gradually being converted to multi-family subdivisions. People who initially sought the enjoyment of the simpler country life are finding that increased urbanization is gradually encroaching on them and with it some perceived problems.

An area northwest of Boise, near the small community of Eagle (see Figure 1) is one of the areas that is feeling the effects of expanding development. Some of the problems that have been expressed by well owners in this area include: declining well yields, especially near the end of the irrigation season; sand production during extended periods of pumping, which in some cases has required cleaning and/or deepening of certain wells; and water-quality problems that include hardness and high iron content.

Beginning in spring of 1989, a study was conducted by the Idaho Department of Water Resources (IWDR) in order to address these concerns over the ground-water resources in the area. This report is the outcome of that study. The report has been organized in the following format. The local geology is presented first in order to provide a description of the media through which the ground water moves. The next section discusses the principal factors that control the movement of the ground water in the area. A brief discussion of the ground-water quality in the area follows. Sections on conclusions and recommendations complete the report.

Description of Study Area

The study area occupies about nine square miles immediately northeast of Eagle (see Figure 2). The area is drained by Dry Creek which roughly bisects the study area from northeast to southwest and is a tributary of the Boise River. Foothills of the Boise mountains occur along the northern and eastern margins of the study area. The main portion of the study area, however, consists of a gentle southwest sloping terrace. Elevations range from 2950 feet (ft) above mean sea level (MSL) at the crest of the foothills that occur in the study area to around 2560 ft above MSL near Eagle.

The Farmers Union Canal traverses the study area from southeast to west-central. It is used to deliver surface water from the Boise River system to the area for irrigation needs.

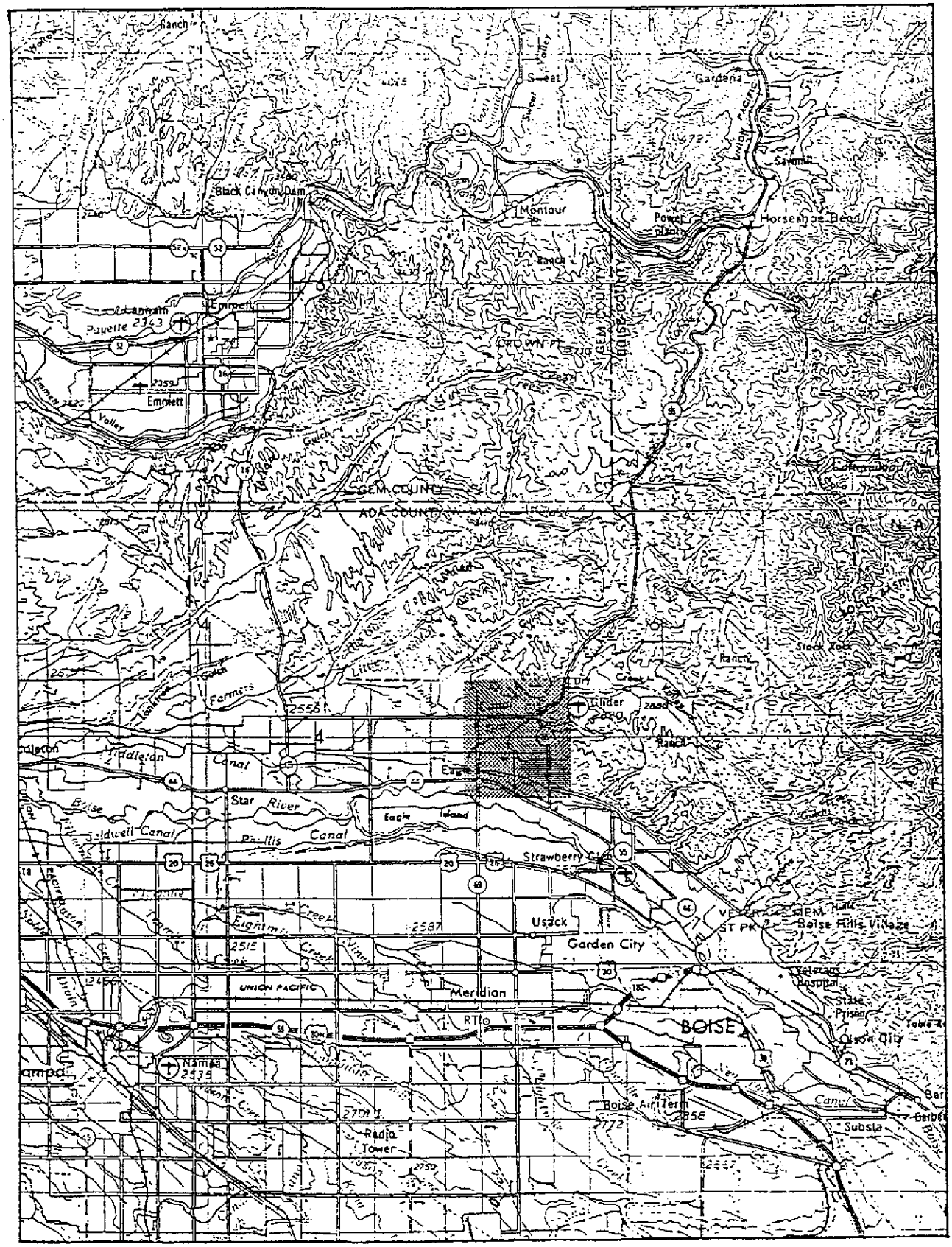

Figure 1. Location of study area

DRY CREEK AREA

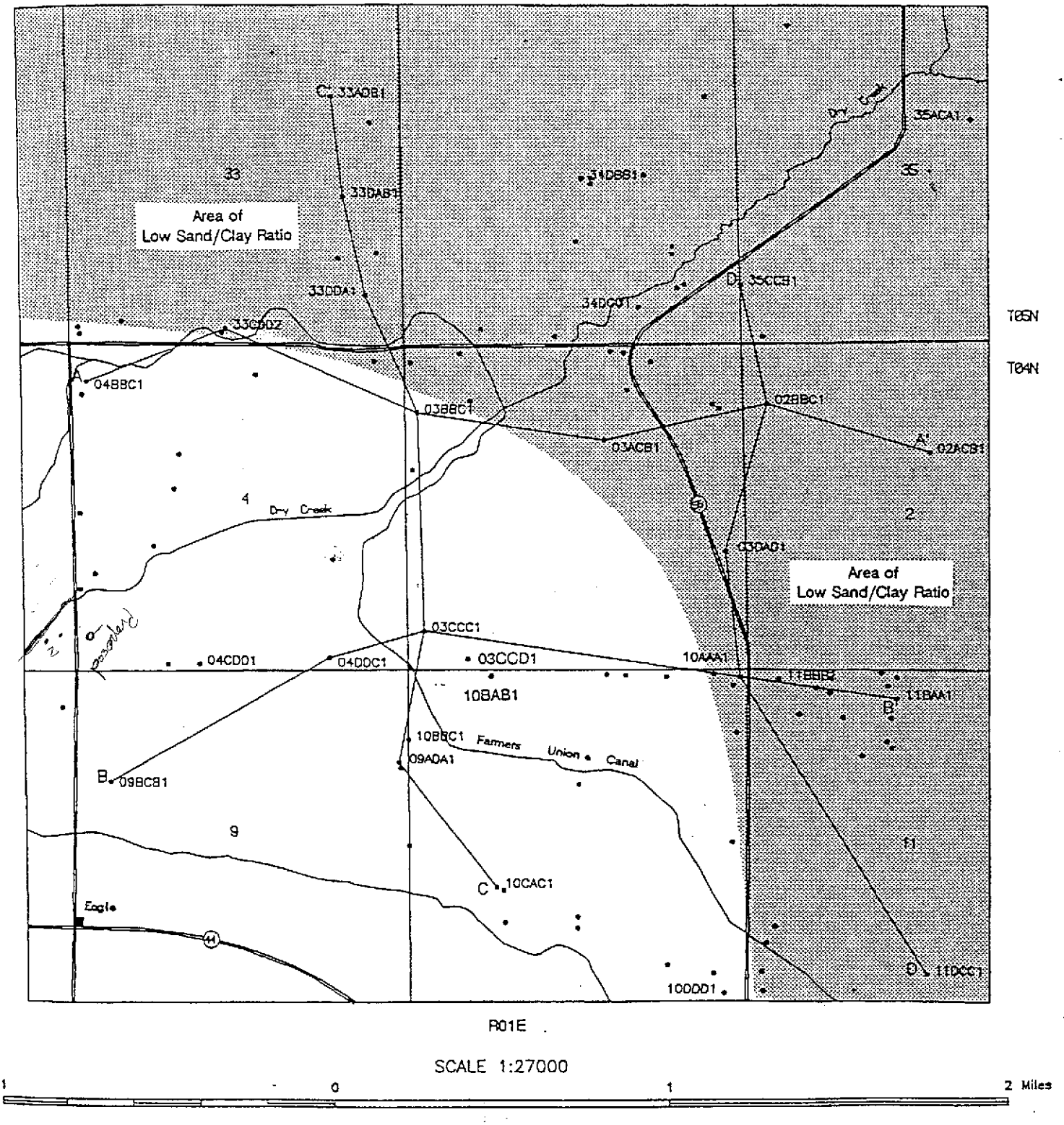

Figure 2. MAP SHOWING LOCATIONS OF INVENTORIED WELLS AND GEOLOGIC CROSS SECTIONS

Previous Work

Previous studies that have been conducted in the area were regional in nature and only briefly touched upon the area of interest. A report by Savage (1958) describes the geology of Ada and Canyon counties. Mitchell and Bennett (1979) compiled a small-scale regional geologic map that covers the area. Recent mapping in the Boise foothills have been performed by S.H. Wood (a professor at Boise State University), W.L. Burnham (retired from U.S. Geological Survey), and K.L. Othberg (a geologist with the Idaho Geological Survey), and are currently unpublished. A report by Dion (1972) discusses the effects of land-use changes on the shallow ground-water system in the Boise Valley.

Well-Numbering System

The well-numbering system used in this report is identical to the system that is used by the U. S. Geological Survey (USGS) in Idaho (see Figure 3). The system indicates the location of wells within the official rectangular subdivision of the public lands, with reference to the Boise base line and meridian. The first two segments of the number designate the township and range. The third segment gives the section number, followed by three letters and a numeral, which indicate the ¼ section (160-acre tract), ¼-¼ section (40-acre tract), ¼-¼-¼ section (10-acre tract), and serial number of the well within the tract. Quarter sections are lettered A, B, C, and D in counterclockwise order from the northeast of each section. Within quarter sections, 40-acre and 10-acre tracts are lettered in the same manner. For instance, well 01N-04E-04CDA1 corresponds to the legal location NE¼, SE¼, SW¼, Section 4, Township 1 North, Range 4 East, and was the first well inventoried in that tract.

Acknowledgements

The author would like to thank each of the well owners in Dry Creek area that took the time to visit with IDWR personnel and allow them to inventory their wells. Bill Pardew, a local resident and a retired civil engineer with the Idaho Transportation Department, was an invaluable resource throughout the course of this study and his assistance is very much appreciated. Spencer Wood, a geology professor at Boise State University, spent numerous hours in the field acquiring data, in addition to providing technical assistance during this study. His help is greatly appreciated. The author would also like to thank Chuck Feast of CH2M Hill consulting firm for the meticulous work that he provided during the long-term aquifer test that was conducted in the study area.

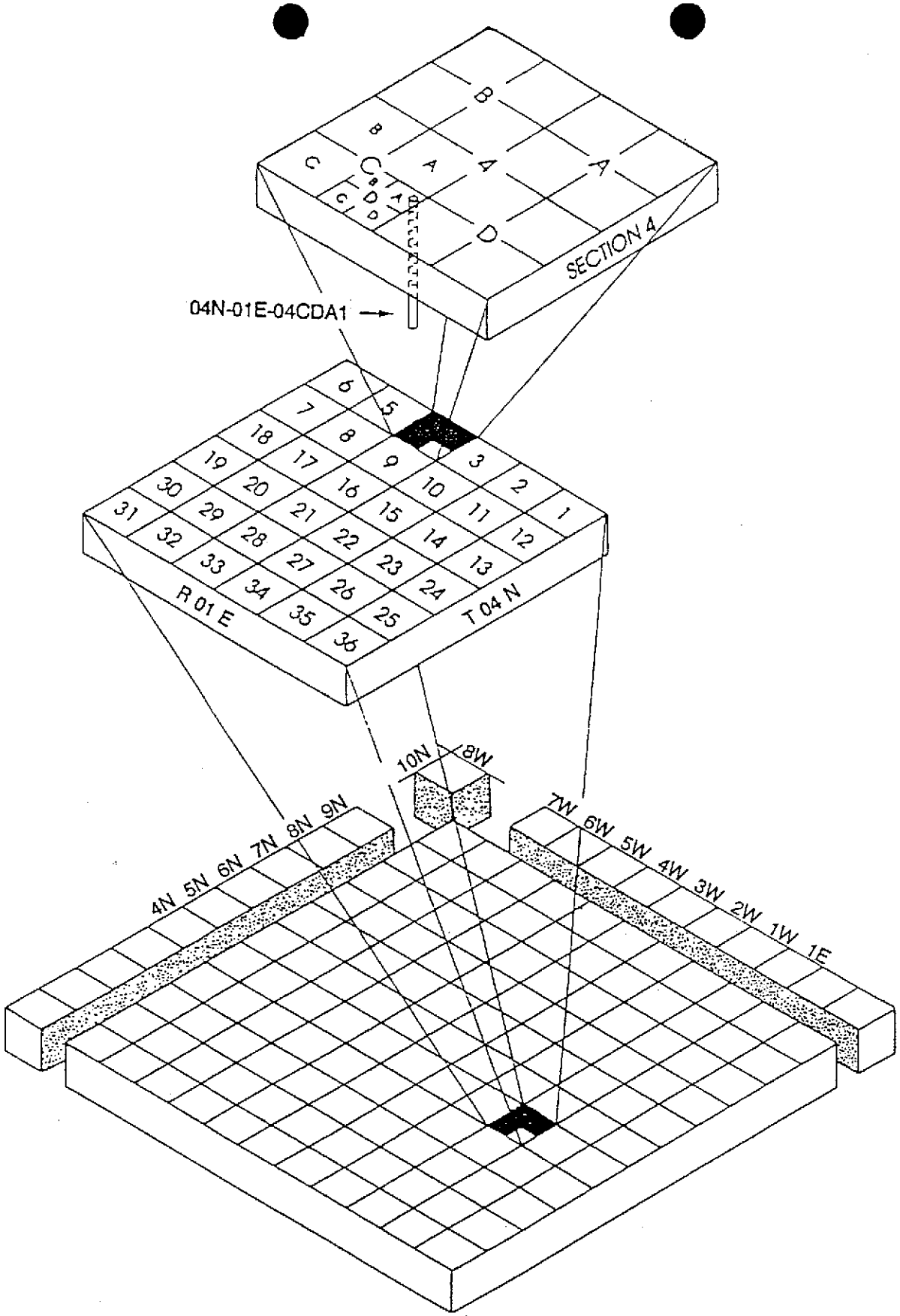

Figure 3. Well-numbering system

GEOLOGIC FRAMEWORK

The rocks that underlie the study area range in age from Pliocene to Holocene. During these past five million years of geologic history, numerous events have taken place and are recorded in rocks that were deposited in the region. Four geologic cross sections were constructed from Well Driller's Reports and are shown on Figures 4 - 7. The locations of each of the sections are shown on Figure 2. These sections were included to assist in describing the subsurface geology of the Dry Creek area.

Certain geologic events that occurred prior to the emplacement of the known rocks in the area greatly influenced the types of rocks that were deposited later. These earlier events include a long period of intrusion, uplift, and volcanism, and are responsible for the creation of the western Snake River Plain graben (down-thrown fault block) during this time. Within this large depression in the plain, a lake was created. Streams carrying sediments from the adjacent uplands were deposited in the lake. The Dry Creek area occurs within this transition zone between fluvial (stream-deposited) sediments and lacustrine (lake-deposited) sediments.

Coarser materials were deposited along the stream channels and shores of the lake. Finer silts and clays were carried out into the lake where they settled to it's floor. The lake level changed throughout time and as a result so did the areal extent of the lake. At low levels, streams would deposit coarser sediments further into the interior of the plain, whereas, during high levels, the lake would inundate previous shorelines and deposit fine sediments.

The sediments that accumulated during this period are collectively known as the Glenns Ferry Formation. This formation underlies the Dry Creek area, however, its composition appears to vary considerably throughout the area according to Well Driller's Reports. The sediments that occur in the foothills and adjacent lowlands comprise massive silty clay with fine sand stringers. The shaded area shown on Figure 2 approximately delineates this area of low sand/clay ratio. The Glenns Ferry Formation that underlies the shallow subsurface in the remaining portion of the study area contains greater quantities of sand and lesser amounts of clay. The occurrence of a northwest-trending normal fault is thought to explain these lateral changes in sediment composition (Wood, 1991). Detailed geologic mapping immediately to the east along with data from an east-west seismic profile a few miles to south of the study area support this theory.

By the beginning of the Pleistocene (about two million years ago), downcutting by the ancestral Snake River in Hells Canyon caused the natural dam of the lake to become breached and allowed it to drain. Fluvial processes predominated during this time and the ancestral Boise River system was created. Coarse sands and gravels were

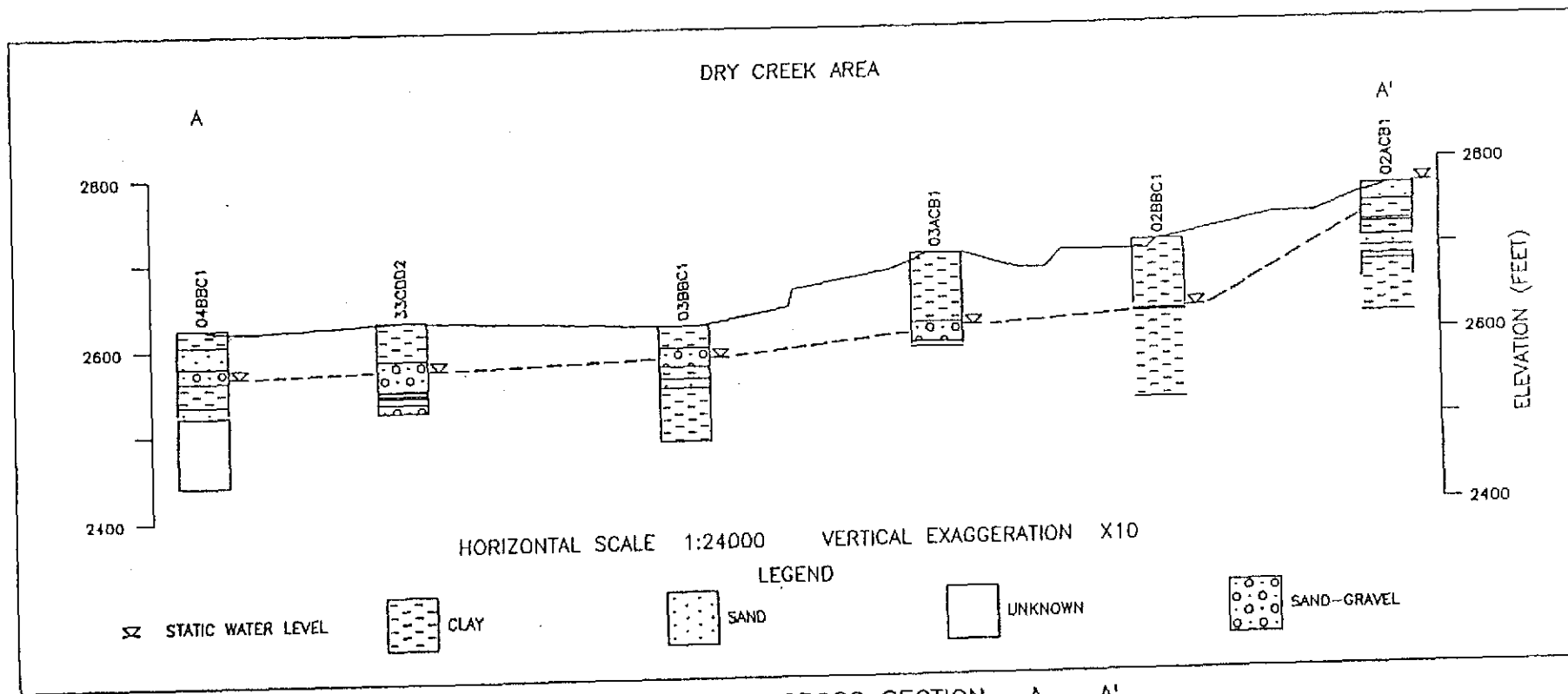

Figure 4. GEOLOGIC CROSS SECTION A – A'

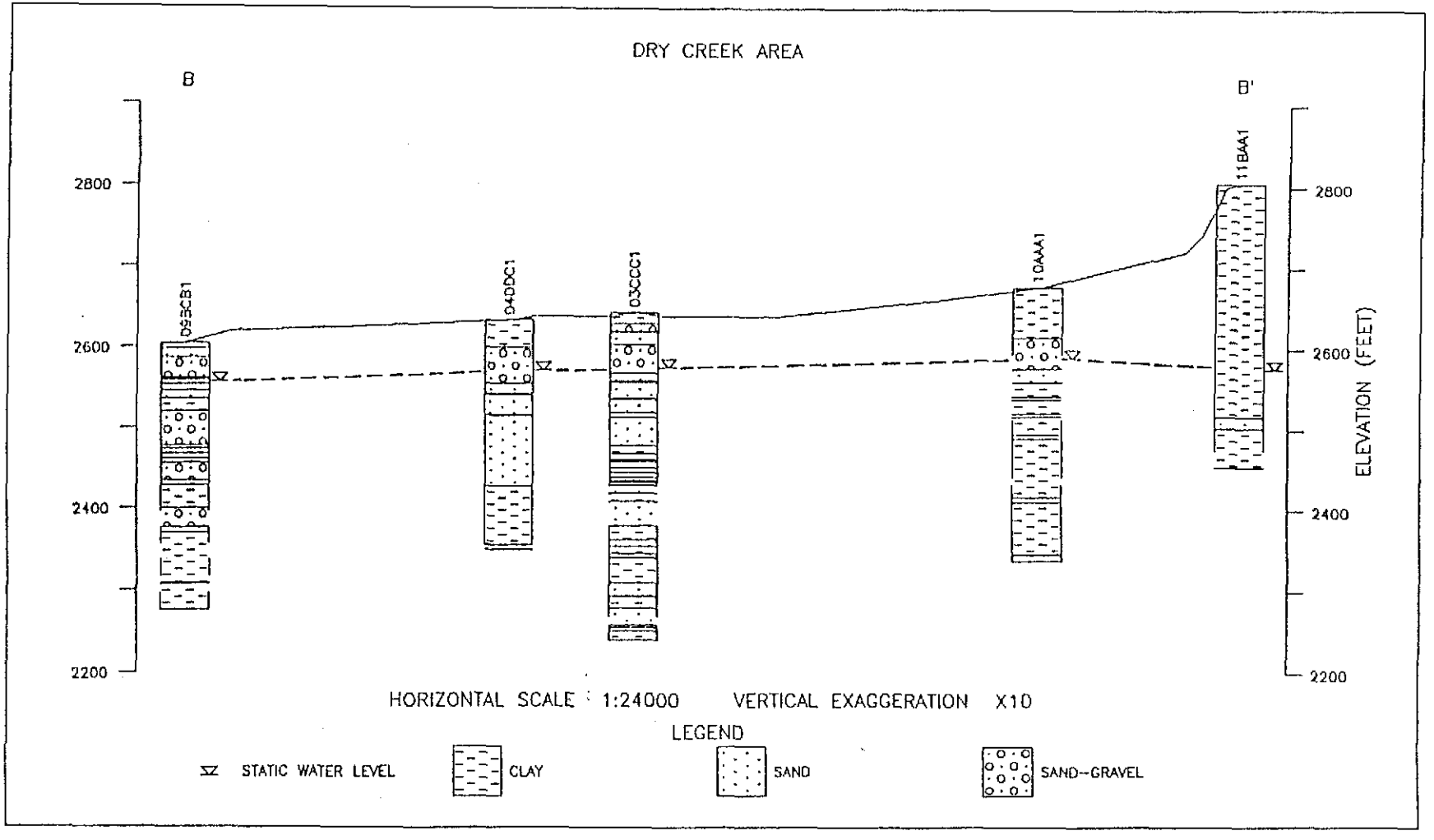

Figure 5. GEOLOGIC CROSS SECTION B – B'

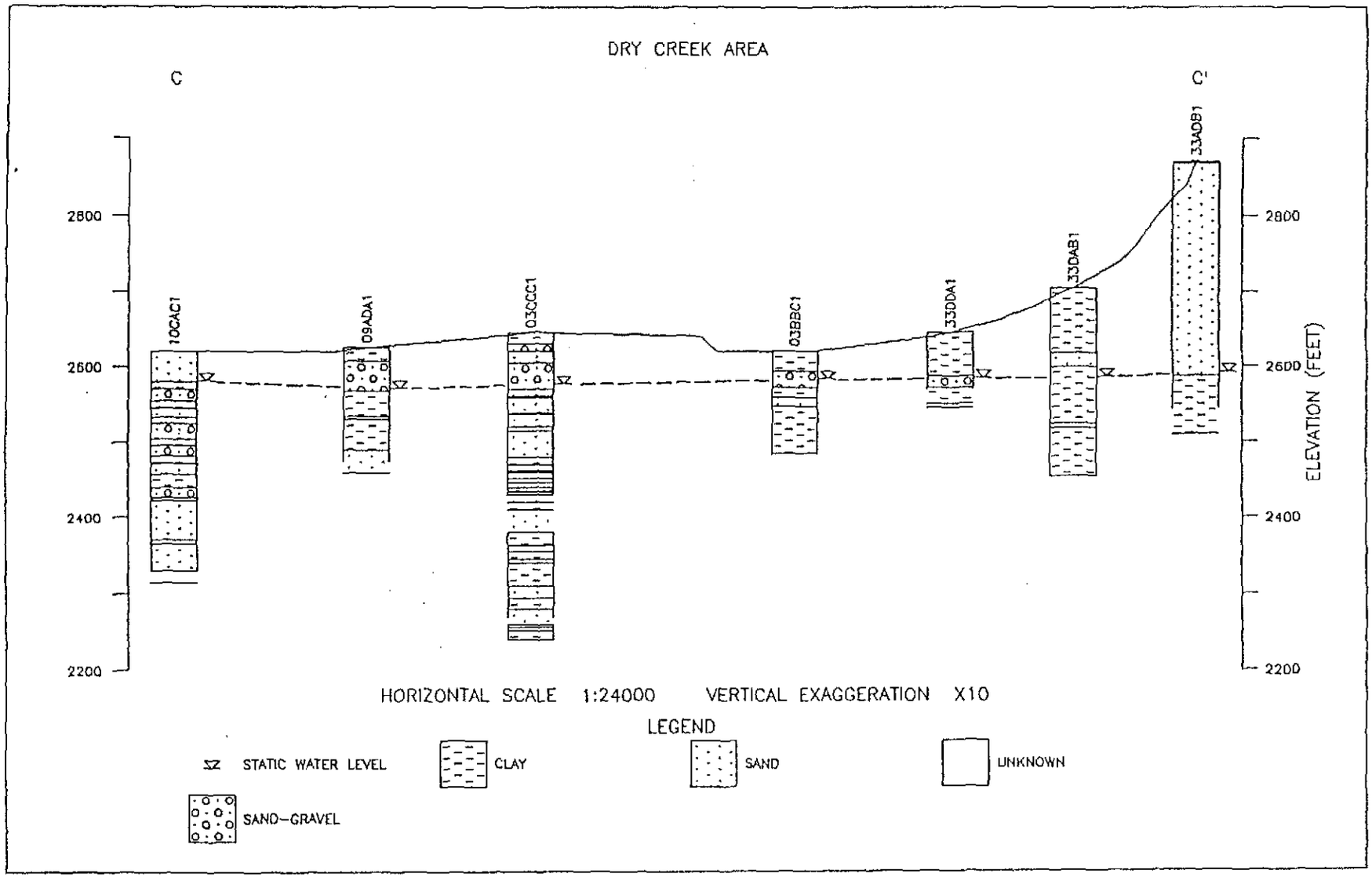

Figure 6. GEOLOGIC CROSS SECTION C – C'

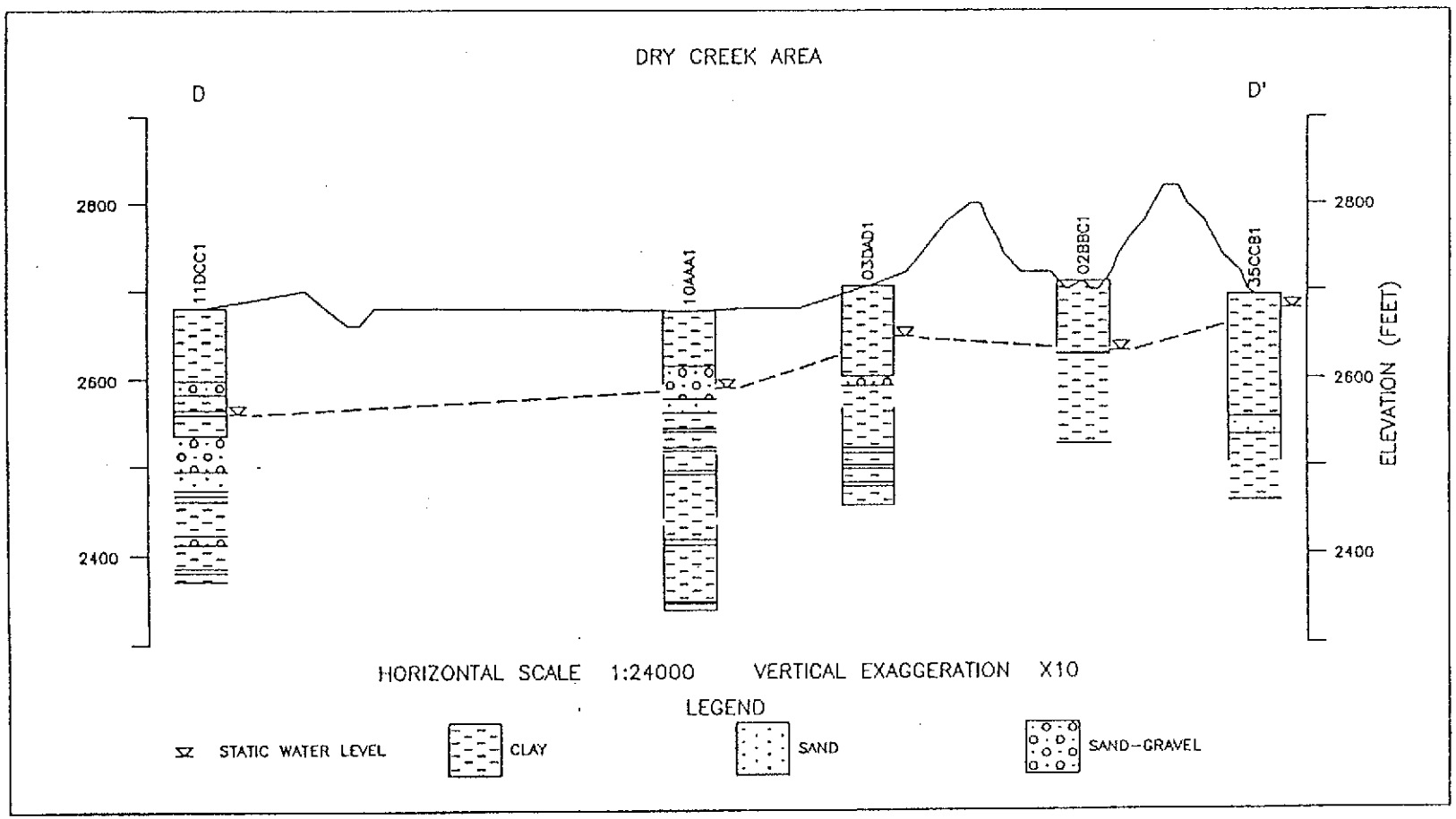

Figure 7. GEOLOGIC CROSS SECTION D – D'

deposited within its channel and fine silts and clays accumulated along its banks during floods. The course of the river continuously changed through time. Sediments that were deposited would later be entrenched during successive downcutting phases. Sand and gravel deposits that occur in the shallow subsurface in the study area record a time when the Boise River occupied the area during the history of its development.

HYDROLOGIC REGIME

Occurrence and Movement of Ground Water

Ground water occurs throughout the entire study area. It fills the void spaces or pores between the sediment grains that underlie the area. The size of the pores determines the amount of water that can be stored in a given volume of sediment, and is termed porosity. The degree of interconnection between individual pores determines the ability for the water to move from pore to pore. This property is termed permeability. Fine-grained sediments such as silts and clays have relatively high porosities, but low permeabilities; whereas, coarser-grained sediments such as sands and gravel have lower porosities, but higher permeabilities.

Inflow or recharge to the ground-water system occurs from natural or artificial (man caused) sources. The natural sources of recharge include deep percolation of precipitation and from infiltration of surface water along tributaries of the Boise River (such as Dry and Spring Creeks). Artificial recharge occurs through infiltration of unconsumed irrigation water from the Boise River system. The Farmers Union Canal is the main canal that delivers surface water to the Dry Creek area. Since water is continuously applied to crops throughout the irrigation season, recharge from this source provides a significant portion of inflow to the ground-water system in these areas.

Outflow or discharge from the ground-water system also occurs by both natural and artificial means. Natural discharge may occur where the land surface and water table intersect, causing springs or seeps to issue. Several of these occur in the higher elevations surrounding the study area and discharge intermittently throughout the year. Natural discharge also occurs as underflow leaving the study area to the southwest. Some of the underflow leaving the area discharges into the Boise River, immediately to the south of the study area and contributes to its base flow. Artificial discharge occurs through pumpage from wells. This type of discharge undoubtedly accounts for a major portion of the water leaving the ground-water system.

In spring of 1989, IDWR inventoried 101 wells in the Dry Creek area and measured depth to water in most of them. Some of the wells were re-measured in summer and fall of that year. Figure 2 shows

the locations of the wells that were inventoried. Pertinent information about the wells that are referred to in this report are included in Table 1. From the water-level data, the elevation of the potentiometric surface was constructed for the area and is shown on Figure 8. The potentiometric surface is an imaginary surface coinciding with the hydraulic head in the aquifer system. The water level in a well defines the elevation of the potentiometric surface at that point.

The potentiometric surface map of the area indicates the direction and slope of the ground-water system, since ground water moves from areas of higher elevation to areas of lower elevation. As can be seen, the predominant direction of movement is from northeast to southwest. The slope of the potentiometric surface ranges from about 100 feet per mile (ft/mi) in the northeast portion of the study area to about 40 ft/mi in the remaining portion of the study area. Several factors are responsible for this significant change in slope, but the main ones probably include: 1) lateral variations in sediment composition and associated permeabilities; 2) recharge from irrigation water in the southwestern portion of the study area causing artificial rising of the potentiometric surface; 3) locally concentrated pumpage causing the potentiometric surface to be artificially subdued in areas (example: the northwest quarter of Section 11, Township 1 North, Range 4 East).

Water-Level Fluctuations

Fluctuations in the potentiometric surface in an area are indicative of changes in the amount of ground water held in storage. These changes occur within an annual cycle and over time.

Annual variations in storage are due to the timing and magnitude of seasonal recharge and discharge events. In areas where natural recharge is the dominant annual event, the potentiometric surface begins to rise during spring snowmelt and peaks in early summer, and then declines until the following year's snowmelt. The foothills along the northern and eastern margins of the study area follow this annual trend. In areas where artificial recharge from unconsumed surface water occurs, the natural trend is greatly modified. As irrigation water is applied in late spring, the potentiometric surface continues to rise throughout the irrigation season and peaks in late fall, and then follows the normal decline. Ground-water withdrawal generally increases during the irrigation season and can greatly subdue the recharge events depending upon the magnitude of pumpage in an area.

Long-term changes in storage are due to cumulative differences in the amounts of annual recharge and discharge. During extended periods of drought, the amount of ground water in storage declines, whereas, during periods of above-normal precipitation, storage

Table 1. Records of selected wells

Elevation: Estimated from USGS topographic maps and field surveys (datum is National Geodetic Vertical Datum of 1929).

Depth to water: Measured by IDWR during spring 1989. Negative values indicate above land surface.

Use of water: H - Domestic; I - Irrigation; P - Public supply; S - Stock; U - Unused.

Well number	Elevation of land surface (ft)	Well depth (ft)	Depth to first well opening (ft)	Depth to water (ft)	Use of water	Date of well completion
04N-01E-02ACB1	2770	150	61	-2.0	I	07/01/73
02BBC1	2710	185	75	78.7	H	06/09/75
03ACB1	2700	110	106	85.1	H	02/20/74
03BBC1	2620	135	--	36.9	H	03/22/74
03CCC1	2645	405	215	71.8[1]	P	03/07/91
03CCD1	2645	171	168	67.7	H	09/01/71
03DAD1	2705	250	100	57.2	U	06/01/72
04BBC1	2610	185	98	57.5	H	04/11/66
04CDD1	2620	~300	--	59.1	U/I	--
04DDC1	2635	285	276	61.6	H	11/20/72
09ADA1	2625	165	149	54.2	I	07/12/88
09BCB1	2605	328	208	46.7	P	06/21/80
10AAA1	2677	340	82	87.3	I	10/26/50
10BAB1	2635	~75	--	62.5[1]	H	--
10BBC1	2625	98	--	53.8	H	09/09/62
10CAC1	2620	305	290	50.1	P	06/01/73
10DDD1	2600	141	128	16.4	H	04/05/69
11BAA1	2805	350	329	227.8	H	02/06/67
11BBB1	2690	203	120	103.3	H	12/11/62
11DCC1	2680	310	145	120.1	H/I	05/10/71
05N-01E-33ADB1	2870	360	326	277.5	H	05/12/82
33CDD2	2630	106	--	57.3	H	06/09/71

Table 1. Records of selected wells -- continued

Well number	Elevation of land surface (ft)	Well depth (ft)	Depth to first well opening (ft)	Depth to water (ft)	Use of water	Date of well completion
05N-01E-33DAB1	2705	250	248	119.1	H/I	02/12/79
33DDA1	2645	100	75	60.3	H/S	02/21/76
34DBB1	2680	175	--	31.2	I	12/15/66
34DCD1	2655	54	8	9.6[2]	H	11/14/56
35ACA1	2720	--	--	--	I	--
35CCB1	2695	235	190	15.2	H	04/23/76

[1] Measured by C.F. Feast on 3/26/91 prior to aquifer test
[2] Measured by USGS on 3/11/70

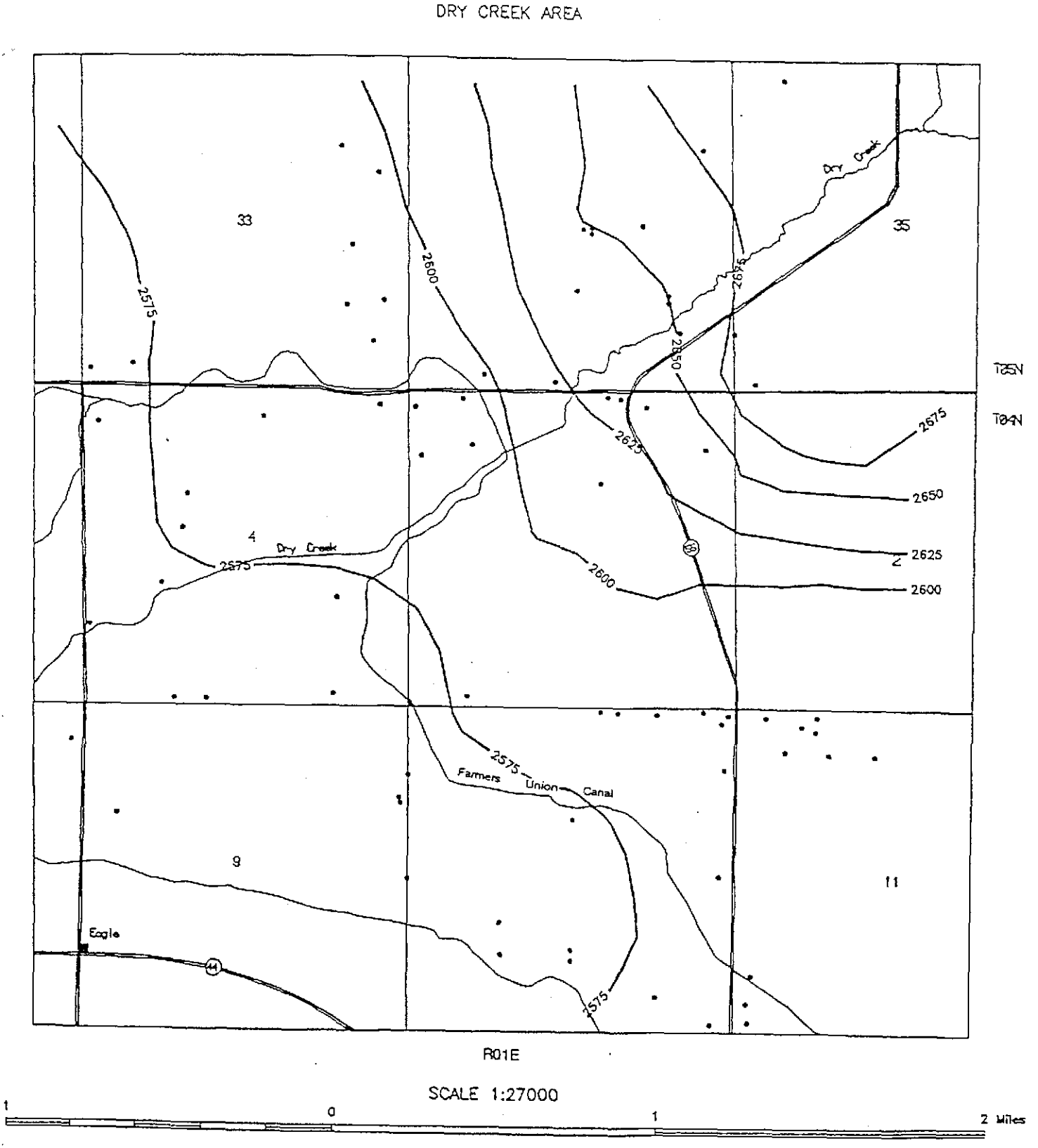

Figure 8. GENERALIZED POTENTIOMETRIC SURFACE MAP, SPRING 1989

increases. As pumpage increases in an area, more water is removed from storage. If the amount of land that is irrigated with surface water is reduced with time, then the amount available for recharge to the ground-water system is also reduced. Each of these factors contributes to long-term changes in storage.

Little data is available on the long-term trends of ground-water storage in the Dry Creek area. Water-level hydrographs of wells 04N-01E-03DAD1 and 05N-01E-34DBB1 are shown on Figure 9. Both wells are monitored by the USGS and are currently the only wells in the study area that have depth to water measured in them regularly.

Of the two wells, 05N-01E-34DBB1 is the only well that has a sufficient period of record to warrant some analysis. Long-term trends in water levels for this well generally follow annual variations in precipitation. During the 1970's, precipitation was generally at or slightly below average as were water levels. Whereas, in early 1980's, precipitation was above average and so were water levels. Since 1987, drought conditions have prevailed and water levels have been on a downward trend. Water levels have only varied about 3 feet from highest trough to lowest trough, suggesting that recharge and discharge have remained relatively constant.

Another source of limited information that indicates what changes in ground-water storage have occurred over time are the differences between two periods of mass water-level measurements. Six wells that were measured in fall 1989 by IDWR had also been measured for Dion's (1972) study in the fall of 1970. Based on this sparsely-distributed data, a water-level change map was constructed and is shown on Figure 10.

As can be seen, the southwest portion of the study area has experienced greater than five feet of water-level decline over the 19 year period. Several factors are probably responsible for the observed declines. Natural recharge has undoubtedly been reduced with the recent drought conditions. Since 1977, the annual amount of water diverted into the Farmers Union Canal has declined by greater than 10 percent from the preceding 27 year period and as result artificial recharge to the ground-water system has also been reduced. Increased pumpage in this area may also be responsible for the observed declines. Several public supply and irrigation wells have been completed in this area during the 19 year time span.

Based on measurements in well 04N-01E-11BBB1, there has been a few feet of rise in water level in this area. Increased development in the Dry Creek area does not appear to have had adverse effects on local water levels during this 19 year period.

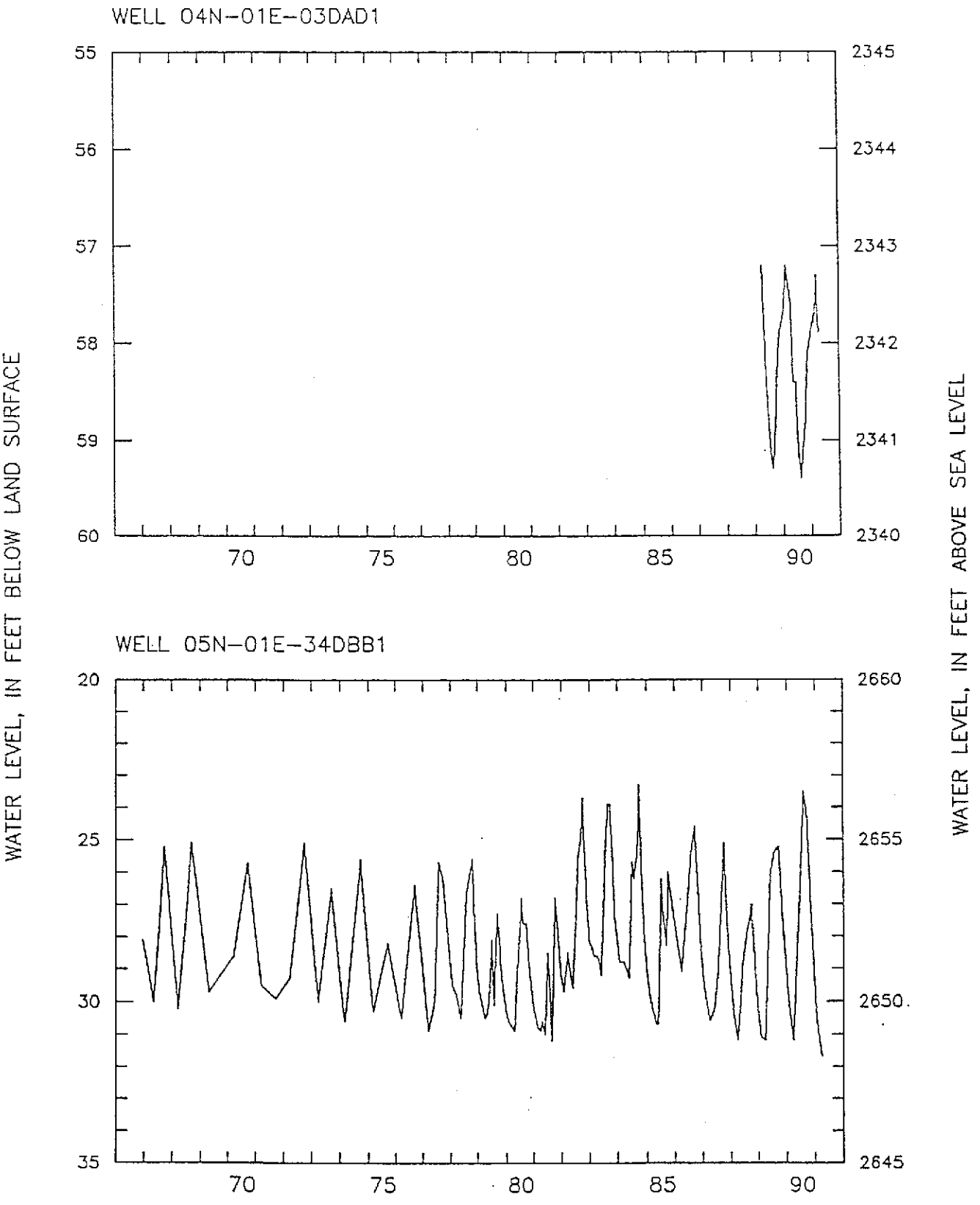

Figure 9. HYDROGRAPHS OF WELLS 04N-01E-03DAD1 AND 05N-01E-34DBB1

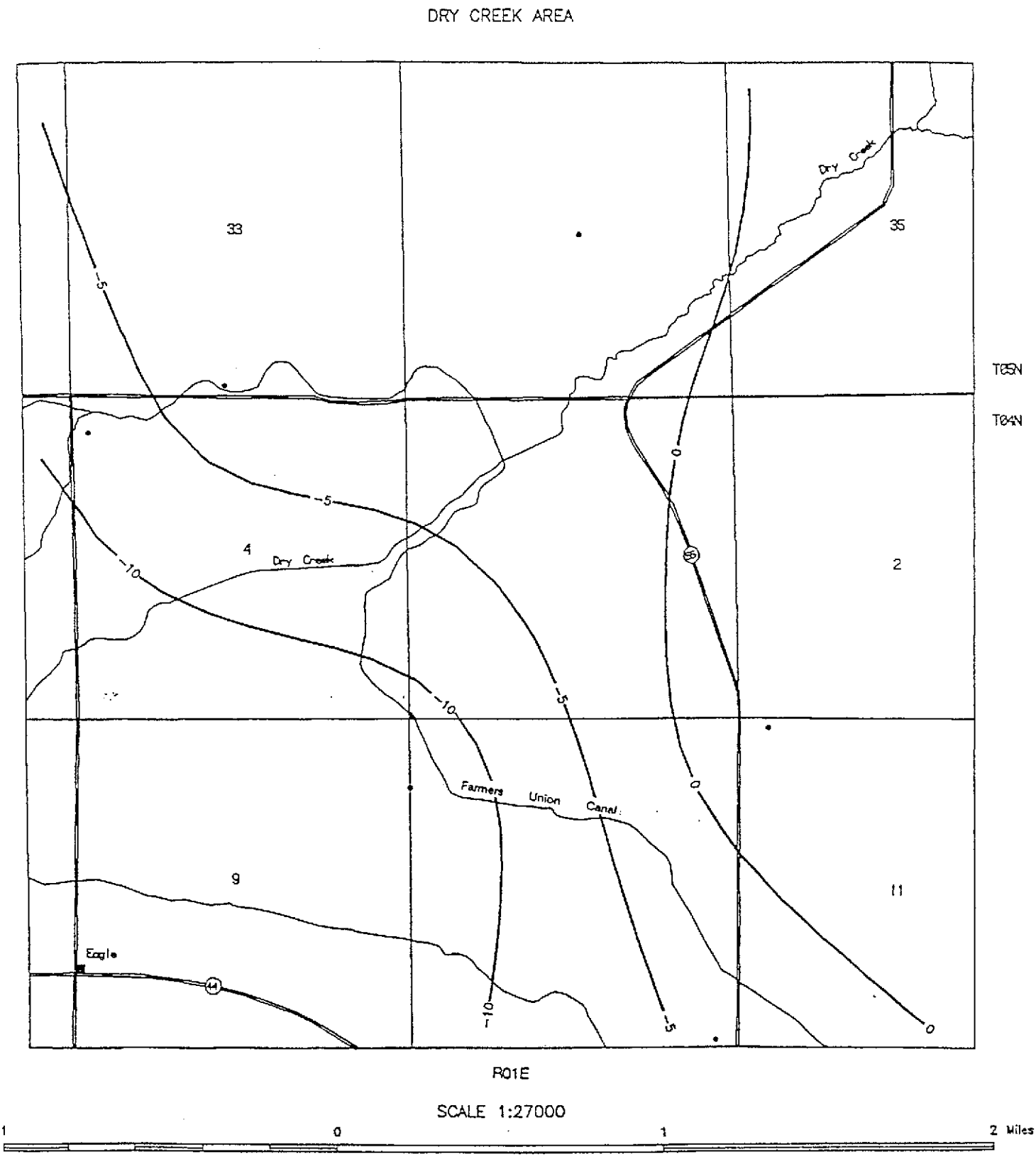

Figure 10. GENERALIZED WATER-LEVEL CHANGE MAP, FALL 1970-89

Ground-Water Hydraulics

Long-Term Aquifer Test

On March 26, 1991, a 30-day aquifer test was initiated at well 04N-01E-03CCC1 in order to determine the effects of pumping this well on the local ground-water system. The well was pumped continuously during the test at an average rate of 743 gallons per minute (gpm). Drawdown was measured in the pumping well along with several wells in the immediate area. A listing of the observed drawdowns in selected wells at the end of pumping is shown on Table 2. A brief summary and interpretation of the test results follows. For a more detailed discussion of the test, refer to the consultants' report (Feast, 1991) cited in the list of references.

Table 2. Observed drawdowns after pumping well 04N-01E-03CCC1 for 30 days

Well number	Distance from pumping well (ft)	Drawdown after 30 days of pumping (ft)	Remarks
04N-01E-03CCC1	--	81.0	--
03CCD1	800	3.84	--
10BAB1	1350	2.47	--
09ADA1	2300	1.04	--
04CDD1	3600	1.03	Wells pumping to the southwest of this well may have contributed to observed drawdown.
03DAD1	4900	--	No measurable effects were observed.
10AAA1	5000	--	No discernable effects were observed, however, measuring device inaccuracy may have contributed to this.

Conventional methods that are used to analyze aquifer tests and determine hydraulic properties of an aquifer system are not able to account for the complexities that were encountered during this test. These complexities include the following: 1) the high degree of stratification (layering) of the water-bearing material which greatly slowed the vertical movement of water to the pumping well and caused drawdown trends to steepen with time as delayed drainage gradually lessened; 2) lateral variations in sediment composition caused the cone of depression to be asymmetrical (that is, the cone was steeper but of less areal extent towards the area of low sand/clay ratio than it was in opposing directions at any given

time); and 3) two weeks into the test, water was diverted into Farmers Union Canal which provided recharge to the ground-water system late in the test.

Based on the early-time data acquired from the test (before the effects of the above complexities became significant), the hydraulic properties of the aquifer system were estimated. These data imply that the transmissivity (T) of the aquifer system in the vicinity of the pumped well is between 33000 to 92000 feet squared per day (ft^2/d) or 247,000 to 688,000 gallons per day per square foot (gpd/ft^2). The estimated storage coefficient (S) ranges from 6.4×10^{-4} to 8.4×10^{-2}. The reasons for the large range in S values is probably the result of delayed drainage of the cone of depression and the different depths that the observation wells are completed in the aquifer system. After sufficient time when the effects of the delayed drainage would have lessened, the aquifer system would probably have responded as an unconfined system and as a result have an S in the range of 10^{-2} to 10^{-1}. However, with all the complexities that occurred later in the test this theory can only be evaluated with a more sophisticated numerical model. Lack of data and limited time did not allow this approach to be tested.

Due to the factors that where encountered during this test, the reliability of predicting the long-term effects of pumping well 04N-01E-03CCC1 are extremely limited. However, assuming that steady-state conditions prevailed late in the test (in other words, observed drawdown trends would have remained unchanged with continued pumping), the following predictions were made. By extrapolating these late-time trends five more months into the future and adjusting the pumping rate for the anticipated long-term discharge rate of 1000 gpm, the configuration of the cone of depression was constructed and is shown on Figure 11. As can be seen, the cone is depicted as being symmetrical in shape when in actuality it probably is not. Limited information as to its actual shape required this simplification. As a result, estimated drawdowns may be less than what are shown in the area of low sand/clay ratio and greater in the opposing directions. Because of the uncertainty of what effects the cessation of artificial recharge at the end of the irrigation season would have had on the expanding cone of depression, it was not possible to extend the observed drawdown trends any further in time.

Well Interference versus Well Density

Many of the complaints that IDWR has received in the Dry Creek area concerning declining well yields have been concentrated in the foothills area. This type of problem is commonly related to greater pumping lifts that are caused by declining water levels. The poor water-bearing properties of the material in this area and close proximity of wells to each other probably contributes to this problem, especially late in the irrigation season.

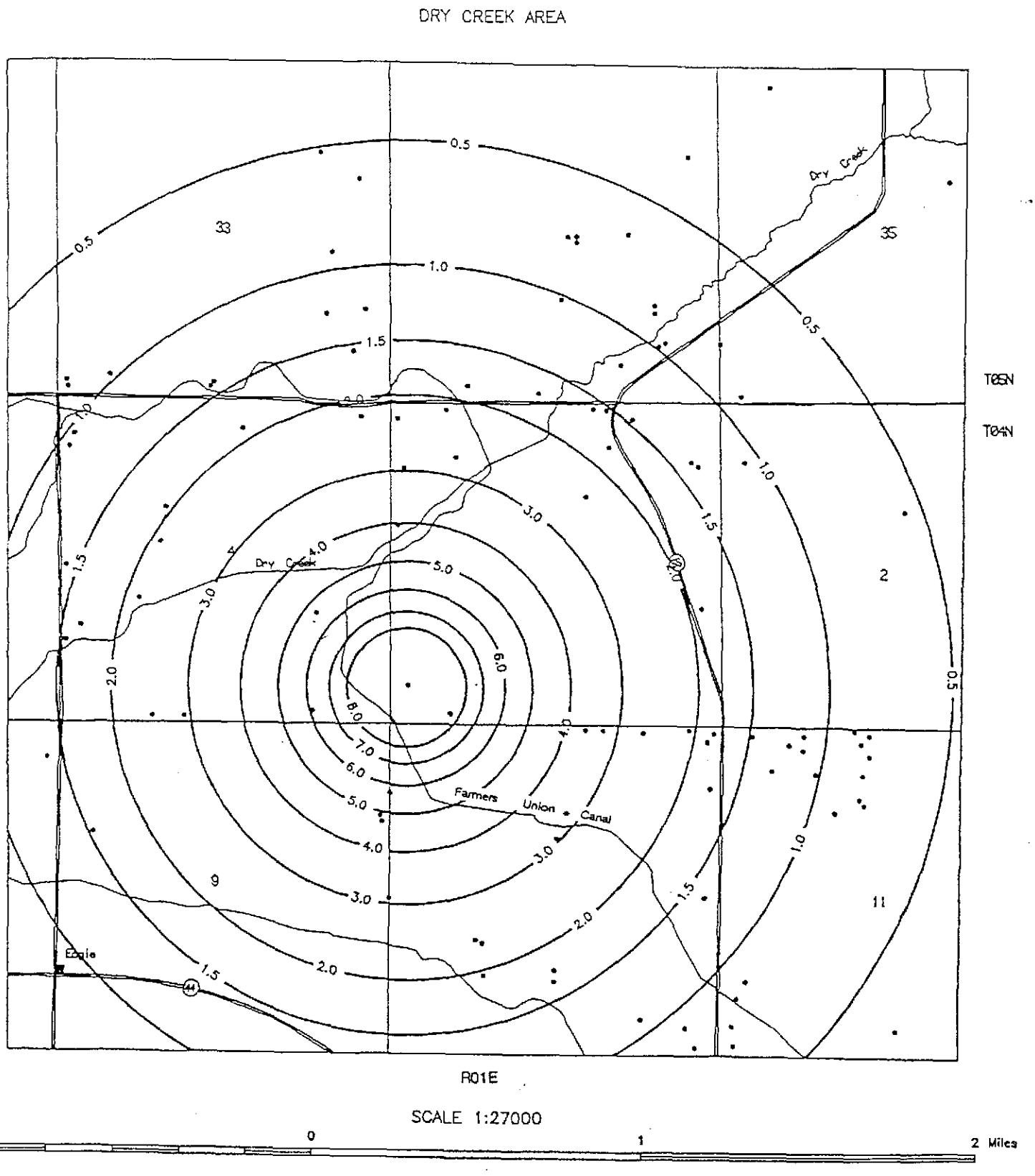

Figure 11. MAP SHOWING ESTIMATED DRAWDOWN FROM PUMPING WELL 04N-01E-03CCC1 AT 1000 GPM FOR 6 MONTHS

A hypothetical analysis of local well interference in this area was performed. According to surveyors' plats of subdivisions in this area, wells appear to be spaced about 250 ft apart from each other on the average. Most lots are thought to have at least one well. Based on well test data from Well Driller's Reports, T appears to average around 1000 ft^2/d or 7500 gpd/ft^2. Since the aquifer system in this area is composed of thin sand stringers interbedded with massive clay layers, it most likely occurs under confined conditions with S ranging around 10^{-4}.

Based on the above parameters, the cumulative effects of drawdown in a given well from 24 other equally-spaced wells pumping at the same rate are as follows. At the end of the irrigation season (approximately 180 days), each well pumping 1 gpm continuously would result in almost 4 ft of additional drawdown in a given well. During short-term but increased use the following effects were estimated. If each well is pumping 10 gpm continuously for 8 hours, the additional drawdown would be around 16 ft.

This analysis has shown that local well interference in the foothills area can significantly add to the observed well yield declines. Other factors, such as extended periods of below-normal precipitation, faulty well construction, and additional groundwater development in adjacent areas can also contribute to these more localized problems.

Well Construction Practices

Well construction practices vary greatly throughout the study area. The type of construction used to complete a well can greatly affect its life and efficiency. Due to the fine-grained nature of the water-bearing material in the area, the production of sand from wells can be a significant problem. Many wells in the area are completed with a minimum amount of casing. This causes a large portion of the hole to be unsupported and allows sediments to slough into a well. Over time, the yield of a well can decline because of the gradual loss of the amount of open interval in a well. Pumping sand can also cause excessive wear to a pump and require it to be serviced more frequently.

The best method of well construction to use in Dry Creek area to inhibit the sand production includes the following. Factory-wrapped well screen should be selectively set adjacent to each of the principal permeable zones encountered in the well. Blank well casing is then installed between each of the screened intervals. A gravel envelope should be placed in the annulus between the wall of the hole and the wall of casing adjacent to the screen intervals. Finally, the well should be completely developed before the well is put into use. This type of well is initially more expensive, but will be worth it over the long haul with the cost savings from the elimination of sand filters, well cleaning and/or deepening, and pump repairs.

A statistical comparison between well use and selected well characteristics was performed. The results of this analysis are shown on Table 3. The term specific capacity (SC) is defined as the yield of a well in gpm per foot of drawdown. Note the difference between each of the average specific capacities for domestic wells in the two topographic settings. The average SC for the lowlands is about double the value for the foothills. This means the average amount of drawdown in a domestic well located in the foothills is about twice that of a domestic well in the lowlands for a given discharge rate. Also notice the greater SC values for the irrigation and public supply wells in the lowlands than domestic wells in the same area. The reasons for this are probably related to the larger well diameters, greater depth of penetration into the aquifer system and more efficient well construction between the two groups.

Table 3. Comparison between use of well and selected well characteristics

Use of well and topographic settings	Average water level (ft)	Average total depth (ft)	Average open interval[1] (ft)	Average yield (gpm)	Average specific capacity (gpm/ft)	Number of wells
Domestic						
Lowlands	50.2	124.9	23.6	30.8	4.4	221
Foothills	129.6	274.7	85.1	27.6	2.1	62
Irrigation						
Lowlands	64.4	188.5	53.4	177.4	10.0	17
Public supply						
Lowlands	58.6	301.1	54.1	340.0	13.9	7

[1] Includes all uncased, perforated, and screened intervals in a well

GROUND-WATER QUALITY

Limited information is available regarding the quality of the ground water in the Dry Creek area. A total of ten samples have been collected and analyzed from eight wells in the study area. The samples were acquired during various studies and/or time periods. One sample was collected during Nace and others' (1957) study, six others were taken for Dion's (1972) study, and the remaining three were obtained during miscellaneous visits to the area. The results of the analyses are shown on Table 4.

Ground water in the study area appears to be a calcium-sodium bicarbonate type. The water ranges from low to slightly mineralized and is moderately hard to very hard. No analyses of dissolved iron were performed on any of the samples. However, due to reports by well owners regarding red iron staining in laundry and plumbing fixtures, iron concentrations probably exceed 0.3 mg/L in some areas. The reasons for the hardness and high iron content in the ground water are probably from naturally occurring factors and are related to the mineral composition of water-bearing material.

The concentrations of most analyzed constituents are within the range of the recommended drinking water standards established by the U.S. Environmental Protection Agency (1976). Fluoride concentrations in well 05N-01E-35ACA1 was the only case where the recommended levels were exceeded. According to EPA, excessive levels of fluoride in drinking water supplies can produce objectionable dental fluorosis.

Table 4. Chemical analyses of water from selected wells

(All constituents reported in mg/L)

Well number	Sample date	Specific conductance (µmhos/cm)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)
04N-01E-04BBC1	08/13/70	461	43	7.2	50	3.2	270	15	2.0	0.30	9.5
10AAA1	08/21/53	390	32	6.0	38	2.0	190	30	9.0	--	--
10BBC1	06/25/70	363	--	--	--	--	--	--	5.0	--	3.7
10DDD1	07/15/70	236	--	--	--	--	--	--	1.0	--	1.8
11BBB1	06/25/70	367	--	--	--	--	--	--	10	0.90	--
05N-01E-34DBB1	10/07/75	612	65	18	39	4.5	300	91	8.4	0.60	--
34DCD1	06/25/70	652	--	--	--	--	--	--	13	--	4.6
35ACA1	03/25/70	245	--	--	--	--	--	--	--	13	--
	05/31/72	285	4.3	0.10	57	3.2	110	23	4.9	11	--
	09/02/88	283	3.8	0.08	58	3.1	--	24	4.7	8.3	--

CONCLUSIONS

According to available information, it appears that the ground-water resources in the Dry Creek area are not currently over-developed. That is, the current annual discharge rate for the area does not appear to exceed the long-term annual recharge rate. However, the effects of further development of the ground-water system are uncertain and continued monitoring of water levels in the area is essential.

Local declines in the potentiometric surface have occurred, but available data indicate the amount of these declines have been minor in comparison to the saturated thickness of the entire aquifer system. Four consecutive years of drought have undoubtedly reduced the amount of recharge to the area and have caused water levels in wells to be lower. Due to the poor hydraulic properties of the aquifer system in the area of low sand/clay ratio (see Figure 2), well spacing appears to be a major factor in contributing to the declining well yields that have been experienced in this area. Faulty well construction practices have also added to well owners' problems throughout the study area.

RECOMMENDATIONS

The current observation well network in the Dry Creek area is inadequate to monitor the effects of continued development of the ground-water resources in the area. Another observation well should be located in the southwest portion of the study area where development appears to be most concentrated. Well 04N-01E-04CDD1 (see Figure 2) seems like a good candidate. It is an unused irrigation well that is about 300 ft deep. A Well Driller's Report does not appear to exist for the well, so little is currently known about its completion. Therefore, it would be extremely useful to have the well geophysically logged so that the open interval and nature of the water-bearing material can be determined. An arrangement should be made with the well owner, so the well can be used for monitoring for a extended period of time. This well could be added to the IDWR-USGS cooperative observation well network.

As more farm land is used for multi-family subdivisions, the increased demand on the ground-water system in the Dry Creek area is not the only change that would be imposed on it. A reduction in the amount of artificial recharge from unconsumed surface water could also result if surface water irrigation is not continued in these areas. Therefore, if development is allowed to expand, it is crucial that all economically-feasible steps be taken to continue the use of surface water for irrigation. This will also reduce the amount of ground water that is pumped.

SELECTED REFERENCES

Daniel, C.C., III, 1989, Statistical analysis relating well yield to construction practices and siting of wells in the Piedmont and Blue Ridge provinces of North Carolina: U.S. Geological Survey Water-Supply Paper 2341-A, p. A1-A27.

Dion, N.P., 1972, Some effects of land-use changes on the shallow ground-water system in the Boise-Nampa area, Idaho: Idaho Department of Water Resources Water Information Bulletin No. 26, 47 p.

Feast, C.F., 1991, Results of the pumping test and aquifer analysis: unpublished report prepared for Floating Feather Hills, Inc. by CH2M Hill consulting firm.

Lindgren, J., 1982, Application of a ground water model to the Boise Valley aquifer in Idaho: M.S. thesis, University of Idaho, Moscow, Idaho.

Lindgren, W., 1898, Description of the Boise quadrangle, Idaho: U.S. Geological Survey Geologic Atlas Folio 45, scale 1:125,000.

Mitchell, V.E., and E.H. Bennett, 1979, Geologic map of the Boise quadrangle, Idaho: Idaho Bureau of Mines and Geology Geologic Map Series, scale 1:250,000.

Nace, R.L., S.W. West, and R.W. Mower, 1957, Feasibility of ground-water features of the alternate plan for the Mountain Home Project, Idaho: U.S. Geological Survey Water-Supply Paper 1376, 121 p.

Savage, C.N., 1958, Geology and mineral resources of Ada and Canyon Counties, Idaho: Idaho Bureau of Mines and Geology County Report No. 3, 94 p.

Thomas, C.A., and N.P. Dion, 1974, Characteristics of streamflow and ground-water conditions on the Boise River valley, Idaho: U.S. Geological Survey Water-Resources Investigations 38-74, 56 p.

U.S. Environmental Protection Agency, 1976, National interim primary drinking water regulations: Environmental Protection Agency-570/9-76-003: Washington, D.C., U.S. Environmental Protection Agency Office of Water Supply, 159 p.

Wood, S.H., W.L. Burnham, and D. Osterman, 1982, Field trip guide to the Boise foothills, Idaho: Idaho Association of Professional Geologists unpublished Field Trip Guide.

Wood, S.H., 1991, Personal communication

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Department of Water Resources

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c:\rlw\idwr\info disclosures

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME OF ARIES DEVELOPMENT, LLC	**INFORMATION DISCLOSURES**

****

COMES NOW ARIES DEVELOPMENT, LLC (hereinafter "Applicant"), by and through its attorney of record, J. Evan Robertson, of the firm Robertson, Hepworth, Slette, Worst & Stover, PLLC, and provides the following information disclosures pursuant to the Prehearing Order entered in this matter by Peter R. Anderson, Hearing Officer, dated February 20, 2004:

1. Persons Having Specific Knowledge Regarding Material Facts Related To The Application, And A Brief Summary Of Expected Testimony:

(a) Terry Nyborg, may be called to provide testimony concerning claimed Water Right No. 63-5087, and a history of the use made of the stock water well to which said claim relates.

(b) Michael Hormaechea, a member of the Applicant, is expected to provide testimony concerning the financial capability of the Applicant to construct a well and related

improvements set forth in Application for Permit No. 63-31689, and the intent of the Applicant to diligently pursue such completion in good faith without any intention of delay or speculation. Mr. Hormaechea may also testify concerning the incorporation of the proposed well into the aesthetic water feature system in the Brookwood Subdivision, and the importance of those aesthetics to the financial success of the Brookwood Subdivision and the excellent residential neighborhood it is creating in the city of Eagle.

(c) Denise Thiry, G.R.I., an Idaho licensed realtor with Windemere Capital Group and a resident in the Brookwood Subdivision, may provide testimony concerning the positive effects which the water amenities and aesthetic water features within the Brookwood Subdivision have on the living environment within the immediate area of the proposed well, and the significance of such aesthetic water features to the economic viability of the Brookwood Subdivision.

2. Expert Witnesses With Specific Opinions Related to the Applications, Together With a Brief Summary of Their Opinions:

(a) Charles E. Brockway, P.E., Ph.D., whose Resume' is attached, may provide expert testimony concerning the following:

(i) Explanation and augmentation of all information and narrative reports previously filed in connection with the Applications at issue.

(ii) The absence of any negative effect which granting of the Applications will have on fish and wildlife resources.

(iii) The effects, if any, that the project for which the Applications are sought will negatively impact water quality or quantity, including a comparative analysis of water expected to be diverted pursuant to Permit No. 63-31689 in comparison to water diversions and consumption currently allowable pursuant to Claim No. 63-5087. Dr. Brockway is also expected to testify concerning the adequacy of the water supply to fulfill the diversion sought by Permit No. 63-31689; the absence of any negative impacts which such diversions will have on existing water rights in the immediate area; and other components comprising "Local Public Interest". Dr. Brockway's testimony will be supplemented and enhanced by the

information previously submitted to the Idaho Department of Water Resources in connection with the Applications, together with two (2) reports prepared by him, copies of which are attached hereto:

- Brookwood Subdivision Water Table Analysis dated March 18, 2004
- "Well Interference Analysis, Brookwood Proposed Exchange Well" dated February 12, 2002

3. A List and Copy of All Documents, Audio Recordings, Pictures and Other Items Containing Information Directly Relevant to the Applications.

(a) At this time, the Applicant is proposing to submit no such additional information.

4. Subject to approval by the Hearing Officer, Applicant reserves the right to supplement the information disclosures contained herein.

DATED this 19th day of March, 2004.

ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, PLLC

By: _____
J. EVAN ROBERTSON

CERTIFICATE OF MAILING

I hereby certify that on this 19th day of March, 2004, I served a copy of the foregoing WITHDRAWAL OF APPLICATION, by depositing same in the United States mail, postage prepaid, in an envelope, addressed to the following:

Original:

Idaho Department of Water Resources
Attn: Peter R. Anderson
2735 Airport Way
Boise, Idaho 83705-5082
Via U.S. Mail and Facsimile 208-334-2348

Mike Chase / Chase Family
3482 Hwy 30 W
New Plymouth, ID 83655

Homeowners of Downing Downs Subdivision
C/o Michael J. Sieler
1125 Steeple View Drive
Eagle, ID 83616

Tammy Zokan
City of Eagle
Moore, Smith, Buxton & Turcke, Chtd.
225 N. 9th, Ste 420
Boise, ID 83702

Mark L. Butler
Land Consultants, Inc.
1640 W. Washam Road
Eagle, ID 83616

Alfred & Wanda Thornton
9601 Prairie Road
Eagle, ID 83616

Molly O'Leary
Richard & O'Leary
99 E. State Street, Ste. 200
Eagle, ID 83616

J. EVAN ROBERTSON

Charles E. Brockway, P.E., Ph.D.

Brockway Engineering
2016 North Washington St. Suite 4
Twin Falls, ID 83301
(208) 736-8543
(208) 736-8506 FAX
E-mail: cebrock@mindspring.com

Present title:

Senior Member – Brockway Engineering P.L.L.C
Formerly-Research Professor – Civil and Agricultural Engineering: Supervision of research conducted by the University Water Resources Research Institute and the College of Engineering at Kimberly, Idaho. Graduate student supervision and directed studies instruction in Water Management and Water Resources related subjects.
Associate Director – Idaho Water Resources Research Institute

Summary of education beyond high school:

Institution, Degree, Year
University of Idaho 1955-1959, B.S.-Civil Engineering, 1959
California Institute of Technology 1959-1960, M.S. – Civil Engineering, 1960
University of Colorado, Denver, Colorado, Management, 1963
University of Denver; Denver, Colorado, Civil Engineering, 1964
Utah State University, Ph.D.-Water Resources Engineering, 1977

Number of years service on U of I faculty: 32

Date of original appointment: 1965
Dates of advancement in rank:
Associate Research Professor: 1974
Professor – 50% Agricultural Engineering, 50% Civil Engineering: 1978

Subjects and courses taught:

CE 500, CE 600, CE 502

Summary of academic experience:

University of Idaho – Research Professor–Civil and Agricultural Engineering, 1978
University of Idaho – Associate Research Professor, Civil Engineering, 1974-1978
University of Idaho – Assistant Research Professor, Civil Engineering, 1965-1974
Boise College – Instructor in Engineering, 1961-1963

Summary of other experience:

Senior Member, Brockway Engineering P.L.L.C. Water Resources Engineering
University of Idaho – USAID Pakistan Project on Irrigation Systems Management Research, 1984
U.S. Bureau of Reclamation – Hydraulic Research Laboratory, Denver, Colorado – Hydraulic Research Engineer, 1963-1965
U.S. Bureau of Reclamation – Boise, Idaho – Hydraulic Engineer, 1961-1963
Converse Foundation Engineering, Inc. – Pasadena, California – Foundation Engineer, 1960-1961

California Institute of Technology – Pasadena, California – Assistant Project Engineer, U.S. Public Health Services Research Project, 1959-1960

Partial Client List:

Twin Falls Canal Company – Twin Falls, Idaho – Hydrology and water use
North Side Canal Company – Jerome, Idaho – Hydrology and water use
Micron Technology – Ground water and water supply
J.R. Simplot Company – Land disposal of processing waste, water supply, water rights
City of Twin Falls – Water supply and hydrology
Idaho Trout Processors – Hydraulics and water supply
Cedar Mesa Reservoir and Canal Co– Water Management Consultant
Clear Springs Trout Company, Buhl, Idaho – Water supply and distribution systems
Idaho Power Company, Boise, Idaho – Relationships of groundwater and surface water – Upper Snake River Basin – water right adjudication
Idaho Department of Fish and Game – Evaluation of groundwater stream relationship for litigation – Parma vicinity
Blaine County, Idaho – Waste disposal systems for high-density rural subdivisions
City of Mountain Home, ID. Water Rights, hydrologic analysis
Rinker Company, Long Beach, CA Hydrology, water rights
U.S. Bureau of Reclamation (was Maricopa County Water District) – Arizona Flood Study
Office of Technology Assessment – U.S. Congress – Irrigation Distribution Systems
U.S. Department of Justice – Indian Water Rights
Montgomery Engineers – Ground water quality evaluations
J.U.B. Engineers, Twin Falls, Idaho – Groundwater and hydraulics
Amalgamated Sugar Company, Idaho – Hydrology and waste disposal
Pioneer Irrigation District, Idaho Water rights and hydrology
Aries Development Co. Subdivision water rights
Eagle View Farms, Castleford ID-Water rights and irrigation system
Rim View Trout Company, Wendell ID- Hydraulics

Registered Professional Engineer:

Idaho, Colorado and Washington

Special Awards or Honors:

Honorary Membership ASTM, 1959
U.S. Army National Defense Transportation Award, 1958
Distinguished Military Graduate – University of Idaho
Top Ten Graduating Senior – University of Idaho, 1959
No. 2 in graduating class of 889, University of Idaho, 1959
Representative of USBR Division of Research at 1963 Intergovernmental Training Program, Denver, 1964
Scholarship – University of Denver, Graduate School of Management, 1964
National Science Foundation Fellowship – Utah State University, 1967-1968
Outstanding Young Engineer Award for Idaho, National Society of Professional Engineers, 1968
Engineer of the Year, 1997 American Society of Agricultural Engineers
Idaho Water Users Hall of Fame - 1998

Membership in professional and scholarly organizations:

National Society of Professional Engineers, 1967- present
Idaho Society of Professional Engineers, 1967- present: President 1978
American Society of Civil Engineers – Irrigation & Drainage Division Committee Chairman:

1.) Operation and Maintenance of Irrigation and Drainage Systems, 1975-1981
2.) Water Quality Committee, 1980-1984, Chairman
3.) Task Committee on Guidelines for Erosion and Sediment Control in Irrigated Agriculture, 1980-1983, Chairman
4.) Publications Committee, 1985-1992

Research Society of America
National Council of Examiners for Engineering and Surveying, 1981-1991
Idaho Board of Professional Engineers and Professional Land Surveyors, 1981-1991, Chairman
American Water Resources Association

Offices held in such organizations:

National Society of Professional Engineers
- Member – Young Engineers Committee, 1973-1974
- Chairman – Young Engineers Committee, 1975-1977
- Member – President's Committee on Board of Directors Organization, 1977
- Member – Registration and Qualification for Practice Committee, 1979-1981
- Chairman – Registration and Qualification for Practice Committee, 1982-1984
- Member – Participating Organizations Liaison Committee to NCEE, 1982-1984

Idaho Society of Professional Engineers, President 1978
- President - Magic Valley Chapter, 1970-1971
- Member – State Ethical Practices Committee, 1966-1977
- Member – State Intersociety Relations Committee, 1968
- Member – State Nominating Committee, 1975-1976
- Member – Board of Directors, 1972-1973
- Member – Board of Directors, Past President Chairman – Nominating Committee 1979
- State Director – Representative for Idaho NSPE, 1982-1983
- Nominating Committee for Idaho Board of Professional Engineers & Land Surveyors Member

American Society of Civil Engineers
- Member – Operation and Maintenance of Distribution Systems Committee Irrigation and Drainage Division, 1975-1981
- Chairman – Irrigation and Drainage Division, Operations and Maintenance Committee, 1977-1979
- Member – Water Quality Committee, Irrigation and Drainage Division, 1980-1984
- Chairman – Water Quality Committee, Irrigation and Drainage Division, 1982-1984
- Member – Task Committee on Water Measurement, 1980-1983
- Chairman – Task Committee on Guidelines for Erosion and Sediment Control in Irrigated Agriculture, 1984 – Present
- Member – Publications Committee, 1985 – Present
- Corresponding Member – ASCE irrigation and Drainage Division Committee on Operation and Maintenance of Irrigation Systems

Reviewer – ASCE Irrigation and Drainage Division Committee on Publications
Idaho Board of Professional Engineers and Land Surveyors Member, 1981
Vice Chairman, 1983-1984
Chairman, 1984-1986, 11990-1992
National Council of Engineering Examiners
Assistant Vice President, Western Zone
Member, Professional Examinations Advisory Committee
Member, Committee on Uniform Procedure and Legislative Guidelines, 1984
Member, Communications and Publications Committee, 1983
Member, Uniform Examinations and Qualifications Committee, 1984 – 1986
Member, Committee on Examination Policies and Procedures, 1987 – 1989
Member, Advisory Committee on Council Activities, 1986-1987
Assistant Vice President – Western Zone, 1986-1987
Member, Fundamentals Examination Review Committee, 1986 1988

Scholarly and creative activity:

Research:

Development of systems analysis procedures for optimization of irrigation system designs with environmental, physical, and social constrains.
Evaluation of crop consumptive use, irrigation requirements, and methods of determining basin depletion from agricultural development
Systems analysis of water use to develop mathematical methods for studying complex ground water-surface water systems – mathematical modeling of aquifers,
Ground water quality and river system water quality evaluations for nutrient load determination and river system modeling.
Development of guidelines for design of sediment removal facilities for on-farm and irrigation distribution system waste ways
Evaluation of attainable impacts on water quality of irrigation return flows due to implementation of best management practices for sediment and nutrient control.
Evaluation of alternate energy sources for irrigation and municipal needs in Idaho.
Analysis of operation and maintenance cost of water distribution systems and determination of the relationship of costs to known physical and organizational parameters and water use efficiency.
Evaluation of the economic potential for use of geothermal hot water and steam in Idaho,
Study of the movement of water from canals to local water tables under saturated and partially saturated conditions.
Studies of the mechanisms of microbial action, sedimentation and soil-water-chemical interactions involved in natural sealing phenomenon in canals and reservoirs,
Evaluation of irrigation management practices for sustained land disposal of geothermal fluids.
Evaluation of practices and systems for controlling sediment and other pollutant losses from irrigated lands.
Investigation of the response of aquifer systems to changes in recharge or withdrawal due to change in land use.
Evaluation of procedures for estimating crop water requirements,

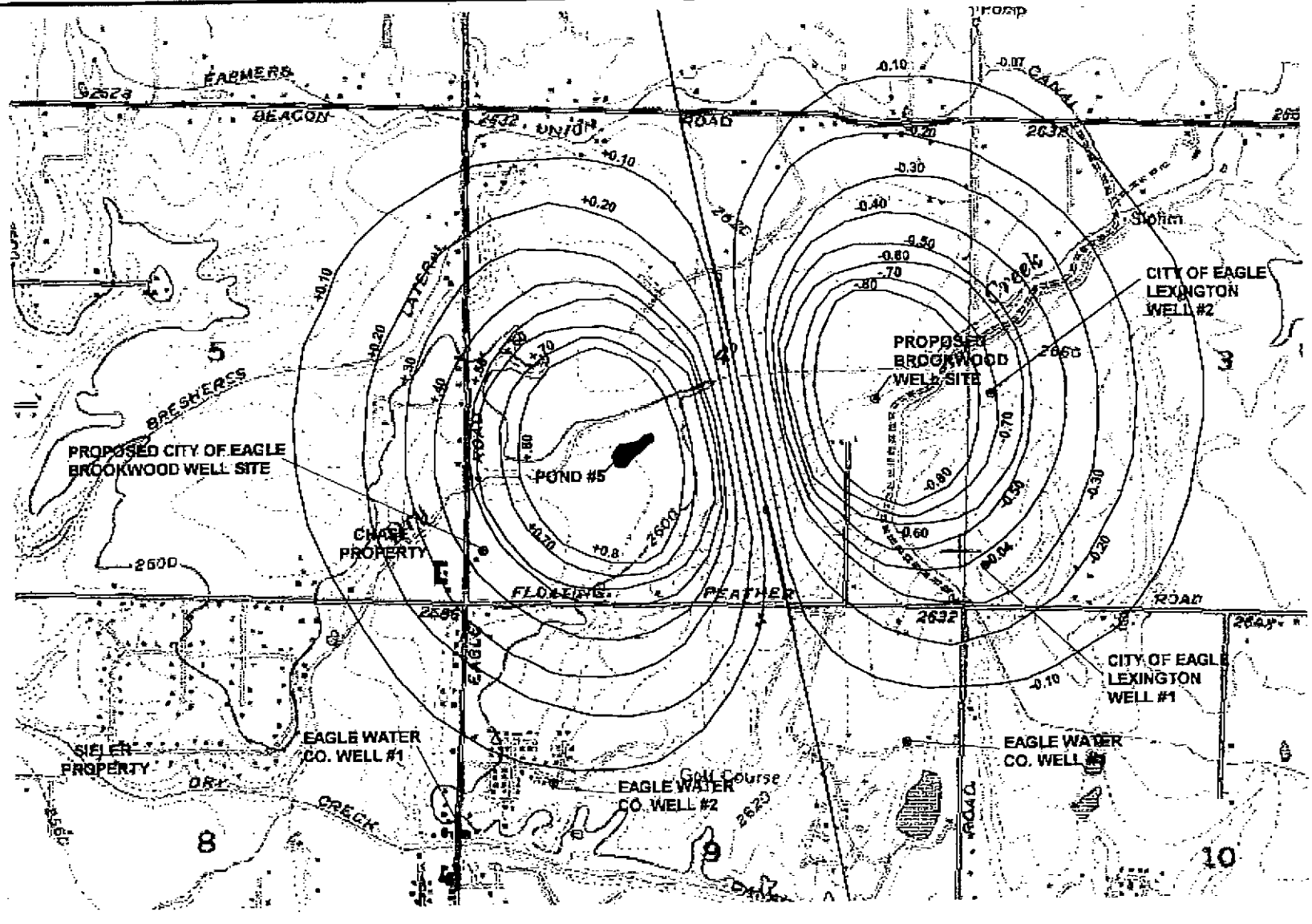
Development of cost effective procedures and equipment for measurement of irrigation diversions and power use in open and closed systems

Community services and other relevant activities:

Member – Intermountain District Church of the Nazarene; Camps Board – 1976-1984, Board of Church Properties – 1976-1979
Member and Vice President, Twin Falls Reformed Church Consistory 2000-Present
Member – Twin Falls City Planning and Zoning Commission 12/1978-9/1979
Member – College of Southern Idaho Geothermal Energy Commission
Member – Governor's Committee on Energy Use – 1980-1981
Member – Idaho Technical Advisory Committee for Sediment in Surface Water
Chairman – Snake River Technical Advisory Committee – Idaho Legislative Council, 1983-1985
Advisor – Governor's Snake River Advisory Committee – 1985
Member – Water Resources Foundation Board of Directors – 1985
Chairman – Idaho Technical Committee of Hydrology
Member – Idaho Department of Health & Welfare Sediment Citeria Committee
Member – Snake Plain Advisory Committee of Idaho Department of Health & Welfare
Member – Idaho Water Users Water Quality Committee – 1980
Member – INEL Dose Evaluation and Risk Assessment Committee
Member – Columbia River System Operations Review
Member – Mid Snake River Nutrient Management Advisory Committee
Member - Mid Snake River Irrigation Water Quality Coordination Committee
Technical Advisor – Middle Snake River Committee
Member – Liaison Committee, U.S. Geological Survey National Water Quality Assessment Program, Snake River Basin
Member – Snake River Studies Committee, Idaho Department of Water Resources
Member – City of Twin Falls Wellhead Protection Committee
Member-Eastern Snake River Plain Groundwater Modeling Committee

Publications:

Dr. Brockway is the author of over 100 technical publications in the water resource engineering field. A full list of publications can be provided at request.



BROCKWOOD SUBDIVISION
WATER TABLE ANALYSIS

Net Draw Down Lines
Pond #5
New well

BROCKWAY ENGINEERING, PLLC.
ALR MARCH 18, 2004

Well Interference Analysis Brookwood Proposed Exchange Well

Estimated Well Drawdown

C.E. BROCKWAY February 12, 2002 Brockway Engineering P.L.L.C.
AQUIFER PROPERTIES BASED ON USBR GROUNDWATER MANUAL-ALLUVIAL SAND AND GRAVEL
AND LOCAL WELL DRILLER'S LOGS
EST. HOLE DIA. 12 INCHES
USING THEIS FORMULA S=114.6*Q/T*W(U)
S= DRAWDOWN IN FT
Q= PUMPING RATE GPM
T= COEFFICIENT OF TRANSMISSIBILITY GPD/FT
W(U)= WELL FUNCTION OF 'U'

W(U)=-.5772-LOGeU +U-U^2/(2*2!)+U^3/(3*3!)-U^4/(4*4!) .....
U=1.87*r^2*S/(T*t)
r=DISTANCE IN FT. FROM CENTER OF PUMPED WELL TO DRAWDOWN POINT
S=COEFFICIENT OF STORAGE
T=COEFFICIENT OF TRANSMISSIBILITY, GPD/FT
t= TIME SINCE PUMPING STARTED, DAYS

PUMPING WELL

r1=	0.500 FT	K=	40.00	FT/DAY
r2=	903 FT	K=	0.00046296	CFS/FT^2
r3=	1806 FT	K=	2.98E+02	GPD/FT^2
r4=	2709 FT	WRIGHT SAT. DEPTH EST.=	300	FT
r5=	5280 FT	TRANSMISSIVITY=	89520	GPD/FT
S=	0.15	TRANSMISSIVITY=	1.39E-01	FT^2/SEC
T=	89520 GPD/FT	TRANSMISSIVITY=	11967.9	FT^2/DAY
Q/WELL	426.36 GPM =	0.950 CFS		

HOURS	TIME DAYS t	U w/r1 0.5	WELL FUNCT. W(U)1	DRAW DOWN @WELL	SPEC. CAP GPM/FT	U W/r2 903	WELL FUNCT. W(U)2	DRAW DOWN @ 903	U W/r3 1806	WELL FUNCT. W(U)3	DRAW DOWN @ 1806	U W/r4 2709	WELL FUNCT. W(U)4	DRAW DOWN @ 2709
5	0.21	3.780E-06	11.9139	6.50	66	1.226E+01	0.0000	0.00	4.906E+01	0.0000	0.00	1.104E+02	0.0000	0.00
10	0.42	1.890E-06	12.6070	6.88	62	8.132E+00	0.0000	0.00	2.453E+01	0.0000	0.00	5.519E+01	0.0000	0.00
24	1.00	7.833E-07	13.4825	7.36	58	2.555E+00	0.0231	0.01	1.022E+01	0.0000	0.00	2.298E+01	0.0000	0.00
48	2.00	3.917E-07	14.1756	7.74	55	1.277E+00	0.1403	0.08	5.110E+00	0.0000	0.00	1.150E+01	0.0000	0.00
144	6.00	1.306E-07	15.2743	8.34	51	4.258E-01	0.5610	0.30	1.703E+00	0.0743	0.04	3.832E+00	0.0001	0.00
480	20.00	3.917E-08	16.4782	8.99	47	1.277E-01	1.6043	0.86	5.110E-01	0.5467	0.30	1.150E+00	0.1716	0.09
960	40.00	1.958E-08	17.1714	9.37	45	6.387E-02	2.2385	1.22	2.555E-01	1.0274	0.56	5.748E-01	0.4782	0.26

HOURS	DAYS	@WELL	903	1806	2709 DISTANCE FEET
0	0.00	0	0	0	0
5	0.21	-6.50	0.00	0.00	0.00
10	0.42	-6.88	0.00	0.00	0.00
24	1.00	-7.36	-0.01	0.00	0.00
48	2.00	-7.74	-0.08	0.00	0.00
144	6.00	-8.34	-0.38	-0.04	0.00
480	20.00	-8.99	-0.88	-0.30	-0.09
960	40.00	-9.37	-1.22	-0.56	-0.26

RECHARGE WELL

r1=	0.500 FT	K=	40.00	FT/DAY
r2=	901 FT	K=	0.00046296	CFS/FT^2
r3=	1808 FT	K=	2.98E+02	GPD/FT^2
r4=	2709 FT	WRIGHT SAT. DEPTH EST.=	300	FT
r5=	5280 FT	TRANSMISSIVITY=	89520	GPD/FT
S=	0.15	TRANSMISSIVITY=	1.39E-01	FT^2/SEC
T=	89520 GPD/FT	TRANSMISSIVITY=	11967.9	FT^2/DAY
Q/WELL	-426.36 GPM =	-0.950 CFS		

HOURS	TIME DAYS t	U w/r1 0.5	WELL FUNCT. W(U)1	DRAW DOWN @WELL	SPEC. CAP GPM/FT	U W/r2 901	WELL FUNCT. W(U)2	DRAW DOWN @ 901	U W/r3 1808	WELL FUNCT. W(U)3	DRAW DOWN @ 1808	U W/r4 2709	WELL FUNCT. W(U)4	DRAW DOWN @ 2709
5	0.21	3.780E-06	11.9139	-6.50	66	1.221E+01	0.0000	0.00	4.906E+01	0.0000	0.00	1.104E+02	0.0000	0.00
10	0.42	1.890E-06	12.6070	-6.88	62	8.105E+00	0.0000	0.00	2.453E+01	0.0000	0.00	5.519E+01	0.0000	0.00
24	1.00	7.833E-07	13.4825	-7.36	58	2.544E+00	0.0235	-0.01	1.022E+01	0.0000	0.00	2.298E+01	0.0000	0.00
48	2.00	3.917E-07	14.1756	-7.74	55	1.272E+00	0.1415	-0.08	5.110E+00	0.0000	0.00	1.150E+01	0.0000	0.00
144	6.00	1.306E-07	15.2743	-8.34	51	4.230E-01	0.6639	-0.38	1.703E+00	0.0743	-0.04	3.832E+00	0.0001	0.00
480	20.00	3.917E-08	16.4782	-8.99	47	1.272E-01	1.6082	-0.88	5.110E-01	0.5467	-0.30	1.150E+00	0.1716	-0.09
960	40.00	1.958E-08	17.1714	-9.37	45	6.359E-02	2.2407	-1.22	2.555E-01	1.0274	-0.56	5.748E-01	0.4782	-0.26

HOURS	DAYS	@WELL	901	1808	2709 DISTANCE FEET
0	0.00	0	0	0	0
5	0.21	6.50	0.00	0.00	0.00
10	0.42	6.88	0.00	0.00	0.00
24	1.00	7.36	0.00	0.00	0.00
48	2.00	7.74	0.00	0.00	0.00
144	6.00	8.34	0.00	0.00	0.00
480	20.00	8.99	0.00	0.00	0.09
960	40.00	9.37	0.00	0.00	0.26

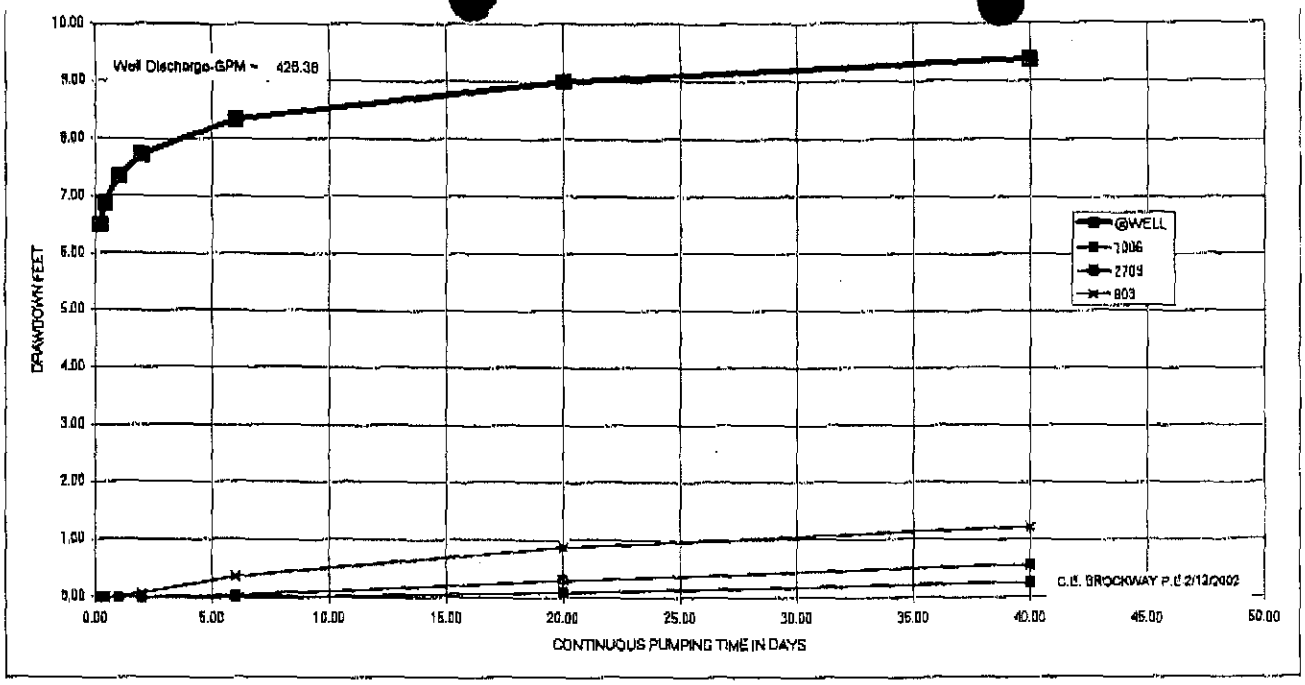
COMBINED EFFECT

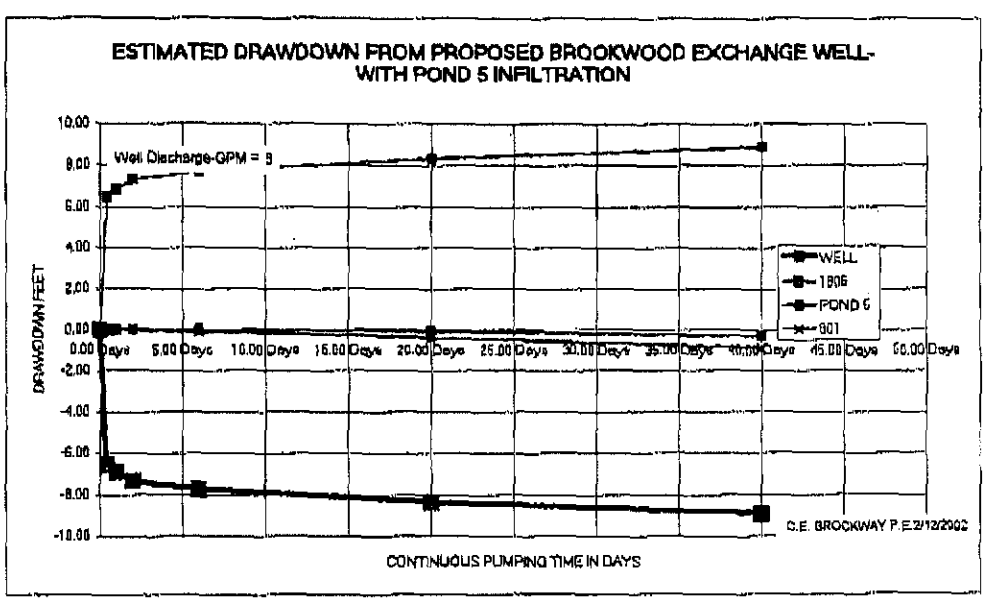
HOURS	DAYS	WELL	901	1808	POND 5
0	0.00 Days	0.00	0.00	0.00	0.00
10	0.42 Days	-6.50	0.00	0.00	6.50
24	1.00 Days	-6.88	0.00	0.00	6.88
48	2.00 Days	-7.36	-0.01	0.00	7.36
144	6.00 Days	-7.74	-0.08	0.00	7.74
480	20.00 Days	-8.34	-0.38	-0.04	8.34
960	40.00 Days	-8.90	-0.88	-0.30	8.80

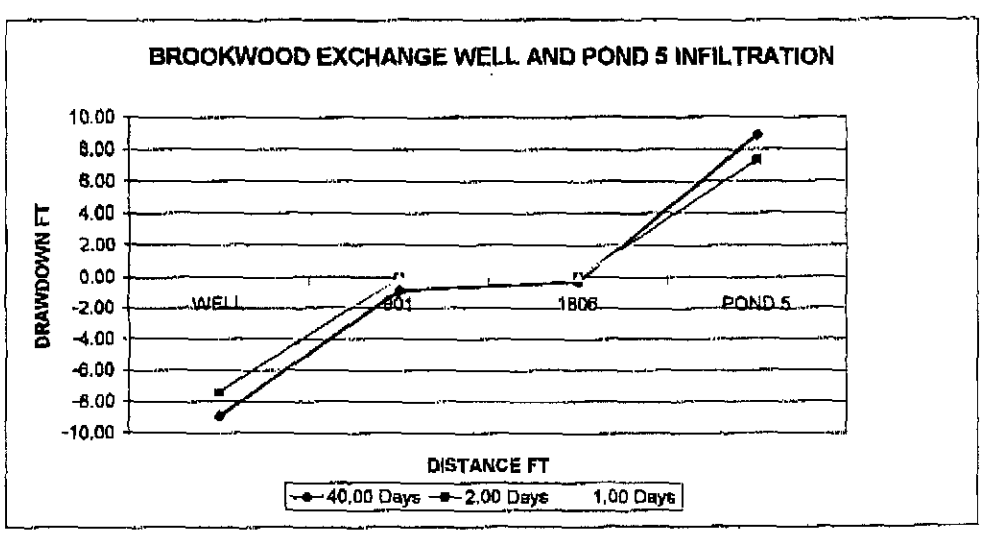
ESTIMATED DRAWDOWN FROM PROPOSED BROOKWOOD EXCHANGE WELL-NO POND 5

1

1000


Well Discharge-GPM = 426.38
DRAWDOWN FEET
CONTINUOUS PUMPING TIME IN DAYS
@WELL
1806
2709
803
C.E. BROCKWAY P.E 2/12/2002


ESTIMATED DRAWDOWN FROM PROPOSED BROOKWOOD EXCHANGE WELL-
WITH POND 5 INFILTRATION
Well Discharge-GPM = 9
DRAWDOWN FEET
CONTINUOUS PUMPING TIME IN DAYS
WELL
1806
POND 5
801
C.E. BROCKWAY P.E 2/12/2002


BROOKWOOD EXCHANGE WELL AND POND 5 INFILTRATION
DRAWDOWN FT
WELL
801
1806
POND 5
DISTANCE FT
40.00 Days
2.00 Days
1.00 Days

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Department of Water Resources

SUMMARY OF GROUNDWATER CONDITIONS IN THE VICINITY OF PROPOSED BROOKWOOD SUBDIVISION WELL SITE

EAGLE, IDAHO

REVISED
AUGUST 17, 2001

Prepared by Bill Strowd, P.G.

Job No. 014100

SUMMARY OF GROUNDWATER CONDITIONS IN THE VICINITY OF PROPOSED BROOKWOOD SUBDIVISION WELL SITE

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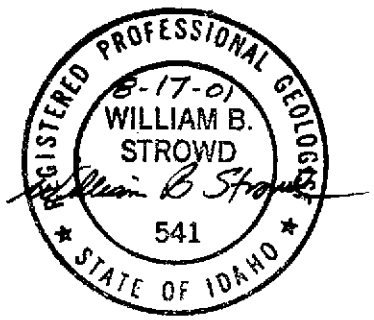


Prepared by Bill Strowd, P.G.

Job No. 014100

SUMMARY OF GROUNDWATER CONDITIONS IN THE VICINITY OF THE PROPOSED BROOKWOOD SUBDIVISION WELL SITE, EAGLE, IDAHO

August 2001

Introduction

Construction of a municipal well is proposed at the Brookwood Subdivision, Eagle, Idaho. The proposed well is located near the east entrance of the subdivision and immediately north of the intersection of Eagle Road and Floating Feather Road (T.04N., R.01E., B.M., section 4, SW1/4 SW1/4), as shown on the vicinity map within the appendix at the back of the report. The proposed well is designed to have a sustained production capacity of 1,000 gpm, subject to a limiting maximum volume of 3.25 cubic feet per second (1,460 gpm) under three water rights held by the City of Eagle. For the total production volume to be developed at this site, an application to amend one of the three water rights (1998 priority date) was submitted to IDWR for the purpose of adding back this formerly withdrawn point of diversion. The application elicited formal protests from four other well owners.

This report reviews and summarizes existing groundwater information within the vicinity of the proposed well site and presents conclusions relating to potential impacts the well may have on the groundwater resource and neighboring water supply wells.

Information Sources

A review of neighboring well driller's logs was conducted within approximately one quarter to one mile radius. Copies of the logs are included in the appendix at the back of this report. Not all well logs are included due to the large quantity in the area, and due to some logs having shallow depths, spotty information, or poor legibility. Some of the larger and deeper wells with higher production capacity, such as municipal and irrigation wells, are included which are further than one mile radius. Four domestic wells not represented by driller's logs reportedly occur within 300 to 500 feet west of the proposed site. Enough logs are supplied to yield a general construct of the prevailing hydrogeology and its lateral consistency under the area. A geologic profile running east-west was developed from well logs and from a previous investigation.

A review of three prior reports based on well pumping tests has provided useful information as to local groundwater conditions and aquifer response to sustained pumping. Two of these reports were completed in 1991: *Ground-water Conditions in the Dry Creek Area, Eagle, Idaho*, is an open-file report produced by a hydrogeologist with IDWR; and *Results of the 30-Day Pumping Test and Aquifer Analysis*, was prepared by a professional geologist (formerly) with CH2M Hill

in Boise. Both of these reports address measured drawdown of surrounding observation wells from sustained pumping (750 to 900 gpm for 30 days) of the then new Lexington Hills No. 1 Well (03CCC1), also called the Floating Feather Hills, Inc. Well and Eagle Well No. 1. The reports also provide calculated longer-term drawdown effects based on these observations. The Lexington Hills well No.1 Well is located one mile east of the Brookwood site. The third report is a 12-page letter report with appendix of data entitled *Aquifer Test at Floating Feather Well.* It was conducted and written by Scanlan Engineering of Boise for the well owner, United Water of Idaho (UWID), and summarizes results of test pumping a new municipal well in 1995 located one-half mile west of the Brookwood well site. The text of this report, without supporting data sheets, is provided in the appendix. Readers are referred to the authors of the above reports for more detailed information regarding these investigations.

The subsequent production histories of these two municipal wells (03CCC1 and 05CDD1) are also useful for the same reasons as their pump tests investigations. They are located relatively nearby and on each side of the proposed well, they are of similar design, and they exploit the same general aquifer. However their actual service history and associated impacts are now a matter of extended record, not prediction, and thus directly serve as a reasonable basis for anticipating the general performance and impact of the proposed well.

The hydrogeologic information and aquifer testing supplied within the previous reports, in conjunction with abundant well log information and production history of local and similar municipal wells provides for a relatively robust information base in assessing local aquifer conditions and its response to a new well.

Well log Information and Hydrogeologic Framework

The lithologic descriptions from well logs provide a relatively consistent stratigraphic profile in the area (well logs are located in appendix). A shallow mixed sequence of fluvial clay, silt, and sand-gravel mixtures of Holocene age lay above more consolidated, thick, lacustrine clays correlative to Pliocene-age Glenns Ferry formation. This profile is graphically displayed in the geologic cross section labeled A-A' and as located on the cross-section map presented in the appendix. The geologic section is modified from IDWR Open-File Report (1991). Wells west of 04DDC1, however, have been added in this report as an extension to the original section as presented in the IDWR report. The aquifer of interest in this report is represented by the formerly noted sand-gravel assemblage that is generally disposed within the upper interval of mixed Holocene sediments and above the thick, lower section of Pliocene clay. The aquifer formation can be seen in the section to generally increase in thickness in a westerly direction and the potentiometric gradient gradually declines in the same direction. Aquifer thickening to the west generally coincides with improving groundwater production, a trend which is confirmed by existing well performance in the Dry Creek area. The proposed Brookwood well was located in

the more favorable western area to take advantage of this condition.

Both water production and water quality complaints from well owners generally diminish with distance in a southwesterly direction from the Boise foothills (IDWR, 1991). This is attributed to partial recharge as underflow from higher TDS (dissolved minerals) waters originating from deep-seated faults under the foothills area (ibid). These characteristics have been demonstrated in municipal wells, with the most northeasterly municipal well (Lexington Hills No. 2, 03CBC1, a.k.a. Eagle Well No. 2) currently being out of service due to excessive sand production and hydrogen sulfide. This well also showed a relatively low specific capacity (182 ft dd at 600 gpm or 3.3 gpm/ft) during its initial pumping test (Roger Dittus, 2001, verbal communication). Again, the Brookwood site was selected to minimize these influences as delimited under the City of Eagle's existing water rights.

Previous Municipal Well Investigations

United Water of Idaho (UWID) operates several municipal wells on behalf of the City of Eagle. Two of the wells closest to the proposed Brookwood site are the Lexington Hills No. 1 Well (03CCC1, a.k.a. Eagle Well No. 1), which is capable of producing around 1,000 gpm with good water quality and is located about one mile east of the Brookwood site, and the Floating Feather Crandlemire Well (05CDD1), which also has good water quality, produces approximately 1500 gpm, and is located one-half mile west of the Brookwood site. When new, both of these wells were subjected to pumping-test drawdown investigations as a result of protests from well owners.

Due to the protest, a thirty-day pumping test was performed in 1991 to test drawdown effects on sustained production from the then new Lexington Hills Well No. 1 (then called Floating Feather Hills Well and labeled 03CCC1 on the geologic cross section and map). This well's location is approximately one mile due east of the proposed Brookwood well site (04CCC1). The extended pumping test included repeated measurements of drawdown within a number of observation wells. The observation wells were previously constructed neighboring domestic and irrigation wells. Since the results are only briefly discussed here, readers are referred to the two independent reports by IDWR (1991) and CH2M Hill (1991) for more details.

The pumping test's findings are pertinent to the Brookwood well since the pumping well's location, general design, pumping rate, and exploited aquifer are all similar or comparative to the proposed well. The report by CH2M Hill concluded the mean average transmissivity of the area based on the production well and all observation wells is 122,100 gpd/ft., yet based on individual response within each observation well, transmissivity (T) increased towards the west. At the most westerly observation well (Hormaechea), and closer to the proposed Brookwood well, T was calculated at 355,000 gpd/ft. Results of the investigation indicated that the predicted cone of depression from sustained pumping at a rate of 1,000 gpm would have a limited impact on

existing water rights and on the resource in general. It also concluded that drawdown would be on the order of 1.5 feet per mile after six months. In the decade subsequent to that study, despite almost continuos well service, no substantiated complaints of injury are known to have been filed.

The report also concluded that the increasing radius of the cone of depression showed significant decrease in calculated growth with time, even after thirty years. However, this prediction assumes that their will be no additional interference from new wells, not a likely eventuality considering present growth.

The IDWR report, which independently evaluated data from this pumping test, extrapolated a longer term pumping interval and its subsequent effects. This study, employing an assumed pattern and density of well interference and a more conservative transmissivity value of 7,500 gpd/ft inferred from local well log information, derived a map showing estimated drawdown from the new well with six-months of sustained production at 1,000 gpm. Since the map was constructed using more conservative assumptions and measurements from the pumping well located a mile to the east of the Brookwood site, the direction of less favorable aquifer conditions, the map of estimated drawdown could be expected to emulate a "worst case" scenario as a predictive model for Brookwood. The map in the appendix showing 6-month estimated drawdown is such a map, with the original map's contours of drawdown transposed in unaltered form onto the Brookwood well site. The map is presented as a reasonable but conservative model to estimate long term impact to the local ground-water levels.

The third report, from Scanlan Engineering to Mr. Dan Brown at UWID (1995), was again initiated from senior water right protests. The letter report summarizes data and conclusions resulting from monitoring of water levels of five wells within the vicinity of a 51-hour pump test at the Crandlemire Floating Feather Well (05CDD1) pumped at a continuous rate of 1,500 gpm. This well is located approximately one-half mile west of the proposed Brookwood well (04CCC1) and 1,000 feet west of a Chase domestic well (05DCD1). The Chase domestic well was used as an observation well, which indicated a drawdown of 1.5 feet during the test but may be only partially connected to the aquifer being tested. This Chase domestic well is approximately 2,000 feet west of the proposed Brookwood well. Three other wells on the Chase property, not identified by well logs, are reported in the vicinity of the Brookwood site (Mike Chase, verbal communication) and one of these, which is located at the Chase dairy, is reported to occur within 400 feet of the proposed well.

A Chase irrigation well was also monitored during the test, which is located approximately 2,750 feet northeast of the pumped well, is similar in depth to the Floating Feather Well, and is directly connected to the same aquifer. Measured drawdown on this well during the test was approximately one foot. In its evaluation of all the observation wells, the report concludes that

"The results of the test suggest that pumping of the (Floating Feather) well at the maximum rate and volume proposed under water right permit 63-12192 should not significantly impact neighboring wells and water rights". Subsequent routine monitoring of the Chase wells' water levels for the past five years during active service of the Floating Feather Well (1995 - 2000), their has been negligible change in drawdown (Terry Scanlan, 2001, verbal communication).

A brief production summary of the Floating Feather Well from United Water SCADA system (in appendix) indicates that production and specific capacity does not suggest any production decline or decrease in specific capacity. The well's specific capacity is holding around 35 gpm per foot. Operational records of the Lexington Hills Well No. 1 indicates it has almost continuously operated since 1991, averaging 9,000,000 gallons per month, without indications of declining production (Roger Dittus, 2001). No record of pumping levels have been maintained for this well. Lastly, United Water reportedly has received no formal complaints or documented evidence from other well owners of injury in the intervening years subsequent to construction of either of these municipal wells, which have been in service on either side of the proposed well site.

Long-term monitoring of wells through the joint efforts of the USGS and IDWR indicates that there is a slow general decline of groundwater levels in the region, probably as a cumulative result of well withdrawals for irrigation, municipal and domestic use. With increasing population growth and demand for water, this trend is anticipated to continue. Area-wide hydrographs and well levels in general indicate that water level fluctuations appear to be correlatable more to seasonal precipitation and irrigation than localized well effects (IDWR, 1991), although well interference can be a problem in the foothills area due to a hydrogologic environment that substantially differs from that found in the Brookwood vicinity.

Conclusions

- The lithology described in most of the deeper well logs indicates that intercalated sand and sandy gravel stringers within less conductive silt and clay layers constitutes the aquifer resource that has been selected for supplying the proposed municipal well.

- Production from municipal wells of similar design and of equal or larger production, located at or less than one mile to the east and west of the Brookwood site, have demonstrated no historic difficulties in sustaining their designed production levels, nor other indications of strain to the aquifer, nor any known substantiated complaint of injury during their service lives by neighboring well owners, despite the initial protests.

- Information on this aquifer's characteristics from response to several sustained large municipal well pumping tests, as independently investigated in some length and detail by

three ground-water specialists, supports the conclusion that the aquifer is not over-utilized. Although continued growth and demand may eventually have a serious impact, an IDWR report recommends that increased long-term observation with enhanced well network is needed to monitor for this possibility.

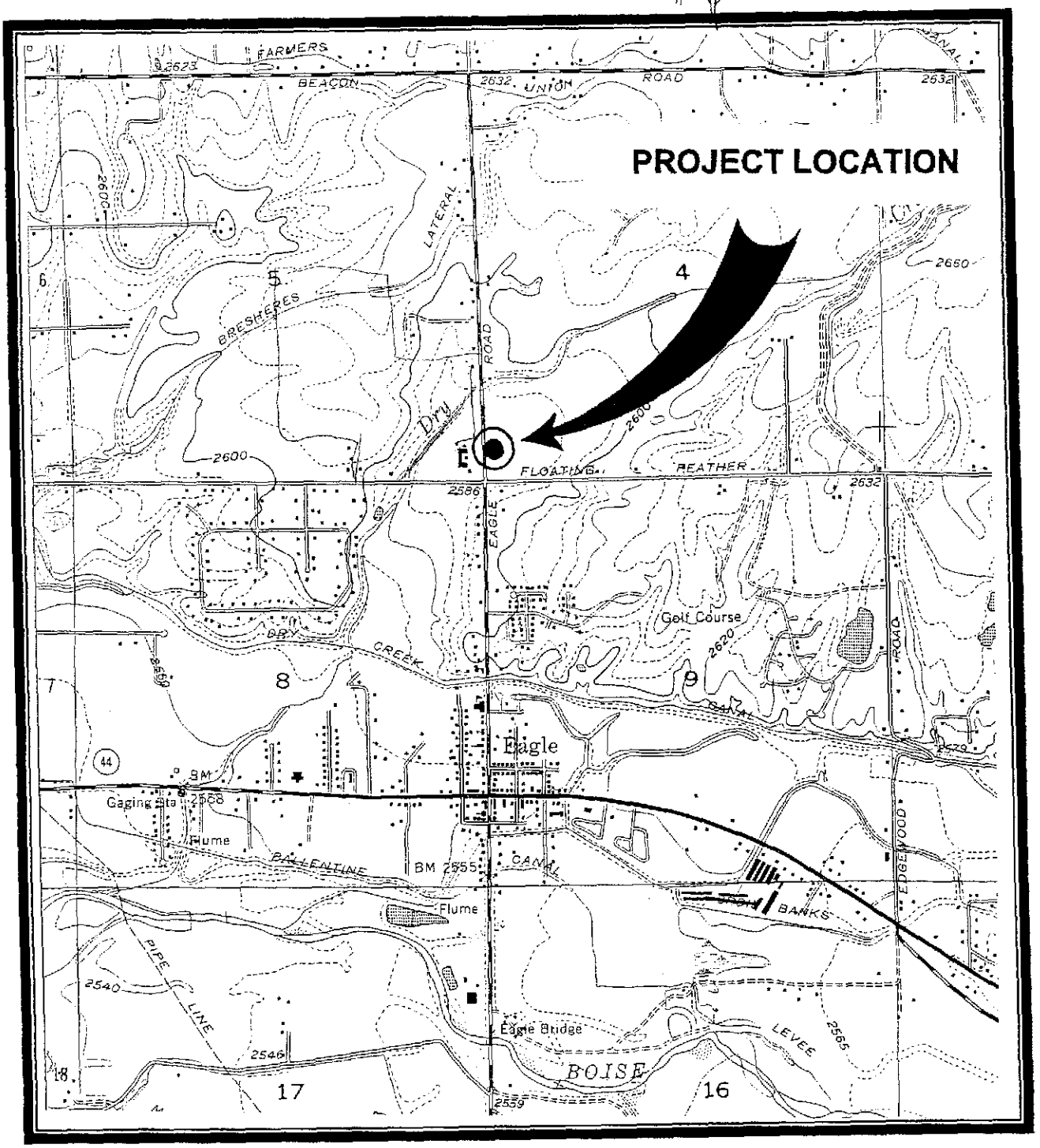
- Results of the pumping test indicated locally measured drawdowns are small and inconsequential.

- Aquifer conditions tend to improve from the foothills area in the east towards the Floating Feather Well in the west (Section 5). This is generally demonstrated in well logs and in recorded well performance. Therefor, results of the Lexington Hills Well No. 1 pumping test one mile to the east of the proposed well site most probably represents a conservative model for application to the proposed Brookwood well site.

- The above pumping test also suggested that the radius of the cone of depression showed significant decrease in calculated growth with time, even after thirty years. This prediction assumes that their will be no additional interference from new wells, but since production from the proposed Brookwood well would not serve to increase withdrawals over that of existing water rights, its construction should not impose greater demand on the aquifer.

- Based on existing information, the Brookwood well as proposed should have minimal impact to the local aquifer. Demonstrated aquifer characteristics in similar, nearby, municipal wells have shown relatively minor drawdowns in the observed neighboring wells. To conservatively estimate this effect with available information, the reader is referred to the estimated drawdown map in the appendix. Although this model is not based on well information specific to the proposed site, it is based on the same aquifer and conditions in which encompass the area of the proposed site. By employing this model, only the nearest wells to the Brookwood site should experience drawdowns in excess of five to six feet. Local wells exploiting another aquifer zone may be influenced even less. Less conservative analysis suggest maximum drawdowns within the closest wells to be even less. Wells within hundreds of feet of the Brookwood site, however, may experience drawdowns in excess of eight or ten feet.

APPENDIX OF MAPS and FIGURES

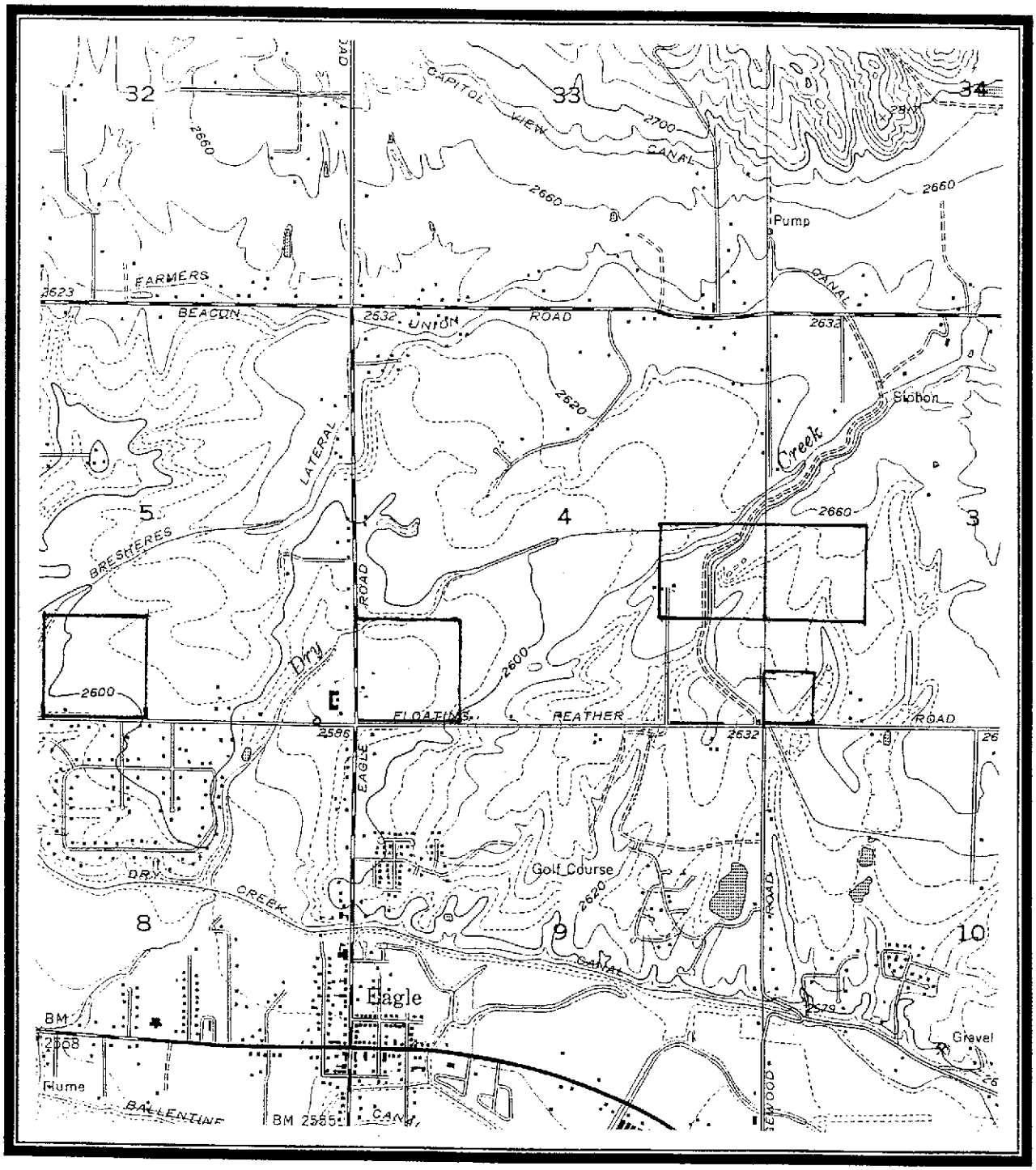


VICINITY MAP

MODIFIED FROM EAGLE, ID, 7 1/2-MIN. TOPOGRAPHIC MAP

HOLLADAY ENGINEERING CO.

SITE EVALUATION
BROOKWOOD WELL



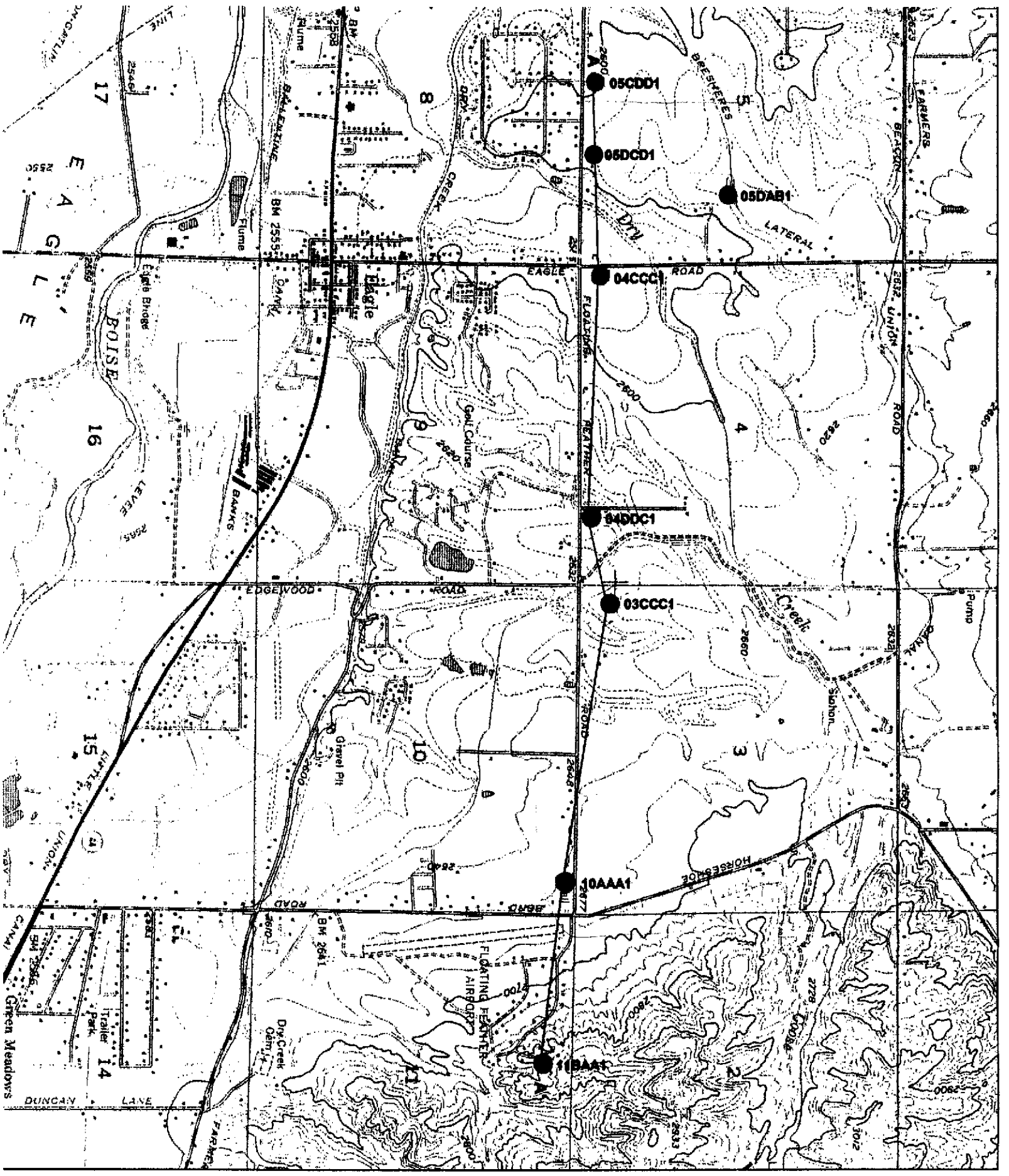
1 inch = 2,000 feet

CITY OF EAGLE WATER RIGHTS MAP

MODIFIED FROM EAGLE, ID, USGS, 7 1/2-MIN. TOPOGRAPHIC MAP

HOLLADAY ENGINEERING CO.

SITE EVALUATION
BROOKWOOD WELL



CROSS SECTION A-A' WITH WELL LOCATIONS
CITY OF EAGLE, IDAHO

HOLLADAY ENGINEERING CO.
ENGINEERS • CONSULTANTS
32 N. MAIN P.O. BOX 235 PAYETTE, ID 83661
(208) 642-3304 • FAX# (208) 642-2159
EMAIL: holladay@srvinet.com

JOB NO: 014100A
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REVISED: 8/8/01
PLOTTED: 8/8/01
DRAWN BY: FGD
CHECKED BY: WBS
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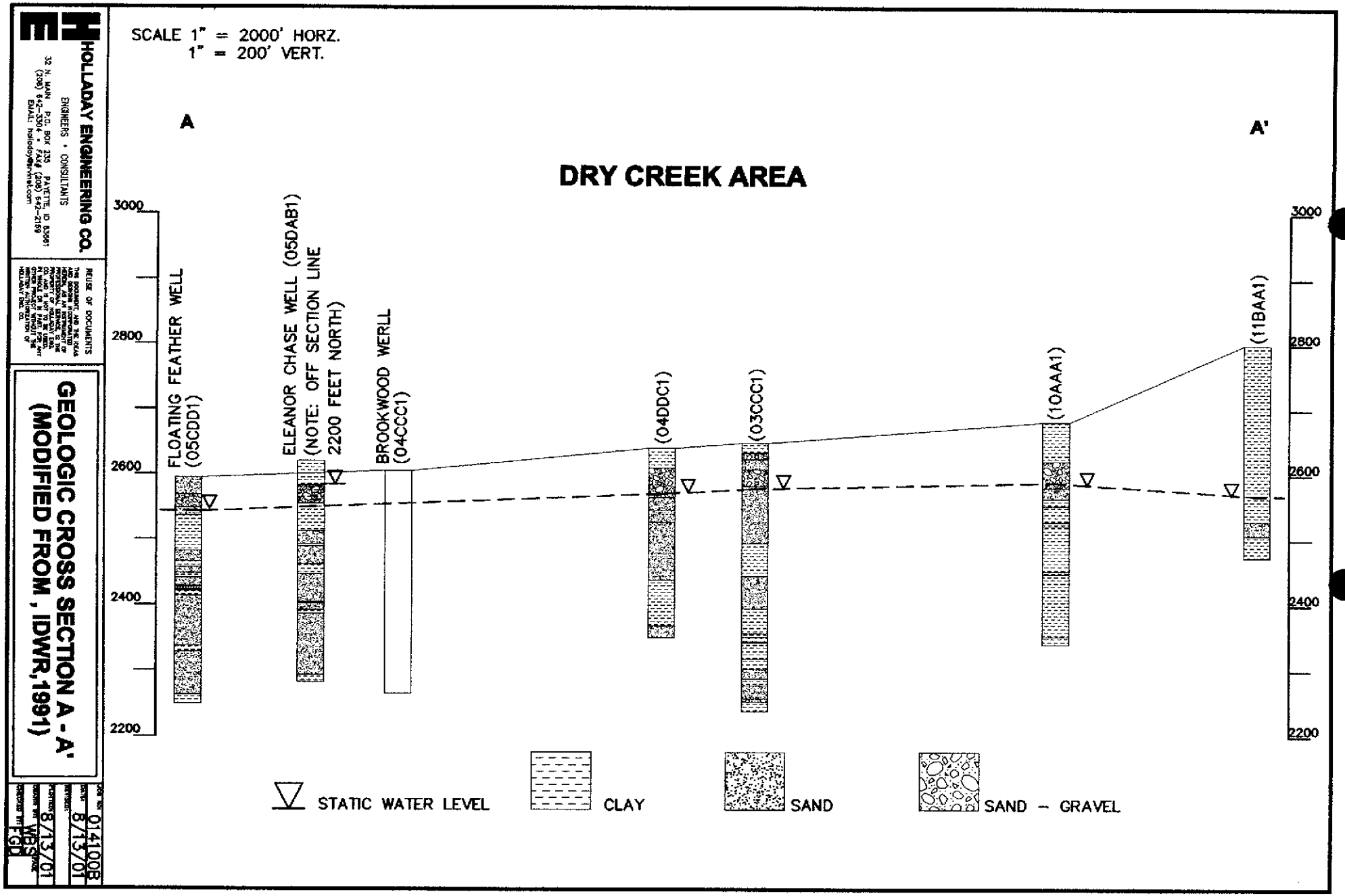

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GEOLOGIC CROSS SECTION A - A'
(MODIFIED FROM , IDWR,1991)

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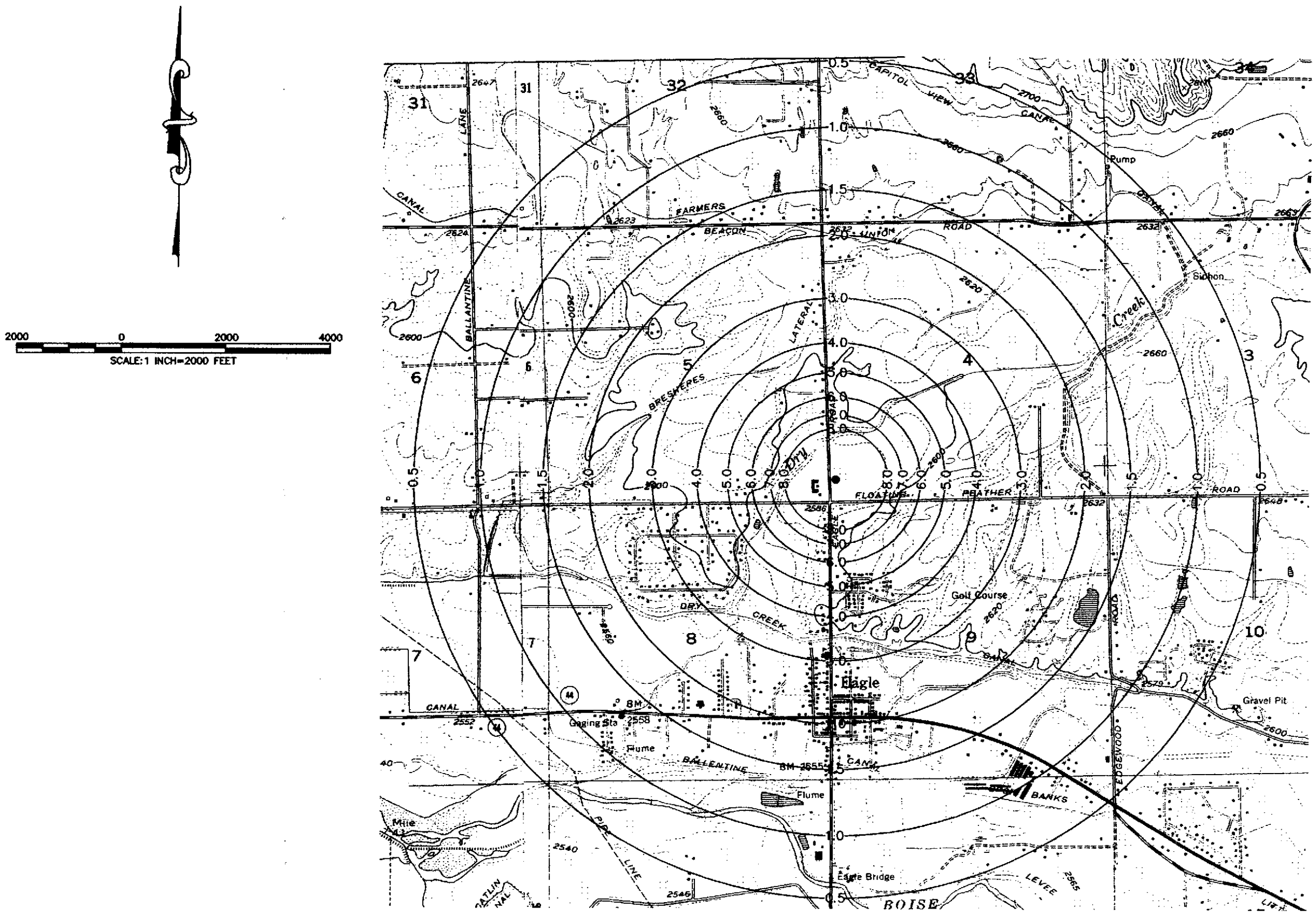

ESTIMATED 6-MONTH DRAW DOWN BASED ON 1000 GPM SUSTAINED PUMPING

HOLLADAY ENGINEERING CO.
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PROPOSED BROOKWOOD WELL
CITY OF EAGLE, IDAHO

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OTHER REPORTS

SCANLAN ENGINEERING

Groundwater and Environmental Engineering

August 9, 1995

Mr. Dan Brown
United Water Idaho
P.O. 7488
Boise, ID 8370

Subject: Aquifer Test at Floating Feather Well

Dear Dan:

At your request, I supervised an aquifer pumping test at the Floating Feather Well (a.k.a New Crandlemire Well) on July 28-30, 1995. The results of the test suggest that pumping of the well at the maximum rate and volume proposed under water right permit 63-12192 should not significantly impact neighboring wells and water rights. Details of the test are provided in the following paragraphs and test data are provided in the appendices.

DESCRIPTION OF THE TEST PROCEDURE

The test consisted of pumping the Floating Feather municipal supply well for a continuous period of approximately 51 hours at an average rate of 1,500 gpm. Pumping began at 14:49 hours on July 28 and stopped at 18:00 hours on July 30. Pumping rate fluctuated during the first 20 minutes of the test, and then was held constant at 1,500 gpm (±25 gpm) for the remainder of the test.

Water levels were monitored before, during, and after the test at the Floating Feather Well and at the following observation points: Crandlemire Irrigation Well, Vail Domestic Well, Miller Domestic Well, Chase Domestic Well, and Chase Irrigation Well. Well locations are shown on Figure 1. As discussed later in this report, the observation wells were completed in the shallow unconfined aquifer (above 60 feet), upper confined aquifer zone (110 to 170 feet), or the lower confined aquifer zone (170 to 335 feet).

Water-levels were measured by Terry Scanlan (Scanlan Engineering) and Mike Guilbert (Boise State University). Roger Dittus (United Water) assisted with water-level measurements during the first hour of the test. Water levels were measured using electric-line well sounders. Separate sounders were dedicated to each well during the test period to avoid measurement variations from different equipment. Water-level data are tabulated and plotted in Appendix A.

Measuring point elevations for the Floating Feather, Crandlemire Irrigation, Vail, and Miller Wells were surveyed to determine relative groundwater elevations. The

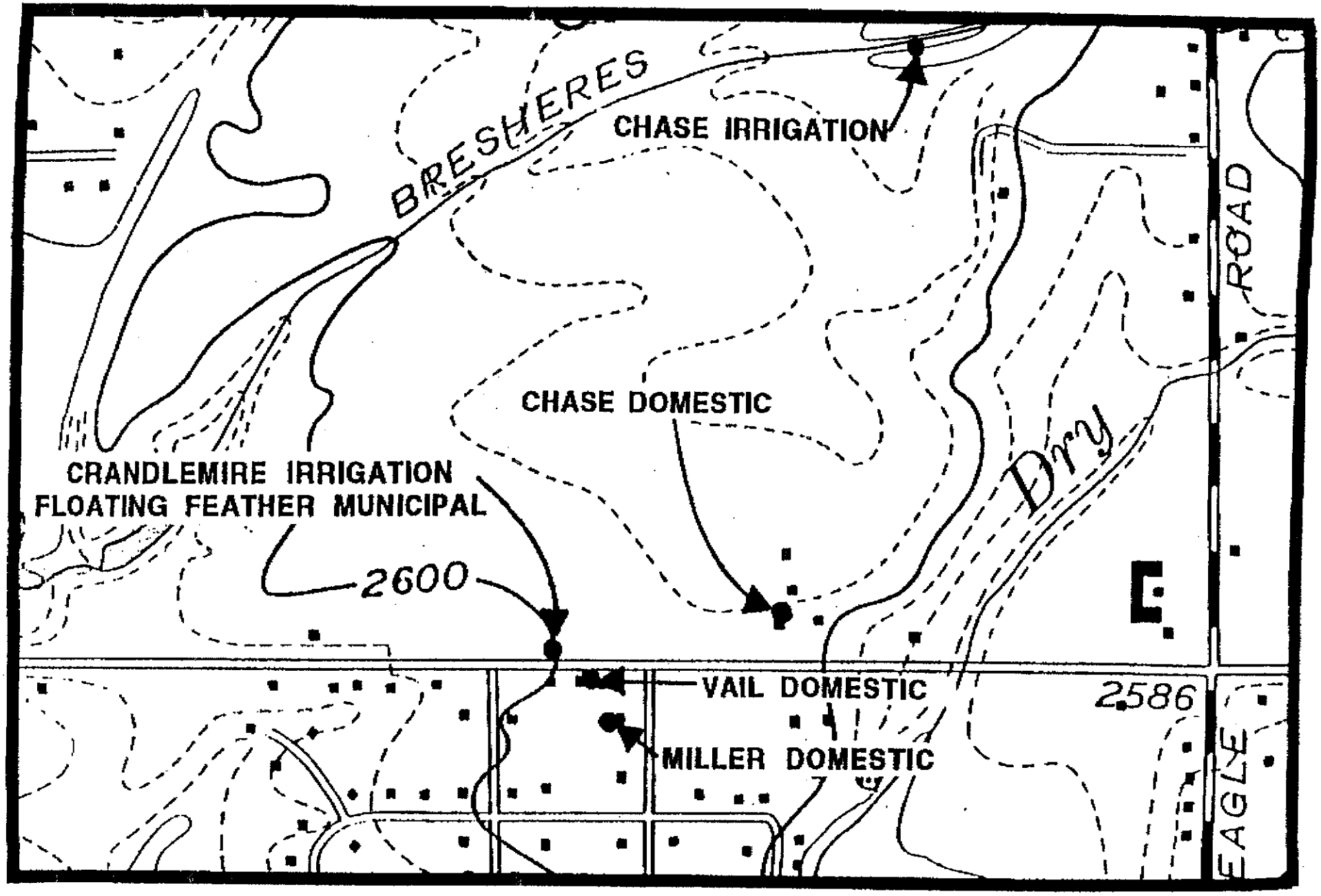

FIGURE 1
WELL LOCATION MAP
FLOATING FEATHER AQUIFER PUMPING TEST

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reference datum for the measuring points was the concrete pad on the north side of the Crandlemire Irrigation Well. An elevation of 2599.0 feet was assumed for this point.

Pumping equipment consisted of the permanent line-shaft turbine pump and 125 hp hollow-shaft electric motor. Flow rate was measured with a Fischer-Porter magnetic flow meter located at the wellhead.

The water produced during the test was discharged into the 12-inch water main along Floating Feather Road, and then diverted into a pasture approximately one-quarter mile west of the well. A portion of the flow was also discharged at the well head into the Eagle Middle School irrigation system to provide turf irrigation during the test. The diversion point to irrigation was located upstream of the flow meter. Pumping rate was held constant during irrigation by maintaining a constant pump discharge pressure. The required discharge pressure was periodically checked by turning off the flow to irrigation and determining the pump discharge pressure required to produce 1500 gpm. The discharge pressure at the 1500 gpm pumping rate dropped slowly through the test as the water level in the well declined and the pumping lift correspondingly increased.

Weather during the test was highly variable. The first day of the test (July 28) was extremely hot, with a high temperature of 102°F. Thunderstorms began on that evening, and continued intermittently through the afternoon of July 29. The evening of July 29 was clear and cool, as was the day of July 30. This variable weather pattern resulted in fluctuating barometric pressures which may have effected water levels somewhat. The changing weather also may have influenced the demand from local wells for irrigation water.

PRE-TEST IRRIGATION PUMPING AND RECOVERY

The water level in the Floating Feather well prior to the start of the test was recovering from previous irrigation pumping by the adjacent Crandlemire Irrigation Well. The Crandlemire Irrigation Well pump was turned off at 9:30 on the morning of July 28, allowing for 5 hours and 19 minutes of recovery before the start of the Floating Feather test. The water-level recovery rate at the Floating Feather Well prior to the start of Floating Feather test pumping was slow, with less than 3 inches of recovery measured during the 90 minutes prior to the start of test pumping.

The Crandlemire Irrigation Well pump was off throughout the Floating Feather well pumping period. The Crandlemire Irrigation Well reportedly had been pumped (for irrigation of the Middle School site and pasture at the Crandlemire property) during daytime hours only for several weeks before the start of the Floating Feather test. However, it was apparently pumped throughout the night of July 27-28, before the start of the Floating Feather test. The pump was throttled, and probably producing about 800 gpm when operating. Given the daytime only operation, the average pumping rate from the well for the period prior to the test was probably about 600 gpm. This estimated rate appears reasonable, as most of the Crandlemire property was planted in grain, and therefore did not receive irrigation for several weeks prior to the test.

However, because the well was pumped through the evening prior to the test, the average pumping rate on the day before the test was probably in the range of 700 to 900 gpm.

WATER LEVEL OBSERVATION POINTS AND RESPONSES TO TEST PUMPING

The wells monitored as part of this test are described individually below, and well logs for several of the wells are included in Appendix B.

Floating Feather Well. The Floating Feather Well is located at the southeast corner of the Eagle Middle School site, and was drilled in May 1995 as a municipal supply well. The well is 346 feet deep. It is completed with 18-inch casing from 2.5 feet above ground surface to 171 feet, 14-inch casing and stainless steel screen from 171 to 340 feet, and silica sand filter pack from 171 feet to 346 feet. The well annulus above 171 feet is sealed with bentonite. Total screen length is 100 feet, with screens located in intervals between 183 feet and 340 feet. The Floating Feather Well had not been pumped prior to this aquifer test, except for initial development pumping and testing following drilling.

Water levels were measured through a water-level sounding tube. The measuring point was the top of the sounding tube, located approximately 2.75 feet above ground surface and 0.25 feet above the top of the well casing. The measuring point elevation was 2601.6.

Static water level in the Floating Feather Well at the start of the test was 44.20 feet (elevation 2557.4). The pumping water level at the end of the test period was 73.63 feet. Total drawdown was 29.43 feet. Specific capacity was 51 gpm per foot of drawdown.

The semi-logarithmic plot of drawdown suggest that the transmissivity of the aquifer tapped by the Floating Feather Well is approximately 150,000 gpd/ft. The semi-logarithmic recovery plot indicates a short-term transmissivity of approximately 125,000 gpd/ft, and a long-term apparent transmissivity of approximately 160,000 gpd/ft. These transmissivity values are reasonable when compared with the specific capacity. The higher long-term apparent transmissivity might indicate leakage from overlying or underlying aquifer zones.

Crandlemire Irrigation Well. The Crandlemire Irrigation Well is located approximately 65 feet southeast of the Floating Feather Well, within the same well lot. The Crandlemire Irrigation Well was drilled in 1990, and has been used since that time as the irrigation source for the Crandlemire property (including the portion now occupied by the Middle School). The well taps the same aquifer zones as the Floating Feather Well. It is equipped with an oil-lubricated line-shaft turbine pump (Layne 12RKBH, 4 stage, 8.80-inch trim) and 75 hp motor, rated to produce approximately 1000 gpm at 80 psi discharge pressure. United Water will abandon the well at the end of the 1995 irrigation season.

The measuring point for water levels was the lower edge of the discharge head, located approximately 1.0 feet above ground surface and 0.25 feet from the top of the well casing. Measuring point elevation was approximately 2600.2. Water-level measurement was complicated by a 3-foot thick layer of pump oil floating above the water. The electric line well sounder measured the top of the water, in the vicinity of the oil-water interface. The accuracy of the measurement was not good because of the variability of the electrical signal measured by the well sounder at the oil-water interface.

Static water level (i.e., the oil-water interface) in the Crandlemire Well at the start of the test was 45.3 feet. The estimated static depth to the top of the oil layer was approximately 42.3 feet (elevation 2557.9). The water level at the end of the test period was 56.9 feet; total drawdown was about 11.6 feet. Water-level fluctuations during the test period are attributed to measurement difficulties caused by the oil layer floating above the water.

The semi-logarithmic plots of drawdown and recovery show responses at the Crandlemire Well that are nearly identical to the responses measured at the Floating Feather Well, with approximately 150,000 gpd/ft transmissivity for the drawdown period, a short-term transmissivity on recovery of approximately 125,000 gpd/ft, and a long-term apparent transmissivity on recovery of approximately 160,000 gpd/ft. Calculated storage coefficient is approximately 0.0001. Note that the 11.6 feet of drawdown measured at the well can be modeled with the Theis Equation using a transmissivity of 160,000 gpd/ft and a storage coefficient of 0.0005. These values appear to best approximate the local aquifer hydraulic parameters.

Vail Domestic Well. The Vail Domestic Well is located approximately 250 feet southeast of the Floating Feather Well, at 725 West Floating Feather Road. It is reported to be approximately 110 to 120 feet deep. The Vails were out of town throughout the test period. As a result, the well was not pumped during the test period and provided an excellent monitoring point for the upper confined aquifer zone. A log for this well was not located in IDWR files.

Measuring point for water levels was the top of the well casing, at an approximate elevation of 2601.8 feet. Static water level at the start of the Floating Feather test was 39.0 feet (elevation 2562.8). The water level at the end of the test period was 40.4 feet; total drawdown was about 1.4 feet. Water-level fluctuations during the test period suggest that the well is probably influenced by the pumping of other local wells or by barometric pressure changes.

The response of the Vail Well indicates an indirect connection to the aquifers tapped by the Floating Feather and Crandlemire Wells. Although the water level in the well responds to pumping of the Floating Feather and Crandlemire Wells, the calculated drawdown at the Vail Well would have been 8.7 feet if the aquifer zone tapped by the Vail Well was directly connected to the zones tapped by the Floating Feather Well. Both the test response and the water-level elevations suggest that the upper confined aquifer zone

tapped by the Vail Well leaks downward to provide a portion of the recharge to the lower confined aquifer zone.

Miller Domestic Well. The Miller Domestic Well is located approximately 500 feet southeast of the Floating Feather Well, at 1235 Downing Street. It is reported to be 60 feet deep. A log for this well was not located in IDWR files.

The well was pumped almost continuously for lawn sprinkling during the first day of the test, and for about an hour or two early each morning (for domestic use on July 29 and for automatic sprinklers on July 30) during the remainder of the test period. The Millers were out of town from the morning of July 29 through the end of the test pumping period, and the pump did not operate except for the automatic sprinkling during this period. The well provided a good monitoring point for the shallow aquifer during the latter stages of the test.

Measuring point for water levels was the top of the well casing, at an approximate elevation of 2601.3 feet. Static water level at the start of the test could not be accurately determined because the well was pumping. However, the depth to water later in the test period appeared to be about 30.0 feet (elevation 2571.3 feet). There was no detectable water-level response at the Miller Well attributable to Floating Feather Well test pumping.

Chase Domestic Well. The Chase Domestic Well is located approximately 1,000 feet east of the Floating Feather Well. The well is 112 feet deep, and appears to tap the same zone as the Vail Well. It was pumped throughout the test period for continuous stockwater flow and periodic lawn irrigation. The pump system is equipped with a hydropneumatic tank, and the pump cycled continuously through the test period. The cycle length varied depending on demand. Due to the constant cycling of the well, the observation data from this well was qualitative rather than quantitative. Measuring point for water levels was the top of the well casing.

Depths to water ranged from approximately 40.8 to 46.5 feet. Evaluation of water-level plots suggest that there was approximately 1.5 feet of drawdown in the Chase Domestic Well during the Floating Feather Well test.

The response of the Chase Domestic Well was similar to the response of the Vail Well, and indicates an indirect connection to the aquifers tapped by the Floating Feather and Crandlemire Wells. Although the water level in the well responds to pumping of the Floating Feather Well, the calculated drawdown at the Chase Domestic Well would have been about 5.7 feet if the aquifer zone tapped by the Chase Domestic Well was directly connected to the zones tapped by the Floating Feather Well.

Chase Irrigation Well. The Chase Irrigation Well is 338 feet deep, with screens located between 144 and 324 feet. The well taps similar zones as the Floating Feather and Crandlemire Wells. It is located approximately 2,750 feet northeast of the Floating Feather Well. The well is equipped with a 25-horsepower oil-lubricated pump that

discharges into an adjacent irrigation ditch. The well has a very thick layer of pump oil floating on the water, which complicated water-level measurement. The repeatability of measurements was poor. Measuring point for water levels was the lower edge of the measurement tube.

The Chase Irrigation Well was pumped continuously throughout the test period, except for a brief shutdown that occurred sometime between 10:30 and 12:30 on July 30. According to Bill Chase, the well had been pumped continuously for approximately 10 days prior to the test.

Measured water levels (at the oil-water interface) ranged from 74.3 to 76.45 feet. Evaluation of data plots suggest that approximately one foot of drawdown occurred at the Chase Irrigation Well during the test period.

Using the aquifer parameters calculated at the Crandlemire Well (T=160,000 gpd/ft and S=0.0005), the anticipated drawdown at the Chase Well would have been approximately 3.5 feet. The difference in measured response versus calculated response can be attributed to one or more factors. These factors include (1) the Chase Irrigation Well did not adequately recover from pre-test Crandlemire Well pumping, so that the effective pumping rate of the Floating Feather Well was only about 900 gpm (i.e., the 1500 gpm Floating Feather pump rate minus the 600 gpm average Crandlemire pump rate), (2) the effective aquifer transmissivity at the Chase Well is greater than 160,000 gpd/ft because the Chase Well taps sand units within both the upper and lower confined aquifer zones, and (3) leakage from overlying and underlying aquifer zones results in a higher effective storage coefficient (perhaps 0.005 instead of 0.0005) at the Chase Well.

CHARACTERIZATION OF LOCAL HYDROGEOLOGY

Interpretation of well logs, water-level elevations, and responses to test pumping suggest that there are three aquifer zones above a depth of about 350 feet in the Eagle Middle School vicinity. Each of these zones are tapped by the wells monitored during this test. For the purposes of this discussion, these zones can be considered the shallow unconfined aquifer (Miller Well), upper confined aquifer zone (Vail and Chase Domestic Wells) and the lower confined aquifer zone (Floating Feather, Crandlemire Irrigation, and Chase Irrigation Wells). All three of the zones consist of permeable sand and gravel layers. The zones are separated by clay and silt layers. These aquifer zones are shown schematically on Figure 2 and briefly described below. Note that additional deep confined aquifer zones are undoubtedly present beneath the site below a depth of 350 feet.

Shallow Unconfined Aquifer Zone

The shallow aquifer zone is found between the approximate depths of 25 and 60 feet. The shallow aquifer zone is likely a water-table (unconfined) aquifer, where the water table serves as the upper boundary of the aquifer. The lower boundary of the aquifer is a section of clay approximately 50 feet thick.

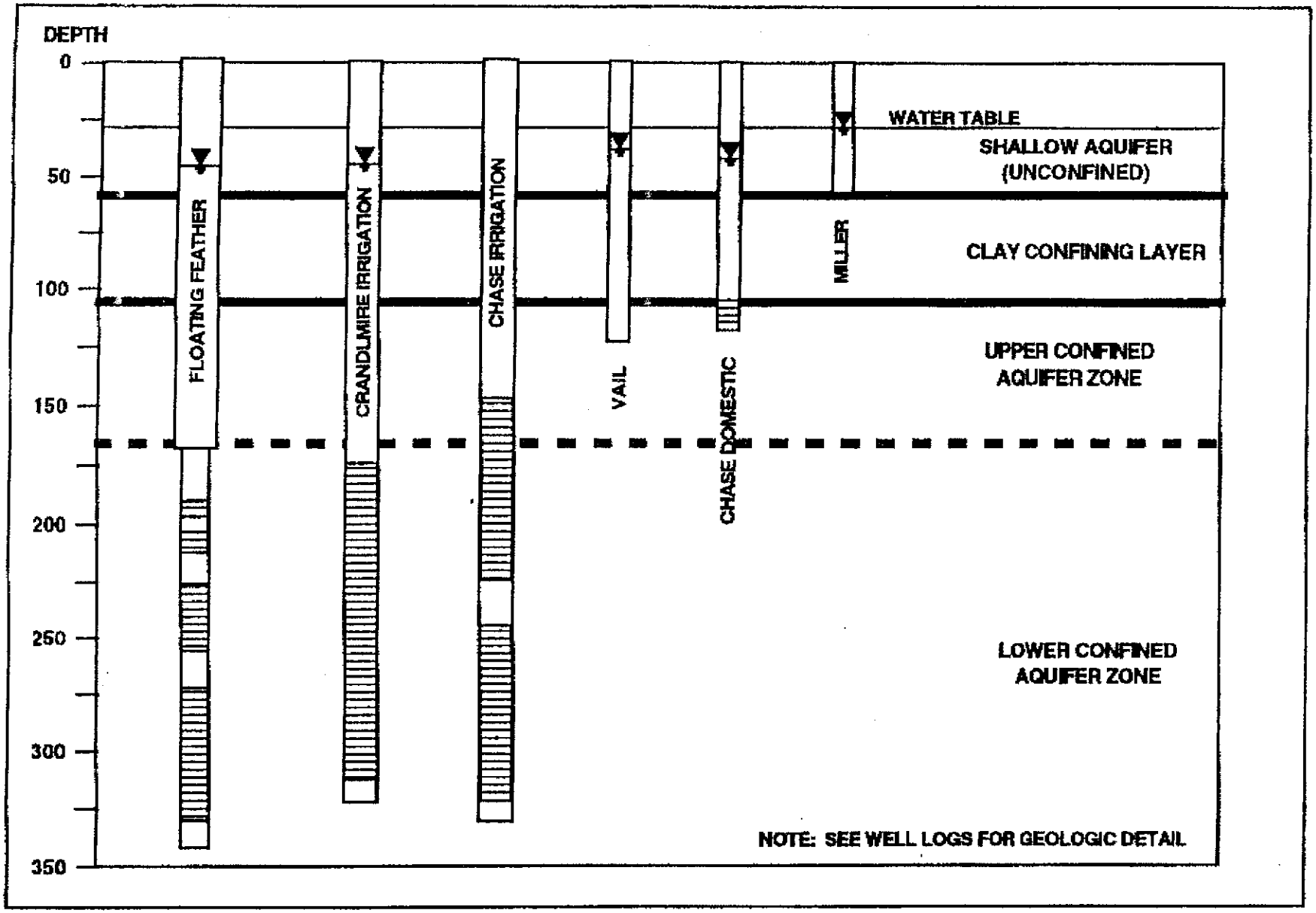

FIGURE 2
CONCEPTUAL HYDROGEOLOCIC CROSS SECTION
FLOATING FEATHER WELL VICINITY

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Approximate water-table elevation (based on a static water level of 30.0 feet in the Miller Well) is 2571.3 feet. The shallow aquifer zone is recharged by irrigation canal leakage, and infiltration of irrigation and precipitation.

Upper Confined Aquifer Zone

The upper confined aquifer zone extends from approximately 100 to 170 feet. The geology suggests that it is a confined aquifer, bounded on the top by the nominal 50-foot thick clay zone (found between about 50 and 115 feet, depending on well location) and on the bottom by several less distinct clay layers. It is likely that these lower clay layers constitute a leaky confining layer between the upper confined aquifer zone and the lower confined aquifer zone.

Approximate piezometric water surface elevation in the upper confined aquifer zone is 2562.8 feet, based on a static depth to water of 39.0 feet in the Vail Well. The water surface elevation is 8.5 feet below the shallow aquifer water table elevation measured in the nearby Miller Well.

The upper confined aquifer zone is probably recharged by leakage from the shallow aquifer.

Lower Confined Aquifer Zone

The lower confined aquifer zone is found from a depth of about 170 feet to depths of more than 335 feet. This aquifer zone is tapped by a several high capacity local wells in the Middle School vicinity, including the Floating Feather Well, Crandlemire Irrigation Well, and Chase Irrigation Well. The Chase Irrigation Well appears to also tap portions of the upper confined aquifer zone in addition to the lower confined aquifer zone.

Approximate piezometric surface elevation in the upper confined aquifer zone is 2557.4 feet, based on a static depth to water of 44.2 feet in the Floating Feather Well. This water level is approximately 5 feet below the water level in the upper confined aquifer zone, as measured in the Vail Well. This 5-foot water level difference suggest that the upper confined aquifer zone is probably leaking downward into the lower confined aquifer zone, at least during the irrigation season.

Additional sand aquifer zones are likely present below the lower confined aquifer zone described herein. These deeper aquifer zones are probably in partial hydraulic connection with the lower confined aquifer tapped by the Floating Feather Well.

ANALYSIS OF FUTURE IMPACTS RESULTING FROM FLOATING FEATHER WELL PUMPING

Analysis of pumping test data and water-level plots suggest that water levels in all of the wells monitored, except for the Miller Well, are influenced by pumping of the Floating

Feather Well. The amount of future water-level interference will be dependent upon the rate and duration of Floating Feather Well pumping, and upon the depth of each well, and the distance of each well from the Floating Feather Well.

The proposed water right permit associated with the Floating Feather Well allows for a maximum diversion rate of 5.0 cfs (2,245 gpm) and a maximum annual diversion volume (in combination with all other water rights) from the Crandlemire and Floating Feather Wells of 533.9 acre feet. The maximum annual diversion volume is equal to the existing irrigation diversion volume permitted for the Crandlemire Well. Therefore, the annual volume pumped from the Floating Feather Well will not exceed the volume currently permitted from the Crandlemire Well (which is scheduled for permanent abandonment in the fall of 1995).

The annual volume limitation will minimize the potential impacts of pumping the Floating Feather Well. Under worst-case (i.e., maximum pumping rate) conditions, the well could only be pumped for 54 days at the 5.0 cfs diversion rate before the annual diversion volume limit would be reached. Alternatively, the well could be pumped for 365 days each year, but at an average rate of only 330 gpm. The impact of the longer duration but lower pumping rate would be less than the impact of the high rate, short duration scenario.

Anticipated interference impacts to local wells are discussed below based on the worst-case scenario of continuous pumping at 2,245 gpm for 54 days.

Floating Feather Well. Estimated drawdown at the Floating Feather Well after 54 days of pumping at 2,245 gpm would be 50 feet (i.e., pumping level of 94 feet assuming a static water level of 44 feet). Well pumps can be set to depths of more than 150 feet in the Floating Feather Well. Therefore, the well can be operated under the "worst case" scenario described above without approaching maximum yield conditions.

Vail Well. Projection of the Vail Well water-level trend on the semi-logarithmic plot (depth to water versus elapsed pumping time) suggests that there would be approximately 2.8 feet of drawdown in the Vail Well following 54 days of pumping the Floating Feather Well at 1,500 gpm. At a 2,245 gpm Floating Feather pumping rate, the Vail Well drawdown would proportionately increase to 4.1 feet. The 4.1 feet of interference drawdown would lower the static water level from about 39 feet to about 43 feet.

The Vail Well is reported to be approximately 110 feet deep and has a pumping water level of about 4 feet below the static water level. Water-level declines of several tens of feet could occur without significant impacts to production from the well, provided that the pump is set deep enough. Therefore, no significant impacts are anticipated as a result of future Floating Feather Well pumping.

Miller Well. The Miller Well is 60 feet deep, with a 50-foot pump setting. The pumping level is approximately 12 feet below the static water level. Therefore, the

pump will break suction at static water levels below about 38 feet. Given the current static water level of 30 feet, water-level declines in excess of about 8 feet will impact the Miller Well. Mr. Miller's records indicate that the static water level was 36 feet at the time of pump replacement in March 1992, suggesting that only 2 feet of well interference at that time would have caused problems.

There was no discernible water-level effect at the Miller Well resulting from the two-day pumping test, and significant water-level interference would not be expected from additional Floating Feather Well pumping. However, it is possible that some water-level decline in the shallow aquifer could occur due to downward leakage to the upper confined aquifer zone. The magnitude of this decline cannot be accurately determined from the available data.

Future water-level monitoring at the Miller Well is warranted to determine if pumping levels are approaching the pump setting depth. Five feet of additional pump setting depth may also be warranted in the future.

Chase Domestic. The Chase Domestic Well is completed in the same aquifer zone as the Vail Well. Long-term well interference impacts at the Chase Domestic Well resulting from the pumping of the Floating Feather Well are anticipated to be similar to the 4 feet calculated for the Vail Well. The Chase Domestic Well is 112 feet deep and currently has a pumping level of about 46 feet (approximately 5 feet below the static water level). Water level declines of several tens of feet could occur without significant impacts to production from this well, provided that the pump is set deep enough. Therefore, no significant impacts are anticipated at the Chase Domestic Well as a result of future Floating Feather Well pumping.

Chase Irrigation Well. Water-level interference at the Chase Irrigation Well during the test period appeared to be about 1 foot, which was less than anticipated based on the hydraulic parameters calculated from the Crandlemire Well response. Calculated drawdown using these same aquifer parameters (i.e., T=160,000 gpd/ft and S=0.0005) for the worst-case Floating Feather pumping conditions (54 days at 2245 gpm) result in a calculated 10.5 feet of water-level interference at the Chase Irrigation Well. This should be considered a maximum value, as the measured test response suggests that the actual value (under the worst-case pumping scenario) will more likely be in the range of 3 to 6 feet.

The top of the uppermost screen in the Chase Irrigation Well is at a depth of 144 feet. Since the well is constructed with 16-inch casing and screen to total depth, a pump can be set below the uppermost screen, and the pumping water level can be drawn down to below 130 feet without overpumping the well. Thus, assuming that the pumping level is currently at about 70 feet, an additional five feet of interference drawdown will not significantly impact the potential yield from the well. However, five feet of interference drawdown will increase the pumping lift by about 7 percent, and may correspondingly decrease the discharge from the existing pump by about 7 percent. This 7 percent decrease would occur during the latter part of the 54-day worst-case pumping period.

During the remainder of the irrigation season, the Floating Feather Well pump would be off, and Chase Well pumping levels (and pumping rates) would be higher than in past years when the Crandlemire Irrigation Well was pumping to irrigation at approximately 1,000 gpm. These higher pumping levels (and discharge rates) at the Chase Irrigation well would likely offset the lower pumping levels (and discharge rates) experienced during the worst-case pumping period, so that the overall average lift and pumping rate at the Chase Well would not change significantly relative to recent years when the Crandlemire Well was operating. Thus, significant impacts to the Chase Irrigation Well are not anticipated.

CONCLUSIONS

Analysis of the Floating Feather Well pumping test data indicates that only minor well interference impacts will be experienced in local wells. Given the annual pumping volume limitation proposed in Permit 63-12192, the impacts should not differ significantly from historic water-level impacts caused by past irrigation pumping of the Crandlemire Irrigation Well.

RECOMMENDATIONS

Monitoring of water levels in the Floating Feather Well vicinity is warranted. Proposed monitoring points would be the Floating Feather Well (lower confined aquifer zone), Vail Well (upper confined aquifer zone), and Miller Well (shallow unconfined aquifer). Pumping rates and volumes at the Floating Feather Well should be documented for correlation with future water-level changes.

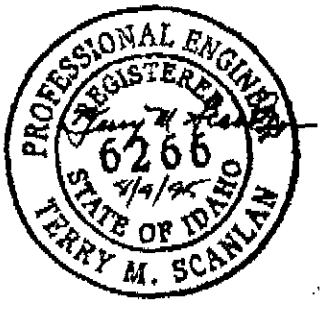
Please contact me with any questions regarding this test.

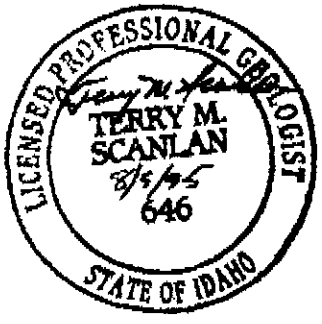
Sincerely,

Terry M. Scanlan

Terry M. Scanlan, P.E., P.G.
Engineer/Hydrogeologist

cc: David Tuthill
Marvin Miller
Delmar Vail
Eleanor Chase





United Water.

United Water Idaho
8248 W. Victory Rd.
PO Box 7488
Boise, ID 83707-1488
telephone 208 367 7330
facsimile 208 367 3858

Fax

Date: 8-13-01

To: Bill Stroud, Holladay Engineering

Fax number: 642-2159

From: Roger Dittus

Subject: Floating Feather well

of pages: 1 plus this cover

Bill,

Here is a table I compiled from data from our SCADA system.
"SHD" is suction head or feet of water above the pump intake. I calculated specific capacity based on the wells static water-level of 1995.
As the table shows, the specific capacity is holding at about 35 gpm/ft.
The specific capacity would be expected to decline slightly but steadily over time as the well looses efficiency. Floating Feather's specific cap. has not declined appreciably since the well was put into service indicating that aquifer pressure levels are not adversely affected.

-Roger Dittus

Floating Feather well - data from UWID SCADA system
pump setting =100 feet - well is on VFD
static WL =38.5 feet below land surface
units are feet and gpm

			calculated values	
date	SHD	GPM	PWL	Spec Cap
07/17/1997	47	646	53	45
08/18/1997	45	886	55	54
07/07/1998	27	1668	73	48
08/28/1998	30	1289	70	41
07/09/1999	12	1358	88	27
07/26/1999	14	1636	86	34
07/21/2000	18	1580	82	36
08/17/2000	10	1596	90	31
08/13/2001	20	1522	80	37

Production per year in millions of gallons (MG)

year	**MG**
1997	86.8
1998	257.9
1999	342.9
2000	460.3

APPENDIX OF WELL LOGS

ACCDD1 (4)

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

RECEIVED JUL 20 1995

Use Type-writer or Ball Point Pen

United Water Idaho

1. WELL TAG NO. 63-25-C-0119 300

Owner: Operated by United Water Idaho

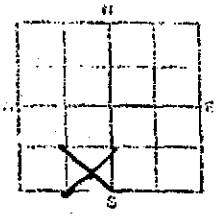
Address: UNITED WATER IDAHO, INC.

P.O. Box 7768

City Boise State ID Zip 83707

2. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.



Twp. 4 North X or South ☐

Rge. 1 East X or West ☐

Sec. 5 1/4 SE 1/4 SW 1/4

Govt Lot ____ County Ada

Address of Well Site Crandlemire site Floating Feather well City Boise

Lot ____ Blk. ____ Sub. Name ____

3. PROPOSED USE:

☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation

☐ Thermal ☐ Injection ☐ Other ____

4. TYPE OF WORK

☒ New Well ☐ Modify or Repair ☒ Replacement ☐ Abandonment

5. DRILL METHOD

☐ Mud Rotary ☐ Air Rotary ☐ Cable ☒ Other Reverse Potary

6. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	0	171	30,000#	Pour from top
8&12Col.Sand	171	346		Pour from top

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____

Was drive shoe seal tested? Y☐ N☐ How? ____

7. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
18"	+2	171	.375	Steel	X	☐	X	☐
14	169	193	.375	Steel	X	☐	X	☐
14	193	204	.375	Steel	X	☐	X	☐

Length of Headpipe ____ Length of Tailpipe 10'

8. PERFORATIONS/SCREENS

☐ Perforations Method ____

☒ Screens Screen Type Houston wire wrap

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
183	193	.040		14	Stain.	X	☐
204	214	.040		14	"	X	☐
225	255	.040		14	"	X	☐

9. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

55 ft. below ground Artesian pressure ____ lb.

Depth flow encountered ____ ft. Describe access port or control device: ____

11. WELL TESTS:

☒ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gpm	Drawdown	Pumping Level	Time
1500 GPM		67'	1 hr.
1000 GPM		54'	2 hr.

Water Temp. 55° Bottom hole temp. ____

Water Quality test or comments: ____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Boring Dia	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
28	0	8	Top soil		
28	8	15	Coarse sand		
28	15	19	Hard pan, sand & gravel		
28	19	27	Coarse sand		
28	27	47	Sand, gravel & river rock		
28	47	49	Fine white sand		
28	49	50	Ligt brown clay		
28	50	53	Fine white sand		
28	59	113	Brown clay		
28	113	129	Fine to medium white sand		
28	129	131	Brown clay		
28	131	132	Fine sand		
28	132	138	Brown clay		
28	138	147	Fine to medium sand		
28	147	154	Brown clay		
22	154	167	Fine to medium sand		
22	167	174	Light brown clay		
22	174	176	Fine to coarse sand		
22	176	181	Brown clay		
22	181	258	Fine to coarse sand		
22	258	267	Brown clay		
22	267	279	Fine to medium sand		
22	279	313	Fine to coarse sand		
22	313	314	Brown clay		
22	314	317	Fine to coarse sand		
22	317	332	Fine to coarse sand		
22	332	346	Brown clay		

RECEIVED AUG 02 1995 DEPARTMENT OF WATER RESOURCES

RECEIVED JUL 21 1995 WATER RESOURCES WESTERN REGION

Completed Depth 340 (Measurable)

Date: Started 5/1/95 Completed 5/11/95

13. DRILLER'S CERTIFICATION

We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Riverside, Inc. Firm No. 333

Firm Official ____ Date 7/19/95

and

Supervisor or Operator ____ Date 6/6/95

(Signature of Firm Official &/Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
1973

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

USE TYPEWRITER OR BALLPOINT PEN

05DAB1

1. WELL OWNER

Name Eleanor Chase

Address Eagle, Idaho 8 616

Owner's Permit No. 01-9603

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☐ Domestic ☒ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☒ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☒ Reverse rotary
☐ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☐ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.312 inches	16 inches	+ 2 feet	144 feet
.312 inches	16 inches	224 feet	244 feet
.312 inches	16 inches	324 feet	332 feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☐ Yes ☒ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name Roscoe Moss
Type _____ Model No. _____
Diameter 16 Slot size 80 Set from 144 feet to 224 feet
Diameter 16 Slot size 80 Set from 244 feet to 324 feet
Gravel packed? ☒ Yes ☐ No ☐ Size of gravel 3/8 minus
Placed from 70 feet to 338 feet
Surface seal depth 70 Material used in seal: ☒ Cement grout ☐ Puddling clay ☐ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port 2" pipe welded on side of casing

6. LOCATION OF WELL

Sketch map location must agree with written location.

N / W / E / S / X

Subdivision Name _____
Lot No. _____ Block No. _____
County Ada
NW ¼ SE ¼ Sec. 5 T. 6N N/S, R. 1E E/W.

7. WATER LEVEL

Static water level 35 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____

8. WELL TEST DATA

☒ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
1753	95	3

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
28	0	3	Topsoil		
	3	37	Brn. Clay w/Sand streaks		
	37	65	Sand, Gravel, Rock		
	65	76	Brn. Clay		
	76	78	Brn. Sand		
	78	108	Brn. Clay		
	108	118	Brn. Sand Med. to Crse.		
	118	125	Gray & White Sand Crse.		
	125	131	Brn. Clay		
	131	158	Brn. Sand Med.		
	158	175	Brn. Clay w/Sand Streaks		
	[illegible]	[illegible]	Brn. Sand Fine to Med.		
	[illegible]	[illegible]	White Sand w/Small Gravel		
	[illegible]	[illegible]	Brn. Sand Med.		
	214	228	Brn. Clay w/Sand Streaks		
	228	234	Brn. Clay		
	234	248	Brn. & White Sand Med. to Crse		
	248	327	Brn. Sand Fine to Med.		
	327	338	Brn. Clay		

NOV 1980
Department of Water Resources
Western Regional Office

10.

Work started 10-5-80 finished 10-13-80

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name PETE COPE DRILLING CO. INC. Firm No. 213
Address P.O. Box 551 Meridian, ID 83642 Date 10-15-80
Signed by (Firm Official) Pete Cope
and
(Operator) [signature]

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7
6/88

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

USE TYPEWRITER OR BALLPOINT PEN

aka Lexington Hills #1
(03CCC1)

1. WELL OWNER

Name: Floating Feather Hills, Inc.
Address: 2417 Bank Drive-Suite 101 Boise, ID 83705
Owner's Permit No. 63-11413

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
Well diameter increase
Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☐ Domestic ☐ Irrigation ☒ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☒ Reverse rotary
☐ Cable ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other

Thickness	Diameter	From	To
.250 inches	16 inches	18" feet	215 feet
.250 inches	16 inches	265 feet	375 feet
.250 inches	16 inches	385 feet	405 feet
inches	inches	feet	feet

Was casing drive shoe used? ☐ Yes ☒ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation ____ inches by ____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name: Roscoe Moss
Type Hvy. Stainless Steel Model No. Wirewra
Diameter 16" Slot size .040 Set from 215 feet to 265 feet
Diameter 16" Slot size .040 Set from 375 feet to 385 feet
Gravel packed? ☒ Yes ☐ No ☐ Size of gravel 1/8-
Placed from 315 feet to 190 feet
Surface seal depth 90' ☐ Neat ☒ Cement grout
☐ Bentonite ☐ Puddling clay ☐ ____
Sealed again at 190-180
Seating procedure used: ☐ Slurry pit ☐ Temp. surface casing ☐ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port: 2"

6. LOCATION OF WELL

Sketch map location must agree with written location.

N / W / E / S

Subdivision Name ____
Lot No. ____ Block No. ____
County Ada
SW¼ SW¼ Sec. 1 T. 4N ☐ N ☐ S R. 1E ☐ E ☐ W

7. WATER LEVEL

Static water level 68 feet below land surface.
Flowing? ☐ Yes ☐ No G.P.M. flow ____
Artesian closed-in pressure ____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ____ °F. Quality ____
Describe artesian or temperature zones below

8. WELL TEST DATA

☒ Pump ☐ Bailer ☐ Air ☐ Other ____

Discharge G.P.M.	Pumping Level	Hours Pumped
		6

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
18"	0	3	Top Soil		
	3	15	Sandy Loam		
	15	25	Coarse Sand & Pea Gravel		
	25	40	Med. to Crse. Sand		
	40	75	River Rock		
	75	85	Fine Sand		
	85	87	Lite Brn. Clay		
	87	106	Fine Sand		
	106	108	Lite Brn. Clay		
	108	124	Fine Sand		
	124	130	Lt. Brn. Clay		
	130	165	Fine Sand		
	165	175	Gldn.Fn./Med.Sand with some clay in spots.		
	175	182	Fine Sand		
	182	185	Lt.Brn.Clay & Fine Sand		
	185	189	Fine Sand		
	189	193	Fine to Crse. Sand		
	193	195	Med./Crse. Sand & Clay Mxd		
	195	198	Lt. Brn. Clay		
	198	205	Fine to Med. Sand		
	205	209	Fine/Crse.Sand & Lt.Brn. Clay Mxd.		
	209	211	Fine Sand		
	211	215	Fine/Med.Sand & Lt.Brn Clay		
	215	225	Fine Sand		
	225	235	Sandwitched Sand & Clay (½)		
	235	265	Gray Sand		
	265	275	Sand-Clay (50-50)		
	275	282	Gray Clay		
	282	290	Fine Gray Sand		
	290	300	Gray Clay		
	300	305	Fine Gray Sand		
	305	311	Gray Clay w/sm.st.fine sand		
	311	315	Brn. & Gray Clay		

10.

Work started 2/26/91 finished 3/7/91

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name: PETE COPE DRILLING CO., INC. Firm No.: 213
Address: 6505 W. Chinden Blvd. Meridian, ID Date
Signed by (Firm Official)
and
(Operator)

LEXINGTON HILLS No 2 WELL
(03CBC1)

Form 238-7
8/90

C

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1

1. WELL OWNER
Name LEXINGTON HILLS INC.
Address 2417 BANK DR BOISE ID 83706
Drilling Permit No. 63-92-W-170
Water Right Permit No. 63-11413

2. NATURE OF WORK NEW WELL
☐ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE MUNICIPAL
☐ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED REVERSE ROTARY
☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☐ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION SEE ATTACHED

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
_____ inches	_____ inches +	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☐ Yes ☒ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name ROSCOE MOSS
Type STAINLESS Model No. HEAVY
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☒ Yes ☐ No ☐ Size of gravel 3/8-
Placed from 115 feet to 615 feet
Surface seal depth 15 Material used in seal: ☒ Cement grout
☒ Bentonite ☐ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing
☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port 2" PIPE

6. LOCATION OF WELL
Sketch map location must agree with written location.

N / W / E / S / X

Subdivision Name _____
Lot No. _____ Block No. _____
County ADA
NW ¼ SW ¼ Sec. 3, T. 4N ☐ S ☐ R. 1E ☐ W ☐ E

7. WATER LEVEL
Static water level 90 feet below land surface.
Flowing? ☐ Yes ☐ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA NOT AVAILABLE
☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
28					
	0	4	TOPSOIL		X
	4	10	SANDY LOAM		X
	10	15	GLEACHE		X
	15	30	CASE SAND		X
	30	33	BROWN CLAY		X
	33	50	CASE SAND		X
	50	56	BRN CLAY		X
	56	101	CEMENTED GRAVEL	X	
	101	115	BRN CLAY		X
	115	123	FINE BRN SAND	X	
	123	126	BRN CLAY		X
	126	143	FINE BRN SAND	X	
	143	178	BRN CLAY		X
	178	223	GREY CLAY		X
	223	350	SANDY GREY CLAY		X
	350	353	FINE TO CASE SAND	X	
	353	451	SANDY GREY CLAY		X
	451	469	FINE GREY SAND	X	
	469	475	FINE SAND AND CLAY		X
	475	478	FINE SAND	X	
	478	499	SANDY GREY CLAY		X
	499	513	FINE TO MED SAND	X	
	513	519	GREY CLAY		X
	519	528	FINE TO MED SAND	X	
	528	553	GREY CLAY		X
	553	555	FINE TO MED SAND	X	
	555	561	GREY CLAY		X
	561	575	FINE TO MED SAND	X	
	575	592	GREY CLAY		X
	592	598	FINE TO MED SAND	X	
	598	615	GREY CLAY		X

10. Work started 4/6/92 finished 4/14/92

11. DRILLERS CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name PETE COPE DRILLING Firm No. 213
Address 505 W CHINDEN Date 4/14/92
Signed by (Firm Official) Joseph Jones
and
(Operator) Joseph Jones

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

C

pg. 2

LEXINGTON HILLS INC
2417 BANK DRIVE
BOISE ID 83705
Permit# 63-92-W-170

"16"casing record .250 wall welded

1.5	-	499	500.5
509	-	519	10
529	-	554	35
574	-	592	18
602	-	612	10

563.5 total casing

16" Screen record .30 slot Stainless Steel Roscoe Moss Continous wire.

499	-	509	10
519	-	529	10
554	-	574	20
592	-	602	10

50 total screen

613.5 total casing + screen

4N 1E Sec 3

MAY 29 1996

WATER RESOURCES

WELL DRILLER'S REPORT

Use Typewriter or Ballpoint Pen

Office Use Only
Inspected by _____ (2)
Twp _____ Rge _____ Sec _____
_____ 1/4 _____ 1/4 _____ 1/4
Lat: : : Long: : :

1. DRILLING PERMIT NO. 63 - 94 - W - 848 - 0
Other IDWR No. 63-12147

2. OWNER:
Name: EAGLE WATER CO. INC.
Address: P.O.BOX 455
City: EAGLE State: ID Zip: 83616

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4 N North ☐ or South ☐
Rge. 1 E East ☐ or West ☐ SW
Sec. 8 _____ 1/4 (10 acres) SW 1/4 (40 acres) SE 1/4 (160 acres)
Gov't Lot _____ County ADA
Lat: : : Long: : :
Address of Well Site APPROX 1400 W. STATE STREET
(Give at least name of road + Distance to Road or Landmark) City EAGLE
Lt. _____ Blk. _____ Sub. Name _____

4. USE: MUNICIPAL
Domestic ☒ Municipal ☐ Monitor ☐ Irrigation
Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply NEW WELL (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD REVERSE CIRCULATION
☐ Air Rotary ☐ Cable ☐ Mud Rotary ☒ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
BENTONITE	356	340	5000#	POURED
BENTONITE	332	0	37500#	POURED
FILTER PACK	440	356	62400#	POURED

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) _____
Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
16"	+2	240	250	STEEL	☒	☐	☒	☐
10"	240	245	250	STEEL	☒	☐	☒	☐
10"	265	291	250	STEEL	☒	☐	☒	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
☐ Perforations Method _____
☒ Screens Screen Type HOUSTON STAINLESS STEEL

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
245	265	35	304	10"	S.STEEL	☒	☐
291	321	35	304	10"	S.STEEL	☒	☐
367	377	35	304	10"	S.STEEL	☒	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
24" ft. below ground Artesian pressure 0 lb.
Depth flow encountered — ft. Describe access port or control devices: —
SEE ATTACHED for static & Artesian

11. WELL TESTS:
☒ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Pumping Level	Time
3900 GPM	70 ft	200 ft	10 HRS

Water Temp. COLD Bottom hole temp COL
Water Quality test or comments: GOOD, CLEAR
Depth first Water Encountered 153

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
22"	0	15	SAND	X	
	15	46	RIVER ROCK & QUARTZ SAND	X	
	46	58	BROWN CLAY		X
	58	61	COURSE SAND	X	
	61	67	BROWN CLAY		X
	67	74	QUARTZ SAND	X	
	74	86	BROWN CLAY		X
	86	98	COURSE SAND	X	
	98	105	BROWN CLAY		X
	105	111	COURSE SAND	X	
	111	138	BROWN CLAY		X
	138	139	COURSE SHARP SAND	X	
	139	145	BROWN CLAY		X
	145	160	CRSE SAND & PEA GRAVEL	X	
	160	163	BROWN CLAY		X
	163	165	CRSE SAND	X	
	165	175	BROWN CLAY		X
	175	187	MED BRN SND & PEA GRAVEL	X	
	187	194	BROWN CLAY		X
	194	239	COURSE SAND & PEA GRAVEL	X	
	239	242	BROWN CLAY		X
	242	245	CRSE SND, GRAVEL, CLAY LAYERED	X	
	245	270	CRSE BRN SND & SOME PEA GRAVEL	X	
	270	275	IRONISH COLORED CLAY		X
	275	276	SHARP CRSE SAND	X	
	276	285	SAND, CLAY LAYERED	X	
	285	291	GREEN, GRAY, BRN CLAY MIXED		X
	291	337	COURSE BRN SAND	X	
	337	367	GREEN & BRN CLAY		X
	367	377	CRSE QUARTZ SND	X	
	377	379	BRN CLAY		X
	379	407	MED TO CRSE SAND	X	
	407	410	BLUE MED. SAND	X	

Completed Depth 414 FEET (Measurable)
Date: Started 4/19/96 Completed 5/6/96

Received ... Department of Water Resources ... MAY 29 1996

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name PETE COPE DRILLING CO., INC. Firm No. 213
Firm Official and Supervisor or Operator [signature] Date 5-8-96
(Signature of Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ballpoint Pen

Office Use Only
Inspected by
Twp ___ Rge ___ Sec ___
___ 1/4 ___ 1/4 ___ 1/4
Lat: ___ Long: ___

1. DRILLING PERMIT NO. 03-94-W-0848-000
Other IDWR No. ___

2. OWNER:
Name ___
Address ___
City ___ State ___ Zip ___

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4 North ☒ or South ☐
Rge. 1 East ☒ or West ☐
Sec. 08 ___ 1/4 SW (10 acres) 1/4 SW (40 acres) 1/4 SW (160 acres)
Gov't Lot ___ County Ada
Lat: : : Long: : :
Address of Well Site ___
City ___
(Give street name of road + Distance to Road or Landmark)
Lt. ___ Blk. ___ Sub. Name ___

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ___

5. TYPE OF WORK check all that apply (Replacement etc.)
☐ New Well ☐ Modify ☐ Abandonment ☐ Other ___

6. DRILL METHOD
☐ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other ___

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
FILTER PACK	340	232	36400#	POURED

Was drive shoe used? ☐Y ☒N Shoe Depth(s) ___
Was drive shoe seal tested? ☐Y ☐N How? ___

8. CASING/LINER:

Diameter	From +	To	Gauge	Material	Casing	Liner	Welded	Threaded
10"	331	367	.250	STEEL	☒	☐	☒	☐
10"	377	383	.250	STEEL	☒	☐	☒	☐
10"	403	441	.250	STEEL	☒	☐	☒	☐

Length of Headpipe ___ Length of Tailpipe ___

9. PERFORATIONS/SCREENS
☐ Perforations Method ___
☒ Screens Screen Type HOUSTON STAINLESS Steel

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
340	403	35	304	10"	S.STEEL	☒	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
___ ft. below ground Artesian pressure ___ lb.
Depth flow encountered ___ ft. Describe access port or control devices: ___

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield GPM	Drawdown	Pumping Level	Time

Water Temp. ___ Bottom hole temp ___
Water Quality test or comments: ___
Depth first Water Encountered ___

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	W Y
	410	416	BLUE CLAY	
	416	422	BROWN CLAY	
	422	425	SANDY BRN CLAY	
	425	428	BRN CLAY	
	428	429	CRSE SAND	X
	429	431	SANDY CLAY	X
	431	433	BLUE-GREEN SAND	X
	433	435	BLUE CLAY	
	435	440	BLUE CLAY	
	440		BLUE CLAY	

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Department of Water Resources

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MAY 24 1996
WATER RESOURCES
WESTERN REGION

Completed Depth ___ (Measurable
Date: Started ___ Completed ___

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name ___ Firm No. ___
Firm Official ___ Date ___
and
Supervisor or Operator ___ Date ___
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
1/78

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name: Eagle Ranch Water Corp.

Address: P.O. Box 455, Eagle, Idaho 83616

Owner's Permit No.

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☐ Domestic ☐ Irrigation ☐ Test ☒ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other ____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☒ Reverse rotary
☐ Cable ☐ Dug ☐ Other ____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other ____

Thickness	Diameter		From	To
.312 inches	16 inches	+	2 feet	160 feet
.365 inches	10 inches		160 feet	208 feet
.365 inches	10 inches		228 feet	248 feet
.365 inches	10 inches		268 feet	288 feet
.365 inches	10 inches		308 feet	328 feet

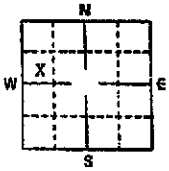
Was casing drive shoe used? ☐ Yes ☒ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation ____ inches by ____ inches

Number		From	To
____	perforations	____ feet	____ feet
____	perforations	____ feet	____ feet
____	perforations	____ feet	____ feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name Johnson
Type 304 Model No. ____
Diameter 10 Slot size 40 Set from 208 feet to 228 feet
Diameter 10 Slot size 40 Set from 288 feet to 308 feet
Gravel packed? ☒ Yes ☐ No ☐ Size of gravel #8 Sand
Placed from 75 feet to 328 feet
Surface seal depth 75' Material used in seal: ☒ Cement grout ☐ Puddling clay ☐ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port To be determined

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name ____
Lot No. ____ Block No. ____
County Ada
SW ¼ NW ¼ Sec. 9 , T. 4N N/S, R. 1E E/W.

7. WATER LEVEL

Static water level 35 feet below land surface.
Flowing? ☐ Yes ☒ No, G.P.M. flow
Artesian closed-in pressure ____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ____ °F, Quality ____

8. WELL TEST DATA

☒ Pump ☐ Bailer ☐ Air ☐ Other ____

Discharge G.P.M.	Pumping Level	Hours Pumped
560	62	3

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
28	0	5	Topsoil		
	5	7	Clay		
	7	17	Brn. Sand		
	17	25	Gravel		
	25	42	Sand, Gravel, River Rock		
	42	45	Brn. Clay		
	45	50	Brn. Sand		
	50	58	Brn. Clay		
	58	68	Brn. Sand		
	68	85	Brn. Clay		
	85	126	Brn. Sand w/some Gravel		
	126	130	Brn. Clay		
	130	136	Sand w/small Gravel		
	136	143	Brn. Clay w/Sand Streaks		
	143	148	Brn. Sand-Crse.		
	148	170	Brn. Sand-Crse. w/small Gravel		
	170	176	Brn. Sand-Med. to Crse.		
	176	178	Brn. Clay		
	178	192	Brn. Sand w/Clay Streaks		
	192	205	Brn. Clay		
	205	228	Brn. Sand-Crse. w/small Gravel		
	229	235	Brn. Sand-Fine to Med.		
	235	248	Brn. Clay		
	248	296	Brn. Sand w/some Clay Streaks		
	296	298	Blue Sand-Fine		
	298	308	Blue Sand-Fine w/Clay Streaks		
	308	328	Blue Clay w/some Sand Streaks		

10.

Work started 6-2-80 finished 6-21-80

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Pete Cope Drilling Co., Inc. Firm No. 213
Address P.O. Box 561 Meridian, ID 83642 Date 6-24-80
Signed by (Firm Official) Pete Cope
and
(Operator) Jerry Jones

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

(10)

Name [illegible]

Address [illegible]

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 361 feet

Casing schedule: ☐ Steel ☐ Concrete

Thickness	Diameter	From	To
250 inches	6 inches	11 feet	355 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seal used? ☐ Yes ☐ No

Perforated? ☐ Yes ☐ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____

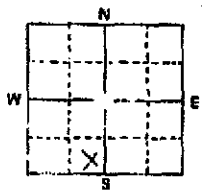
Placed from _____ feet to _____ feet

Surface seal? ☒ Yes ☐ No To what depth 20 feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Ada

SE ¼ SW ¼ Sec. 4, T. 4 N/S, R. 1 E/W

7. WATER LEVEL

Static water level [illegible] feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow _____

Temperature _____ °F. Quality _____

Artesian closed in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☒ Pump ☐ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped
40	10	10

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
[illegible]	[illegible]	34	[illegible]		X
[illegible]	34	60	[illegible]		X
	60	76	[illegible]	X	
	76	94	[illegible]		X
	94	107	[illegible]		X
	107	155	[illegible]		X
	155	291	[illegible]		X
	291	360	[illegible]	X	X
	360	361	[illegible]	X	
			Sand		

10.

Work started 9-16-70 finished 11-4-70

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

[illegible]

Driller's or Firm's Name Number

[illegible] 116

Address

Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

3 99

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ballpoint Pen

Office Use Only
Inspected by _____
Twp____ Rge____ Sec____
____1/4 ____1/4 ____1/4
Lat: : : Long: : :

(3)

1. DRILLING PERMIT NO. 63-99-W-0281-000
Other IDWR No. tag # 0009764

2. OWNER:
Name Joint School District #2
Address 911 Meridian St
City Meridian, ID State Zip 83642

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / E / S

Twp. 4 North XX or South ☐
Rge. 1 East XX or West ☐
Sec. 5 ____ 1/4 (10 acres) S/E 1/4 (40 acres) S/W 1/4 (160 acres)
Gov't Lot ____ County Ada
Lat: : : Long: : :
Address of Well Site 1000 West Floating Feather Rd City Eagle
(Give at least name of road + Distance to Road or Landmark)
Lt. ____ Blk. ____ Sub. Name Eagle Middle School

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor XX Irrigation
☐ Thermal ☐ Injection ☐ Other ____

5. TYPE OF WORK check all that apply (Replacement etc.)
XX New Well ☐ Modify ☐ Abandonment ☐ Other ~~replacement~~

6. DRILL METHOD
☐ Air Rotary ☐ Cable XX Mud Rotary ☐ Other ____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
~~grout~~	~~0~~	~~154~~	~~2800#~~	~~pumped~~
~~#8-12 sand~~	~~154~~	~~260~~	~~4300#~~	~~poured~~

Was drive shoe used? ☐ Y XX N Shoe Depth(s) ____
Was drive shoe seal tested? ☐ Y XX N How? ____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
~~8~~	~~+2~~	~~185~~	~~322~~	~~steel~~	XX	☐	XX	☐
~~8~~	~~205~~	~~225~~	~~322~~	~~steel~~	XX	☐	XX	☐
~~8~~	~~245~~	~~255~~	~~322~~	~~steel~~	XX	☐	XX	☐

Length of Headpipe ____ Length of Tailpipe 10'

9. PERFORATIONS/SCREENS
Perforations Method ____
XX Screens Screen Type Johnson Vee wire

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
185	205	30		8	stnls	XX	☐
225	245	30		8	stnls	XX	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
49 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: ____

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Pumping Level	Time
~~400~~	~~75'~~	~~74'~~	~~8 hrs~~

Water Temp. ____ Bottom hole temp. ____
Water Quality test or comments: ____
____ Depth first Water Encountered ____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
12	0	6	~~clay topsoil~~		X
	6	49	~~cemented gravel~~		X
	49	76	~~clay & sandy clay~~		X
	76	100	~~cemented sand & gravel~~	X	
	100	105	~~clay~~		X
	105	113	~~sand~~	X	
	113	116	~~clay~~		X
	116	133	~~sand~~	X	
	133	142	~~clay & sand streaks~~	X	
	142	150	~~sand~~	X	
	150	152	~~clay~~		X
	152	175	~~sand~~	X	
	175	178	~~clay~~		X
	178	215	~~sand~~	X	
	215	220	~~cemented sand~~	X	
	220	260	~~sand~~	X	
	260	280	~~cemented sand~~	X	

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Department of Water Resources

RECEIVED
JUL 16 1999
WATER RESOURCES
WESTERN REGION

Completed Depth 255' (Measurable)
Date: Started 6/21/99 Completed 7/5/99

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Stevens & Sons Firm No. 153
Firm Official Ron Stevens Date 7/10/99
and
Supervisor or Operator ____ Date ____
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

11/01

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

(7)

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Bud Stark

Address 133 Rooster Dr. Eagle Id

Drilling Permit No. 63-52-W-158

Water Right Permit No. _____

2. NATURE OF WORK

[X] New well [ ] Deepened [ ] Replacement
[ ] Well diameter increase [ ] Modification
[ ] Abandoned (describe abandonment or modification procedures such as liners, screen, materials, plug depths, etc. in lithologic log, section 9.)

3. PROPOSED USE

[X] Domestic [ ] Irrigation [ ] Monitor
[ ] Industrial [ ] Stock [ ] Waste Disposal or Injection
[ ] Other _____ (specify type)

4. METHOD DRILLED

[ ] Rotary [ ] Air [ ] Auger [ ] Reverse rotary
[X] Cable [ ] Mud [ ] Other _____ (backhoe, hydraulic, etc.)

5. WELL CONSTRUCTION

Casing schedule: [X] Steel [ ] Concrete [ ] Other _____

Thickness	Diameter	From	To
.250 inches	8 inches	+ 1 feet	188 feet
.250 inches	6 inches	181 feet	187 feet
.250 inches	6 inches	192 feet	199 feet

Was casing drive shoe used? [X] Yes [ ] No
Was a packer or seal used? [X] Yes [ ] No
Perforated? [ ] Yes [X] No
How perforated? [ ] Factory [ ] Knife [ ] Torch [ ] Gun
Size of perforation? _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? [X] Yes [ ] No
Manufacturer Houston Type 304
Top Packer or Headpipe 6
Bottom of Tailpipe 1'7"

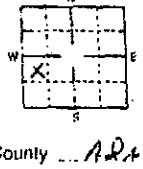
Diameter 6 Slot size .020 Set from 187 feet to 19[illegible]
Diameter _____ Slot size _____ Set from _____ feet to _____
Gravel packed? [ ] Yes [ ] No [ ] Size of gravel _____
Placed from _____ feet to _____ feet

Surface seal depth 18 Material used in seal: [ ] Cement grout
[X] Bentonite [X] Puddling clay [ ] _____
Sealing procedure used: [ ] Slurry pit
[ ] Temp. surface casing [X] Overbore to seal depth
Method of joining casing: [ ] Threaded [X] Welded
[ ] Solvent Weld [ ] Cemented between strata

Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____

Lot No. _____ Block No. _____

County Ada

NW¼ SW ¼ Sec. 4, T. 4N N [ ] S [ ] R. 1E E [ ] W [ ]

7. WATER LEVEL

Static water level 30 feet below land surface.
Flowing? [ ] Yes [X] No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: [ ] Valve [ ] Cap [ ] Plug
Temperature _____ °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA

[ ] Pump [ ] Bailer [X] Air [ ] Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
75		1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	2	Top Soil		X
	2	4	Hard pan		X
	4	10	Clay		X
	10	40	Gravel		X
	40	50	SAND & Clay	X	
	50	53	Gravel	X	
	53	63	Clay		X
	63	75	C. SAND	X	
	75	89	F. SAND	X	
	89	103	Clay		X
	103	105	SAND	X	
	109	115	Clay		X
	115	142	SAND	X	
	142	148	Red C. SAND	X	
	148	150	Clay		X
	150	153	SAND	X	
	153	178	Fine SAND	X	
	178	186	S. Clay	X	
	186	199	C. SAND	X	

RECEIVED
MAY 19 1992
Department of Water Resources

10.

Work started 7 April 92 finished 20 April 92

11. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Dennis Phipps Firm No. 332

Address Meridian Id Date 12 May 92

Signed by Drilling Supervisor [signature]

and

(Operator) Mark Phipps
(If different than the Drilling Supervisor)

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

USE TYPEWRITER OR BALLPOINT PEN

OCT 19 1990

Department of Water Resources

8

1. WELL OWNER

Name: Roger Crandelmire
1400 Floating Feather Road
Address: Eagle, ID 83616

Owner's Permit No. 63-90-W-209

2. NATURE OF WORK

X New well Deepened Replacement
Well diameter increased
Abandoned (describe abandonment procedures such as materials, plug depths, etc. and lithologic log)

3. PROPOSED USE

☐ Domestic ☒ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☒ Reverse rotary
☐ Cable ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other

Thickness	Diameter	From	To
.250 inches	16 inches	+18" feet	176 feet
.250 inches	16 inches	316 feet	321 feet
inches	inches	feet	feet
inches	inches	feet	feet

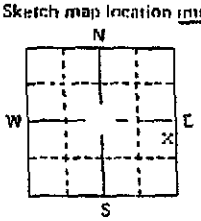
Was casing drive shoe used? ☐ Yes ☐ No
Was a packer or seal used? ☐ Yes ☐ No
Perforated? ☐ Yes ☐ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation inches by inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name Roscoe Moss
Type Wirewrap Model No.
Diameter 16 Slot size .040 Set from 176 feet to 316 feet
Diameter Slot size Set from feet to feet
Gravel packed? ☒ Yes ☐ No ☐ Size of gravel 3/8-
Placed from 64 feet to Bottom feet
Surface seal depth 64 What was used to seal: ☒ Cement grout
☐ Bentonite ☐ Puddling clay ☐
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing
☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port 2"

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name
Lot No. Block No.
County Ada
SE ¼ SE ¼ Sec. 4 T. 4N N S R. 1E E W

7. WATER LEVEL

Static water level 32 feet below land surface.
Flowing? ☐ Yes ☐ No G.P.M. flow
Artesian closed-in pressure p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature °F. Quality
Describe artesian or temperature flows below

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Air ☐ Other

Discharge G.P.M.	Pumping Level	Hours Pumped

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
26	0	6	Topsoil		
	6	20	Coarse Sand	X	
	20	24	Coarse Sand & Brown Clay	X	
	24	32	River Rock & Gravel		
	32	50	Rock,gravel,sand		
	50	52	Med. Sand	X	
	52	56	Med. to Coarse Sand	X	
	56	75	Brown Clay		
	75	81	Fine Sand	X	
	81	111	Brown Clay		
	111	114	Fine Sand	X	
	114	124	Fine to Med. Sand	X	
	124	131	Med. to Crse Sand	X	
	131	134	Brown Clay		
	134	135	Med to crse. sand	X	
	135	144	Brn.Clay w/stks.crse.sand		
	144	151	Brn.Clay		
	151	168	Med to crse sand	X	
	168	174	Brn. Clay w/sm.stks.sand		
	174	177	Brn.Clay		
	177	194	Crse. Sand-Gravel(¼ & ½)	X	
	194	212	Crse. Sand w/sm.amt.gravel	X	
	212	214	Fine Sand (Golden)	X	
	214	226	Brn.Gray Sand	X	
	226	243	Golden Med. Sand	X	
	243	263	Fine to Med. White Sand	X	
	263	273	Golden Sand (Med. to Crse	X	
	273	276	White Sand	X	
	276	283	Brn. Clay		
	283	293	Med. Light Brn. Sand	X	
	293	319	Light Brn. Sand	X	
	319	323	Brn. Clay		

10.

Work started 9/13/90 finished 9/18/90

11. DRILLERS CERTIFICATION

DL

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

PETE COPE DRILLING CO., INC.
Firm Name Firm No. 213
6505 West Chinden Blvd.
Address Meridian, ID Date 9/19/90

Signed by (Firm Official)
and
(Operator)

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

DEPARTMENT OF WATER RESOURCES

BALLPOINT PEN

(9)

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name: Dan Seamons

Address: 50 Rooster Drive
Eagle, Idaho 83616

Owner's Permit No. 63-90-w-043

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

Well diameter increase

Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other (specify type)

4. METHOD DRILLED

☒ Rotary ☒ Air ☐ Hydraulic ☐ Reverse rotary
☐ Cable ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other

Thickness	Diameter	From	To
.250 inches	6 inches +	2 feet	98 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

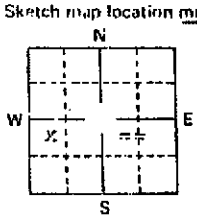
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation inches by inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name
Type Model No.
Diameter Slot size Set from feet to feet
Diameter Slot size Set from feet to feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel
Placed from feet to feet
Surface seal depth 20 Material used in seal: ☐ Cement grout
☒ Bentonite ☐ Puddling clay ☐
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing
☐ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port well seal

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name
Eagle Feather Sub.
Lot No. 2 Block No. 1

County Ada

NW ¼ SW ¼ Sec. 4, T. 4 N ☒ S R. 1 E ☒ W

7. WATER LEVEL

Static water level 25 feet below land surface.
Flowing? ☐ Yes ☐ No G.P.M. flow
Artesian closed-in pressure p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature °F. Quality
Describe artesian or temperature zones below

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Air ☐ Other

Discharge G.P.M.	Pumping Level	Hours Pumped

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	6	Top soil/ hard pan		x
8/20	6	50	gravel	x	
6	50	56	Sand	x	
	56	60	Clay		x
	60	75	Sandy clay	x	
	75	82	Clay		x
	82	91	Sand	x	
	91	95	Sand/clay		x
	95	107	Clay		x
	107	115	Sand	x	
	115	117	Clay		x
	117	120	Sand/joint clay	x	

10.

Work started 4-3-90 finished 4-4-90

11. DRILLERS CERTIFICATION

OL

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name DAVIS WELL & PUMP CO. Firm No. 101
415 N. PITT LANE
Address NAMPA, IDAHO 83687 Date 4-27-90

Signed by (Firm Official) Carole M Davis
and
(Operator) Chuck Davis
by CMD

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

WELL LOG AND REPORT TO THE STATE RECLAMATION ENGINEER OF IDAHO

RECEIVED
SEP 16 1953
Department of Reclamation

Log No.
Rec. , 19
Well No.
Permit No.

(DO NOT FILL IN)

Owner W. W. Carpenter Driller Ernest Kelsey

Address Eagle, Idaho Address Eagle Ida. R. 1 Lic. No. 39

Location of Well: Lot 3 in Carpenter N/S R. E/W Ada County.

and third feet N/S, and feet E/W from corner of ¼ ¼ Sec. Addition to the townsite of Eagle

Water will be used for domestic Total depth of well 227 ft.

Size of drilled hole 4" Weight of casing per linear foot 11

Thickness of casing ¼" Casing material steel
e.g., pipe, concrete, wood.

Diameter, length and location of casing 4" — 220'-3" — from ground level to 220'-3
(Casing 12" in diameter and under give inside diameter; casing over 12" in diameter give outside diameter.)

Number and size of perforations located feet to feet from surface of ground.

Other perforations:

If flowing well, give flow in c.f.s. or g.p.m. 25 and shut in pressure 5 lbs.

If non-flowing well, give depth of standing water from surface

If flowing well, describe control works reduced from 4" outlet to 2" discharge
(Type and size of valve, etc.)

On pumping test delivery was g.p.m. or c.f.s. Drawdown was feet

Length of time pumped during check was hr. min. Water temp. 56 ° Fahrenheit.

Date of commencement of well July 24-53 Date of completion of well Aug. 11-53

Type of well rig [illegible] Steel rig

CASING RECORD

Diam. Casing	From Feet	To Feet	Length	"Remarks" — Seals, Grouting, Etc.
4"	1'	220'		

GENERAL INFORMATION — Pumping Test, Quality of Water, Etc.

WELL LOG

From Feet	To Feet	Type of Material	Drilling Time Hrs.	Drilling Time Min.	Water-bearing Formation Ans. Yes or No	Casing Perforated Ans. Yes or No
0	2'	Top soil				
2'	10'	Clay		20		
10'	15'	Sand	1	25	yes	
15'	24'	Gravel	1	45	"	
24'	48'	Alternating clay and sand streaks	4	45	yes	
48'	56'	Alternating clay & sand	3		"	
56'	63'	" " " " "	1			
63'	70'	Hard sand & clay mix	1	30	no	
70'	90'	Coarse, coarse, Gravel sand	2	30	yes	
90'	98'	" " " "	3	45	yes	
98'	103'	Clay		45	no	
103'	108'	Coarse sand	1		yes	
108'	113'	Clay	1		no	
113'	116'	Coarse sand opening		10	yes	
116'	125'	Coarse sand	1	30	yes	
125'	135'	" "	6	15	"	
135'	148'	Sandy clay & sand streaks	3		yes	

If more space is required use Sheet No. 2

WELL DRILLERS STATEMENT

This well was drilled under my jurisdiction and the above information is true and correct to the best of my knowledge and belief.

Signed Ernest Kelsey

By

License No. 39

Dated , 19 .

Subscribed and sworn before me this day of , 19 .

Notary Public

My commission expires

Residing at

Yates Carpenter mill

SHEET NO. 2

Well Driller Earnest Kibley

Well Location

WELL LOG

From Feet	To Feet	Type of Material	Drilling Time Hrs.	Drilling Time Min.	Water-bearing Formation Ans. Yes or No	Casing Perforated Ans. Yes or No
144'	152'	sand	2		yes	
152'	154'	sandy clay		5	no	
154'	159'	soft gray blue clay		15	no	
159'	161'	coarse sand, gravel		5	yes	
161'	164'	clay		15	no	
164'	172'	sand	7	30	yes	
172'	185'	sand	5		yes	
185'	198'	sand	5	15	yes	
198'	203'	sandy clay & sandstone	1		yes	
203'	211'	" " " "	5		"	
211'	219'	sandy clay & sandstone	5		yes	
219'	227'	" " " " "	1		yes	

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Resources

RECEIVED
OCT 27 1976
Department of Water Resources

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name BOB DESHAZO

Address DOWNY DOWNS

Owner's Permit No. —

2. NATURE OF WORK

~~☑~~ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

~~☑~~ Domestic ☐ Irrigation ☐ Test ☐ Other (specify type)

☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

4. METHOD DRILLED

~~☑~~ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6" inches Total depth 88 feet

Casing schedule: ~~☑~~ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6" inches	+0 feet	53 feet
____ inches	____ inches	____ feet	____ feet
____ inches	____ inches	____ feet	____ feet
____ inches	____ inches	____ feet	____ feet
____ inches	____ inches	____ feet	____ feet

Was casing drive shoe used? ~~☑~~ Yes ☐ No

Was a packer or seal used? ☐ Yes ~~☑~~ No

Perforated? ☐ Yes ~~☑~~ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation ____ inches by ____ inches

Number	From	To
____ perforations	____ feet	____ feet
____ perforations	____ feet	____ feet
____ perforations	____ feet	____ feet

Well screen installed? ☐ Yes ~~☑~~ No

Manufacturer's name ____

Type ____ Model No. ____

Diameter ____ Slot size ____ Set from ____ feet to ____ feet

Diameter ____ Slot size ____ Set from ____ feet to ____ feet

Gravel packed? ☐ Yes ~~☑~~ No Size of gravel ____

Placed from ____ feet to ____ feet

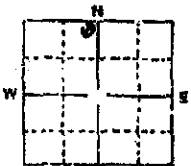
Surface seal depth 20' Material used in seal ☐ Cement grout ☐ Puddling clay ~~☑~~ Well cuttings

Seeding procedure used ☐ Slurry pit ☐ Temporary surface casing ☐ Overflore to seal depth

6. LOCATION OF WELL

Sketch map location must agree with written location.

(23)



Subdivision Name DOWNY DOWN

Lot No. — Block No. —

County ADA

NE ¼ NW ¼ Sec. 23 T. 4 ~~N~~/S, R. 1 ~~E~~/W

7. WATER LEVEL

Static water level 30 feet below land surface

Flowing? ☐ Yes ~~☑~~ No G.P.M. flow ____

Temperature ____ ° F. Quality EXCELLENT

Artesian closed-in pressure ____ p.s.i.

Controlled by ☐ Valve ~~☑~~ Cap ☐ Plug

8. WELL TEST DATA

~~☑~~ Pump ~~☑~~ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped
156 GPM	15'	3

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	26	TOP SOIL, CLAY		—
	26	45	LARGE GRAVEL		—
	45	49	CLAY		—
	49	69	WET SAND		—
	69	74	CLAY		—
	74	77	SAND	—	
	77	88	CLAY		—
	88	89	AQUIFER	—	

10. Work started 5-3-76 finished 5-11-76

11. DRILLERS CERTIFICATION

Firm Name H & O WELL DRILLING Firm No. 303

Address RT #1, BLISS N HORN Date 5-13-76

Signed by (Firm Official) W. R. Connelly

and (Operator) Jack Johnson

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE COPY TO THE DEPARTMENT

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

Received 11-3-71

1. WELL OWNER

Name Robert DeShazo

Address 6115 Russett Boise

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

_____

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 75 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	2" feet	65 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seat used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____

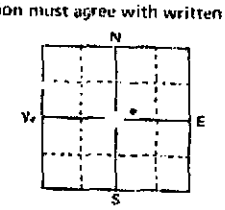
Placed from _____ feet to _____ feet

Surface seal? ☒ Yes ☐ No To what depth 20 feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County ADA

SW ¼ NE ¼ Sec. 8, T. 4N, N/S, R. 1E, E/W

7. WATER LEVEL

Static water level 12 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow _____

Temperature _____ F. Quality _____

Artesian closed in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Other Compressor

Discharge G.P.M.	Draw Down	Hours Pumped
25	- - -	3

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	7	Top Soil		*
	7	30	Sandy Clay		*
	30	62	Gravel		*
	62	66	Clay		*
	66	70	Sand	*	
	70	75	Clay		*
	75		Sand	*	

10. Work started 10/1/71 finished 10/7/71

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

K&H Well Drilling 194

Driller's or Firm's Name Number

Route 1 Caldwell Idaho

Address

Edward E. Holder 10/13/71

Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY

FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

Received 10-5-71 D W A

1. WELL OWNER

Name Robert DeShaza

Address 6115 Russett Boise

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 75' feet

Casing schedule: ☐ Steel ☐ Concrete

Thickness	Diameter	From	To
250 inches	6 inches	0 feet	70 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation ____ inches by ____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____

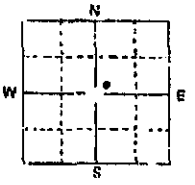
Placed from _____ feet to _____ feet

Surface seal? ☒ Yes ☐ No To what depth 40 feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Ada

SVE ¼ NE ¼ Sec. 8 T. 4 N N/S, R. 1 E E/W

7. WATER LEVEL

Static water level 12 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow _____

Temperature ____ ° F. Quality _____

Artesian closed-in pressure ____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Other Compressor

Discharge G.P.M.	Draw Down	Hours Pumped
30		4

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	7	Top Soil		X
	7	30'	Muddy Sandy Clay		X
	30'	50'	Gravel		X
	50	75	Streaks of Sand & Clay	X	
	75'		Sand	X	

10. Work started 7/9/71 finished 7/10/71

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

K&H ~~Holder~~ Well Drilling 194
Driller's or Firm's Name Number

2115 Brenneman Boise
Address

Edward C Holder 9/6/71
Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

1. WELL OWNER

Name Robert DeSharo

Address Downing Downs Sub. Eagle, Ida.

Owner's Permit No.

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 65 feet

Casing schedule: ☐ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	+12 feet	65 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation inches by inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name

Type Model No.

Diameter Slot size Set from feet to feet

Diameter Slot size Set from feet to feet

Gravel packed? ☐ Yes ☒ No Size of gravel

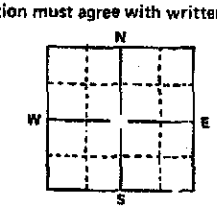
Placed from feet to feet

Surface seal? ☐ Yes ☐ No To what depth 40' feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Ada

NW ¼ SE ¼ Sec. 8, T. 4N N/S, R. 1E E/W

7. WATER LEVEL

Static water level 20' feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow

Temperature ° F. Quality

Artesian closed-in pressure p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Other Compressor

Discharge G.P.M.	Draw Down	Hours Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
	0	13'	Top Soil & Hardpan		
	13	40'	Gravel		
	40	63'	Sandy Clay	X	
	63'			X	

10.

Work started April 8/72 finished April 10/72

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

Eagle Drilling Co. 9396932 179
Driller's or Firm's Name Number

P. O. Box 492 Eagle Ida. 83616
Address

Edward Holden 4/12/72
Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY

FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

RECEIVED

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

1. WELL OWNER

Name ROBERT DESHAZO JR.

Address 6115 [illegible]SET BOISE, IDAHO

Owner's Permit No. _____

2. NATURE OF WORK

☑ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

_____

3. PROPOSED USE

☑ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☑ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 60 feet

Casing schedule: ☑ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	0 feet	60 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was a packer or seal used? ☐ Yes ☑ No

Perforated? ☐ Yes ☑ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☑ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Gravel packed? ☐ Yes ☑ No Size of gravel _____

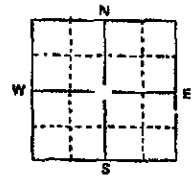
Placed from _____ feet to _____ feet

Surface seal? ☑ Yes ☐ No To what depth 30 feet

Material used in seal ☐ Cement grout ☑ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County ADA

NW ¼ ¼ Sec. 9 T. 4N N/S, R. 1E E/W

7. WATER LEVEL

Static water level 3 feet below land surface

Flowing? ☐ Yes ☑ No G.P.M. flow _____

Temperature _____ ° F. Quality _____

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☑ Other COMPRESSOR

Discharge G.P.M.	Draw Down	Hours Pumped
50	*	2

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0'	6'	TOP SOIL		*
	6'	39'	GRAVEL		*
	39'	47'	CLAY (TAN)		*
	47'	53'	SAND	*	
	53'	60'	CLAY (TAN)		*
	60'	-	SAND	*	

10.

Work started 2/1/71 finished 2/2/71

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

HOLDER WELL DRILLING 192
Driller's or Firm's Name Number

RO[illegible] CALDWELL, IDAHO
Address

Edward E Holder
Signed By

2/3/71
Date

USE ADDITIONAL SHEETS IF NECESSARY

FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

Form 238-7
1/78

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name: Dinero Assoc.

Address: 16215 E. Sprague, Veradale, Wash. 99037

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning) _____

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
1250 inches	6 inches +	2 feet	54 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

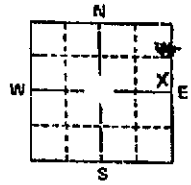
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 35' Material used in seal: ☐ Cement grout ☒ Puddling clay ☐ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____

Lot No. _____ Block No. _____

County Ada

SE ¼ NE ¼ Sec. 8 T. 4 N/S, R. 1 E/W.

7. WATER LEVEL

Static water level 2 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ___ °F. Quality _____

8. WELL TEST DATA

☒ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
20	22'	24

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	12	Grey Clay		X
	12	35	Gravel	X	
	35	45	Fine Sand	X	
	45	53	Cemented Sand		X
	53	75	Clay white		X
	75	76	Pea Gravel	X	
	76	80			X

RECEIVED
NOV 30 1982
Department of Water Resources

RECEIVED
NOV 5 1982
Department of Water Resources
Western Regional Office

10. Work started 6/1/81 finished 6/3/81

11. DRILLERS CERTIFICATION 20

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Rain Valley Pump & Drilling Firm No. 207

Address 2950 Sgarden Date 6-4-81

Signed by (Firm Official) Ron M Murphy

and

(Operator) [signature]

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

RECEIVED
JUL 6 1972
Department of Water Administration

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

1. WELL OWNER

Name Jim Johnston

Address Box 93 Eagle Idaho

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

_____

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6" inches Total depth _____ feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	0 feet	70 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____

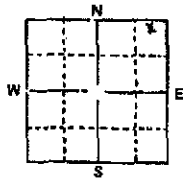
Placed from _____ feet to _____ feet

Surface seal? ☒ Yes ☐ No To what depth 20 feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Ada

NE ¼ NE ¼ Sec. 8, T. 4N N/S, R. 1E E/W

7. WATER LEVEL

Static water level 5 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow _____

Temperature _____ ° F. Quality Good

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Other Compressor

Discharge G.P.M.	Draw Down	Hours Pumped
20	Not Known	2 hrs.

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	12'	Loam with gravel & Soil Mixed	X	
6"	12	27	Sandy Rock & Sand	X	
6"	27	49	Sand & Clay Layers	X	
6"	49	66	Sand & Clay		X
	66	70	Light Grey Clay		X
	70	72	Coarse Lava Rock Mixed w/ Clay & Sand	X	

10.

Work started Mar 12 finished March 15 / 71

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

David Knox Well Drilling & Pump Service 208
Driller's or Firm's Name Number

3233 Madison Caldwell Idaho
Address

David W Knox April 72
Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

Form 238-7
7/97

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

WELL TAG NO. D 0007120
DRILLING PERMIT NO. 63-98-W 0388 000
Other IDWR No. _____

1. OWNER:
Name LAREN WALKER
Address 301 W. MEADOWVIEW DR.
City EAGLE State ID Zip 83616

2. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4 North ☒ or South ☐
Rge. 1 East ☒ or West ☐
Sec. 5, ____ 1/4 (10 acres) NW 1/4 (40 acres) SE 1/4 (160 acres)
Gov't Lot ____ County _____
Lat: : : Long: : :
Address of Well Site 301 W. MEADOWVIEW
City EAGLE
(Give at least name of road + Distance to Road or Landmark)

Subdivision _____ Blk. _____ Sub. Name _____

3. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

4. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

5. DRILL METHOD
☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

6. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
BENTONITE	0	18	450 lbs	OVERBORE

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) _____
Was drive shoe seal tested? ☐ Y ☒ N How? _____

7. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	+1.5	80	.125	Steel	☒	☐	☒	☐
5"	75	80	.125	Steel	☒	☐	☒	☐
					☐	☐	☐	☐

Length of Headpipe 5' Length of Tailpipe —

8. PERFORATIONS/SCREENS
Perforations Method _____
Screens Screen Type Johnson

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
80	85	.020	—	5"	Stainless	☒	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
20 ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: _____

11. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
60 GPM	-	70 ft	1 hr.

Water Temp. 57° Bottom hole temp. —
Water Quality test or comments: _____
Depth first Water Encounter 20 ft

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
10	0	2	Top Soil		✓
"	2	6	Brown Clay		✓
"	6	15	Tan Clay		✓
"	15	18	Sandy Clay		✓
6"	18	22	Sand	✓	
"	22	45	Gravel	✓	
"	45	57	Tan Clay		✓
	57	63	Sand	✓	
	63	80	Tan Clay		✓
	80	85	Sand	✓	

RECEIVED
AUG 27 1998
Department of Water Resources

RECEIVED
AUG 25 1998
WATER RESOURCES
WESTERN REGION

Completed Depth 85 feet (Measurable)
Date: Started 6-13-98 Completed 6-13-98

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name COONSE WELL DRILLING Firm No. 409
Firm Official Gary E. Coonse Date 6-15-98
and
Driller or Operator Gary Clark Date 6-15-98
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

3/95

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT
Use Typewriter or Ballpoint Pen

Office Use Only
Inspected by _____
Twp____ Rge____ Sec____
____1/4 ____1/4 ____1/4
Lat: : : Long: : :

1. DRILLING PERMIT NO. 63-98-W 0189-000
Other IDWR No. D0001876

2. OWNER:
Name David and Catherine Eldredge
Address 321 West Sutter Drive
City Eagle State Id Zip 83616

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4 North ☒ or South ☐
Rge. 1 East ☒ or West ☐
Sec. 5 ____ 1/4 NE 1/4 NE 1/4
(10 acres / 40 acres / 160 acres)
Gov't Lot ____ County Ada
Lat: : : Long: : :
Address of Well Site 321 West Sutter Drive, Corner of Beacon Ct. City Eagle
(Give at least name of road + Distance to Road or Landmark)
Lt. 8 Blk. 1 Sub. Name Thorn Wood Estates

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD
☐ Air Rotary ☒ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	1	29	9 Sacks	Poured down annulus

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 115'
Was drive shoe seal tested? ☒ Y ☐ N How? bailed

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	+2	115	250	Steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe 4' 8" Length of Tailpipe 8"

9. PERFORATIONS/SCREENS
☐ Perforations Method _____
☒ Screens Screen Type Johnson Stainless Steel

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
117	122	25	NA	5"	Stainless	☐	☒
122	127	15	NA	5"	Stainless	☐	☒
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
52 ft. below ground Artesian pressure NA lb.
Depth flow encountered 117 ft. Describe access port or control devices: Unbutt well seal cap

11. WELL TESTS:
☐ Pump ☒ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
20	2'	54'	1 hr

Water Temp. 65° Bottom hole temp. 65°
Water Quality test or comments: Good
Depth first Water Encountered 80'

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8"	0	2	Top Soil		✓
8	2	25	Dirt with occasional sand streak		
8	25	29	Dirt with some gravel		
8	29	37	Dirty Sand		
7⅝	37	45	Gravel		
7⅝	45	60	Course sand		
↓	60	63	Yellow Sand		
11"	63	73	course sand and gravel		
	73	76	Yellow Silty Sand		
	76	77	Yellow Silty clay		
	77	78	Heaving Med. Sand		
	78	80	Jelled Sand		✓
	80	85	Fine mucky heaving sand	✓	
	85	92	Fine to med. Sand	✓	
	92	93	clay		✓
	93	97	Sandy Clay		✓
	97	100	Sand	✓	
11	100	112	Yellow clay		✓
↑	112	113	Fine white Sand	✓	
7⅝	113	117	Yellow clay		✓
5"	117	128	medium white sand	✓	
	128		clay		✓

RECEIVED
MAY 06 1998
WATER RESOURCES WESTERN REGION
RECEIVED
MAY 11 1998
Department of Water Resources

Completed Depth 127' 10" (Measurable)
Date: Started 4-3-98 Completed 4-27-98

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name A-1 Line Firm No. 561
Firm Official Russell A. Johnston Date 4-28-98
and
Supervisor or Operator _____ Date _____
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
3-95-C96

C

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Inspected by _____
Twp _____ Rge _____ Sec _____
_____ 1/4 _____ 1/4 _____ 1/4
Lat: : : Long: : :

DRILLING PERMIT NO. 63 -97 -W -0457 -000
Other IDWR No. _____

OWNER:
Name Paul & Melissa Sadlek
Address P.O. Box 16408 - Vincent + Sons
City Boise State ID Zip 83715

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location

N

W E

S

Twp. 4 North ☒ or South ☐
Rge. 1 East ☒ or West ☐
Sec. 5 1/4 (10 acres) NE 1/4 (40 acres) SE 1/4 (160 acres)

Gov't lot _____ County Ada

Lat: : : Long: : :

Address of Well Site 171 W. Lance Lane
City Eagle
(Give at least name of road + Distance to Road or Landmark)

Lot 2 Blk. 1 Sub. Name Washum Acres

USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

DRILL METHOD
☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
ntonite	4	18	5	overbore

s drive shoe used? ☒ Y ☐ N Shoe Depth(s) _____
s drive shoe seal tested? ☐ Y ☒ N How? _____

CASING/LINER:

meter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
	+2	58	.250	steel	☒	☐	☒	☐
	56	76	s 40	PVC	☐	☒	☐	☐
					☐	☐	☐	☐

gth of Headpipe _____ Length of Tailpipe _____

PERFORATIONS/SCREENS
Perforations Method saw
Screens Screen Type _____

m	To	Slot Size	Number	Diameter	Material	Casing	Liner
	76		120	4.5"	PVC	☐	☒
						☐	☐
						☐	☐

STATIC WATER LEVEL OR ARTESIAN RESSURE:
ft. below ground Artesian Pressure _____ lb
pth flow encountered _____ ft. Describe access port or control vices: _____

11. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min.	Drawdown	Pumping Level	Time
100+	5	60'	2 hrs.

Water Temp. _____ Bottom hole temp. _____
Water Quality test or comments: _____
Depth first Water Encountered 15

12. LITHOLOGIC LOG: (Describe repair or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temp.	Water Y	Water N
10"	0	2	top soil		☒
10"	2	15	sandy brown clay		☒
10"	15	18	sand & gravel	☒	
6"	18	35	sand & gravel	☒	
6"	35	37	brown clay		☒
6"	37	54	brown & white sand	☒	
6"	54	58	yellow clay		☒
6"	58	76	white sand w/strips of clay	☒	

RECEIVED
AUG 15 1997
RECEIVED
WATER RESOURCES
WESTERN REGION
AUG 26 1997
Department of Water Resources

Completed Depth: 76 (Measurable)
Date: Started 07/24/97 Completed 07/24/97

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name SOS Welldrilling & Pump Co Firm No. 212
Firm Official Tony Hackett Date 7/29/97
Supervisor or Operator _____ Date 8/8/97
(Sign once if Firm Official & Operator)

Date: 07/28/97 Time: 2:10 PM

Form 238-7
Rev 5

C

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ballpoint Pen

Office Use Only
Inspected by _____
Twp____ Rge____ Sec____
____1/4 ____1/4 ____1/4
Lat: : : Long: : :

1. DRILLING PERMIT NO. 63-32-W-05588-000
Other IDWR No. _____

2. OWNER:
Name Greg Walker
Address 2120 Wigen Whirl Rd
City Nampa State ID Zip 83686

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4 North [X] or South [ ]
Rge. 1 East [X] or West [ ]
Sec. 5 1/4 NE 1/4 NE 1/4
Gov't Lot ____ County ADA (Ada)
Lat: : : Long: : :
Address of Well Site 106 Ly Court
City Eagle
(Street or Road name or Nearest Address or Rural Route Location)
Lt. 2 Blk. 1 Sub. Name Rural Est.

4. USE:
[X] Domestic [ ] Municipal [ ] Monitor [ ] Irrigation
[ ] Thermal [ ] Injection [ ] Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)
[X] New Well [ ] Modify [ ] Abandonment [ ] Other _____

6. DRILL METHOD
[X] Air Rotary [ ] Cable [ ] Mud Rotary [ ] Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	0	181	460	Pour

Was drive shoe used? [X] Y [ ] N Shoe Depth(s) 138
Was drive shoe seal tested? [X] Y [ ] N How? Air

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6	2	138	085	Steel	[X]	[ ]	[X]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
[ ] Perforations Method _____
[ ] Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
25 ft. below ground Artesian pressure _____ lb.
Depth flow encountered 146 ft. Describe access port or control devices: CAP

11. WELL TESTS:
[ ] Pump [ ] Bailer [X] Air [ ] Flowing Artesian

Yield (gal/min)	Drawdown	Pumping Level	Time
25	120	120	3½

Water Temp. 56 Bottom hole Temp. 56
Water Quality test or comments: _____
Depth first Water Encountered 56

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
12	0	2	Top Soil		
	2	4	Hard Pan		
	4	16	Brn CLAY		
6	16	41	"		
	41	50	Gravel	X	
	50	100	Sand & CLAY layers	X	
	100	114	Brn CLAY		
	114	117	SAND	X	
	117	123	Brn CLAY		
	123	134	SAND	X	
	134	140	Tan CLAY		
	140	160	Sand & CLAY layers	X	

RECEIVED
AUG 28 1996
Department of Water Resources

RECEIVED
AUG 26 1996
WATER RESOURCES
WESTERN REGION

Completed Depth 160 (Measurable)
Date: Started 8-9-96 Completed 8-9-96

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Treasure Valley Drilling Firm No. 566
Firm Official _____ Date 8-15-96
and
Supervisor or Operator _____ Date 8-15-96
(Signature of Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 6SAY
6/90

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Owner well house

Address 3040 S. Oakhurst Boise ID

Drilling Permit No. 63-11-W-137

Water Right Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydra ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness		Diameter		From		To	
.250	inches	6	inches	+ 1	feet	132	feet
.258	inches	5	inches	126	feet	131	feet
.258	inches	5	inches	136	feet	138	feet
	inches		inches		feet		feet

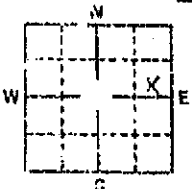
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation _____ inches by _____ inches

Number		From		To	
_____	perforation	_____	feet	_____	feet
_____	perforation	_____	feet	_____	feet
_____	perforations	_____	feet	_____	feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name Houston
Type 304 Model No. _____
Diameter 5 Slot size .020 Set from 131 feet to 136 feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout
☒ Bentonite ☒ Puddling clay ☐ _____
Seating procedure used: ☐ Slurry pit ☐ Temp. surface casing ☐ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name Ranch Estates
Lot No. 11 Block No. ___
County Ada
SE ¼ NE ¼ Sec. 5, T. 4N N ☐ S ☐ R. 1E E ☐ W ☐

7. WATER LEVEL

Static water level 45 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ____ °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
20		1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	2	Top Soil		X
	2	34	clay		X
	34	64	Gravel	X	
	64	110	clay		X
	110	138	SAND	X	

RECEIVED
MAY 29 1991
Department of Water Resources

10.

Work started 24 April 91 finished 1 May 91

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Dennis Phipps Firm No. 332
Address Meridian Id. Date 5-24-91
Signed by (Firm Official) _____
and
(Operator) Mark V. Phipps

USE ADDITIONAL SHEETS IF NECESSARY -- FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7
9/90

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Carl Woodhouse

Address 1060 S. Oakwood Boise 22

Drilling Permit No. 91-7116-W-137

Water Right Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydro ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches	+1 feet	132 feet
.258 inches	5 inches	126 feet	131 feet
.258 inches	5 inches	136 feet	138 feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name Houston
Type 304 Model No. _____
Diameter 5 Slot size .020 Set from 131 feet to 136 feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout
☒ Bentonite ☒ Puddling clay ☐ _____
Casing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☐ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.

N / W / X / E / S

Subdivision Name Ranch Estates 6620 E

Lot No. 11 Block No. ___

County Ada

SE ¼ NE ¼ Sec. 5 T. 4N N ☐ S ☐ R. 1E E ☐ W ☐

7. WATER LEVEL

Static water level 45 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ___ °F. Quality _____
(Describe artesian or temperature zones below)

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
30		1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	2	Top Soil		X
	2	34	Clay		X
	34	64	Gravel	X	
	64	110	Clay		X
	110	138	Sand	X	

RECEIVED
MAY 29 1991
Department of Water Resources

10.

Work started 24 April 91 finished 1 May 91

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Dennis Phipps Firm No. 332
Address Meridian, Id. Date 5-28-91
Signed by (Firm Official) _____
and
(Operator) Mark V. Phipps

USE ADDITIONAL SHEETS IF NECESSARY -- FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7
8/82

RECEIVED
APR 6 1984

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Harold Meek
Address 1821 N. Eagle Rd., Eagle, Idaho
Owner's Permit No.

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. on lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other

6. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other

Thickness	Diameter	From	To
250 inches	6 inches + 1'6"	feet 129'6"	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation ____ inches by ____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name Johnson
Type 304 Stainless Model No.
Diameter 6 Slot size .25 Set from 129 feet to 134 feet
Diameter Slot size Set from feet to feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel
Placed from feet to feet
Surface seal depth 35 Material used in seal: ☐ Cement grout
☒ Bentonite ☒ Puddling clay ☐
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing
☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port Top of casing

7. WATER LEVEL

Static water level 25 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow
Artesian closed-in pressure p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 56 °F. Quality Good
Describe artesian or temperature contrast below.

8. WELL TEST DATA

☒ Pump ☐ Bailer ☐ Air ☐ Other

Discharge G.P.M.	Pumping Level	Hours Pumped
35	70	1½

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
8"	0	2	Top soil		☒
8"	2	8	sandy clay		☒
8"	8	35	gravel	☒	
6"	35	58	yellow clay		☒
	58	67	sand - mucky	☒	
	67	81	yellow clay		☒
	81	87	sand - mucky	☒	
	87	99	sandy yellow clay		☒
	99	107	sand - mucky	☒	
	107	113	yellow clay		☒
	113	134	sand	☒	
6"	134	139	clay yellow		

10. Work started March 23 84 finished April 3-84

6. LOCATION OF WELL

Sketch map location must agree with written location.

N / W / E / S

Subdivision Name
Lot No. Block No.
County Ada
SE ¼ SE ¼ Sec. 5 T. 4 ☒N ☐S R. 1 ☒E ☐W.

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name DeSoe Well Drilling Firm No. 399
Address 837 West Front Nampa, Idaho Date April 4 84
Signed by (Firm Official) [signature]
and
(Operator) Same

USE ADDITIONAL SHEETS IF NECESSARY -- FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7
8/90

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Randy Barnes
Address 4915 N. Gorden John Ln. Eagle, Id.
Drilling Permit No. 63-91-W-104
Water Right Permit No. _____

2. NATURE OF WORK

[X] New well [ ] Deepened [ ] Replacement
[ ] Well diameter increase
[ ] Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

[X] Domestic [ ] Irrigation [ ] Test [ ] Municipal
[ ] Industrial [ ] Stock [ ] Waste Disposal or Injection
[ ] Other _____ (specify type)

4. METHOD DRILLED

[ ] Rotary [ ] Air [ ] Hydraulic [ ] Reverse rotary
[X] Cable [ ] Dug [ ] Other _____

5. WELL CONSTRUCTION

Casing schedule: [X] Steel [ ] Concrete [ ] Other _____

Thickness	Diameter	From	To
.250 inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

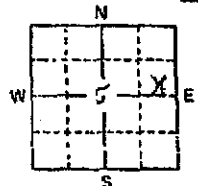
Was casing drive shoe used? [ ] Yes [ ] No
Was a packer or seal used? [ ] Yes [ ] No
Perforated? [ ] Yes [ ] No
How perforated? [ ] Factory [ ] Knife [ ] Torch [ ] Gun
Size of perforation _____ inches by _____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? [ ] Yes [ ] No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? [ ] Yes [ ] No [ ] Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth _____ Material used in seal: [ ] Cement grout
[ ] Bentonite [ ] Puddling clay [ ] _____
Sealing procedure used: [ ] Slurry pit [ ] Temp. surface casing
[ ] Overbore to seal depth
Method of joining casing: [ ] Threaded [ ] Welded [ ] Solvent Weld
[ ] Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name Ranch Sub.
Lot No. 5 Block No. _____
County Ada
SE ¼ NE ¼ Sec. 5, T. 4N N [ ] S [ ] R 1E E [ ] W [ ]

7. WATER LEVEL

Static water level 50 feet below land surface.
Flowing? [ ] Yes [X] No G.P.M. flow _____
Artesian closed in pressure _____ p.s.i.
Controlled by: [ ] Valve [ ] Cap [ ] Plug
Temperature _____ °F. Quality _____
Describe artesian or temperature zones below

8. WELL TEST DATA

[ ] Pump [ ] Bailer [X] Air [ ] Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
50		1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	2	Top Soil		X
	2	33	Sandy Clay		X
	33	65	Gravel		X
	65	87	Clay	X	
	87	89	Coarse Sand	X	
	89	114	Clay	X	
	114	116	Sand	X	
	116	117	Clay		X
	117	121	Fine Sand	X	
	121	150	Clay		X
	150	151	Sand	X	
	151	207	Clay		X
	207	213	Coarse Sand	X	

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MAY 6 1991
Department of Water Resources

10. Work started 4-5-91 finished 4-15-91

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Dennis Phipps Firm No. 332
Address Meridian Id. Date 4-16-91
Signed by (Firm Official) [signature]
and
(Operator) [signature]

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

DEPARTMENT OF WATER RESOURCES

BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Walt Gammill

Address 11521 [illegible] Ave [illegible] ID

Drilling Permit No. 63-W-91-117

Water Right Permit No.

2. NATURE OF WORK

[X] New well [ ] Deepened [ ] Replacement

[ ] Well diameter increase

[ ] Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

[X] Domestic [ ] Irrigation [ ] Test [ ] Municipal

[ ] Industrial [ ] Stock [ ] Waste Disposal or Injection

[ ] Other (specify type)

4. METHOD DRILLED

[ ] Rotary [ ] Air [ ] Hydraulic [ ] Reverse rotary

[X] Cable [ ] Dug [ ] Other

5. WELL CONSTRUCTION

Casing schedule: [X] Steel [ ] Concrete [ ] Other

Thickness	Diameter	From	To
.250 inches	6 inches +	1 feet	139 feet
.254 inches	5 inches	135 feet	139 feet
.258 inches	5 inches	144 feet	146 feet
inches	inches	feet	feet

Was casing drive shoe used? [X] Yes [ ] No

Was a packer or seal used? [X] Yes [ ] No

Perforated? [ ] Yes [ ] No

How perforated? [ ] Factory [ ] Knife [ ] Torch [ ] Gun

Size of perforation inches by inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? [X] Yes [ ] No

Manufacturer's name Houston

Type 304 Model No.

Diameter 5 Slot size 100 Set from 135 feet to 144 feet

Diameter Slot size Set from feet to feet

Gravel packed? [ ] Yes [X] No [ ] Size of gravel

Placed from feet to feet

Surface seal depth 18 Material used in seal: [ ] Cement grout [X] Bentonite [X] Puddling clay [ ]

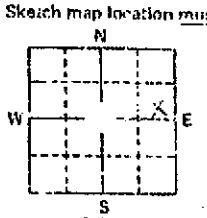
Sealing procedure used: [ ] Slurry pit [ ] Temp. surface casing [X] Overbore to seal depth

Method of joining casing: [ ] Threaded [X] Welded [ ] Solvent Weld [ ] Cemented between strata

Describe access port

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name

Lot No. Block No.

County Ada

SE ¼ NE ¼ Sec. 5 T. 4N N [ ] S [ ] R. 1E E [ ] W [ ]

7. WATER LEVEL

Static water level 45 feet below land surface.

Flowing? [ ] Yes [X] No G.P.M. flow

Artesian closed-in pressure p.s.i.

Controlled by: [ ] Valve [ ] Cap [ ] Plug

Temperature °F. Quality

Describe artesian or temperature zones below

8. WELL TEST DATA

[ ] Pump [ ] Bailer [X] Air [ ] Other

Discharge G.P.M.	Pumping Level	Hours Pumped
30		1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	2	Top soil		X
	2	34	Clay		X
	34	64	Gravel	X	
	64	96	Sandy clay		X
	96	98	Sand	X	
	98	141	Sandy clay	X	
	141	146	Coarse sand	X	

MAY 29 1991

10. Work started 2 May 91 finished 8 May 91

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Dennis Phipps Firm No. 332

Address [illegible] ID Date 5-28-91

Signed by (Firm Official) [signature]

and

(Operator) Mark V. Phipps

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7
11/97

IDAHO DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0009659
DRILLING PERMIT NO. 63-99-W0379-001
Other IDWR No. MW-2

2. OWNER:
Name Wayland Fisher
Address 657 E. Beacon Light Road
City Eagle State ID Zip 83616

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4 North ☒ or South ☐
Rge. 1 East ☒ or West ☐
Sec. 4 ____ 1/4 NW 1/4 NW 1/4
Gov't Lot ____ County Ada
Lat: : : Long: : :

Address of Well Site S. of Beacon Light Rd + E. of Eagle Road.
(Give at least name of road) Distance in Road or Landmark
City Eagle

Lt. ____ Blk. ____ Sub. Name Proposed Bighorn #2 Subdivision

4. USE:
☐ Domestic ☐ Municipal ☒ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ____

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other ____

6. DRILL METHOD
☐ Air Rotary ☐ Cable ☐ Mud Rotary ☒ Other H.S.A.

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Concrete	0'	1'	2 bags	Pour
Bentonite	1'	24'	10 bags	Through
Sand	24'	36'	6 Bags	Auger

Was drive shoe used? ☐Y ☒ N Shoe Depth(s) ____
Was drive shoe seal tested? ☐ Y ☒ N How? ____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
2"	+3'	26'	S.40	PVC	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe ____ Length of Tailpipe ____

9. PERFORATIONS/SCREENS
Perforations Method Factory Slot
Screens Screen Type Long year

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
26'	36'	.020	S.40	2"	PVC	☒	☐
						☐	☐
						☐	☐

Screen

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
28' ft. below ground Artesian pressure ____ lb.
Depth flow encountered 28 ft. Describe access port or control devices: Above ground protective casing w/ locking cap.

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. ~85° Bottom hole temp. ____
Water Quality test or comments: ____
Depth first Water Encountered 28'

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8"	0'	2'	Top soil		X
8"	2'	7'	Clay w/sand		X
8"	7'	12'	Silty Clay		X
8"	12'	17½'	Silty sand		X
8"	17½'	36'	Sand + gravel	X	

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JUN 14 1999
Department of Water Resources

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JUN 09 1999
WATER RESOURCES
WESTERN REGION

Completed Depth 36' (Measurable)
Date: Started 6-4-99 Completed 6-4-99

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Haz-Tech Drilling Inc. Firm No. 470
Firm Official ____ Date 6/8/99
and
Driller or Operator Mike Cox Date 6-4-99
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Reclamation

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

1. WELL OWNER

Name Bruce Peck D.T. Ranch

Address Burns, Eagle Idaho

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

_____

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 361 feet

Casing schedule: ☐ Steel ☐ Concrete

Thickness	Diameter	From	To
266 inches	6 inches	1-1 feet	355 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was a packer or seal used? ☐ Yes ☐ No

Perforated? ☐ Yes ☐ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter __ Slot size ___ Set from _____ feet to [illegible] feet

Diameter __ Slot size ___ Set from _____ feet to _____ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____

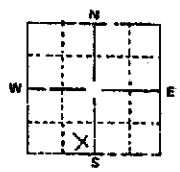
Placed from _____ feet to _____ feet

Surface seal? ☒ Yes ☐ No To what depth 20 feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Ada

¼ ¼ ¼ Sec. 4 T. 4 N/S, R. 1 E/W

7. WATER LEVEL

Static water level 31 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow _____

Temperature _____ ° F. Quality _____

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☒ Pump ☐ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped
41	40	12

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	34	Clay		X
6	34	60	Sandy Clay, Gravel		X
	60	64	Broken Lava	X	
	64	114	Yellow Clay		X
	114	160	Colored Andesite		X
	160	255	Sand, Glass Lava		X
	255	311	Andesite Lava		X
	311	340	Blue Clay	X	X
	340	361	Blue Lava	X	

10. Work started 2-16-70 finished 11-4-70

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

Harvey L. Tone

Driller's or Firm's Name Number

Burley 116

Address

Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

Form 238-7
1-73

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Bob A Wright

Address 1311 Jackson Boise

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning) _____

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
250 inches	6 inches +	1 feet	80 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

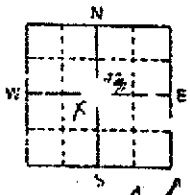
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout ☒ Puddling clay ☒ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port Top of well

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name Los Suceros

Lot No. 16 Block No _____

County A&A

NE ¼ SW ¼ Sec. 42 T. 4 N. 8 R. 8 E.M.

7. WATER LEVEL R

Static water level 21 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ___ °F. Quality _____

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
50	34	48

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	3	Topsoil		1
4	3	19	Sandy Clay		1
6	19	51	Sand Gravel		1
	51	74	Yellow Clay		1
	74	75	White Sand 150 gpm	X	
	78	80	Yellow Clay		1
	80	82	Sand	X	

JUN 25 1981
Department of Water Resources

10. Work started 1/1/81 finished 8/4/81

11. DRILLERS CERTIFICATION (b)

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Jerry O'Leary Co. Firm No. 280

Address Box 6167 Kempa Date 1/5/81

Signed by (Firm Official) Jerry O'Leary
and " "
(Operator) _____

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7
9/82

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1983

1. WELL OWNER

Name [illegible]

Address Eagle, Idaho

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☒ Rotary ☒ Air ☐ Hydraulic ☐ Reverse rotary
☐ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches +	1 feet	54 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

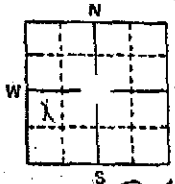
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout
☐ Bentonite ☒ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing
☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____

Lot No. _____ Block No. _____

County Ada

[illegible] ¼ [illegible] ¼ Sec. [illegible], T. [illegible] (N/S), R. [illegible] (E/W).

7. WATER LEVEL

Static water level 18 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ___ °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
45	43	1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
7"	0	4	Brown topsoil		X
7"	4	12	Brown sandy clay		X
7"	12	18	Brown sand & gravel		X
6"	18	20	" " "		X
6"	20	38	Brown gravel & sand	X	
6"	38	56	Brown clay		X
6"	56		Brown & water sand	X	

Department of Water Resources
Western Regional Office

10.

Work started 1/26/83 Finished 1/28/83

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name F. S. Kenner Firm No. 212

Address Meridian, Id. Date 2/2/83

Signed by (Firm Official) [illegible]

and

(Operator) [illegible]

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

1/78

DEPARTMENT OF WATER RESOURCES

BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Steve Beaton

Address Eagle, Idaho

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning) _____

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal

☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

☐ Other _____ (specify type)

4. METHOD DRILLED

☒ Rotary ☒ Air ☐ Hydraulic ☐ Reverse rotary

☐ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches +	1 feet	55'5" feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☒ Yes ☐ No

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ____ Slot size ____ Set from _____ feet to _____ feet

Diameter ____ Slot size ____ Set from _____ feet to _____ feet

Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____

Placed from _____ feet to _____ feet

Surface seal depth 48' Material used in seal: ☐ Cement grout ☐ Puddling clay ☒ Well cuttings

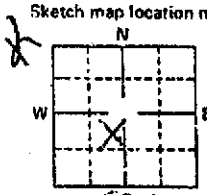
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth

Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata

Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____

Lot No. _____ Block No. _____

County Ada

NE ¼ SW ¼ Sec. 4, T. 4 N., R. 1 E.W.

7. WATER LEVEL

Static water level 15 feet below land surface.

Flowing? ☐ Yes ☒ No G.P.M. flow _____

Artesian closed-in pressure _____ p.s.i.

Controlled by: ☐ Valve ☐ Cap ☐ Plug

Temperature ____ °F. Quality _____

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
No Test		

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
9"	0	2	topsoil		
9"	2	6	hardpan		
9"	6	13	Sand		
9"	13	45	Gravel		
9"	45	48	brown clay		
6"	48	56	" "		
6"	56	63	Sand	X	

RECEIVED
AUG 9 1978
Department of Water Resources
Western Regional Office

10. Work started 9/14/78 finished 9/14/78

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name S.O.S. Well Drilling & Pump Co. Firm No. 212

Address 445 N. Blaker Rd. Meridian, Ida. Date 9/20/78

Signed by (Firm Official) Frank Slimp

and

(Operator) Wayne Fairbanks

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

Received 1-3-73 D WD

1. WELL OWNER

Name Forrest Prohaska

Address 3700 - Hill Rd. - Boise

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotory ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 285 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	+1 feet	276 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seal used? ☐ Yes ☐ No

Perforated? ☐ Yes ☐ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation ____ inches by ____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____

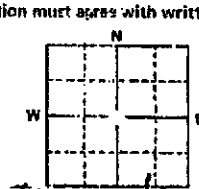
Placed from _____ feet to _____ feet

Surface seal? ☒ Yes ☐ No To what depth 34 feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



63

N

W E

Floating Feather Road

County Ada

SW ¼ SE ¼ Sec. 4, T. 4 N/1, R. 1 E/W

7. WATER LEVEL

Static water level 51 feet below land surface

Flowing? ☐ Yes ☐ No G.P.M. flow _____

Temperature ____ ° F. Quality _____

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other Compressor

Discharge G.P.M.	Draw Down	Hours Pumped
37	5'	2 Hrs 4 min

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	2	TOP SOIL		
	2	8	GUMMY SOIL		
	8	34	SANDY CLAY		
	34	52	GRAVEL HARD + DRY		
	52	78	THIN WET GRAVEL		
	78	90	COARSE MUDDY SAND		
	90	93	SANDY CLAY		
	93	118	COARSE MUSHY SAND		
	118	119	" SAND + SOME GRAVEL		
	119	206	SUGAR FINE THICK MUDDY SAND		
	206	232	SANDY CLAY		
	232	235	SOFT CLAY		
	235	274	BLUE SWOMP MUD		
	274	278	YELLOW CLAY		
	278	279	SANDY CLAY		
	280	285	GREY SAND + WATER	X	

10. Work started 10-19 finished 11-20-72

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

Ernest Kelsey 39
Driller's or Firm's Name Number

R#1 Box 56 Star Idaho
Address

Alta Kelsey 12/20/72
Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

Well Log Form 1
[illegible]

FEB 14 1964

WELL LOG AND REPORT OF THE STATE RECLAMATION ENGINEER OF IDAHO

Permit No. _____ Well No. _____ County _____

Owner [illegible] James M. Fisher

Address _____ Route # 1 Boise Ida

Driller _____

Address _____ ~~[illegible] Boise Ida~~

[illegible] RANGE EAST of BOISE MERIDIAN [illegible]

Well location _____ ¼ _____ ¼ Sec. 4 T. 4 N/S R. 1 E/W

Size of drilled hole 4" _____

_____ Total depth of well 67

Locate well in section

X NW¼	NE¼
SW¼	SE¼

Give depth to standing water from the ground _____ Water temp. _____ °Fahr.

On "Pumping Test" delivery was _____ g.p.m. or _____ c.f.s. Drawdown was _____ feet.

Size of pump and motor used to make test _____

Length of time of test _____ 1 hours _____ minutes.

If flowing well, give flow _____ [illegible] 15 [illegible]

If flowing well, described control works _____ (TYPE AND SIZE OF VALVE, ETC.)

Water will be used for _____ Weight of casing per lineal foot _____

Thickness of casing _____ Casing material _____ (STEEL, CONCRETE, WOOD, ETC.)

Diameter, length and location of casing 4", 67'9", Nine above surface to 67' deep
(CASING 12" IN DIAMETER OR LESS, GIVE INSIDE DIAMETER; CASING OVER 12" IN DIAMETER, GIVE OUTSIDE DIAMETER)

CASING RECORD

Diam. Casing	From Feet	To Feet	Length	Remarks—seals, grouting, etc.

Number and size of perforations _____ located _____ feet to _____ feet from ground

Date of commencement of well 8-3-63 _____ Date of completion of well 8-10-63 [illegible]

[illegible]

WELL LOG

From Feet	To Feet	Type of Material	Water-bearing Formation Ans. Yes or No	Casing Perforated Ans. Yes or No
0'	3'	[illegible]	no	no
10'	[illegible]	[illegible]	no	no
20'	[illegible]	[illegible]	no	no
30'	[illegible]	[illegible]	no	no
6'	[illegible]	[illegible]	no	no
50'	60'	gravel	yes	no
60'	7[illegible]	gravel	yes	

If more space is required use Sheet No. 2

WELL DRILLER'S STATEMENT

This well was drilled under my supervision and the above information is complete, true and correct to the best of my knowledge and belief.

Charles D Kinsey

Signed [illegible]

By _____

License No. [illegible]

Dated 8-24-63, 19

SUSAN'S COPY

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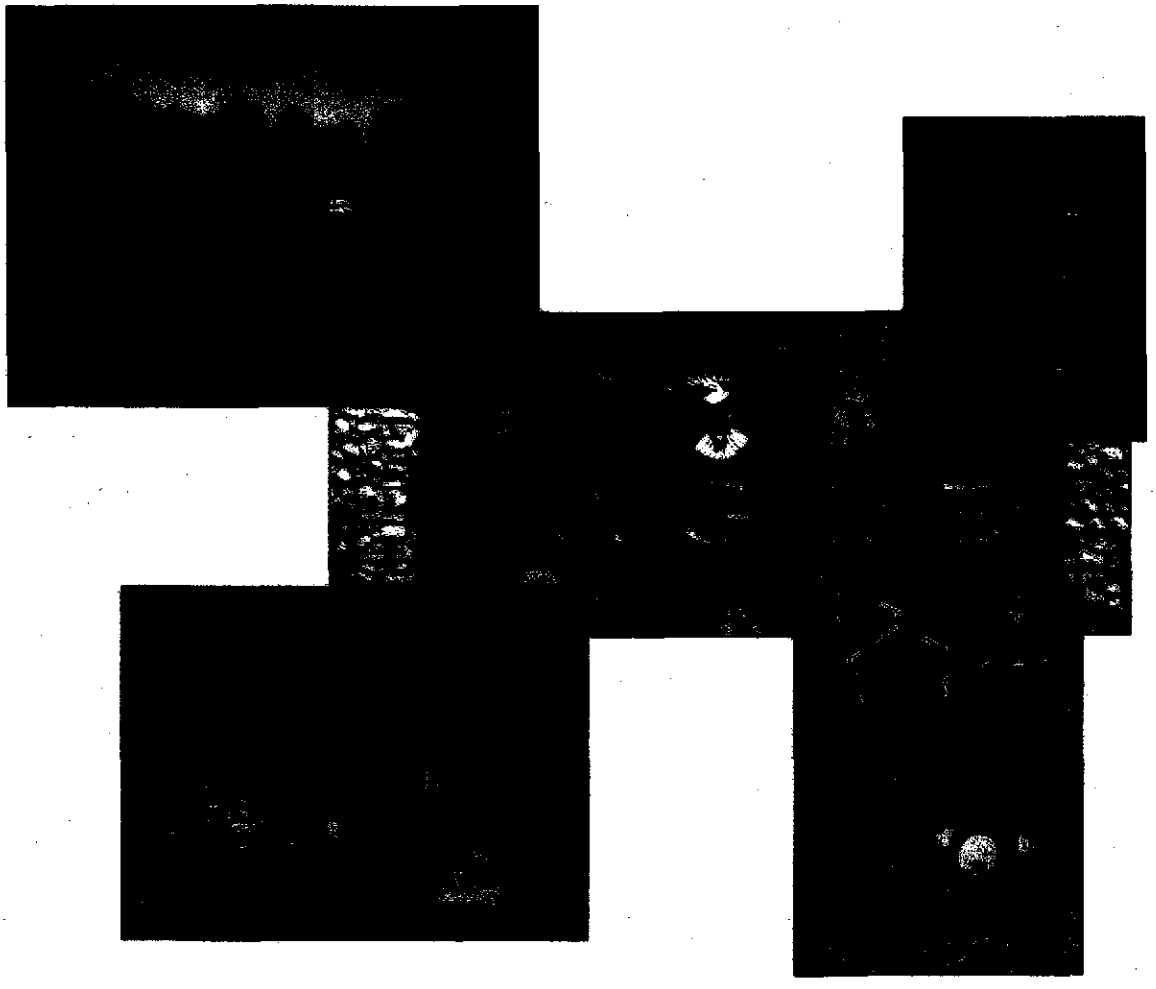
MAR 2 3 2004
Department of Water Resources

CITY OF EAGLE

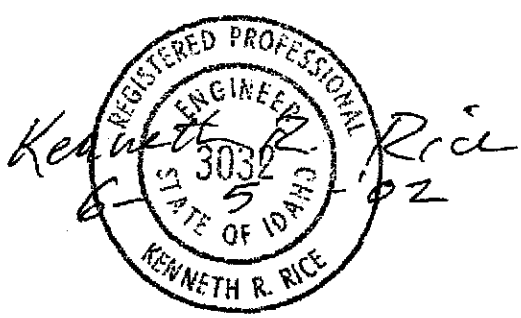
Municipally-Owned Water System Master Plan and Budget Study



Prepared by:
HOLLADAY ENGINEERING COMPANY

City of Eagle

Municipally-Owned Water System Master Plan and Budget Study



April 12, 2002

Prepared by Kenneth R. Rice

Holladay Engineering Company
Payette, Idaho

Project No. EG 072401

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1. INTRODUCTION

a. Executive Summary

This report presents a Master Plan and Payments Change Recommendation for the City of Eagle's municipally-owned potable water system, which is located at present within the area between Floating Feather Road on the south, Beacon Light Road on the north, Horseshoe Bend Road on the east and a line ½ mile west of Eagle Road on the west. This system serves slightly less than 1,000 homes at present and can be expected to serve about 1,600 homes at build-out. It is managed under contract by Engineering, Management and Maintenance, Inc. (EM^2), a wholly-owned operating element of United Water Idaho (UWI).

Probable demand at build-out is projected. The construction of one new well (at the Brookwood site) and installation of check valves and pressure reducing valves is recommended. Expenditure of approximately $210,000 is recommended to complete supply-related capital improvements identified as a planned well at a site in the Brookwood development, and two interzone transfer valve installations at locations to be selected.

Future expenditures required to be made by the City for this system are identified by general class. Probable costs are projected, and options for funding these anticipated expenditures are discussed. The current rate schedule is not studied from the viewpoint of appropriateness of financial return to EM^2. Information given to the City by EM^2 does not seem to be sufficient to support any findings relative to any question about whether rates are equitable or not.

b. Purpose and Goals

The purpose of this study is to plan for construction and operation requirements of this water system for the period from year 2002 to 2022. The goal of planning is to advise what actions are needed to meet the water service needs of the projected number of users, including the necessary considerations of quality, quantity and reliability.

2. SYSTEM PLANNING AREA

a. Location and Surrounding Jurisdictions

The system planning area begins on the East at State Highway 55 and extends West to the East boundary of the Eagle Middle School site between Floating Feather Road and Beacon, located in Township 4 North, Range 1 East, Sections 3, 4, & 5. (See appended Map.) The SW ¼ NW ¼ of Section 5 forms an enclave within this area that is served by Eagle Water Company. Generally, the surrounding land uses are residential districts with some agricultural-residential districts to the north of the project planning area. The residential districts range from one dwelling unit per acre to four dwelling units per acre with the agricultural-residential districts ranging from one dwelling unit per two acres to one dwelling unit per five acres, which are served by individual wells and septic.

The boundaries of the Planning Area are set as follows:

1. The east boundary, Horseshoe Bend Road, is the east boundary of the impact area of the City of Eagle in the N ½ of Section 3, and the west boundary of Ada County's sports park in the S ½ of Section 3.

2. The south boundary, Floating Feather Road, is the north boundary of the principal contiguous part of Eagle Water Company's certificated service area.

3. The west boundary, near the North-South centerline of Section 5, is the east boundary of United Water Idaho's certificated service area.

4. The north boundary, Beacon Light Road is the planning unit boundary between two-acre and five acre minimum parcel sizes. It is probable that occupancies north of Beacon Light Road will use individual wells for the foreseeable future.

b. Relationship to Comprehensive Plan

The densities of the existing developments within the project planning area (Lexington Hills, Echo Creek, Crown Point, and Brookwood subdivisions) are consistent with the comprehensive plan set forth by the City of Eagle. The majority of these subdivisions occupy the comprehensive plan area of medium density residential (4 or fewer dwellings per acre.) The remainder of the existing developments are Brookwood Subdivision Phases One, Three and its subsequent phases, which are being planned to be developed as low density (2 or fewer dwellings per acre.)

c. Growth Potential and Population Trends

The following table presents information on the existing developments and developments with current preliminary plat approval. (See Appendix I Maps.)

Existing Developments	Zoning	Area Acres	Actual Dwellings Lots Planned For Development
Lexington Hills	Zone R-2	276	494
Echo Creek	Zone R-4	118	305
Crown Point	Zone R-3	23	59
	Zone R-4	16	36
	Total	39	95
Brookwood	Zone R-2	127	158
	Zone R-4	87	168
	Total	214	326
		Total =	1220

Possibilities for expanding the existing water system are limited. Potential further expansion of the water system after Brookwood is built out consists principally of two large tracts. The first tract is located to the north of Brookwood Subdivision and is approximately 72 acres, located in Township 4 North, Range 1 East, Sections 4, Northeast ¼. The second is located on the Northwest corner of Eagle Road and Floating Feather Road, and continues West along Floating Feather Road to Eagle Middle School. This tract is approximately 115 acres located in Township 4 North, Range 1 East, Section 5, Southeast ¼. The City of Eagle has not yet annexed these tracts of land. However, they are included in the comprehensive plan.

As mentioned before, the surrounding land is currently zoned for not more than one dwelling unit per acre, which is consistent with the comprehensive plan. However, in order to estimate the total future demand on the water system the maximum possible density will be taken as two dwelling units per acre and applied to the 72-acre and 115-

acre tracts not yet developed. Designing the water system to serve this density will allow the City adequate flexibility to expand into these tracts at any density up to the same density which is adjacent to them. It will also enable the City to serve surrounding lots if their wells begin to develop problems.

The growth and population trends in the planning area are key issues in the evaluation of water demands, capital needs and operations for a water utility. The US Bureau of the Census listed the population for the City of Eagle at 11,085 as of April 1, 2000. From the period of 1990 to 2000 the City experienced a population increase of 7,758 people, which correspond to a growth rate of 12.8 percent per year. This growth rate is confirmed by data presented in the comprehensive plan concerning population growth of the City.

The planning area's growth and population trends are directly related to the City's trends. In the quarterly report submitted by EM^2 as of September 30, 2001 the project planning area served 935 households. From 2000 to September 2001 the water system has seen an increase of 178 users. This corresponds to a growth rate of 12.8 percent per year. This growth rate is consistent with the population increase experienced by the City of Eagle in the last ten years and will be used to project the planning area's future growth.

The future total number of expected dwellings in the project planing area is dependent on the maximum density allowed. The potential dwelling lots for the 72-acre and 115-acre tracts were derived from the Brookwood Subdivision, which is adjacent to the both tracts. Due to roadways, required landscaping buffers and required common areas the density in Brookwood Subdivision is reduced by approximately 30 percent. Therefore, similar zoned and located developments in the project planning area are expected to see the same reductions in their densities. The potential dwelling lots planned for the possible tracts of land that could possibly be added to the water system are presented in the table below:

Proposed Tracts	Zoning	Area Acres	Potential Dwelling Lots For Development
Tract No. 1	Zoned R-2	72	129
Tract No. 2	Zoned R-2	115	220

With the addition of the 72-acre or 115-acre tracts, the total dwelling lots will increase to 1349 dwelling lots or 1440 dwelling lots, respectively. If both tracts were added to the City water system the total dwelling lots would be 1569 at build out. With the current growth rate the build out could be as soon as 2005, if projected based on potential demand. It is unlikely that development procedures and construction could be completed so soon, so it is conceivable that completion of development in this area is limited only by supply-side controlling factors.

3. EXISTING FACILITIES AND RESOURCES

a. Water Rights

The City acquired a water right in 1991 along with the original Lexington Hills distribution system. This right covered two wells existing then, known as Lexington Hills Well Number 1 and Lexington Hills Well Number 2, along with two wells proposed for future construction, known as Lexington Hills Well Number and Lexington Hills Well Number 4. This right included a cap provision stating that no more than 900 homes were to be served by the water withdrawn.

In 1998, the City applied for and received an amended right based on a plan to serve 1,800 homes, but without an explicit cap clause. This right did not identify the points of diversion called for in the 1991 right as Lexington Hills Number 3 and Lexington Hills Number 4.

The proposed well known as the Brookwood Well would be in the location orignially identified as Lexington Hills Number 3. The City has applied for another water right amendment, to include this location as a point of diversion. This application has been protested and the City has made mitigation offers. The application is still under consideration. A drilling permit application has been filed, but is held in abeyance pending resolution of the right amendment application. Current withdrawal is within the permitted flow rate limit.

b. Wells and Appurtenances

The City of Eagle's municipally-owned domestic water system is the system serving the Lexington Hills, Echo Creek, Crown Point and Brookwood areas, along with

other potential residential subdivisions within the same general area. (See appended map.) All other parts of the City of Eagle are served by one or the other of two investor-owned water utilities, Eagle Water Company and United Water Idaho (UWI), or by individual wells at a few older houses. Physically, the system comprises two wells, the distribution piping network existing in the service area, and a 12 inch diameter trunk line along the north side of Floating Feather Road that interties the system with the United Water Idaho distribution network. The distribution piping network included a total of 77,408 feet of main line pipe (see appendix) in November 2001. The wells are identified in prior documentation as Lexington Hills Well Number 1 and Lexington Hills Well Number 2. Lexington Well Number 2 is no longer being used, due to high iron content in the water and excessive sand production.

The Lexington Hills Well Number 1 currently supplies all the water used during normal operation of the system. This well has two pumps, one with a production capacity of 160 gpm and the other with a production capacity of 800 gpm. It is possible to operate both pumps together and produce 960 gpm. Water quality and stability of production at this well are both excellent. Ordinarily, water enters the system from the intertie source (UWI) only in emergency situations, either fire demand or pump outage at the operating well. A current exception to this condition is that homes in the Brookwood development are physically served from the intertie line, and hence receive water produced by UWI, as an interim measure until the planned pipe network for the Brookwood area is completed and pressure reducing valves and check valves are provided that will convert the City's system into a two-pressure-zone system. Water produced from Well Number 1 is delivered to UWI in exchange for the water used by these residents absent an express agreement. This delivery is affected by "cracking" the shunt valve at a check valve location and allowing flow into the intertie line. The rate of such flows is only guessed by the operators, as there are no meters on these shunts. Annual production and consumption records obtained by UWI indicate that the amount delivered to UWI must be much more than the amount used by Brookwood. (See Annual Report from UWI in Appendix.) In addition, and as the City's primary reason for intertying with UWI, the connection to UWI makes the wells and tank storage of the UWI system available to the City system in an emergency.

c. Distribution System and Pressure Zones

The distribution system includes the network of 6-inch, 8-inch and 10-inch water pipes servicing the subdivisions in the Planning Area, and the 12-inch line that interconnects the system with the UWI distribution network. Water belonging to UWI is routed "to and through" the City's 12-inch intertie line from UWI's Floating Feather Well to other parts of the UWI system, and is available for emergency backup to the City's system through two valved connections. Existing check valves at the connections between the 12-inch intertie line and the Lexington Hills system maintain the higher pressure in the upper zone of the City system and allow water to flow into the City system from the UWI network during emergencies.

The topography of the Planning Area generally comprises relatively high ground in Section 3 and the E ½ of Section 4, and ground 50 to 100 feet lower than the foregoing in the Dry Creek Valley in the W ½ of Section 4 and the E ½ of Section 5. There is a prominent bluff, 30 to 50 feet high, defining the boundary between the higher ground and the valley of Dry Creek, but the higher ground is rolling hills with elevation differences as great as 60 feet above the approximate top of the bluff. For practical management, the bluff divides the Planning Area into two service pressure zones, in order to keep system static pressures between 60 psi and 90 psi. The maximum pressure if the system were not divided into pressure zones would be about 115 psi, which is excessive compared to Idaho State standards.

Distribution piping has been installed by developers as a part of the process of subdivision development, and it is anticipated that future extensions of the distribution system will also be provided through developer extensions. Because currently undeveloped area has not yet been carried through the preliminary plat process (except for future phases of Brookwood), exact layout of such future extensions is unknown. Such extensions will be required to conform to the pertinent quality and capacity requirements as a part of subdivision plan review. System budget as shown herein

does not include these probable future extensions, because there are expected to be funded by developers, as planned and approved phases continue.

d. Fire Flow Agreement in Lieu of Storage

A contract between the City of Eagle and UWI, dated December 2, 1997 referred to as the "to and through agreement," provides that UWI is granted use of Eagle's 12-inch main on Floating Feather Road for conveyance of water belonging to UWI to other parts of the UWI system, and that this line also serves as a back-up link to water for emergency service to the City system. This line and the check-valve-fitted connections between it and the City's distribution network, constitutes the tie to UWI's Hidden Hollow Reservoir. A second contract dated August 1, 1997, called the "fire flow agreement," provides that the City will pay UWI for fire flows. By virtue of this physical intertie and the agreements (often referred to as the "to and through agreement" and the "fire flow agreement") between Eagle and UWI, the system's fire and emergency reserve supply requirement is satisfactorily provided for. The "to and through agreement" allows UWI to employ the intertie line as a working part of its network, on consideration that it also serves as the conduit by which emergency backup supplies can be made available to the City, and does not include any monetary consideration. The "fire flow agreement" provides that flows from the 12-inch line to the Lexington Hills system will be metered and the City will pay UWI based on meter readings.

e. Flow Analysis

No separate flow analysis of the existing system has been performed for this report. Computer modeling of pipelines flows and pressures is required as a part of reviews of developer extensions. Modeling of only the existing system would be duplicative, and attempting to model an expanded system without a definite extension plan would serve no purpose. Modeling performed by the engineering staff of EM^2 in 1997 was reported in a summary table and accompany comments to the City. This analysis showed

adequate fire flow capacity for the system at that time. The summary table is included in the Appendix. It can be noted that this analysis assumed the use of Lexington Hills Well Number 2 for fire fighting. It has since been decided that fire fighting capacity is currently ample without this well, and the well has been shut off.

Fire flow tests by Eagle Fire District have demonstrated that the system has adequate water transmission capacity at present. Fire flow capacity was scrutinized (including flow testing) in late summer of 1997 due to anticipated occupancy of the Lexington Hills School. It was found that the fire flow requirement could be met if all the system parts were functioning, but there was not then any reserve capacity. The construction of the 12-inch intertie line and the negotiation of the "to and through" and "fire flow" agreements were the responses that were made in order to obtain reserve fire flow capacity.

4. FUTURE SERVICE NEEDS

a. Service Standards

The service standards for this system are the service standards required by public law for public water systems in Idaho. Generally, the system is required to supply potable water on demand to its water users, and to provide available flows for fire suppression as required by the more restrictive of Uniform Fire Code and Uniform Building Code standards as they apply for each building and all buildings duly permitted in the service area. The requirements for potable water set the effective water-quality standards for the system. Well Number 1 meets these quality requirements, as does every supply element of the UWI system. Hence the requirement that the water be potable is clearly met. The requirements that water be available to users on demand and that definite quantities be available for fire suppression imply standards for capacity, reliability, and reserve provisions that must be individually confirmed.

The capacity standard, in general, is that the pipes in the distribution system must have the capacity to transfer the required maximum flows at all points of the

system and the combination of supply and storage elements must have the capacity to produce the required flows. Fire flow requirements generally establish the magnitude of required flows.

The reliability standard is governed by the requirement of IDAPA 16.01.08.552.01.a.ii, Idaho Administrative Code, that pressure within all publicly-owned parts of the distribution system must be maintained at a minimum of 35 pounds per square inch. (This requirement is a health protection measure, established in order to prevent potential leakage of contaminated groundwater into the distribution network.)

The reliability standard also implies that loss of electric power service is not an acceptable reason for loss of system capacity or system pressure, which implies in turn that the system's mechanical elements must have an alternate standby source of electric power or that there must be an alternative system part (such as an elevated reservoir) that maintains pressure. This standby requirement is consequently a part of the reserve requirement.

The reserve standard is implied by the reliability standard: in essence, all parts of the capacity standard must be within the capability of the system at any time, assuming that any one supply or storage element (well or reservoirs, usually) is out of service for maintenance work or repair and any other must be taken out of service due to some mechanical failure or other problem. Hence, the system should be able to meet its fire flow and pressure standards with any two source points inoperative.

b. Distribution System

Future mains and laterals will be dependent on subdivision designs. Extensions are expected to be made by developers at their cost, subject to the appropriate health and safety standards, which are stringent enough to ensure satisfactory infrastructure. Hence, this report will not include specific recommendations for pipelines.

c. Wells and Water Rights

The system has two wells, but only one is useable. From the time that the City received the first segment of the system from developers onward, it has been planned that one or two more wells would be added to the system, located on the property now known as the Brookwood development. The City's 1991 water right shows two planned points of diversion on the Brookwood property (known then as the Hormaechea property).

Since the City's agreement with UWI provides for fire backup, there is not an immediate need for two more wells, provided that production on the order of the system's projected peak demand of 950 gpm at build-out can be delivered by a single additional well. Water supply data indicates a strong likelihood that a new well near the intersection of Eagle Road and Floating Feather Road (one of the identified points of diversion) could supply such a flow. If this proves true, adding only the one well in addition to the existing Lexington Hills Well Number 1 would be satisfactory to assure non-emergency water supply.

d. Ancillary Facilities

The division of the system into pressure zones, with the future plan of having one working well in the lower zone (the proposed Brookwood well) and one in the higher zone (Lexington Hills Well Number 1), requires facilities to perform zone-to-zone transfer of water. Typically, a booster pump is used to transfer water from the lower zone to the higher zone, and a pressure reducing valve is used to transfer water from the higher zone to the lower zone. In this system, the pressure difference between zones is only 25 psi, so the lower zone could serve the higher zone in an emergency or a major maintenance situation without allowing normal service pressure to fall below 35 psi. Hence, booster pumps are not recommended. It is recommended that the zones be separated by two "interzone valve sets." Each "interzone valve set" would combine a pressure reducing valve with appropriate settings to allow high-zone water to serve the

low zone when the low-zone well is not functioning, together with a check valve to allow low-zone water to flow to the high zone when the high-zone well is not functioning (See drawing in Appendix). The reason that two sets are recommended is so that a reserve is in place on line.

e. Control and Meter Plan

The system's control and switching equipment has been integrated into UWI's telemetry and control system to facilitate regular operation. It is probable that future capital improvements will be similarly controlled. Meters are in place at all service connections and at well heads. Points of intertie with the UWI system constructed in 1998 are not equipped with meters to measure flows from Eagle to UWI. Instead, net quantities transferred between systems, if any, are inferred from other records. It would be better to meter such quantities directly.

5. CAPITAL AND OPERATION COSTS

According to agreement language (circa 1997), the system is operated and maintained under a contract between the City and a commercial entity, *Engineering, Management and Maintenance, Inc.* (EM^2), which is identified as a wholly-owned operating element of United Water Idaho (UWI), under a contract between EM^2 and the City of Eagle. This contact was originally negotiated about the time the City received the Lexington Hills water system; and was modified extensively by the "First Amendment to Water Service Contract" in December 1997 (see Appendix). The "First Amendment" is sufficiently comprehensive in its provisions that it incorporates all provisions actually affecting the operation of the system and defining the respective roles of the City and EM^2. Hence, for the purpose of this report, it is the contract relating to the relationship of EM^2 to the City.

Under this contract, EM^2 performs all functions of operation and maintenance, including routine repairs and billing and collections. However, some costs, identified as "capital costs," are to be borne by the City. All money collected from users for service is identified as "the property of EM^2." The City currently receives $730.00 from each hookup fee paid within the system and that is the only way the City receives funds directly from the system at the time of this writing. A provision is made in the "First Amendment" for a credit of 3 percent of collections to be applied against capital costs, which includes major repairs and replacement of durable items like meters. However, neither such expenses nor such credits have been reported by EM^2 to the City.

The operation of the intertie line joining the City system to the UWI system is governed by a formal agreement between UWI and the City, generally, referred to as the "to and through agreement" (see Appendix). This agreement states that water will be supplied to the City of Eagle through this line for emergencies. As the consideration to UWI, this agreement grants UWI permission to transfer its water through this line between points within its system. Actual provision of fire flows is by way of check-valved connections equipped with meters that register any flow from the UWI system to the City system. Another contract between the City and UWI, dated August 1, 1997, provides that the City will pay UWI based on these meter readings. UWI has since billed the City at regular intervals for water. From 1997 through the end of 2000/2001 fiscal year, these billings added up to $7,215 (rounded each year).

The City does not receive any revenue from monthly charges to users. Since connection fee proceeds may be used only for new construction, this means that the City does not receive any funds from the system that may be applied to operation and maintenance including fire flow fee payments, liability insurance premiums, repairs and replacement of worn mechanical items, professional consultation fees, clerical expenses, and other City expenses arising from system ownership.

6. INSTALLED EQUIPMENT

Appendix documents show quantities of pipe, valves, hydrants and meters in place in the distribution system. Principal supply and control equipment comprises two wells, one of which is not used, and the intertie line.

7. CURRENT LEVEL OF SERVICE

The physical level of service of the existing system for normal demands is excellent as long as the one well that is used is working. This well cannot supply required fire flows, but the supplementation from the intertie line makes fire service possible when the well is functioning.

When the well is not functioning (as, for instance, during a local power outage), the only source is the intertie line. Fire flows can be supplied at required pressures in some, but not all, of the system. Pressure falls, because the UWI system is at a lower operating elevation than the City system. Hence, when the well is not functioning, IDAPA pressure requirement is not assured during emergencies at high-elevation locations in the service area.

In the event of coincident failures of the well and the intertie line, service would be continued through the East End of the connection to the UWI network. However, accidental interruption of the intertie is extremely unlikely.

The current physical level of service generally meets the general reliability and reserve requirements for public water utilities in Idaho, as set forth in B. (SERVICE STANDARDS) foregoing.

The service area of the Eagle Municipal System is not included within the certificated service area of UWI. Hence, UWI is not authorized to market water service to the City system users. It is for this reason that the "to and through agreement" and the "fire flow agreement" are specific to emergency service. The underlying concept of these agreements is that alleviation of emergencies involving imminent threat to life or property warrants any available help, and the intertie line with its connections is a

provision to make such help available, made under circumstances that precluded prompt access to any comparable alternate provision (such as a storage reservoir or another well).

The recent inclusion of the Brookwood subdivisions in the service area has imposed an overall range of elevations so great that the system needs to be divided into at least two pressure zones.

The City-owned water utility is not functionally self-supplying as it exists now. The intertie connection to the UWI distribution grid is necessary not only for emergency service, but also to allow for well maintenance and to serve as a standby for breakdowns. This places a restraint upon the City's ability to conduct business for the best interest of the water users on this system, because maintaining a working relationship with UWI is essential. Upgrading the facility by adding supply, control and standby equipment would serve the long-term interests of the residents by providing the City a greater degree of business freedom in any negotiations that need to be made for their water service. In this regard, it seems that an intertie agreement for fire service is justifiable, but all other functions of the system, and especially its supply sources, should be provided by future City-owned facilities.

The alternative to retaining the intertie arrangement currently set forth in the "to and through agreement" and the "fire flow agreement" would be construction and use of a storage tank for emergency water. Subject to review in a further design procedure, the probable appropriate volume would be 1 million gallons. Because site characteristics and aesthetic requirements have a large bearing on initial cost, it is not possible to give a definite probable cost for a reservoir project, but costs between $0.75 and $1.25 per gallon of capacity are representative of some reservoir projects done in locations with emphasis on aesthetic issues of design.

8. ADDED EQUIPMENT RECOMMENDED TO ASSURE SYSTEM'S SERVICE STANDARDS

Extensions of mains in the system will be done by developers when properties are developed, so the costs of extensions will not be paid by the City and will not affect water rates.

In addition to main line extensions, added facilities needed include at least one additional source of supply, and pressure control equipment to divide the system into two interconnected pressure zones.

For emergency reliability, a water system requires storage facilities as well as supply facilities. In the case of this system, the intertie to UWI gives the system emergency use of UWI's storage facilities, and thus this general requirement is already provided. It is recommended that this intertie arrangement be retained, if possible.

The specific recommendations for added equipment are:

1. Well supply sufficient for the full demand of the service area, either as a single high-capacity well or as a combination of lower-capacity wells. This serves as a reserve for the existing well.

2. Two check valves to deliver water from the lower pressure zone to the higher, each sized for full zone demand. Two are required so that each may be the reserve for the other.

3. Two pressure reducing valves to deliver water from the higher pressure zone to the lower pressure zone, each to serve as a reserve for the other.

9. PROBABLE COSTS OF RECOMMENDED ADDED EQUIPMENT

Probable costs to the City for the required added equipment include:

1. New well at Brookwood site, City's share of costs $150,000
2. Interzone valve installation, two valves
   and required enclosure and fittings ..... $ 60,000

These probable costs assume that right-of-way will be available. No land acquisition cost is included. These probable costs do include allowances for engineering costs.

10. OTHER FINANCIAL OBLIGATIONS OF WATER SYSTEM

Fire flow volume charges by UWI will be a continuing item of expense to the City if the current relationship with EM^2 and UWI continues as per the status quo. Other items of expense under the Amended Agreement are those costs identified in the First Amendment as "capital improvements" as defined in 2. B. (ii) of the First Amendment to the Water Service Agreement, which appears to include meter replacements and other repairs of durable parts of the system. The Water Service Agreement provides for a credit against the cost of such improvements equal to 3 percent of collected water service revenues, but no accounting of this credit nor of costs charged against it has been made to the City. It is also probable that the City will require professional services related to this system for as long as the City continues to be the owner of the system, although such costs should be much reduced as soon as build-out of the service area and completion of the required facilities (as identified herein) are completed.

Also, specific liability burdens are assigned to the City by the agreements with EM^2 and UWI. These liability burdens impose continuing insurance costs, which should be identified, quantified and reimbursed from water-rate proceeds.

11. IDAHO REQUIREMENTS FOR MUNICIPAL ENTERPRISE FUNDING

City-owned water systems are considered enterprises under Idaho Code. There exist three general principles of funding of municipal enterprises:

1. Financial accounts of enterprises are required to be separate from tax-generated and general fund accounts.
2. Tax revenue and other revenues not arising from the operation of the enterprise are generally not to be used to subsidize any municipal enterprise.
3. Revenues from a municipal enterprise are not to be used to subsidize other functions of the City.

Municipal enterprises shall not operate a loss and be accounted financially as separate accounts from other activities of the City. Borrowing and debt repayment are also subject to numerous provisions of statute. Also, funds from connection fees may be used only for new-installation capital improvement items.

The implication of these various requirements for the Eagle City Water System is that:

(1) expenses of the city arising from system ownership should be paid out of water-rate proceeds, and

(2) the recommended major supply element improvements (well, check valves and pressure reducing valves) should be financed by connection fee proceeds, and

(3) sinking fund contributions for future well repair and/or reconstruction should be paid out of water-rates proceeds.

12. NEED FOR INCOME FROM WATER-RATE PROCEEDS

The Amended Agreement assigns all proceeds of water rates to EM^2 except for the (currently non-accounted) capital expenses credit. This provides no income from user's water rate payments to the City to pay the identified City expenses.

The income from hook-up fees has met part of system expenses in the past, but will cease when the service area is built out.

13. CALCULATION OF PROBABLE AMOUNT REQUIRED TO PAY CITY'S ADMINISTRATION AND MAINTENANCE COSTS

The overall effect of statute and case law governing the determination of user charge rates for municipal water systems constitutes, in general, a system of rules requiring that the water system, as an enterprise of the municipality, shall not operate at a loss. Carrying over of reserve funds for identified needs is permitted under some conditions, but the enterprise is not to be employed as a revenue source for non-enterprise related functions.

These general requirements affect the objectives to be met in setting rates, and some other aspects of the process.

It is necessary that the City receive enough income from the system to pay its ordinary expenses other than new facility construction. These expenses clerical and professional, fire protection and capital items repair and replacements. For capital items repair and replacement, a carry-over fund is warranted, since expenditure will vary widely for year to year. Annual contributions to this fund would be based on the aggregate of probable component lives and probable individual repair costs. In this initial calculation, the annual credit of 3 percent of collections is not taken into consideration in calculating the amount needed for capital items repair and replacement. This credit is not disclaimed, but is unpredictable in amount. Hence, amounts recovered as this credit should be allowed for in the recommended biennial rate adjustment procedure.

The probable required City income is calculated as $2.31 per user per month. This amount should be paid to the City as a royalty by EM^2 out of monthly collections. The contract should be amended to provide for such payments as a royalty.

It is recommended that rates and royalties be adjusted by calculations similar to those herein, taking into account balance on hand, other charges in the Water Fund balance, and current City staff expenses, at two-year intervals.

14. SUMMARY OF RECOMMENDATIONS

1. It is recommended that the proposed Brookwood well be completed and incorporated into the system (assuming acceptable water quality and quantity). If the capacity is sufficient to meet the system's ordinary-demand reserve requirement, this will fulfill the system's supply-source needs.

2. It is also recommended that a sinking fund be established as a part of the City's Water Fund, with a plan to accumulate $200,000 in 20 years, for major repair or rebuilding of wells. The projected annual payment at 5% interest would be about $4,200.

3. Install two "interzone valve sets" as described in Section 4 (d) to divide system into pressure zones.

4. Install meters at intertie points, to record any flows from the City system to the UWI system.

5. Amend contract to provide royalty payments from EM^2 to City adequate to meet City's ownership and capital-depreciation expenses. The required amount is estimated to be currently $24,453 per year.

6. Review the expenses every two years, and modify the royalty amount as needed.

APPENDIX

I. MAPS

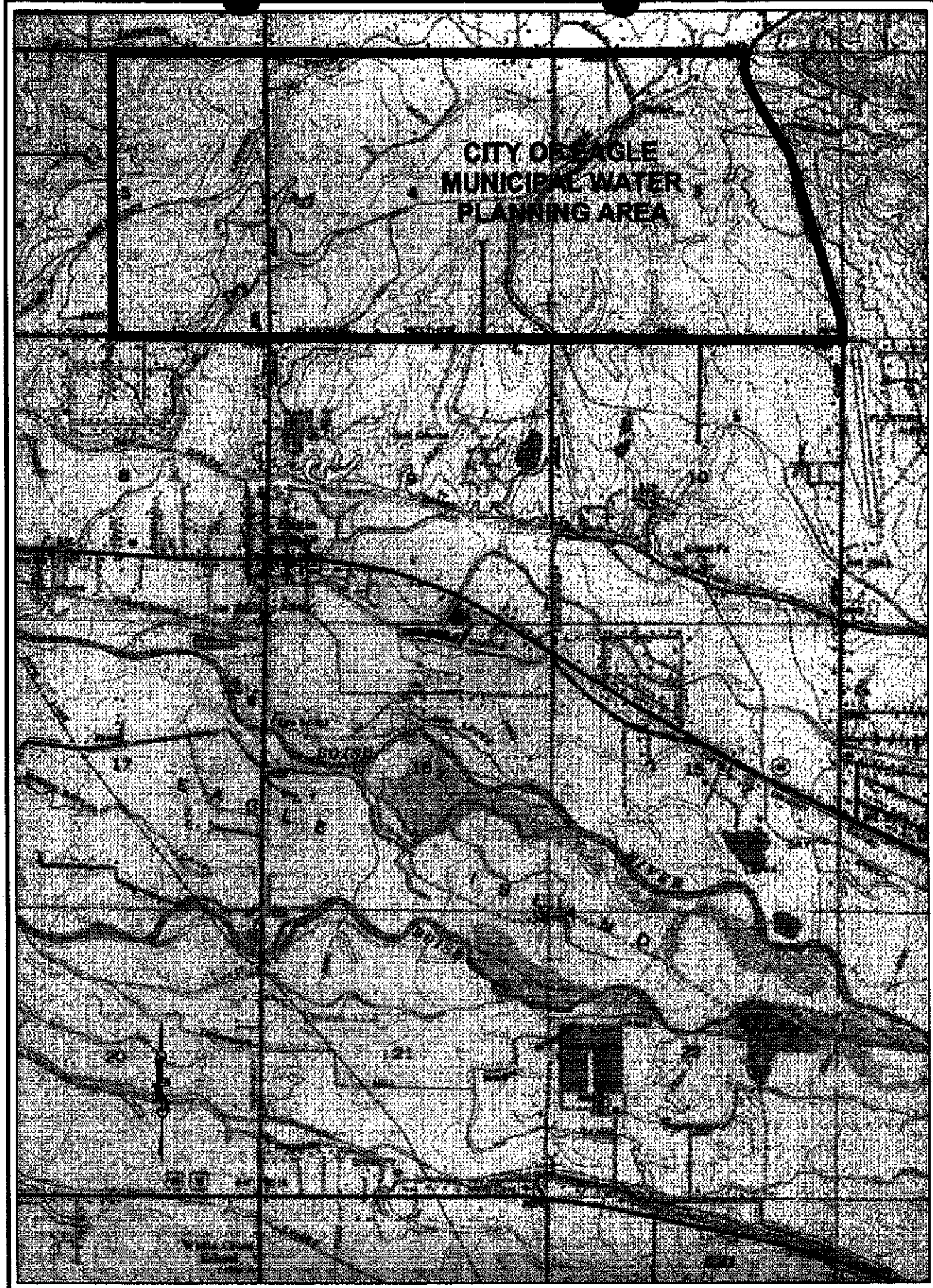
II. CAPITAL NEEDS CALCULATIONS

III. CAPITAL ITEMS MAINTENANCE

IV. REPORTS FROM UNITED WATER

V. SYSTEM CERTIFICATION AND SUPPORTING DOCUMENTS

VI. SYSTEM OPERATION CONTRACTS



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WATER PLAN VICINITY MAP
CITY OF EAGLE
ADA COUNTY, ID

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DATE	4/2/02
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UNITED WATER IDAHO
CERTIFICATED AREA

CITY OF EAGLE
WATER SYSTEM

CITY OF MERIDIAN
AREA OF IMPACT

RAINTREE MUTUAL
WATER COMPANY

EAGLE WATER COMPANY
CERTIFICATED AREA

GARDEN CITY
AREA OF IMPACT

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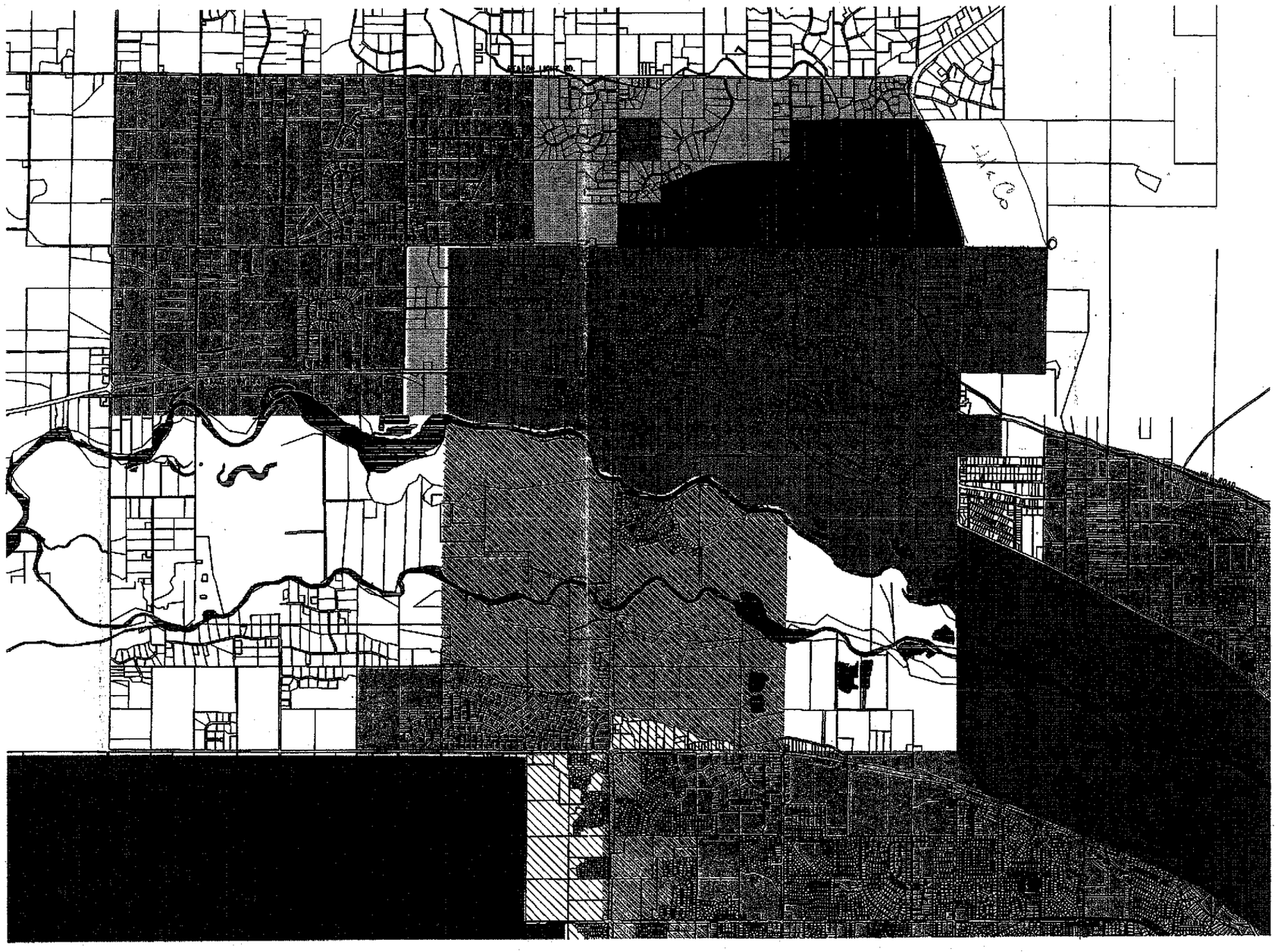

United Water

NO SCALE

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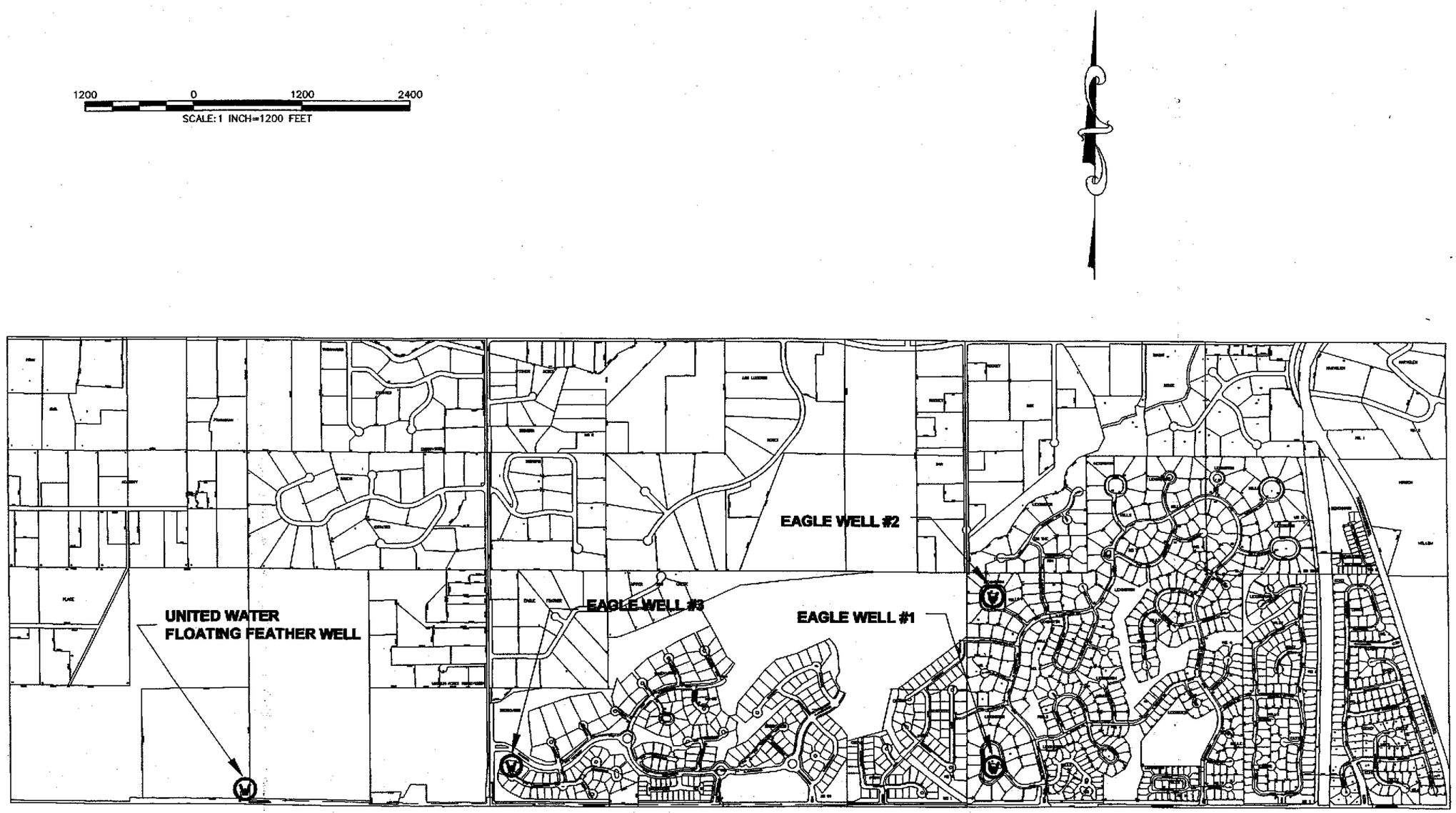

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WELL LOCATION MAP
CITY OF EAGLE
ADA COUNTY, ID

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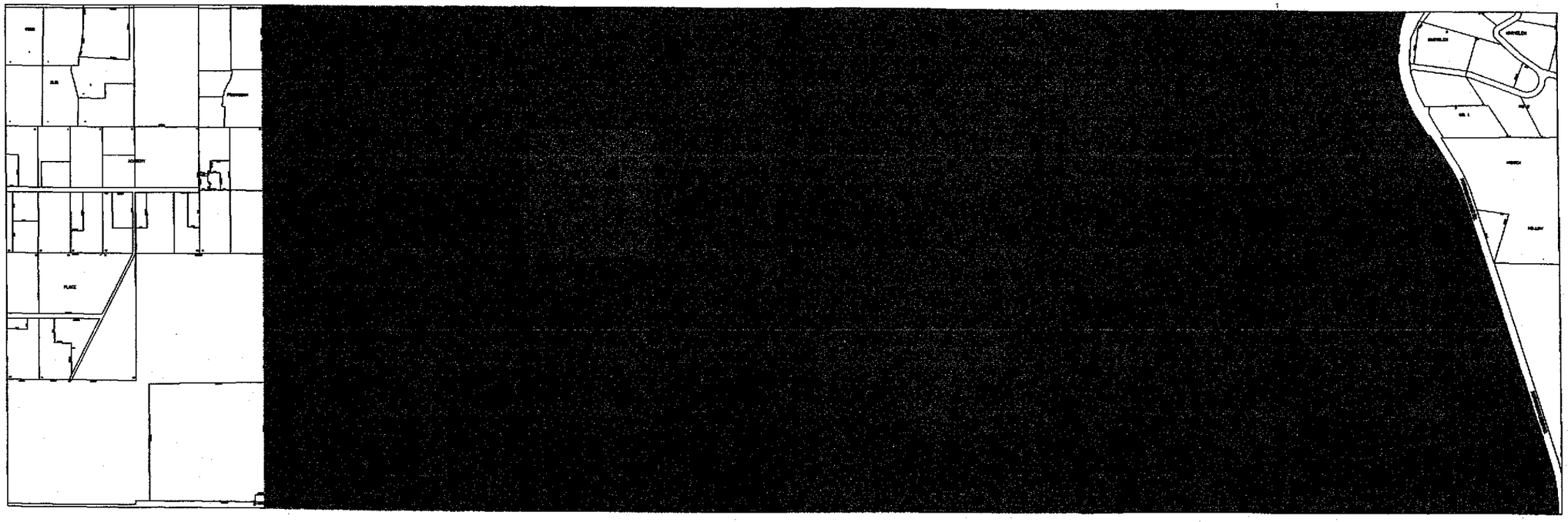

System Planning Area

Eagle Water Co.
Ceritificated Area

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ENGINEERS • CONSULTANTS

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(208) 642-3304 • FAX (208) 642-2156
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SYSTEM PLANNING AREA MAP
CITY OF EAGLE
ADA COUNTY, ID

REUSE OF DOCUMENTS

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JOB NO:	EG 072401
CADD FILES:	G:\maps\eg\EG_WATOS.dwg
DATE:	02/28/02
REVISED:	
PLOTTED:	02/28/02
DRAWN BY:	MGM
CHECKED BY:	VB
SHEET	

WATER SYSTEM WITH RECOMMENDED IMPROVEMENTS

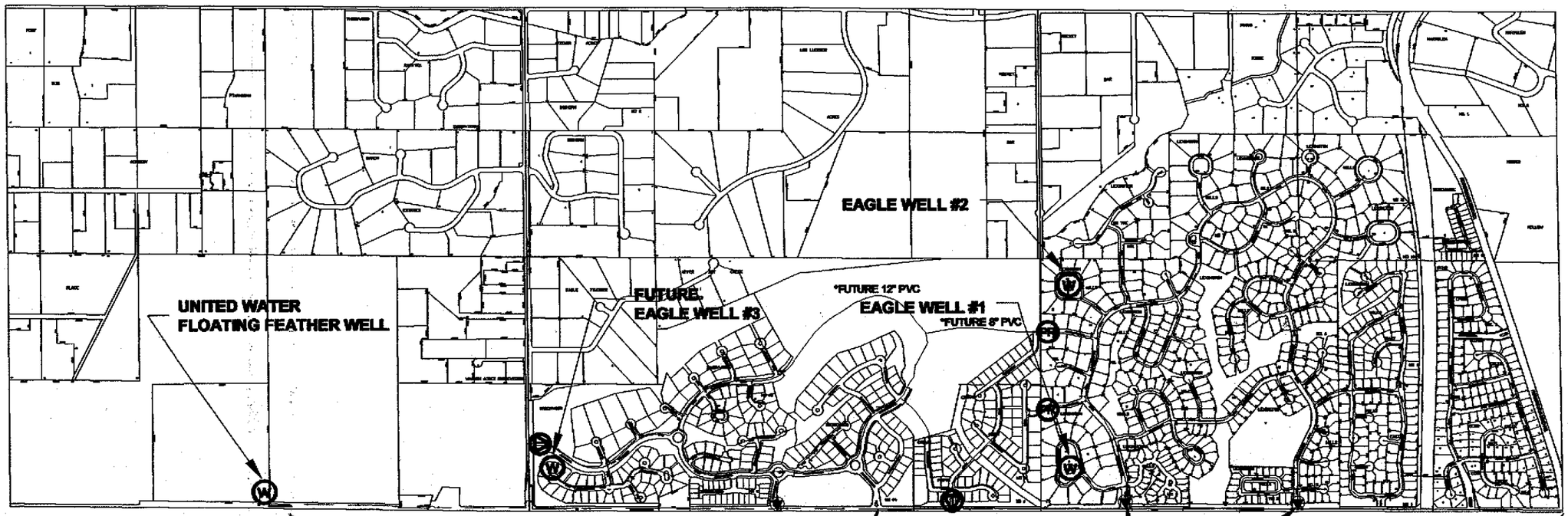
CITY OF EAGLE
ADA COUNTY, ID

1200 0 1200 2400
SCALE:1 INCH=1200 FEET

LEGEND:

- FUTURE CHECK VALVE
- EXISTING CHECK VALVE
- (PR) FUTURE PRESSURE REDUCING PER DETAIL (LOCATION APPROX. PENDING FINAL DESIGN.)

* Future mains = only principal system mains are shown, and locations and diameters are approximate pending final design.



This map represents a compilation of public information from diverse records gathered by the City of Eagle and Holladay Engineering Company. The purpose for which this map is prepared is an overall general representation of positional relationships, and not a definitive description of location of any class of objects or conditions. Hence, no responsibility for errors can be or is assumed. The City of Eagle and Holladay Engineering Company CANNOT AND DO NOT GUARANTEE the absence of errors or the correctness of all information furnished to them for the preparation of this map.

Revised June 2002

HOLLADAY ENGINEERING CO.

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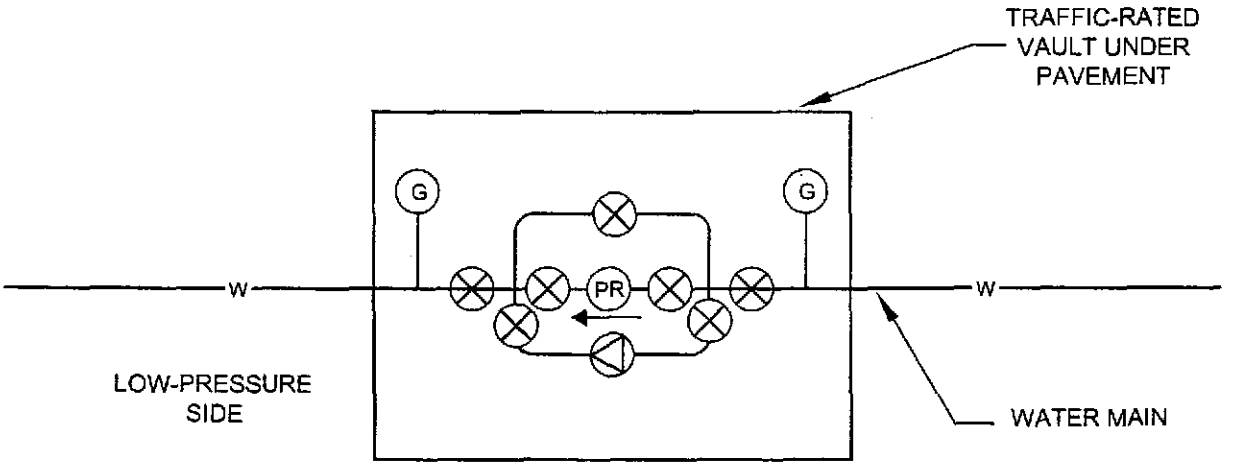
GENERAL STYLE PRESSURE REDUCING VALVE INSTALLATION

TYPICALLY LOCATED IN STREET



PLAN VIEW

Each installation to be individually designed by a professional engineer.

LEGEND

- ⊗ Shut-off
- (PR) Pressure Reducing Valve (Cla-Val or equal)
- (G) Pressure gauge
- ▽ Check valve

II. CAPITAL NEEDS CALCULATIONS

REQUIRED UPGRADES

Probable Construction Costs:

New Well	$ 150,000	
Interzone Transfer Valves	$ 60,000	
Total Probable Cost		$ 210,000

It is expected that these amounts can be met out of hookup fee proceeds.

III. CAPITAL ITEMS MAINTENANCE

CAPITAL ITEMS MAINTENANCE COSTS

(Note: these are recommended most-prudent allowances for payments to sinking funds for use for future high-cost repair incidents)

Meter replacements @ 20-year life

60 meters/ year @ $140 = $ 8,400/year

Well pump replace or rebuild @ 10-year life

2 wells, $20,000 per incident = $ 4,000/year

Pressure reducing valve rebuild @ 10-year life

2 valves, $1,000 per incident = $ 200/year

Well repair sinking fund = $ 4,200/year

Total capital upkeep allowances = $16,800/year

OTHER ANNUAL EXPENSES

Fire protection charge by UWI = $ 2,053
(based on most recent year)

Probable clerical and professional = $ 3,600

Liability insurance = $ 1,000

Audit expense = $ 2,000

Total other expenses = $ 8,653

Total Capital and Other = $ 25,453

Recommended income per user per month (918 users)

= $ 25,453 ÷ 918 ÷ 12 = $2.31 per user per month

United Water Operations Idaho

Contract with the City of Eagle
Quarterly Report
July 12, 2001

City of Eagle Contract
United Water Operations Idaho
Quarterly Report - July 12, 2001

	2000	YTD June 2001
Total Revenues	153,724	83,623
Total Op. Expenses	94,026	35,539
Income Before Income Taxes	59,698	48,084
State & Fed. Income Taxes @ 40.2%	20,715	19,330
Net Income	38,983	28,754

City of Eagle Contract
United Water Operations Idaho
Quarterly Report - July 12, 2001

	2000	2001
Total Production (in 1,000 gallons)		
1st Quarter (March 31)	18,350	29,570
2nd Quarter (June 30)	24,209	25,208
3rd Quarter (Sept. 30)	21,490	-
4th Quarter (Dec. 31)	25,070	-

City of Eagle Contract
United Water Operations Idaho
Quarterly Report - July 12, 2001

	2000	2001
Total Consumption (in 1,000 gallons)		
1st Quarter (March 31)	12,827	17,634
2nd Quarter (June 30)	19,277	23,253
3rd Quarter (Sept. 30)	23,027	-
4th Quarter (Dec. 31)	18,167	-

City of Eagle Contract
United Water Operations Idaho
Quarterly Report - July 12, 2001

	2000	YTD June 2001
Total Revenues	153,724	83,623
Total Op. Expenses	94,026	35,539
Income Before Income Taxes	59,698	48,084
State & Fed. Income Taxes @ 40.2%	20,715	19,330
Net Income	38,983	28,754

City of Eagle Contract
United Water Operations Idaho
Quarterly Report - July 12, 2001

	2000	2001
Total Customers		
1st Quarter (March 31)	757	880
2nd Quarter (June 30)	800	918
3rd Quarter (Sept. 30)	827	-
4th Quarter (Dec. 31)	860	-

City of Eagle Contract
United Water Operations Idaho
Quarterly Report - July 12, 2001

City of Eagle
YEAR: 2000

	Jan-00	Feb-00	Mar-00	Apr-00	May-00	Jun-00	Jul-00	Aug-00	Sep-00	Oct-00	Nov-00	Dec-00	TOTAL
Total Customers	707	741	757	773	788	800	814	818	827	830	850	860	
Total Consumption	4,367	4,346	4,114	6,748	5,209	7,320	8,024	8,257	6,746	5,786	7,521	4,860	
Total Water Revenue	$9,088	$9,199	$9,110	$11,844	$10,430	$12,505	$13,314	$13,553	$12,232	$11,397	$13,039	$10,853	
Average Cons./Customer	6.2	5.9	5.4	8.7	6.6	9.1	9.9	10.1	8.2	7.0	8.8	5.7	**91.5**
Average Customer Bill	$12.85	$12.41	$12.03	$15.32	$13.24	$15.63	$16.36	$16.57	$14.79	$13.73	$15.34	$12.62	**$170.90**

City of Eagle Contract
United Water Operations Idaho
Quarterly Report - July 12, 2001

City of Eagle
YEAR: 2001

	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01
Total Customers	859	870	880	882	899	918
Total Consumption	7,139	5,624	4,871	5,579	7,466	10,208
Total Water Revenue	$12,884	$11,663	$10,831	$11,626	$13,524	$17,336
Average Cons./Customer	8.3	6.5	5.5	6.3	8.3	11.1
Average Customer Bill	$15.00	$13.41	$12.31	$13.18	$15.04	$18.88

City of Eagle Contract
United Water Operations Idaho
Quarterly Report - July 12, 2001

Construction Inspection - Residential Development

2000:

Brookwood Subdivision #2
Brookwood Subdivision #3

2001:

Brookwood Subdivision #4 (Planned)

City of Eagle Contract
United Water Operations Idaho
Quarterly Report - July 12, 2001

Non-routine T&D Work Performed:	2000	2001 (YTD)
Raise Meter Box	11	2
Repair Meter Setting	2	1
Low Pressure Investigation		
Fire Flow	3	
Water Quality Investigation		
Leak Repair	1	1
Dig Line Locations	341	208
System Flush	16 hrs.	

United Water Operations Idaho

Contract with the City of Eagle
Quarterly Report
Quarter Ending September 30, 2001

City of Eagle Contract
United Water Operations Idaho
Quarterly Report - Quarter Ending September 30, 2001

	2000	YTD Sept 2001
Total Revenues	153,724	127,744
Total Op. Expenses	94,026	58,502
Income Before Income Taxes	59,698	69,242
State & Fed. Income Taxes @ 40.2%	20,715	27,835
Net Income	38,983	41,407

City of Eagle Contract
United Water Operations Idaho
Quarterly Report - Quarter Ending September 30, 2001

	2000	2001
Total Customers		
1st Quarter (March 31)	757	880
2nd Quarter (June 30)	800	918
3rd Quarter (Sept. 30)	827	935
4th Quarter (Dec. 31)	860	-

City of Eagle Contract
United Water Operations Idaho
Quarterly Report - Quarter Ending September 30, 2001

	2000	2001
Total Production (in 1,000 gallons)		
1st Quarter (March 31)	18,350	29,570
2nd Quarter (June 30)	24,209	25,208
3rd Quarter (Sept. 30)	21,490	24,550
4th Quarter (Dec. 31)	25,070	-

City of Eagle Contract
United Water Operations Idaho
Quarterly Report - Quarter Ending September 30, 2001

	2000	2001
Total Consumption (in 1,000 gallons)		
1st Quarter (March 31)	12,827	17,634
2nd Quarter (June 30)	19,277	23,253
3rd Quarter (Sept. 30)	23,027	23,880
4th Quarter (Dec. 31)	18,167	-

City of Eagle Contract
United Water Operations Idaho
Quarterly Report - Quarter Ending September 30, 2001

City of Eagle
YEAR: 2001

	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01
Total Customers	859	870	880	882	899	918	919	936	935
Total Consumption	7,139	5,624	4,871	5,579	7,466	10,208	6,198	9,775	7,907
Total Water Revenue	$12,884	$11,663	$10,831	$11,626	$13,524	$17,336	$12,285	$16,653	$15,183
Average Cons./Customer	8.3	6.5	5.5	6.3	8.3	11.1	6.7	10.4	8.5
Average Customer Bill	$15.00	$13.41	$12.31	$13.18	$15.04	$18.88	$13.37	$17.79	$16.24

2001 LEXINGTON HILLS WATER QUALITY SAMPLES

INORGANIC RESULTS										
LOCATION	DATE	Iron	Manganese	Nitrate	Arsenic	Antimony	Barium	Beryllium	Cadmium	Chromium
				(MCL = 10)	(MCL = .05)	(MCL = .006)	(MCL = 2.0)	(MCL = .004)	(MCL = .005)	(MCL = .10)
LEXINGTON HILLS #1	8/9/01	0	0	1.19	0.006	0	0.07	0	0	0

Mercury	Nickel	Selenium	Sodium	Thallium	Fluoride	Hardness	pH	Temp
(MCL = .002)	(MCL = .1)	(MCL = .05)		(MCL = .002)	(MCL = 4.0)			
0.0005	0	0	49.2	0	0.39	160	6.96	17.5

ORGANIC RESULTS				
LOCATION	DATE	VOCs	MTBE	SOCs
LEXINGTON HILLS #1	8/9/01	ND	ND	ND

	FREQUENCY
TOTAL COLIFORM	2/MONTH

City of Eagle Contract
United Water Operations Idaho
Quarterly Report - Quarter Ending September 30, 2001

Construction Inspection - Residential Development

2000:

Brookwood Subdivision #2
Brookwood Subdivision #3

2001:

Brookwood Subdivision #4 (Installed)

City of Eagle Contract
United Water Operations Idaho
Quarterly Report - Quarter Ending September 30, 2001

Non-routine T&D Work Performed:	2000	2001 (YTD)
Raise Meter Box	11	5
Repair Meter Setting	2	2
Low Pressure Investigation		
Fire Flow	3	
Water Quality Investigation		
Leak Repair	1	1
Dig Line Locations	341	280
System Flush	16 hrs.	
Leak Checks		2
Meter Test*		1

*Tested 3" Meter - Seven Oaks Elementary School

7/12/01

City of Eagle
Meter Inventory

		Quantity
Residential	3/4"	885
	1"	70
Commercial	3/4"	3
	1"	1
	2"	1
	3"	1
Total		961

EM² Inc.

Engineering, Management & Maintenance

8248 W. Victory Road
Boise, Idaho 83709
(208) 362-7304

August 25, 1997

Mr. Bill Johnson, P.E.
Holladay Engineering Co.
PO Box 235
Payette, ID 83661

Re: City of Eagle Water System Certification

Dear Mr. Johnson:

Thank you for your review of the water system certification I previously sent to you. The revision is attached for your consideration.

Very truly yours,
ENGINEERING, MANAGEMENT
AND MAINTENANCE, INC.

Daniel Brown, P.E.

c: Bill Freeman, DEQ (w/attachments)

RECEIVED
AUG 26 1997
HOLLADAY ENGINEERING CO.
PAYETTE, ID

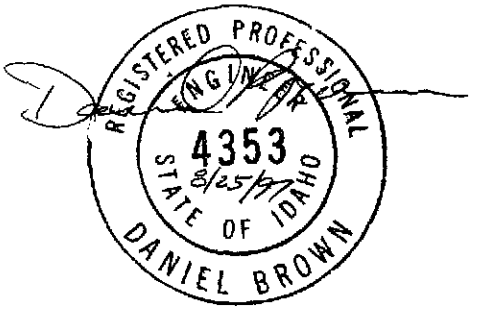
EAGLE WATER SYSTEM

CERTIFICATE OF CAPACITY

ENGINEERING MANAGEMENT & MAINTENANCE

DANIEL BROWN, P.E.

AUGUST 1997



Engineering, Management and Maintenance Inc. (EM^2) has reviewed the status of the existing City of Eagle water supply, the planned main extension from United Water Idaho's municipal system on Floating Feather Road and the proposed new phases of the Lexington Hills and Echo Creek Subdivisions. We find the capacity of the Lexington Hills wells is adequate to deliver domestic supplies for the currently planned phases of Lexington Hills and Echo Creek.

Fire protection becomes inadequate, however, from this existing system with the expansion of the subdivisions. For this reason, United Water is working with the developers and the City of Eagle to supply fire protection support from its municipal system on Floating Feather Road west of Eagle Road, which is supplied by the Redwood Creek and Floating Feather Wells. This project consists of the installation of 9,000 feet of 12-inch water main, tying the United Water system into the Lexington Hills system. The project objective is to augment the city's system with supplemental fire protection capacity.

EXISTING SYSTEM

The combination of the existing residential projects, Lexington Hills and Echo Creek, total 481 platted lots with 413 current water customers. Daily flow meter readings from the wells indicate a 1997 maximum day of 190,000 gallons. Divided by the 413 customers and 1440 minutes per day results in an average demand per customer on maximum day of 0.32 gallons per minute (gpm). The peak hour demand was determined by monitoring the flow meter during peak demand conditions. The observed flow rate was 200 gpm or approximately 0.5 gpm per customer. This translates to a peak hour demand for the total number of platted lots of 241 gpm (481 x 0.5).

The source of supply consists of two wells, Lexington Hills No. 1 and No. 2. The primary source is well No. 1 which has two pumps, a 160 gpm domestic pump and an 800 gpm fire pump. The capacity of well No. 2 is approximately 700 gpm and has primarily been reserved for fire protection purposes. The system has no storage and therefore must meet peak hour demands directly from the well supplies.

Pump No. 1 has recently been equipped with a variable frequency drive to stabilize the service pressure for this area. Attached is a pressure trend plot (Appendix A) which indicates the VFD is set to maintain 90 pounds per square inch (psi). The pressure spikes falling below the 90 psi line indicate times where the customer demands exceed pump No. 1's capacity. In these circumstances, pump No. 2 is run to meet these peak demands. The guage pressure at the highest lot of Echo Cr. subdivision (1989 Trail Creek Way) is generally 30 psi less than that at well No. 1.

Therefore, this operation results in 60 psi delivered to 1989 Trail Creek Way. This address is, hydraulically, the most critical site as it is also the furthest distance from the sources of supply. In other words, if the fire flow requirements can be met at this location, they can be met elsewhere in the system.

As mentioned earlier, well No. 2 is utilized primarily for fire protection purposes due to water quality concerns regarding sand production and inorganic constituents. It also has the role of backup for domestic supply when well No. 1 is out of service.

The new elementary school places the maximum fire flow demand on the system of 1,500 gpm. This is currently delivered from the combination of wells No. 1 and No. 2. This flow, however, is near the limit of the current supply system and will be adversely impacted as this system expands.

As mentioned above, the peak demand rate observed is approximately 200 gpm supplying 413 homes, resulting in a peak rate per home of about 0.5 gallons per minute. This rate is lower than what is normally expected due to the dual water system for Lexington Hills and Echo Creek. Irrigation water is supplied through a pressurized distribution system, separate from the domestic system.

EXPANSION PLANS

The expansion plans for the subdivisions which are served by the Eagle City water system are indicated in the table below along with the anticipated demands:

SUBDIVISION PHASING	ADD'L CUST.	TOTAL CUST.	AVG MAX DAY DEMAND (GPM)	PK HR DEMAND (GPM)
EXISTING		413	132	207
CURRENT @ BUILDOUT	68	481	154	241
1997 LEXINGTON HILLS EXPANSION PLAN:				
NO. 7	27	508	163	254
NO. 8	26	534	171	267
NO. 9	35	569	182	285
NO. 10	27	596	191	298
RIM	22	618	198	309
1997 ECHO CR. EXPANSION PLAN:				
NO. 5	56	674	216	337
LEX HILLS REMAINING PHS (incl's Lex Hills #11):	94	768	246	384
1998 ECHO CR. NO 6	48	816	261	408
1999 ECHO CR. NO 7	45	861	276	431

PUMP CAPACITIES	90 PSI @ LEX #1 GPM	80 PSI @ LEX #1 PK HR GPM	70 PSI @ LEX #1 FIRE FLOW GPM
WELL #1 PUMP 1	160	170	180
WELL #1 PUMP 2	560	590	640
WELL #2 (THROTTLED TO MINIMIZE SAND)	460	460	460
	1180	1220	1280
CONCEPTUAL BUILDOUT 861 LOTS:			
AVERAGE OF MAX DAY	276		
PEAK HOUR		431	
FIRE FLOW CAPACITY:			
LESS AVERAGE OF MAX DAY			1010

It is evident, during fire hydrant testing at the school, that the pumps ran out on their curves somewhat in order to deliver 1500 gpm to the school while continuing to serve the customers (in addition, well No. 2 was not throttled). It is estimated that approximately 1650 gpm was pumped during the hydrant testing. The flow delivered to the school was 1500 gpm at a residual pressure of 17 psi. This is 3 psi below the standard residual pressure of 20 psi typically required by fire protection agencies in order to minimize negative pressures in the distribution system. It also resulted in zero, or near zero, pressure at the highest lots in the system (ie 1989 Trail Creek Way). This latter circumstance is difficult to avoid during emergency operations in systems with significant elevation differences.

Improvements are planned for the water system, in conjunction with the subdivision expansion, which will supplement the fire protection capacity and permit additional water user demands while maintaining the desired level of service.

WATER SYSTEM IMPROVEMENTS

The criteria for the planned water system improvements are to meet the following objectives:

1. Maintain 90 psi at Lexington Hills Well No. 1 (this results in 60 psi at 1989 Trail Creek Way in Echo Cr. Sub) during normal operations
2. Maintain 80 psi at Lexington Hills Well No. 1 during peak demand conditions
3. Deliver minimum of 1500 gpm fire flow to the school site at 20 psi residual pressure
4. Deliver minimum of 1000 gpm fire flow to the fire hydrant located at 1989 Trail Creek Way at a residual pressure of 20 psi
5. Deliver minimum fire flow requirement to the highest lots of the proposed new phases of Lexington Hills and Echo Creek at a residual pressure of 20 psi

This will be achieved with the existing system, plus the installation of 9,000 feet of 12-inch water main, extended from United Water Idaho's service area to Lexington Hills, along Floating Feather Road. The variable frequency drive (VFD) located at the Floating Feather Well is set to maintain 65 psi. The pump is designed to deliver from 500 to 1600 gpm at this pressure.

The attached hydraulic grade line schematic (Appendix B) indicates the anticipated performance of Floating Feather Well during a 1500 gpm fire flow condition at the school. This indicates Floating Feather Well would contribute approximately 1050 gpm to the system, with the remainder supplied from the Lexington Hills wells.

Residential fire flows of 1000 gpm can be supplied from the existing Lexington Hills wells, as indicated in the above table, while maintaining the minimum residual pressure of 20 psi. A loop in the distribution system must be added, however, before Lexington Hills Phase 11 is added (the manufactured home phase). This is needed to reduce the pipe line pressure losses in the single 10-inch water main currently serving Echo Creek. Provisions for this loop, which will intertie the northerly portions of Lexington Hills and Echo Creek, have been made in conjunction with the construction of the new Highway 55.

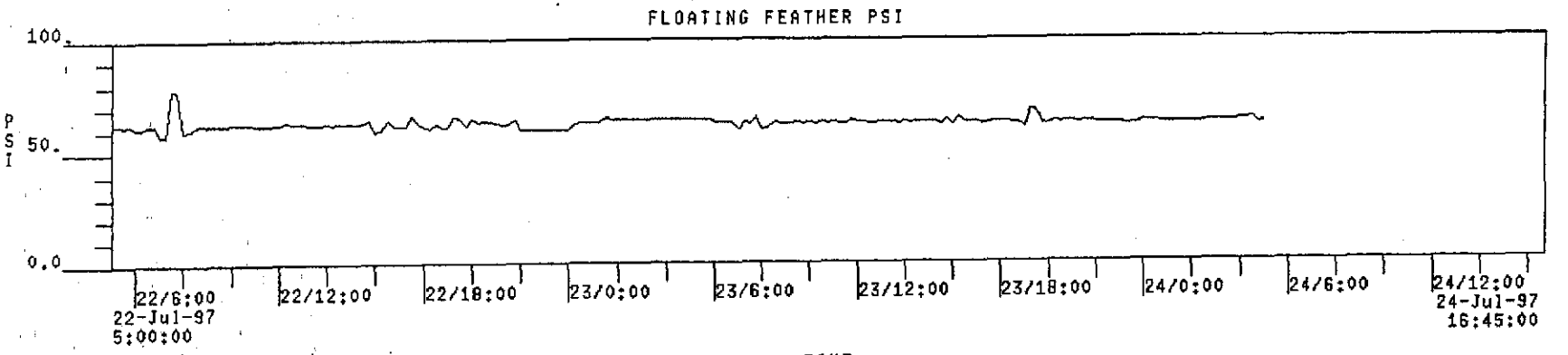
CONCLUSIONS

The above table indicates the existing Lexington Hills wells are capable of delivering peak demands on maximum day for the planned 861 residential customers while maintaining desired service pressures. These sources are also capable of delivering residential fire flow demands of 1000 gpm throughout the system. They would not be capable, however, of continuing to satisfy the 1500 gpm fire flow to the elementary school. Additional supply is required for this operating condition. The 12-inch water main intertie with United Water's Floating Feather Well will make up the difference.

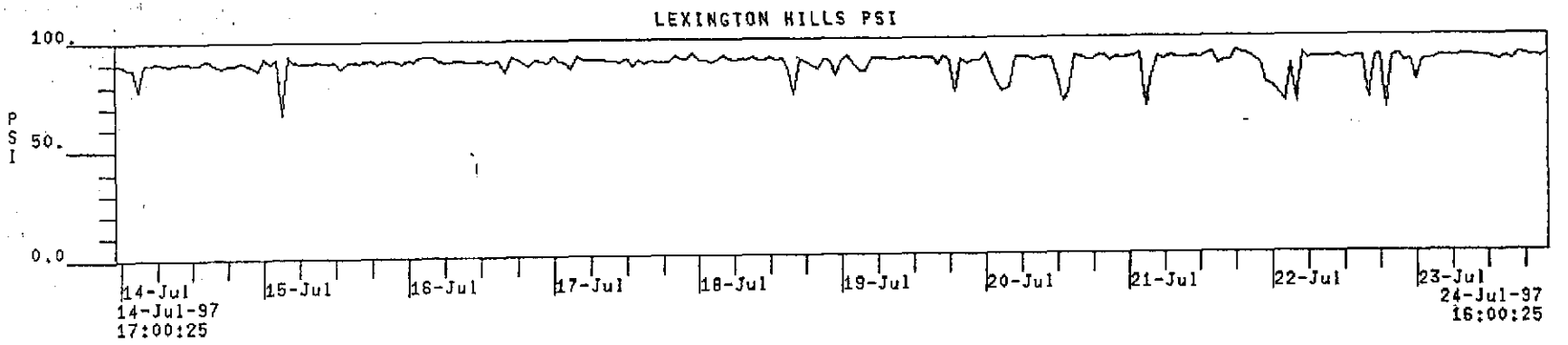
The addition of this intertie with United Water will permit the planned expansion of the Lexington Hills and Echo Creek subdivisions to proceed without negatively impacting the level of service to the existing City of Eagle water customers. On the other hand, it will significantly improve the overall fire protection reliability to this system.

Following the United Water intertie installation, we recommend that Well No. 2 be throttled to reduce sand production to the system. In our above analysis, we have estimated the flow rate be reduced to approximately 460 gpm. Another consideration for the future is the installation of a "sand trap" on the discharge line which would capture the sand prior to entering the distribution system.

Attached as Appendix C is the contract among the City of Eagle, Lexington Hills, Treasure Valley Village, United Water Idaho and Engineering Management and Maintenance for the installation of the 9,000 feet of 12-inch water main. Also attached as Appendix D is the list of currently planned phases of Lexington Hills and the anticipated service pressures.



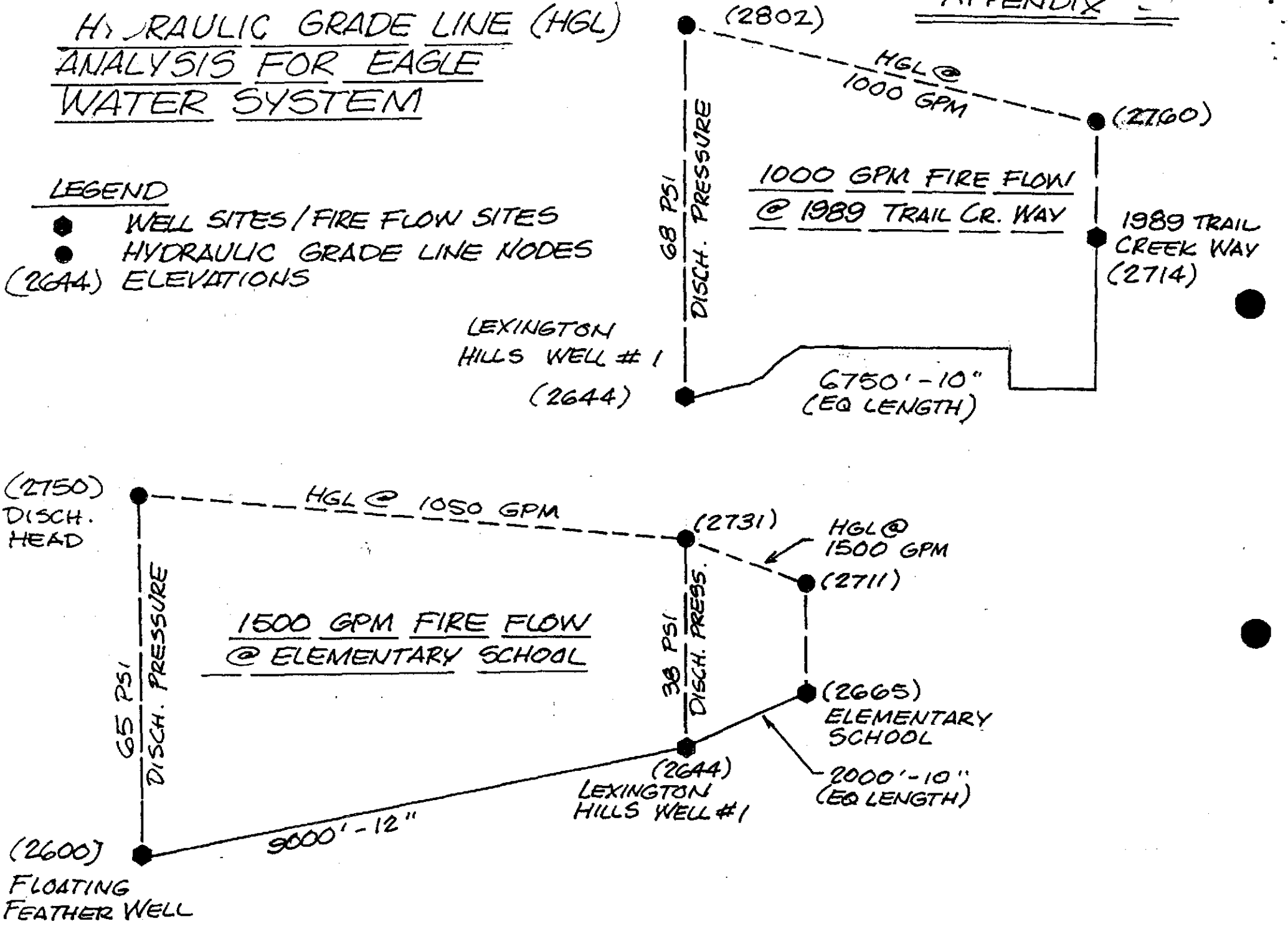
65 Current PSI



91 Current PSI

APPENDIX -

HYDRAULIC GRADE LINE (HGL) ANALYSIS FOR EAGLE WATER SYSTEM



WATER LINE AGREEMENT

This Water Line Agreement (this "Agreement") is made this 5th day of AUGUST, 1997, by and among the City of Eagle City, an Idaho municipal corporation ("City"); Lexington Hills, Inc., an Idaho corporation ("Lexington"), successor to Floating Feather Hills, Inc., an Idaho corporation; Treasure Valley Village, a California limited partnership ("TVV"); United Water Idaho Inc., an Idaho corporation("United Water"); and Engineering, Management and Maintenance, Inc., an Idaho corporation ("EM^2").

RECITALS

A. Lexington is the owner or contract purchaser of certain real property located in the City of Eagle, more particularly described on Exhibit A, attached hereto and made a part hereof (the "Lexington Property"), an Eagle City approved preliminary plat. TVV is the owner of certain real property located in the City of Eagle, more particularly described on Exhibit B, attached hereto and made a part hereof (the "TVV Property").

B. Lexington and TVV were holders of that certain Permit to Appropriate Water No. 63-11413, as amended (the "1991 Permit") issued by the Idaho Department of Water Resources ("IDWR") with a priority date of April 2, 1991, which 1991 Permit is attached hereto as Exhibit C. The 1991 Permit allows, in part, domestic use for 900 homes. The place of use designated by the 1991 Permit is located in Section 3, T4N, R1E, B.M, more particularly the Lexington Property and the TVV Property.

C. On July 24, 1992, Lexington and TVV assigned the 1991 Permit to City, which assignment was acknowledged by IDWR on September 11, 1992, as further provided in Exhibit C.

D. Lexington and TVV are holders of that certain Permit to Appropriate Water No. 63-12017 issued by IDWR with a priority date of April 21, 1993 (the "1993 Permit"), which 1993 Permit is attached hereto as Exhibit D. The 1993 Permit allows for wildlife, recreation and aesthetic uses. The place of use designated by the 1993 Permit is located in Section 3, T4N, R1E, B.M., more particularly the Lexington Property and the TVV Property. The 1993 Permit has not been assigned to City. Lexington, TVV and City shall, within thirty (30) days of the date hereof, use all good faith efforts to determine and mutually decide whether the 1993 Permit is to be assigned to City. If Lexington, TVV and City mutually agree to assign the 1993 Permit to City, Lexington and TVV shall assign the 1993 Permit to City within sixty (60) days of the date hereof, and take all appropriate action to ensure that IDWR confirms for City that such assignment has been perfected.

E. In 1991, Lexington and TVV received preliminary subdivision plat approval from City to develop the Lexington Property and the TVV Property with residential subdivisions (collectively the "Projects"). In connection with such development, Lexington, TVV and City entered into that certain "Agreement for Transfer and Operation of Domestic Water System" dated May 20, 1992, as amended on May 20, 1992, and as amended on October 5, 1993 (collectively, the "Contract"), which provides, in part, that Lexington and TVV have the obligation to construct a domestic water system, as defined in the Contract, to serve the Projects, and to convey that domestic water system to City over time as each phase of the domestic water system is completed. The Contract is attached hereto as Exhibit E.

F. The Contract contemplates that, upon completion of each phase of the domestic water system, Lexington and TVV shall convey the domestic water system to City by warranty deed for the well lots, and by bill of sale for the remaining components of the domestic water system. Further, the Contract contemplates Lexington and TVV shall provide City with a warranty agreement for each phase of the domestic water system that such phase substantially conforms to Agreed Construction Standards (as defined in the Contract), and assign to City any and all warranties received from contractors, subcontractors and suppliers. Such warranty deeds, bills of sale, warranty agreements and assignments of warranties for each phase of the domestic water system completed prior to the date hereof are on file with City. To the extent any such documents have not previously been provided to City, and are still contemplated under the

Contract, Lexington and TVV shall provide City with such documents, in form reasonably acceptable to City, on the later of thirty (30) days of the date hereof or upon completion of any such phase of the domestic water system.

G. Under the terms of the Contract, City agreed to accept the domestic water system so long as the domestic water system is constructed according to the terms of the Contract and, upon acceptance, City is to assume full responsibility for the operation and maintenance of the accepted domestic water system. Further, the Contract contemplates that upon completion of the second well, as defined in the Contract, Lexington and TVV shall certify to City that the domestic water system meets the requirements of supply for fire protection in the Projects as imposed by the Idaho Department of Health and Welfare. However, such second well has been completed, and Lexington and TVV acknowledge that neither Lexington nor TVV can certify to City the domestic water system meets the requirements of water supply for fire protection in the Projects. The construction of the Water Line, defined below, and the intertie to the Floating Feather Well, defined below, is contemplated to provide the Projects with the required water supply for fire protection. City will not assume full responsibility for the operation and maintenance of the domestic water system, and will not issue occupancy permits in connection with the Projects, unless and until EM^2 can make such certification to City as confirmed by City's engineer (at the direction of the City Council).

H. United Water is the owner of a source of water supply, commonly known as the "Floating Feather Well", located approximately one-half mile west of the northwest corner of Floating Feather and Eagle Roads. United Water is willing to provide City with a source of water supply for the Projects subject to IPUC approval, if and as required, and under the terms and conditions provided further herein.

I. In anticipation of further development of the Projects, Lexington, TVV and City acknowledge that it is in their collective best interests and, in the City's opinion, the public's best interest to include in the domestic water system a water line extending from the Projects to the Floating Feather Well and to intertie with the Floating Feather Well as a source of water supply for the Projects. EM^2 is willing to construct the water line on behalf of Lexington and TVV from the Projects to the Floating Feather Well under the terms and conditions provided further herein. Lexington and TVV are willing to convey the Water Line to City, and City is willing to accept the Water Line, under the terms and conditions contained herein. Notwithstanding anything to the contrary herein, City does not waive any other municipal development and/or building requirements in connection with the Projects. Nothing herein shall be construed as prohibiting City from enforcing any of its codes and/or ordinances, as amended from time to time, concerning the future development of the Projects.

J. In May, 1992 City entered into that certain Water Service Contract with EM^2, an independent service contractor, to perform certain operation and maintenance tasks in connection with the domestic water system. Since the effective date of such Water Service Contract, EM^2 has undergone a change in ownership and management. City and EM^2 are currently in the process of updating and revising the Water Service Contract. City shall set reasonable water service rates/connection fees, which rates and fees have reasonably been estimated initially as set forth on Exhibit F, attached hereto and made a part hereof.

K. Prior to the date hereof, City apprised the Idaho Public Utilities Commission("IPUC") and its staff of this Agreement and the agreements, terms, conditions, and obligations contemplated hereunder.

NOW, THEREFORE, in consideration of the foregoing recitals which are incorporated below and the mutual covenants, conditions, terms and agreements contained herein, the parties, intending to be legally bound, agree as follows:

1. Government Approvals. The parties hereto shall cooperate fully with each and all other parties in connection with each and all other parties' efforts to obtain, without limitation, all other necessary permits, information, and consents required by the appropriate federal, state or local

governmental authorities, agencies or officials ("Government Approvals") to permit the construction of a 12- inch water line (the "Water Line") contemplated to connect the Floating Feather Well to the domestic water system, and an intertie between the Floating Feather Well and the Water Line.

2. Water Line. As soon as practicable after such Governmental Approvals have been received, Lexington and TVV, through EM², shall diligently proceed to construct the Water Line to connect the Floating Feather Well and the domestic water system in the Projects, as described, or to be described, in Water Line plans and specifications prepared and sealed by a licensed professional engineer, and reviewed by the parties hereto and City's engineer (at the direction of the City Council) (the "Plans and Specifications)." Such Plans and Specifications also include or shall include the details for the intertie between the Water Line and the Floating Feather Well. Inspection of the construction of the Water Line shall be conducted by City's engineer (at the direction of the City Council) and/or EM², and inspection of the intertie between the Water Line and the Floating Feather Well shall be conducted by City's engineer (at the direction of the City Council) and/or United Water. The cost of such Plans and Specifications and the cost of the construction of the Water Line including, without limitation, the intertie to the Floating Feather Well, shall be borne by Lexington and TVV at their sole cost and expense, which cost and expense shall not exceed Three Hundred Sixty Thousand and no/100 Dollars ($360,000.00), as more fully provided herein.

The Plans and Specifications are hereby incorporated by this reference, with the same force and effect as if the same were set forth herein, and EM² and all EM²'s subcontractors will be and hereby are bound by any and all of the Plans and Specifications. Notwithstanding the foregoing, based on proper advice and consideration, EM² may alter the performance from strict adherence to the Plans and Specifications if based on experience on the job site or if adherence to the Plans and Specifications becomes impractical or unfeasible under the circumstances. Lexington and TVV shall be afforded the opportunity, but not the obligation, to review and comment on any material deviation from the Plans and Specifications, which deviation will be followed up by a change on the particular Plans and Specifications or notation of the change on the "as-built" plans.

3. Easements. City, Lexington, TVV, EM² and United Water shall cooperate with one another to secure any and all necessary easements and licenses required for the construction of the Water Line and the intertie between the Water Line and the Floating Feather Well.

4. Commencement of Construction. The construction of the Water Line shall commence as soon as practicable after the receipt of all Government Approvals, the successful negotiation and execution of a Source of Supply Agreement by and between City and United Water (which those two parties agree to use their best efforts to accomplish), and following review of the Plans and Specifications by the parties hereto and City's engineer (at the direction of the City Council). EM² shall use best efforts to substantially complete such construction, and United Water shall use best efforts to substantially complete the intertie between the Water Line and the Floating Feather Well, by September 15, 1997, subject to any delays as may be provided in this Agreement.

5. Unavoidable Delays and Default. Each party shall be excused from further performance under this Agreement as a consequence of any delays or defaults in the performance of this Agreement unavoidably caused by the act of any governmental authority, the act of any public enemy, acts of God, nature, war, war defense conditions, strikes, walkouts or other causes beyond the control of the party whose performance is impaired. Each party shall use best efforts to avoid any such delay or default and each party shall resume performance under this Agreement immediately following any such delay or default, but only if such default or delay does not continue for a period of ninety (90) days or more.

6. Liens. EM² will obtain releases from all subcontractors, laborers, materialmen, suppliers, and any other parties furnishing materials or services to the construction of the Water Line and intertie to the Floating Feather Well. EM² shall submit such releases to City.

7. Construction Cost; Loan. The cost of the Plans and Specifications, the construction of the Water Line, including administrative and engineering costs incurred by EM², and the intertie to the Floating Feather Well has been reasonably estimated at Three Hundred Sixty Thousand and no/100 Dollars ($360,000.00) (the "Construction Cost"), which amount is to be paid by Lexington and TVV; provided, however, EM² has agreed to advance the Construction Cost to Lexington and TVV under the terms and conditions contained herein, including the Exhibits attached hereto and made a part hereof. City's and EM²'s obligations hereunder, and specifically the obligation to advance Lexington and TVV the Construction Cost and commence construction of the Water Line, is expressly conditioned upon Lexington and TVV providing to City and EM² satisfactory evidence (e.g., loan commitment letter, financial statement or other evidence acceptable to City and EM²) that Lexington and TVV shall be able to pay the Construction Cost in accordance with this Agreement and the Promissory Note, dated on even date herewith and substantially similar in form to that Promissory Note attached hereto as Exhibit G and made a part hereof. The obligations under the Promissory Note and this Agreement shall be guaranteed by Bert Bradley, Harvey Neef, Bryce Peterson, David Roylance, Duane Stueckle, Dennis Whitmore, Steve Yates, and William R. Guhrke and shall be evidenced by a Joint and Several Individuals' Guaranty (the "Guaranty"), dated on even date herewith and substantially similar in form to that Joint and Several Individuals' Guaranty attached hereto as Exhibit H and made a part hereof. Lexington and TVV shall have no liability for any amount in excess of the Construction Cost. If the actual Construction Cost is less than Three Hundred Sixty Thousand and no/100 Dollars ($360,000.00), the parties hereto shall cooperate to amend this Agreement, the Promissory Note and the Guaranty so that the amount of the actual Construction Cost shall be reflected therein.

Any hook-up fees collected by City within the City municipal water system territory, shall be a total of not less than Eight Hundred Fifty and no/100 Dollars ($850.00), paid upon customer request for service and, following collection by City, paid as follows:

$120.00	Paid to EM² for the cost of meter and meter set
200.00	Paid to Eagle City domestic water system reserve fund
530.00	Paid to EM² to repay the Construction Cost advanced to Lexington and TVV, which advance is reflected on the Promissory Note. Such amount shall not be decreased during the term of the Promissory Note.

Lexington, TVV and City hereby acknowledge and agree that it is their intention that these three parties shall use best efforts to enter into a separate, cooperative agreement, in accordance with City's ordinance number 202, which agreement shall set out the terms and conditions for the reimbursement of Construction Costs to Lexington and TVV (after the payment in full and cancellation of the Promissory Note) through the collection of additional hook-up fees from either inside or outside of the Projects, which said cooperative agreement shall include, among other provisions, the following:

(a) a description of City's water service territory, which territory shall not be reduced in size while the cooperative agreement is in effect;

(b) that a reasonable connection fee be charged for connection to the City's domestic water system, a fixed portion of which shall be paid to Lexington and TVV;

(c) that Lexington and TVV shall be reimbursed their costs, including interest, incurred in the construction of the Water Line and intertie from any water service hook-up fee collected by City for a period of ten (10) years from the date of completion of the Water Line; up to $240,000 as set forth in the Promissory Note,

(d) that City shall make reasonable good faith efforts to obtain such modifications to its water permit and/or rights to allow for the delivery of water to any property located in City's water service territory;

(e) that City will not deliver or agree to deliver water from its domestic water system to any property or for any use where such delivery or use is likely to result in a water supply insufficient to serve the Projects and property commonly known as the McCallum property as presently approved for development; and

(f) that City shall waive any administrative fee provided for in its ordinance.

8. New Phase of Domestic Water System. The parties to the Contract agree that the Water line and the intertie between the Water Line and the Floating Feather Well are necessary for the maintenance and operation of the domestic water system constructed and to be constructed to serve the Projects. Accordingly, the parties to the Contract agree and hereby amend the Contract such that the term "domestic water system" shall include the Water Line and any and all easements necessary for the maintenance and operation of the same, and such Water Line and any and all easements associated therewith shall be considered a phase of the domestic water system, and Lexington and/or TVV shall deliver to City fully executed warranty deed(s), warranties, title insurance policy, all lien releases and as-built or record plans and specifications for such phase of the domestic water system as provided further in the Contract. EM^2 shall provided Lexington and TVV with a one-year warranty in connection with the construction of the Water Line. As provided further in the Contract, City will accept such phase of the domestic water system upon completion, provided the City engineer (at the direction of the City Council) and EM^2 shall have the right to review and accept the proposed plans and specifications for such phase, and to perform field inspections prior to completion of each phase to confirm the phase of the domestic water system was built in accordance with the Agreed Construction Standards, as defined in the Contract. Upon such acceptance, Lexington and TVV shall have no further obligation to provide additional water supply sources under the terms of the Contract.

9. Fees. City shall establish reasonable connection fees and usage rate charges initially estimated as set forth on Exhibit F, attached hereto and made a part hereof, applicable to users of the domestic water system, which fees and charges may be revised by the City from time to time upon notice as provided by City ordinance but in no event less frequently than every five years. Such revision of the fees and charges shall be based on all relevant factors including, without limitation, on the product of such previously adopted rates and fees multiplied by the percentage increase, if any, of the Consumer Price Index ("CPI") for the United States, all Urban Consumers, published by the United States Department of Labor, Bureau of Labor Statistics (Three Year Average of 1982-1984 = 100) between the month immediately preceding the current revision date of such fees and charges and the date of the last previous revision of such fees and charges plus an additional 5% of the last previously adopted fees and charges.

If the CPI is discontinued or is unavailable, City shall select a comparable index reflecting changes in the cost of living or purchasing power of the consumer dollar published by any other governmental agency, or nationally recognized financial institution, or any other nationally recognized authority.

10. Notices. All notices, demands, requests, and other communications under this Agreement shall be in writing and shall be deemed properly served or delivered, if delivered by hand to the party to whose attention it is directed, or when sent, two (2) days after deposit in the U.S. mail, postage prepaid, by registered or certified mail, return receipt requested, or upon transmission when sent via facsimile, or one (1) day after deposit with a nationally recognized air carrier providing next day delivery, addressed as follows:

If to City: The City of Eagle
Attn: Mayor
310 E. State Street
Eagle, ID 83616
(208) 939-6813
(208) 939-6827(facsimile)

If to Lexington: 1815 E. Stonybrook Ct.
Eagle, Idaho 83616
(208) 939-6000
(208) 939-6118 (facsimile)

If to TVV: 680 N. 9th Street
Boise, Idaho 83702
(208) 343-2235
(208) 344-2852 (facsimile)

If to EM^2: 8248 W. Victory Road
Boise, Idaho 83707
Attn: President
(208) 362-7336
(208) 362-3858 (facsimile)

If to United Water: United Water Idaho Inc.
P.O. Box 7488
Boise, Idaho 83709
(208) 362-1704
(208) 362-1479 (facsimile)

or at such other address or to such other party which any party entitled to receive notice hereunder designates to the other in writing as provided above.

11. Default. If any party shall fail to perform such party's obligation(s) contemplated herein for any reason, other than the failure to obtain Government Approvals or other unavoidable delays as described in paragraph 5 hereof, one or more of the other parties may pursue any and all remedies at law or equity; provided, however, all parties affected by any default agree to attempt to mediate a settlement in good faith prior to initiating litigation. In the event litigation is filed, the prevailing party or parties shall be entitled to an award of reasonable costs and attorneys' fees.

12. General Provisions.

a. Enforcement. The failure on the part of any party to enforce its rights as to any provision of the Agreement shall not be construed as a waiver of such party or parties rights to enforce such provision in the future.

b. Assignment. This Agreement, and the terms hereof including the Exhibits attached hereto and made a part hereof, are binding on the parties named herein, their heirs, successors, and assigns. This agreement shall not be assigned without the written consent of the other parties hereto not to be unreasonably withheld.

c. Entire Agreement. This Agreement contains the entire agreement between the parties hereto in connection with the transactions contemplated herein and supersedes all previous or contemporaneous communications, representations or agreements. This Agreement may be modified only by written amendment signed by all parties.

d. Severability: If any section, subsection, sentence, clause, phrase or portion of this Agreement is for any reason held invalid, preempted or unconstitutional by any court or by any Federal or State agency of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision of this Agreement, and such holding shall not affect the validity of the remaining portions hereof.

e. Application of Law. This Agreement is subject to all applicable laws of the State of Idaho.

f. Survival. The terms, representations, provisions, covenants, agreements and indemnities shall remain binding upon and for the parties hereto until fully observed, kept or performed.

g. Authority. The parties hereto represent and confirm that they have the authority to execute this Agreement on their behalf and on behalf of the other persons named herein, although those persons may not have executed this Agreement.

h. Counterparts. This Agreement may be executed in counterparts, each of which shall constitute an original, but all together shall constitute one and the same Agreement.

IN WITNESS WHEREOF, the undersigned have executed this Water Line Agreement as of the date specified on page one hereof.

Attest:

City Clerk

City of Eagle City

By: _____
Its: Mayor

Lexington Hills, Inc., an Idaho corporation

By: _____
Duane Stueckle, President

Engineering, Management & Maintenance, Inc., an Idaho corporation

By: _____
Vice President

Treasure Valley Village, a California limited partnership

By: _____
William R. Guhrke, its General Partner

United Water Idaho Inc., an Idaho corporation

By: _____
William C. Linam, President

THIS AGREEMENT AND ACKNOWLEDGMENT IS EXECUTED AS OF THE DATE SPECIFIED ON PAGE ONE HEREOF BY DUANE STUECKLE, WILLIAM R. GUHRKE, BERT BRADLEY, HARVEY NEEF, BRYCE PETERSON, DAVID ROYLANCE, DENNIS WHITMORE, AND STEVE YATES FOR THE PURPOSE OF ACKNOWLEDGING THEIR PERSONAL AND JOINT AND SEVERAL LIABILITY AS SPECIFICALLY PROVIDED FOR HEREIN.

Duane Stueckle

Bert Bradley

William R. Guhrke

Harvey Neef

Bryce Peterson

David Roylance

Dennis Whitmore

Steve Yates

EXHIBITS:

Exhibit A: Legal Description of Lexington Property
Exhibit B: Legal Description of TVV Property
Exhibit C: Water Right Permit No. 63-11413, as amended, and as acknowledged by Idaho Department of Water Resources
Exhibit D: Water Right Permit No. 63-12017
Exhibit E: Agreement for Transfer and Operation of Domestic Water System
Exhibit F: General Metered Service Rates
Exhibit G: Promissory Note
Exhibit H: Joint and Several Individuals' Guaranty

MAXIMUM AND MINIMUM PRESSURES — APPENDIX D

LEXINGTON HILLS FUTURE PHASES

NOS. 7,8,9,10,11 & THE RIM AT LEXINGTON

The hydraulic grade line for the City of Eagle water system is:

Normal Conditions	2852
Peak Demands	2829
Fire Flow (residential)	2806

			Normal Conditions		Peak Demands		Fire Flow	
			Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
DEVELOPMENT	Maximum	Minimum	Pressure	Pressure	Pressure	Pressure	Pressure	Pressure
PHASE	Elevation	Elevation	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
No. 7	2682	2666	74	81	64	71	20	27
No. 8	2696	2677	68	76	58	66	20	28
No. 9	2659	2643	84	90	74	81	20	27
No. 10	2661	2650	83	87	73	77	20	25
No. 11	2728	2712	54	61	44	51	20	27
The Rim	2678	2669	75	79	65	69	20	24

Notes:

1. The pressures during fire flow conditions will likely be lower in the vicinity of the flowing hydrant
2. Pipeline frictional losses are considered negligible for Normal and Peak demand conditions
3. The Normal Condition hydraulic gradient is with 90 psi at Lexington Hills Well No. 1
4. The Peak Demand Condition hydraulic gradient is with 80 psi at Lexington Hills Well No. 1
5. The Fire Flow Condition hydraulic gradient is with a minimum of 20 psi at the highest point in the phase
6. The maximum fire flow pressure is with the highest lot at 20 psi plus the difference in elevation, for example, phase No. 9 would be calculated as 20 psi + (2659-2643)/2.31 = 27 psi.
7. The elevation of Lexington Hills Well No. 1 is 2644 feet

EAGLE WATER SYSTEM
SYSTEM DATA SUMMARY SHEET
September 26, 1997

TABLE I: PRESENT SOURCES	
Well No. 1 [160+800]	960 gpm
Well No. 2 [sand producer]	700 gpm
Floating Feather Well [to be confirmed]	600-700 gpm
	2,260-2,360 gpm

TABLE II: CUSTOMER SUMMARY			
	Customers	**Peak Day**	**Peak Hour**
Current	413	132 gpm	207 gpm
w/Lexington Hills Build-out	861	275 gpm	430 gpm
w/Hormaechea Build-out	1,262	403 gpm	631 gpm

TABLE III: AVAILABLE FIRE FLOW WITH ALL EQUIPMENT OPERATIONAL (@peak hour) (based on 2,360 gpm total source)	
Current	2,153 gpm
w/Lexington Hills Build-out	1,930 gpm
w/Hormaechea Build-out	1,729 gpm

TABLE IV: AVAILABLE FIRE FLOW WITH LARGEST WELL OUT OF SERVICE (@peak day) (Recommended Standards for Water Works) (Based on 1,400 gpm firm source)	
Current	1,268 gpm
w/Lexington Hills Build-out	1,125 gpm
w/Hormaechea Build-out	997 gpm

TABLE V: SUMMARY OF RESIDENTIAL FIRE FLOW REQUIREMENTS (1994 Uniform Fire Code)	
1,000 gpm	dwellings up to 3,600 sq. ft. (including garage area)
1,500 gpm	dwellings 3,600-4,800 sq. ft.
1,750 gpm	dwellings 4,800-6,200 sq. ft.

HOLLADAY ENGINEERING CO.
ENGINEERS • CONSULTANTS
32 N. Main P.O. Box 235 Payette, ID 83661
(208) 642-3304 • Fax # (208) 642-2159

August 26, 1997

Mayor and City Council
City of Eagle
310 E. State Street
Eagle, Idaho 83616

SUBJECT: Eagle City Water System Certificate of Capacity
Project No. 022497

Dear Mayor and City Council:

Engineering Management and Maintenance Inc.(EM^2) has prepared the attached Certificate of Capacity. The Certification includes the primary elements as outlined in the City Engineer's July 28 letter to EM^2. The City Engineer has reviewed and commented by telephone on several drafts of the Certification.

EM^2 has concluded that the Lexington Hills wells are adequate to deliver domestic supplies for the currently planned phases of Lexington Hills and Echo Creek. Further, it is concluded by EM^2 that with the installation of 9000 feet of 12-inch water main tying the Redwood Creek and Floating Feather wells to the Eagle Water System, adequate fire flow can be provided.

Based on the attached Certification, the current system has 413 customers. At build-out of the currently platted lots, there will be 481 customers on the system. At build-out of Lexington Hills 7, 8, 9, 10, Rim; Echo Creek expansion to No. 5; and the remaining phases of Echo Creek No. 6 and No. 7; there will be 861 customers on the system.

Water system delivery pressures have been projected by EM^2 for the various development phases as shown in Appendix D of the Certification. It is stated by EM^2 that a loop in the distribution system must be added before Lexington Hills Phase 11 is added to the system. The City Engineer agrees that this loop is needed to improve system reliability and increase the fire flow to the proposed Phase 11.

The City Engineer takes no exceptions to the Certification as completed by EM^2. Based on our

review, the information and projections presented were developed using accepted engineering principles. We encourage the use of this Certification as baseline data and as a planning document to help guide the expansion of the Eagle City Water System.

If you have further questions or comments on this matter, please call us.

Sincerely,

William F. Johnson, PE
Principal, Senior Project Manager
for Holladay Engineering Co.

Attachment
c: Bill Freeman, Department of Environmental Quality
f\he\eg\022497\capcert.wpd

EM² Inc.

Engineering, Management & Maintenance

8248 W. Victory Road
Boise, Idaho 83709
(208) 362-7304

September 12, 1997

Mr. Bill Freeman, P.E.
Division of Environmental Quality
1445 N Orchard
Boise, ID 83706-2239

Re: City of Eagle Water System Certification

Dear Mr. Freeman:

You requested that we compare the 0.50 gallons per minute rate for peak hour demands in the City of Eagle water system to usage rates in the United Water system to test this rate for reasonableness. This evaluation has been completed, as discussed below, confirming the validity of factor.

Upon your request for information regarding peak demand rates for the City of Eagle water system, I investigated the matter further as it compares with the United Water system. In the certification documents, we quote an average of maximum day demand of 0.32 gallons per minute per customer and peak hour demands of 0.50 gallons per minute per customer. The maximum day number was derived from totalizer readings from the meters at Lexington Hills Wells Nos. 1 and 2. The peak hour rate was determined from on-site monitoring during peak hour demand conditions.

I have attached a figure from our SCADA system showing the diurnal demand characteristics for the United Water system. From this you can see the peak demand occurring in the morning between 4:00 and 6:30 AM. The peak hour rate, in this case, was 87.7 MGD. The total demand for this 24 hour period was 52.1 MGD, yielding a 1.68 factor between the average for the day and peak hour.

It should be kept in mind that much of this factor is due to lawn irrigation. This is evidenced by the sharp increase from the minimum hour rate (between 10:00 PM and Midnight) and 4:00 AM while most domestic use would be at a minimum. As an interesting side note, this characteristic has changed dramatically over the past 17 years due to increasing use of automated lawn

irrigation systems. Attached is Figure 10 from United Water's 1980 projection study which indicates a much lower early morning usage and relatively higher evening usage.

The factor between the average rate of 0.32 and peak hour of 0.50 gallons per minute per customer, for the city's system, is 1.56. The fact that it is lower than that of United Water's system, 1.68, is reasonable due to the lack of irrigation demand in the Lexington Hills/Echo Creek systems. Based upon this data it appears that the 0.50 gallons per minute per customer rate for peak demands is valid.

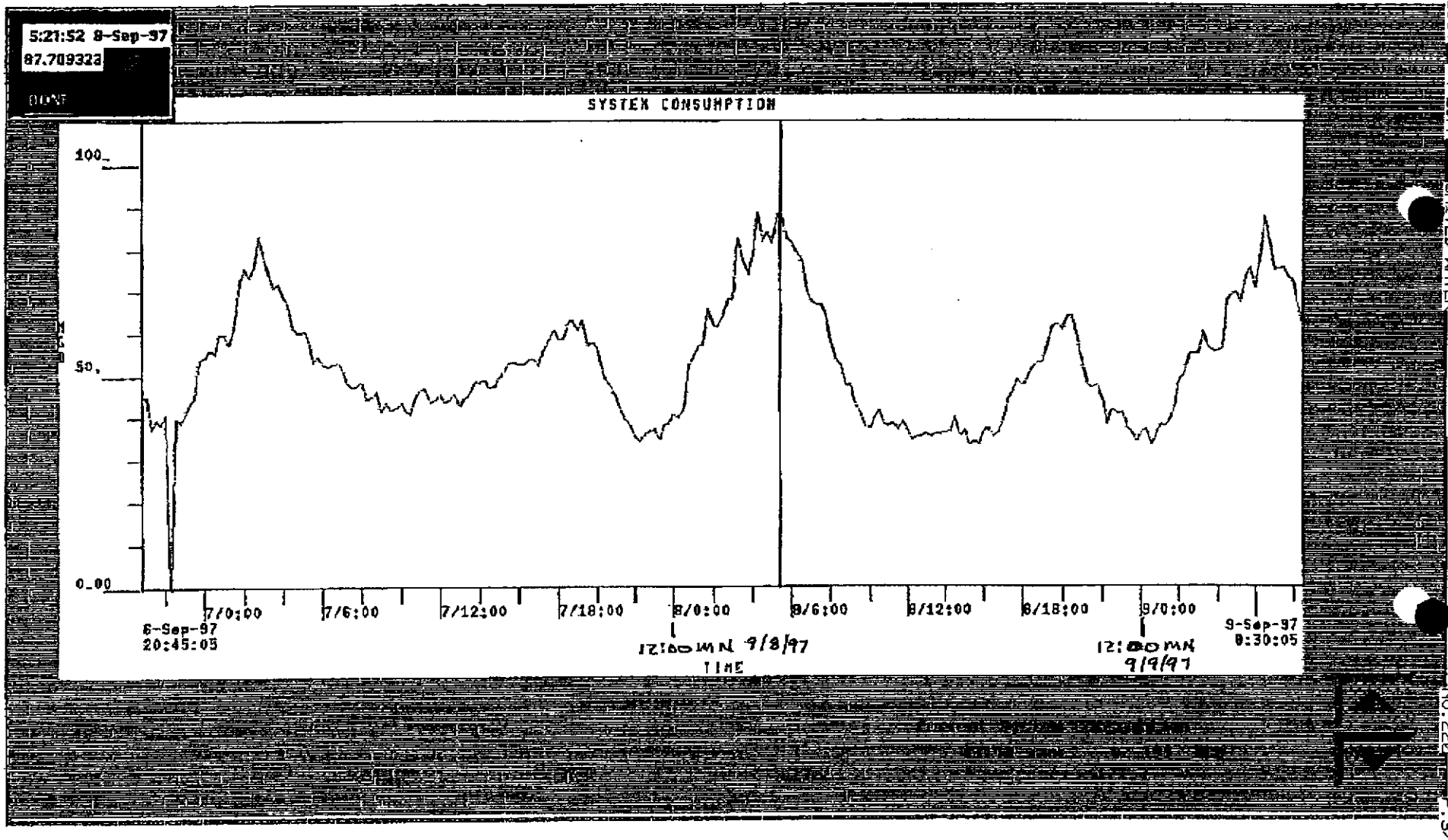
If you have any further questions regarding this matter, please give me a call.

Very truly yours,
ENGINEERING, MANAGEMENT
AND MAINTENANCE, INC.

Daniel Brown, P.E.

c: Bill Johnson, P.E., Holladay Engineering Company (by FAX)

PEAK HOUR = 1.509 X MAX DAY
PEAKING CAPACITY = 0.1786 X MAX DAY
AVERAGE DEMAND - MAX DAY
FIGURE 10
CUSTOMER DEMAND CURVE
FIRST BENCH SERVICE LEVEL
BOISE WATER CORPORATION
MN
10:00
8:00
6:00
4:00
2:00
NOON
10:00
8:00
6:00
4:00
2:00
MN
DEMAND - MGD


5:21:52 8-Sep-97
87.709323
DIONF
SYSTEM CONSUMPTION
100.
50.
0.00
7/0:00
7/6:00
7/12:00
7/18:00
8/0:00
8/6:00
8/12:00
8/18:00
9/0:00
8-Sep-97
20:45:05
12:00MN 9/8/97
TIME
12:00MN
9/9/97
9-Sep-97
0:30:05

RECEIVED JUN - 4 1992

EM2/EM

WATER SERVICE CONTRACT

THIS AGREEMENT, dated May, 1992, is entered into between the CITY OF EAGLE, an Idaho municipal corporation, whose address is City Hall, P. O. Box 477, Eagle, Idaho 83616 ("Owner"), and ENGINEERING, MANAGEMENT AND MAINTENANCE, INC., an Idaho corporation, whose address is 10487 Overland Road, #116, Boise, Idaho 83709 ("EM2, Inc.").

1. The Owner is, or is about to become, the owner of the domestic water system presently constructed, and as to be expanded in the future, to serve the Lexington Hills and Echo Creek Subdivisions in Eagle, Idaho, and which may be extended to serve other subdivisions, in which case the service provided for herein to Lexington Hills and Echo Creek Subdivisions shall be provided to other subdivisions served by the Owner on the same terms and conditions ("Water Service Area"). The domestic water system (hereinafter called the "Water System") presently consists of well(s), pumps, pump houses and related appurtenances, water distribution systems and appurtenances. The location of the Water System is depicted on the attached Exhibit A and Exhibit B.

2. EM2, Inc. agrees to perform the following services under this agreement promptly and in a good and workmanlike manner:

a. Meters: To furnish and install water meters for the individual lots on request of the Owner, said meters to become a part of the Water System and the property of the Owner upon installation thereof.

b. Normal Operation and Maintenance: To perform all services and furnish all necessary materials and equipment in connection with the normal operation and maintenance of the Water System, including periodic inspections and preventive maintenance of the Water System, meter reading, billing, record keeping, reporting and submission of water samples to health laboratories on a monthly or other required periodic basis, and to do all other things necessary to comply with applicable federal, state or local health authority requirements in connection with the operation of a domestic water system, including but not limited to the operating, testing and reporting requirements of state and federal law applicable to public drinking water systems.

3. Owner agrees to pay EM2, Inc. for services and materials to be performed or furnished by or under the supervision of EM2, Inc. in accordance with the following schedule:

a. For Normal Maintenance and Operations: A $3.00 per month per customer fee or charge plus mileage or $100.00 per month, for all customers served under this contract, plus mileage at $0.20 per mile, whichever is greater. EM2, Inc. shall mail or deliver, no more frequently than once per month, an invoice for all charges incurred by Owner under the terms of this Service Contract. The invoice shall be due within 30 days of its delivery. Along with the invoice, EM2, Inc. shall deliver a monthly statement of all customers served, the amount of mileage and the date the mileage was incurred.

b. Meters: EM2, Inc. will furnish, install, and maintain all water meters. The cost to furnish and install a water meter is $120.00, which EM2, Inc. will include in the monthly invoice to the Owner.

c. Extra Work: Major pump work will be performed by a qualified pump repair company with the actual charges of the pump repair company billed to the Owner according to the terms and conditions contained in Paragraph 3.a. EM2, Inc. will take reasonable steps to ensure that such costs are competitive, considering all relevant circumstances. EM2, Inc. will be paid for hours of supervision of extra work only when requested by the Owner to be on site while such repairs are under way. Major breaks and repair shall be charged at, the lesser of, cost plus 15%, or at the hourly rates as shown:

$20.00 per hour	EM2, Inc. supervision
$15.00 per hour	Laborer
$20.00 per hour	Backhoe*
$15.00 per hour	Dump Truck*
$ 5.00 per hour	Pickup*
$12.00 per hour	Compressor and related tools

Items marked with an *, i.e.: include insurance, fuel and other necessary incidentals.

Other equipment shall be at agreed rates, which shall not exceed competitive rates.

Before any work is undertaken under Paragraph 3.c., an estimate of the costs of repair shall be obtained by EM2, Inc. and provided to the Owner for its approval. In the event the estimated costs of repair exceeds Five Thousand Dollars ($5,000) for service work or Ten Thousand Dollars ($10,000) for repair, maintenance or

materials, the work shall then be competitively bid in accordance with the state laws governing municipal competitive bidding.

4. All prices in this Water Service Contract, including the price to furnish and install water meters, shall be subject to change by EM2, Inc. annually on the anniversary date of this Water Service Contract. In the event EM2, Inc. desires to change any fee or charge under this Water Service Contract, it shall give written notice to the Owner of its desire to do so, at least sixty (60) days prior to the anniversary date of the Water Service Contract. In the event the Owner fails to give written notice of its approval of the fees or charges to be changed by EM2, Inc., for the following year, on or before the anniversary date of this Water Service Contract, the Water Service Contract shall expire without any additional notice at the expiration of its term.

5. EM2, Inc., at its sole expense, shall provide and maintain comprehensive general liability insurance, naming the Owner as an additional insured, in the amount of One Million Dollars ($1,000,000) for injuries, including wrongful death or property damage or other loss as a result of any one occurrence or accident. The policy shall provide that the Owner is to receive notice of intent by the insurance company to cancel or of any substantial modification to the policy, at least twenty (20) days in the advance of such cancellation or modification. In addition, the insurance policy shall provide that the Owner is to receive annual proof of renewal of such insurance not less than ten (10) days before expiration.

6. This Water Service Contract is for an initial term of one year from the date of execution herein by the Owner and EM2, Inc. The Water Service Contract is automatically renewable for an additional one-year terms, provided that Owner has given written approval to the fees and charges to be charged by EM2, Inc. for the following year, as further described in Paragraph 4. This Water Service Contract may be terminated without cause by either party upon written notice given at least sixty (60) days in advance of the effective termination date, provided, however, that EM2, Inc. agrees to provide continued operation and maintenance of the Water System for a reasonable time, considering all of the circumstances, notwithstanding termination of this contract or failure or refusal of either party to agree to a renewal or extension of the contract.

7. The parties agree that EM2, Inc. is an independent contractor, and the Owner is the Principal, and that nothing herein contained shall be construed to create a joint venture, partnership or other similar relationship which might subject either party to liability for the debts or obligations of the other. Each party agrees to indemnify and hold harmless the other party against any and all liabilities, losses, damages, costs or expenses, including reasonable legal fees as a result of any claims, causes of action,

judgments and damages of any kind arising out of work performed under this Water Service Contract that they might sustain, caused in whole or part by any negligent or wrongful acts or omissions on the part of the indemnifying party or any employee or agent of said party.

8. EM2, Inc. agrees to bill the owners of lots in Lexington Hills and Echo Creek Subdivisions and others as may be added from time to time by Owner ("Water Customers") as soon as reasonably possible after EM2, Inc. obtains the information necessary to do so, monthly, at the same time each month, for the water customer's water service charges for the preceding month. EM2, Inc. will deposit Water Customer payments into a designated City of Eagle account within forty-eight (48) hours after receipt. EM2, Inc. agrees to provide a monthly accounting to Owner, showing all payments received by EM2, Inc., the Water Customer's name, account number, property address, amount of water used and the amounts owed by each water customer. Owner and EM2, Inc. agree to determine the content and form of the monthly reports. The Owner will collect the hook-up fees charged to water customers. EM2, Inc. shall bill the Owner monthly for any and all charges that it is entitled to receive under this Water Service Contract.

9. The Owner shall establish and advise EM2, Inc. of the scheduled water service charges to the water service customers and the City Ordinances affecting water use and any rules and regulations relating to water services.

10. Notices to be given under this Water Service Contract shall be in writing and be delivered in person or by public or private courier service (including U.S. Postal Service Express Mail) or registered or certified mail or by facsimile. Any notice given by registered or certified mail shall be sent with return receipt requested. All notices shall be addressed to the parties at the following addresses or at such other addresses as the parties may from time to time direct in writing.

OWNER: The City of Eagle
City Hall
P. O. Box 477
Eagle, ID 83616
(208) 939-6813
FAX: (208) 939-6827

With a copy to: Mona Dobaran Mack
City Attorney
Davis Wright Tremaine
702 West Idaho St., Suite 700
Boise, ID 83702
(208) 338-8215
FAX: (208) 338-8299

EM2, INC.: Keith Stokes
President
Engineering, Management and
Maintenance, Inc.
10487 Overland Rd., #116
Boise, ID 83709
(208) 376-4145; (208) 375-1130
(No FAX)

Any notice shall be deemed to have been given on (a) actual delivery or refusal, (b) the day of mailing, if delivery is by regular, registered or certified mail, or (c) the day facsimile delivery is verified.

11. EM2, Inc. agrees to act as custodian of those records, files, computer records, invoices and statements which EM2, Inc. prepares or obtains while acting under this Water Service Contract as it pertains to the Owner's Water System ("Records"), which such Records shall belong to and are the sole property of the Owner. EM2, Inc. agrees to turn over the Records to the Owner upon demand. EM2, Inc. further agrees to make available to the Owner, all Records and computer programs, for inspection purposes, relating the Water System which are the subject of the Water Service Contract, during regular business hours, provided Owner gives EM2, Inc. forty-eight (48) hours notice in advance of Owner's desire to make such inspection.

12. EM2, Inc. agrees to comply with all of the Owner's Ordinances, rules and regulations pertaining to the ownership, management operation and supervision of its domestic water system and to act as an agent for the Owner and further to act at the Owner's discretion.

13. EM2, Inc. agrees to collect delinquent accounts according to the terms and conditions of the Owner's Ordinances, rules and regulations pertaining to the domestic water system, including collection of amounts owed through small claims court.

14. EM2, Inc. agrees to send a representative to all meetings of the Owner's City Council, when its attendance is requested by

the Owner, and the Owner agrees to pay EM2, Inc. the fee herein provided for supervision, in Paragraph 3.a, plus mileage.

15. EM2, Inc. agrees to contact Digline and establish EM2, Inc. as the Owner's representative for the Water System in those areas that the Owner is providing water service, designated as the Water Service Area. EM2, Inc. further agrees to respond to calls concerning the location of water lines and mark their location as required by Digline. The fees payable to EM2, Inc. for services provided under this paragraph shall be as follows:

a) the initial contact and establishment of EM2, Inc. as the Owner's representative with Digline, as well as any ongoing administrative matters with Digline, shall be included in the basic service provided by EM2, Inc. to the Owner and this shall be included in the base fee contained in Paragraph 3.a.

b) EM2, Inc. shall be reimbursed for any costs it incurs as a result of acting as the Owner's representative plus 15%. EM2, Inc. shall obtain prior written approval for all expenses related to acting as the Digline representative over $100 from the Owner.

c) The Owner agrees to pay EM2, Inc. the fee for supervision, as contained in Paragraph 3.c, for all work that EM2, Inc. performs in identifying and marking water lines as required by Digline.

16. The Owner reserves the right, by providing thirty days advance written notice to EM2, Inc., to reassign the billing and collection responsibilities under this Water Service Contract, to any party or entity that is so desires. EM2, Inc. shall within a reasonable period of time after any such reassignment, review its fee structure and reduce the fee charged to the Owner to reflect this reassignment of responsibilities under the Water Service Contract.

17. This Water Service Contract constitutes the entire agreement between Owner and EM2, Inc., and there are no other representations or promises between them other than those expressly stated or provided for herein.

18. Time is of the essence of this Water Service Contract.

19. In the event any action is filed to enforce this Water Service Contract, or for damages arising out of any default in the performance of this Water Service Contract, the prevailing party shall be entitled to recover reasonable attorney fees and all costs incurred in connection with such action.

DATED: 5-26-92

OWNER: CITY OF EAGLE

Mayor

Attest:

(SEAL)

City Clerk

DATED: 6/5/92

ENGINEERING, MANAGEMENT AND MAINTENANCE, INC.

Keith Stokes, President

Attest:

(SEAL)

Secretary

FIRST AMENDMENT TO
WATER SERVICE CONTRACT

This First Amendment to Water Service Contract (this "Amendment") is made this 2nd day of December, 1997 by and between The City of Eagle (herein called "Owner" or "City"), an Idaho municipal corporation, and Engineering, Management and Maintenance, Inc. (herein called "EM²"), an Idaho corporation, in order to provide operations, maintenance, and management services for the municipal water system currently owned and/or operated by City.

RECITALS

A. City is the owner of a municipal, domestic water transmission and distribution system in the City of Eagle (hereinafter called the "System"). The geographical boundaries of the System are shown on Exhibit A, attached hereto and made a part hereof, which geographical boundaries of the System may be amended by the City from time to time.

B. EM² is engaged in the business of operating and managing domestic water systems such as the System.

C. City entered into that certain Water Service Contract with EM² on May 26, 1992 (the "Water Service Contract").

D. City and EM² desire to amend the Water Service Contract as provided further herein.

E. The Water Service Contract and this Amendment are collectively referred to herein as the "Contract."

NOW, THEREFORE, in consideration of the recitals above which are incorporated below, the mutual terms, conditions, covenants and agreements contained herein, the parties hereto agree as follows:

1. Paragraph 6 of the Water Service Contract is hereby deleted in its entirety and replaced as follows:

TERM OF CONTRACT

The term of the Contract shall commence on the first day following the date of the final passage of the resolution referenced in Paragraph 3(A) below (the "Commencement Date"), and shall expire fifteen (15) years following the Commencement Date (the "Term") ; provided, however, that EM² agrees to provide continued operation and maintenance of the System for a reasonable time, considering all of the circumstances, notwithstanding termination, impairment, or expiration of the Contract.

2. Paragraphs 1, 2, 5, 8, 11, 12, 13 and 15 of the Water Service Contract are hereby deleted in their entirety and replaced as follows:

OBLIGATIONS OF EM².

A. Billing. EM² shall monthly bill City's existing customers and others as may be added from time to time by City as soon as reasonably practicable, at approximately the same time each month, for such water customer's water service charges for the preceding month. All rents, rates, fees or other charges for water service shall be paid to and collected by EM² and, except as otherwise provided herein including, without limitation, as set forth paragraph 3A below, shall be retained by and become the property of EM².

B. Capital Expenditures and System Repairs. EM^2, after consultation with City, shall prepare a budget for capital improvements and/or expenditures in connection with the System, which shall include the estimated City expenses in connection with the System. Each year, the parties will renegotiate EM^2's maximum annual budget for capital improvements and/or expenditures. All charges made against the budget by EM^2 shall be at EM^2's direct actual cost of labor, material and overhead. EM^2 shall reimburse City for budgeted and actual City expenses in connection with the System on a monthly basis not to exceed three percent (3%) of collected revenues.

(i) Future Capital Costs. In the event that other capital improvements and/or expenditures in connection with the System are deemed ordinary and necessary and/or desirable or are required to meet Federal, State, and local laws and regulations, City shall have the option to either finance such capital improvements and/or expenditures itself or request that EM^2 finance such additional capital improvements and/or expenditures. If City so requests, and if EM^2 agrees, to have EM^2 finance such capital improvements and/or expenditures, then City agrees to increase the water service rates and/or connection fees by an amount agreed upon by the parties hereto, which amount will adequately compensate EM^2 for such capital improvements and/or expenditures. EM^2 shall not be obligated to finance such capital improvements and/or expenditures unless and until the agreed-upon rate and/or connection fee increase has become effective. If repayment of the capital improvements and/or expenditures shall not be fully repaid while the Contract is in effect, or if any agreed-upon rate and/or connection fee increase shall have been finally ruled to be ineffective, City agrees to pay any unreimbursed portion of the capital improvements and/or expenditures upon such final ruling, or upon termination, impairment or expiration of the Contract, as applicable, as provided further in paragraph B(ii).

(ii) Repayment of Capital Costs. In the event of termination or impairment of the Contract for any reason, or expiration of the Contract, or upon such final ruling that any agreed-upon rate and/or connection fee increase is ineffective, City shall reimburse EM^2 for the unamortized portion of any and all capital improvements and/or expenditures made prior thereto using a straight-line amortization schedule utilizing a 2% amortization rate. City agrees to reimburse such advances immediately after termination, expiration, or impairment of the Contract.

For purposes of the Contract, capital improvement and/or capital costs shall mean an improvement to the System that has a five year or greater useful life, is non-consumable in nature and constitutes a permanent part of the System. For example, without limitation, any repair to a broken water main involving the replacement of an entire length of pipe and two joints and/or as another example, major components of a pumping unit or well, shall be considered a capital improvement.

C. Services to be Provided.

(i) Staffing. EM^2 shall provide a professional staff of qualified employees for operations, maintenance and management procedures and shall provide additional third party support as needed to perform the scope of services described herein.

(ii) Licensees. The operations staff shall be required to possess all required State, Federal, and local licenses and certifications.

(iii) Water Quality Standards.

a) EM^2 shall comply with all Federal, State, and local regulations concerning safe drinking water standards. EM^2 agrees to indemnify and hold City harmless from any fines or penalties assessed by the appropriate regulatory agencies for any and all violations committed by EM^2.

b) EM^2 shall endeavor to meet all water quality requirements which exist as of the Commencement Date. To the extent that such environmental laws and regulations are changed so

as to require additional capital improvements and/or expenditures in order to effectuate compliance, City agrees that the rates and/or connection fees shall be adjusted so as to adequately compensate EM^2 for said additional capital improvements and/or expenditures. If additional capital improvements and/or expenditures are necessary to comply with changes in environmental laws and regulations, City shall have the option to either make such capital improvements and/or expenditures from its own funds or to request EM^2 to make such capital improvements and/or expenditures. If City so requests, and if EM^2 agrees, to have EM^2 finance such capital improvements and/or expenditures, then City agrees to increase rates and/or connection fees by an amount agreed upon by the parties hereto, which amount will adequately compensate EM^2 for such additional capital improvements and/or expenditures. EM^2 shall not be obligated to finance such additional capital improvements and/or expenditures unless and until the agreed-upon rate and/or connection fee increase has become effective. If repayment of the additional capital improvements and/or expenditures shall not be fully repaid while the Contract is in effect, or if any agreed-upon rate and/or connection fee increase shall have been finally ruled to be ineffective, City agrees to pay any unreimbursed portion of the additional capital improvements and/or expenditures upon such final ruling, or upon termination, impairment or expiration of the Contract, as applicable, as provided further in paragraph B(ii).

c) EM^2 shall have no obligation to indemnify City for any fines or penalties assessed for conditions which pre-exist the Commencement Date and constitute violations of any current Federal, State or local water quality laws or regulations. City shall disclose any and all such conditions to EM^2 as soon as reasonable and practicable. In the event the wells or any source of supply become contaminated or other circumstances cause the System to not meet standards as established by the regulatory agencies for reasons beyond the reasonable control of EM^2, all remedies and related costs shall be the responsibility of City.

d) EM^2 shall comply with all applicable State, Federal, and local laws, regulations, and ordinances as they apply to the System and will maintain existing regulatory licenses and/or permits (currently held by City) necessary for the operation and maintenance of the System. This provision shall not be construed to require EM^2 to make improvements or repairs beyond those required by ordinary maintenance or as otherwise provided in the Contract.

e) City agrees to indemnify and hold EM^2 harmless from any and all fines or penalties assessed by the appropriate regulatory agencies for any and all violations committed by City and for all conditions which pre-exist the commencement of the Contract and constitute violations of any current Federal, State or local water quality laws or regulations.

(iv) Reports. EM^2 shall comply with all reporting requirements related to its operations as mandated by Federal, State and local laws and regulations.

(v) Records. EM^2 shall act as custodian of those records, files, invoices and statements which EM^2 prepares or obtains in connection with the Contract, which records shall belong to and are the sole property of City. EM^2 agrees to turn over such records to City upon demand. EM^2 further agrees to make available to City, all such records for inspection purposes in connection with the Contract during regular business hours, provided City gives EM^2 forty-eight (48) hours advance notice of Owner's desire to make such inspection.

(vi) Expenses. EM^2 shall pay all expenses required for the normal operation, maintenance, and management of the System, subject to the limitations herein provided.

(vii) Insurance. EM^2 shall maintain the following insurance:

a) Commercial General Liability Insurance and Property Damage: not less than $1,000,000.00 to any one (1) person and $1,000,000.00 for any one (1) occurrence for bodily injury, and $1,000,000.00 broad form coverage for property damage.

b) Comprehensive Automobile Liability Insurance: not less than $1,000,000.00 for each accident for property damage.

c) Workers' Compensation: in accordance with State and Federal statutory requirements and liability insurance of not less than $100,000.00.

d) Umbrella Excess Liability Insurance and Automobile Liability: covering EM² and City with the minimum limit of $5,000,000.00.

The minimum coverage requirements may, at either party's request, be subject to renegotiation during the Term.

(viii) Digline. EM² agrees to contact Digline and establish EM² as City's representative for the System. EM² further agrees to respond to calls concerning the location of water lines and mark their locations as required by Digline.

(ix) At City's request, EM² shall advise City in regard to the availability of water service for proposed new developments within the geographical boundaries of the System, which geographical boundaries may be amended by City from time to time.

3. Paragraphs 3, 4, 9, and 16 of the Water Service Contract are hereby deleted and replaced as follows:

CITY'S OBLIGATIONS.

A. Rates. City, by resolution, shall provide for a schedule of minimum charges for water supply service as set forth in the Contract. The initial rates and charges to be charged hereunder for the various categories of service are shown on Exhibit B. The connection fee shall be a total of not less than $850.00, paid upon customer request for service and $200.00 of which connection fee shall be paid to the Eagle City domestic water system reserve fund. Nothing herein shall be construed to restrict City from setting and collecting rates beyond the minimum rates as set forth herein. The rates shown on Exhibit B do not include any rate increases and/or increases in connection fees which may be required for additional capital improvements, repairs, investments and/or expenditures as necessitated by the terms of the Contract. The parties shall renegotiate the rates and attach a new Exhibit B hereto and shall continue this practice every five (5) years hereafter. Such revision of the fees and charges shall be based on all relevant factors and shall include, without limitation, the product of such previously adopted rates and fees multiplied by two percent (2%) per annum plus an additional five percent (5%) of the last previously adopted fees and charges.

B. Licenses. City, except as set forth as part of EM²'s obligations, shall obtain and/or continue to maintain existing and contractually contemplated ownership, easements, licenses, equipment, warranties, franchises, and permits for the mutual benefit of both parties.

C. Owner's Insurance. City shall insure that commercial general liability and hazard insurance policies are maintained, with limits not less than those required of EM², for the mutual benefit of the parties herein, naming EM² as an additional insured, to the extent permitted by law.

D. Collections. City agrees to cooperate in collection matters and to use statutory powers pertaining to any and all remedies granted to municipalities for purposes of collection.

E. Right of Access. City shall provide EM², its employees, agents, and subcontractors, with any and all rights of access necessary for the operation, repair, and maintenance of the System.

F. Repair Procedures. Repairs shall be made in accordance with existing City, County, State, and Federal laws and ordinances. EM² shall not incur expenses for items such as street openings. Similarly, if, during the course of EM²'s work necessary to make improvements or repairs, hazardous waste or materials are discovered, it shall not be the obligation of EM² to remove and/or dispose of such hazardous waste or materials.

G. Private Law. City shall advise EM² of any private (for example, homeowners' associations) conditions, covenants, restrictions and/or easements affecting the System and water use in connection with the System.

4. Paragraph 7 of the Water Service Contract is hereby deleted in its entirety and replaced as follows:

INDEMNITY.

EM² agrees to, and shall indemnify and hold harmless City, its elective and appointive officers, and its duly authorized agents, servants, and employees from any liability, including liability to third parties, for personal injury, including death, and/or property damage which are caused by or arise from the sole negligence of EM² or any subcontractor selected by EM² in connection with the operation of the System.

EM², its employees, subcontractors, and agents shall not be responsible for any liability for personal injury, including death, and/or claims for property damages arising out of circumstances which are beyond the control of, or which were not caused by, the negligence of EM², its employees, subcontractors or agents.

City agrees to hold harmless and indemnify EM² for any loss, damage, liability or expense due to claims by third parties for property damage or personal injury arising from the normal operation of the System, as well as any loss, damage, liability or expense due to the negligent or improper design or construction of the System not otherwise caused by EM², its employees and/or agents.

In the event EM² and/or its subcontractors, together with City or any third party, are negligent, and the negligence of each is the proximate cause of such damage(s), then each party shall be responsible for the portion of the liability or damages equal to that party's comparative share of the total negligence. EM² reserves the right to conduct its own defense and settle any claims made against it or for which it will be responsible.

5. Paragraph 14 of the Water Service Contract is hereby deleted in its entirety and replaced as follows:

REPRESENTATIONS AND WARRANTIES.

A. City is a municipal corporation under the laws of the State of Idaho and has the requisite power and authority to enter the Contract.

B. City has the exclusive legal capacity and authority to assess the rates and revenues established and to be established and assigned to EM² pursuant hereto, and warrants and represents that no prior liens, notes, bonds, mortgages, encumbrances or other entitlements have been imposed or will be imposed thereon, which have or will have priority over the entitlement of EM² pursuant to the Contract.

C. City is not aware of any claims, suits, actions or judgments which, if successful, would create an encumbrance upon EM²'s entitlements herein or otherwise have a material adverse effect on the Contract.

D. City is in compliance with, will remain in compliance with and will ensure the

compliance of any and all separate and existing contracts and/or agreements in connection with the System, specifically including, and without limitation, that certain Agreement for Transfer and Operation of Domestic Water, dated May 20, 1992, as amended from time to time (the "Lexington Hills Agreement").

6. Paragraph 10 of the Water Service Contract is hereby deleted in its entirety and replaced as follows:

NOTICES.

All notices, demands, requests, and other communications under the Contract shall be in writing and shall be deemed properly served or delivered, if delivered by hand to the party to whose attention it is directed, or when sent, three (3) days after deposit in the U.S. mail, postage prepaid, by registered or certified mail, return receipt requested, or if sent by facsimile to the party to whose attention it is directed, addressed as follows:

If to City:
The City of Eagle
Attn: Mayor
City Hall
310 E. State Street
Eagle, ID 83616
(208) 939-6813
(208) 939-6827(facsimile)

If to EM^2:
Engineering, Management and Maintenance, Inc.
Attn: Katherine Shiflet
8248 W. Victory Road
Boise, Idaho 83707
(208) 362-1799
(208) 362-3858 (facsimile)

or at such other address or to such other party which any party entitled to receive notice hereunder designates to the other in writing as provided above.

INABILITY TO PROCEED.

A. Wrongful Acts or Omissions. Wrongful, willful or negligent acts of City, through its officers, agents or employees, and wrongful, willful or negligent acts or omissions of third parties, or Acts of God, including lightning, flood, drought, fire, theft, or damage caused by anyone other than the personnel of EM^2 or its subcontractors or agents, which cause damage to the System or to other parties or properties shall not be the responsibility of EM^2.

B. Unforeseen Costs. Unforeseen costs associated with Acts of God, or wrongful acts or omissions described herein, including those which increase maintenance expense, repair costs or other expenses beyond the control of EM^2 are the responsibility of City.

C. Labor Stoppage. In the event a labor action, stoppage or dispute which disrupts or prevents EM^2's employees or its subcontractor's employees from entering upon and working on any part of the System, City, with EM^2's assistance, or EM^2 at its own option, shall seek appropriate legal injunctions, remedies or court orders. During such a designated period, EM^2 shall operate the System on a best effort basis until labor relations are normalized and shall not be liable for any fines or penalties. In any event, EM^2 shall continue to operate the System through the use of office personnel, management or other resources at its disposal, to the best of its ability.

D. Force Majeure. If EM^2 is prevented or delayed by force majeure from performing any part of the Contract, such failure to perform shall not be deemed a breach of the Contract; provided, however, that failure to make any payment when due shall not be excused by force majeure.

7. Paragraph 19 of the Water Service Contract is hereby deleted in its entirety and replaced as follows:

GENERAL PROVISIONS.

A. New Equipment. Any new equipment installed in the System by EM^2 during the Term hereof shall become the property of City. EM^2 shall maintain books and records regarding any such equipment. Prior to making any significant change to the System or expenditures of its own, EM^2 shall consult with City, as provided further herein.

B. Independent Contractor. EM^2 is an independent contractor, and City is the principal, and nothing herein contained shall be construed to create a joint venture, partnership or other similar relationship which might subject either party to liability for the debts or obligations of the other.

C. City Meetings. Upon reasonable request by City, EM^2 shall send a representative to any particular meeting of City's City Council and shall provide City with quarterly reports of activities in connection with the System.

D. Enforcement. The failure on the part of either party to enforce its rights as to any provision of the Contract shall not be construed as a waiver of its rights to enforce such provision in the future.

E. Assignment. EM^2 shall be permitted to make an assignment to any affiliated company of EM^2, or EM^2 may assign to any other company with the City's consent, which shall not be unreasonably held.

F. Equal Opportunity. EM^2 is an equal opportunity employer.

G. Default. If any party shall fail to perform such party's obligation(s) contemplated herein for any reason, one or more of the other parties may pursue any and all remedies at law or equity; provided, however, all parties affected by any default agree to attempt to mediate a settlement in good faith prior to initiating litigation. In the event litigation is filed, the prevailing party or parties shall be entitled to an award of reasonable costs and attorneys' fees.

H. Access. City officials and representatives will have access to the System in connection with the Contract during normal working hours and at other times with reasonable notice.

I. Public Notices. City shall issue all public notices associated with non-compliance with regulatory requirements for drinking water standards, and EM^2 shall provide all necessary support which City may reasonably require.

J. Severability. If any section, subsection, sentence, clause, phrase or portion of the Contract is for any reason held invalid, preempted or unconstitutional by any court or by any Federal or State agency of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision of the Contract, and such holding shall not affect the validity of the remaining portions hereof.

K. Application of Law. The Contract is subject to all applicable laws of the State of Idaho and ordinances of the municipality of Eagle City.

L. Survival. The terms, representations, provisions, covenants, agreements and indemnities

shall remain binding upon and for the parties hereto until fully observed, kept or performed.

M. Captions. The captions at the beginning of the several paragraphs, respectively, are for convenience in locating the context, but are not part of the text.

N. Inconsistencies. In the event of any inconsistency between the terms and conditions of the Amendment and the Water Service Contract, the terms and conditions of the Amendment shall control.

IN WITNESS WHEREOF, the undersigned have duly executed this First Amendment to Water Service Contract as of the date first above written.

ATTEST:

City Clerk

CITY OF EAGLE, an Idaho municipal corporation

By: _____
Mayor

ENGINEERING, MANAGEMENT AND MAINTENANCE, INC., an Idaho corporation

By: Benjamin M. Hepler

Its: VICE PRES.

EXHIBIT A

Geographical Boundaries
City of Eagle Water System

Commencing at the section corner common to Sections 4, 5, 8 and 9, Township 4 North, Range 1 East, Boise Meridian, Ada County, Idaho, the REAL POINT OF BEGINNING;

thence easterly along the section line common to Sections 4, 3, 9 and 10 approximately 2 miles to the section corner common to Sections 2, 3, 10 and 11, Township 4 North, Range 1 East, Boise Meridian, said point being the centerline of State Highway 55;

thence northwesterly along said centerline of State Highway 55 approximately 3/4 mile to a point on the north line of the south half of the north half of said Section 3, Township 4 North, Range 1 East, Boise Meridian;

thence westerly along said north line of the south half of the north half of Section 3, approximately 3/4 mile to the common north-south section line of Sections 3 and 4, Township 4 North, Range 1 East, Boise Meridian;

thence southerly along said north-south section line of Sections 3 and 4 approximately 1/4 mile to the 1/4 corner common to said Sections 3 and 4, Township 4 North, Range 1 East, Boise Meridian;

thence westerly along the east - west half section line of said Section 4 approximately 1/8 mile to the centerline of Dry Creek;

thence southwesterly along said centerline of Dry Creek approximately 5/8 mile to the west line of the east half of the west half of said Section 4, Township 4 North, Range 1 East, Boise Meridian;

thence southerly along said west line of the east half of the west half of Section 4 approximately 3/8 mile to the north line of the south half of the south half of said Section 4, Township 4 North, Range 1 East, Boise Meridian;

thence westerly along said north line of the south half of the south half of Section 4 approximately 1/4 mile to the common north - south section line of said Sections 4 and 5, Township 4 North, Range 1 East, Boise Meridian;

thence southerly along said north - south section line of Sections 4 and 5 approximately 1/4 mile to the section corner common to Sections 4, 5, 8 and 9, Township 4 North, Range 1 East, Boise Meridian, the REAL POINT OF BEGINNING;

AGREEMENT

This Agreement is made this 2nd day of December 1997, by and between the City of Eagle, an Idaho municipal corporation (herein called "City"), and United Water Idaho Inc., an Idaho corporation (herein called "UWID").

RECITALS

A. City is the owner of a municipal, domestic water transmission and distribution system in the City of Eagle (hereinafter called the "System"). The geographical boundaries of the System are shown on Exhibit A, attached hereto and made a part hereof, which geographical boundaries of the System may be amended by the City from time to time.

B. UWID is engaged in the business of owning, operating and managing a potable water systems, and delivering potable water. UWID owns and operates a potable water reservoir commonly known as the Hidden Hollow reservoir (the "Reservoir").

C. City desires to have UWID provide such emergency back-up water to City and UWID desires to provide emergency back-up water to City.

D. Conveyance of emergency back-up water to City from the Reservoir will require that UWID convey potable water to and through the System. City desires to have UWID convey such emergency back up water to City from the Reservoir to and through the System.

NOW, THEREFORE, in consideration of the recitals above which are incorporated below, the mutual terms, conditions, covenants and agreements contained herein, the parties hereto agree as follows:

1. In consideration of conveyance of emergency back-up water to City from the Reservoir, City hereby grants to UWID, and to its successors and assigns, the exclusive right and privilege, for a period of thirty (30) years from the first day following the hereof, to convey potable water to and through the System, all subject to the terms and conditions hereinafter specified.

2. The System shall be constructed and at all times maintained in good order and condition and in accordance with standard engineering practices and all applicable safety codes and lawful governmental regulations, including all applicable local, state, and federal regulations.

3. UWID shall at all times indemnify and hold City, its officers, employees and agent, harmless from any and all expenses or liability arising from or by reason of any negligent act or omission of UWID, its agents or employees, in conveying water to and through the System.

4. Before UWID shall have any rights hereunder, UWID shall file with City Clerk a certificate of insurance evidencing general liability insurance which covers claims for bodily injury, property damage and personal injury. Such insurance shall have minimum limits of $1,000,000 per occurrence. City of Eagle shall be named as an additional named insured under UWID's insurance policy. Should the minimum limits of insurance as set forth herein be increased above $1,000,000, pursuant to the Idaho Tort Claims Act (Idaho Code Section 6-901, et. seq.) or any similar legislation, UWID shall, upon City's request, be required to provide City with a new certificate of insurance evidencing such higher limits.

5. This Agreement shall at all times be subject to all rules, regulations and orders that may be lawfully prescribed by the IPUC or by any other governmental authority now or hereafter having jurisdiction over such matters.

6. City and UWID acknowledge that delivery of water other than water controlled by City and/or UWID is undesirable and agree that City shall not grant a permit, license or other agreement for the use of the System to another water service provider during the term of this Agreement.

7. In the event of an amendment to the laws, rules or regulations of City, the State of Idaho, or the IPUC applicable to this Agreement, or for periodic review of any section of this Agreement, the terms of this Agreement and the rights and privileges hereby conferred may be changed, altered, amended, or modified upon mutual agreement between City and UWID to carrying out the intent of this Agreement. In all cases, sixty (60) days notice shall be required on the part of City or UWID to reopen the Agreement pursuant to this section.

8. Sale, assignment, lease or other transfer of this Agreement by UWID may occur only subsequent to notification to City. Sale of the System by City shall be subject to the terms of this Agreement.

9. GENERAL PROVISIONS.

a. All notices, demands, requests, and other communications under this Agreement shall be in writing and shall be deemed properly served or delivered, if delivered by hand to the party to whose attention it is directed, or when sent, three (3) days after deposit in the U.S. mail, postage prepaid, by registered or certified mail, return receipt requested, or if sent by facsimile to the party to whose attention it is directed, addressed as follows:

If to City:
The City of Eagle
Attn: Mayor
City Hall
310 E. State Street
Eagle, ID 83616
(208) 939-6813
(208) 939-6827(facsimile)

If to UWID:
United Water Idaho Inc.
Attn: President
8248 W. Victory Road
Boise, Idaho 83707
(208) 362-1704
(208) 362-3858 (facsimile)

or at such other address or to such other party which any party entitled to receive notice hereunder designates to the other in writing as provided above.

b. Upon reasonable request by City, UWID shall send a representative to any particular meeting of City's Council and shall provide City with quarterly reports of activities in connection with conveying water to and through the System.

c. The failure on the part of either party to enforce its rights as to any provision of the Agreement shall not be construed as a waiver of its rights to enforce such provision in the future.

d. If any party shall fail to perform such party's obligation(s) contemplated herein for any reason, one or more of the other parties may pursue any and all remedies at law or equity; provided, however, all parties affected by any default agree to attempt to mediate a settlement in good faith prior to initiating litigation. In the event litigation is filed, the prevailing party or parties shall be entitled to an award of reasonable costs and attorneys' fees.

e. If any section, subsection, sentence, clause, phrase or portion of the Agreement is for any reason held invalid, preempted or unconstitutional by any Federal or State court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision of the Agreement, and such holding shall not affect the validity of the remaining portions hereof.

f. The Agreement is subject to all applicable laws of the State of Idaho and ordinances of City.

g. The terms, representations, provisions, covenants, agreements and indemnities shall remain binding upon and for the parties hereto until fully observed, kept or performed.

IN WITNESS WHEREOF, the undersigned have duly executed this Agreement as of the date first above written.

CITY OF EAGLE, an Idaho municipal corporation

By: _____
Richard Yzaguirre, Mayor

ATTEST:

By: _____
City Clerk

CITY OF EAGLE CORPORATE SEAL INCORPORATED 1971 STATE OF IDAHO

UNITED WATER IDAHO INC., an Idaho corporation

By: _____
William C. Linam, President

RECEIVED & FILED
CITY OF EAGLE
JUL 14 1997
File:
Route to:

AGREEMENT TO PROVIDE SUPPLEMENTAL WATER FOR FIRE FLOWS

This Agreement to Provide Supplemental Water for Fire Flows (this "Agreement"), is effective this first day of August, 1997 by and between THE CITY OF EAGLE CITY, a municipal corporation ("Eagle"), whose address is 310 East State Street, Eagle, Idaho 83616, and UNITED WATER IDAHO INC., an Idaho corporation ("United Water"), whose address is P.O. Box 7488, Boise, Idaho 83709.

RECITALS:

A United Water provides domestic, commercial, and fire flow water in the Eagle, Idaho area and is a public utility within the meaning of the Idaho Public Utility law.

B. Eagle desires to obtain an additional source of water, including for fire protection purposes, to serve Eagle.

C. United Water is willing and able to make quantities available to Eagle during each month of the year for the term hereof, as provided further herein.

NOW, THEREFORE, in consideration of the mutual promises and covenants herein contained, to be kept and performed by the parties, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the parties, it is mutually agreed as follows to wit:

1. Provision of Water. United Water agrees to provide to City additional water and supplemental fire flow as hereinafter set forth. Said flow shall be provided on August 1, 1997 or within a reasonable time after approval by the Idaho Public Utilities Commission ("IPUC") of such provision by United Water. Water for fire flow shall not be less than One Thousand Five Hundred (1,500) gallons per minute measured at the hydrant nearest to the point of diversion of such water flow from United Water to City. United Water shall provide such flow by tying to City's water system at United Water's Floating Feather Well.

2. Payment: City will pay, as billed monthly, for actual flow through the meter, at the metered tariff rates then allowed to United Water by the IPUC for such provision.

3. Assistance by City. City agrees to use its best efforts to aid and assist United Water in obtaining IPUC approval, as required or as helpful for such approval or to speed such approval. The parties acknowledge that City cannot force said entities to provide such consents, and the only requirement hereof is that City reasonably use its best efforts to such end.

4. Term. The term of this Agreement shall be for one year from and after the date above written, during which term this Agreement may not be terminated by either party. Thereafter, the Agreement shall be deemed automatically extended for successive one-year periods unless terminated as herein provided. Eagle may terminate this Agreement by providing written notice of intention to so terminate at least twelve months prior to the proposed termination. United Water may terminate this Agreement by providing written notice of intention to so terminate at least twelve months prior to the proposed termination.

5. Interruptions: United Water shall use reasonable care and diligence to prevent interruptions and fluctuations in delivering the water provided for in this Agreement. Both parties agree that they will make no claim against each other for damages in the event United Water is unable to deliver water because of the need to make repairs for breaks or leaks or other repairs to its facilities, or because of other causes beyond its control. United Water agrees that any necessary repairs or maintenance shall be scheduled so as to minimize disruption to Eagle. Further, if repairs or maintenance are necessary, United Water will provide to Eagle reasonable advance notice of the need to make repairs and shall complete said repairs or maintenance in a timely and workmanlike manner.

6. Indemnity: Each of the parties hereto agrees to indemnify and hold harmless the other party from and against all actions, suits, proceedings, judgments, costs and expenses relating to any claims arising in connection with the subject matter hereof prior to the execution of this Agreement.

7 Notices: All notices required or desired to be given under this Agreement shall be in writing and delivered personally or sent by facsimile or by first class United States mail, postage prepaid addressed as follows:

If to Eagle:

310 East State Street
Eagle, Idaho 83616
208/939-6813
208/939-6827 (facsimile)
Attn: City Clerk

If to United Water:

United Water Idaho Inc.
P.O. Box 7488
Boise, Idaho 83709
208/362-1704
208/362-3858 (facsimile)

8. Miscellaneous:

a. Enforcement. The failure on the part of any party to enforce its rights as to any provision of the Agreement shall not be construed as a waiver of such party or parties rights to enforce such provision in the future.

b. Assignment. This Agreement, and the terms hereof, are binding on the parties named herein, their heirs, successors, and assigns. This Agreement shall not be assigned without the written consent of the other parties hereto not to be unreasonably withheld; provided however, that if the business of United Water is taken over by or transferred to a successor company, such shall not be deemed an assignment hereunder. United Water agrees to give Eagle prompt written notice of any such change in ownership.

c. Entire Agreement. This Agreement contains the entire agreement between the parties hereto in connection with the transactions contemplated herein and supersedes all previous or contemporaneous communications, representations or agreements. This Agreement may be modified only by written amendment signed by all parties.

d. Severability. If any section, subsection, sentence, clause, phrase or portion of this Agreement is for any reason held invalid, preempted or unconstitutional by any court or by any Federal or State agency of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision of this Agreement, and such holding shall not affect the validity of the remaining portions hereof.

e. Application of Law. This Agreement is subject to all applicable laws of the State of Idaho.

f. Survival. The terms, representations, provisions, covenants, agreements and indemnities shall remain binding upon and for the parties hereto until fully observed, kept or performed.

g. Authority. The parties hereto represent and confirm that they have the authority to execute this Agreement on their behalf and on behalf of the other persons named herein, although those persons may not have executed this Agreement.

i. Counterparts. This Agreement may be executed in counterparts, each of which shall constitute an original, but all together shall constitute one and the same Agreement.

IN WITNESS WHEREOF, the undersigned have executed this Agreement as of the date first above written.

CITY OF EAGLE CITY

By: _____
Its: Mayor

ATTEST:

By: _____
Acting Its: City Clerk

CITY OF EAGLE CORPORATE SEAL INCORPORATED 1971 STATE OF IDAHO

UNITED WATER IDAHO INC.

By: _____
Its: VICE PRES.

May 21, 2003

RE: REVISIONS AND AMENDMENTS TO "City of Eagle Municipally-Owned Water System Master Plan and Budget Study," as dated April 12, 2002

P.10 (original): Item 3.a., "Water Rights":
Insert table of correspondences of old and new names of points of diversion.
Insert the explanatory phrase "in its final version" in the sentence "this right did not identify the points of diversion called for in the 1991 right as City of Eagle Well Number 3 and City of Eagle Well Number 4."

Amend the phrase "the proposed well known as Brookwood Well" to "the proposed City of Eagle Well Number 3 sometimes identified as the Brookwood Well."

P.11 (original): Item 3.6., "Wells and Appurtenances":
Initial paragraph: Wells identified as Lexington Hills Wells Number 1 and Number 2 are parenthetically identified as City of Eagle Wells of the same numbering in the remainder of the item, the correction is substituted where it applies.

P.16 (original): Item 4.c., "Wells and Water rights":
Second paragraph: "Lexington Hills Well Number 1" changed to "City of Eagle Well Number 1."

P.16 (original) and P.17 Revised: Item 4.d., "Ancillary Facilities":
"the proposed Brookwood Well" changed to "the proposed City of Eagle Well Number 3, aka Brookwood Well"; and "Lexington Hills Well Number 1" changed to "City of Eagle Well Number 1."

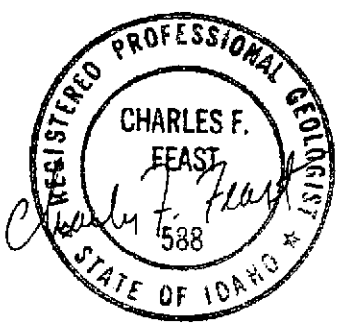
Appendices:
"Appendix II: Water Storage Calculations, Revised April 28, 2003", inserted.
Appendices previously numbered II through VI are to be re-numbered, respectively to III through VII.

RECEIVED
MAR 2 3 2004
Department of Water Resources

RESULTS OF THE 30-DAY PUMPING TEST AND AQUIFER ANALYSIS

Prepared for

FLOATING FEATHER HILLS, INC.



Prepared by

CH2M HILL
Boise, Idaho

June 1991
BOI31684.A1

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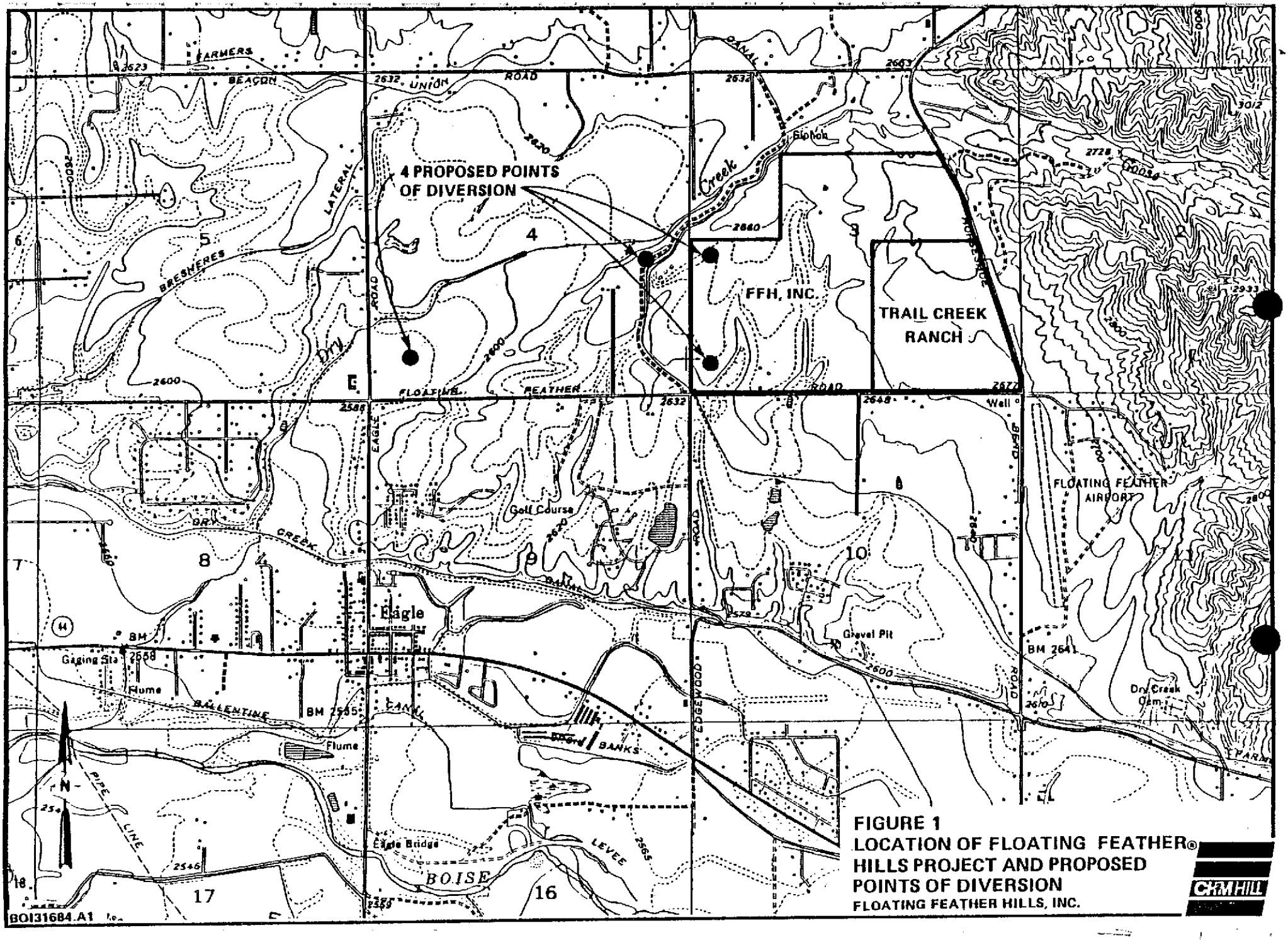

FIGURE 1
LOCATION OF FLOATING FEATHER® HILLS PROJECT AND PROPOSED POINTS OF DIVERSION
FLOATING FEATHER HILLS, INC.

CH2M HILL

INTRODUCTION

Floating Feather Hills, Inc. (FFH, Inc.) filed Application No. 63-11413 to divert 5 cubic feet per second (cfs) of groundwater to supply potable water service, fire protection, and limited irrigation flow for a proposed housing development north of Floating Feather Road, northeast of Eagle, Idaho. The application was subsequently amended to include supplying water to an adjoining proposed development known as Trail Creek Ranch. The water rights application identifies four possible points of diversion for groundwater. The properties to be served and proposed points of diversion are shown in Figure 1. A copy of the water rights application is provided in Appendix A

Approximately 90 protests to the FFH, Inc. water rights application were filed with the Idaho Department of Water Resources (IDWR) by concerned area residents. In response to these protestants and because of limited information on the hydrologic characteristics of the aquifers in the area, FFH, Inc. agreed to install a test/production well and conduct a long-term (30-day) aquifer test. The purpose of the test was to obtain direct information on aquifer characteristics and to use that information to evaluate the impact the proposed groundwater diversions may have on the water resources of the area.

Mr. Sherl Chapman, consulting geologist, Boise, Idaho, was retained by FFH, Inc. to design, install, and test the test/production well and to determine the maximum pumping rate and pump requirements for the pumping test. CH2M HILL was retained to conduct the long-term pumping test, analyze the data, and evaluate long-term pumping effects on the aquifer.

This report presents the findings, analysis, and conclusions from the installation of the test well, the aquifer test, and evaluation of potential effects stemming from the proposed groundwater withdrawals.

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SUMMARY AND CONCLUSIONS

SUMMARY

The FFH, Inc. test/production well was drilled and installed to 415 feet into a thick sequence of bedded sands and sandy clays. The well produces a sustained 750 gallons per minute and is capable of producing 900 gallons per minute for shorter durations.

The aquifer is characterized as a thick, complexly bedded water table system. Near the production well and for early pumping periods gravity drainage is significant and must be accounted for when analyzing water level responses in observation wells. The effect of gravity drainage diminishes with distance and time. The sources of recharge to the aquifer were listed but insufficient data exist to quantify recharge. Lateral inflow from the aquifer margin to the north and east and seepage from canal and irrigation laterals are probably the most significant sources of water.

The aquifer test was a success by many indicators. The cooperation of local residents and well owners allowed a good evaluation of the aquifer over a large area. The production well, test pumping equipment, and observation wells all performed well during the test with no significant problems, interruptions, or loss of data. Only one 1-hour interruption of pumping over a 30-day period was experienced because of an electrical power surge.

Water level data from eight observation wells and the production well were collected during the test. Water level recorders were installed on three wells and the U.S. Geological Survey (USGS) maintained their recorder on one of the eight observation wells. Initial water levels were collected beginning up to 2 weeks before the test in some wells and continued through the recovery period about 2 weeks after the pump was shut off.

The aquifer characteristics of transmissivity (T) and storage coefficient (S) were determined from the water level responses recorded at the production well and four observation wells. Observed drawdowns ranged from about 4 feet to less than 1 foot.

EAGLE HILLS GOLF COURSE WELL

The Eagle Hills Golf Course (EHGC) has two wells about 50 feet from each other. The pump was pulled from the northerly of the two wells. This is an 8-inch-diameter well approximately 175 feet deep. A water level recorder was installed on the EHGC well on March 20, 1991.

Although only one Eagle Hills Golf Course well was used as an observation well, provisions were made to provide the golf course water from the production well to avoid use of the second well. This was accomplished by a "tee", gate valve and additional aluminum pipe installed at the discharge end of the production well discharge pipe. Approximately 200 gpm was provided to the golf course during the test. The pump was reinstalled in the EHGC well on May 6, 1991.

HOLGATE WELL

The Holgate well is a 6-inch-diameter well approximately 171 feet deep. The pump was pulled, repaired, and reinstalled in the Holgate well on March 19, 1991. During installation the pump cable was securely fastened to the discharge pipe so that water level measurement probes would not become tangled. The Holgate well supplies domestic and livestock water to three residences and ranching operations. Although occasionally water level measurements were delayed because the well was in use, periodic pumping of the Holgate well did not interfere with collecting valid water level data during the test.

EICHHORN WELL

The Eichhorn well is an old 4-inch-diameter well 70 to 90 feet deep. A deep jet pump set at about 70 feet could not be removed and, consequently, this well was equipped with a temporary 3/4-inch PVC water level measurement tube. The tube extended from the top of the pump to ground surface. The top of the well is approximately 5 feet below ground level in a pump house. The Eichhorn well remained in service during the entire pumping and recovery tests. This well serves one residence and rarely was the pump on when a water level measurement was to be taken.

FLOATING FEATHER IRRIGATION DISTRICT WELL

The Floating Feather Irrigation District (FFID) well is an existing 12-inch irrigation well approximately 270 feet deep. An access port on the north side allowed lowering a water level probe to the water without pulling or modifying the pump. However, the well has a significant amount of pump oil on the water column, which hindered getting valid water level measurement and required extensive cleaning of the water level probe each time it was lowered into the well. To avoid fouling the water level probe, this well was equipped with a temporary airline and pressure gage to allow measurement of water levels. This approach limited the sensitivity of water level measurements to about 0.5 foot.

DAY WELL

The Day well is an unused private well located in the Sage Acres Subdivision. This is a 6-inch-diameter well approximately 230 feet deep. A replacement well about 40 feet north of this well was in use periodically during the test. A water level recorder was installed in the Day well on March 23, 1991. A temporary fence was constructed around the well to protect the recorder from livestock. IDWR has continued to operate the water level recorder on the Day well after the test ended.

USGS WELL

The USGS well is a dedicated long-term observation well for this area. Operation of the water level recorder and data collection is provided by cooperative agreement between the USGS and IDWR.

WATER LEVEL MEASUREMENTS

The Day, Hormachea, and Eagle Hills Golf Course wells were equipped with Stevens Type F water level recorders. The recorders were placed on the wells 4 days to 2 weeks before the test began. The recorders were provided by IDWR and were equipped with electric quartz clocks provided by FFH, Inc. The clocks had a maximum pen travel of 2 days per chart, or 1/2 hour per chart division. Vertical gearing was 2:1;

PUMPING TEST RESULTS

PRETEST WATER LEVEL TRENDS

Figures 6 through 13 are hydrographs showing the depth to water versus time for all observation wells (except the USGS well) and the production well throughout the entire test period. A separate hydrograph figure was not produced for the USGS well; however, the full water level charts are provided in Appendix C.

In Holgate, Carson, Hormachea, and EHGC wells, a definite trend of declining water levels was identified prior to the test. This trend ranges from 0.02 foot/day (ft/d) in the Hormachea and EHGC wells to 0.07 ft/d in the Holgate well. A declining water level trend was also indicated in the Eichhorn well but pretest water level data were insufficient to define the rate of decline. Insufficient data were obtained to determine pretest trends in the FFID and production well. No sustained pretest trend could be identified at the Day and USGS wells despite good water level data from the recorders installed on these wells.

No meaningful pretest water level trends could be established for the production well because the water level datum changed too frequently during the final well completion and because of the pretest pumping during development and production pump installation. Based on the assumption that water levels in the production well and the Holgate well were similar, the pretest water level trend shown in Figure 6 is the trend at the Holgate well superimposed to this well.

Although shown as constant linear trends throughout the test period, the pretest water level trends can probably only realistically be extended out 20,000 to 30,000 minutes into the test (April 10 to 15) at which point water was run in the Farmers Union Canal. Leakage from the canal would cause a flattening of the decline or rising water level trends when it finally reaches the aquifer. This may explain why, as shown in Figures 6, 8, 9, and 10, water levels recovered above the predicted water level based on the pretest trend. The effects of declining water levels and adjusted drawdowns are discussed in the section entitled Aquifer Analysis.

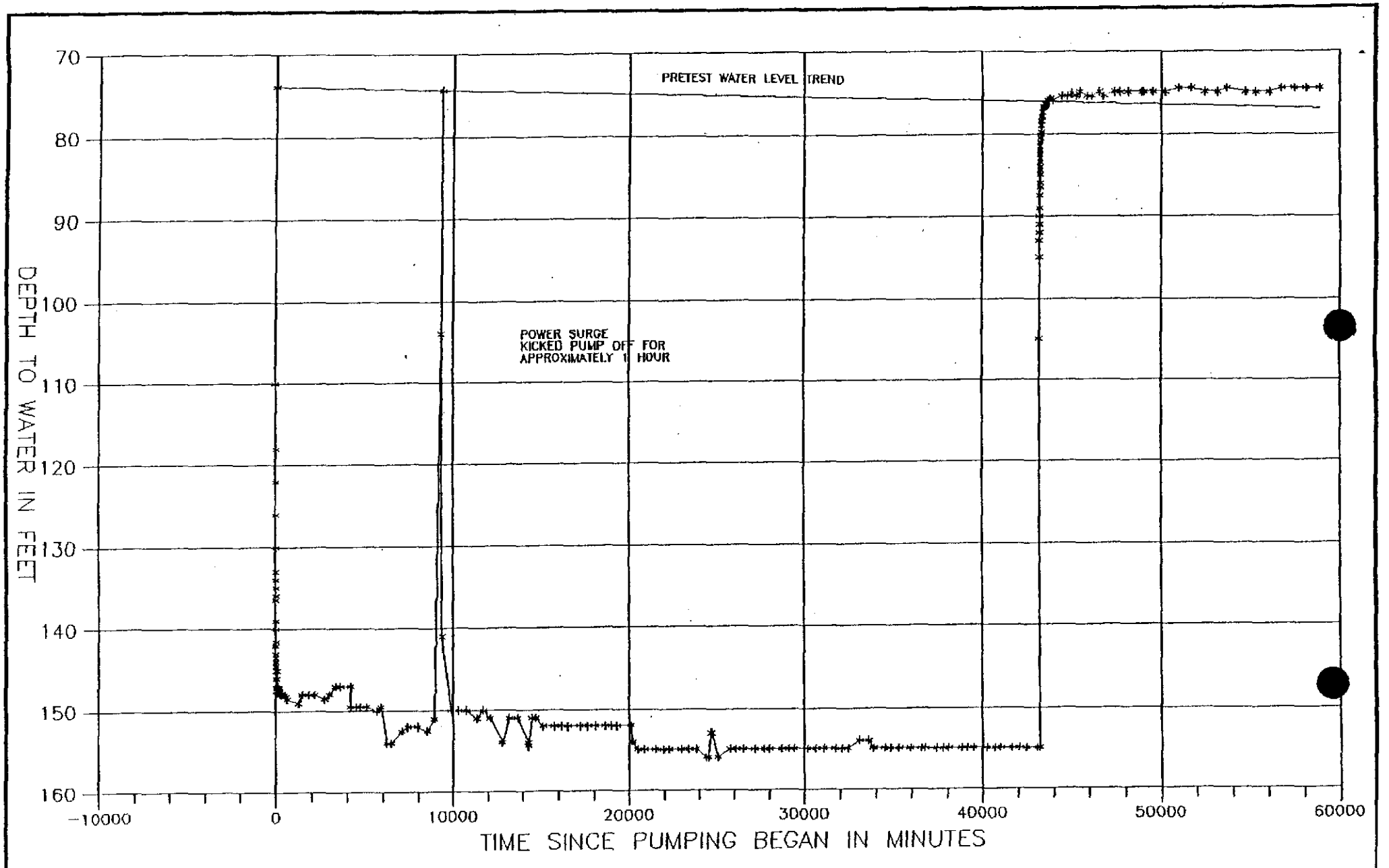

FIGURE 6
PRODUCTION WELL HYDROGRAPH
FLOATING FEATHER HILLS, INC.

CH2M HILL

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TABLE 1
SUMMARY OF AQUIFER CHARACTERISTICS
FROM PUMPING TEST ANALYSIS
FLOATING FEATHER HILLS, INC.

WELL	RADIUS (FT)	DIRECTION	METHOD OF ANALYSIS													SUMMARY BY WELL		
			CHOW SEMI-LOG TIME DRAWDOWN			THEIS NON-EQUILIBRIUM LOG-LOG TIME DRAWDOWN			BOULTON (PRICKETT) DELAYED YIELD			JACOBS SEMI-LOG TIME DRAWDOWN			JACOBS SEMI-LOG RECOVERY					
			TRANS. (GPD/FT)	STORAGE COEF	NOTES	TRANS. (GPD/FT)	STO.COEF.	NOTES	TRANS. (GPD/FT)	STORAGE COEF.	NOTES	TRANS. (GPD/FT)	STORAGE COEF.	NOTES	TRANS. (GPD/FT)	STORAGE COEF.	NOTES			
PRODUCTION	1	N/A	NO FIT	N/A		NO FIT	N/A		NO FIT	N/A		11,986	N/A	(E),1	30,793	N/A	(E),1	LOG MEAN T =	166,264	GPD/FT
												143,749	N/A	(L)	192,306	N/A	(L)			
HOLGATE	900	E	422,925	7.70E-05	(E),2	NO FIT	N/A		106,427	6.00E-04	(E),3	86,793	1.80E-02	(L)	100,591		(L)	LOG MEAN T =	98,991	GPD/FT
			122,738	6.70E-03	(M)				106,427	1.22E-02	(L)							LOG MEAN S =	1.29E-02	
			83,350	1.90E-02	(L)															
EAGLE HILLS G.C.	2,500	S	581,132	5.20E-03	(E),4	654,935	5.50E-03	(E),4	266,067	4.30E-03	(E),3	u>.01, invalid solution			NO FIT	N/A		LOG MEAN T =	278,542	GPD/FT
			219,720	1.70E-02	(L)	266,067	1.57E-02	(L)	266,067	1.58E-02	(L)	u>.01, invalid solution						LOG MEAN S =	1.24E-02	
						387,006	5.60E-03	(ALL)												
HORMACHEA	3,700	W	315,339	1.70E-02	(E)	532,135	3.50E-03	(E),4	NO FIT	N/A		u>.01, invalid solution			u>.01, invalid solution			LOG MEAN T =	318,905	GPD/FT
			287,490	8.20E-03	(L)	354,755	5.80E-03	(L)				u>.01, invalid solution			u>.01, invalid solution			LOG MEAN S =	3.94E-03	
						654,933	2.70E-03	(ADJ),4												
CARSON	1,300	SE	553,418	2.07E-02	(E),4	NO FIT	N/A		85,141	4.86E-02	(E),3	u>.01, invalid solution			u>.01, invalid solution			LOG MEAN T =	110,596	GPD/FT
			85,141	4.49E-02	(L)				85,141	7.50E-03	(L)	u>.01, invalid solution			u>.01, invalid solution			LOG MEAN S =	2.55E-02	
			186,610	4.92E-02	(ADJ)															
																		MEAN ALL WELLS	LOG MEAN T =	174,477 GPD/FT
																			LOG MEAN S =	1.37E-02
																		MEAN VICINITY PRODUCTION WELL	T =	122,100 GPD/FT
																			S =	1.90E-02

NOTES:

1. EARLY TIME DATA AFFECTED BY CASING STORAGE AND GRAVITY DRAINAGE.
2. EARLY TIME DATA ASSUMED AFFECTED BY GRAVITY DRAINAGE, HIGH T AND LOW S NOT USED IN LOG MEANS.
3. EARLY TIME T AND S NOT USED IN LOG MEANS. S USEFUL FOR EARLY OR SHORT-TERM WELL RESPONSE ANALYSIS.
4. HIGH EARLY TIME T FROM GRAVITY DRAINAGE EFFECTS, T AND S NOT USED IN LOG MEANS ALTHOUGH S IS REASONABLE.

(E) = EARLY TIME
(M) = MIDDLE TIME
(L) = LATE TIME
(ALL) = ALL DATA
(ADJ) = ADJUSTED DRAWDOWN

PRODUCTION WELL

Semi-log Drawdown (Figure 15 and Appendix E-1)

This plot indicates two definite straight line segments. The first segment from time (t) = 0.3 minutes to t = 30 minutes gives a transmissivity (T) of 12,000 gallons per day per foot (gpd/ft). Additional calculations reveal, however, that because of the size of the well and gravel pack envelope, early time data is strongly influenced by casing storage and is not a valid T. The second straight line segment indicates a T of 145,000 gpd/ft. The second T is more indicative of the aquifer.

Log-Log Drawdown (Figure 16)

The log-log plot for the production well did not produce a meaningful curve and was not used in the analysis.

Semi-Log Recovery (Figure 17 and Appendix E-1)

This plot reveals two straight line segments. Early recovery data, t/t' = 4,000 to 175 indicates a T of 31,000 gpd/ft. Late time recovery data, t/t' = 175 to 3.5 indicates a T of 192,000 gpd/ft. Because of casing storage effects and water in the pump column reentering the well, early time recovery is not viewed as reliable as late time recovery.

Production Well Summary

The log mean T for the late time drawdown and late time recovery at the production well is 166,000 gpd/ft. It is not possible to get a meaningful estimate of the storage coefficient (S) from the production well.

HOLGATE WELL

Semi-log Drawdown (Figure 18 and Appendix E-2)

This curve reveals three straight line segments representing early, middle, and late times (A', A" and A"' respectively, Appendix E). The early time segment (A')

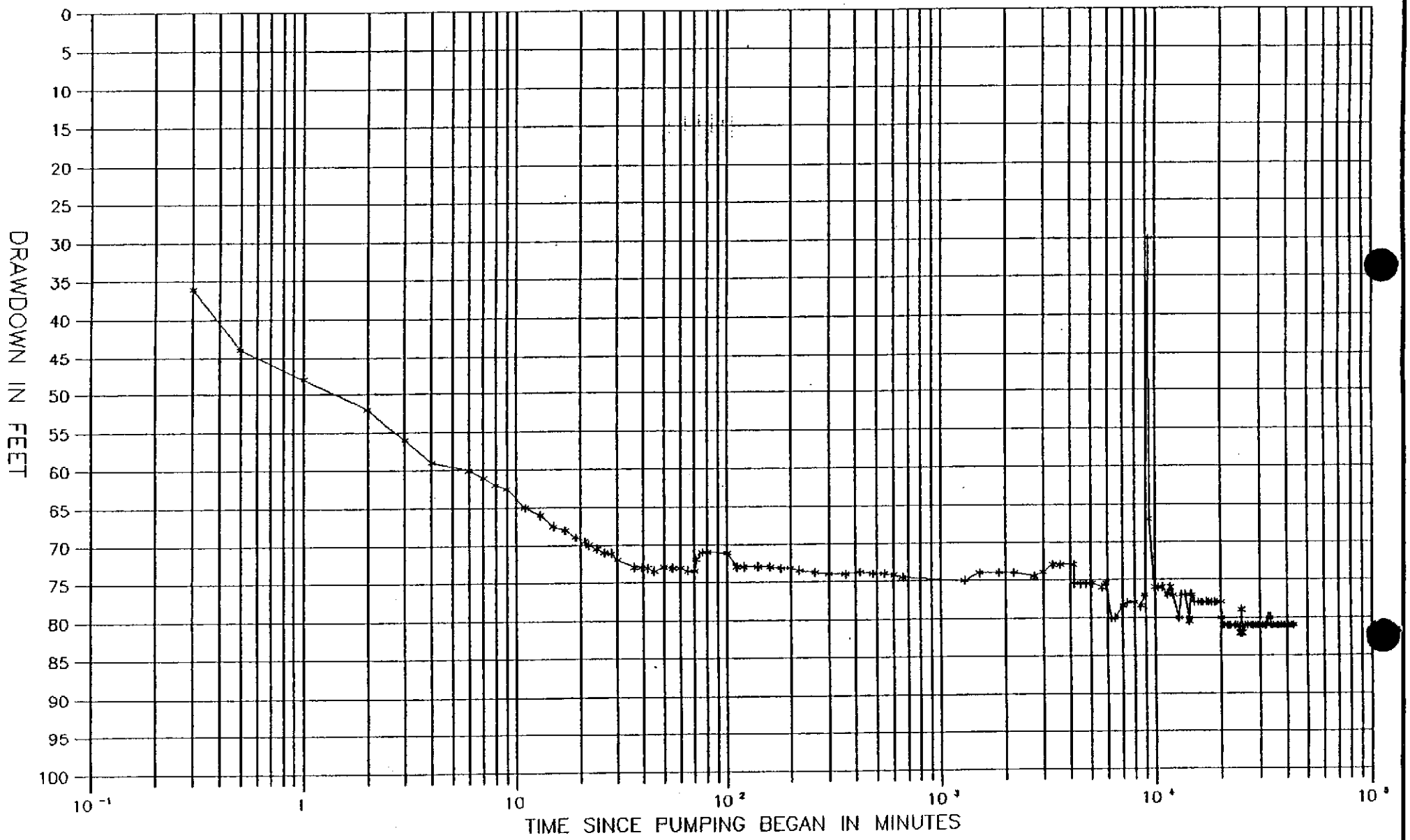

FIGURE 15
PRODUCTION WELL
SEMI LOG TIME DRAWDOWN
FLOATING FEATHER HILLS, INC.

CH2MHILL

BOI31684 A1

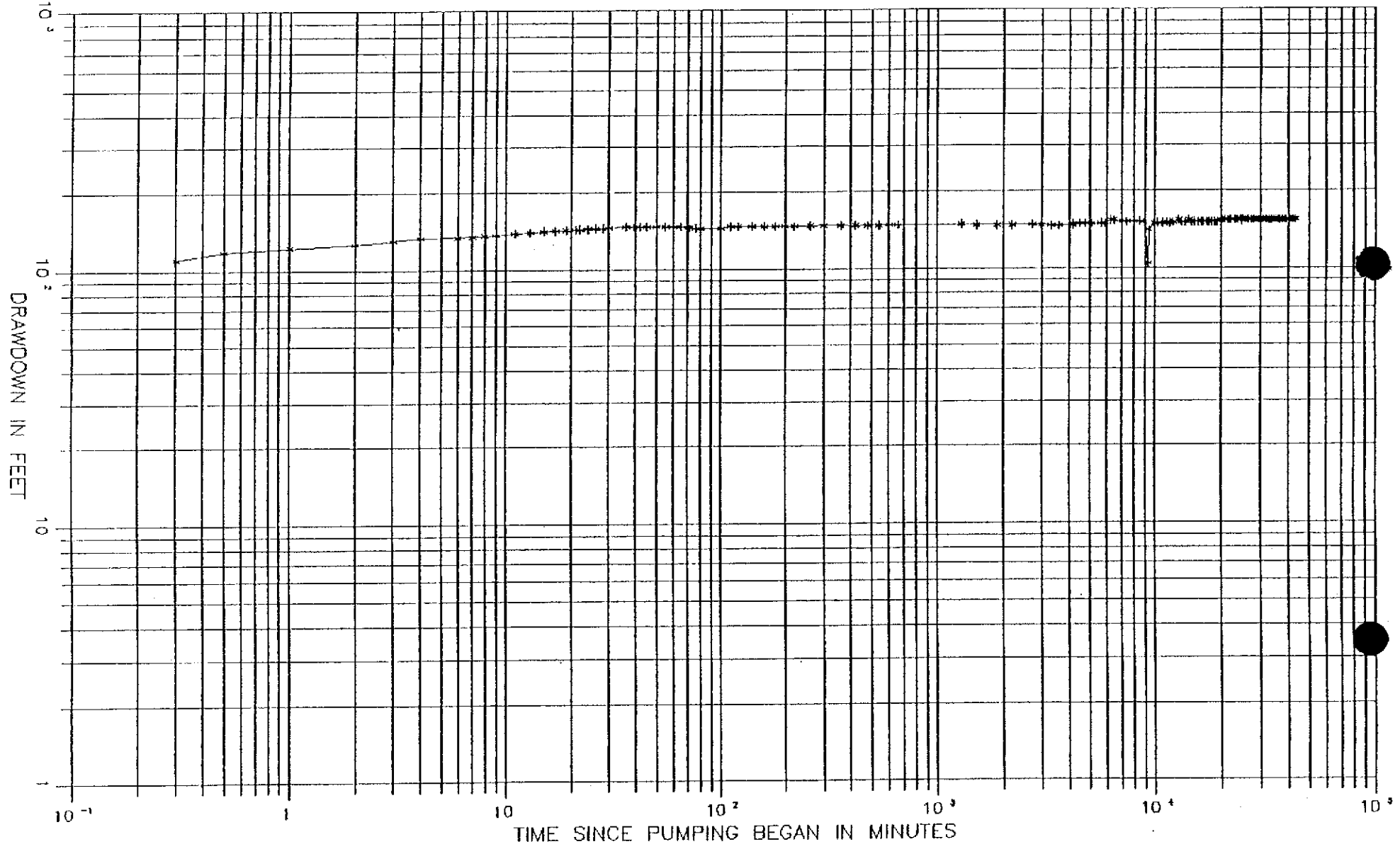

FIGURE 16
PRODUCTION WELL
LOG-LOG TIME DRAWDOWN
FLOATING FEATHER HILLS, INC.

CH2MHILL

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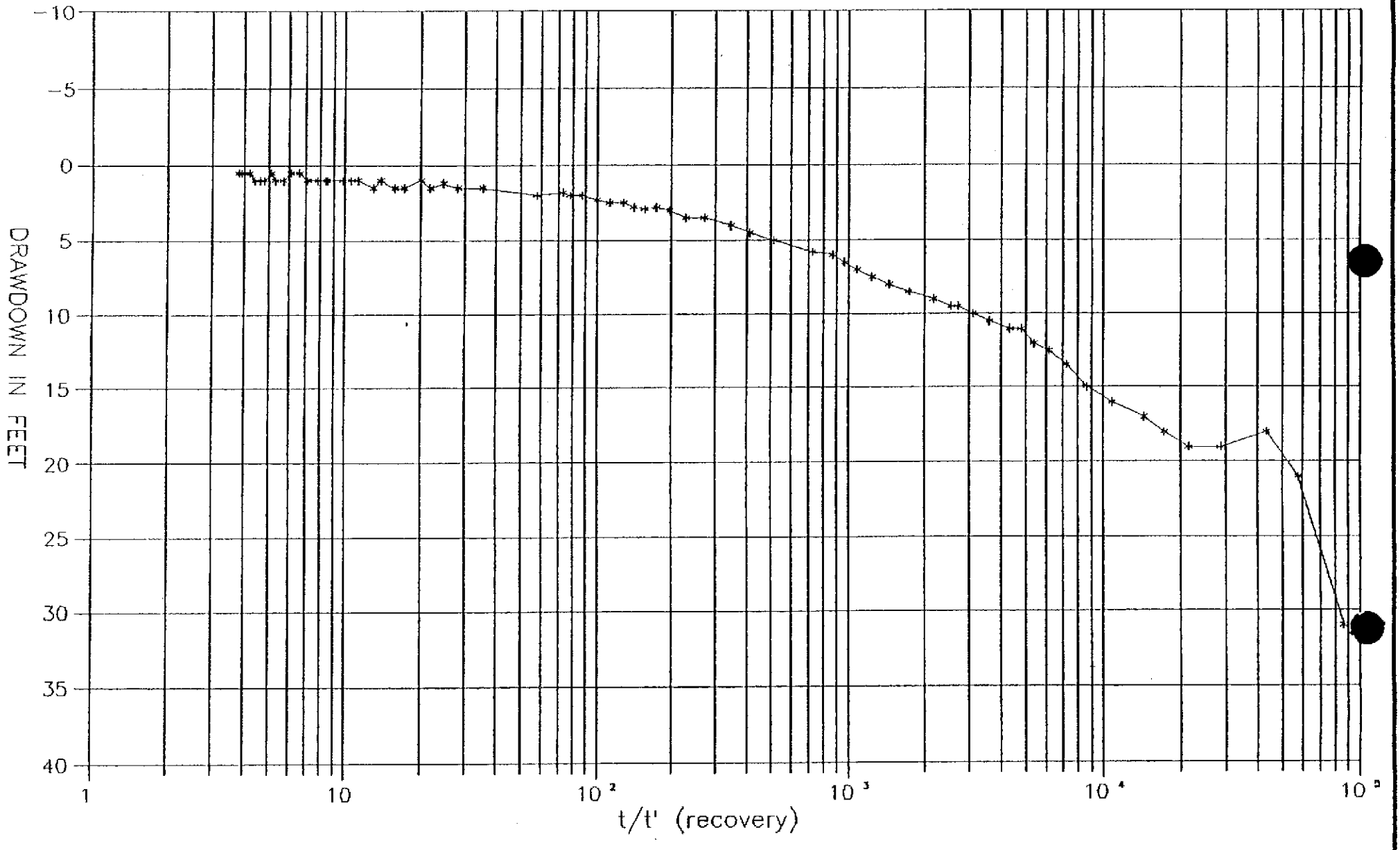

FIGURE 17
PRODUCTION WELL
SEMI LOG TIME DRAWDOWN
FLOATING FEATHER HILLS, INC.

CH2MHILL

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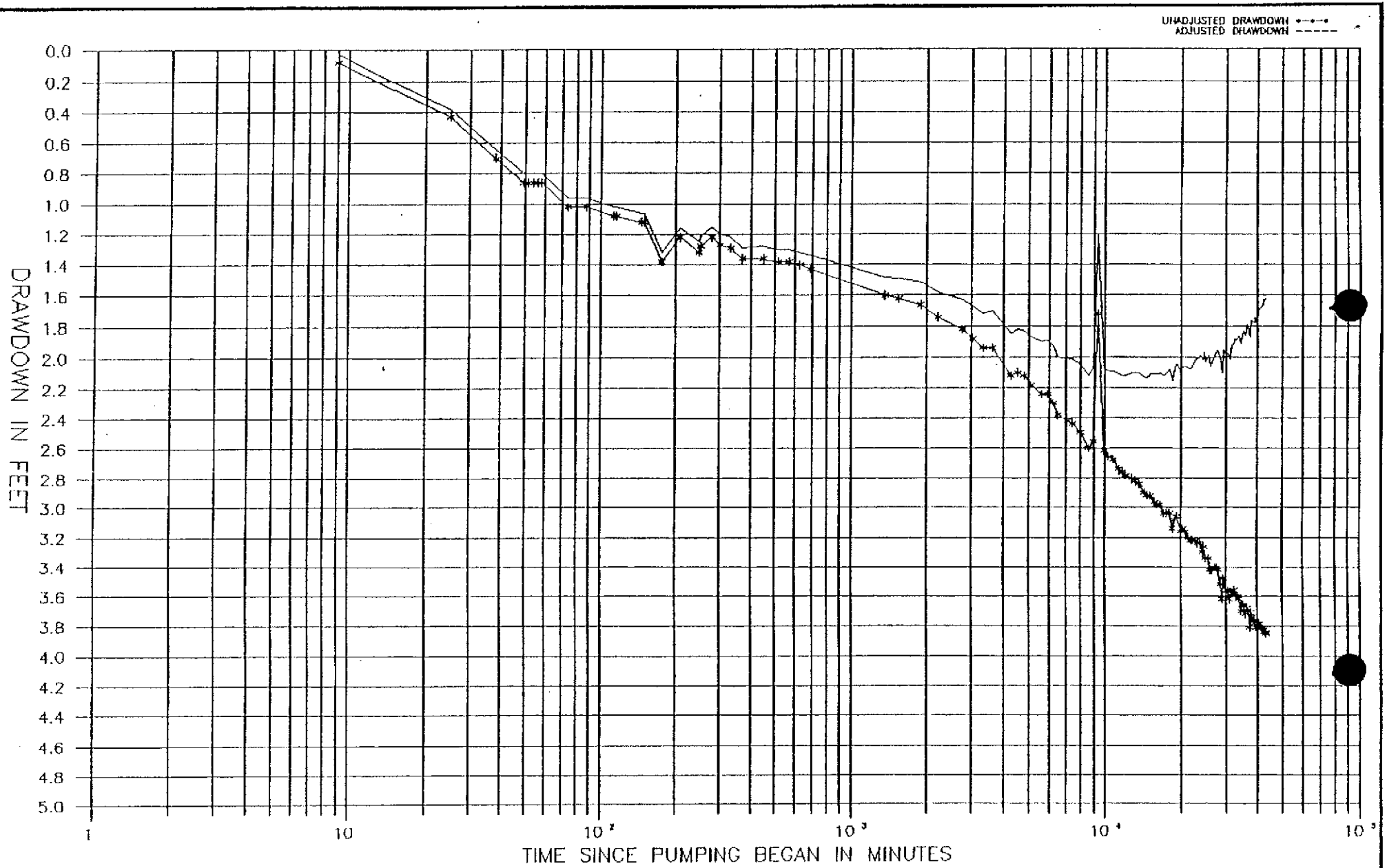

FIGURE 18
HOLGATE WELL
SEMI LOG TIME DRAWDOWN
FLOATING FEATHER HILLS, INC.

CH2MHILL

BOI31684 A1

produces T of over 400,000 gpd/ft. The middle and late time Ts are similar at 123,000 and 84,000 gpd/ft. The early time T is affected by gravity drainage and was not used.

The break in slope between middle and late time straight line segments at about t = 20,000 minutes may indicate a partial barrier or minor aquifer inhomogeneity was encountered by the propagating cone of depression.

Log-Log Drawdown (Figure 19, Appendix E-2)

This curve is a classic delayed yield curve. The single T from this analytical method is 106,000 gpd/ft. Further analysis indicates that the effect of gravity drainage becomes negligible after almost 10,000 minutes, further supporting the inappropriateness of the high early time T produced from the straight line method described above.

Semi-Log Recovery (Figure 20 and Appendix E-2)

This plot produced an S-shaped curve. Early and middle time recovery values were not used because of the unknown effects the possible barrier may have had on early data and the impact refilling dewatered strata possibly had on middle time data. The late time T of 100,000 gpd/ft is consistent with T derived from the delayed yield analysis and is considered representative.

Holgate Summary

The log mean T using those values considered appropriate is 100,000 gpd/ft. The log mean S for valid solutions is 0.0129, indicative of a poorly confined or stratified water table aquifer.

CARSON WELL

Semi-Log Drawdown (Figure 21 and Appendix E-3)

This plot produced two straight line segments from the drawdown data, early and late time, (A' and A'" respectively, Appendix E-3).

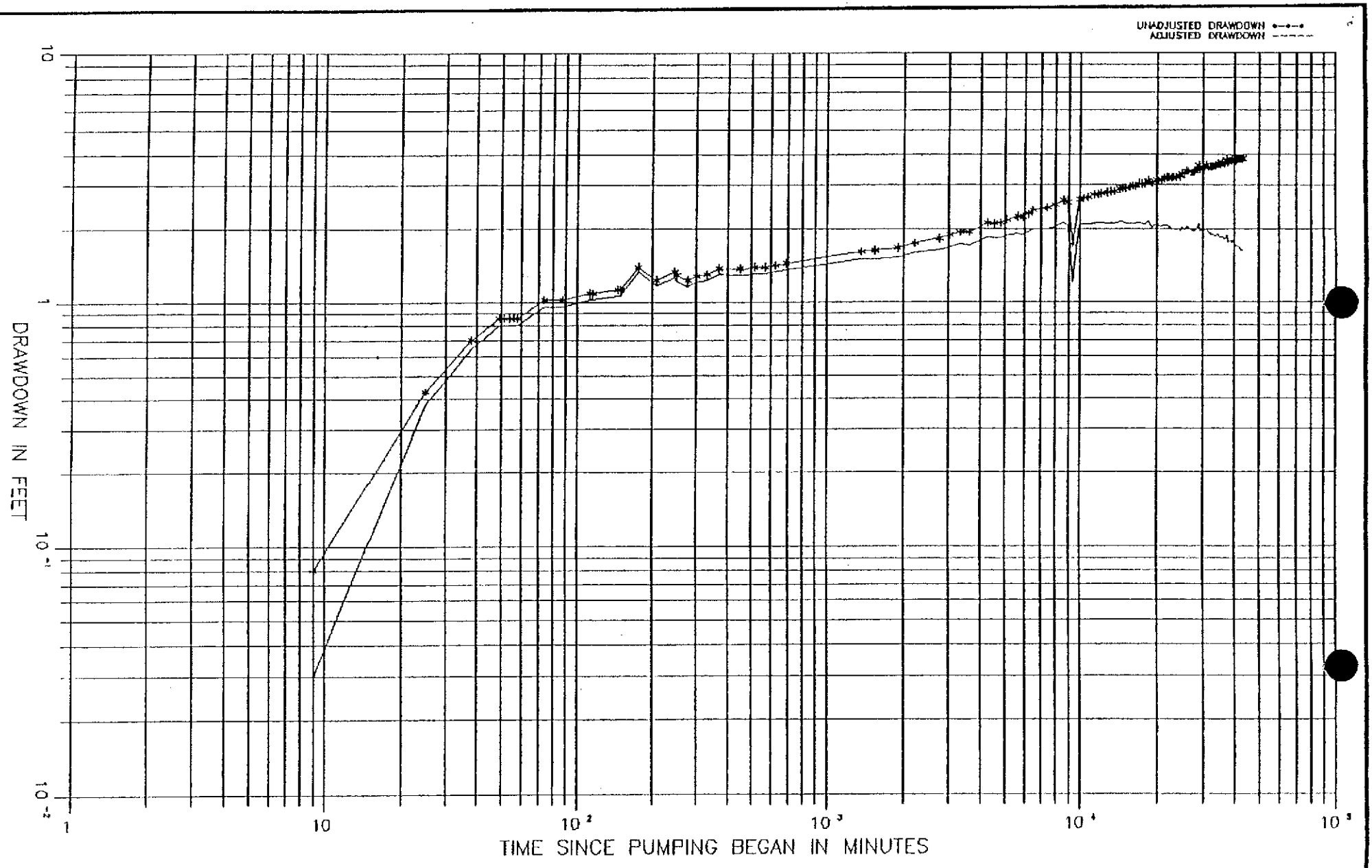

FIGURE 19
HOLGATE WELL
LOG-LOG TIME DRAWDOWN
FLOATING FEATHER HILLS, INC.

CH2MHILL

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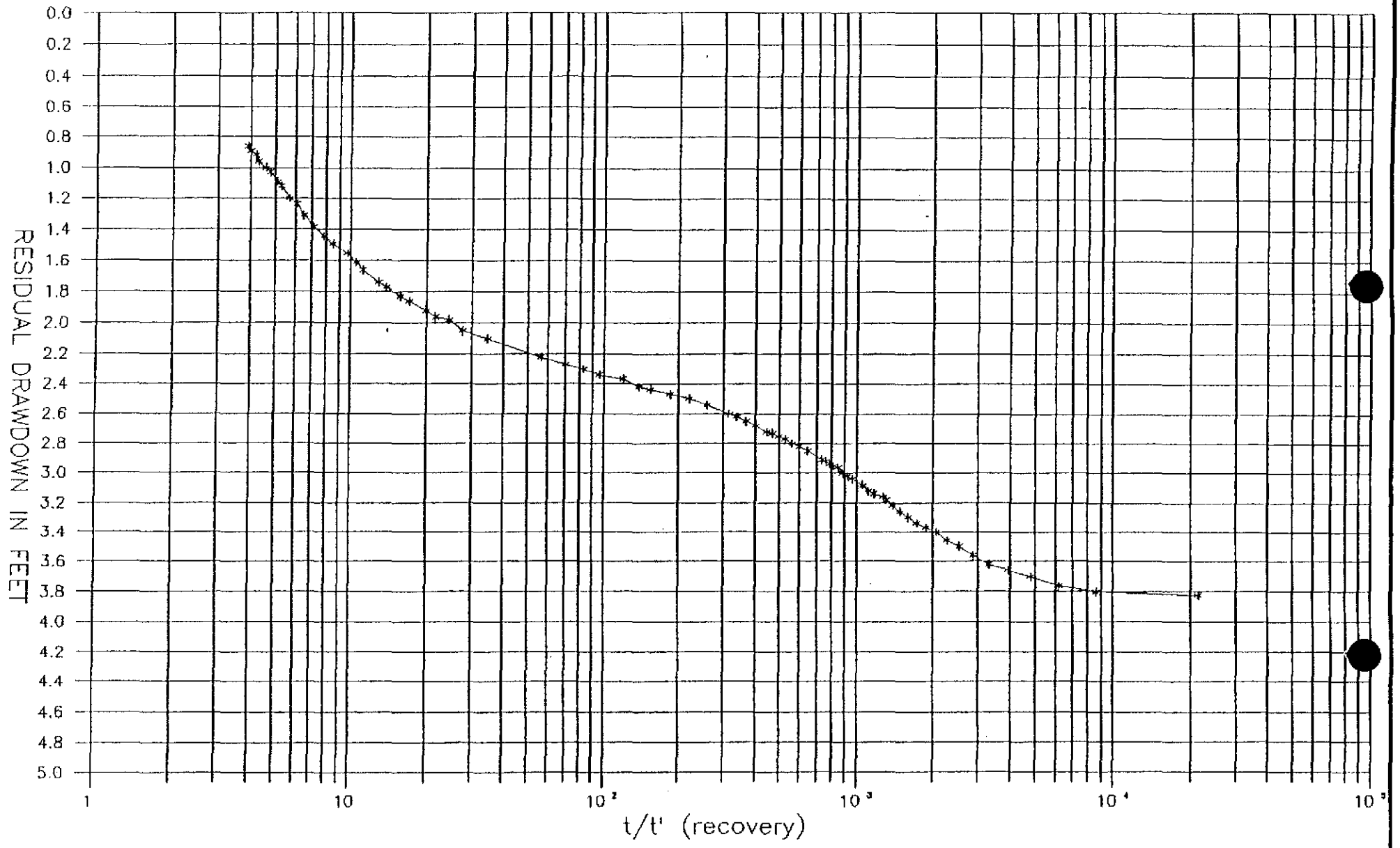

FIGURE 20
HOLGATE WELL
SEMI LOG TIME DRAWDOWN
FLOATING FEATHER HILLS, INC.

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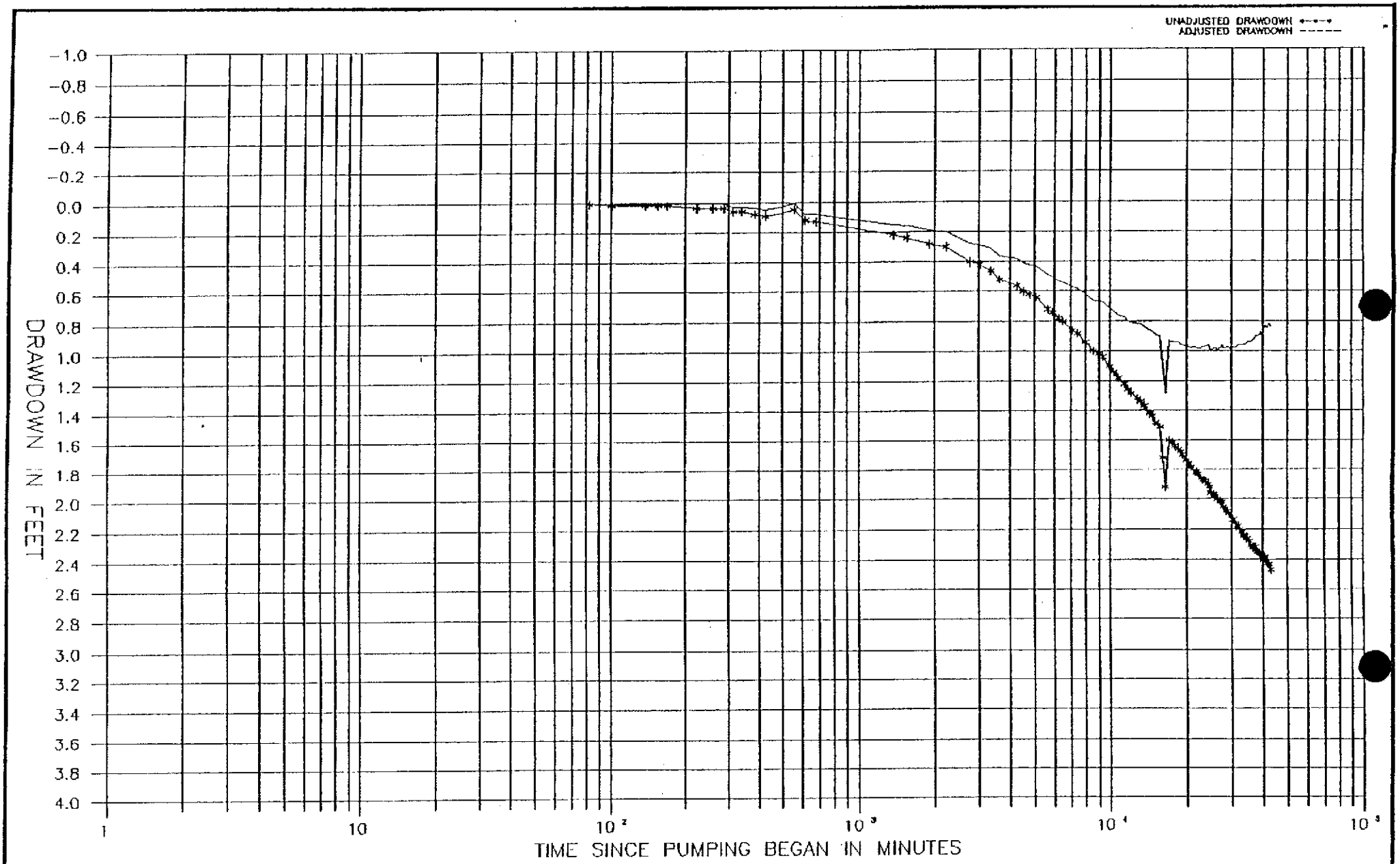

FIGURE 21
CARSON WELL
SEMI LOG TIME DRAWDOWN
FLOATING FEATHER HILLS, INC.

CH2MHILL

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The early time T of over 500,000 gpd/ft is not representative because of gravity drainage effects. The late time T of 85,000 gpd/ft is more indicative of the aquifer T from this analysis.

The adjusted water level was also used to calculate a T because it departed significantly from the unadjusted curve. The T determined from this curve, 187,000 gpd/ft (A" Appendix E-3), is considerably higher. The actual T probably lies between the two values.

Log-Log Drawdown (Figure 22, Appendix E-3)

This plot was analyzed using the delayed yield approach. The single T determined from this approach was 85,000 gpd/ft. Gravity drainage effects become negligible at about 14,000 minutes. This further supports the inappropriateness of the high early time T from the semi-log method discussed above.

Semi-Log Recovery (Figure 23 and Appendix E-3)

Analysis of the recovery data using semi-log methods for the Carson well was not included because the time and distance factors involved exceed the mathematical limitations for the validity of the method.

Carson Summary

The delayed yield method and semi-log drawdown methods agree very well. Adjusted drawdown may also be a factor. The log mean T for all values used is 110,000 gpd/ft and the log mean S is 0.0255.

EAGLE HILLS GOLF COURSE WELL

Semi-Log Drawdown (Figure 24 and Appendix E-4)

This plot contains two very distinct straight line segments representing early and late time (A' and A" respectively, Appendix E-4). Early time data, t = 0 to about 5,000 minutes produces a T of 680,000 gpd/ft. Late time data indicates a T of

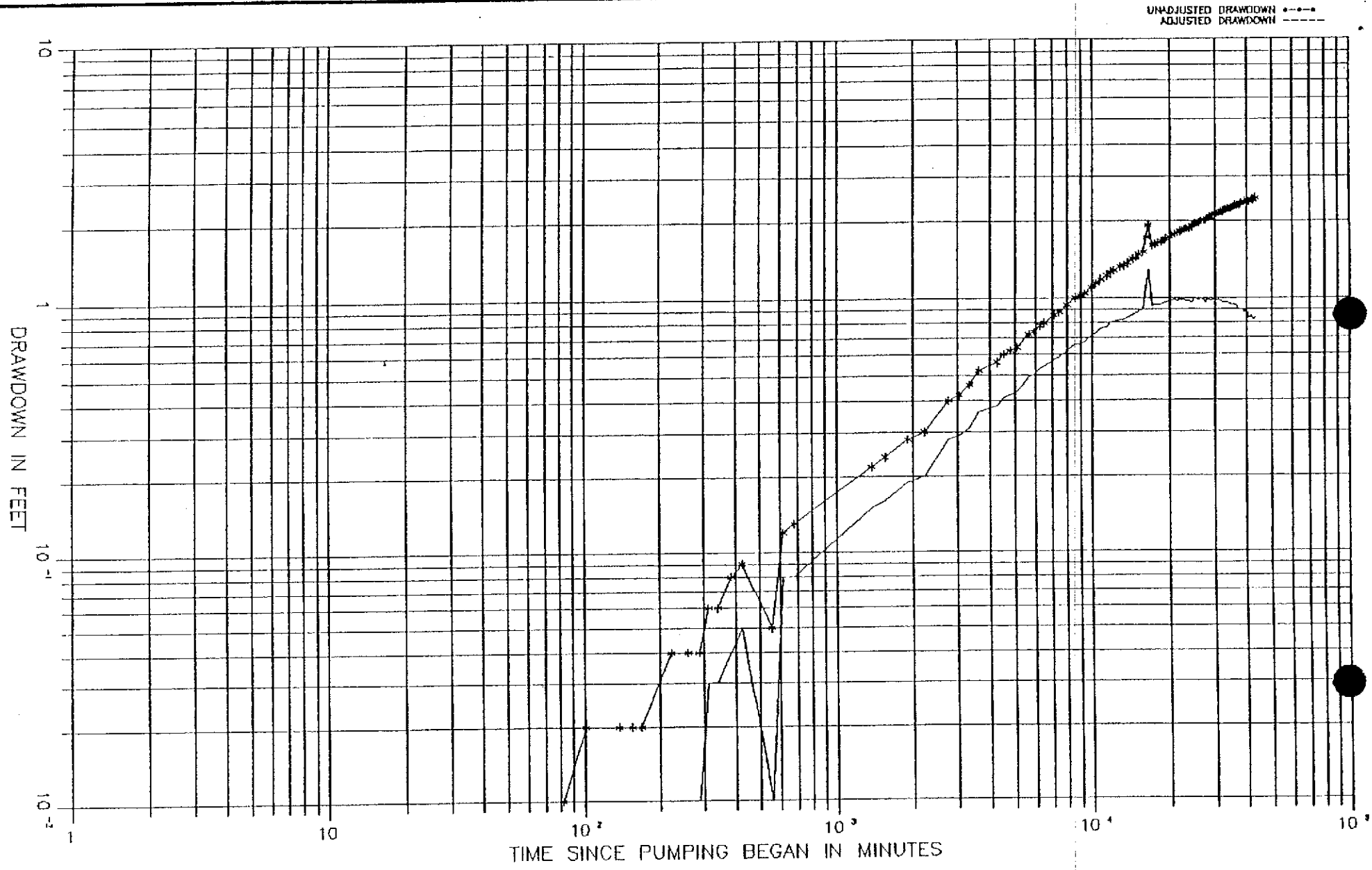

FIGURE 22
CARSON WELL
SEMI LOG TIME DRAWDOWN
FLOATING FEATHER HILLS, INC.

CH2MHILL

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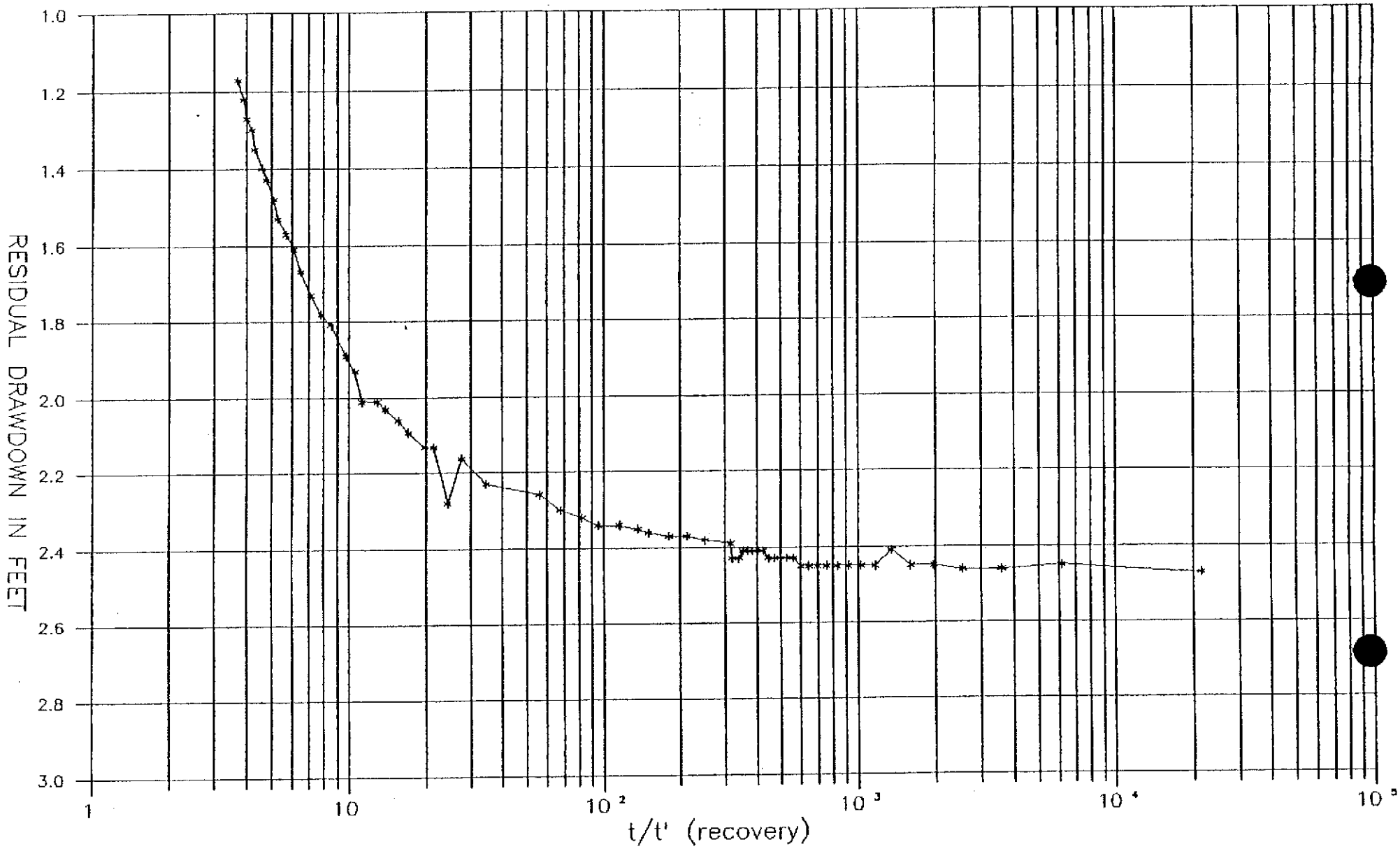

FIGURE 23
CARSON WELL
SEMI LOG TIME DRAWDOWN
FLOATING FEATHER HILLS, INC.

CH2MHILL

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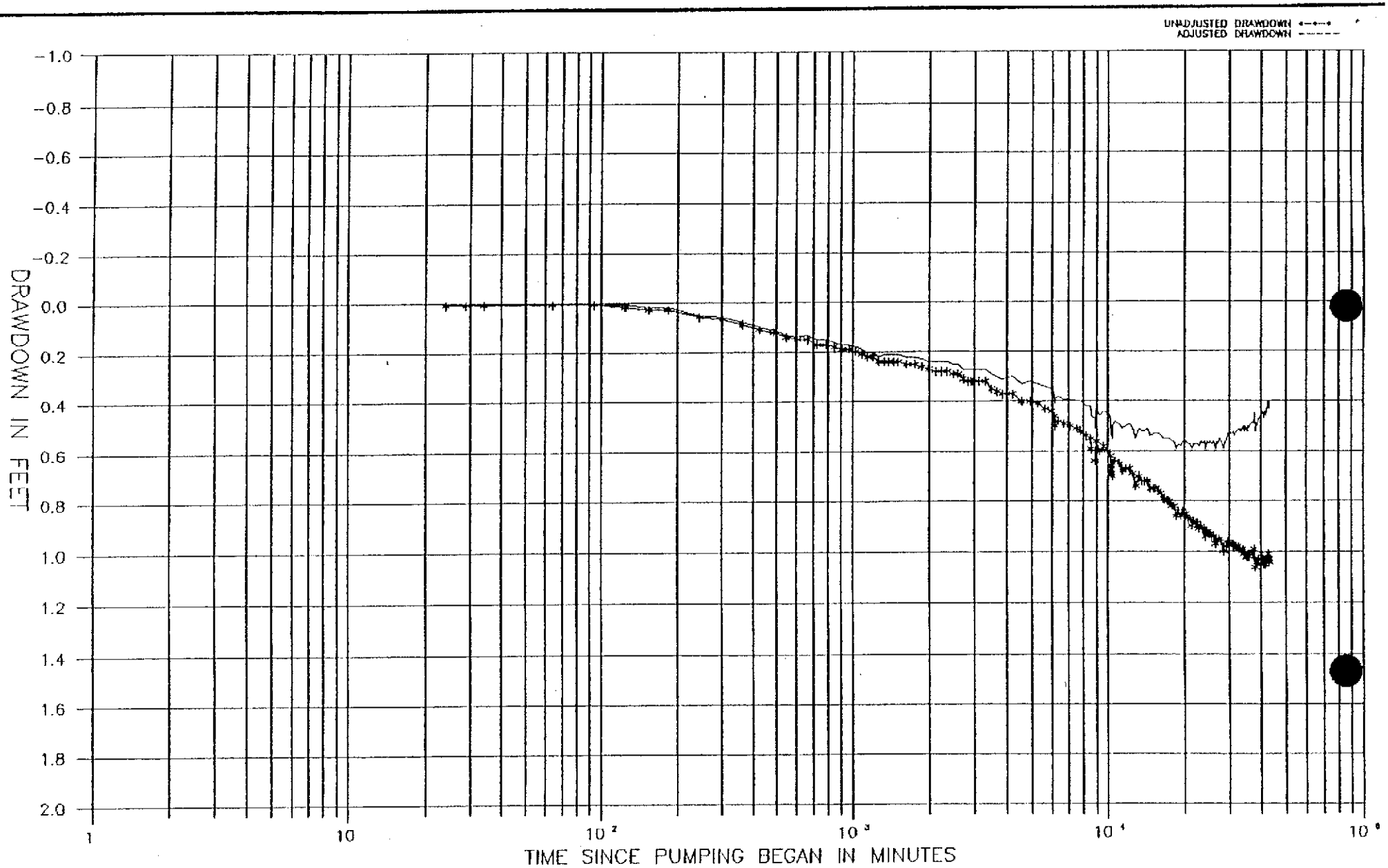

FIGURE 24
EAGLE HILLS GOLF COURSE
SEMI LOG TIME DRAWDOWN
FLOATING FEATHER HILLS, INC.

CH2MHILL

BOI31684 A1

220,000 gpd/ft. The break between early and late time data may be related either to gravity drainage or the presence of an aquifer inhomogeneity. The late time T is considered representative of the aquifer especially when long pumping times are to be considered.

Log-Log Drawdown (Figure 25, Appendix E-4)

This curve was analyzed using both gravity drainage and nonequilibrium confined aquifer (Theis) methods. Good to fair type curve matches were possible with each method. The data plot has an obvious deflection off the classic nonequilibrium type curve, indicating gravity drainage ended or an inhomogeneity was encountered. Consequently, the Theis approach was applied to early and late time as well as the entire curve. The T derived from the early time Theis curve was in the 650,000 gpd/ft range and is discounted as nonrepresentative. All the other Ts (late time Theis and gravity drainage) were in the 266,00 to 380,000 gpd/ft. Gravity drainage effects become negligible after about 12.5 days (18,000 minutes), supporting the rejection of early time T values.

Semi-Log Recovery (Figure 26 and Appendix E-4)

Analysis of the recovery data using semi-log methods for the EHGC well was not included because the time and distance factors involved exceed the mathematical limitations for the validity of the method.

Eagle Hills Golf Course Summary

The transmissivity of the aquifer apparently increases to about 280,000 gpd/ft in the vicinity of the EHGC well, as indicated by the consistent values obtained by several analytical methods. The log mean S for all appropriate solutions is 0.0124.

HORMACHEA WELL

Semi-Log Drawdown (Figure 27 and Appendix E-5)

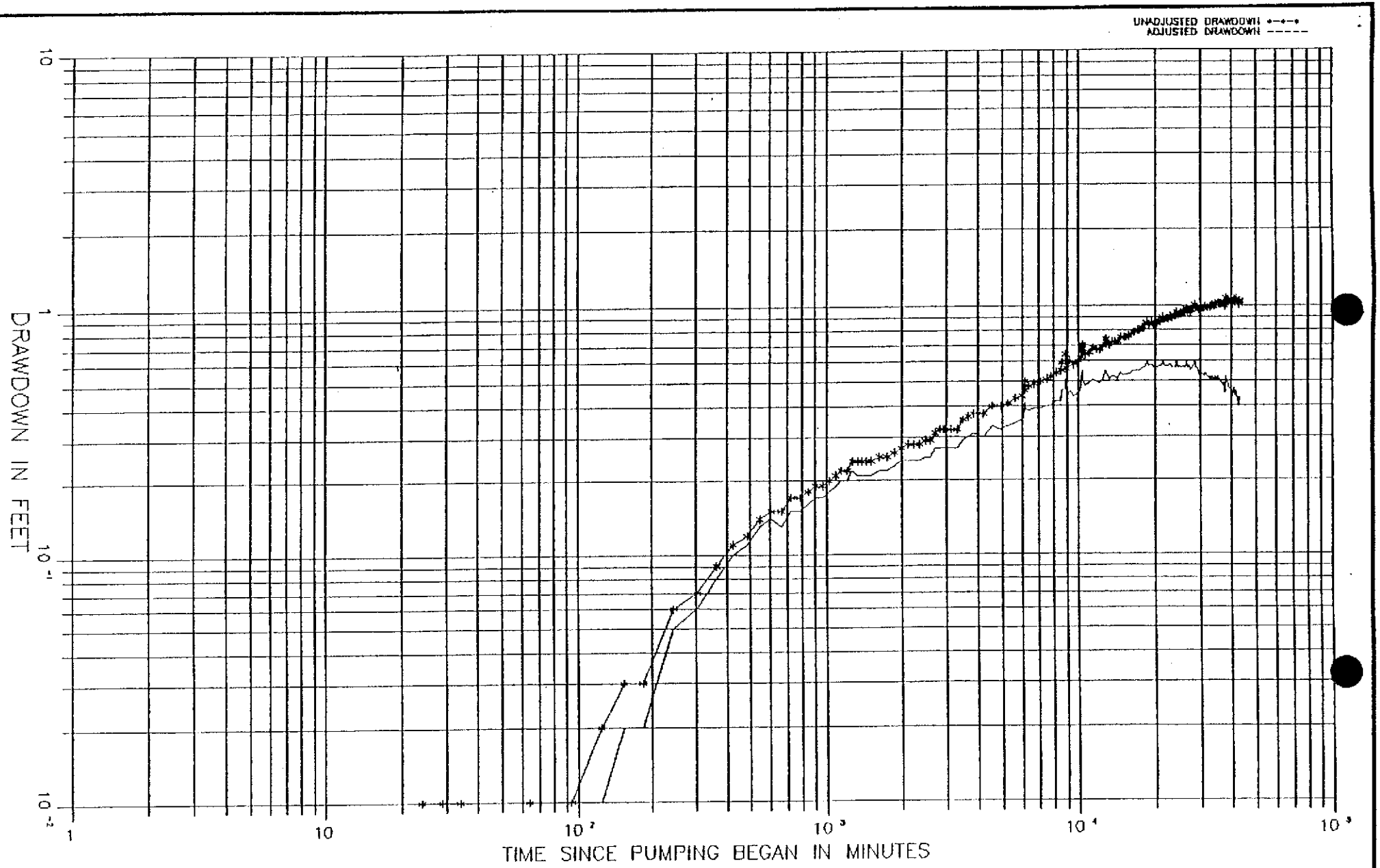

FIGURE 25
EAGLE HILLS GOLF COURSE
LOG-LOG TIME DRAWDOWN
FLOATING FEATHER HILLS, INC.

CH2MHILL

BOI31684 A1

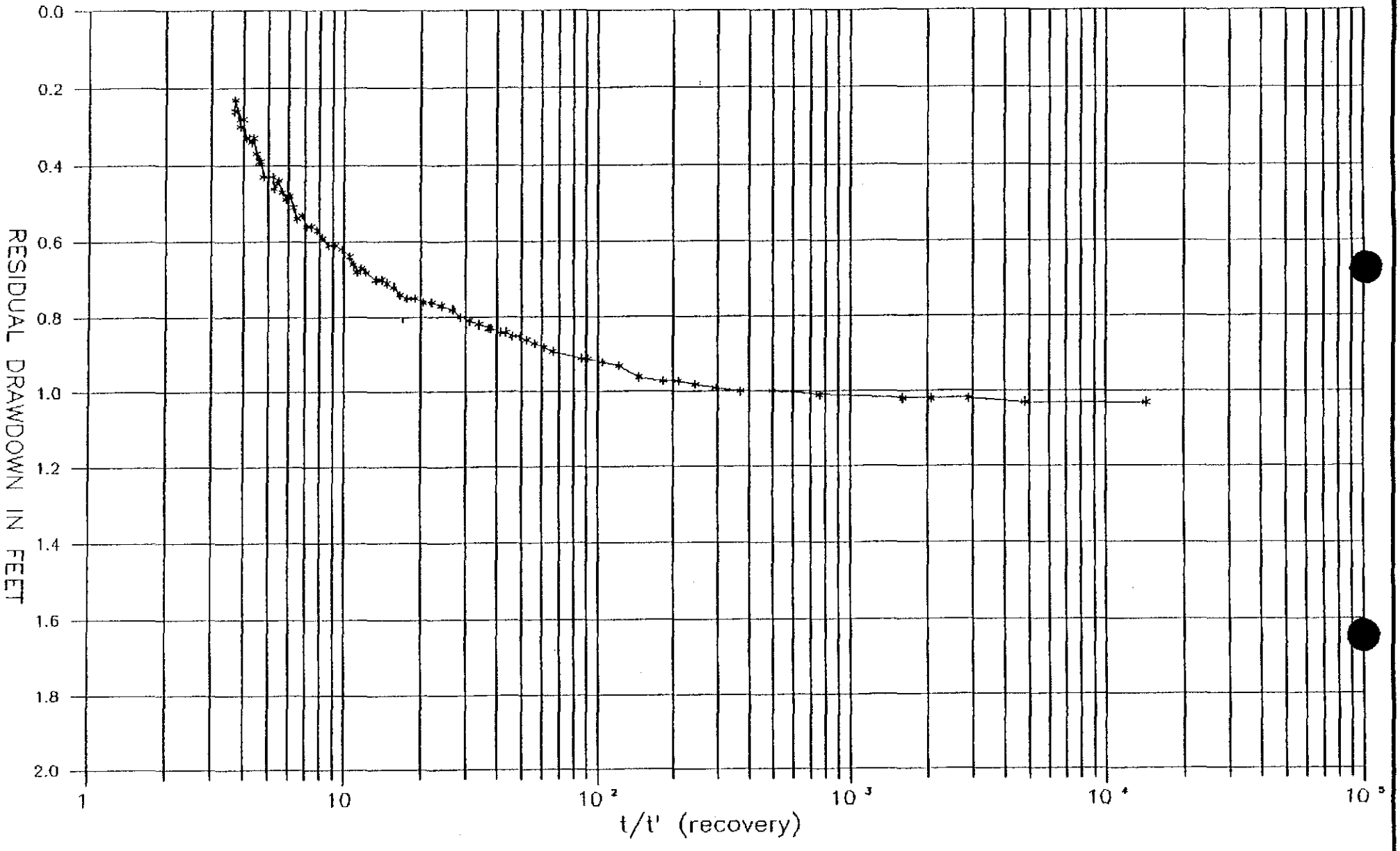

FIGURE 26
EAGLE HILLS GOLF COURSE
SEMI LOG TIME DRAWDOWN
FLOATING FEATHER HILLS, INC.

CH2MHILL

BOI31684 A1

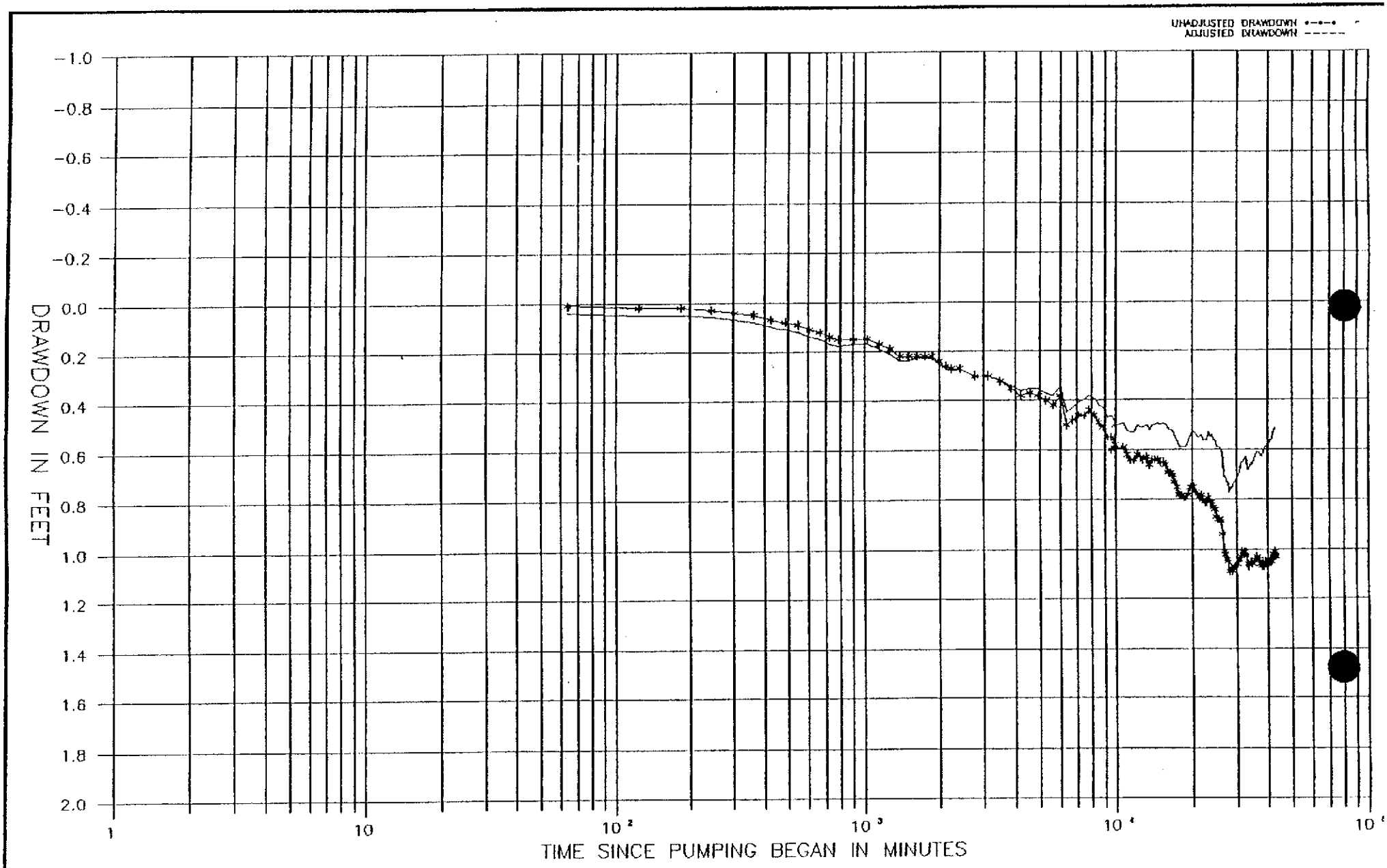

FIGURE 27
HORMACHEA WELL
SEMI LOG TIME DRAWDOWN
FLOATING FEATHER HILLS, INC.

CH2MHILL

BOI31684 A1

This plot contains two very distinct straight line segments representing early and late time (A' and A" respectively, Appendix E). Early time data, t = 0 to about 5,000 minutes produces a T of 315,000 gpd/ft. Late time data indicates a T of 287,000 gpd/ft. The break between early and late time data may be related either to the cessation of gravity drainage or the presence of a barrier or aquifer inhomogeneity. Although the two Ts are similar, the late time T is considered more representative of the aquifer, especially when long pumping times are to be considered.

Log-Log Drawdown (Figure 28, Appendix E-5)

This curve was analyzed using the non equilibrium confined aquifer (Theis) methods. No satisfactory match could be made with the delayed yield method. The data plot deflects off the classic nonequilibrium type curve, indicating some effect from gravity drainage or a barrier was encountered. Good to fair type curve matches were possible with the Theis method on both the early and late portions of the curve with considerable overlap. The T derived from the early time Theis curve was in the 530,000 gpd/ft range and it was discounted as nonrepresentative. The late time T of 355,000 gpd/ft was considered more representative and was used.

From t = 28,000 to 40,000 minutes, the drawdown suddenly increased and, consequently, did not fall on any type curve and could not be used. It is believed that interference from a second well impacted water levels during this period. From 40,000 minutes to the end of the test at 43,207 minutes the drawdown plot approached the late time Theis curve again and was used.

Semi-Log Recovery (Figure 29 and Appendix E-5)

Analysis of the recovery data using semi-log methods for the Hormachea well was not included because the time and distance factors involved exceed the mathematical limitations for the validity of the method.

Hormachea Summary

The transmissivity of the aquifer apparently increases to about 318,000 gpd/ft to the west, as indicated by the consistent values obtained by several analytical methods. The

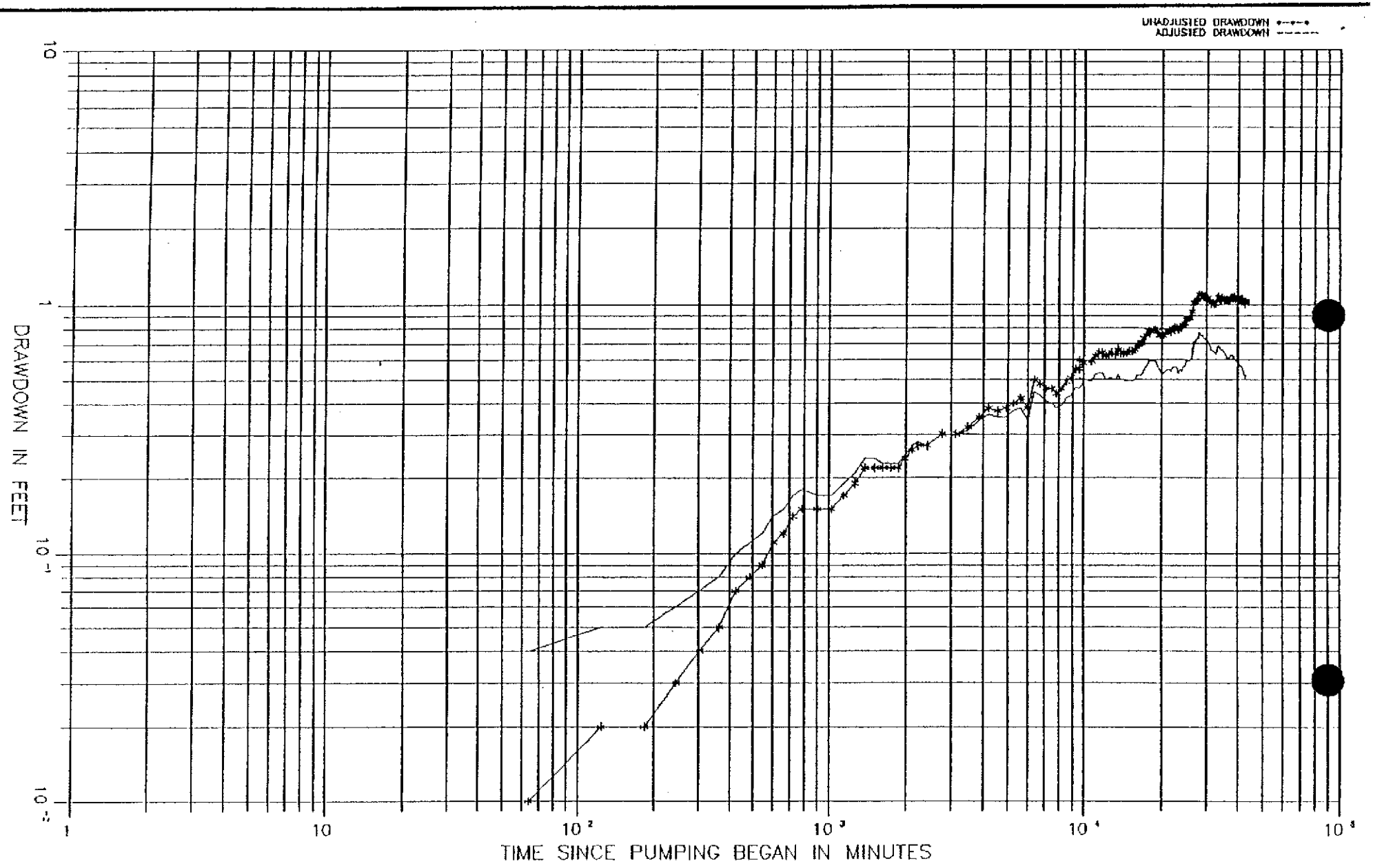

FIGURE 28
HORMACHEA WELL
LOG-LOG TIME DRAWDOWN
FLOATING FEATHER HILLS INC.

CH2MHILL

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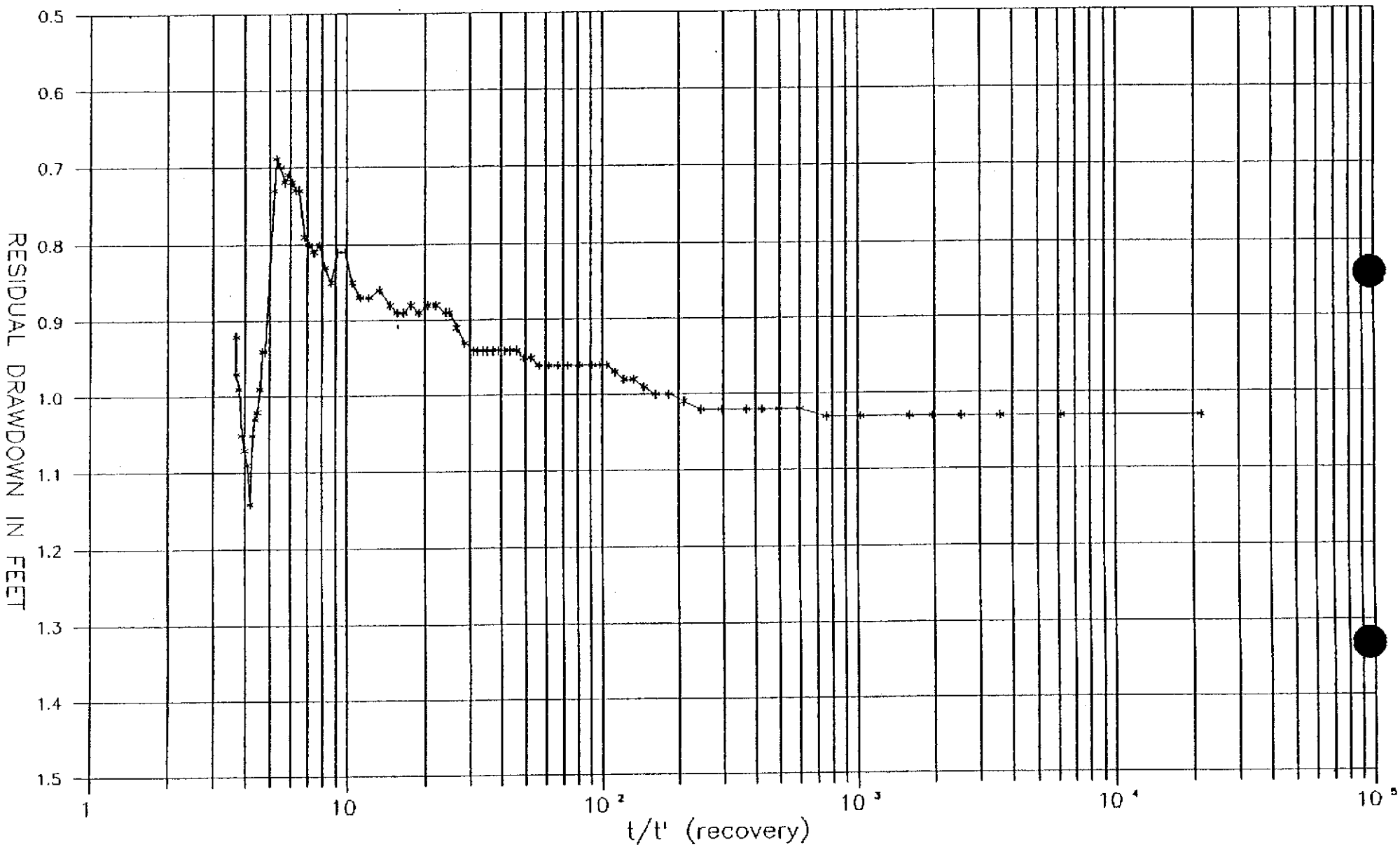

FIGURE 29
HORMACHEA WELL
SEMI LOG TIME DRAWDOWN
FLOATING FEATHER HILLS, INC.

CH2MHILL

BOI31684 A1

log mean S for all appropriate solutions is 0.0057. Latest time data for the Hormachea well appear to have been impacted by other wells. The increase in T values to the west is consistent with a general increase in well yields in this direction, as seen in available well logs and production tests.

EICHHORN, DAY, FLOATING FEATHER IRRIGATION DISTRICT, AND USGS WELLS

No aquifer properties could be determined from the graphical plots of these wells. The USGS and Day wells were apparently unaffected by the pumping. The FFID well could not be measured with enough resolution to determine if the general decline in water levels shown in Figure 12 were related to pumping the production well. Water levels in the Eichhorn well were impacted by recharge of discharge water seeping out of the adjacent Farmers Union canal.

AQUIFER RECHARGE

POTENTIAL SOURCES

The potential sources of recharge to the aquifer in this area are:

Leakage from the Farmers Union Canal
Infiltration of irrigation water from laterals and flood irrigation practices
Infiltration from irrigation reservoirs and ponds
Direct precipitation
Seasonal losses from Dry Creek
Lateral inflow from the northern and eastern aquifer margins
Seepage from individual waste disposal systems

Insufficient data exist to quantify or even prioritize by magnitude the relative contributions each potential source contributes. Lateral inflow and irrigation seepage are probably the most significant sources.

RECHARGE DURING PUMPING TEST

The Eichhorn well hydrograph, Figure 7, clearly shows the effect of the leakage of pump discharge water in the Farmers Union Canal. Water level in the Eichhorn well began to fall within a few hours of pumping but began to rise after about 2,000 minutes (1.4 days) and continued to rise for an additional 20,000 minutes (14 days). During this period water levels rose about 2.5 feet. From 22,000 minutes to the end of pumping at 43,207 minutes, water levels fell to about prerecharge levels (slightly below pretest static water levels). After the pump was shut off, water levels recovered to above pre pumping water levels within 1 day and continued to rise, indicating continued recharge was reaching the aquifer.

It is important to note that since static groundwater levels are 60 to 70 feet below ground surface, drawdown from the pumping well did not induce leakage; nor did it increase the amount of leakage from the Farmers Union Canal or the various irrigation ponds in the area.

LONG-TERM RECHARGE

Although only sporadic historical water level measurements are available from IDWR, there is no evidence of long-term decline indicating overdraft of the aquifer in this area. Annual recharge is apparently sufficient to replenish the aquifer on a year-to-year basis.

AQUIFER SUMMARY

The aquifer is characterized as a complexly stratified water table aquifer consisting of highly permeable sand layers and lenses separated by discontinuous and leaky sandy clays. Aquifer response to pumping is expected to behave as a single thick water table aquifer with significant delayed yield due to gravity drainage early in the pumping period and close to the well. In distant observation wells the response during the relatively short 30-day pumping period was more indicative of a confined aquifer owing to the stratified nature. This was evident from the EHGC and Hormachea wells, which, although 2,500 and 3,700 feet from the production well, respectively, responded within 100 to 150 minutes of pumping.

The transmissivity of the aquifer appears to increase from about 100,000 gpd/ft in the vicinity of the production well to over 200,000 gpd/ft to the south and west. Storage values from all valid analytical solutions were relatively consistent at about 0.01 to 0.001. The transmissivity and storage coefficients are consistent with the conceptual model of a thick, stratified, water table aquifer.

The log mean T for all reasonable analyses is 174,500 gpd/ft and the log mean value for S is 0.0137. The log mean T for three wells in the vicinity of the production well is 122,100 and S = 0.092. The most reliable curve and calculated aquifer parameters were obtained from the Holgate well. The log mean values for T and S from the Holgate well were 100,000 gpd/ft and 0.0129, respectively.

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SIMULATIONS OF AQUIFER RESPONSE TO PUMPING

GENERAL

Mathematical simulations of aquifer response to a variety of pumping scenarios are easily performed but the results must be used with caution. Most hydrogeologic systems are much more complex than can be realistically modeled.

Each of the variables involved in these simulations is actually a range of values. For example, aquifer transmissivity values determined from the pump test range from 11,000 to 600,000 gpd/ft. Based on experience, the conceptual model of the aquifer, and analytical checks, the range of possible transmissivities were reduced to two discrete values for purposes of the simulations. Other parameters were similarly selected to be as representative as possible. Horizontal and vertical properties change in the aquifer with distance and when simulations are extended well out in time, temporal water level changes can also impact the results.

With these precautionary points in mind, the simulations produced for this investigation were selected to illustrate a range of possible effects from the proposed groundwater diversions. The predicted drawdowns should be viewed as indications of aquifer response and not absolute values.

The important variables used in these simulations are discussed separately below to provide a basis for their use in the simulations. Many combinations are possible; a few were selected to be representative and to illustrate the range.

VARIABLES

PUMPING RATE

The FFH, Inc. application is for a total of 5 cubic feet per second (cfs) or about 2,300 gpm. Part of the total applied diversion was for fire protection, which will be

used only in short-term emergency situations. The long-term sustained pumping rate for evaluation of potential impacts from this project is estimated to be 1,000 gpm. This estimate is based on the following logic:

In-house potable use:

1,000 homes x 400 gallons per day/home = 400,000 gal/day x 365 days/year = 146,000,000 gallons per year

Irrigation:

500 homes will rely on potable water for lawn irrigation every other day for 6 months = 500 x 183 days divided by 2 (alternate day watering) = 45,750 irrigation water days.

Irrigation will consist of 10 gpm for 8 hours = 4,800 gal per irrigation day per home.

45,750 home irrigation days per year x 4,800 gal/day = 219,600,000 gal per year

Average Annual Use:

Potable	146,000,000 gal
Irrigation	219,600,000 gal
Total Annual	365,600,000 gal
Average Daily (1,440 min/day, 365 days/year)	695 gpm

Average Potable Use:	400,000 gal per day
Average Rate (1,440 min/day)	278 gpm

Average Irrigation Season Use:

Potable (6 months)	73,000,000 gal
Irrigation	219,000,000 gal
Total Seasonal	292,000,000 gal
Average daily (1,440 min/day, 183 days)	1,108 gpm

The average pumping rate must be consistent with the pumping period also used in the simulations. Pumping rates versus simulation times are discussed in the "Simulation Time" section. The average rate used for analysis of long-term pumping effects is 1,000 gpm. This conservatively accounts for errors in the assumptions for the long-term average rate and is consistent with the seasonal high demand.

The time delay for the demand to reach maximum values is not considered. It may be that demand will gradually increase over the next 5 to 10 years. For the purposes of this exercise, these pumping rates are assumed to be constant.

WELL FIELD CONFIGURATION

At least two production wells would be needed to supply the total project. The existing production well cannot supply 1,000 gpm, and water service regulations require a second well if the total service connections exceed 29 homes.

According to FFH, Inc.'s application and personal communication with Roylance Engineers, the engineer for FFH, Inc., the second production well will be installed 1,800 feet north of the existing well.

Thus, the configuration used to simulate long-term aquifer response includes two wells, 1,800 feet apart, each pumping at 500 gpm.

AQUIFER RECHARGE

Historically, the aquifer is recharged annually. During the test, recharge from the pumping discharge was detected in the Eichhorn well next to the Farmers Union Canal. Although not investigated during this study, canal leakage is probably a significant source of water in the aquifer.

Canal leakage can be estimated by a variety of methods. Using a methodology presented in the Drainage Manual (pages 167-168), the seepage can be estimated as follows:

$$q' = \frac{K(B+(2d))}{3.5}$$

where:

q' = seepage in cubic feet per day per linear foot
K = hydraulic conductivity in ft^2/day
d = depth of water in canal in feet
B = width of water channel in feet
3.5 = factor to adjust hydraulic conductivity values to seepage losses from ponding tests

Assuming the canal is 1.5 miles long adjacent to the property, and assuming the following values for the variables of:

K = 1.3 ft^2/day (silty sand)
d = 3 feet
B = 10 feet

The total seepage for a 180-day irrigation season is 63 million gallons, or a constant rate of about 243 gpm. This number is not presented as a statement of fact but rather as an example of some of the variables that are involved in aquifer simulations. This leakage valve does not include the recharge from laterals or direct application.

SIMULATION TIME

Simulation time is a critical element of this evaluation and should be carefully considered. Given the fact that recharge is known to occur, yet without a full understanding of the sources and magnitude of recharge, it is impossible to include defendable recharge assumptions in the simulations. Without accounting for recharge, however, simulated drawdowns increase vertically and spread horizontally continuously with increased simulation time.

IDWR indicated they wanted to see a 30-year simulation. It is unreasonable to assume that no recharge reaches the aquifer for 30 years. Although the amount of recharge is unknown, annual recharge does reach the aquifer; otherwise, groundwater mining would be occurring. Therefore, a 30-year simulation without recharge represents an unrealistic worst case scenario.

It is perhaps more realistic to look at the aquifer response when recharge is not as likely, such as for the period from late fall to spring. Thus, a 6-month simulation would give an idea of the aquifer response under a reasonably realistic scenario of limited or no surficial recharge. Lateral recharge from the northeast will still be occurring however, and for some period after the irrigation season water will continue to enter the aquifer. So even this scenario produces more drawdown than may be expected. If a 6-month "nonirrigation" period is selected, then the average pumping rate for that period should also be used. In this case, it is 278 gpm (1,000 homes @ 400 gallons per day per home).

SIMULATION OF FUTURE PUMPING

METHOD

A relatively simple analytical model developed by CH2M HILL called WELSIM was used to simulate aquifer response to various pumping scenarios. WELSIM is based on the Theis equation.

ASSUMPTIONS

Wells

Two wells, each pumping at the same rate, were used. The wells consist of the existing well and a new well approximately 1,800 feet north.

Aquifer Properties

Two values for transmissivities were used: 100,000 gpd/ft to simulate near well Ts for short-term simulation, and 174,000 gpd/ft for long-term simulation when areas of increased aquifer transmissivity may be encountered by the cone of depression. The lower T was also used for long-term pumping to compare the effect that a more conservative estimate of the aquifer properties had on predicted drawdowns. A constant value for S of 0.02 was used.

Pumping Rates and Durations

Two pumping rates were simulated: 278 gpm and 1,000 gpm. The lower pumping rate was used for a 6-month simulation to illustrate the "nonirrigation" scenario discussed above. The higher rate was simulated for durations of 6 months, 1 year, 5 years, 15 years, and 30 years.

Recharge

As an exercise, a third simulation was performed that included five recharge wells at 50 gpm each evenly spread along the Farmers Union Canal alignment. The recharge simulations were conducted for a 6-month duration only.

RESULTS

Table 2 summarizes the various drawdown simulations conducted. Figures 30 through 34 provide plan views of the drawdown cone from the long-term simulations using the higher T. Figures 35 through 37 provide plan views of the drawdown if a lower T is used.

Table 2 Summary of Aquifer Simulations Floating Feather Hills, Inc.				
Simulation Number	**Transmissivity (gpd/ft)**	**Time (Days)**	**Pumping Rate (gpm)**	**Recharge**
FFH61a	100,000	183	278	No
FFH62	100,000	183 - 10950	1,000	No
FFH70	174,000	183 - 10950	1,000	No
FFH71a	174,000	183	1,000	Yes
FFH72a	100,000	183	1,000	Yes

As can be seen from the drawdown maps, the aquifer is relatively insensitive to the range of transmissivities, pumping rates, or pumping times. The worst case scenario of 1,000 gpm for 30 years with no recharge and the lower aquifer transmissivity, (Figure 37) results in 7 feet of drawdown at 1 mile and about 11 feet of drawdown in the vicinity of the two wells. With the higher transmissivity (Figure 34), the drawdown is about 4 feet at 1 mile. There is little appreciable difference between the predicted drawdowns from these two sets of simulations. Review of Figures 30 through 37 also indicates that there is little appreciable growth of the cone of depression with time.

The least amount of drawdown predicted was the 6-month "nonirrigation" simulation shown in Figure 38. Drawdowns predicted for this period were about 0.6 feet at 1 mile.

Figures 39 and 40 include a simulated recharge for 6 months. Comparison of Figures 39 with Figure 30 and Figure 40 with Figure 35 indicates that recharge reduced the drawdown 1.0 to 0.5 feet over the short pumping durations in these simulations.

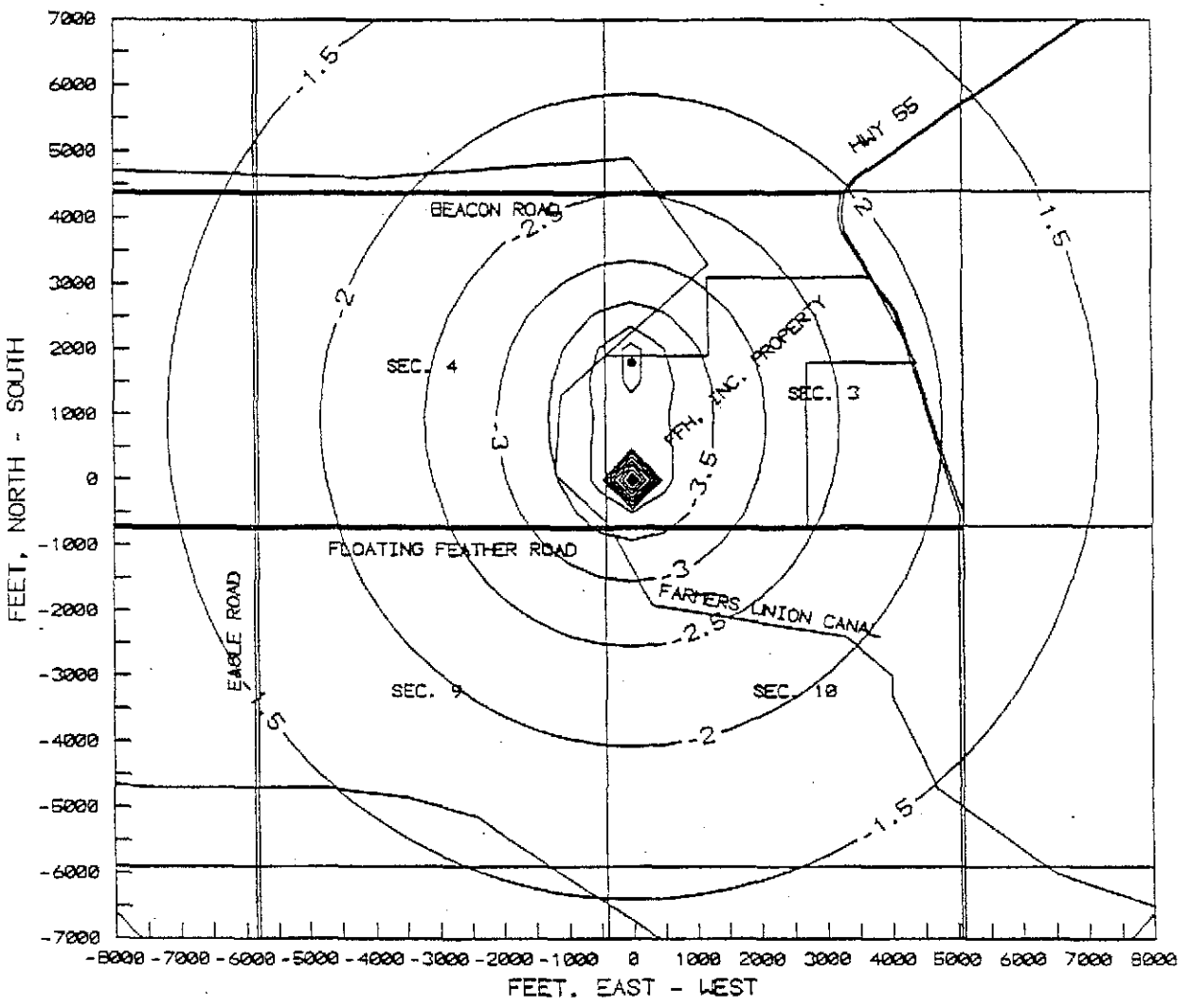

FIGURE 30
DRAWDOWN SIMULATION
T=174K, Q=1000gpm, t=6 MONTHS
FLOATING FEATHER HILLS, INC.

BOI31684 A1

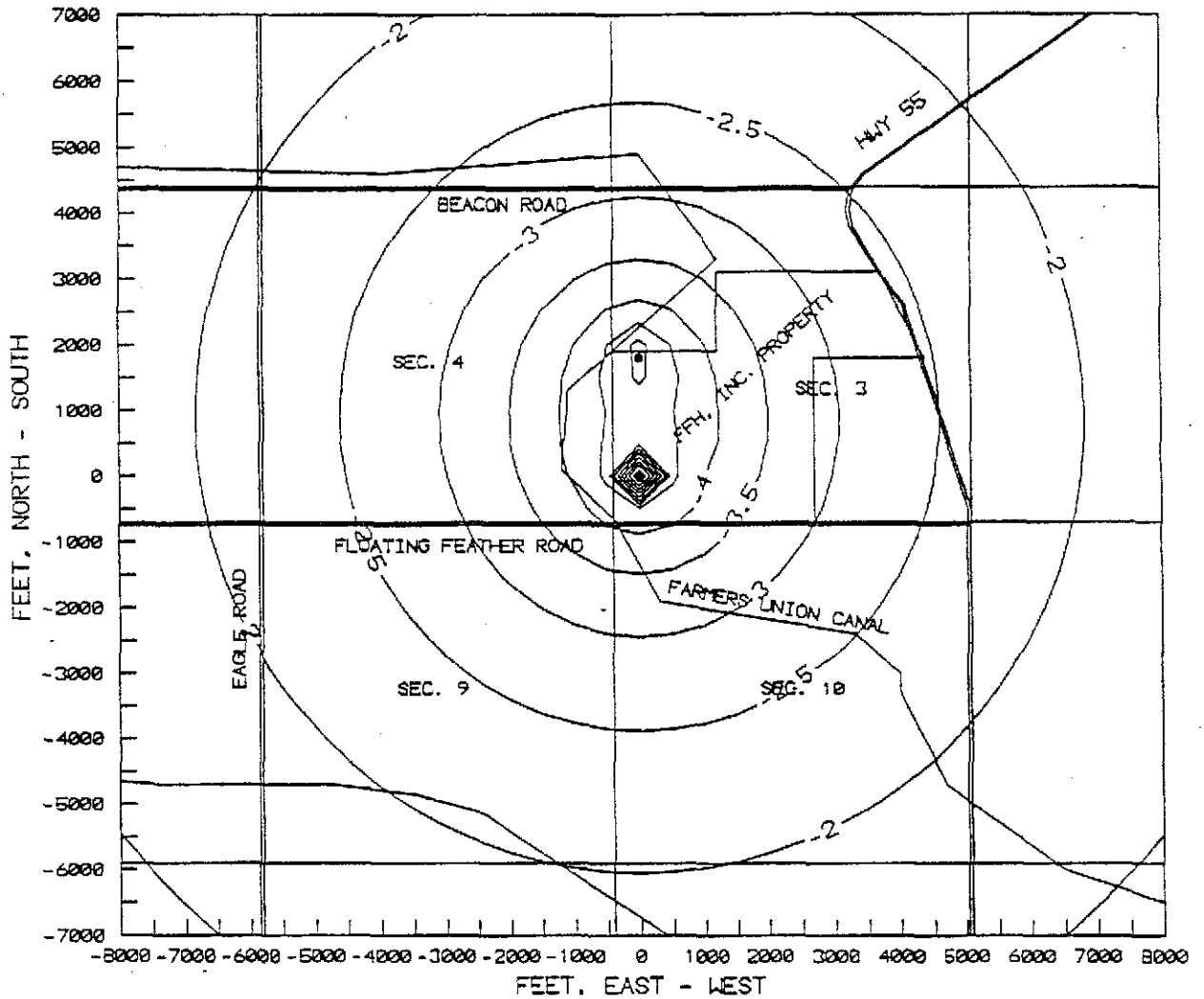

FIGURE 31
DRAWDOWN SIMULATION
T=174 K, Q=1000 gpm, t=1YEAR
FLOATING FEATHER HILLS, INC.

BOI31684 A1

CH2MHILL

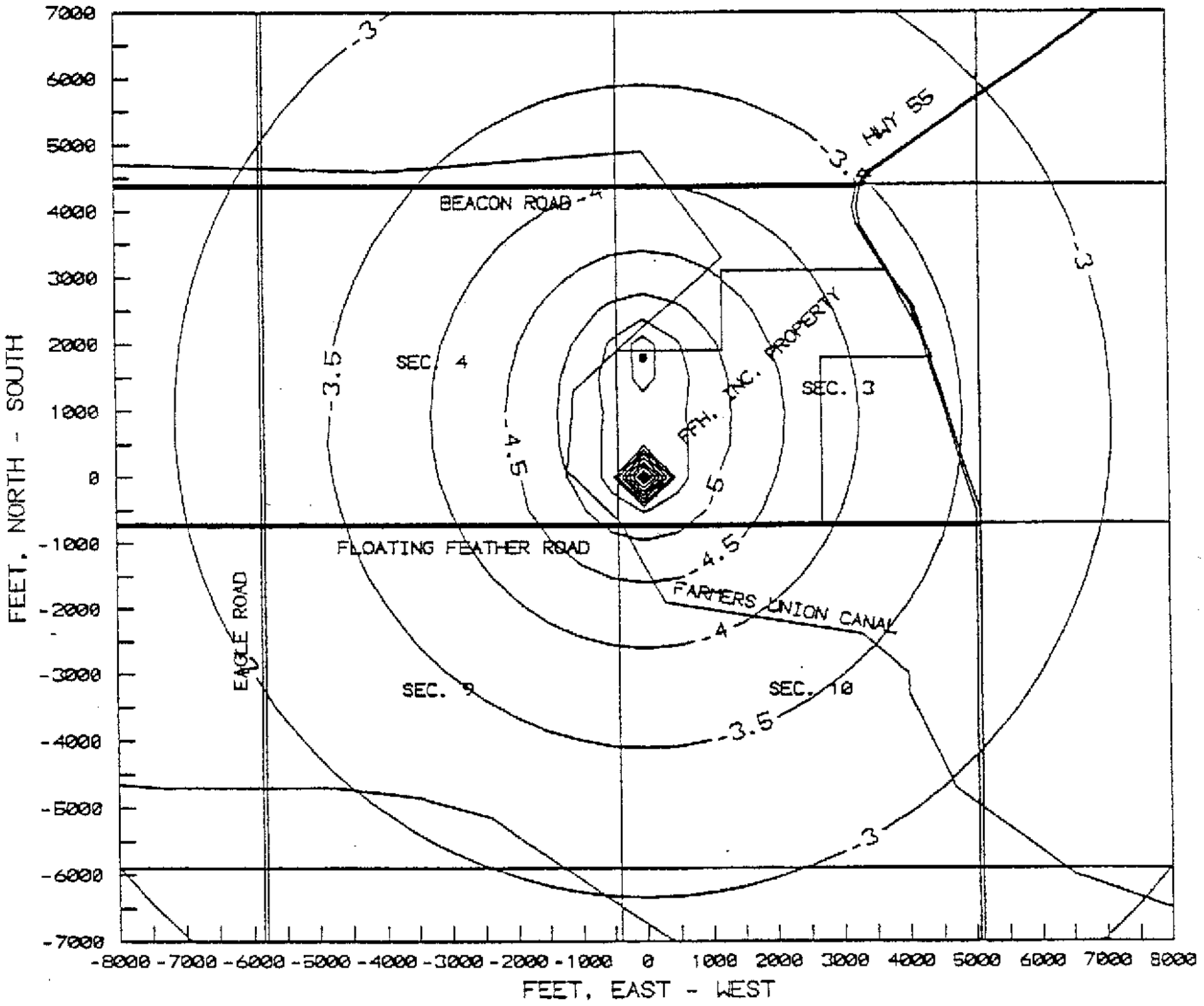

FIGURE 32
DRAWDOWN SIMULATION
T=174K, Q=1000 gpm, t=5YEARS
FLOATING FEATHER HILLS, INC.

BO131684 A1

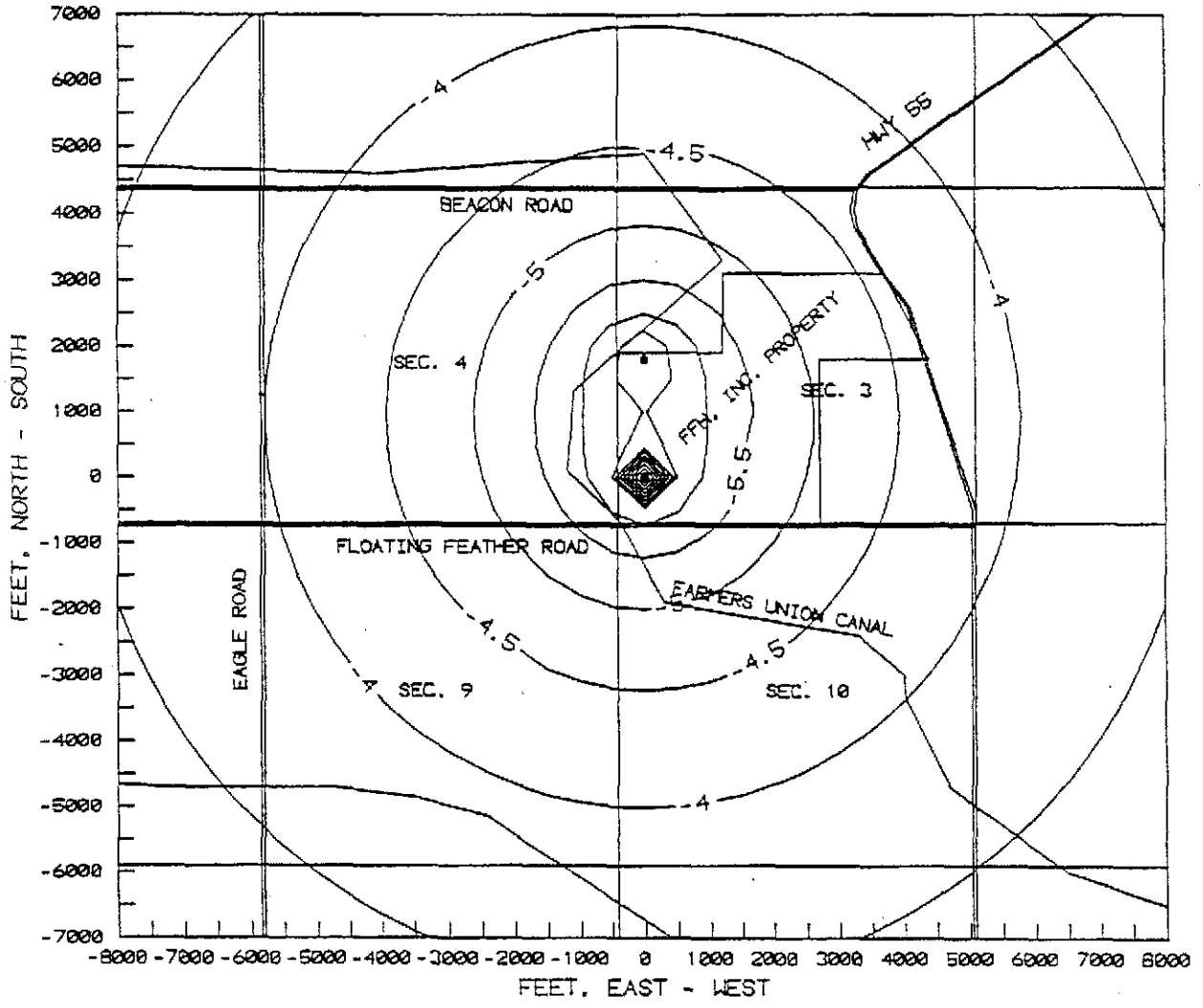

FIGURE 33
DRAWDOWN SIMULATION
T=174K, Q=1000 gpm, t=15YEARS
FLOATING FEATHER HILLS, INC.

BOI31584 A1

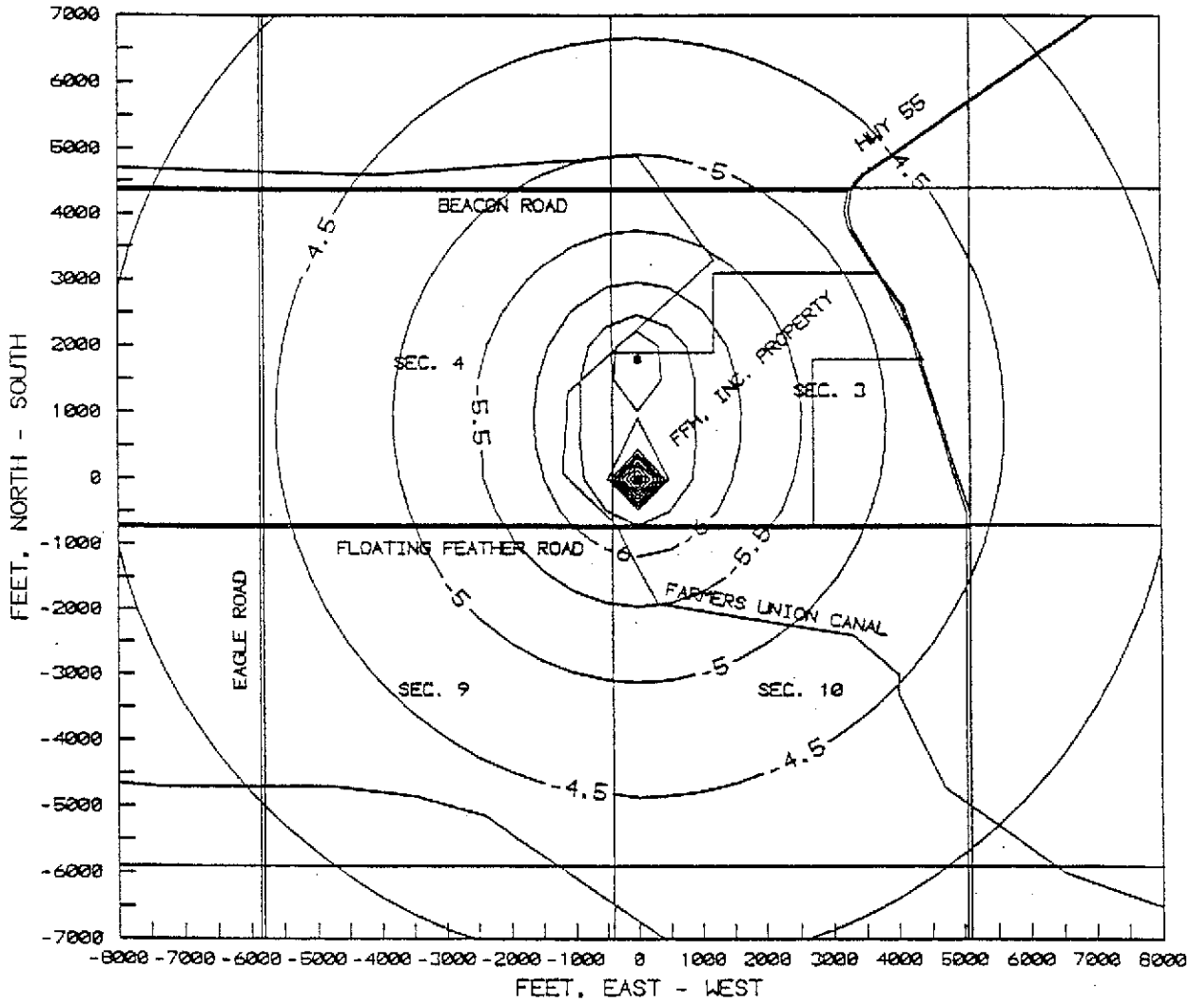

FIGURE 34
DRAWDOWN SIMULATION
T=174K, Q=1000 gpm, t=30YEARS
FLOATING FEATHER HILLS, INC.

BO131684 A1

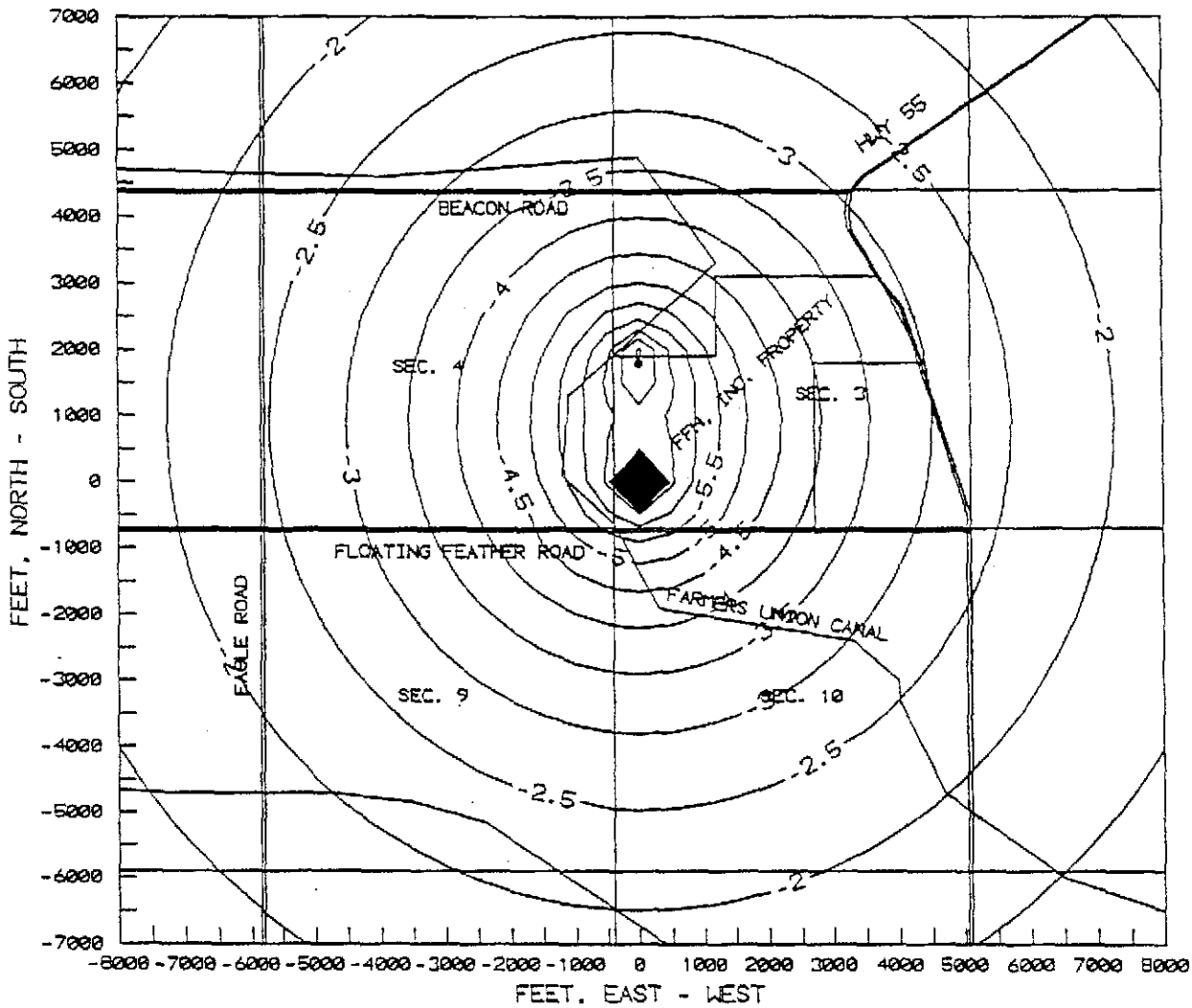

FIGURE 35
DRAWDOWN SIMULATION
T=100K, Q=1000 gpm, t=6MONTHS
FLOATING FEATHER HILLS, INC.

SO131684 A1

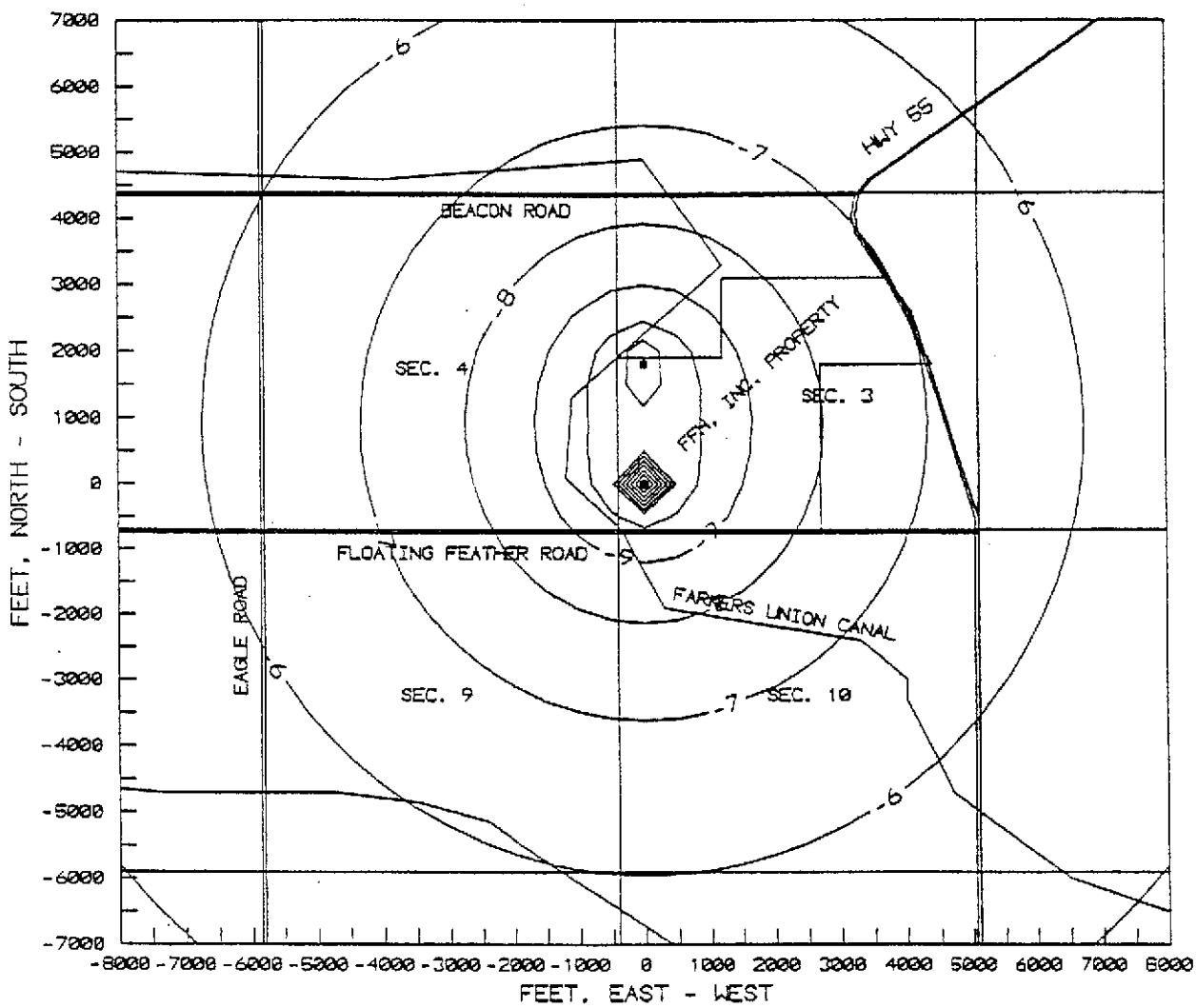

FIGURE 36
DRAWDOWN SIMULATION
T=100K, Q=1000 gpm, t=15YEARS
FLOATING FEATHER HILLS, INC.

BO131684 A1

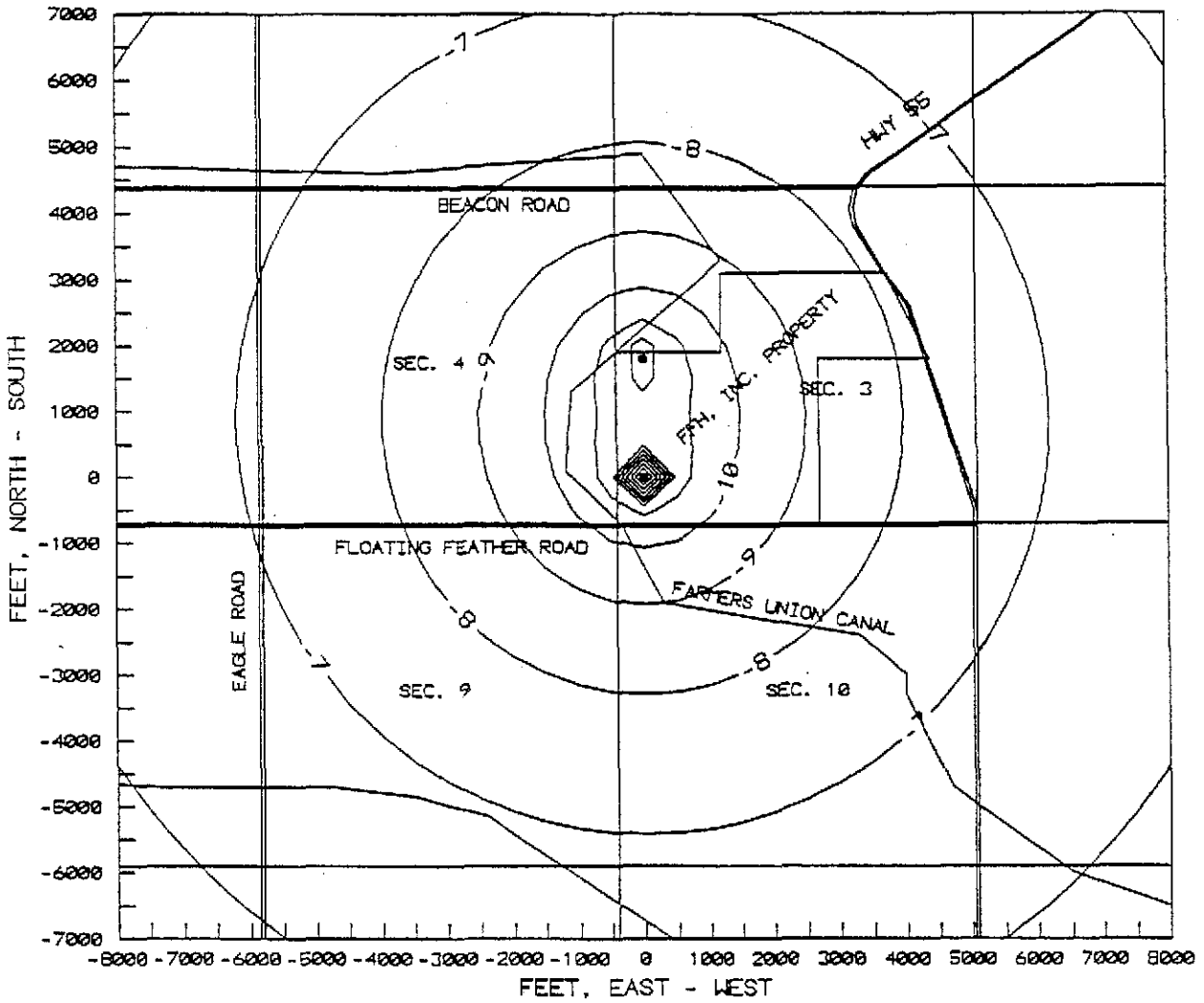

FIGURE 37
DRAWDOWN SIMULATION
T=100K, Q=1000 gpm, t=30YEARS
FLOATING FEATHER HILLS, INC.

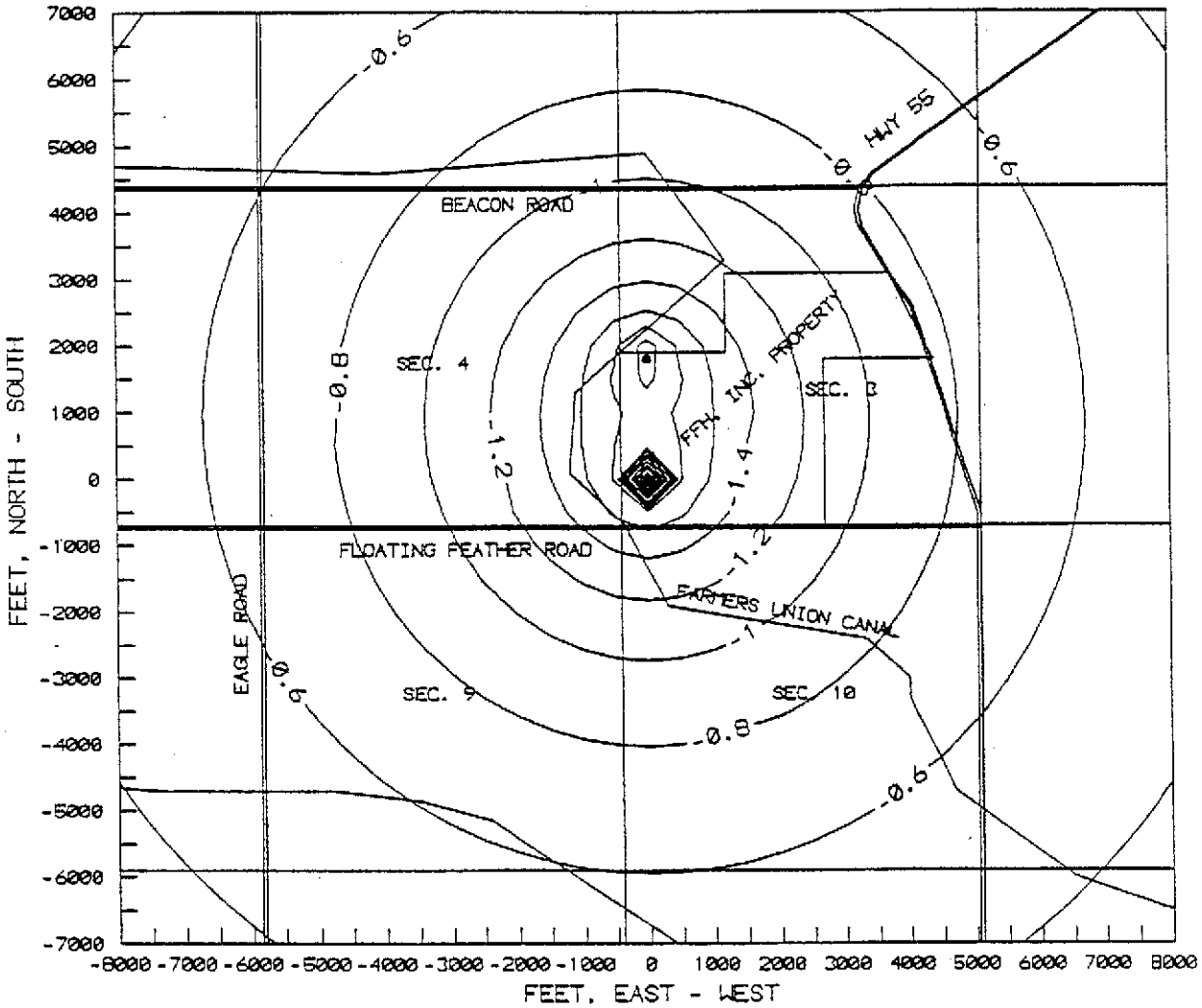

FIGURE 38
DRAWDOWN SIMULATION
T=100K, Q=278 gpm, t=6MONTHS
FLOATING FEATHER HILLS, INC.

BOI31684 A1

CH2MHILL

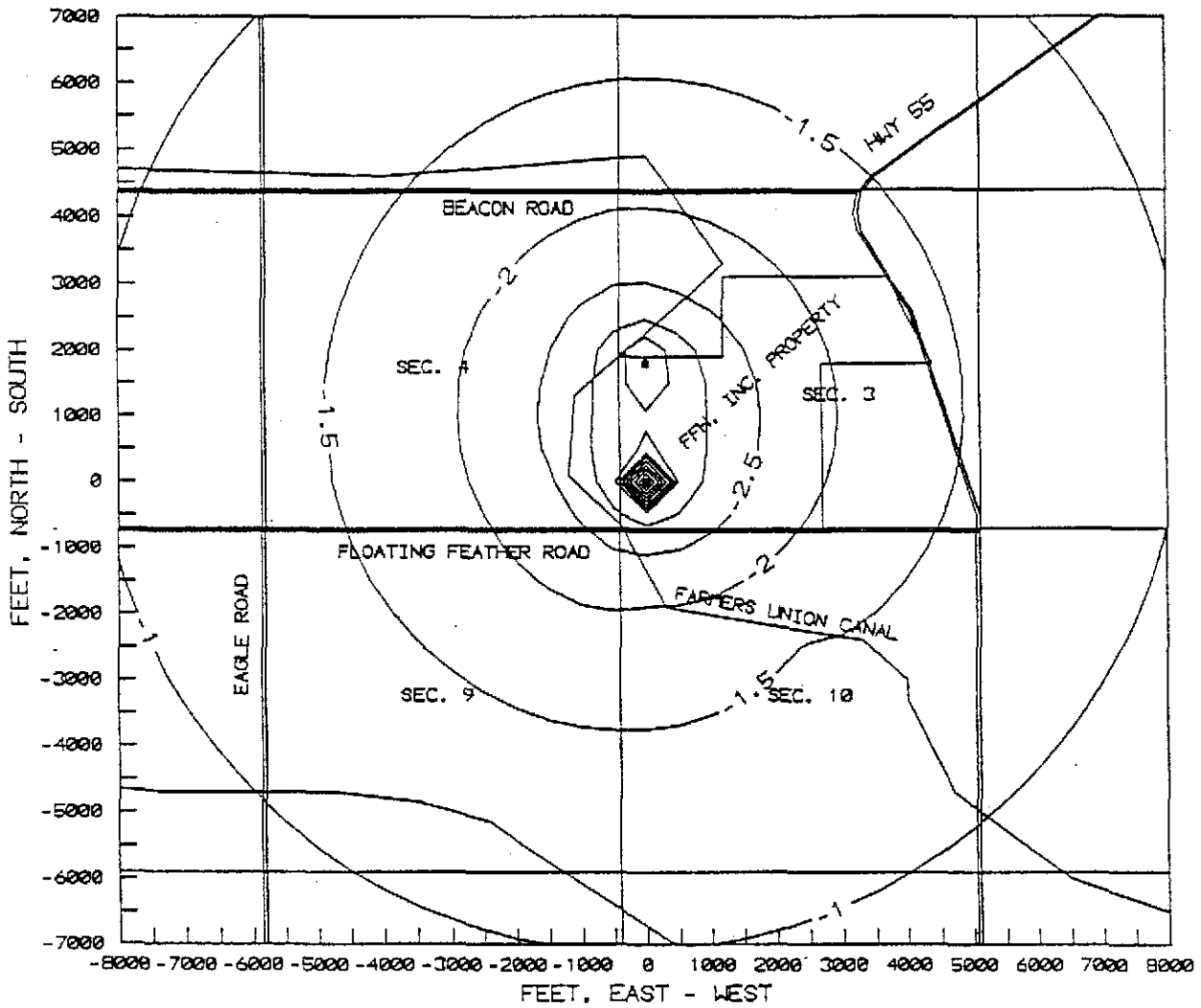

FIGURE 39
DRAWDOWN SIMULATION WITH RECHARGE T=174K, Q=1000 gpm, t=6MONTHS R=250 gpm
FLOATING FEATHER HILLS, INC.

BOI31684 A1

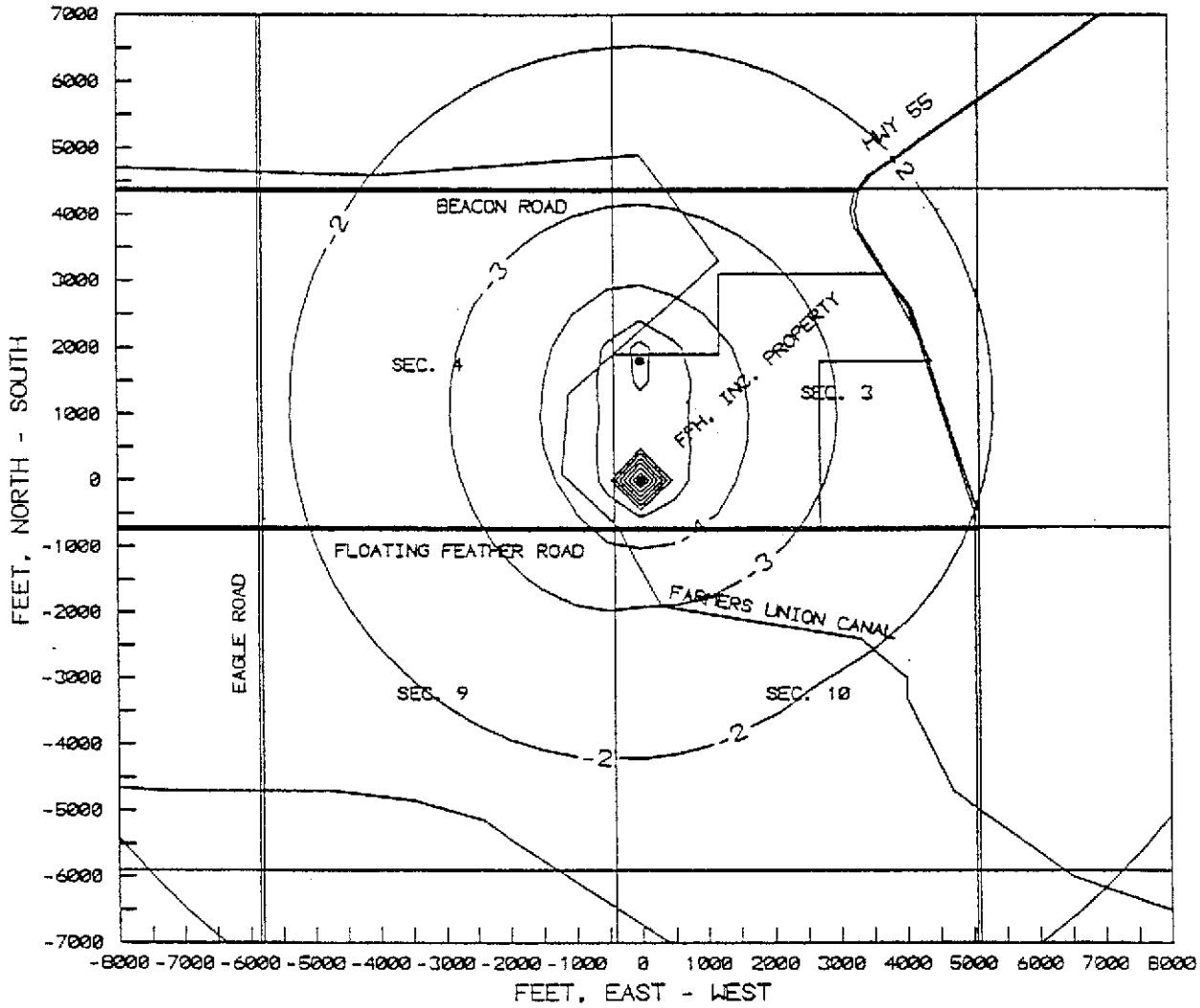

FIGURE 40
DRAWDOWN SIMULATION WITH RECHARGE T=100K, Q=1000 gpm, t=6MONTHS, R=250 gpm
FLOATING FEATHER HILLS, INC.

80131684 A1

CH2MHILL

Appendix F provides the WELSIM printouts for the simulations conducted. The printouts give the impact variables and expected with levels at the pumped wells.

BOIM3/026.51/jai

RECOMMENDATIONS

The proposed groundwater diversions should be permitted on the basis of the demonstration of an adequate resource and limited impact to existing water rights.

The Eagle area is experiencing considerable growth and change from irrigated pasture- and farmland to residential development. The groundwater resources are consequently becoming increasingly important for potable water supplies and, as such, steps should be taken to begin or expand basic data collection to allow evaluation and monitoring of the impact of future groundwater diversions.

A monitoring system should be developed to allow tracking the temporal changes in water levels in the aquifer. Of particular concern is whether the aquifer is being mined over the long duration. Deep and shallow wells should be included. The monitoring wells may be obtained by review of unused wells or new wells installed. The Hormachea well used is this test is a good candidate for a deep monitoring well. There are a number of wells completed in the 175- to 200-foot depth range in the area. An observation well(s) completed in this depth range should be included. The Holgate well may be a candidate for this depth interval, depending on the ultimate resolution of the Holgate property. Presently, it is included in the FFH, Inc. development and, consequently, the well may be taken out of service.

Other wells in the area are available, such as the Floating Feather Irrigation District well. The Day well or another suitable new or abandoned well in the Sage Area Subdivision should be included in an observation network.

Permanent water level recorders and record management should be included in the necessary IDWR budgets to conduct a dedicated, long-term, water level monitoring program for this area.

Additional aquifer tests are needed to determine the lateral and vertical variability of the aquifer. Collection and analysis of aquifer characteristics by pumping tests should

be conditions of permits for proposed groundwater diversions. Multiple well tests are better than single well tests but all wells should be pump tested.

A water balance should be conducted to identify and characterize recharge and discharge to the aquifer. This aquifer represents a sole source water supply for this area. Recharge areas should be identified and be protected.

IDWR and/or the USGS should continue to collate information and complete their analysis of the aquifer(s) in the Eagle area. The information should be made readily available to the public and periodically published.

BOIM3/026.51/jai

REFERENCES

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BOIM3/026.51/jai

Appendix A

FLOATING FEATHER, INC.
APPLICATION FOR PERMIT

Form 238-7
6/89

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Floating Feather Hills, Inc.

Address _____

Owner's Permit No. _____

2. NATURE OF WORK

☐ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase
Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☐ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☐ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☐ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

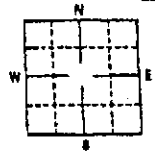
Was casing drive shoe used? ☐ Yes ☐ No
Was a packer or seal used? ☐ Yes ☐ No
Perforated? ☐ Yes ☐ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☐ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Gravel packed? ☐ Yes ☐ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth _____ feet used ☐ Neat ☐ Cement grout ☐ Bentonite ☐ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☐ Overbore to seal depth
Method of joining casing: ☐ Threaded ☐ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____
County _____
¼ ¼ Sec. _____ T. _____ N ☐ S ☐ R. _____ E ☐ W ☐

7. WATER LEVEL

Static water level _____ feet below land surface.
Flowing? ☐ Yes ☐ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____
Describe artesian or temperature zones below

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
28"	315	325	Brn. & Gray Clay Mix w/ streaks of fine sand.		
	325	335	Blue Brown clay w/ stks. of sand.		
	335	351	Fine Blue Sand		
	351	365	Blue Clay		
	365	385	Fine Blue Sand		
	385	388	Blue Clay		
	388	393	Blue Sand		
	393	405	Blue Clay		

10.

Work started _____ finished _____

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name PETE COPE DRILLING CO., INC. Firm No. 213

Address _____ Date _____

Signed by (Firm Official) _____

and

(Operator) _____

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE ...

Form 238-7
6/89

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name: Floating Feather Hills, Inc.
Address: 2417 Bank Drive-Suite 101, Boise, ID 83705
Owner's Permit No. 63-11413

2. NATURE OF WORK

[X] New well [ ] Deepened [ ] Replacement
Well diameter increase
Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

[ ] Domestic [ ] Irrigation [X] Test [ ] Municipal
[ ] Industrial [ ] Stock [ ] Waste Disposal or Injection
[ ] Other ____ (specify type)

4. METHOD DRILLED

[ ] Rotary [ ] Air [ ] Hydraulic [X] Reverse rotary
[ ] Cable [ ] Dug [ ] Other ____

5. WELL CONSTRUCTION

Casing schedule: [X] Steel [ ] Concrete [ ] Other ____

Thickness	Diameter	From	To
.250 inches	16 inches	18" feet	215 feet
.250 inches	16 inches	265 feet	375 feet
.250 inches	16 inches	385 feet	405 feet
____ inches	____ inches	____ feet	____ feet

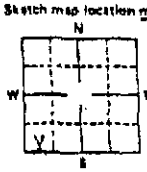
Was casing drive shoe used? [ ] Yes [X] No
Was a packer or seal used? [ ] Yes [X] No
Perforated? [ ] Yes [X] No
How perforated? [ ] Factory [ ] Knife [ ] Torch [ ] Gun
Size of perforation ____ inches by ____ inches

Number of perforations	From feet	To feet
____	____	____
____	____	____
____	____	____

Well screen installed? [X] Yes [ ] No
Manufacturer's name: Roscoe Moss
Type: Hvy. Stainless Steel Model No.: Wirewra
Diameter 16" Slot size .040 Set from 215 feet to 265 feet
Diameter 16" Slot size .040 Set from 375 feet to 385 feet
Gravel packed? [X] Yes [ ] No [ ] Size of gravel: 3/8-
Placed from 315 feet to 190 feet
Surface seal depth 90' material used: [X] Cement grout [ ] Bentonite [ ] Puddling clay [ ] ____
Seal also at 194-180
Sealing procedure used: [ ] Slurry pit [ ] Temp. surface casing [ ] Overbore to seal depth
Method of joining casing: [ ] Threaded [X] Welded [ ] Solvent Weld [ ] Cemented between strata
Describe access port: 2"

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name ____
Lot No. ____ Block No. ____
County Ada
SW¼ SW¼ Sec. 3, T. 4N N S, R. 1E E W

7. WATER LEVEL

Static water level 61' feet below land surface.
Flowing? [ ] Yes [ ] No G.P.M. flow ____
Artesian closed-in pressure ____ p.s.i.
Controlled by: [ ] Valve [ ] Cap [ ] Plug
Temperature ____ °F. Quality ____
Describe erosion or temperature zones below

8. WELL TEST DATA

[X] Pump [ ] Bailer [ ] Air [ ] Other ____

Discharge G.P.M.	Pumping Level	Hours Pumped

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
28"	0	3	Top Soil		
	3	15	Sandy Loam		
	15	25	Coarse Sand & Pea Gravel		
	25	40	Med. to Crse. Sand		
	40	75	River Rock		
	75	85	Fine Sand		
	85	87	Lite Brn. Clay		
	87	106	Fine Sand		
	106	108	Lite Brn. Clay		
	108	124	Fine Sand		
	124	130	Lt. Brn. Clay		
	130	165	Fine Sand		
	165	175	Gldn.Pn./Med.Sand with some clay in spots		
	175	182	Fine Sand		
	182	185	Lt.Brn.Clay & Fine Sand		
	185	189	Fine Sand		
	189	193	Fine to Crse. Sand		
	193	195	Med./Crse. Sand & Clay Mxd.		
	195	198	Lt. Brn. Clay		
	198	205	Fine to Med. Sand		
	205	209	Fine/Crse.Sand & Lt.Brn Clay Mxd.		
	209	211	Fine Sand		
	211	215	Fine/Med.Sand & Lt.Brn Clay		
	215	225	Fine Sand		
	225	235	Sandwitched Sand & Clay (?)		
	235	265	Gray Sand		
	265	275	Sand-Clay (50-50)		
	275	282	Gray Clay		
	282	290	Fine Gray Sand		
	290	300	Gray Clay		
	300	305	Fine Gray Sand		
	305	311	Gray Clay w/sm.st. fine sand		
	311	315	Brn. & Gray Clay		

10.

Work started 2/26/91 finished 3/7/91

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name: PETE COPE DRILLING CO., INC. Firm No.: 213
Address: 6505 W. Chinden Blvd. Meridian, ID Date ____
Signed by (Firm Official) ____
and
(Operator) ____

Appendix B

DRILLERS LOG AND WELL COMPLETION REPORT FOR THE PRODUCTION WELL

8. Description of proposed uses:
DOMESTIC USE FOR 900 HOMES, FIRE PROTECTION, IRRIGATION.

9. Place of Use: IRRIGATION

TWN	RGE	SEC			ACRES		ACRES		ACRES	TOTAL
04N	01E	3	LOT	2(NWNE)	3	SWNE	29	SENE	6	
			LOT	3(NENW)	3	SENW	19	NESW	19	
				NWSW	19	SWSW	19	SESW	19	
				NESE	5	NWSE	17	SWSE	22	
				SESE	20					200

Total number of acres irrigated: 200

Place of Use: DOMESTIC, same as IRRIGATION use

Place of Use: FIRE PROTECTION, same as IRRIGATION use

10. Describe any other water rights used for the same purposes.

11. a. Who owns the property at the point of diversion?
APPLICANT
b. Who owns the land to be irrigated or place of use?
APPLICANT
c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing.

12. Remarks:
Amended by adding Treasure Valley Village requirements on 3/14/91
PROTESTANTS: MORE THAN 80.
PUMP TEST BEING CONDUCTED BY APPLICANTS.

13. Map of proposed point of diversion and place of use attached? [ ]

BE IT KNOWN that the undersigned hereby makes application for permit to appropriate the public waters of the State of Idaho as herein set forth.

_____
Applicant

Received by _____ Date _____ Time____ Preliminary check by _____

Fee $ _____ Receipted by _____ # _____ Date _____

Publication prepared by _____ Date _____ Published in _____

Publication approved _____ Date _____

Ident. No. 63-11413

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR PERMIT

To appropriate the public waters of the State of Idaho

1. Name: FLOATING FEATHER HILLS INC. 208-343-6500
   Address: 2417 BANKS DRIVE
   SUITE 101
   BOISE, ID 83705
   AND
   Name: TREASURE VALLEY VILLAGE 208-336-3393
   Address: LIMITED PARTNERSHIP
   4720 EMERALD
   BOISE, ID 83706

2. Source: GROUNDWATER Trib. to:

3. Location of Point of Diversion:
   NWSW Sec. 3, Township 04N, Range 01E
   NESE Sec. 4, Township 04N, Range 01E
   SWSWSW Sec. 3, Township 04N, Range 01E
   SWSW Sec. 4, Township 04N, Range 01E
   ADA County

4. Water will be used for the following purposes:

Purpose	From	To	CFS	(or)	AF
IRRIGATION	03/15	11/15	2.000		
DOMESTIC	01/01	12/31	1.250		
FIRE PROTECTION	01/01	12/31	2.000		

5. Total quantity to be appropriated is:
   5.000 CFS (and/or) AF

6. Proposed diverting works:
   a. Description of ditches, flumes, pumps, headgates, etc.
   WELL, PUMP AND PIPELINE
   b. Height of storage dam feet; active reservoir capacity acre-feet; total reservoir capacity acre-feet; period of year when water will be diverted to storage: to inclusive.
   c. Proposed well diameter is 24 inches; proposed depth of well is 415 feet.
   d. Is groundwater with a temperature greater than 90F being sought? NO

7. Time required for the completion of the works and application of the water to the proposed beneficial use is 5 years.

PRODUCTION WELL

CH2M HILL — PUMPING TEST REPORT

PROJECT NO: BOI 31684.A1

WELL NO: FFH, INC. PRODUCTION WELL — PUMPING / OBSERVATION WELL

TYPE OF DATA: DRAWDOWN

PUMPED WELL NO: PW — RADIUS: 14"(28"HOLE) — M.P. FOR WL'S: TOP OF CASING — ELEV.:

PUMPING RATES: 750.0 Gallons per minute — PUMP ON: DATE 26-Mar-91 TIME 10:56:00

HOW Q MEASURED: FLOWMETER — PUMP OFF: DATE 25-Apr-91 TIME 11:03:00

HOW WL's MEASURED: AIR LINE — STATIC WATER LEVEL (FT BMP): 74.00

DIST. FROM PUMPED WELL: 1 FOOT — COMMENTS: FLOW METER AT START 786,800

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: DEPTH TO WATER (FT)	WATER LEVEL DATA: DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	FLOW METER (GALLONS X 100)	TOTAL GALLONS (X 100)	Q AVG CURRENT (GPM)	Q AVG TO DATE (GPM)	REMARKS
26-Mar	10:50:00	-6.0		74.0	0.0	74.00	0.00	786,800	0			
26-Mar	10:54:00	-2.0		74.0	0.0	74.00	0.00	786,800	0			Regression from Holgate well used.
26-Mar	10:55:00	-1.0		74.0	0.0	74.00	0.00	786,800	0			
26-Mar	10:56:15	0.3		110.0	36.0	74.00	36.00					Regression Output:
26-Mar	10:56:30	0.5		118.0	44.0	74.00	44.00					Constant 74.00
26-Mar	10:57:00	1.0		122.0	48.0	74.00	48.00					Std Err of Y Est 0.05
26-Mar	10:58:00	2.0		126.0	52.0	74.00	52.00					R Squared 0.95
26-Mar	10:59:00	3.0		130.0	56.0	74.00	56.00					No. of Observations 5.00
26-Mar	11:00:00	4.0		133.0	59.0	74.00	59.00					Degrees of Freedom 3.00
26-Mar	11:02:00	6.0		134.0	60.0	74.00	60.00					
26-Mar	11:03:00	7.0		135.0	61.0	74.00	61.00					X Coefficient(s) 0.000050
26-Mar	11:04:00	8.0		136.0	62.0	74.00	62.00					Std Err of Coef. 0.000007
26-Mar	11:05:00	9.0		136.5	62.5	74.00	62.50					
26-Mar	11:07:00	11.0		139.0	65.0	74.00	65.00					X Y
26-Mar	11:09:00	13.0		140.0	66.0	74.00	66.00					-9896.00 58.14
26-Mar	11:11:00	15.0		141.5	67.5	74.00	67.50	786,900	100	667	667	-5481.00 58.38
26-Mar	11:13:00	17.0		142.0	68.0	74.00	68.00					-4016.00 58.39
26-Mar	11:15:00	19.0		143.0	69.0	74.00	69.00					-15.00 58.70
26-Mar	11:17:00	21.0		143.5	69.5	74.00	69.50					-3.00 58.58
26-Mar	11:18:00	22.0		144.0	70.0	74.00	70.00					
26-Mar	11:20:00	24.0		144.5	70.5	74.00	70.50					
26-Mar	11:22:00	26.0		145.0	71.0	74.00	71.00					
26-Mar	11:24:00	28.0		145.1	71.1	74.00	71.10					
26-Mar	11:26:00	30.0		146.0	72.0	74.00	72.00					
26-Mar	11:32:00	36.0		147.0	73.0	74.00	73.00					
26-Mar	11:35:00	39.0		147.0	73.0	74.00	73.00					
26-Mar	11:38:00	42.0		147.1	73.1	74.00	73.10					
26-Mar	11:41:00	45.0		147.5	73.5	74.00	73.50					
26-Mar	11:46:00	50.0		147.0	73.0	74.00	73.00	787,190	390	829	780	
26-Mar	11:51:00	55.0		147.1	73.1	74.00	73.10					
26-Mar	11:56:00	60.0		147.1	73.1	74.00	73.10					
26-Mar	12:01:00	65.0		147.5	73.5	74.00	73.50	787,310	510	800	785	
26-Mar	12:06:00	70.0		147.5	73.5	74.00	73.50					
26-Mar	12:07:00	71.0		146.0	72.0	74.00	72.00					
26-Mar	12:12:00	76.0		145.0	71.0	74.00	71.00					
26-Mar	12:16:00	80.0		145.0	71.0	74.00	71.00					
26-Mar	12:36:00	100.0		145.1	71.1	74.01	71.09					
26-Mar	12:47:00	111.0		147.0	73.0	74.01	72.99	787,612	812	657	732	
26-Mar	12:56:00	120.0		147.0	73.0	74.01	72.99					
26-Mar	13:16:00	140.0		147.0	73.0	74.01	72.99					
26-Mar	13:36:00	160.0		147.0	73.0	74.01	72.99	788,024	1,224	841	765	
26-Mar	13:56:00	180.0		147.2	73.2	74.01	73.19	788,190	1,390	830	772	
26-Mar	14:16:00	200.0		147.2	73.2	74.01	73.19	788,340	1,540	750	770	
26-Mar	14:36:00	220.0		147.5	73.5	74.01	73.49	788,490	1,690	750	768	
26-Mar	15:16:00	260.0		147.8	73.8	74.01	73.79	788,827	2,027	842	780	
26-Mar	15:56:00	300.0		148.0	74.0	74.02	73.98	789,112	2,312	712	771	
26-Mar	16:56:00	360.0		148.0	74.0	74.02	73.98	789,524	2,724	687	757	

CH2M HILL *PUMPING TEST REPORT*

PROJECT NO: BOI 31684.A1

WELL NO: *FFH, INC. PRODUCTION WELL*
TYPE OF DATA: *DRAWDOWN*
PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)*
PUMPING RATES: *750.0 Gallons per minute*
HOW Q MEASURED: *FLOWMETER*
HOW WL's MEASURED: *AIR LINE*
DIST. FROM PUMPED WELL: *1 FOOT*

PUMPING / OBSERVATION WELL

M.P. FOR WL'S: *TOP OF CASING* ELEV.:
PUMP ON: DATE *26-Mar-91* TIME *10:56:00*
PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*
STATIC WATER LEVEL (FT BMP): *74.00*
COMMENTS: *FLOW METER AT START* 786,800

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: DEPTH TO WATER (FT)	WATER LEVEL DATA: DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	FLOW METER (GALLONS X 100)	TOTAL GALLONS (X 100)	Q AVG CURRENT (GPM)	Q AVG TO DATE (GPM)	REMARKS
26-Mar	17:56:00	420.0		147.8	73.8	74.02	73.78	789,984	3,184	767	758	
26-Mar	18:56:00	480.0		148.0	74.0	74.02	73.98	790,409	3,609	708	752	
26-Mar	19:56:00	540.0		148.0	74.0	74.03	73.97	790,853	4,053	740	751	
26-Mar	20:56:00	600.0		148.2	74.2	74.03	74.17	791,298	4,498	742	750	
26-Mar	21:56:00	660.0		148.5	74.5	74.03	74.47	791,742	4,942	740	749	
27-Mar	08:26:00	1290.0		149.0	75.0	74.06	74.94	796,378	9,578	736	742	
27-Mar	12:07:00	1511.0		148.0	74.0	74.08	73.92	798,039	11,239	752	744	
27-Mar	18:08:00	1872.0		148.0	74.0	74.09	73.91	800,663	13,863	727	741	
27-Mar	23:26:00	2190.0		148.0	74.0	74.11	73.89	802,964	16,164	724	738	
28-Mar	08:23:00	2727.0		148.5	74.5	74.14	74.36	806,880	20,080	729	736	
28-Mar	12:40:00	2984.0		148.0	74.0	74.15	73.85	808,735	21,935	722	735	
28-Mar	18:18:00	3322.0		147.0	73.0	74.17	72.83	811,164	24,364	719	733	
28-Mar	23:00:00	3604.0		147.0	73.0	74.18	72.82	813,176	26,376	713	732	
29-Mar	08:24:00	4168.0		147.0	73.0	74.21	72.79	817,205	30,405	714	729	
29-Mar	08:30:00	4174.0		149.5	75.5	74.21	75.29					
29-Mar	13:48:00	4492.0		149.5	75.5	74.23	75.27	819,600	32,800	739	730	
29-Mar	18:16:00	4760.0		149.5	75.5	74.24	75.26	821,574	34,774	737	731	
29-Mar	23:34:00	5078.0		149.5	75.5	74.26	75.24	823,914	37,114	736	731	
30-Mar	08:46:00	5630.0		150.0	76.0	74.28	75.72	827,972	41,172	735	731	
30-Mar	13:07:00	5891.0		149.5	75.5	74.30	75.20	829,898	43,098	738	732	
30-Mar	18:40:00	6224.0		154.0	80.0	74.31	79.69	832,360	45,560	739	732	
30-Mar	22:50:00	6474.0		154.0	80.0	74.33	79.67	834,253	47,453	757	733	
31-Mar	08:28:00	7052.0		152.5	78.5	74.35	78.15	838,637	51,837	758	735	
31-Mar	14:02:00	7386.0		152.0	78.0	74.37	77.63	841,163	54,363	756	736	
31-Mar	23:31:00	7955.0		152.0	78.0	74.40	77.60	845,467	58,667	756	737	
01-Apr	08:40:00	8504.0		152.5	78.5	74.43	78.07	849,624	62,824	757	739	
01-Apr	15:30:00	8914.0		151.0	77.0	74.45	76.55	852,721	65,921	755	740	
01-Apr	22:11:00	9315.0		104.0	30.0	74.47	29.53	855,438	68,638	678	737	Pump off at about 21:40.
01-Apr	22:50:00	9354.0				74.47	-74.47					Pump back on.
01-Apr	22:54:00	9358.0		141.0	67.0	74.47	66.53	855,487	68,687	114	734	
02-Apr	07:35:00	9879.0		150.0	76.0	74.50	75.50	859,404	72,604	752	735	
02-Apr	14:40:00	10304.0		150.0	76.0	74.52	75.48	862,591	75,791	750	736	
02-Apr	22:15:00	10759.0		150.0	76.0	74.54	75.46	865,990	79,190	747	736	
03-Apr	08:15:00	11359.0		151.0	77.0	74.57	76.43	870,479	83,679	748	737	
03-Apr	14:12:00	11716.0		150.0	76.0	74.59	75.41	873,141	86,341	746	737	
03-Apr	20:23:00	12087.0		151.0	77.0	74.61	76.39	875,911	89,111	747	737	
04-Apr	08:20:00	12804.0		154.0	80.0	74.64	79.36	881,260	94,460	746	738	
04-Apr	14:39:00	13183.0		151.0	77.0	74.66	76.34	884,081	97,281	744	738	
04-Apr	22:40:00	13664.0		151.0	77.0	74.69	76.31	887,669	100,869	746	738	
05-Apr	08:57:00	14281.0		154.0	80.0	74.72	79.28	892,260	105,460	744	738	
05-Apr	09:17:00	14301.0		154.5	80.5	74.72	79.78	892,411	105,611	755	738	
05-Apr	12:21:00	14485.0		151.0	77.0	74.73	76.27	893,774	106,974	741	739	
05-Apr	16:04:00	14708.0		151.0	77.0	74.74	76.26	895,426	108,626	741	739	
05-Apr	22:34:00	15098.0		152.0	78.0	74.76	77.24	898,323	111,523	743	739	
06-Apr	09:22:00	15746.0		152.0	78.0	74.79	77.21	903,131	116,331	742	739	
06-Apr	16:26:00	16170.0		152.0	78.0	74.81	77.19	906,277	119,477	742	739	

CH2M HILL *PUMPING TEST REPORT*

PROJECT NO: BOI 31684.A1

WELL NO: *FFH, INC. PRODUCTION WELL* — PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)*

PUMPING RATES: *750.0 Gallons per minute*

HOW Q MEASURED: *FLOWMETER*

HOW WL's MEASURED: *AIR LINE*

DIST. FROM PUMPED WELL: *1 FOOT*

M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

STATIC WATER LEVEL (FT BMP): *74.00*

COMMENTS: *FLOW METER AT START 786,800*

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: DEPTH TO WATER (FT)	WATER LEVEL DATA: DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	FLOW METER (GALLONS X 100)	TOTAL GALLONS (X 100)	Q AVG CURRENT (GPM)	Q AVG TO DATE (GPM)	REMARKS
06-Apr	22:13:00	16517.0		152.0	78.0	74.83	77.17	908,846	122,046	740	739	Daylight savings begins at 2 am.
07-Apr	09:42:00	17206.0		152.0	78.0	74.86	77.14	913,500	126,700	675	736	Elapsed time adjusted -60 min.
07-Apr	16:49:00	17633.0		152.0	78.0	74.89	77.11	916,658	129,858	740	736	
07-Apr	23:50:00	18054.0		152.0	78.0	74.91	77.09	919,777	132,977	741	737	
08-Apr	09:22:00	18626.0		152.0	78.0	74.94	77.06	924,003	137,203	739	737	
08-Apr	15:09:00	18973.0		152.0	78.0	74.95	77.05	926,569	139,769	739	737	
08-Apr	20:19:00	19283.0		152.0	78.0	74.97	77.03	928,856	142,056	738	737	
09-Apr	09:28:00	20072.0		152.0	78.0	75.01	76.99	934,680	147,880	738	737	
09-Apr	10:49:00	20153.0		154.0	80.0	75.01	78.99	935,283	148,483	744	737	
09-Apr	16:19:00	20483.0		155.0	81.0	75.03	79.97	937,779	150,979	756	737	
09-Apr	22:47:00	20871.0		155.0	81.0	75.05	79.95	940,710	153,910	755	737	
10-Apr	09:06:00	21490.0		155.0	81.0	75.08	79.92	945,385	158,585	755	738	
10-Apr	16:30:00	21934.0		155.0	81.0	75.10	79.90	948,735	161,935	755	738	
10-Apr	22:00:00	22264.0		155.0	81.0	75.12	79.88	951,225	164,425	755	739	
11-Apr	09:29:00	22953.0		155.0	81.0	75.15	79.85	956,417	169,617	754	739	
11-Apr	16:33:00	23377.0		155.0	81.0	75.18	79.82	959,611	172,811	753	739	
11-Apr	23:46:00	23810.0		155.0	81.0	75.20	79.80	962,870	176,070	753	739	
12-Apr	09:39:00	24403.0		156.0	82.0	75.23	80.77	967,334	180,534	753	740	
12-Apr	11:35:00	24519.0		156.0	82.0	75.23	80.77	968,219	181,419	763	740	
12-Apr	13:10:00	24614.0		153.0	79.0	75.24	77.76	968,949	182,149	768	740	
12-Apr	13:39:00	24643.0		153.0	79.0	75.24	77.76	969,156	182,356	712	740	
12-Apr	14:06:00	24670.0		153.0	79.0	75.24	77.76	969,355	182,555	739	740	
12-Apr	14:17:00	24681.0		153.0	79.0	75.24	77.76	969,435	182,635	723	740	
12-Apr	20:50:00	25074.0		156.0	82.0	75.26	80.74	972,410	185,610	757	740	
13-Apr	08:54:00	25798.0		155.0	81.0	75.30	79.70	977,875	191,075	755	741	
13-Apr	14:12:00	26116.0		155.0	81.0	75.31	79.69	980,274	193,474	754	741	
13-Apr	21:04:00	26528.0		155.0	81.0	75.33	79.67	983,382	196,582	754	741	
14-Apr	08:28:00	27212.0		155.0	81.0	75.37	79.63	988,534	201,734	753	741	
14-Apr	17:04:00	27728.0		155.0	81.0	75.39	79.61	992,418	205,618	753	742	
14-Apr	22:07:00	28031.0		155.0	81.0	75.41	79.59	994,695	207,895	751	742	
15-Apr	09:56:00	28740.0		155.0	81.0	75.44	79.56	1,000,020	213,220	751	742	
15-Apr	16:29:00	29133.0		155.0	81.0	75.46	79.54	1,002,969	216,169	750	742	
15-Apr	21:16:00	29420.0		155.0	81.0	75.48	79.52	1,005,120	218,320	749	742	
16-Apr	09:53:00	30177.0		155.0	81.0	75.52	79.48	1,010,790	223,990	749	742	
16-Apr	18:00:00	30664.0		155.0	81.0	75.54	79.46	1,014,433	227,633	748	742	
17-Apr	01:00:00	31084.0		155.0	81.0	75.56	79.44	1,017,573	230,773	748	742	
17-Apr	11:47:00	31731.0		155.0	81.0	75.59	79.41	1,022,401	235,601	746	742	
17-Apr	17:49:00	32093.0		155.0	81.0	75.61	79.39	1,025,101	238,301	746	743	
17-Apr	23:42:00	32446.0		155.0	81.0	75.63	79.37	1,027,732	240,932	745	743	
18-Apr	10:11:00	33075.0		154.0	80.0	75.66	78.34	1,032,416	245,616	745	743	
18-Apr	18:42:00	33586.0		154.0	80.0	75.69	78.31	1,036,217	249,417	744	743	
18-Apr	23:25:00	33869.0		155.0	81.0	75.70	79.30	1,038,339	251,539	750	743	
19-Apr	10:14:00	34518.0		155.0	81.0	75.74	79.26	1,043,204	256,404	750	743	
19-Apr	15:13:00	34817.0		155.0	81.0	75.76	79.25	1,045,441	258,641	748	743	
19-Apr	23:16:00	35300.0		155.0	81.0	75.77	79.23	1,049,048	262,248	747	743	
20-Apr	09:50:00	35934.0		155.0	81.0	75.81	79.19	1,053,779	266,979	746	743	
20-Apr	19:54:00	36538.0		155.0	81.0	75.84	79.16	1,058,287	271,487	746	743	

CH2M HILL PUMPING TEST REPORT

PROJECT NO: BOI 31684.A1

WELL NO: FFH, INC. PRODUCTION WELL
TYPE OF DATA: DRAWDOWN
PUMPED WELL NO: PW RADIUS: 14"(28"HOLE)
PUMPING RATES: 750.0 Gallons per minute
HOW Q MEASURED: FLOWMETER
HOW WL's MEASURED: AIR LINE
DIST. FROM PUMPED WELL: 1 FOOT

PUMPING / OBSERVATION WELL

M.P. FOR WL'S: TOP OF CASING ELEV.:
PUMP ON: DATE 26-Mar-91 TIME 10:56:00
PUMP OFF: DATE 25-Apr-91 TIME 11:03:00
STATIC WATER LEVEL (FT BMP): 74.00
COMMENTS: FLOW METER AT START 786,800

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: DEPTH TO WATER (FT)	WATER LEVEL DATA: DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	FLOW METER (GALLONS X 100)	TOTAL GALLONS (X 100)	Q AVG CURRENT (GPM)	Q AVG TO DATE (GPM)	REMARKS
20-Apr	23:39:00	36763.0		155.0	81.0	75.85	79.15	1,059,967	273,167	747	743	
21-Apr	10:29:00	37413.0		155.0	81.0	75.88	79.12	1,064,818	278,018	746	743	
21-Apr	16:28:00	37772.0		155.0	81.0	75.90	79.10	1,067,494	280,694	745	743	
21-Apr	21:30:00	38074.0		155.0	81.0	75.91	79.09	1,069,744	282,944	745	743	
22-Apr	09:39:00	38803.0		155.0	81.0	75.95	79.05	1,075,180	288,380	746	743	
22-Apr	15:03:00	39127.0		155.0	81.0	75.97	79.03	1,077,594	290,794	745	743	
22-Apr	20:35:00	39459.0		155.0	81.0	75.98	79.02	1,080,065	293,265	744	743	
23-Apr	09:05:00	40209.0		155.0	81.0	76.02	78.98	1,085,650	298,850	745	743	
23-Apr	17:15:00	40699.0		155.0	81.0	76.05	78.95	1,089,292	302,492	743	743	
23-Apr	22:17:00	41001.0		155.0	81.0	76.06	78.94	1,091,538	304,738	744	743	
24-Apr	09:08:00	41652.0		155.0	81.0	76.09	78.91	1,096,379	309,579	744	743	
24-Apr	16:11:00	42075.0		155.0	81.0	76.11	78.89	1,099,522	312,722	743	743	
24-Apr	22:22:00	42446.0		155.0	81.0	76.13	78.87	1,102,278	315,478	743	743	
25-Apr	08:54:00	43078.0		155.0	81.0	76.17	78.83	1,106,973	320,173	743	743	
25-Apr	11:02:59	43207.0		155.0	81.0	76.17	78.83	1,107,918	321,118	733	743	
25-Apr	11:03:30	43207.5	86415.0	105.0	31.0	76.17	28.83					
25-Apr	11:03:45	43207.8	57610.3	95.0	21.0	76.17	18.83					
25-Apr	11:04:00	43208.0	43208.0	92.0	18.0	76.17	15.83					
25-Apr	11:04:30	43208.5	28805.7	93.0	19.0	76.17	16.83					
25-Apr	11:05:00	43209.0	21604.5	93.0	19.0	76.17	16.83					
25-Apr	11:05:30	43209.5	17283.8	92.0	18.0	76.17	15.83					
25-Apr	11:06:00	43210.0	14403.3	91.0	17.0	76.17	14.83					
25-Apr	11:07:00	43211.0	10802.7	90.0	16.0	76.17	13.83					
25-Apr	11:08:00	43212.0	8642.4	89.0	15.0	76.17	12.83					
25-Apr	11:09:00	43213.0	7202.2	87.5	13.5	76.17	11.33					
25-Apr	11:10:00	43214.0	6173.4	86.5	12.5	76.17	10.33					
25-Apr	11:11:00	43215.0	5401.9	86.0	12.0	76.17	9.83					
25-Apr	11:12:00	43216.0	4801.8	85.0	11.0	76.17	8.83					
25-Apr	11:13:00	43217.0	4321.7	85.0	11.0	76.17	8.83					
25-Apr	11:15:00	43219.0	3601.6	84.5	10.5	76.17	8.33					
25-Apr	11:17:00	43221.0	3087.2	84.0	10.0	76.17	7.83					
25-Apr	11:19:00	43223.0	2701.4	83.5	9.5	76.17	7.33					
25-Apr	11:20:00	43224.0	2542.6	83.5	9.5	76.17	7.33					
25-Apr	11:23:00	43227.0	2161.3	83.0	9.0	76.17	6.83					
25-Apr	11:28:00	43232.0	1729.3	82.5	8.5	76.17	6.33					
25-Apr	11:33:00	43237.0	1441.2	82.0	8.0	76.17	5.83					
25-Apr	11:38:00	43242.0	1235.5	81.5	7.5	76.17	5.33					
25-Apr	11:43:00	43247.0	1081.2	81.0	7.0	76.17	4.83					
25-Apr	11:48:00	43252.0	961.2	80.5	6.5	76.17	4.33					
25-Apr	11:53:00	43257.0	865.1	80.0	6.0	76.17	3.83					
25-Apr	12:03:00	43267.0	721.1	79.8	5.8	76.17	3.63					
25-Apr	12:28:00	43292.0	509.3	79.0	5.0	76.18	2.82					
25-Apr	12:48:00	43312.0	412.5	78.5	4.5	76.18	2.32					
25-Apr	13:08:00	43332.0	346.7	78.0	4.0	76.18	1.82					
25-Apr	13:43:00	43367.0	271.0	77.5	3.5	76.18	1.32					
25-Apr	14:13:00	43397.0	228.4	77.5	3.5	76.18	1.32					
25-Apr	14:43:00	43427.0	197.4	77.0	3.0	76.18	0.82					

CH2M HILL *PUMPING TEST REPORT*

PROJECT NO: BOI 31684.A1

WELL NO: *FFH, INC. PRODUCTION WELL* — PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)*

PUMPING RATES: *750.0 Gallons per minute*

HOW Q MEASURED: *FLOWMETER*

HOW WL's MEASURED: *AIR LINE*

DIST. FROM PUMPED WELL: *1 FOOT*

M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

STATIC WATER LEVEL (FT BMP): *74.0*

COMMENTS: *FLOW METER AT START* 786,80

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: DEPTH TO WATER (FT)	WATER LEVEL DATA: DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	FLOW METER (GALLONS X 100)	TOTAL GALLONS (X 100)	Q AVG CURRENT (GPM)	Q AVG TO DATE (GPM)	REMARKS
25-Apr	15:13:00	43457.0	173.8	76.8	2.8	76.18	0.62					
25-Apr	15:43:00	43487.0	155.3	76.9	2.9	76.19	0.68					
25-Apr	16:13:00	43517.0	140.4	76.8	2.8	76.19	0.61					
25-Apr	16:43:00	43547.0	128.1	76.5	2.5	76.19	0.31					
25-Apr	17:30:00	43594.0	112.6	76.5	2.5	76.19	0.31					
25-Apr	18:20:00	43644.0	99.9	76.3	2.3	76.19	0.11					
25-Apr	19:23:00	43707.0	87.4	76.0	2.0	76.20	-0.20					
25-Apr	20:23:00	43767.0	78.2	76.0	2.0	76.20	-0.20					
25-Apr	21:03:00	43807.0	73.0	75.8	1.8	76.20	-0.40					
25-Apr	23:49:00	43973.0	57.4	76.0	2.0	76.21	-0.21					
26-Apr	07:58:00	44462.0	35.4	75.5	1.5	76.23	-0.73					
26-Apr	13:29:00	44793.0	28.2	75.5	1.5	76.25	-0.75					
26-Apr	17:28:00	45032.0	24.7	75.2	1.2	76.26	-1.06					
26-Apr	21:39:00	45283.0	21.8	75.5	1.5	76.28	-0.78					
27-Apr	00:45:00	45469.0	20.1	75.0	1.0	76.29	-1.29					
27-Apr	07:36:00	45880.0	17.2	75.5	1.5	76.31	-0.81					
27-Apr	11:34:00	46118.0	15.8	75.5	1.5	76.32	-0.82					
27-Apr	18:50:00	46554.0	13.9	75.0	1.0	76.34	-1.34					
27-Apr	23:15:00	46819.0	13.0	75.5	1.5	76.35	-0.85					
28-Apr	09:11:00	47415.0	11.3	75.0	1.0	76.38	-1.38					
28-Apr	14:24:00	47728.0	10.6	75.0	1.0	76.40	-1.40					
28-Apr	21:13:00	48137.0	9.8	75.0	1.0	76.42	-1.42					
29-Apr	10:30:00	48934.0	8.5	75.0	1.0	76.46	-1.46					
29-Apr	11:59:00	49023.0	8.4	75.0	1.0	76.46	-1.46					
29-Apr	20:31:00	49535.0	7.8	75.0	1.0	76.49	-1.49					
30-Apr	08:22:00	50246.0	7.1	75.0	1.0	76.53	-1.53					
30-Apr	20:36:00	50980.0	6.6	74.5	0.5	76.56	-2.06					
01-May	08:35:00	51699.0	6.1	74.5	0.5	76.60	-2.10					
01-May	20:58:00	52442.0	5.7	75.0	1.0	76.64	-1.64					
02-May	08:55:00	53159.0	5.3	75.0	1.0	76.67	-1.67					
02-May	17:39:00	53683.0	5.1	74.5	0.5	76.70	-2.20					
03-May	10:33:00	54697.0	4.8	75.0	1.0	76.75	-1.75					
03-May	20:23:00	55287.0	4.6	75.0	1.0	76.78	-1.78					
04-May	09:18:00	56062.0	4.4	75.0	1.0	76.82	-1.82					
04-May	20:56:00	56760.0	4.2	74.5	0.5	76.85	-2.35					
05-May	08:56:00	57480.0	4.0	74.5	0.5	76.89	-2.39					
05-May	19:58:00	58142.0	3.9	74.5	0.5	76.92	-2.42					
06-May	08:39:00	58903.0	3.8	74.5	0.5	76.96	-2.46					

EICHHORN WELL

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *EICHHORN* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *BK PROBE* STATIC WATER LEVEL (FT BMP): *61.40*

DIST. FROM PUMPED WELL: *600 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READING REFERENCE	READING MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
20-Mar	10:00	-8696				60.18	60.18	60.10	0.08	Regression Output:
22-Mar	15:30	-5486				60.22	60.22	60.62	-0.40	Constant 61.50
23-Mar	16:10	-4006				61.22	61.22	60.86	0.36	Std Err of Y Est 0.32
25-Mar	17:20	-1056				61.39	61.39	61.33	0.06	R Squared 0.80
26-Mar	10:29	-27				61.40	61.40	61.50	-0.10	No. of Observations 5.00
26-Mar	11:02	6				61.33	61.33	61.50	-0.17	Degrees of Freedom 3.00
26-Mar	11:04	8				61.38	61.38	61.50	-0.13	
26-Mar	11:06	10				61.38	61.38	61.50	-0.13	X Coefficient(s) 0.000161
26-Mar	11:08	12				61.38	61.38	61.50	-0.13	Std Err of Coef. 0.000046
26-Mar	11:10	14				61.38	61.38	61.51	-0.13	X Y
26-Mar	11:12	16				61.42	61.42	61.51	-0.09	-8696 60.18
26-Mar	11:14	18				61.42	61.42	61.51	-0.09	-5486 60.22
26-Mar	11:16	20				61.42	61.42	61.51	-0.09	-4006 61.22
26-Mar	11:18	22				61.42	61.42	61.51	-0.09	-1056 61.39
26-Mar	11:20	24				61.42	61.42	61.51	-0.09	-27 61.40
26-Mar	11:22	26				61.42	61.42	61.51	-0.09	
26-Mar	11:24	28				61.42	61.42	61.51	-0.09	
26-Mar	11:26	30				61.42	61.42	61.51	-0.09	
26-Mar	11:28	32				61.42	61.42	61.51	-0.09	
26-Mar	11:30	34				61.42	61.42	61.51	-0.09	
26-Mar	11:32	36				61.42	61.42	61.51	-0.09	
26-Mar	11:35	39				61.42	61.42	61.51	-0.09	
26-Mar	11:40	44				61.42	61.42	61.51	-0.09	
26-Mar	11:45	49				61.42	61.42	61.51	-0.09	
26-Mar	11:50	54				61.42	61.42	61.51	-0.10	
26-Mar	11:55	59				61.42	61.42	61.51	-0.10	
26-Mar	12:00	64				61.42	61.42	61.51	-0.10	
26-Mar	12:05	69				61.42	61.42	61.51	-0.10	
26-Mar	12:10	74				61.42	61.42	61.51	-0.10	
26-Mar	12:15	79				61.42	61.42	61.52	-0.10	
26-Mar	12:20	84				61.42	61.42	61.52	-0.10	
26-Mar	12:25	89				61.42	61.42	61.52	-0.10	
26-Mar	12:30	94				61.42	61.42	61.52	-0.10	
26-Mar	12:35	99				61.42	61.42	61.52	-0.10	
26-Mar	12:40	104				61.42	61.42	61.52	-0.10	
26-Mar	12:45	109				61.42	61.42	61.52	-0.10	
26-Mar	13:00	124				61.42	61.42	61.52	-0.11	
26-Mar	13:17	141				61.42	61.42	61.53	-0.11	Last reading by Rob Whitney, IDWR
26-Mar	14:05	189				61.44	61.44	61.53	-0.09	
26-Mar	15:09	253				61.44	61.44	61.54	-0.10	
26-Mar	16:20	324				61.46	61.46	61.56	-0.10	
26-Mar	17:00	364				61.46	61.46	61.56	-0.10	
26-Mar	18:05	429				61.48	61.48	61.57	-0.09	
26-Mar	19:15	499				61.49	61.49	61.58	-0.09	
26-Mar	20:05	549				61.51	61.51	61.59	-0.08	
26-Mar	21:05	609				61.52	61.52	61.60	-0.08	
26-Mar	22:10	674				61.54	61.54	61.61	-0.07	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *EICHHORN* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)*

PUMPING RATES: *750.0 Gallons per minute*

HOW Q MEASURED: *FLOWMETER*

HOW WL's MEASURED: *BK PROBE*

DIST. FROM PUMPED WELL: *600 FEET*

M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

STATIC WATER LEVEL (FT BMP): *61.40*

COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READING REFERENCE	READING MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
27-Mar	08:40	1304				61.66	61.66	61.71	-0.05	
27-Mar	09:22	1346				61.66	61.66	61.72	-0.06	
27-Mar	12:22	1526				61.69	61.69	61.75	-0.06	
27-Mar	18:15	1879				61.72	61.72	61.81	-0.09	
27-Mar	23:35	2199				61.70	61.70	61.86	-0.16	
28-Mar	08:40	2744				61.46	61.46	61.95	-0.49	
28-Mar	01:02	2286				61.22	61.22	61.87	-0.65	
28-Mar	18:24	3328				60.96	60.96	62.04	-1.08	
28-Mar	23:08	3612				60.82	60.82	62.09	-1.27	
29-Mar	09:16	4220				60.56	60.56	62.18	-1.62	
29-Mar	13:59	4503				60.46	60.46	62.23	-1.77	
29-Mar	18:28	4772				60.40	60.40	62.27	-1.87	
29-Mar	23:43	5087				60.34	60.34	62.32	-1.98	
30-Mar	08:06	5590				60.24	60.24	62.40	-2.16	
30-Mar	13:32	5916				60.18	60.18	62.46	-2.28	
30-Mar	18:51	6235				60.14	60.14	62.51	-2.37	
30-Mar	23:00	6484				60.14	60.14	62.55	-2.41	
31-Mar	08:39	7063				60.04	60.04	62.64	-2.60	
31-Mar	14:24	7408				60.00	60.00	62.70	-2.70	
31-Mar	23:40	7964				59.92	59.92	62.79	-2.87	
01-Apr	09:02	8526				59.88	59.88	62.88	-3.00	
01-Apr	15:54	8938				59.81	59.81	62.94	-3.13	
01-Apr	22:31	9335				59.76	59.76	63.01	-3.25	
02-Apr	07:53	9897				59.72	59.72	63.10	-3.38	
02-Apr	14:53	10317				59.68	59.68	63.17	-3.49	
02-Apr	22:28	10772				59.68	59.68	63.24	-3.56	
03-Apr	08:33	11377				59.60	59.60	63.34	-3.74	
03-Apr	14:26	11730				59.54	59.54	63.39	-3.85	
03-Apr	20:35	12099				59.50	59.50	63.45	-3.95	
04-Apr	08:31	12815				59.42	59.42	63.57	-4.15	
04-Apr	14:49	13193				59.36	59.36	63.63	-4.27	
04-Apr	22:52	13676				59.34	59.34	63.71	-4.37	
05-Apr	09:32	14316				59.30	59.30	63.81	-4.51	
05-Apr	16:14	14718				59.26	59.26	63.87	-4.61	
05-Apr	22:48	15112				59.24	59.24	63.94	-4.70	
06-Apr	09:34	15758				59.22	59.22	64.04	-4.82	
06-Apr	16:40	16184				59.20	59.20	64.11	-4.91	
06-Apr	22:23	16527				59.20	59.20	64.17	-4.97	Daylight savings time starts at 2 am.
07-Apr	09:55	17219				59.18	59.18	64.28	-5.10	Elapsed minutes adjusted -60 min.
07-Apr	17:03	17647				59.16	59.16	64.35	-5.19	
08-Apr	00:01	18065				59.16	59.16	64.41	-5.25	
08-Apr	09:32	18636				59.10	59.10	64.51	-5.41	
08-Apr	15:16	18980				59.12	59.12	64.56	-5.44	
08-Apr	20:32	19296				59.10	59.10	64.61	-5.51	
09-Apr	09:39	20083				59.08	59.08	64.74	-5.66	
09-Apr	16:30	20494				59.06	59.06	64.81	-5.75	
09-Apr	22:56	20880				59.06	59.06	64.87	-5.81	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *EICHHORN* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *BK PROBE* STATIC WATER LEVEL (FT BMP): *61.40*

DIST. FROM PUMPED WELL: *600 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READING REFERENCE	READING MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
10-Apr	09:15	21499				59.06	59.06	64.97	-5.91	
10-Apr	16:39	21943				59.06	59.06	65.04	-5.98	
10-Apr	22:13	22277				59.08	59.08	65.09	-6.01	
11-Apr	09:41	22965				59.06	59.06	65.20	-6.14	
11-Apr	16:51	23395				59.28	59.28	65.27	-5.99	
11-Apr	23:57	23821				59.54	59.54	65.34	-5.80	
12-Apr	09:56	24420				59.88	59.88	65.44	-5.56	
12-Apr	15:04	24728				60.02	60.02	65.49	-5.46	
12-Apr	21:04	25088				60.18	60.18	65.55	-5.37	
13-Apr	09:08	25812				60.40	60.40	65.66	-5.26	
13-Apr	14:22	26126				60.44	60.44	65.71	-5.27	
13-Apr	21:20	26544				60.56	60.56	65.78	-5.22	
14-Apr	08:39	27223				60.74	60.74	65.89	-5.15	
14-Apr	17:16	27740				60.82	60.82	65.97	-5.15	
14-Apr	22:20	28044				60.88	60.88	66.02	-5.14	
15-Apr	10:08	28752				61.04	61.04	66.14	-5.10	
15-Apr	16:40	29144				61.10	61.10	66.20	-5.10	
15-Apr	21:10	29414				61.12	61.12	66.24	-5.12	
16-Apr	10:04	30188				61.20	61.20	66.37	-5.17	
16-Apr	18:10	30674				61.20	61.20	66.45	-5.25	
17-Apr	01:15	31099				61.26	61.26	66.51	-5.25	
17-Apr	12:02	31746				61.30	61.30	66.62	-5.32	
17-Apr	18:03	32107				61.34	61.34	66.68	-5.34	
17-Apr	23:54	32458				61.36	61.36	66.73	-5.37	
18-Apr	10:31	33095				61.44	61.44	66.84	-5.40	
18-Apr	18:53	33597				61.49	61.49	66.92	-5.43	
18-Apr	23:36	33880				61.53	61.53	66.96	-5.43	
19-Apr	10:36	34540				61.52	61.52	67.07	-5.55	
19-Apr	15:24	34828				61.60	61.60	67.11	-5.51	
19-Apr	23:28	35312				61.60	61.60	67.19	-5.59	
20-Apr	10:05	35949				61.60	61.60	67.30	-5.70	
20-Apr	20:05	36549				61.59	61.59	67.39	-5.80	
20-Apr	23:49	36773				61.59	61.59	67.43	-5.84	
21-Apr	10:43	37427				61.60	61.60	67.53	-5.93	
21-Apr	16:40	37784				61.62	61.62	67.59	-5.97	
21-Apr	21:39	38083				61.58	61.58	67.64	-6.06	
22-Apr	09:50	38814				61.60	61.60	67.76	-6.16	
22-Apr	15:11	39135				61.58	61.58	67.81	-6.23	
22-Apr	20:45	39469				61.60	61.60	67.86	-6.26	
23-Apr	09:14	40218				61.64	61.64	67.98	-6.34	
23-Apr	17:27	40711				61.64	61.64	68.06	-6.42	
23-Apr	22:29	41013				61.66	61.66	68.11	-6.45	
24-Apr	09:18	41662				61.68	61.68	68.22	-6.54	
24-Apr	18:24	42088				61.70	61.70	68.28	-6.58	
24-Apr	22:40	42464				61.71	61.71	68.35	-6.64	
25-Apr	09:07	43091				61.76	61.76	68.45	-6.69	
25-Apr	12:07	43271	676.1			61.79	61.79	68.48	-6.69	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *EICHHORN* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *BK PROBE* STATIC WATER LEVEL (FT BMP): *61.40*

DIST. FROM PUMPED WELL: *600 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: READING REFERENCE	READING MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
25-Apr	13:13	43337	333.4			61.77	61.77	68.49	-6.72	
25-Apr	13:40	43364	276.2			61.76	61.76	68.49	-6.73	
25-Apr	14:20	43404	220.3			61.74	61.74	68.50	-6.76	
25-Apr	14:45	43429	195.6			61.72	61.72	68.50	-6.78	
25-Apr	15:50	43494	151.5			61.72	61.72	68.51	-6.79	
25-Apr	16:48	43552	126.2			61.70	61.70	68.52	-6.82	
25-Apr	18:40	43664	95.5			61.66	61.66	68.54	-6.88	
25-Apr	20:00	43744	81.5			61.64	61.64	68.55	-6.91	
25-Apr	21:15	43819	71.6			61.63	61.63	68.56	-6.93	
25-Apr	23:36	43960	58.4			61.60	61.60	68.59	-6.99	
26-Apr	07:52	44456	35.6			61.52	61.52	68.67	-7.15	
26-Apr	13:38	44802	28.1			61.49	61.49	68.72	-7.23	
26-Apr	17:18	45022	24.8			61.46	61.46	68.76	-7.30	
26-Apr	21:32	45276	21.9			61.44	61.44	68.80	-7.36	
27-Apr	00:39	45463	20.2			61.42	61.42	68.83	-7.41	
27-Apr	07:29	45873	17.2			61.38	61.38	68.89	-7.51	
27-Apr	11:26	46110	15.9			61.36	61.36	68.93	-7.57	
27-Apr	18:39	46543	14.0			61.31	61.31	69.00	-7.69	
27-Apr	23:08	46812	13.0			61.29	61.29	69.05	-7.76	
28-Apr	09:05	47409	11.3			61.24	61.24	69.14	-7.90	
28-Apr	14:18	47722	10.6			61.19	61.19	69.19	-8.00	
28-Apr	21:06	48130	9.8			61.12	61.12	69.26	-8.14	
29-Apr	10:25	48929	8.6			61.10	61.10	69.39	-8.29	
29-Apr	20:16	49520	7.8			61.04	61.04	69.48	-8.44	
30-Apr	08:14	50238	7.1			61.00	61.00	69.60	-8.60	
30-Apr	20:30	50974	6.6			60.94	60.94	69.72	-8.78	
01-May	08:27	51691	6.1			60.90	60.90	69.83	-8.93	
01-May	20:52	52436	5.7			60.84	60.84	69.95	-9.11	
02-May	08:47	53151	5.3			60.78	60.78	70.07	-9.29	
02-May	17:32	53676	5.1			60.72	60.72	70.15	-9.43	
03-May	10:40	54704	4.8			60.60	60.60	70.32	-9.72	
03-May	20:16	55280	4.6			60.66	60.66	70.41	-9.75	
04-May	09:07	56051	4.4			60.62	60.62	70.53	-9.91	
04-May	20:49	56753	4.2			60.60	60.60	70.65	-10.05	
05-May	08:49	57473	4.0			60.54	60.54	70.76	-10.22	
05-May	19:53	58137	3.9			60.46	60.46	70.87	-10.41	
06-May	08:30	58894	3.8			60.36	60.36	70.99	-10.63	

HOLGATE WELL

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *HOLGATE* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *BK PROBE* STATIC WATER LEVEL (FT BMP): *68.58*

DIST. FROM PUMPED WELL: *900 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED DEPTH TO WATER (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
19-Mar	14:00	-9896		68.14	-0.44	68.14	0.00	PRETEST WATER LEVEL TREND
22-Mar	15:35	-5481		68.38	-0.20	68.36	0.02	
23-Mar	16:00	-4016		68.39	-0.19	68.43	-0.04	
25-Mar	17:15	-1061		70.02	1.44	68.58	1.44	PUMP ON
26-Mar	10:41	-15		68.70	0.12	68.63	0.07	
26-Mar	10:53	-3		68.58	0.00	68.63	-0.05	
26-Mar	11:05	9		68.66	0.08	68.63	0.03	
26-Mar	11:21	25		69.01	0.43	68.63	0.38	
26-Mar	11:34	38		69.28	0.70	68.64	0.64	
26-Mar	11:45	49		69.44	0.86	68.64	0.80	
26-Mar	11:47	51		69.44	0.86	68.64	0.80	
26-Mar	11:50	54		69.44	0.86	68.64	0.80	
26-Mar	11:52	56		69.44	0.86	68.64	0.80	
26-Mar	11:54	58		69.44	0.86	68.64	0.80	
26-Mar	12:10	74		69.60	1.02	68.64	0.96	
26-Mar	12:24	88		69.60	1.02	68.64	0.96	
26-Mar	12:49	113		69.66	1.08	68.64	1.02	
26-Mar	12:52	116		69.66	1.08	68.64	1.02	
26-Mar	13:22	146		69.70	1.12	68.64	1.06	
26-Mar	13:26	150		69.70	1.12	68.64	1.06	
26-Mar	13:52	176		69.96	1.38	68.64	1.32	
26-Mar	14:24	208		69.80	1.22	68.64	1.16	
26-Mar	15:03	247		69.90	1.32	68.65	1.25	
26-Mar	15:08	252		69.86	1.28	68.65	1.21	
26-Mar	15:35	279		69.80	1.22	68.65	1.15	
26-Mar	15:58	302		69.85	1.27	68.65	1.20	
26-Mar	16:28	332		69.87	1.29	68.65	1.22	
26-Mar	17:07	371		69.94	1.36	68.65	1.29	
26-Mar	18:25	449		69.94	1.36	68.66	1.28	
26-Mar	19:30	514		69.98	1.38	68.66	1.30	
26-Mar	20:25	569		69.98	1.38	68.66	1.30	
26-Mar	21:20	624		69.98	1.40	68.66	1.32	
26-Mar	22:25	689		70.01	1.43	68.67	1.34	
27-Mar	09:41	1365		70.18	1.60	68.70	1.48	
27-Mar	12:40	1544		70.20	1.62	68.71	1.49	
27-Mar	18:26	1890		70.24	1.66	68.73	1.51	
27-Mar	23:43	2207		70.32	1.74	68.74	1.58	
28-Mar	08:52	2756		70.40	1.82	68.77	1.63	
28-Mar	13:23	3027		70.46	1.88	68.79	1.67	
28-Mar	18:32	3336		70.52	1.94	68.80	1.72	
28-Mar	23:15	3619		70.52	1.94	68.82	1.70	
29-Mar	10:03	4267		70.70	2.12	68.85	1.85	
29-Mar	14:30	4534		70.68	2.10	68.86	1.82	
29-Mar	18:45	4789		70.70	2.12	68.87	1.83	

Regression Output:

Constant	68.63
Std Err of Y Est	0.06
R Squared	0.95
No. of Observations	5.00
Degrees of Freedom	3.00
X Coefficient(s)	0.000050
Std Err of Coef.	0.000007

X	Y
-9896.00	68.14
-5481.00	68.38
-4016.00	68.39
-15.00	68.70
-3.00	68.58

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *HOLGATE* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *BK PROBE* STATIC WATER LEVEL (FT BMP): *68.58*

DIST. FROM PUMPED WELL: *900 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED DEPTH TO WATER (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
29-Mar	23:53	5097		70.76	2.18	68.89	1.87	
30-Mar	09:07	5651		70.82	2.24	68.92	1.90	
30-Mar	13:38	5922		70.82	2.24	68.93	1.89	
30-Mar	18:58	6242		70.88	2.30	68.95	1.93	
30-Mar	23:07	6491		70.96	2.38	68.96	2.00	
31-Mar	08:45	7069		71.00	2.42	68.99	2.01	
31-Mar	14:35	7419		71.02	2.44	69.01	2.01	
31-Mar	23:46	7970		71.08	2.50	69.03	2.05	
01-Apr	09:30	8554		71.18	2.60	69.06	2.12	
01-Apr	16:14	8958		71.14	2.56	69.08	2.06	
01-Apr	22:38	9342		70.30	1.72	69.10	1.20	
02-Apr	08:01	9905		71.20	2.62	69.13	2.07	
02-Apr	14:59	10323		71.24	2.66	69.15	2.09	
02-Apr	22:34	10778		71.26	2.68	69.17	2.09	
03-Apr	08:50	11394		71.32	2.74	69.21	2.11	
03-Apr	15:11	11775		71.34	2.76	69.22	2.12	
03-Apr	20:40	12104		71.36	2.78	69.24	2.12	
04-Apr	08:36	12820		71.38	2.80	69.28	2.10	
04-Apr	15:04	13208		71.40	2.82	69.30	2.10	
04-Apr	22:59	13683		71.42	2.84	69.32	2.10	
05-Apr	09:47	14331		71.48	2.90	69.35	2.13	
05-Apr	16:26	14730		71.50	2.92	69.37	2.13	
05-Apr	23:02	15126		71.50	2.92	69.39	2.11	
06-Apr	09:55	15779		71.54	2.96	69.43	2.11	
06-Apr	16:55	16199		71.56	2.98	69.45	2.11	
06-Apr	22:33	16537		71.56	2.98	69.46	2.10	Daylight savings time begins at 2 am.
07-Apr	10:14	17178		71.62	3.04	69.50	2.12	Elapsed times adjusted -60 min.
07-Apr	17:17	17601		71.62	3.04	69.52	2.10	
08-Apr	00:10	18014		71.62	3.04	69.54	2.08	
08-Apr	09:53	18597		71.72	3.14	69.57	2.15	
08-Apr	15:47	18951		71.66	3.08	69.59	2.07	
08-Apr	20:40	19244		71.64	3.06	69.60	2.04	
09-Apr	09:45	20029		71.74	3.16	69.64	2.10	
09-Apr	16:53	20457		71.72	3.14	69.66	2.06	
09-Apr	23:11	20835		71.74	3.16	69.68	2.06	
10-Apr	09:45	21469		71.78	3.20	69.71	2.07	
10-Apr	16:43	21887		71.80	3.22	69.73	2.07	
10-Apr	22:20	22224		71.80	3.22	69.75	2.05	
11-Apr	09:58	22922		71.80	3.22	69.79	2.01	
11-Apr	16:59	23343		71.82	3.24	69.81	2.01	
12-Apr	00:05	23769		71.82	3.24	69.83	1.99	
12-Apr	10:10	24374		71.88	3.30	69.86	2.02	
12-Apr	15:13	24677		71.84	3.26	69.87	1.97	
12-Apr	21:11	25035		71.92	3.34	69.89	2.03	

CH2M HILL PUMPING TEST REPORT

PROJECT NO: BOI 31684.A1

WELL NO: HOLGATE — PUMPING / OBSERVATION WELL
TYPE OF DATA: DRAWDOWN
PUMPED WELL NO: PW RADIUS: 14"(28"HOLE) — M.P. FOR WL'S: TOP OF CASING ELEV.:
PUMPING RATES: 750.0 Gallons per minute — PUMP ON: DATE 26-Mar-91 TIME 10:56:00
HOW Q MEASURED: FLOWMETER — PUMP OFF: DATE 25-Apr-91 TIME 11:03:00
HOW WL's MEASURED: BK PROBE — STATIC WATER LEVEL (FT BMP): 68.58
DIST. FROM PUMPED WELL: 900 FEET — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED DEPTH TO WATER (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
13-Apr	09:15	25759		71.92	3.34	69.93	1.99	
13-Apr	14:30	26074		72.00	3.42	69.94	2.06	
13-Apr	21:35	26499		72.00	3.42	69.97	2.03	
14-Apr	08:47	27171		71.98	3.40	70.00	1.98	
14-Apr	17:23	27687		71.98	3.40	70.02	1.96	
14-Apr	22:26	27990		72.00	3.42	70.04	1.96	
15-Apr	10:15	28699		72.10	3.52	70.08	2.02	
15-Apr	16:46	29090		72.20	3.62	70.10	2.10	
15-Apr	21:28	29372		72.06	3.48	70.11	1.95	
16-Apr	10:11	30135		72.14	3.56	70.15	1.99	
16-Apr	18:28	30632		72.14	3.56	70.17	1.97	
17-Apr	01:30	31054		72.20	3.62	70.19	2.01	
17-Apr	12:22	31706		72.15	3.57	70.23	1.92	
17-Apr	18:20	32064		72.16	3.58	70.24	1.92	
18-Apr	00:11	32415		72.14	3.56	70.26	1.88	
18-Apr	10:43	33047		72.18	3.60	70.29	1.89	
18-Apr	19:32	33576		72.18	3.60	70.32	1.86	
18-Apr	23:47	33831		72.20	3.62	70.33	1.87	
19-Apr	10:45	34489		72.28	3.70	70.37	1.91	
19-Apr	15:40	34784		72.24	3.66	70.38	1.86	
19-Apr	23:38	35262		72.24	3.66	70.41	1.83	
20-Apr	10:20	35904		72.30	3.72	70.44	1.86	
20-Apr	20:18	36502		72.26	3.68	70.47	1.79	
20-Apr	23:59	36723		72.29	3.71	70.48	1.81	
21-Apr	10:58	37382		72.39	3.81	70.51	1.87	
21-Apr	16:49	37733		72.29	3.71	70.53	1.76	
21-Apr	21:54	38038		72.32	3.74	70.55	1.77	
22-Apr	10:17	38781		72.36	3.78	70.58	1.78	
22-Apr	15:26	39090		72.34	3.76	70.60	1.74	
22-Apr	20:59	39423		72.39	3.81	70.61	1.78	
23-Apr	09:28	40172		72.36	3.78	70.65	1.71	
23-Apr	17:42	40666		72.36	3.78	70.68	1.68	
23-Apr	22:39	40963		72.38	3.80	70.69	1.69	
24-Apr	09:40	41624		72.40	3.82	70.73	1.67	
24-Apr	16:40	42044		72.42	3.84	70.75	1.67	
24-Apr	22:50	42414		72.40	3.82	70.77	1.63	
25-Apr	09:32	43056		72.43	3.85	70.80	1.63	
25-Apr	11:02	43146		72.42	3.84	70.80	1.62	
25-Apr	11:05	43149	21574.5	72.40	3.82	70.80	1.60	
25-Apr	11:08	43152	8630.4	72.38	3.80	70.80	1.58	
25-Apr	11:10	43154	6164.9	72.34	3.76	70.80	1.54	
25-Apr	11:12	43156	4795.1	72.28	3.70	70.80	1.48	
25-Apr	11:14	43158	3923.5	72.24	3.66	70.80	1.44	
25-Apr	11:16	43160	3320.0	72.20	3.62	70.80	1.40	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *HOLGATE* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *BK PROBE* STATIC WATER LEVEL (FT BMP): *68.58*

DIST. FROM PUMPED WELL: *900 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED DEPTH TO WATER (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
25-Apr	11:18	43162	2877.5	72.14	3.56	70.80	1.34	
25-Apr	11:20	43164	2539.1	72.08	3.50	70.80	1.28	
25-Apr	11:22	43166	2271.9	72.04	3.46	70.80	1.24	
25-Apr	11:24	43168	2055.6	71.98	3.40	70.80	1.18	
25-Apr	11:26	43170	1877.0	71.95	3.37	70.80	1.15	
25-Apr	11:28	43172	1726.9	71.92	3.34	70.80	1.12	
25-Apr	11:30	43174	1599.0	71.88	3.30	70.80	1.08	
25-Apr	11:32	43176	1488.8	71.84	3.26	70.80	1.04	
25-Apr	11:34	43178	1392.8	71.80	3.22	70.80	1.00	
25-Apr	11:36	43180	1308.5	71.76	3.18	70.80	0.96	
25-Apr	11:37	43181	1270.0	71.74	3.16	70.80	0.94	
25-Apr	11:40	43184	1167.1	71.72	3.14	70.80	0.92	
25-Apr	11:42	43186	1107.3	71.70	3.12	70.80	0.90	
25-Apr	11:44	43188	1053.4	71.66	3.08	70.80	0.86	
25-Apr	11:48	43192	959.8	71.62	3.04	70.80	0.82	
25-Apr	11:50	43194	919.0	71.60	3.02	70.80	0.80	
25-Apr	11:52	43196	881.6	71.58	3.00	70.80	0.78	
25-Apr	11:54	43198	847.0	71.54	2.96	70.80	0.74	
25-Apr	11:56	43200	815.1	71.53	2.95	70.80	0.73	
25-Apr	11:58	43202	785.5	71.52	2.94	70.80	0.72	
25-Apr	12:00	43204	758.0	71.50	2.92	70.80	0.70	
25-Apr	12:02	43206	732.3	71.49	2.91	70.80	0.69	
25-Apr	12:10	43214	645.0	71.43	2.85	70.81	0.62	
25-Apr	12:15	43219	600.3	71.40	2.82	70.81	0.59	
25-Apr	12:20	43224	561.4	71.38	2.80	70.81	0.57	
25-Apr	12:25	43229	527.2	71.35	2.77	70.81	0.54	
25-Apr	12:30	43234	496.9	71.33	2.75	70.81	0.52	
25-Apr	12:35	43239	470.0	71.31	2.73	70.81	0.50	
25-Apr	12:40	43244	445.8	71.30	2.72	70.81	0.49	
25-Apr	12:50	43254	404.2	71.26	2.68	70.81	0.45	
25-Apr	13:00	43264	369.8	71.23	2.65	70.81	0.42	
25-Apr	13:10	43274	340.7	71.20	2.62	70.81	0.39	
25-Apr	13:20	43284	315.9	71.18	2.60	70.81	0.37	
25-Apr	13:50	43314	259.4	71.12	2.54	70.81	0.31	
25-Apr	14:20	43344	220.0	71.08	2.50	70.81	0.27	
25-Apr	14:58	43382	184.6	71.05	2.47	70.81	0.24	
25-Apr	15:45	43429	154.0	71.02	2.44	70.82	0.20	
25-Apr	16:15	43459	139.3	71.00	2.42	70.82	0.18	
25-Apr	17:05	43509	120.2	70.95	2.37	70.82	0.13	
25-Apr	18:37	43601	98.0	70.92	2.34	70.82	0.10	
25-Apr	19:50	43674	82.9	70.88	2.30	70.83	0.05	
25-Apr	21:25	43769	70.4	70.85	2.27	70.83	0.02	
26-Apr	00:01	43925	56.5	70.80	2.22	70.84	-0.04	
26-Apr	08:25	44429	34.7	70.66	2.10	70.87	-0.19	

CH2M HILL PUMPING TEST REPORT

PROJECT NO: BOI 31684.A1

WELL NO: HOLGATE — PUMPING / OBSERVATION WELL

TYPE OF DATA: DRAWDOWN

PUMPED WELL NO: PW — RADIUS: 14"(28"HOLE) — M.P. FOR WL'S: TOP OF CASING — ELEV.:

PUMPING RATES: 750.0 Gallons per minute — PUMP ON: DATE 26-Mar-91 TIME 10:56:00

HOW Q MEASURED: FLOWMETER — PUMP OFF: DATE 25-Apr-91 TIME 11:03:00

HOW WL's MEASURED: BK PROBE — STATIC WATER LEVEL (FT BMP): 68.58

DIST. FROM PUMPED WELL: 900 FEET — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED DEPTH TO WATER (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
26-Apr	13:50	44754	27.8	70.63	2.05	70.88	-0.25	
26-Apr	17:39	44983	24.5	70.56	1.98	70.89	-0.33	
26-Apr	21:58	45242	21.6	70.54	1.96	70.91	-0.37	
27-Apr	01:04	45428	19.9	70.50	1.92	70.92	-0.42	
27-Apr	07:51	45835	17.1	70.44	1.86	70.94	-0.50	
27-Apr	12:00	46084	15.7	70.41	1.83	70.95	-0.54	
27-Apr	19:12	46516	13.8	70.35	1.77	70.97	-0.62	
27-Apr	23:28	46772	12.9	70.32	1.74	70.98	-0.66	
28-Apr	09:28	47372	11.2	70.24	1.66	71.01	-0.77	
28-Apr	14:45	47689	10.5	70.19	1.61	71.03	-0.84	
28-Apr	21:29	48093	9.7	70.13	1.55	71.05	-0.92	
29-Apr	10:49	48893	8.5	70.07	1.49	71.09	-1.02	
29-Apr	20:47	49491	7.8	70.02	1.44	71.12	-1.10	
30-Apr	08:42	50206	7.1	69.96	1.38	71.16	-1.20	
30-Apr	20:52	50936	6.5	69.89	1.31	71.19	-1.30	
01-May	09:02	51666	6.1	69.82	1.24	71.23	-1.41	
01-May	21:22	52406	5.7	69.78	1.20	71.27	-1.49	
02-May	09:14	53118	5.3	69.70	1.12	71.30	-1.60	
02-May	17:59	53643	5.1	69.67	1.09	71.33	-1.66	
03-May	10:25	54629	4.8	69.61	1.03	71.38	-1.77	
03-May	20:45	55249	4.6	69.58	1.00	71.41	-1.83	
04-May	09:48	56032	4.3	69.54	0.96	71.45	-1.91	
04-May	21:21	56725	4.2	69.50	0.92	71.48	-1.98	
05-May	09:17	57441	4.0	69.47	0.89	71.52	-2.05	
05-May	20:14	58098	3.9	69.44	0.86	71.55	-2.11	

CARSON WELL

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *HARLEY CARSON* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *BK PROBE* STATIC WATER LEVEL (FT BMP): *62.48*

DIST. FROM PUMPED WELL: *1,300 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READING REFERENCE	READING MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
12-Mar	15:02	-19914				61.67	-0.81	61.76	-0.09	
14-Mar	14:00	-17096				61.87	-0.61	61.86	0.01	
14-Mar	17:30	-16886				61.92	-0.56	61.87	0.05	
15-Mar	12:15	-15761				61.94	-0.54	61.91	0.03	
18-Mar	12:54	-11402				62.10	-0.38	62.07	0.03	
22-Mar	15:08	-5508				62.30	-0.18	62.30	0.00	
23-Mar	15:45	-4031				62.34	-0.14	62.35	-0.01	
25-Mar	17:00	-1076				62.46	-0.02	62.46	-0.00	
26-Mar	10:35	-21				62.48	0.00	62.50	-0.02	
26-Mar	11:58	62				62.46	-0.02	62.50	-0.04	
26-Mar	12:18	82				62.48	0.00	62.50	-0.02	
26-Mar	12:37	101				62.50	0.02	62.50	-0.00	
26-Mar	13:13	137				62.50	0.02	62.51	-0.01	
26-Mar	13:31	155				62.50	0.02	62.51	-0.01	
26-Mar	13:44	168				62.50	0.02	62.51	-0.01	
26-Mar	14:38	222				62.52	0.04	62.51	0.01	
26-Mar	15:15	259				62.52	0.04	62.51	0.01	
26-Mar	15:43	287				62.52	0.04	62.51	0.01	
26-Mar	16:10	314				62.54	0.06	62.51	0.03	
26-Mar	16:37	341				62.54	0.06	62.51	0.03	
26-Mar	17:20	384				62.56	0.08	62.52	0.04	
26-Mar	18:00	424				62.57	0.09	62.52	0.05	
26-Mar	20:10	554				62.53	0.05	62.52	0.01	
26-Mar	21:10	614				62.60	0.12	62.52	0.08	
26-Mar	22:15	679				62.61	0.13	62.53	0.08	
27-Mar	09:46	1370				62.70	0.22	62.55	0.15	
27-Mar	12:44	1548				62.72	0.24	62.56	0.16	
27-Mar	18:36	1900				62.76	0.28	62.57	0.19	
27-Mar	23:49	2213				62.78	0.30	62.58	0.20	
28-Mar	09:02	2766				62.88	0.40	62.60	0.28	
28-Mar	13:31	3035				62.90	0.42	62.61	0.29	
28-Mar	18:42	3346				62.94	0.46	62.63	0.31	
28-Mar	23:25	3629				63.00	0.52	62.64	0.36	
29-Mar	10:10	4274				63.04	0.56	62.66	0.38	
29-Mar	14:15	4519				63.08	0.60	62.67	0.41	
29-Mar	18:52	4796				63.10	0.62	62.68	0.42	
30-Mar	00:00	5104				63.12	0.64	62.69	0.43	
30-Mar	09:13	5657				63.20	0.72	62.71	0.49	
30-Mar	13:43	5927				63.22	0.74	62.72	0.50	
30-Mar	19:03	6247				63.26	0.78	62.73	0.53	
30-Mar	23:12	6496				63.28	0.80	62.74	0.54	
31-Mar	08:51	7075				63.34	0.86	62.77	0.57	
31-Mar	14:39	7423				63.36	0.88	62.78	0.58	
31-Mar	23:52	7976				63.42	0.94	62.80	0.62	
01-Apr	09:59	8583				63.48	1.00	62.82	0.66	
01-Apr	16:25	8969				63.50	1.02	62.84	0.66	
01-Apr	22:43	9347				63.52	1.04	62.85	0.67	

Regression Output:

Constant	62.50
Std Err of Y Est	0.04
R Squared	0.98
No. of Observations	9.00
Degrees of Freedom	7.00
X Coefficient(s)	0.000037
Std Err of Coef.	0.000002

-19914	19914	61.67
-17096	17096	61.87
-16886	16886	61.92
-15761	15761	61.94
-11402	11402	62.10
-5508	5508	62.30
-4031	4031	62.34
-1076	1076	62.46
-21	21	62.48

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *HARLEY CARSON* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *BK PROBE* STATIC WATER LEVEL (FT BMP): *62.48*

DIST. FROM PUMPED WELL: *1,300 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READING REFERENCE	READING MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
02-Apr	08:09	9913				63.58	1.10	62.87	0.71	
02-Apr	15:04	10328				63.62	1.14	62.89	0.73	
02-Apr	22:40	10784				63.66	1.18	62.90	0.76	
03-Apr	08:54	11398				63.70	1.22	62.93	0.77	
03-Apr	15:18	11782				63.74	1.26	62.94	0.80	
03-Apr	20:44	12108				63.76	1.28	62.95	0.81	
04-Apr	08:41	12825				63.80	1.32	62.98	0.82	
04-Apr	15:25	13229				63.82	1.34	63.00	0.82	
04-Apr	23:06	13690				63.85	1.37	63.01	0.84	
05-Apr	09:54	14338				63.90	1.42	63.04	0.86	
05-Apr	16:30	14734				63.92	1.44	63.05	0.87	
05-Apr	23:09	15133				63.96	1.48	63.07	0.89	
06-Apr	10:01	15785				63.99	1.51	63.09	0.90	
06-Apr	17:02	16206				64.20	1.72	63.11	1.09	
06-Apr	22:40	16544				64.40	1.92	63.12	1.28	Daylight savings time starts at 2 am.
07-Apr	10:23	17187				64.08	1.60	63.14	0.94	Elapsed minutes adjusted -60 min.
07-Apr	17:23	17607				64.10	1.62	63.16	0.94	
08-Apr	00:13	18017				64.12	1.64	63.17	0.95	
08-Apr	09:58	18602				64.14	1.66	63.20	0.94	
08-Apr	15:54	18958				64.16	1.68	63.21	0.95	
08-Apr	20:46	19250				64.18	1.70	63.22	0.96	
09-Apr	09:49	20033				64.22	1.74	63.25	0.97	
09-Apr	16:59	20463				64.24	1.76	63.27	0.97	
09-Apr	23:18	20842				64.26	1.78	63.28	0.98	
10-Apr	09:53	21477				64.28	1.80	63.30	0.98	
10-Apr	16:49	21893				64.30	1.82	63.32	0.98	
10-Apr	22:25	22229				64.31	1.83	63.33	0.98	
11-Apr	10:04	22928				64.34	1.86	63.36	0.98	
11-Apr	17:05	23349				64.35	1.87	63.37	0.98	
12-Apr	00:09	23773				64.36	1.88	63.39	0.97	
12-Apr	10:16	24380				64.38	1.90	63.41	0.97	
12-Apr	15:18	24682				64.40	1.92	63.42	0.98	
12-Apr	21:15	25039				64.44	1.96	63.44	1.00	
13-Apr	09:20	25764				64.45	1.97	63.46	0.99	
13-Apr	14:35	26079				64.46	1.98	63.48	0.98	
13-Apr	21:41	26505				64.48	2.00	63.49	0.99	
14-Apr	08:53	27177				64.50	2.02	63.52	0.98	
14-Apr	17:26	27690				64.50	2.02	63.54	0.96	
14-Apr	22:33	27997				64.53	2.05	63.55	0.98	
15-Apr	10:19	28703				64.56	2.08	63.57	0.99	
15-Apr	16:50	29094				64.56	2.08	63.59	0.97	
15-Apr	21:33	29377				64.58	2.10	63.60	0.98	
16-Apr	10:16	30140				64.62	2.14	63.63	0.99	
16-Apr	18:32	30636				64.62	2.14	63.65	0.97	
17-Apr	01:35	31059				64.64	2.16	63.66	0.98	
17-Apr	12:29	31713				64.66	2.18	63.69	0.97	
17-Apr	19:08	32112				64.66	2.18	63.70	0.96	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *HARLEY CARSON* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *BK PROBE* STATIC WATER LEVEL (FT BMP): *62.48*

DIST. FROM PUMPED WELL: *1,300 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READING REFERENCE	READING MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
18-Apr	00:17	32421				64.68	2.20	63.71	0.97	
18-Apr	10:48	33052				64.70	2.22	63.74	0.96	
18-Apr	19:38	33582				64.72	2.24	63.76	0.96	
18-Apr	23:54	33838				64.73	2.25	63.77	0.96	
19-Apr	10:52	34496				64.74	2.26	63.79	0.95	
19-Apr	15:46	34790				64.74	2.26	63.80	0.94	
19-Apr	23:45	35269				64.76	2.28	63.82	0.94	
20-Apr	10:35	35919				64.79	2.31	63.84	0.95	
20-Apr	20:36	36520				64.80	2.32	63.87	0.93	
21-Apr	00:02	36726				64.80	2.32	63.87	0.93	
21-Apr	11:13	37387				64.80	2.32	63.90	0.90	
21-Apr	17:07	37751				64.82	2.34	63.91	0.91	
21-Apr	21:59	38043				64.83	2.35	63.92	0.91	
22-Apr	10:34	38798				64.84	2.36	63.95	0.89	
22-Apr	15:30	39094				64.84	2.36	63.96	0.88	
22-Apr	21:05	39425				64.87	2.39	63.98	0.89	
23-Apr	09:33	40177				64.88	2.40	64.00	0.88	
23-Apr	17:50	40674				64.86	2.38	64.02	0.84	
23-Apr	22:44	40966				64.87	2.39	64.03	0.84	
24-Apr	09:50	41634				64.91	2.43	64.06	0.85	
24-Apr	16:47	42051				64.91	2.43	64.07	0.84	
24-Apr	22:54	42418				64.91	2.43	64.09	0.82	
25-Apr	09:45	43069				64.95	2.47	64.11	0.84	
25-Apr	10:49	43133				64.95	2.47	64.11	0.84	
25-Apr	10:54	43138		64.85	0.10	64.95	2.47	64.11	0.84	
25-Apr	11:02	43146		64.85	0.10	64.95	2.47	64.11	0.84	
25-Apr	11:05	43149	21574.5	64.85	0.10	64.95	2.47	64.11	0.84	
25-Apr	11:10	43154	6164.9	64.83	0.10	64.93	2.45	64.12	0.82	
25-Apr	11:15	43159	3596.6	64.84	0.10	64.94	2.46	64.12	0.83	
25-Apr	11:20	43164	2539.1	64.84	0.10	64.94	2.46	64.12	0.83	
25-Apr	11:25	43169	1962.2	64.83	0.10	64.93	2.45	64.12	0.82	
25-Apr	11:30	43174	1599.0	64.83	0.10	64.93	2.45	64.12	0.82	
25-Apr	11:35	43179	1349.3	64.79	0.10	64.89	2.41	64.12	0.78	
25-Apr	11:40	43184	1167.1	64.83	0.10	64.93	2.45	64.12	0.82	
25-Apr	11:45	43189	1028.3	64.83	0.10	64.93	2.45	64.12	0.82	
25-Apr	11:50	43194	919.0	64.83	0.10	64.93	2.45	64.12	0.82	
25-Apr	11:55	43199	830.7	64.83	0.10	64.93	2.45	64.12	0.82	
25-Apr	12:00	43204	758.0	64.83	0.10	64.93	2.45	64.12	0.82	
25-Apr	12:05	43209	696.9	64.83	0.10	64.93	2.45	64.12	0.82	
25-Apr	12:10	43214	645.0	64.83	0.10	64.93	2.45	64.12	0.82	
25-Apr	12:15	43219	600.3	64.83	0.10	64.93	2.45	64.12	0.82	
25-Apr	12:20	43224	561.4	64.81	0.10	64.91	2.43	64.12	0.79	
25-Apr	12:25	43229	527.2	64.81	0.10	64.91	2.43	64.12	0.79	
25-Apr	12:30	43234	496.9	64.81	0.10	64.91	2.43	64.12	0.79	
25-Apr	12:35	43239	470.0	64.81	0.10	64.91	2.43	64.12	0.79	
25-Apr	12:40	43244	445.8	64.81	0.10	64.91	2.43	64.12	0.79	
25-Apr	12:45	43249	424.0	64.79	0.10	64.89	2.41	64.12	0.77	

CH2M HILL *PUMPING TEST REPORT*

PROJECT NO: BOI 31684.A1

WELL NO: *HARLEY CARSON* — PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* — M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* — PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* — PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *BK PROBE* — STATIC WATER LEVEL (FT BMP): *62.48*

DIST. FROM PUMPED WELL: *1,300 FEET* — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READING REFERENCE	READING MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
25-Apr	12:50	43254	404.2	64.79	0.10	64.89	2.41	64.12	0.77	
25-Apr	12:55	43259	386.2	64.79	0.10	64.89	2.41	64.12	0.77	
25-Apr	13:00	43264	369.8	64.79	0.10	64.89	2.41	64.12	0.77	
25-Apr	13:05	43269	354.7	64.79	0.10	64.89	2.41	64.12	0.77	
25-Apr	13:10	43274	340.7	64.81	0.10	64.91	2.43	64.12	0.79	
25-Apr	13:18	43282	320.6	64.81	0.10	64.91	2.43	64.12	0.79	
25-Apr	13:20	43284	315.9	64.77	0.10	64.87	2.39	64.12	0.75	
25-Apr	13:56	43320	250.4			64.86	2.38	64.12	0.74	
25-Apr	14:26	43350	213.5			64.85	2.37	64.12	0.73	
25-Apr	15:03	43387	180.8			64.85	2.37	64.12	0.73	
25-Apr	15:52	43436	150.3			64.84	2.36	64.13	0.71	
25-Apr	16:22	43466	136.3			64.83	2.35	64.13	0.70	
25-Apr	17:20	43524	115.4			64.82	2.34	64.13	0.69	
25-Apr	18:40	43604	95.4			64.82	2.34	64.13	0.69	
25-Apr	19:53	43677	82.4			64.80	2.32	64.13	0.67	
25-Apr	21:50	43794	67.7			64.78	2.30	64.14	0.64	
26-Apr	00:07	43931	56.0			64.74	2.26	64.14	0.60	
26-Apr	08:31	44435	34.5			64.71	2.23	64.16	0.55	
26-Apr	13:56	44760	27.7			64.64	2.16	64.18	0.46	
26-Apr	17:46	44990	24.4	64.89	-0.13	64.76	2.28	64.18	0.58	MP increased by 0.13 ft
26-Apr	22:06	45250	21.5	64.74	-0.13	64.61	2.13	64.19	0.42	
27-Apr	01:16	45440	19.8	64.74	-0.13	64.61	2.13	64.20	0.41	
27-Apr	07:57	45841	17.0	64.70	-0.13	64.57	2.09	64.22	0.35	
27-Apr	12:11	46095	15.6	64.67	-0.13	64.54	2.06	64.23	0.31	
27-Apr	19:21	46525	13.8	64.64	-0.13	64.51	2.03	64.24	0.27	
27-Apr	23:36	46780	12.9	64.62	-0.13	64.49	2.01	64.25	0.24	
28-Apr	09:49	47393	11.2	64.62	-0.13	64.49	2.01	64.27	0.22	
28-Apr	14:55	47699	10.5	64.54	-0.13	64.41	1.93	64.29	0.12	
28-Apr	21:38	48102	9.7	64.50	-0.13	64.37	1.89	64.30	0.07	
29-Apr	10:55	48899	8.5	64.42	-0.13	64.29	1.81	64.33	-0.04	
29-Apr	20:58	49502	7.8	64.39	-0.13	64.26	1.78	64.35	-0.09	
30-Apr	08:51	50215	7.1	64.34	-0.13	64.21	1.73	64.38	-0.17	
30-Apr	20:58	50942	6.5	64.28	-0.13	64.15	1.67	64.41	-0.26	
01-May	09:09	51673	6.1	64.22	-0.13	64.09	1.61	64.43	-0.34	
01-May	21:28	52412	5.7	64.18	-0.13	64.05	1.57	64.46	-0.41	
02-May	09:23	53127	5.3	64.14	-0.13	64.01	1.53	64.49	-0.48	
02-May	18:06	53650	5.1	64.09	-0.13	63.96	1.48	64.51	-0.55	
03-May	10:11	54615	4.8	64.04	-0.13	63.91	1.43	64.54	-0.63	
03-May	20:56	55260	4.6	64.01	-0.13	63.88	1.40	64.57	-0.69	
04-May	09:54	56038	4.3	63.96	-0.13	63.83	1.35	64.60	-0.77	
04-May	21:29	56733	4.2	63.91	-0.13	63.78	1.30	64.62	-0.84	
05-May	09:23	57447	4.0	63.88	-0.13	63.75	1.27	64.65	-0.90	
05-May	20:21	58105	3.9	63.83	-0.13	63.70	1.22	64.67	-0.97	
06-May	09:16	58880	3.7	63.78	-0.13	63.65	1.17	64.70	-1.05	

EAGLE HILLS GOLF COURSE WELL

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *EAGLE HILLS GOLF COURSE* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL'S MEASURED: *SI PROBE & STEVENS RECORDER* STATIC WATER LEVEL (FT BMP): *55.59*

DIST. FROM PUMPED WELL: *2,500 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READINGS REFERENCE	READINGS MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
12-Mar	15:50	-19866.0				55.17	-0.42	55.32	-0.15	PRETEST WATER LEVEL TREND
14-Mar	14:15	-17081.0				57.95	2.36	55.36	2.59	other well pumping
18-Mar	13:30	-11366.0				58.39	2.80	55.44	2.95	other well pumping
20-Mar	16:00	-8336.0				58.98	3.39	55.48	3.50	other well pumping
20-Mar	16:45	-8291.0				55.85	0.26	55.48	0.37	
20-Mar	17:00	-8276.0				55.73	0.14	55.48	0.25	
20-Mar	17:30	-8246.0				55.63	0.04	55.48	0.15	
20-Mar	18:00	-8216.0				55.59	0.00	55.48	0.11	
20-Mar	18:30	-8186.0				55.57	-0.02	55.48	0.09	
20-Mar	19:00	-8156.0				55.56	-0.03	55.48	0.08	
20-Mar	20:00	-8096.0				55.55	-0.04	55.48	0.07	
20-Mar	21:00	-8036.0				55.53	-0.06	55.48	0.05	
20-Mar	22:00	-7976.0				55.53	-0.06	55.48	0.05	
21-Mar	00:00	-7856.0				55.51	-0.08	55.49	0.02	
21-Mar	03:00	-7676.0				55.50	-0.09	55.49	0.01	
21-Mar	09:00	-7316.0				55.50	-0.09	55.49	0.01	
21-Mar	15:00	-6956.0				55.49	-0.10	55.50	-0.01	
21-Mar	21:00	-6596.0				55.50	-0.09	55.50	-0.00	
22-Mar	03:00	-6236.0				55.50	-0.09	55.51	-0.01	
22-Mar	09:00	-5876.0				55.51	-0.08	55.51	-0.00	
22-Mar	15:00	-5516.0				55.51	-0.08	55.52	-0.01	
22-Mar	21:00	-5156.0				55.51	-0.08	55.52	-0.01	
23-Mar	03:00	-4796.0				55.51	-0.08	55.53	-0.02	
23-Mar	09:00	-4436.0				55.52	-0.07	55.53	-0.01	
23-Mar	15:00	-4076.0				55.52	-0.07	55.54	-0.02	
23-Mar	21:00	-3716.0				55.52	-0.07	55.54	-0.02	
24-Mar	03:00	-3356.0				55.52	-0.07	55.55	-0.03	
24-Mar	09:00	-2996.0				55.54	-0.05	55.55	-0.01	
24-Mar	15:00	-2636.0				55.54	-0.05	55.56	-0.02	
24-Mar	21:00	-2276.0				55.54	-0.05	55.56	-0.02	
25-Mar	03:00	-1916.0				55.53	-0.06	55.57	-0.04	
25-Mar	09:00	-1556.0				55.54	-0.05	55.57	-0.03	
25-Mar	15:00	-1196.0				55.55	-0.04	55.58	-0.03	
25-Mar	21:00	-836.0				55.58	-0.01	55.58	-0.00	
26-Mar	03:00	-476.0				55.58	-0.01	55.59	-0.01	
26-Mar	09:00	-116.0				55.59	0.00	55.59	-0.00	
26-Mar	10:55	-1.0				55.59	0.00	55.60	-0.01	
26-Mar	10:57	1.0				55.59	0.00	55.60	-0.01	
26-Mar	10:59	3.0				55.59	0.00	55.60	-0.01	
26-Mar	11:00	4.0				55.59	0.00	55.60	-0.01	
26-Mar	11:05	9.0				55.59	0.00	55.60	-0.01	
26-Mar	11:10	14.0				55.59	0.00	55.60	-0.01	
26-Mar	11:15	19.0				55.60	0.00	55.60	-0.00	
26-Mar	11:20	24.0				55.60	0.01	55.60	0.00	

Regression Output:

Constant	55.60
Std Err of Y Est	0.05
R Squared	0.58
No. of Observations	31.00
Degrees of Freedom	29.00
X Coefficient(s)	0.000014
Std Err of Coef.	0.000002

X	Y
-19866.0	55.17
-8216.0	55.59
-8186.0	55.57
-8156.0	55.56
-8096.0	55.55
-8036.0	55.53
-7976.0	55.53
-7856.0	55.51
-7676.0	55.50
-7316.0	55.50
-6956.0	55.49
-6596.0	55.50
-6236.0	55.50
-5876.0	55.51
-5516.0	55.51
-5156.0	55.51
-4796.0	55.51
-4436.0	55.52
-4076.0	55.52
-3716.0	55.52
-3356.0	55.52
-2996.0	55.54
-2636.0	55.54
-2276.0	55.54
-1916.0	55.53
-1556.0	55.54
-1196.0	55.55
-836.0	55.58
-476.0	55.58
-116.0	55.59
-1.0	55.59

CH2M HILL PUMPING TEST REPORT

PROJECT NO: BOI 31684.A1

WELL NO: EAGLE HILLS GOLF COURSE — PUMPING / OBSERVATION WELL

TYPE OF DATA: DRAWDOWN

PUMPED WELL NO: PW — RADIUS: 14"(28"HOLE) — M.P. FOR WL'S: TOP OF CASING — ELEV.:

PUMPING RATES: 750.0 Gallons per minute — PUMP ON: DATE 26-Mar-91 TIME 10:56:00

HOW Q MEASURED: FLOWMETER — PUMP OFF: DATE 25-Apr-91 TIME 11:03:00

HOW WL'S MEASURED: SI PROBE & STEVENS RECORDER — STATIC WATER LEVEL (FT BMP): 55.59

DIST. FROM PUMPED WELL: 2,500 FEET — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: READINGS REFERENCE	READINGS MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
26-Mar	11:25	29.0				55.60	0.01	55.60	0.00	
26-Mar	11:30	34.0				55.60	0.01	55.60	0.00	
26-Mar	12:00	64.0				55.60	0.01	55.60	0.00	
26-Mar	12:30	94.0				55.60	0.01	55.60	0.00	
26-Mar	13:00	124.0				55.61	0.02	55.60	0.01	
26-Mar	13:30	154.0				55.62	0.03	55.60	0.02	
26-Mar	14:00	184.0				55.62	0.03	55.60	0.02	
26-Mar	15:00	244.0				55.65	0.06	55.60	0.05	
26-Mar	16:00	304.0				55.66	0.07	55.60	0.06	
26-Mar	17:00	364.0				55.68	0.09	55.60	0.08	
26-Mar	18:00	424.0				55.70	0.11	55.60	0.10	
26-Mar	19:00	484.0				55.71	0.12	55.60	0.11	
26-Mar	20:00	544.0				55.73	0.14	55.60	0.13	
26-Mar	21:00	604.0				55.74	0.15	55.60	0.14	
26-Mar	22:00	664.0				55.74	0.15	55.61	0.13	
26-Mar	23:00	724.0				55.76	0.17	55.61	0.15	
27-Mar	00:00	784.0				55.76	0.17	55.61	0.15	
27-Mar	01:00	844.0				55.77	0.18	55.61	0.16	
27-Mar	02:00	904.0				55.78	0.19	55.61	0.17	
27-Mar	03:00	964.0				55.78	0.19	55.61	0.17	
27-Mar	04:00	1024.0				55.79	0.20	55.61	0.18	
27-Mar	05:00	1084.0				55.80	0.21	55.61	0.19	
27-Mar	06:00	1144.0				55.81	0.22	55.61	0.20	
27-Mar	07:00	1204.0				55.81	0.22	55.61	0.20	
27-Mar	08:00	1264.0				55.83	0.24	55.61	0.22	
27-Mar	09:00	1324.0				55.83	0.24	55.62	0.21	
27-Mar	10:00	1384.0				55.83	0.24	55.62	0.21	
27-Mar	11:00	1444.0				55.83	0.24	55.62	0.21	
27-Mar	12:00	1504.0				55.83	0.24	55.62	0.21	
27-Mar	14:00	1624.0				55.84	0.25	55.62	0.22	
27-Mar	16:00	1744.0				55.84	0.25	55.62	0.22	
27-Mar	18:00	1864.0				55.85	0.26	55.62	0.23	
27-Mar	20:00	1984.0				55.86	0.27	55.62	0.24	
27-Mar	22:00	2104.0				55.87	0.28	55.63	0.24	
28-Mar	00:00	2224.0				55.87	0.28	55.63	0.24	
28-Mar	02:00	2344.0				55.87	0.28	55.63	0.24	
28-Mar	04:00	2464.0				55.88	0.29	55.63	0.25	
28-Mar	06:00	2584.0				55.88	0.29	55.63	0.25	
28-Mar	08:00	2704.0				55.90	0.31	55.63	0.27	
28-Mar	10:00	2824.0				55.91	0.32	55.64	0.27	
28-Mar	11:00	2884.0				55.91	0.32	55.64	0.27	
28-Mar	12:00	2944.0				55.91	0.32	55.64	0.27	
28-Mar	15:00	3124.0				55.91	0.32	55.64	0.27	
28-Mar	18:00	3304.0				55.91	0.32	55.64	0.27	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *EAGLE HILLS GOLF COURSE* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL'S MEASURED: *SI PROBE & STEVENS RECORDER* STATIC WATER LEVEL (FT BMP): *55.59*

DIST. FROM PUMPED WELL: *2,500 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA						REMARKS
				READINGS		DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	
				REFERENCE	MEASURE					
28-Mar	21:00	3484.0				55.94	0.35	55.65	0.29	
29-Mar	00:00	3664.0				55.95	0.36	55.65	0.30	
29-Mar	03:00	3844.0				55.96	0.37	55.65	0.31	
29-Mar	09:00	4204.0				55.96	0.37	55.66	0.30	
29-Mar	15:00	4564.0				55.99	0.40	55.66	0.33	
29-Mar	21:00	4924.0				55.99	0.40	55.67	0.32	
30-Mar	03:00	5284.0				56.00	0.41	55.67	0.33	
30-Mar	09:00	5644.0				56.02	0.43	55.68	0.34	
30-Mar	15:00	6004.0				56.03	0.44	55.68	0.35	
30-Mar	17:00	6124.0				56.05	0.46	55.68	0.37	
30-Mar	17:23	6147.0				56.09	0.50	55.68	0.41	
30-Mar	18:00	6184.0				56.07	0.48	55.68	0.39	
30-Mar	21:00	6364.0				56.07	0.48	55.69	0.38	
31-Mar	03:00	6724.0				56.08	0.49	55.69	0.39	
31-Mar	09:00	7084.0				56.09	0.50	55.70	0.39	
31-Mar	16:00	7504.0				56.10	0.51	55.70	0.40	
31-Mar	21:00	7804.0				56.11	0.52	55.71	0.40	
01-Apr	03:00	8164.0				56.13	0.54	55.71	0.42	
01-Apr	09:00	8524.0				56.14	0.55	55.72	0.42	
01-Apr	10:00	8584.0				56.18	0.59	55.72	0.46	
01-Apr	14:30	8854.0				56.19	0.60	55.72	0.47	
01-Apr	14:45	8869.0				56.23	0.64	55.72	0.51	
01-Apr	15:45	8929.0				56.23	0.64	55.72	0.51	
01-Apr	16:15	8959.0				56.15	0.56	55.72	0.43	
01-Apr	21:00	9244.0				56.19	0.60	55.73	0.46	
02-Apr	03:00	9604.0				56.17	0.58	55.73	0.44	
02-Apr	09:00	9964.0				56.19	0.60	55.74	0.45	
02-Apr	13:20	10224.0				56.21	0.62	55.74	0.47	
02-Apr	13:45	10249.0				56.26	0.67	55.74	0.52	
02-Apr	14:30	10294.0				56.25	0.66	55.74	0.51	
02-Apr	15:00	10324.0				56.28	0.69	55.74	0.54	
02-Apr	15:45	10369.0				56.29	0.70	55.74	0.55	
02-Apr	16:30	10414.0				56.24	0.65	55.74	0.50	
02-Apr	21:00	10684.0				56.23	0.64	55.75	0.48	
03-Apr	03:00	11044.0				56.24	0.65	55.75	0.49	
03-Apr	09:00	11404.0				56.27	0.68	55.76	0.51	
03-Apr	15:00	11764.0				56.26	0.67	55.76	0.50	
03-Apr	21:00	12124.0				56.26	0.67	55.77	0.49	
04-Apr	03:00	12484.0				56.28	0.69	55.77	0.51	
04-Apr	09:00	12844.0				56.33	0.74	55.78	0.55	
04-Apr	15:00	13204.0				56.29	0.70	55.78	0.51	
04-Apr	21:00	13564.0				56.31	0.72	55.79	0.52	
05-Apr	03:00	13924.0				56.31	0.72	55.79	0.52	
05-Apr	09:00	14284.0				56.31	0.72	55.80	0.51	

PROJECT NO: BOI 31684.A1

COURSE — PUMPING / OBSERVATION WELL

14"(28"HOLE)
lions per minute
VS RECORDER
ET

M.P. FOR WL'S: TOP OF CASING ELEV.:
PUMP ON: DATE 26-Mar-91 TIME 10:56:00
PUMP OFF: DATE 25-Apr-91 TIME 11:03:00
STATIC WATER LEVEL (FT BMP): 55.59
COMMENTS:

LEVEL DATA

GS A- URE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
	56.34	0.75	55.80	0.54	
	56.34	0.75	55.81	0.53	
	56.34	0.75	55.81	0.53	
	56.35	0.76	55.82	0.53	
	56.36	0.77	55.82	0.54	
	56.38	0.79	55.83	0.55	Daylight savings time started at 2 am.
	56.38	0.79	55.83	0.55	Elapsed time adjusted -60 min.
	56.39	0.80	55.84	0.55	
	56.39	0.80	55.84	0.55	
	56.41	0.82	55.85	0.56	
	56.41	0.82	55.85	0.56	
	56.45	0.86	55.86	0.59	
	56.43	0.84	55.86	0.57	
	56.45	0.86	55.87	0.58	
	56.43	0.84	55.87	0.56	
	56.45	0.86	55.88	0.57	
	56.44	0.85	55.88	0.56	
	56.46	0.87	55.89	0.57	
	56.46	0.87	55.89	0.57	
	56.49	0.90	55.90	0.59	
	56.47	0.88	55.90	0.57	
	56.48	0.89	55.91	0.57	
	56.48	0.89	55.91	0.57	
	56.50	0.91	55.92	0.58	
	56.49	0.90	55.92	0.57	
	56.50	0.91	55.93	0.57	
	56.50	0.91	55.93	0.57	
	56.53	0.94	55.94	0.59	
	56.51	0.92	55.94	0.57	
	56.52	0.93	55.95	0.57	
	56.52	0.93	55.95	0.57	
	56.53	0.94	55.96	0.57	
	56.53	0.94	55.96	0.57	
	56.56	0.97	55.97	0.59	
	56.54	0.95	55.98	0.56	
	56.55	0.96	55.98	0.57	
	56.54	0.95	55.99	0.55	
	56.55	0.96	55.99	0.56	
	56.59	1.00	56.00	0.59	
	56.57	0.98	56.01	0.56	
	56.57	0.98	56.01	0.56	
	56.55	0.96	56.02	0.53	
	56.56	0.97	56.02	0.54	
	56.56	0.97	56.03	0.53	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *EAGLE HILLS GOLF COURSE* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL'S MEASURED: *SI PROBE & STEVENS RECORDER* STATIC WATER LEVEL (FT BMP): *55.59*

DIST. FROM PUMPED WELL: *2,500 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA						REMARKS
				READINGS		DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	
				REFERENCE	MEASURE					
16-Apr	21:00	30784.0				56.56	0.97	56.03	0.53	
17-Apr	03:00	31144.0				56.56	0.97	56.04	0.52	
17-Apr	09:00	31504.0				56.58	0.99	56.04	0.54	
17-Apr	15:00	31864.0				56.57	0.98	56.05	0.52	
17-Apr	21:00	32224.0				56.57	0.98	56.05	0.52	
18-Apr	03:00	32584.0				56.57	0.98	56.06	0.51	
18-Apr	09:00	32944.0				56.58	0.99	56.06	0.52	
18-Apr	16:00	33364.0				56.58	0.99	56.07	0.51	
18-Apr	21:00	33664.0				56.59	1.00	56.07	0.52	
19-Apr	03:00	34024.0				56.58	0.99	56.08	0.50	
19-Apr	09:00	34384.0				56.60	1.01	56.08	0.52	
19-Apr	15:00	34744.0				56.59	1.00	56.09	0.50	
19-Apr	21:00	35104.0				56.61	1.02	56.09	0.52	
20-Apr	03:00	35464.0				56.60	1.01	56.10	0.50	
20-Apr	09:00	35824.0				56.61	1.02	56.10	0.51	
20-Apr	15:00	36184.0				56.60	1.01	56.11	0.49	
20-Apr	21:00	36544.0				56.60	1.01	56.11	0.49	
21-Apr	03:00	36904.0				56.60	1.01	56.12	0.48	
21-Apr	09:00	37264.0				56.61	1.02	56.12	0.49	
21-Apr	15:00	37624.0				56.58	0.99	56.13	0.45	
21-Apr	21:00	37984.0				56.65	1.06	56.13	0.52	
22-Apr	03:00	38344.0				56.63	1.04	56.14	0.49	
22-Apr	09:00	38704.0				56.64	1.05	56.14	0.50	
22-Apr	15:00	39064.0				56.62	1.03	56.15	0.47	
22-Apr	21:00	39424.0				56.62	1.03	56.15	0.47	
23-Apr	03:00	39784.0				56.62	1.03	56.16	0.46	
23-Apr	09:00	40144.0				56.60	1.01	56.16	0.44	
23-Apr	15:00	40504.0				56.62	1.03	56.17	0.45	
23-Apr	21:00	40864.0				56.64	1.05	56.17	0.47	
24-Apr	03:00	41224.0				56.62	1.03	56.18	0.44	
24-Apr	09:00	41584.0				56.64	1.05	56.18	0.46	
24-Apr	15:00	41944.0				56.62	1.03	56.19	0.43	
24-Apr	21:00	42304.0				56.62	1.03	56.19	0.43	
25-Apr	03:00	42664.0				56.60	1.01	56.20	0.40	
25-Apr	09:00	43024.0				56.63	1.04	56.20	0.43	
25-Apr	09:45	43069.0				56.63	1.04	56.20	0.43	
25-Apr	11:02	43147.0				56.62	1.03	56.21	0.41	
25-Apr	11:06	43150.0	14383.3			56.62	1.03	56.21	0.41	
25-Apr	11:12	43156.0	4795.1			56.62	1.03	56.21	0.41	
25-Apr	11:18	43162.0	2877.5			56.61	1.02	56.21	0.41	
25-Apr	11:24	43168.0	2055.6			56.61	1.02	56.21	0.41	
25-Apr	11:30	43174.0	1599.0			56.61	1.02	56.21	0.40	
25-Apr	12:00	43204.0	758.0			56.60	1.01	56.21	0.39	
25-Apr	12:30	43234.0	496.9			56.60	1.00	56.21	0.39	

CH2M HILL PUMPING TEST REPORT

PROJECT NO: BOI 31684.A1

WELL NO: EAGLE HILLS GOLF COURSE — PUMPING / OBSERVATION WELL

TYPE OF DATA: DRAWDOWN

PUMPED WELL NO: PW — RADIUS: 14"(28"HOLE) — M.P. FOR WL'S: TOP OF CASING — ELEV.:

PUMPING RATES: 750.0 Gallons per minute — PUMP ON: DATE 26-Mar-91 TIME 10:56:00

HOW Q MEASURED: FLOWMETER — PUMP OFF: DATE 25-Apr-91 TIME 11:03:00

HOW WL'S MEASURED: SI PROBE & STEVENS RECORDER — STATIC WATER LEVEL (FT BMP): 55.59

DIST. FROM PUMPED WELL: 2,500 FEET — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READINGS REFERENCE	READINGS MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
25-Apr	13:00	43264.0	369.8			56.59	1.00	56.21	0.38	
25-Apr	13:30	43294.0	294.5			56.58	0.99	56.21	0.37	
25-Apr	14:00	43324.0	244.8			56.57	0.98	56.21	0.36	
25-Apr	14:30	43354.0	209.4			56.57	0.97	56.21	0.36	
25-Apr	15:00	43384.0	183.1			56.56	0.97	56.21	0.35	
25-Apr	16:00	43444.0	146.3			56.56	0.96	56.21	0.35	
25-Apr	17:00	43504.0	121.9			56.53	0.93	56.21	0.31	
25-Apr	18:00	43564.0	104.5			56.51	0.92	56.21	0.30	
25-Apr	19:00	43624.0	91.5			56.51	0.91	56.21	0.29	
25-Apr	19:30	43654.0	86.1			56.50	0.91	56.21	0.29	
25-Apr	22:00	43804.0	66.7			56.48	0.89	56.21	0.27	
25-Apr	23:00	43864.0	61.2			56.47	0.88	56.22	0.25	
26-Apr	00:00	43924.0	56.5			56.46	0.87	56.22	0.24	
26-Apr	01:00	43984.0	52.5			56.45	0.86	56.22	0.23	
26-Apr	02:00	44044.0	49.1			56.45	0.85	56.22	0.23	
26-Apr	03:00	44104.0	46.1			56.44	0.85	56.22	0.22	
26-Apr	04:00	44164.0	43.4			56.44	0.84	56.22	0.22	
26-Apr	05:00	44224.0	41.1			56.43	0.84	56.22	0.21	
26-Apr	06:42	44326.0	37.6			56.42	0.83	56.22	0.20	
26-Apr	07:00	44344.0	37.0			56.42	0.83	56.22	0.20	
26-Apr	09:00	44464.0	33.8			56.41	0.82	56.22	0.19	
26-Apr	11:00	44584.0	31.0			56.40	0.81	56.23	0.18	
26-Apr	13:00	44704.0	28.7			56.39	0.80	56.23	0.16	
26-Apr	15:00	44824.0	26.7			56.37	0.78	56.23	0.14	
26-Apr	18:00	45004.0	24.2			56.36	0.77	56.23	0.13	
26-Apr	21:00	45184.0	22.2			56.36	0.76	56.23	0.12	
27-Apr	00:00	45364.0	20.5			56.35	0.76	56.24	0.11	
27-Apr	03:00	45544.0	19.0			56.34	0.75	56.24	0.10	
27-Apr	06:00	45724.0	17.7			56.34	0.75	56.24	0.10	
27-Apr	09:00	45904.0	16.6			56.33	0.74	56.24	0.09	
27-Apr	12:00	46084.0	15.7			56.32	0.72	56.25	0.07	
27-Apr	15:00	46264.0	14.8			56.31	0.71	56.25	0.06	
27-Apr	18:00	46444.0	14.1			56.29	0.70	56.25	0.04	
27-Apr	21:00	46624.0	13.4			56.29	0.70	56.25	0.04	
27-Apr	21:45	46669.0	13.3			56.29	0.70	56.26	0.03	
28-Apr	03:00	46984.0	12.2			56.27	0.68	56.26	0.01	
28-Apr	06:00	47164.0	11.7			56.26	0.67	56.26	-0.00	
28-Apr	09:00	47344.0	11.3			56.27	0.68	56.26	0.01	
28-Apr	12:00	47524.0	10.9			56.25	0.66	56.27	-0.02	
28-Apr	15:00	47704.0	10.5			56.23	0.64	56.27	-0.04	
28-Apr	21:00	48064.0	9.8			56.21	0.62	56.27	-0.06	
29-Apr	03:00	48424.0	9.2			56.20	0.61	56.28	-0.08	
29-Apr	09:00	48784.0	8.7			56.20	0.61	56.29	-0.09	
29-Apr	15:00	49144.0	8.2			56.18	0.59	56.29	-0.11	

CH2M HILL PUMPING TEST REPORT

PROJECT NO: BOI 31684.A1

WELL NO: EAGLE HILLS GOLF COURSE — PUMPING / OBSERVATION WELL
TYPE OF DATA: DRAWDOWN
PUMPED WELL NO: PW — RADIUS: 14"(28"HOLE) — M.P. FOR WL'S: TOP OF CASING — ELEV.:
PUMPING RATES: 750.0 Gallons per minute — PUMP ON: DATE 26-Mar-91 TIME 10:56:00
HOW Q MEASURED: FLOWMETER — PUMP OFF: DATE 25-Apr-91 TIME 11:03:00
HOW WL'S MEASURED: SI PROBE & STEVENS RECORDER — STATIC WATER LEVEL (FT BMP): 55.59
DIST. FROM PUMPED WELL: 2,500 FEET — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: READINGS REFERENCE	READINGS MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED WATER LEVEL (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
29-Apr	21:00	49504.0	7.8			56.17	0.57	56.30	-0.13	
30-Apr	03:00	49864.0	7.4			56.15	0.56	56.30	-0.15	
30-Apr	09:00	50224.0	7.1			56.15	0.56	56.31	-0.16	
30-Apr	15:00	50584.0	6.8			56.12	0.53	56.31	-0.19	
30-Apr	21:00	50944.0	6.5			56.13	0.54	56.32	-0.19	
01-May	03:00	51304.0	6.3			56.10	0.51	56.32	-0.22	
01-May	09:00	51664.0	6.1			56.07	0.48	56.33	-0.26	
01-May	15:00	52024.0	5.9			56.08	0.49	56.33	-0.25	
01-May	21:00	52384.0	5.7			56.06	0.47	56.34	-0.28	
02-May	03:00	52744.0	5.5			56.03	0.44	56.34	-0.31	
02-May	09:00	53104.0	5.3			56.05	0.46	56.35	-0.30	
02-May	14:00	53404.0	5.2			56.02	0.43	56.35	-0.33	
03-May	10:10	54614.0	4.8			56.02	0.43	56.37	-0.35	
03-May	15:00	54904.0	4.7			55.98	0.39	56.37	-0.39	
03-May	21:00	55264.0	4.6			55.98	0.39	56.38	-0.40	
04-May	03:00	55624.0	4.5			55.96	0.37	56.38	-0.42	
04-May	09:00	55984.0	4.4			55.92	0.33	56.39	-0.47	
04-May	15:00	56344.0	4.3			55.93	0.34	56.39	-0.46	
04-May	21:00	56704.0	4.2			55.92	0.33	56.40	-0.48	
05-May	03:00	57064.0	4.1			55.92	0.33	56.40	-0.48	
05-May	09:00	57424.0	4.0			55.87	0.28	56.41	-0.54	
05-May	15:00	57784.0	3.9			55.87	0.28	56.41	-0.54	
05-May	21:00	58144.0	3.9			55.89	0.30	56.42	-0.53	
06-May	03:00	58504.0	3.8			55.85	0.26	56.42	-0.57	
06-May	09:00	58864.0	3.7			55.82	0.23	56.43	-0.61	
06-May	11:24	59008.0	3.7			55.85	0.26	56.43	-0.58	

HORMACHEA WELL

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *HORMACHEA* — PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* — M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* — PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* — PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *SI PROBE* — STATIC WATER LEVEL (FT BMP): *60.44*

DIST. FROM PUMPED WELL: *3,700 FEET* — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READINGS REFERENCE	READINGS MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED DEPTH TO WATER (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
20-Mar	16:00	-8336				60.29	-0.15	60.30	-0.01	
20-Mar	21:00	-8036				60.27	-0.17	60.30	-0.03	PRETEST WATER LEVEL TRENDS
21-Mar	03:00	-7676				60.27	-0.17	60.31	-0.04	Regression Output:
21-Mar	09:00	-7316				60.29	-0.15	60.31	-0.02	Constant 60.40
21-Mar	15:00	-6956				60.31	-0.13	60.32	-0.01	Std Err of Y Est 0.03
21-Mar	21:00	-6596				60.33	-0.11	60.32	0.01	R Squared 0.60
22-Mar	03:00	-6236				60.34	-0.10	60.33	0.01	No. of Observations 25.00
22-Mar	09:00	-5876				60.37	-0.07	60.33	0.04	Degrees of Freedom 23.00
22-Mar	15:00	-5516				60.38	-0.06	60.34	0.04	
22-Mar	21:00	-5156				60.38	-0.06	60.34	0.04	X Coefficient(s) 0.000013
22-Mar	03:00	-6236				60.35	-0.09	60.33	0.02	Std Err of Coef. 0.000002
23-Mar	09:00	-4436				60.35	-0.09	60.35	0.00	
22-Mar	15:00	-5516				60.35	-0.09	60.34	0.01	X Y
23-Mar	21:00	-3716				60.36	-0.08	60.36	0.00	-8336 60.29
24-Mar	03:00	-3356				60.33	-0.11	60.36	-0.03	-8036 60.27
24-Mar	09:00	-2996				60.38	-0.06	60.37	0.01	-7676 60.27
24-Mar	15:00	-2636				60.39	-0.05	60.37	0.02	-7316 60.29
24-Mar	21:00	-2276				60.39	-0.05	60.38	0.01	-6956 60.31
25-Mar	03:00	-1916				60.34	-0.10	60.38	-0.04	-6596 60.33
25-Mar	09:00	-1556				60.34	-0.10	60.39	-0.05	-6236 60.34
25-Mar	15:00	-1196				60.35	-0.09	60.39	-0.04	-5876 60.37
25-Mar	21:00	-836				60.38	-0.06	60.39	-0.01	-5516 60.38
26-Mar	03:00	-476				60.40	-0.04	60.40	0.00	-5156 60.38
26-Mar	09:00	-116				60.43	-0.01	60.40	0.03	-6236 60.35
26-Mar	10:00	-56				60.43	-0.01	60.40	0.03	-4436 60.35
26-Mar	11:00	4				60.44	0.00	60.40	0.04	-5516 60.35
26-Mar	12:00	64				60.45	0.01	60.41	0.04	-3716 60.36
26-Mar	13:00	124				60.46	0.02	60.41	0.05	-3356 60.33
26-Mar	14:00	184				60.46	0.02	60.41	0.05	-2996 60.38
26-Mar	15:00	244				60.47	0.03	60.41	0.06	-2636 60.39
26-Mar	16:00	304				60.48	0.04	60.41	0.07	-2276 60.39
26-Mar	17:00	364				60.49	0.05	60.41	0.08	-1916 60.34
26-Mar	18:00	424				60.51	0.07	60.41	0.10	-1556 60.34
26-Mar	19:00	484				60.52	0.08	60.41	0.11	-1196 60.35
26-Mar	20:00	544				60.53	0.09	60.41	0.12	-836 60.38
26-Mar	21:00	604				60.55	0.11	60.41	0.14	-476 60.40
26-Mar	22:00	664				60.56	0.12	60.41	0.15	-116 60.43
26-Mar	23:00	724				60.58	0.14	60.41	0.17	-56 60.43
27-Mar	00:00	784				60.59	0.15	60.41	0.18	
27-Mar	02:00	904				60.59	0.15	60.42	0.17	
27-Mar	04:00	1024				60.59	0.15	60.42	0.17	
27-Mar	06:00	1144				60.61	0.17	60.42	0.19	
27-Mar	08:00	1264				60.63	0.19	60.42	0.21	
27-Mar	10:00	1384				60.66	0.22	60.42	0.24	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *HORMACHEA* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *SI PROBE* STATIC WATER LEVEL (FT BMP): *60.44*

DIST. FROM PUMPED WELL: *3,700 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: READINGS REFERENCE	READINGS MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED DEPTH TO WATER (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
27-Mar	12:00	1504				60.66	0.22	60.42	0.24	
27-Mar	14:00	1624				60.66	0.22	60.43	0.23	
27-Mar	16:00	1744				60.66	0.22	60.43	0.23	
27-Mar	18:00	1864				60.66	0.22	60.43	0.23	
27-Mar	20:00	1984				60.68	0.24	60.43	0.25	
27-Mar	22:00	2104				60.70	0.26	60.43	0.27	
28-Mar	00:00	2224				60.71	0.27	60.43	0.28	
28-Mar	03:00	2404				60.71	0.27	60.44	0.27	
28-Mar	09:00	2764				60.74	0.30	60.44	0.30	
28-Mar	15:00	3124				60.74	0.30	60.44	0.30	
28-Mar	21:00	3484				60.76	0.32	60.45	0.31	
29-Mar	03:00	3844				60.79	0.35	60.45	0.34	
29-Mar	09:00	4204				60.82	0.38	60.46	0.36	
29-Mar	15:00	4564				60.81	0.37	60.46	0.35	
29-Mar	21:00	4924				60.82	0.38	60.47	0.35	
30-Mar	03:00	5284				60.84	0.40	60.47	0.37	
30-Mar	09:00	5644				60.86	0.42	60.48	0.38	
30-Mar	15:00	6004				60.82	0.38	60.48	0.34	
30-Mar	21:00	6364				60.94	0.50	60.49	0.45	
31-Mar	03:00	6724				60.92	0.48	60.49	0.43	
31-Mar	09:00	7084				60.90	0.46	60.49	0.41	
31-Mar	15:00	7444				60.90	0.46	60.50	0.40	
31-Mar	21:00	7804				60.88	0.44	60.50	0.38	
01-Apr	03:00	8164				60.90	0.46	60.51	0.39	
01-Apr	09:00	8524				60.93	0.49	60.51	0.42	
01-Apr	15:00	8884				60.95	0.51	60.52	0.43	
01-Apr	21:00	9244				60.99	0.55	60.52	0.47	
02-Apr	03:00	9604				60.99	0.55	60.53	0.46	
02-Apr	09:00	9964				61.02	0.58	60.53	0.49	
02-Apr	03:00	9604				61.04	0.60	60.53	0.51	
02-Apr	21:00	10684				61.03	0.59	60.54	0.49	
03-Apr	03:00	11044				61.06	0.62	60.54	0.52	
03-Apr	09:00	11404				61.08	0.64	60.55	0.53	
03-Apr	15:00	11764				61.08	0.64	60.55	0.53	
03-Apr	21:00	12124				61.06	0.62	60.56	0.50	
04-Apr	03:00	12484				61.07	0.63	60.56	0.51	
04-Apr	09:00	12844				61.08	0.64	60.57	0.51	
04-Apr	15:00	13204				61.07	0.63	60.57	0.50	
04-Apr	21:00	13564				61.10	0.66	60.58	0.52	
05-Apr	03:00	13924				61.08	0.64	60.58	0.50	
05-Apr	09:00	14284				61.08	0.64	60.58	0.50	
05-Apr	15:00	14644				61.08	0.64	60.59	0.49	
05-Apr	21:00	15004				61.09	0.65	60.59	0.50	
06-Apr	03:00	15364				61.09	0.65	60.60	0.49	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *HORMACHEA* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *SI PROBE* STATIC WATER LEVEL (FT BMP): *60.44*

DIST. FROM PUMPED WELL: *3,700 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READINGS REFERENCE	READINGS MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED DEPTH TO WATER (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
06-Apr	09:00	15724				61.10	0.66	60.60	0.50	
06-Apr	15:00	16084				61.13	0.69	60.61	0.52	
06-Apr	21:00	16444				61.13	0.69	60.61	0.52	Daylight savings time begins at 2 am.
07-Apr	03:00	16744				61.14	0.70	60.62	0.52	Elapsed time adjusted -60 min.
07-Apr	09:00	17104				61.17	0.73	60.62	0.55	
07-Apr	15:00	17464				61.19	0.75	60.62	0.57	
07-Apr	21:00	17824				61.22	0.78	60.63	0.59	
08-Apr	03:00	18184				61.22	0.78	60.63	0.59	
08-Apr	09:00	18544				61.23	0.79	60.64	0.59	
08-Apr	15:00	18904				61.23	0.79	60.64	0.59	
08-Apr	21:00	19264				61.22	0.78	60.65	0.57	
09-Apr	03:00	19624				61.19	0.75	60.65	0.54	
09-Apr	09:00	19984				61.19	0.75	60.66	0.53	
09-Apr	15:00	20344				61.19	0.75	60.66	0.53	
09-Apr	21:00	20704				61.21	0.77	60.67	0.54	
10-Apr	03:00	21064				61.22	0.78	60.67	0.55	
10-Apr	09:00	21424				61.23	0.79	60.67	0.56	
10-Apr	15:00	21784				61.22	0.78	60.68	0.54	
10-Apr	21:00	22144				61.24	0.80	60.68	0.56	
11-Apr	03:00	22504				61.25	0.81	60.69	0.56	
11-Apr	09:00	22864				61.25	0.81	60.69	0.56	
11-Apr	15:00	23224				61.23	0.79	60.70	0.53	
11-Apr	21:00	23584				61.25	0.81	60.70	0.55	
12-Apr	03:00	23944				61.25	0.81	60.71	0.54	
12-Apr	09:00	24304				61.27	0.83	60.71	0.56	
12-Apr	15:00	24664				61.28	0.84	60.72	0.56	
12-Apr	21:00	25024				61.31	0.87	60.72	0.59	
13-Apr	03:00	25384				61.32	0.88	60.72	0.60	
13-Apr	09:00	25744				61.32	0.88	60.73	0.59	
13-Apr	15:00	26104				61.33	0.89	60.73	0.60	
13-Apr	21:00	26464				61.38	0.94	60.74	0.64	
14-Apr	03:00	26824				61.45	1.01	60.74	0.71	
14-Apr	09:00	27184				61.46	1.02	60.75	0.71	
14-Apr	15:00	27544				61.48	1.04	60.75	0.73	
14-Apr	21:00	27904				61.49	1.05	60.76	0.73	
15-Apr	03:00	28264				61.53	1.09	60.76	0.77	
15-Apr	09:00	28624				61.52	1.08	60.77	0.75	
15-Apr	15:00	28984				61.53	1.09	60.77	0.76	
15-Apr	21:00	29344				61.51	1.07	60.77	0.74	
16-Apr	03:00	29704				61.51	1.07	60.78	0.73	
16-Apr	09:00	30064				61.50	1.06	60.78	0.72	
16-Apr	15:00	30424				61.50	1.06	60.79	0.71	
16-Apr	21:00	30784				61.48	1.04	60.79	0.69	
17-Apr	03:00	31144				61.47	1.03	60.80	0.67	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *HORMACHEA* — PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* — M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* — PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* — PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *SI PROBE* — STATIC WATER LEVEL (FT BMP): *60.44*

DIST. FROM PUMPED WELL: *3,700 FEET* — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READINGS REFERENCE	READINGS MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED DEPTH TO WATER (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
17-Apr	09:00	31504				61.45	1.01	60.80	0.65	
17-Apr	15:00	31864				61.46	1.02	60.81	0.65	
17-Apr	21:00	32224				61.45	1.01	60.81	0.64	
18-Apr	03:00	32584				61.45	1.01	60.82	0.63	
18-Apr	09:00	32944				61.47	1.03	60.82	0.65	
18-Apr	15:00	33304				61.50	1.06	60.82	0.68	
18-Apr	21:00	33664				61.51	1.07	60.83	0.68	
19-Apr	03:00	34024				61.49	1.05	60.83	0.66	
19-Apr	09:00	34384				61.49	1.05	60.84	0.65	
19-Apr	15:00	34744				61.50	1.06	60.84	0.66	
19-Apr	21:00	35104				61.49	1.05	60.85	0.64	
20-Apr	03:00	35464				61.48	1.04	60.85	0.63	
20-Apr	09:00	35824				61.48	1.04	60.86	0.62	
20-Apr	15:00	36184				61.47	1.03	60.86	0.61	
20-Apr	21:00	36544				61.48	1.04	60.86	0.62	
21-Apr	03:00	36904				61.48	1.04	60.87	0.61	
21-Apr	09:00	37264				61.50	1.06	60.87	0.63	
21-Apr	15:00	37624				61.50	1.06	60.88	0.62	
21-Apr	21:00	37984				61.51	1.07	60.88	0.63	
22-Apr	03:00	38344				61.49	1.05	60.89	0.60	
22-Apr	09:00	38704				61.51	1.07	60.89	0.62	
22-Apr	15:00	39064				61.49	1.05	60.90	0.59	
22-Apr	21:00	39424				61.49	1.05	60.90	0.59	
23-Apr	03:00	39784				61.50	1.06	60.91	0.59	
23-Apr	09:00	40144				61.50	1.06	60.91	0.59	
23-Apr	15:00	40504				61.48	1.04	60.91	0.57	
23-Apr	21:00	40864				61.49	1.05	60.92	0.57	
24-Apr	03:00	41224				61.48	1.04	60.92	0.56	
24-Apr	09:00	41584				61.49	1.05	60.93	0.56	
24-Apr	15:00	41944				61.46	1.02	60.93	0.53	
24-Apr	21:00	42304				61.47	1.03	60.94	0.53	
25-Apr	03:00	42664				61.45	1.01	60.94	0.51	
25-Apr	09:00	43024				61.47	1.03	60.95	0.52	
25-Apr	10:00	43084				61.47	1.03	60.95	0.52	
25-Apr	11:00	43144				61.47	1.03	60.95	0.52	
25-Apr	11:05	43149	21574.5			61.47	1.03	60.95	0.52	
25-Apr	11:10	43154	6164.9			61.47	1.03	60.95	0.52	
25-Apr	11:15	43159	3596.6			61.47	1.03	60.95	0.52	
25-Apr	11:20	43164	2539.1			61.47	1.03	60.95	0.52	
25-Apr	11:25	43169	1962.2			61.47	1.03	60.95	0.52	
25-Apr	11:30	43174	1599.0			61.47	1.03	60.95	0.52	
25-Apr	11:45	43189	1028.3			61.47	1.03	60.95	0.52	
25-Apr	12:00	43204	758.0			61.47	1.03	60.95	0.52	
25-Apr	12:15	43219	600.3			61.46	1.02	60.95	0.51	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *HORMACHEA* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *SI PROBE* STATIC WATER LEVEL (FT BMP): *60.44*

DIST. FROM PUMPED WELL: *3,700 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READINGS REFERENCE	READINGS MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED DEPTH TO WATER (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
25-Apr	12:30	43234	496.9			61.46	1.02	60.95	0.51	
25-Apr	12:45	43249	424.0			61.46	1.02	60.95	0.51	
25-Apr	13:00	43264	369.8			61.46	1.02	60.95	0.51	
25-Apr	13:30	43294	294.5			61.46	1.02	60.95	0.51	
25-Apr	14:00	43324	244.8			61.46	1.02	60.95	0.50	
25-Apr	14:30	43354	209.4			61.45	1.01	60.95	0.49	
25-Apr	15:00	43384	183.1			61.44	1.00	60.95	0.49	
25-Apr	15:30	43414	162.6			61.44	1.00	60.95	0.48	
25-Apr	16:00	43444	146.3			61.43	0.99	60.95	0.48	
25-Apr	16:30	43474	132.9			61.43	0.98	60.95	0.47	
25-Apr	17:00	43504	121.9			61.42	0.98	60.95	0.46	
25-Apr	17:30	43534	112.5			61.41	0.97	60.95	0.45	
25-Apr	18:00	43564	104.5			61.40	0.96	60.95	0.45	
25-Apr	18:30	43594	97.5			61.40	0.96	60.95	0.44	
25-Apr	19:00	43624	91.5			61.40	0.96	60.95	0.45	
25-Apr	20:00	43684	81.3			61.40	0.96	60.95	0.45	
25-Apr	21:00	43744	73.3			61.40	0.96	60.96	0.44	
25-Apr	22:00	43804	66.7			61.40	0.96	60.96	0.44	
25-Apr	23:00	43864	61.2			61.40	0.96	60.96	0.44	
26-Apr	00:00	43924	56.5			61.40	0.96	60.96	0.44	
26-Apr	01:00	43984	52.5			61.39	0.95	60.96	0.43	
26-Apr	02:00	44044	49.1			61.39	0.95	60.96	0.43	
26-Apr	03:00	44104	46.1			61.38	0.94	60.96	0.42	
26-Apr	04:00	44164	43.4			61.38	0.94	60.96	0.41	
26-Apr	05:00	44224	41.1			61.38	0.94	60.96	0.41	
26-Apr	06:00	44284	38.9			61.38	0.94	60.96	0.41	
26-Apr	07:00	44344	37.0			61.38	0.94	60.96	0.41	
26-Apr	08:00	44404	35.3			61.38	0.94	60.96	0.41	
26-Apr	09:00	44464	33.8			61.38	0.94	60.96	0.41	
26-Apr	10:00	44524	32.3			61.38	0.94	60.97	0.41	
26-Apr	11:00	44584	31.0			61.38	0.94	60.97	0.41	
26-Apr	13:00	44704	28.7			61.37	0.93	60.97	0.40	
26-Apr	15:00	44824	26.7			61.35	0.91	60.97	0.38	
26-Apr	17:00	44944	25.0			61.33	0.89	60.97	0.36	
26-Apr	18:00	45004	24.2			61.33	0.89	60.97	0.36	
26-Apr	21:00	45184	22.2			61.32	0.88	60.97	0.35	
27-Apr	00:00	45364	20.5			61.32	0.88	60.98	0.34	
27-Apr	03:00	45544	19.0			61.33	0.89	60.98	0.35	
27-Apr	06:00	45724	17.7			61.32	0.88	60.98	0.33	
27-Apr	09:00	45904	16.6			61.33	0.89	60.98	0.35	
27-Apr	12:00	46084	15.7			61.33	0.89	60.99	0.34	
27-Apr	15:00	46264	14.8			61.32	0.88	60.99	0.33	
27-Apr	21:00	46624	13.4			61.30	0.86	60.99	0.31	
28-Apr	03:00	46984	12.2			61.31	0.87	61.00	0.31	

CH2M·HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *HORMACHEA* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28" HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *SI PROBE* STATIC WATER LEVEL (FT BMP): *60.44*

DIST. FROM PUMPED WELL: *3,700 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA						REMARKS
				READINGS		DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED DEPTH TO WATER (FT)	ADJUSTED DRAW DOWN (FT)	
				REFERENCE	MEASURE					
28-Apr	09:00	47344	11.3			61.31	0.87	61.00	0.30	
28-Apr	15:00	47704	10.5			61.29	0.85	61.01	0.28	
28-Apr	21:00	48064	9.8			61.25	0.81	61.01	0.24	
29-Apr	03:00	48424	9.2			61.25	0.81	61.01	0.24	
29-Apr	09:00	48784	8.7			61.29	0.85	61.02	0.27	
29-Apr	15:00	49144	8.2			61.27	0.83	61.02	0.25	
29-Apr	21:00	49504	7.8			61.24	0.80	61.03	0.21	
30-Apr	03:00	49864	7.4			61.25	0.81	61.03	0.22	
30-Apr	09:00	50224	7.1			61.24	0.80	61.04	0.20	
30-Apr	15:00	50584	6.8			61.23	0.79	61.04	0.19	
30-Apr	21:00	50944	6.5			61.17	0.73	61.05	0.12	
01-May	03:00	51304	6.3			61.17	0.73	61.05	0.12	
01-May	09:00	51664	6.1			61.16	0.72	61.06	0.10	
01-May	15:00	52024	5.9			61.15	0.71	61.06	0.09	
01-May	21:00	52384	5.7			61.16	0.72	61.06	0.10	
02-May	03:00	52744	5.5			61.14	0.70	61.07	0.07	
02-May	09:00	53104	5.3			61.13	0.69	61.07	0.06	
02-May	15:00	53464	5.2			61.17	0.73	61.08	0.09	
03-May	10:00	54604	4.8			61.38	0.94	61.09	0.29	
03-May	15:00	54904	4.7			61.38	0.94	61.10	0.28	
03-May	21:00	55264	4.6			61.43	0.99	61.10	0.33	
04-May	03:00	55624	4.5			61.46	1.02	61.11	0.35	
04-May	09:00	55984	4.4			61.47	1.03	61.11	0.36	
04-May	15:00	56344	4.3			61.49	1.05	61.11	0.38	
04-May	21:00	56704	4.2			61.58	1.14	61.12	0.46	
05-May	03:00	57064	4.1			61.53	1.09	61.12	0.41	
05-May	09:00	57424	4.0			61.51	1.07	61.13	0.38	
05-May	15:00	57784	3.9			61.49	1.05	61.13	0.36	
06-May	03:00	58504	3.8			61.43	0.99	61.14	0.29	
06-May	09:00	58864	3.7			61.41	0.97	61.15	0.26	
06-May	12:03	59047	3.7			61.36	0.92	61.15	0.21	

FLOATING FEATHER IRRIGATION DISTRICT WELL

CH2M HILL PUMPING TEST REPORT

PROJECT NO: BOI 31684.A1

WELL NO: FLOATING FEATHER IRRIGATION — PUMPING / OBSERVATION WELL

TYPE OF DATA: DRAWDOWN

PUMPED WELL NO: PW — RADIUS: 14"(28"HOLE) — M.P. FOR WL'S: TOP OF CASING — ELEV.:

PUMPING RATES: 750.0 Gallons per minute — PUMP ON: DATE 26-Mar-91 TIME 10:56:00

HOW Q MEASURED: FLOWMETER — PUMP OFF: DATE 25-Apr-91 TIME 11:03:00

HOW WL's MEASURED: AIRLINE @ 119.10 FT BELOW PUMP BASE — STATIC WATER LEVEL (FT BMP): 86.8

DIST. FROM PUMPED WELL: 5,000 FEET — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	AIRLINE PRESSURE (PSI)	WATER LEVEL DATA: DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED DEPTH TO WATER (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
19-Mar	14:20	-9876			89.2	2.44			
23-Mar	13:25	-4171		13.5	87.9	1.16			
23-Mar	15:40	-4036		14.0	86.8	0.00			
25-Mar	17:00	-1076		14.0	86.8	0.00			
26-Mar	09:00	-116		14.0	86.8	0.00			
26-Mar	12:58	122		14.0	86.8	0.00			
26-Mar	13:39	163		14.0	86.8	0.00			
26-Mar	14:15	199		14.0	86.8	0.00			
26-Mar	14:55	239		14.0	86.8	0.00			
26-Mar	15:20	264		14.0	86.8	0.00			
26-Mar	15:45	289		14.0	86.8	0.00			
26-Mar	16:15	319		14.0	86.8	0.00			
26-Mar	16:58	362		14.0	86.8	0.00			
26-Mar	18:15	439		14.0	86.8	0.00			
26-Mar	19:24	508		14.0	86.8	0.00			
26-Mar	20:18	562		14.0	86.8	0.00			
26-Mar	21:15	619		14.0	86.8	0.00			
27-Mar	09:50	1374		13.9	87.0	0.23			
27-Mar	12:58	1562		14.0	86.8	0.00			
27-Mar	18:58	1922		13.7	87.5	0.69			
27-Mar	23:56	2220		13.7	87.5	0.69			
28-Mar	09:10	2774		14.0	86.8	0.00			
28-Mar	13:41	3045		14.0	86.8	0.00			
28-Mar	18:50	3354		13.7	87.5	0.69			
28-Mar	23:30	3634		13.7	87.5	0.69			
29-Mar	10:26	4290		13.7	87.5	0.69			
29-Mar	18:58	4802		13.7	87.5	0.69			
30-Mar	00:07	5111		13.7	87.5	0.69			
30-Mar	09:22	5666		13.7	87.5	0.69			
30-Mar	13:49	5933		13.7	87.5	0.69			
30-Mar	19:10	6254		13.7	87.5	0.69			
30-Mar	23:16	6500		13.7	87.5	0.69			
31-Mar	08:57	7081		13.5	87.9	1.16			
31-Mar	14:48	7432		14.0	86.8	0.00			
31-Mar	23:59	7983		13.7	87.5	0.69			
01-Apr	10:05	8589		14.0	86.8	0.00			
01-Apr	16:29	8973		14.0	86.8	0.00			
01-Apr	23:10	9374		13.7	87.5	0.69			
02-Apr	08:16	9920		14.0	86.8	0.00			
02-Apr	15:10	10334		14.0	86.8	0.00			
02-Apr	22:45	10789		13.5	87.9	1.16			
02-Apr	22:45	10789		13.5	87.9	1.16			
03-Apr	09:00	11404		14.0	86.8	0.00			
03-Apr	15:20	11784		14.0	86.8	0.00			

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *FLOATING FEATHER IRRIGATION* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *AIRLINE @ 119.10 FT BELOW PUMP BASE* STATIC WATER LEVEL (FT BMP): *86.8*

DIST. FROM PUMPED WELL: *5,000 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	AIRLINE PRESSURE (PSI)	WATER LEVEL DATA: DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED DEPTH TO WATER (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
03-Apr	20:50	12114		13.5	87.9	1.16			
04-Apr	08:47	12831		14.0	86.8	0.00			
04-Apr	15:32	13236		14.0	86.8	0.00			
04-Apr	23:11	13695		14.0	86.8	0.00			
05-Apr	09:58	14342		14.0	86.8	0.00			
05-Apr	16:34	14738		14.0	86.8	0.00			
05-Apr	23:06	15130		14.0	86.8	0.00			
06-Apr	10:07	15791		14.0	86.8	0.00			
06-Apr	17:07	16211		14.0	86.8	0.00			
06-Apr	22:47	16551		14.0	86.8	0.00			Daylight savings begins at 2 am.
07-Apr	10:29	17193		14.0	86.8	0.00			All elapsed time adjusted -60 min.
07-Apr	17:29	17613		14.0	86.8	0.00			
08-Apr	00:20	18024		13.7	87.5	0.69			
08-Apr	09:25	18569		13.7	87.5	0.69			
08-Apr	10:03	18607		13.7	87.5	0.69			
08-Apr	16:18	18982		13.7	87.5	0.69			
08-Apr	20:52	19256		13.5	87.9	1.16			
09-Apr	09:55	20039		13.5	87.9	1.16			
09-Apr	17:05	20469		13.5	87.9	1.16			
09-Apr	23:24	20848		13.2	88.6	1.85			
10-Apr	09:57	21481		13.5	87.9	1.16			
10-Apr	16:54	21898		13.5	87.9	1.16			
10-Apr	22:33	22237		13.5	87.9	1.16			
11-Apr	10:12	22936		13.5	87.9	1.16			
11-Apr	17:10	23354		13.5	87.9	1.16			
12-Apr	00:17	23781		13.2	88.6	1.85			
12-Apr	10:22	24386		13.7	87.5	0.69			
12-Apr	15:25	24689		13.5	87.9	1.16			
12-Apr	21:22	25046		13.5	87.9	1.16			
13-Apr	09:25	25769		13.5	87.9	1.16			
13-Apr	14:41	26085		13.5	87.9	1.16			
13-Apr	21:47	26511		13.2	88.6	1.85			
14-Apr	08:58	27182		13.5	87.9	1.16			
14-Apr	17:32	27696		13.5	87.9	1.16			
14-Apr	22:38	28002		13.5	87.9	1.16			
15-Apr	10:25	28709		13.5	87.9	1.16			
15-Apr	17:20	29124		13.5	87.9	1.16			
15-Apr	21:38	29382		13.5	87.9	1.16			
16-Apr	10:20	30144		13.2	88.6	1.85			
16-Apr	18:36	30640		13.5	87.9	1.16			
17-Apr	01:41	31065		13.2	88.6	1.85			
17-Apr	12:36	31720		13.5	87.9	1.16			
17-Apr	19:14	32118		13.5	87.9	1.16			
18-Apr	00:24	32428		13.5	87.9	1.16			

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *FLOATING FEATHER IRRIGATION* PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV. :

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *AIRLINE @ 119.10 FT BELOW PUMP BASE* STATIC WATER LEVEL (FT BMP): *86.8*

DIST. FROM PUMPED WELL: *5,000 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	AIRLINE PRESSURE (PSI)	WATER LEVEL DATA: DEPTH TO WATER (FT)	DRAW DOWN (FT)	ADJUSTED DEPTH TO WATER (FT)	ADJUSTED DRAW DOWN (FT)	REMARKS
18-Apr	10:54	33058		13.5	87.9	1.16			
18-Apr	19:43	33587		13.2	88.6	1.85			
18-Apr	23:59	33843		13.1	88.8	2.08			
19-Apr	10:53	34497		13.5	87.9	1.16			
19-Apr	15:50	34794		13.5	87.9	1.16			
19-Apr	23:52	35276		13.4	88.1	1.39			
20-Apr	10:42	35926		13.5	87.9	1.16			
20-Apr	20:40	36524		13.2	88.6	1.85			
21-Apr	00:09	36733		13.5	87.9	1.16			
21-Apr	11:24	37408		13.5	87.9	1.16			
21-Apr	17:12	37756		13.5	87.9	1.16			
21-Apr	22:04	38048		13.5	87.9	1.16			
22-Apr	10:59	38823		13.5	87.9	1.16			
22-Apr	15:35	39099		13.5	87.9	1.16			
22-Apr	21:10	39434		13.2	88.6	1.85			
23-Apr	09:39	40183		13.5	87.9	1.16			
23-Apr	17:56	40680		13.5	87.9	1.16			
23-Apr	22:49	40973		13.5	87.9	1.16			
24-Apr	09:58	41642		13.2	88.6	1.85			
24-Apr	16:52	42056		13.2	88.6	1.85			
24-Apr	23:00	42424		13.2	88.6	1.85			
25-Apr	09:50	43074		13.2	88.6	1.85			
25-Apr	16:04	43448	144.3	13.2	88.6	1.85			
25-Apr	17:24	43528	114.2	13.2	88.6	1.85			
25-Apr	18:40	43604	95.4	13.2	88.6	1.85			
25-Apr	19:50	43674	82.9	13.2	88.6	1.85			
26-Apr	00:15	43939	55.5	13.1	88.8	2.08			
26-Apr	08:35	44439	34.4	13.1	88.8	2.08			
26-Apr	14:02	44766	27.7	13.2	88.6	1.85			
26-Apr	17:52	44996	24.3	13.2	88.6	1.85			
26-Apr	22:14	45258	21.4	13.2	88.6	1.85			
27-Apr	01:22	45446	19.8	13.2	88.6	1.85			
27-Apr	08:03	45847	17.0	13.2	88.6	1.85			
27-Apr	19:26	46530	13.8	13.1	88.8	2.08			
27-Apr	23:42	46786	12.9	13.3	88.4	1.66			
28-Apr	09:54	47398	11.1	13.5	87.9	1.16			
28-Apr	15:02	47706	10.5	13.2	88.6	1.85			
28-Apr	21:46	48110	9.7	13.2	88.6	1.85			
29-Apr	11:03	48907	8.5	13.2	88.6	1.85			

DAY WELL

CH2M HILL PUMPING TEST REPORT

PROJECT NO: BOI31684.A1

WELL NO: DAY — PUMPING / OBSERVATION WELL

TYPE OF DATA: DRAWDOWN

PUMPED WELL NO: PW RADIUS: 14"(28"HOLE) — M.P. FOR WL'S: TOP OF CASING ELEV.:

PUMPING RATES: 750.0 Gallons per minute — PUMP ON: DATE 26-Mar-91 TIME 10:56:00

HOW Q MEASURED: FLOWMETER — PUMP OFF: DATE 25-Apr-91 TIME 11:03:00

HOW WL's MEASURED: SI PROBE & STEVENS RECORDER — STATIC WATER LEVEL (FT BMP): 201.24

DIST. FROM PUMPED WELL: 7,500 FEET — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: READING REFERENCE	READING MEASURE	DEPTH TO WATER (FT)	DRAWDOWN (FT)	REMARKS
23-Mar	15:00	-4076.0				201.50	0.26	
23-Mar	18:30	-3866.0				201.39	0.15	
23-Mar	23:00	-3596.0				201.39	0.15	
24-Mar	02:30	-3386.0				201.28	0.04	
24-Mar	06:30	-3146.0				201.28	0.04	
24-Mar	09:00	-2996.0				201.34	0.10	
24-Mar	10:00	-2936.0				201.44	0.20	
24-Mar	14:15	-2681.0				201.50	0.26	
24-Mar	17:30	-2486.0				201.50	0.26	
24-Mar	22:00	-2216.0				201.37	0.13	
25-Mar	03:00	-1916.0				201.15	-0.09	
25-Mar	04:30	-1826.0				201.15	-0.09	
25-Mar	06:30	-1706.0				201.04	-0.20	
25-Mar	07:30	-1646.0				201.04	-0.20	
25-Mar	09:30	-1526.0				201.10	-0.14	
25-Mar	13:00	-1316.0				201.10	-0.14	
25-Mar	15:40	-1156.0				201.06	-0.18	
25-Mar	21:30	-806.0				201.05	-0.19	
26-Mar	05:00	-356.0				201.11	-0.13	
26-Mar	07:00	-236.0				201.11	-0.13	
26-Mar	10:00	-56.0				201.24	0.00	
26-Mar	18:00	424.0				201.24	0.00	
26-Mar	22:00	664.0				201.34	0.10	
27-Mar	02:00	904.0				201.34	0.10	
27-Mar	04:00	1024.0				201.41	0.17	
27-Mar	06:30	1174.0				201.41	0.17	
27-Mar	07:15	1219.0				201.47	0.23	
27-Mar	09:00	1324.0				201.50	0.26	
27-Mar	09:10	1334.0				201.57	0.33	
27-Mar	10:00	1384.0				201.58	0.34	
27-Mar	13:00	1564.0				201.58	0.34	
27-Mar	16:30	1774.0				201.56	0.32	
27-Mar	19:00	1924.0				201.56	0.32	
27-Mar	19:30	1954.0				201.59	0.35	
27-Mar	21:20	2064.0				201.59	0.35	
27-Mar	21:30	2074.0				201.63	0.39	
28-Mar	02:00	2344.0				201.61	0.37	
28-Mar	06:30	2614.0				201.61	0.37	
28-Mar	07:45	2689.0				201.62	0.38	
28-Mar	08:00	2704.0				201.64	0.40	
28-Mar	11:15	2899.0				201.64	0.40	
28-Mar	11:20	2904.0				201.66	0.42	
28-Mar	11:40	2924.0				201.66	0.42	
28-Mar	13:30	3034.0				201.61	0.37	
28-Mar	16:30	3214.0				201.59	0.35	
28-Mar	19:30	3394.0				201.59	0.35	
28-Mar	22:00	3544.0				201.71	0.47	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *DAY* — PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* — M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* — PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* — PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *SI PROBE & STEVENS RECORDER* — STATIC WATER LEVEL (FT BMP): *201.24*

DIST. FROM PUMPED WELL: *7,500 FEET* — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA				REMARKS
				READING		DEPTH TO WATER (FT)	DRAW DOWN (FT)	
				REFERENCE	MEASURE			
29-Mar	07:00	4084.0				201.70	0.46	
29-Mar	07:30	4114.0				201.78	0.54	
29-Mar	08:00	4144.0				201.85	0.61	
29-Mar	09:30	4234.0				201.95	0.71	
29-Mar	10:00	4264.0				201.95	0.71	
29-Mar	10:20	4284.0				202.01	0.77	
29-Mar	11:40	4364.0				202.04	0.80	
29-Mar	11:45	4369.0				202.06	0.82	
29-Mar	12:25	4409.0				202.06	0.82	
29-Mar	13:15	4459.0				201.95	0.71	
29-Mar	14:15	4519.0				201.91	0.67	
29-Mar	17:00	4684.0				201.81	0.57	
29-Mar	18:30	4774.0				201.81	0.57	
29-Mar	18:45	4789.0				201.77	0.53	
29-Mar	19:20	4824.0				201.77	0.53	
29-Mar	22:20	5004.0				201.76	0.52	
30-Mar	02:15	5239.0				201.67	0.43	
30-Mar	05:45	5449.0				201.64	0.40	
30-Mar	08:00	5584.0				201.64	0.40	
30-Mar	09:00	5644.0				201.66	0.42	
30-Mar	09:15	5659.0				201.68	0.44	
30-Mar	13:45	5929.0				201.66	0.42	
30-Mar	14:00	5944.0				201.62	0.38	
30-Mar	15:00	6004.0				201.62	0.38	
30-Mar	15:50	6054.0				201.74	0.50	
30-Mar	17:55	6179.0				201.75	0.51	
30-Mar	18:00	6184.0				201.75	0.51	
30-Mar	20:00	6304.0				201.75	0.51	
31-Mar	00:00	6544.0				201.61	0.37	
31-Mar	02:30	6694.0				201.62	0.38	
31-Mar	04:05	6789.0				201.71	0.47	
31-Mar	04:35	6819.0				201.71	0.47	
31-Mar	06:45	6949.0				201.67	0.43	
31-Mar	07:45	7009.0				201.67	0.43	
31-Mar	08:30	7054.0				201.71	0.47	
31-Mar	11:00	7204.0				201.71	0.47	
31-Mar	12:15	7279.0				201.84	0.60	
31-Mar	14:10	7394.0				201.86	0.62	
31-Mar	14:45	7429.0				201.93	0.69	
31-Mar	15:45	7489.0				201.94	0.70	
31-Mar	16:00	7504.0				202.03	0.79	
31-Mar	17:00	7564.0				202.03	0.79	
31-Mar	18:00	7624.0				202.01	0.77	
31-Mar	19:30	7714.0				201.91	0.67	
31-Mar	20:30	7774.0				201.91	0.67	
31-Mar	22:30	7894.0				201.71	0.47	
31-Mar	23:00	7924.0				201.71	0.47	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *DAY* — PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* — M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* — PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* — PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *SI PROBE & STEVENS RECORDER* — STATIC WATER LEVEL (FT BMP): *201.24*

DIST. FROM PUMPED WELL: *7,500 FEET* — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READING REFERENCE	READING MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	REMARKS
01-Apr	00:00	7984.0				201.62	0.38	
01-Apr	01:00	8044.0				201.58	0.34	
01-Apr	02:00	8104.0				201.56	0.32	
01-Apr	02:30	8134.0				201.55	0.31	
01-Apr	04:00	8224.0				201.55	0.31	
01-Apr	05:00	8284.0				201.54	0.30	
01-Apr	05:45	8329.0				201.50	0.26	
01-Apr	07:00	8404.0				201.50	0.26	
01-Apr	09:15	8539.0				201.62	0.38	
01-Apr	09:10	8534.0				201.65	0.41	
01-Apr	10:55	8639.0				201.65	0.41	
01-Apr	11:05	8649.0				201.70	0.46	
01-Apr	11:25	8669.0				201.70	0.46	
01-Apr	12:00	8704.0				201.63	0.39	
01-Apr	12:45	8749.0				201.60	0.36	
01-Apr	14:00	8824.0				201.60	0.36	
01-Apr	14:45	8869.0				201.61	0.37	
01-Apr	15:30	8914.0				201.56	0.32	
01-Apr	17:30	9034.0				201.55	0.31	
01-Apr	18:30	9094.0				201.64	0.40	
01-Apr	19:50	9174.0				201.93	0.69	
01-Apr	20:10	9194.0				201.93	0.69	
02-Apr	00:00	9424.0				201.66	0.42	
02-Apr	01:30	9514.0				201.64	0.40	
02-Apr	03:00	9604.0				201.64	0.40	
02-Apr	04:10	9674.0				201.69	0.45	
02-Apr	07:15	9859.0				201.69	0.45	
02-Apr	08:00	9904.0				201.79	0.55	
02-Apr	10:45	10069.0				201.81	0.57	
02-Apr	11:30	10114.0				201.84	0.60	
02-Apr	11:40	10124.0				201.86	0.62	
02-Apr	12:10	10154.0				201.86	0.62	
02-Apr	14:45	10309.0				201.79	0.55	
02-Apr	15:00	10324.0				201.74	0.50	
02-Apr	20:00	10624.0				201.73	0.49	
02-Apr	20:30	10654.0				201.76	0.52	
03-Apr	06:45	11269.0				201.72	0.48	
03-Apr	07:35	11319.0				201.79	0.55	
03-Apr	08:55	11399.0				201.81	0.57	
03-Apr	09:45	11449.0				201.82	0.58	
03-Apr	11:00	11524.0				201.94	0.70	
03-Apr	11:15	11539.0				202.01	0.77	
03-Apr	11:50	11574.0				202.01	0.77	
03-Apr	15:00	11764.0				202.13	0.89	
03-Apr	17:00	11884.0				202.23	0.99	
03-Apr	17:30	11914.0				202.27	1.03	
03-Apr	18:00	11944.0				202.27	1.03	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *DAY* — PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* — M.P. FOR WL'S: *TOP OF CASING* ELEV. :

PUMPING RATES: *750.0 Gallons per minute* — PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* — PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *SI PROBE & STEVENS RECORDER* — STATIC WATER LEVEL (FT BMP): *201.24*

DIST. FROM PUMPED WELL: *7,500 FEET* — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: READING REFERENCE	READING MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	REMARKS
03-Apr	21:00	12124.0				202.05	0.81	
03-Apr	21:30	12154.0				202.04	0.80	
04-Apr	00:00	12304.0				201.91	0.67	
04-Apr	02:30	12454.0				201.86	0.62	
04-Apr	04:00	12544.0				201.86	0.62	
04-Apr	04:30	12574.0				201.89	0.65	
04-Apr	05:00	12604.0				201.89	0.65	
04-Apr	05:30	12634.0				201.85	0.61	
04-Apr	06:15	12679.0				201.84	0.60	
04-Apr	10:20	12924.0				201.85	0.61	
04-Apr	16:00	13264.0				201.62	0.38	
04-Apr	17:15	13339.0				201.62	0.38	
04-Apr	17:30	13354.0				201.66	0.42	
04-Apr	18:00	13384.0				201.66	0.42	
04-Apr	19:30	13474.0				201.60	0.36	
04-Apr	23:05	13689.0				201.57	0.33	
05-Apr	06:00	14104.0				201.40	0.16	
05-Apr	07:05	14169.0				201.40	0.16	
05-Apr	07:30	14194.0				201.43	0.19	
05-Apr	09:45	14329.0				201.45	0.21	
05-Apr	10:10	14354.0				201.45	0.21	
05-Apr	10:15	14359.0				201.49	0.25	
05-Apr	14:45	14629.0				201.43	0.19	
05-Apr	15:45	14689.0				201.39	0.15	
05-Apr	16:45	14749.0				201.39	0.15	
05-Apr	17:45	14809.0				201.40	0.16	
05-Apr	18:30	14854.0				201.42	0.18	
05-Apr	19:10	14894.0				201.53	0.29	
05-Apr	22:45	15109.0				201.53	0.29	
06-Apr	03:00	15364.0				201.40	0.16	
06-Apr	04:00	15424.0				201.40	0.16	
06-Apr	04:15	15439.0				201.42	0.18	
06-Apr	05:15	15499.0				201.42	0.18	
06-Apr	06:15	15559.0				201.36	0.12	
06-Apr	08:40	15704.0				201.36	0.12	
06-Apr	09:40	15764.0				201.43	0.19	
06-Apr	11:30	15874.0				201.46	0.22	
06-Apr	14:00	16024.0				201.46	0.22	
06-Apr	14:45	16069.0				201.43	0.19	
06-Apr	15:30	16114.0				201.43	0.19	
06-Apr	16:00	16144.0				201.41	0.17	
06-Apr	19:45	16369.0				201.43	0.19	
06-Apr	21:15	16459.0				201.43	0.19	
07-Apr	00:00	16624.0				201.39	0.15	DAYLIGHT SAVING TIME BEGAN @ 2 AM
07-Apr	06:10	16934.0				201.40	0.16	ELAPSED TIME ADJUSTED -60 MIN.
07-Apr	06:15	16939.0				201.42	0.18	
07-Apr	07:30	17014.0				201.42	0.18	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *DAY* — PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* — M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* — PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* — PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *SI PROBE & STEVENS RECORDER* — STATIC WATER LEVEL (FT BMP): *201.24*

DIST. FROM PUMPED WELL: *7,500 FEET* — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: READING REFERENCE	READING MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	REMARKS
07-Apr	10:30	17194.0				201.57	0.33	
07-Apr	11:45	17269.0				201.69	0.45	
07-Apr	13:00	17344.0				201.68	0.44	
07-Apr	13:30	17374.0				201.68	0.44	
07-Apr	14:00	17404.0				201.69	0.45	
07-Apr	15:10	17474.0				201.68	0.44	
07-Apr	15:30	17494.0				201.62	0.38	
07-Apr	17:00	17584.0				201.60	0.36	
07-Apr	17:00	17584.0				201.60	0.36	
07-Apr	17:45	17629.0				201.60	0.36	
07-Apr	18:00	17644.0				201.63	0.39	
07-Apr	20:30	17794.0				201.64	0.40	
07-Apr	21:15	17839.0				201.71	0.47	
07-Apr	22:30	17914.0				201.70	0.46	
07-Apr	23:00	17944.0				201.68	0.44	
08-Apr	00:30	18034.0				201.68	0.44	
08-Apr	02:00	18124.0				201.61	0.37	
08-Apr	03:00	18184.0				201.59	0.35	
08-Apr	05:30	18334.0				201.59	0.35	
08-Apr	05:00	18304.0				201.63	0.39	
08-Apr	07:00	18424.0				201.63	0.39	
08-Apr	07:30	18454.0				201.68	0.44	
08-Apr	08:30	18514.0				201.69	0.45	
08-Apr	09:15	18559.0				201.75	0.51	
08-Apr	12:00	18724.0				201.75	0.51	
08-Apr	13:00	18784.0				201.77	0.53	
08-Apr	13:45	18829.0				201.77	0.53	
08-Apr	15:15	18919.0				201.72	0.48	
08-Apr	17:00	19024.0				201.72	0.48	
08-Apr	18:00	19084.0				201.62	0.38	
08-Apr	19:00	19144.0				201.64	0.40	
08-Apr	19:30	19174.0				201.64	0.40	
08-Apr	20:00	19204.0				201.62	0.38	
08-Apr	20:30	19234.0				201.62	0.38	
08-Apr	21:45	19309.0				201.68	0.44	
08-Apr	22:30	19354.0				201.68	0.44	
09-Apr	00:00	19444.0				201.61	0.37	
09-Apr	02:00	19564.0				201.55	0.31	
09-Apr	03:30	19654.0				201.55	0.31	
09-Apr	04:15	19699.0				201.51	0.27	
09-Apr	06:15	19819.0				201.51	0.27	
09-Apr	07:00	19864.0				201.49	0.25	
09-Apr	07:45	19909.0				201.49	0.25	
09-Apr	09:45	20029.0				201.54	0.30	
09-Apr	11:00	20104.0				201.57	0.33	
09-Apr	12:45	20209.0				201.57	0.33	
09-Apr	13:00	20224.0				201.59	0.35	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *DAY* — PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* — M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* — PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* — PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *SI PROBE & STEVENS RECORDER* — STATIC WATER LEVEL (FT BMP): *201.24*

DIST. FROM PUMPED WELL: *7,500 FEET* — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READING REFERENCE	READING MEASURE	DEPTH TO WATER (FT)	DRAWDOWN (FT)	REMARKS
09-Apr	13:30	20254.0				201.59	0.35	
09-Apr	15:30	20374.0				201.48	0.24	
09-Apr	16:30	20434.0				201.48	0.24	
09-Apr	17:30	20494.0				201.46	0.22	
09-Apr	18:45	20569.0				201.45	0.21	
09-Apr	19:00	20584.0				201.47	0.23	
09-Apr	21:30	20734.0				201.47	0.23	
09-Apr	23:00	20824.0				201.52	0.28	
09-Apr	23:30	20854.0				201.52	0.28	
10-Apr	00:30	20914.0				201.49	0.25	
10-Apr	04:30	21154.0				201.44	0.20	
10-Apr	05:30	21214.0				201.44	0.20	
10-Apr	08:15	21379.0				201.45	0.21	
10-Apr	08:50	21414.0				201.51	0.27	
10-Apr	09:30	21454.0				201.52	0.28	
10-Apr	14:00	21724.0				201.53	0.29	
10-Apr	14:30	21754.0				201.49	0.25	
10-Apr	15:45	21829.0				201.44	0.20	
10-Apr	16:50	21894.0				201.44	0.20	
10-Apr	20:15	22099.0				201.51	0.27	
11-Apr	06:00	22684.0				201.39	0.15	
11-Apr	06:30	22714.0				201.39	0.15	
11-Apr	08:30	22834.0				201.48	0.24	
11-Apr	12:00	23044.0				201.48	0.24	
11-Apr	14:30	23194.0				201.39	0.15	
11-Apr	18:17	23421.0				201.35	0.11	
11-Apr	20:00	23524.0				201.35	0.11	
11-Apr	22:00	23644.0				201.40	0.16	
11-Apr	23:15	23719.0				201.40	0.16	
12-Apr	00:15	23779.0				201.37	0.13	
12-Apr	01:15	23839.0				201.36	0.12	
12-Apr	03:15	23959.0				201.32	0.08	
12-Apr	04:15	24019.0				201.32	0.08	
12-Apr	05:15	24079.0				201.37	0.13	
12-Apr	05:45	24109.0				201.37	0.13	
12-Apr	06:00	24124.0				201.35	0.11	
12-Apr	06:30	24154.0				201.35	0.11	
12-Apr	07:30	24214.0				201.38	0.14	
12-Apr	08:00	24244.0				201.42	0.18	
12-Apr	09:15	24319.0				201.44	0.20	
12-Apr	10:30	24394.0				201.52	0.28	
12-Apr	12:00	24484.0				201.52	0.28	
12-Apr	12:05	24489.0				201.57	0.33	
12-Apr	12:45	24529.0				201.57	0.33	
12-Apr	13:00	24544.0				201.53	0.29	
12-Apr	15:00	24664.0				201.51	0.27	
12-Apr	16:50	24774.0				201.51	0.27	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *DAY* — PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *SI PROBE & STEVENS RECORDER* STATIC WATER LEVEL (FT BMP): *201.24*

DIST. FROM PUMPED WELL: *7,500 FEET* COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READING REFERENCE	READING MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	REMARKS
12-Apr	17:20	24804.0				201.55	0.31	
12-Apr	18:30	24874.0				201.55	0.31	
12-Apr	20:45	25009.0				201.57	0.33	
12-Apr	22:00	25084.0				201.62	0.38	
12-Apr	23:30	25174.0				201.62	0.38	
13-Apr	00:00	25204.0				201.61	0.37	
13-Apr	03:30	25414.0				201.60	0.36	
13-Apr	07:00	25624.0				201.58	0.34	
13-Apr	07:30	25654.0				201.57	0.33	
13-Apr	08:30	25714.0				201.57	0.33	
13-Apr	10:00	25804.0				201.64	0.40	
13-Apr	11:00	25864.0				201.70	0.46	
13-Apr	11:15	25879.0				201.78	0.54	
13-Apr	12:20	25944.0				201.79	0.55	
13-Apr	12:35	25959.0				201.80	0.56	
13-Apr	14:20	26064.0				201.80	0.56	
13-Apr	14:45	26089.0				201.88	0.64	
13-Apr	16:05	26169.0				201.88	0.64	
13-Apr	16:45	26209.0				201.93	0.69	
13-Apr	19:00	26344.0				202.19	0.95	
13-Apr	20:30	26434.0				202.04	0.80	
13-Apr	21:30	26494.0				202.09	0.85	
14-Apr	00:00	26644.0				201.82	0.58	
14-Apr	05:00	26944.0				201.58	0.34	
14-Apr	08:00	27124.0				201.53	0.29	
14-Apr	18:00	27724.0				201.53	0.29	
14-Apr	19:00	27784.0				201.76	0.52	
14-Apr	20:00	27844.0				201.76	0.52	
14-Apr	23:00	28024.0				201.70	0.46	
15-Apr	00:00	28084.0				201.58	0.34	
15-Apr	02:00	28204.0				201.54	0.30	
15-Apr	04:00	28324.0				201.52	0.28	
15-Apr	11:00	28744.0				201.57	0.33	
15-Apr	18:00	29164.0				201.33	0.09	
16-Apr	00:00	29524.0				201.33	0.09	
16-Apr	04:00	29764.0				201.24	0.00	
16-Apr	08:00	30004.0				201.24	0.00	
16-Apr	10:00	30124.0				201.28	0.04	
16-Apr	12:00	30244.0				201.39	0.15	
16-Apr	19:00	30664.0				201.30	0.06	
16-Apr	22:00	30844.0				201.30	0.06	
17-Apr	02:00	31084.0				201.31	0.07	
17-Apr	06:00	31324.0				201.26	0.02	
17-Apr	07:00	31384.0				201.26	0.02	
17-Apr	10:00	31564.0				201.36	0.12	
17-Apr	18:00	32044.0				201.29	0.05	
17-Apr	21:00	32224.0				201.29	0.05	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *DAY* — PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* — M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* — PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* — PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *SI PROBE & STEVENS RECORDER* — STATIC WATER LEVEL (FT BMP): *201.24*

DIST. FROM PUMPED WELL: *7,500 FEET* — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t '	WATER LEVEL DATA: READING REFERENCE	READING MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	REMARKS
17-Apr	22:00	32284.0				201.35	0.11	
18-Apr	03:00	32584.0				201.30	0.06	
18-Apr	11:00	33064.0				201.45	0.21	
19-Apr	06:00	34204.0				201.44	0.20	
19-Apr	11:00	34504.0				201.63	0.39	
19-Apr	13:00	34624.0				201.63	0.39	
19-Apr	15:00	34744.0				201.58	0.34	
19-Apr	17:00	34864.0				201.59	0.35	
19-Apr	18:00	34924.0				201.59	0.35	
19-Apr	19:30	35014.0				201.55	0.31	
19-Apr	20:00	35044.0				201.55	0.31	
19-Apr	21:00	35104.0				201.60	0.36	
19-Apr	23:00	35224.0				201.60	0.36	
20-Apr	04:00	35524.0				201.41	0.17	
20-Apr	06:00	35644.0				201.41	0.17	
20-Apr	07:00	35704.0				201.31	0.07	
20-Apr	12:00	36004.0				201.49	0.25	
20-Apr	17:00	36304.0				201.27	0.03	
20-Apr	19:00	36424.0				201.32	0.08	
21-Apr	02:00	36844.0				201.24	0.00	
21-Apr	08:00	37204.0				201.24	0.00	
21-Apr	10:00	37324.0				201.28	0.04	
21-Apr	11:00	37384.0				201.54	0.30	
21-Apr	12:00	37444.0				201.64	0.40	
21-Apr	13:00	37504.0				201.53	0.29	
21-Apr	19:00	37864.0				201.53	0.29	
21-Apr	20:00	37924.0				201.57	0.33	
21-Apr	21:00	37984.0				201.59	0.35	
22-Apr	04:00	38404.0				201.38	0.14	
22-Apr	06:00	38524.0				201.38	0.14	
22-Apr	07:00	38584.0				201.34	0.10	
22-Apr	09:00	38704.0				201.52	0.28	
22-Apr	11:00	38824.0				201.52	0.28	
22-Apr	11:30	38854.0				201.49	0.25	
22-Apr	12:00	38884.0				201.55	0.31	
22-Apr	13:00	38944.0				201.48	0.25	
22-Apr	17:00	39184.0				201.51	0.27	
22-Apr	20:00	39364.0				201.95	0.71	
23-Apr	02:00	39724.0				201.63	0.39	
23-Apr	11:00	40264.0				201.59	0.35	
23-Apr	07:00	40024.0				201.57	0.33	
23-Apr	09:00	40144.0				201.71	0.47	
23-Apr	11:30	40294.0				201.71	0.47	
23-Apr	14:00	40444.0				202.04	0.80	
23-Apr	16:30	40594.0				202.04	0.80	
23-Apr	17:00	40624.0				202.17	0.93	
23-Apr	19:00	40744.0				202.18	0.94	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *DAY* — PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* — M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* — PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* — PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *SI PROBE & STEVENS RECORDER* — STATIC WATER LEVEL (FT BMP): *201.24*

DIST. FROM PUMPED WELL: *7,500 FEET* — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READING REFERENCE	READING MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	REMARKS
23-Apr	19:30	40774.0				202.28	1.04	
23-Apr	21:00	40864.0				202.28	1.04	
24-Apr	00:00	41044.0				201.94	0.70	
24-Apr	04:00	41284.0				201.68	0.44	
24-Apr	05:30	41374.0				201.68	0.44	
24-Apr	06:00	41404.0				201.59	0.35	
24-Apr	07:30	41494.0				201.59	0.35	
24-Apr	08:00	41524.0				201.65	0.41	
24-Apr	15:00	41944.0				201.51	0.27	
24-Apr	18:00	42124.0				201.51	0.27	
25-Apr	06:00	42844.0				201.19	-0.05	
25-Apr	07:00	42904.0				201.19	-0.05	
25-Apr	12:00	43204.0	758.0			201.38	0.14	
25-Apr	15:00	43384.0	183.1			201.29	0.05	
25-Apr	17:00	43504.0	121.9			201.29	0.05	
25-Apr	18:00	43564.0	104.5			201.26	0.02	
25-Apr	22:00	43804.0	66.7			201.26	0.02	
26-Apr	07:00	44344.0	37.0			201.29	0.05	
26-Apr	10:00	44524.0	32.3			201.40	0.16	
26-Apr	11:00	44584.0	31.0			201.40	0.16	
26-Apr	12:00	44644.0	29.8			201.43	0.19	
26-Apr	17:00	44944.0	25.0			201.28	0.04	
26-Apr	21:00	45184.0	22.2			201.23	-0.01	
27-Apr	00:00	45364.0	20.5			201.22	-0.02	
27-Apr	04:00	45604.0	18.6			201.22	-0.02	
27-Apr	10:00	45964.0	16.3			201.23	-0.01	
27-Apr	13:00	46144.0	15.4			201.42	0.18	
27-Apr	17:00	46384.0	14.3			201.42	0.18	
27-Apr	19:00	46504.0	13.9			201.41	0.17	
27-Apr	22:00	46684.0	13.2			201.41	0.17	
27-Apr	23:00	46744.0	13.0			201.45	0.21	
28-Apr	03:00	46984.0	12.2			201.45	0.21	
28-Apr	05:00	47104.0	11.9			201.41	0.17	
28-Apr	07:00	47224.0	11.6			201.41	0.17	
28-Apr	11:00	47464.0	11.0			201.43	0.19	
28-Apr	12:00	47524.0	10.9			201.52	0.28	
28-Apr	13:00	47584.0	10.7			201.57	0.33	
28-Apr	15:00	47704.0	10.5			201.57	0.33	
28-Apr	17:00	47824.0	10.2			201.54	0.30	
28-Apr	19:00	47944.0	10.0			201.47	0.23	
28-Apr	21:00	48064.0	9.8			201.46	0.22	
28-Apr	23:00	48184.0	9.6			201.54	0.30	
29-Apr	00:00	48244.0	9.5			201.54	0.30	
29-Apr	05:00	48544.0	9.0			201.33	0.09	
29-Apr	08:00	48724.0	8.7			201.30	0.06	
29-Apr	11:00	48904.0	8.5			201.54	0.30	
29-Apr	14:00	49084.0	8.3			201.54	0.30	
29-Apr	17:00	49264.0	8.1			201.58	0.34	

CH2M HILL *PUMPING TEST REPORT* PROJECT NO: BOI 31684.A1

WELL NO: *DAY* — PUMPING / OBSERVATION WELL

TYPE OF DATA: *DRAWDOWN*

PUMPED WELL NO: *PW* RADIUS: *14"(28"HOLE)* — M.P. FOR WL'S: *TOP OF CASING* ELEV.:

PUMPING RATES: *750.0 Gallons per minute* — PUMP ON: DATE *26-Mar-91* TIME *10:56:00*

HOW Q MEASURED: *FLOWMETER* — PUMP OFF: DATE *25-Apr-91* TIME *11:03:00*

HOW WL's MEASURED: *SI PROBE & STEVENS RECORDER* — STATIC WATER LEVEL (FT BMP): *201.24*

DIST. FROM PUMPED WELL: *7,500 FEET* — COMMENTS:

DATE	CLOCK TIME	TIME SINCE PUMPING STARTED / STOPPED (minutes)	t/t'	WATER LEVEL DATA: READING REFERENCE	READING MEASURE	DEPTH TO WATER (FT)	DRAW DOWN (FT)	REMARKS
29-Apr	19:00	49384.0	7.9			201.57	0.33	
29-Apr	21:00	49504.0	7.8			201.49	0.25	
29-Apr	22:00	49564.0	7.7			201.50	0.26	
30-Apr	05:00	49984.0	7.3			201.38	0.14	
30-Apr	07:00	50104.0	7.2			201.42	0.18	
30-Apr	09:00	50224.0	7.1			201.39	0.15	
30-Apr	11:00	50344.0	7.0			201.54	0.30	
30-Apr	13:00	50464.0	6.9			201.59	0.35	
30-Apr	18:00	50764.0	6.7			201.38	0.14	
30-Apr	19:00	50824.0	6.6			201.43	0.19	
30-Apr	22:00	51004.0	6.5			201.41	0.17	
30-Apr	23:00	51064.0	6.4			201.53	0.29	
01-May	03:00	51304.0	6.3			201.37	0.13	
01-May	09:00	51664.0	6.1			201.37	0.13	
01-May	10:00	51724.0	6.0			201.53	0.29	
01-May	12:00	51844.0	6.0			201.53	0.29	
01-May	19:00	52264.0	5.7			201.35	0.11	
01-May	20:00	52324.0	5.7			201.35	0.11	
01-May	22:00	52444.0	5.6			201.57	0.33	
02-May	06:00	52924.0	5.4			201.11	-0.13	
02-May	08:00	53044.0	5.4			201.11	-0.13	
02-May	09:00	53104.0	5.3			201.07	-0.17	
02-May	10:00	53164.0	5.3			201.07	-0.17	
02-May	12:00	53284.0	5.3			201.21	-0.03	
02-May	13:00	53344.0	5.2			201.18	-0.06	
02-May	14:00	53404.0	5.2			201.27	0.03	
02-May	16:00	53524.0	5.2			201.25	0.01	
02-May	18:00	53644.0	5.1			201.18	-0.06	
02-May	22:00	53884.0	5.0			201.21	-0.03	
02-May	23:00	53944.0	5.0			201.26	0.02	
03-May	02:00	54124.0	4.9			201.22	-0.02	
03-May	04:00	54244.0	4.9			201.22	-0.02	
03-May	06:00	54364.0	4.8			201.24	0.00	
03-May	06:00	54364.0	4.8			201.24	0.00	
03-May	07:00	54424.0	4.8			201.30	0.06	
03-May	08:00	54484.0	4.8			201.31	0.07	
03-May	12:00	54724.0	4.7			201.58	0.34	
03-May	14:00	54844.0	4.7			201.58	0.34	
03-May	19:00	55144.0	4.6			201.44	0.20	
03-May	20:00	55204.0	4.6			201.49	0.25	
03-May	22:00	55324.0	4.5			201.49	0.25	
04-May	01:00	55504.0	4.5			201.93	0.69	
04-May	03:00	55624.0	4.5			201.70	0.46	
04-May	04:00	55684.0	4.4			201.61	0.37	
04-May	06:00	55804.0	4.4			201.55	0.31	
04-May	08:00	55924.0	4.4			201.55	0.31	
04-May	09:00	55984.0	4.4			201.52	0.28	
04-May	13:00	56224.0	4.3			201.96	0.72	
04-May	17:00	56464.0	4.2			201.95	0.71	
04-May	19:00	56584.0	4.2			201.95	0.71	
04-May	20:00	56644.0	4.2			202.05	0.81	
05-May	12:34	57638.0	4.0			202.44	1.20	

USGS WELL

Site Ident. No. 434246116185001

Water Year 1991

TAbulation Sheet for Highest and Lowest Water Level

Well No. 04N 01E 03DAD1 County ADA

Highest W/L	Date	Ckd by	Lowest W/L	Date	Ckd by
58.05	10/31/90		58.90	10/1/90	
57.58	2/17/91		58.30	11/2-4/90	
57.25	3/1/91		57.94	4/4/91	

Water Year 1991

Highest W/L	Date	Ckd by

Water Year 1991

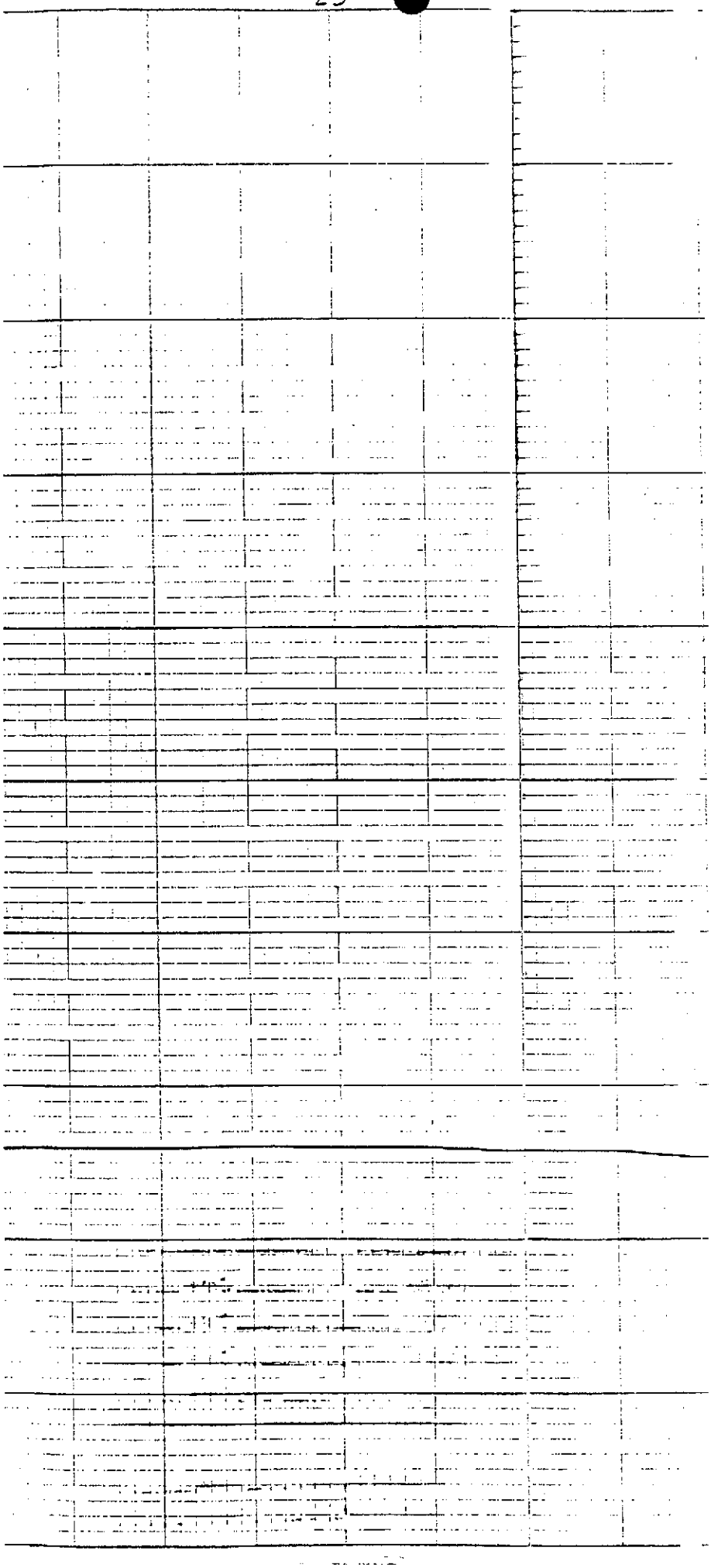
Lowest W/L	Date	Ckd by

Period of Record

Highest W/L	Date	Ckd by
57.22	2/1/90	

Period of Record

Lowest W/L	Date	Ckd by
59.45	8/5/90	



5778

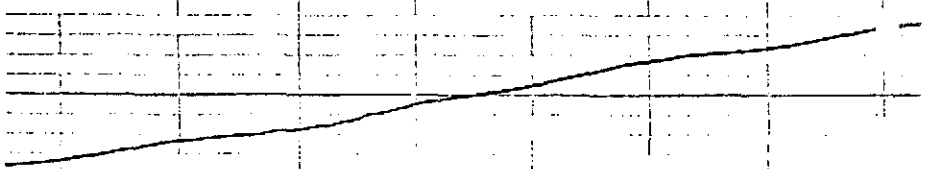
240 = A

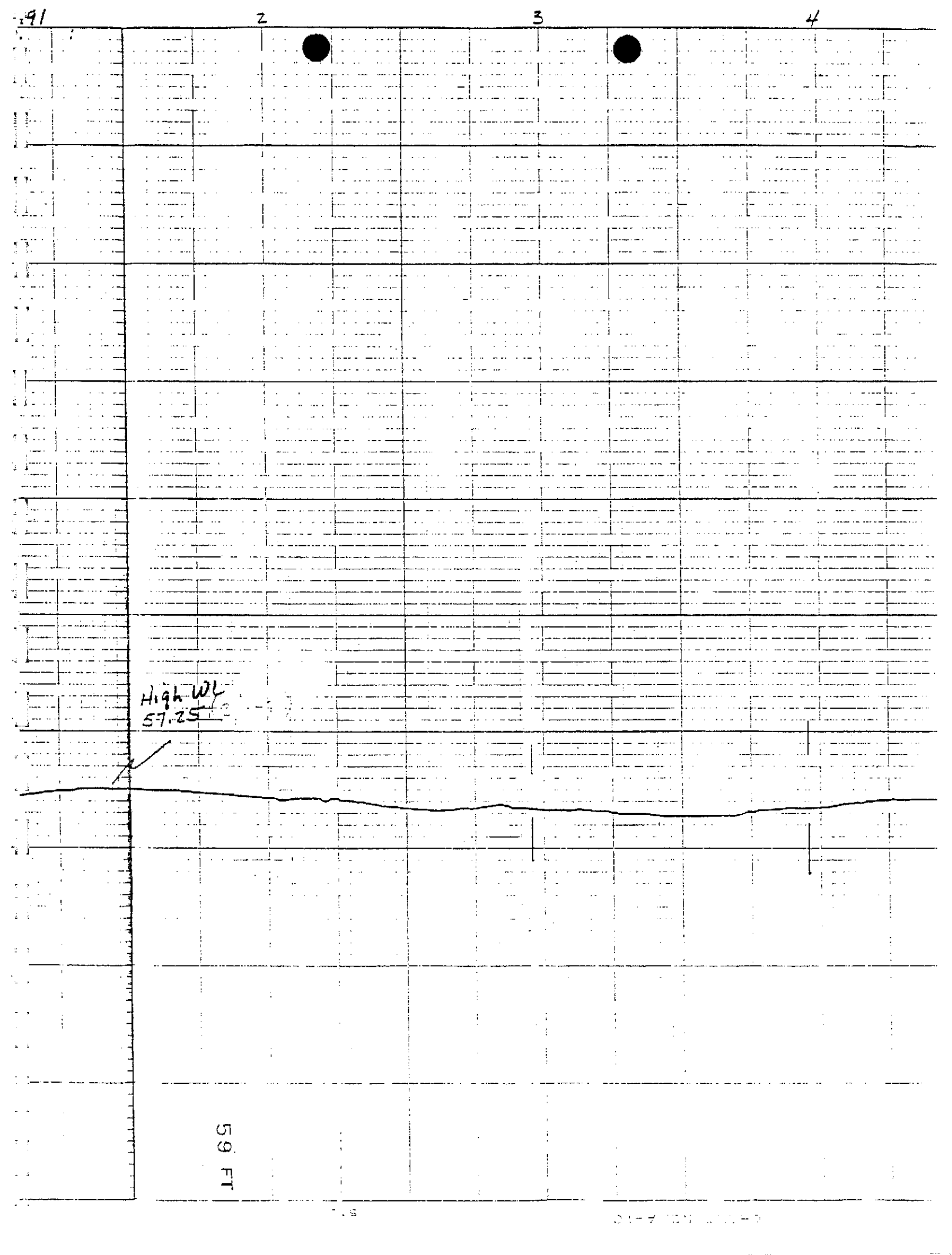
60 FT

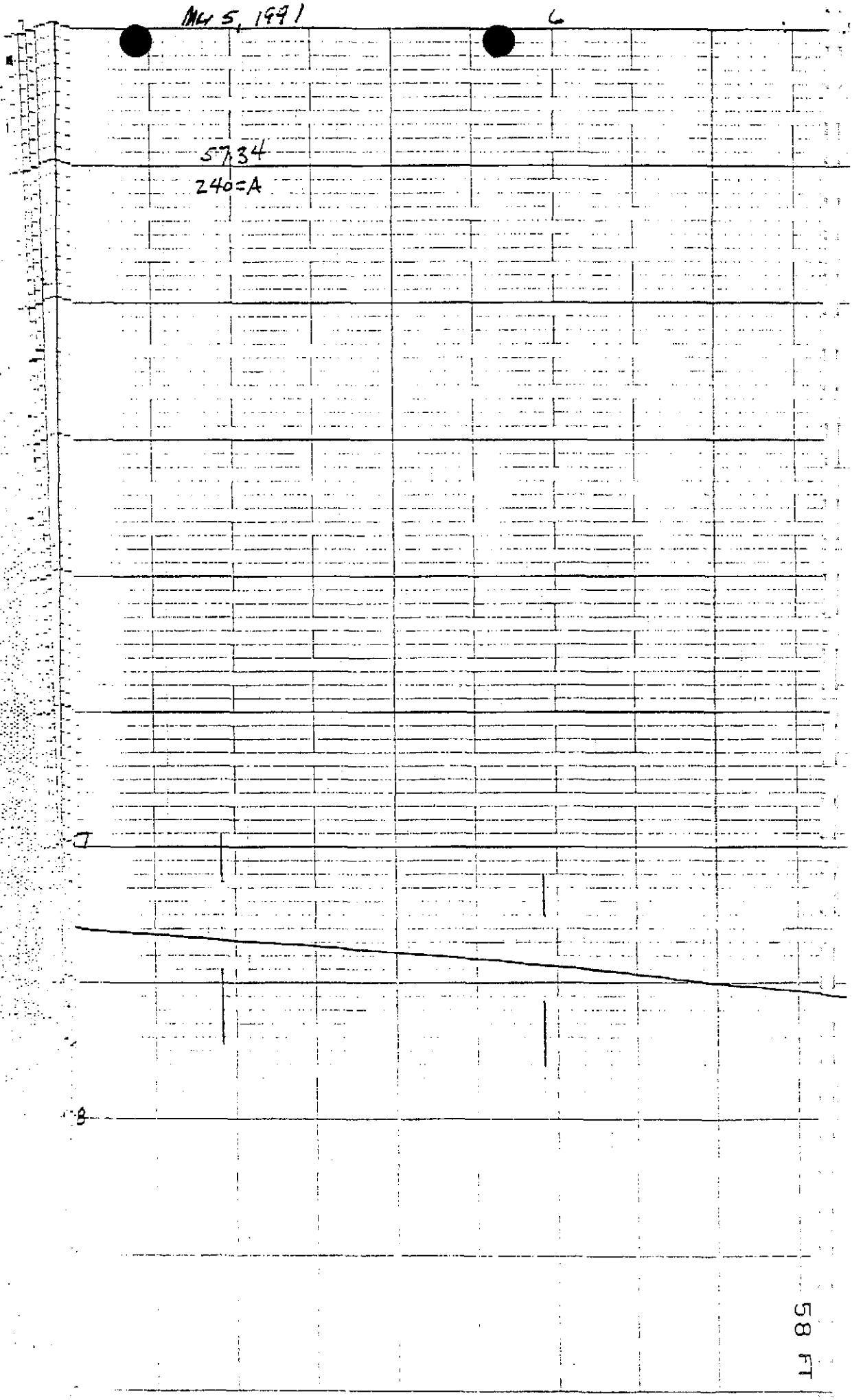
Feb [illegible] 1991

57.48

240 = A



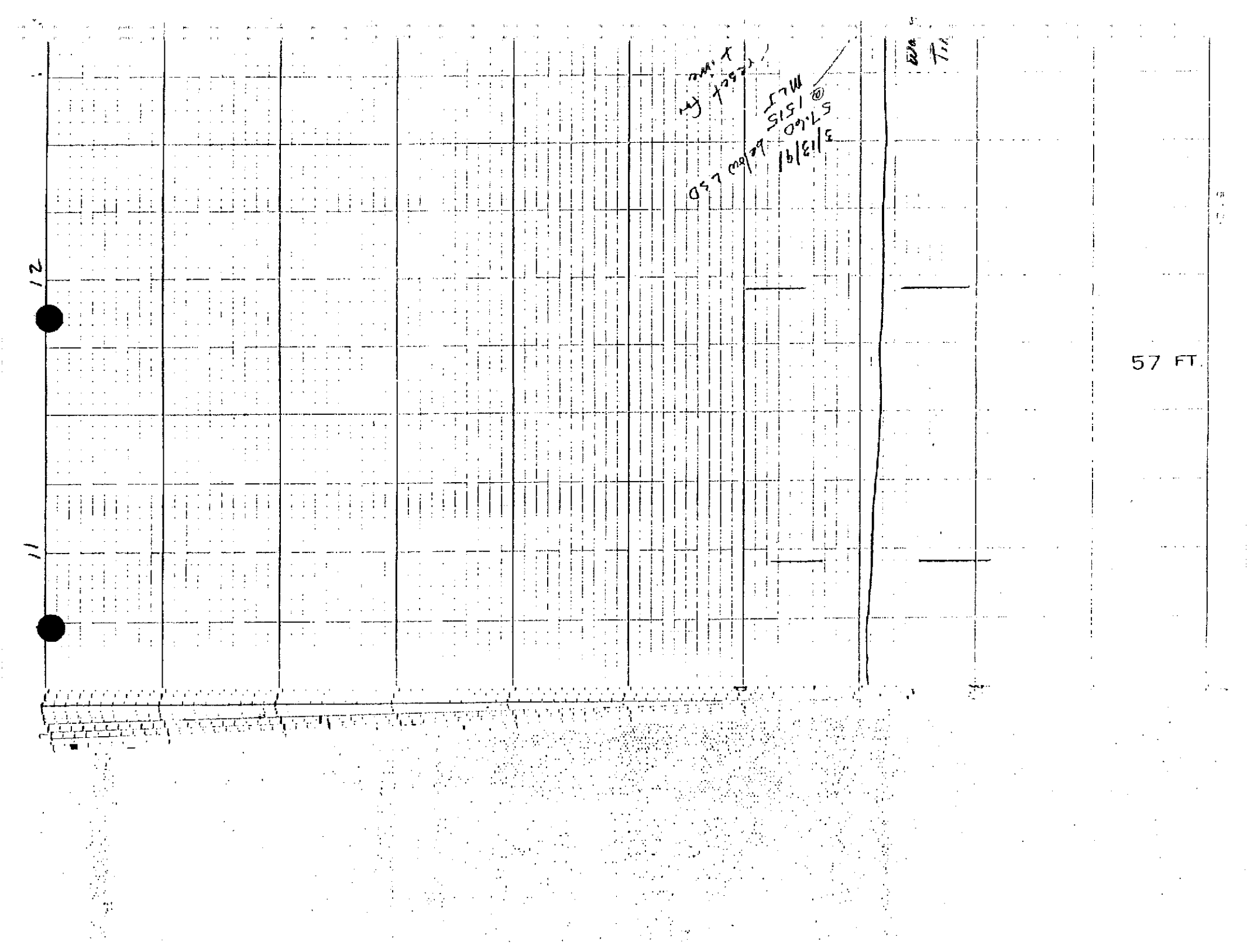

91
2
3
4
High WL
57.25
59. FT


MAY 5, 1991
C
5734
240=A
J
B
58 FT

8 4 March 10, 91

57.57

240=A


12
11
57 FT.

57.157

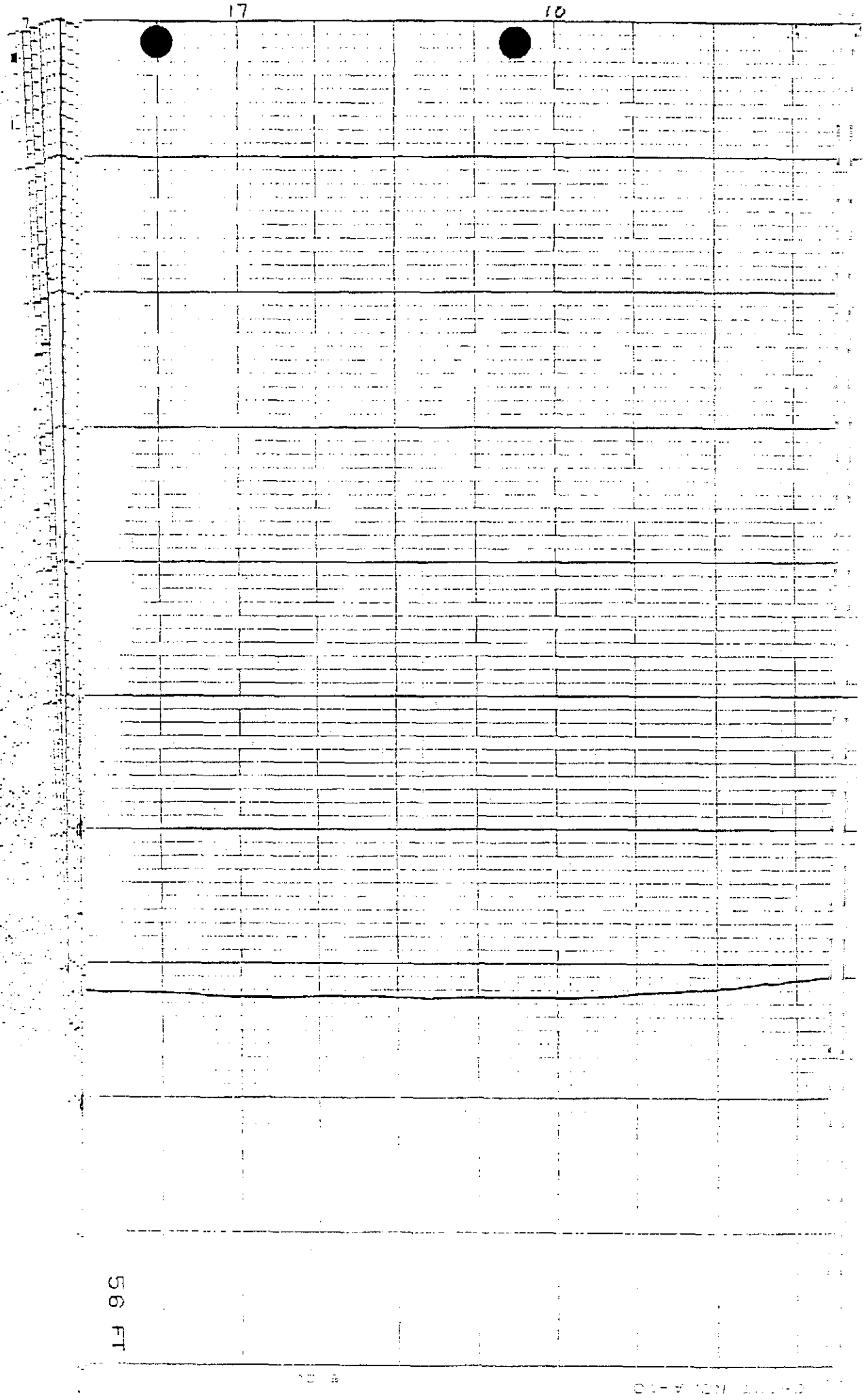
240 = A

27

sel - ok

hour stow

28


17
10
56 FT

57.50 0.0

240=A

+.01

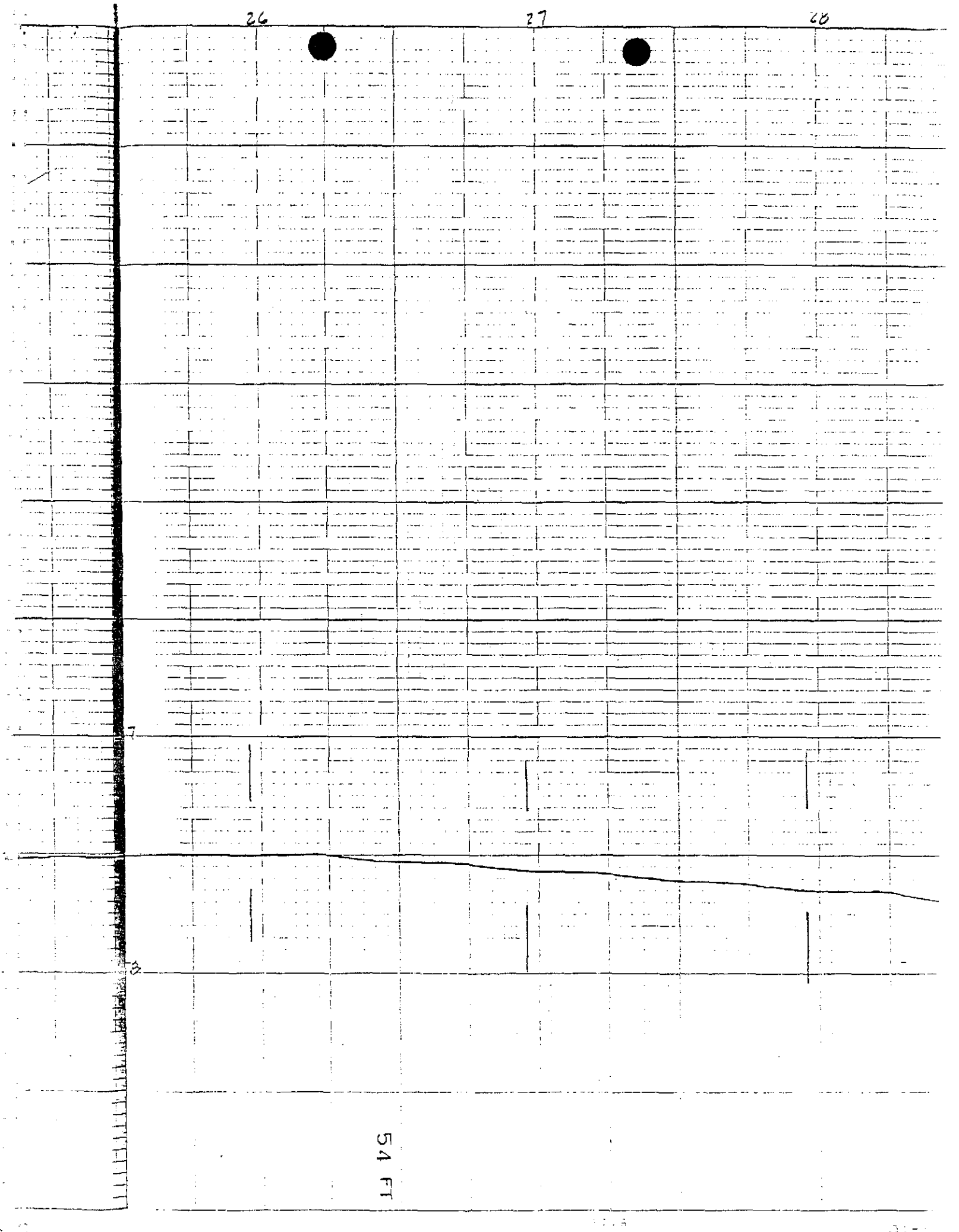
55 FT

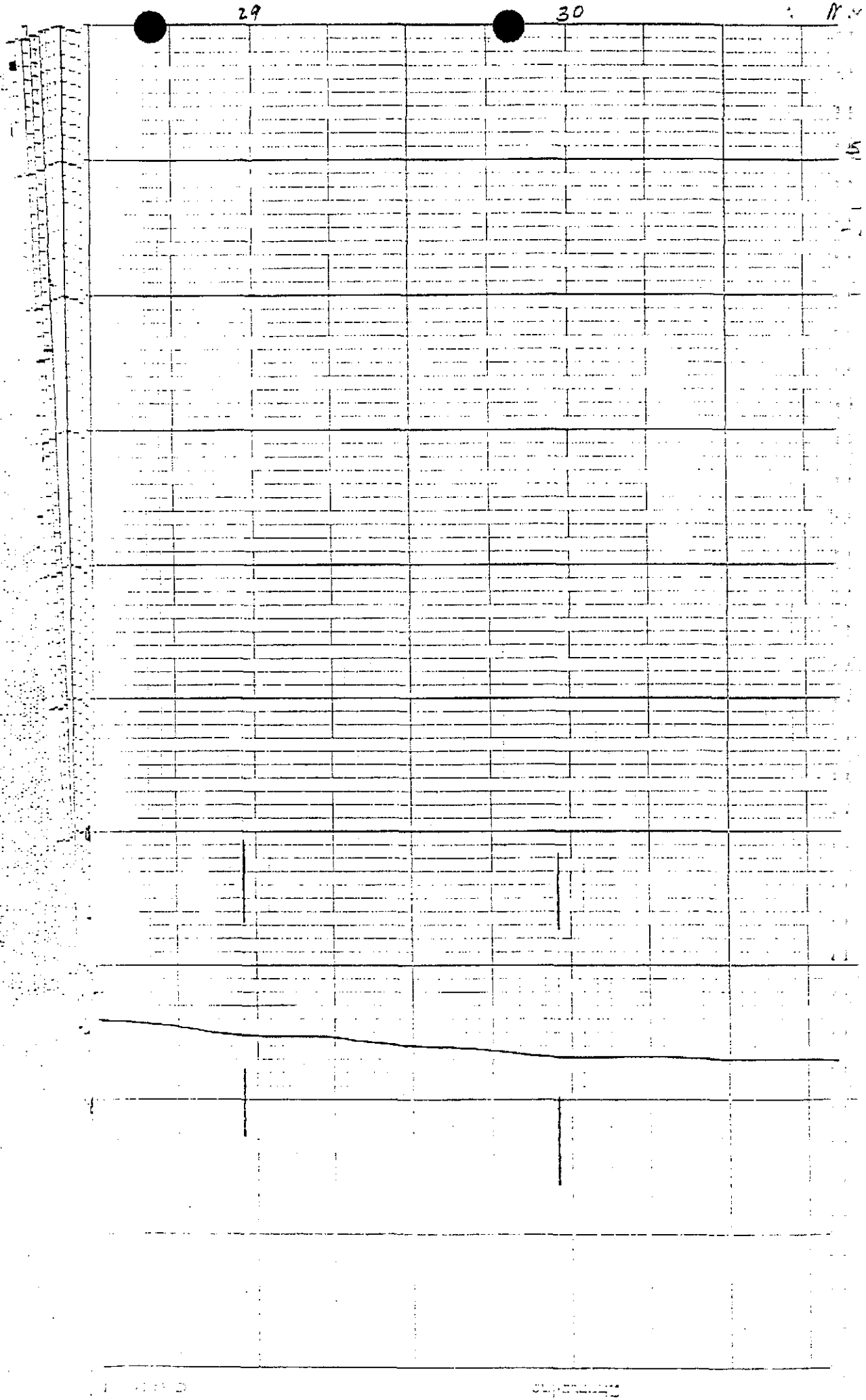
23 24 mc 25,91

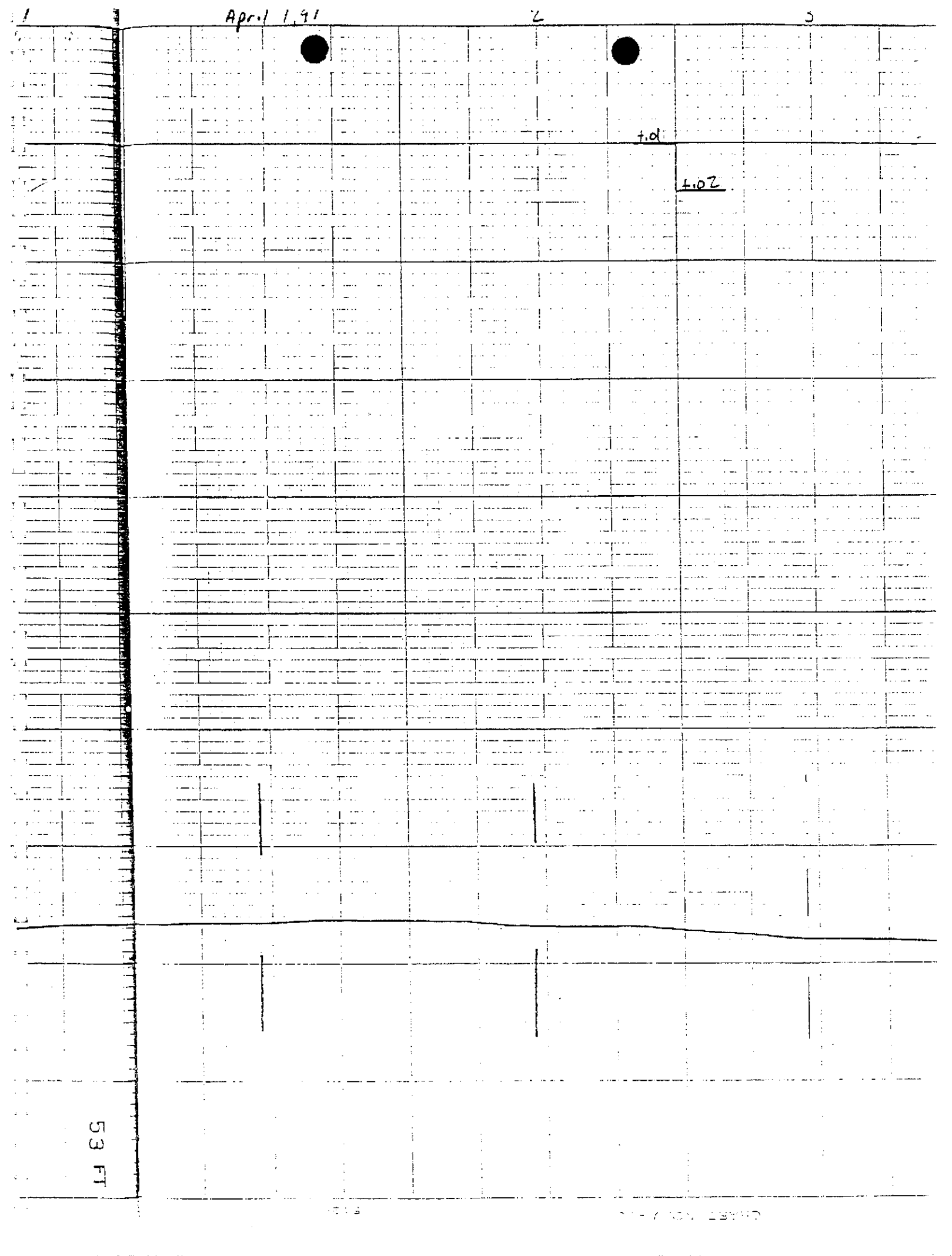
57.55
+.01
57.56
240=A

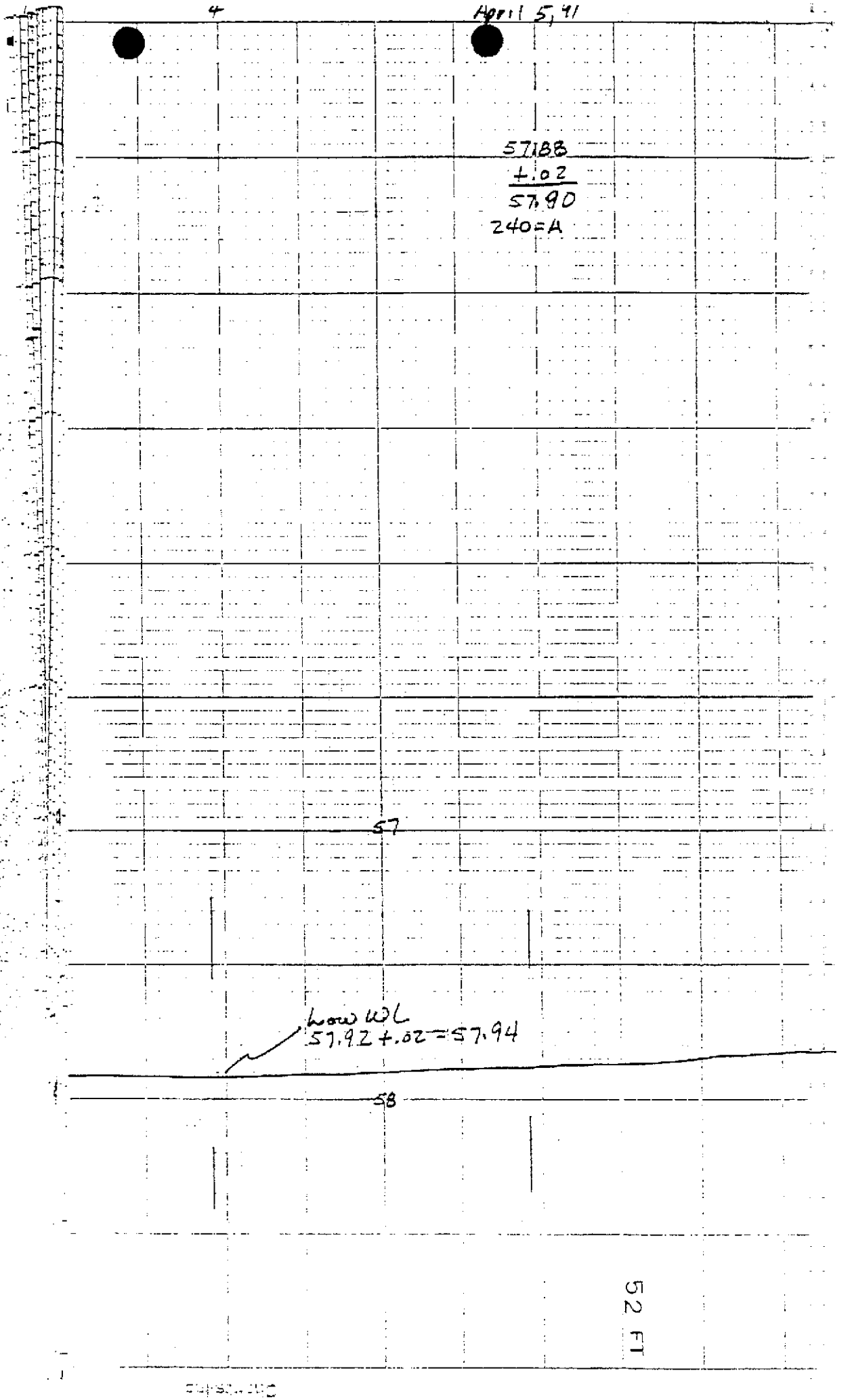
57

50


26
27
28
54 FT


29
30

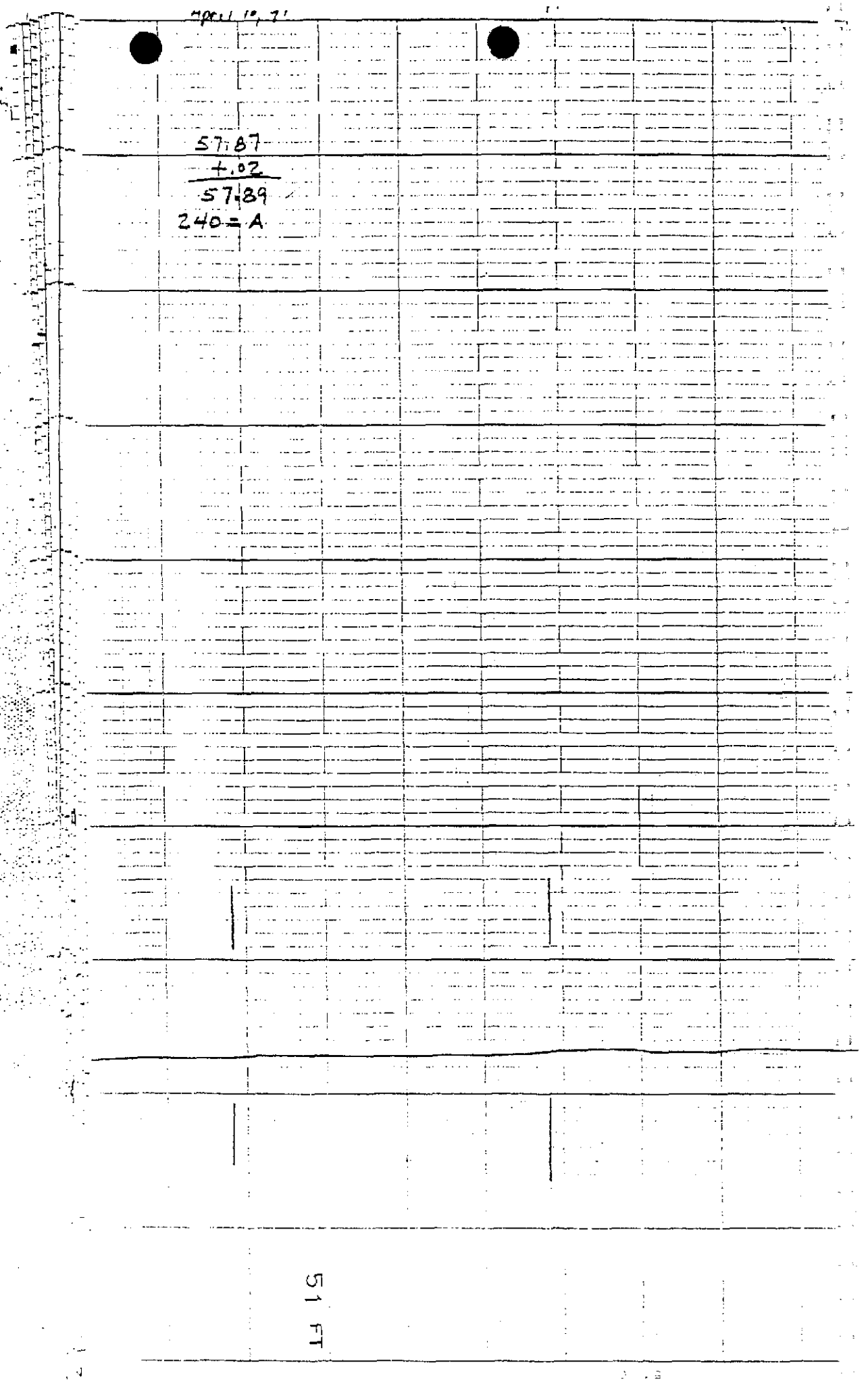

1
April 1, 91
2
3
+.01
+.02
53 FT



low WL
57.92 + .02 = 57.94

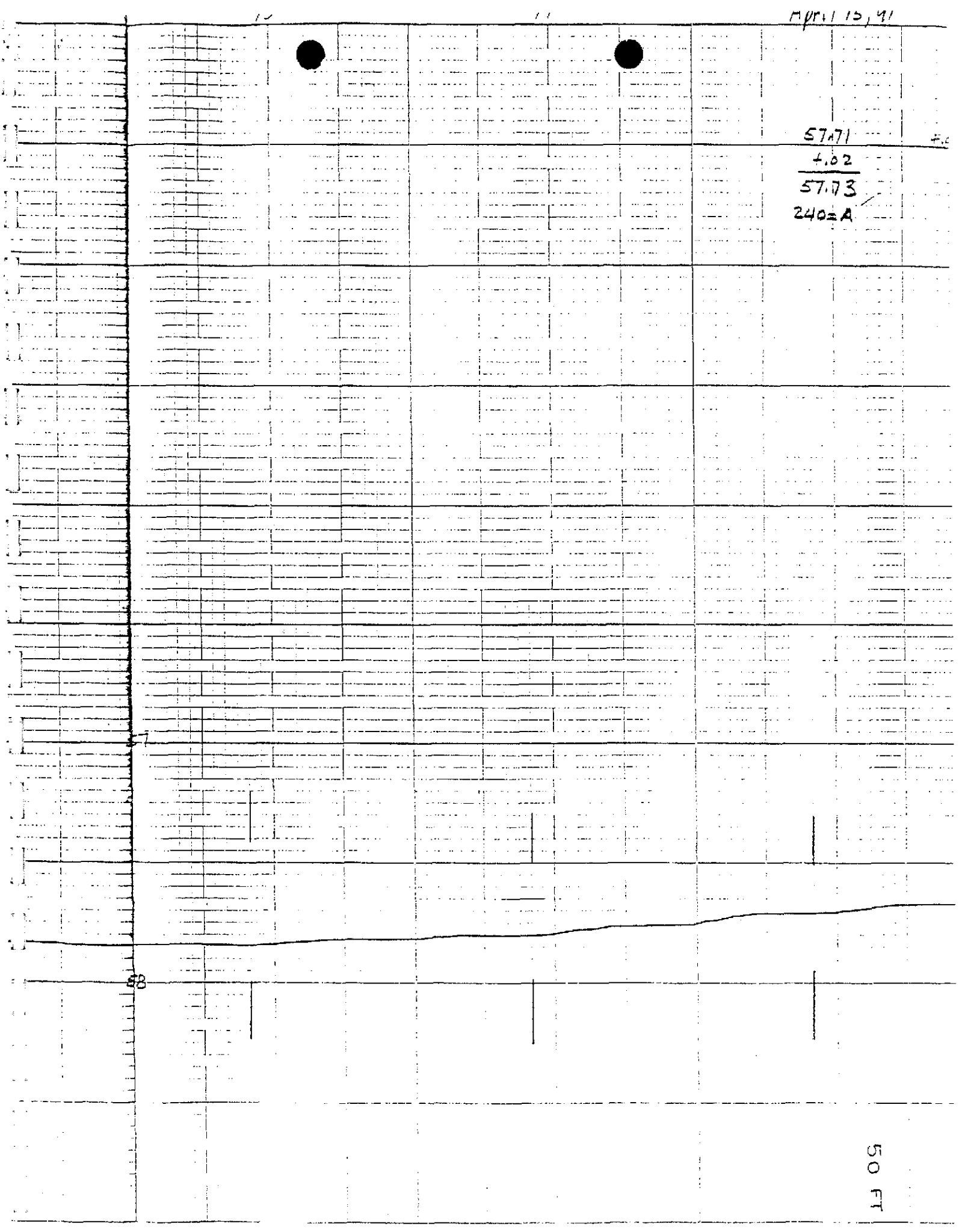
1 8 4

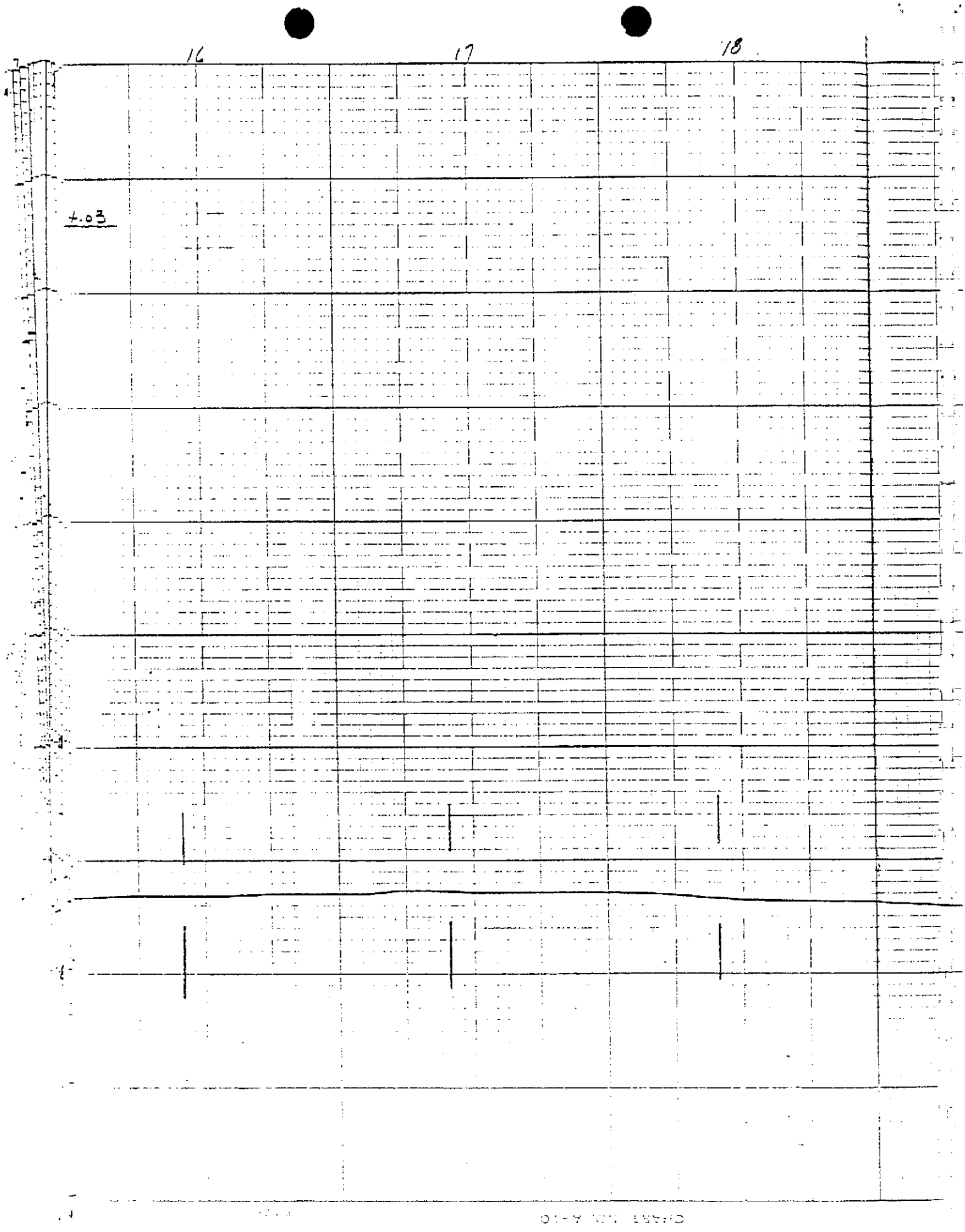
-Begin Daylight Savings time


April 19, 7'
57.87
+.02
57.89
240 = A
51 FT

April 15, 91

57.71
4.02
57.73
240=A




16
17
18
+.03

19 [illegible] 20, 91 21 22

54

57.70
+.03
57.73
240=A

55

56

57

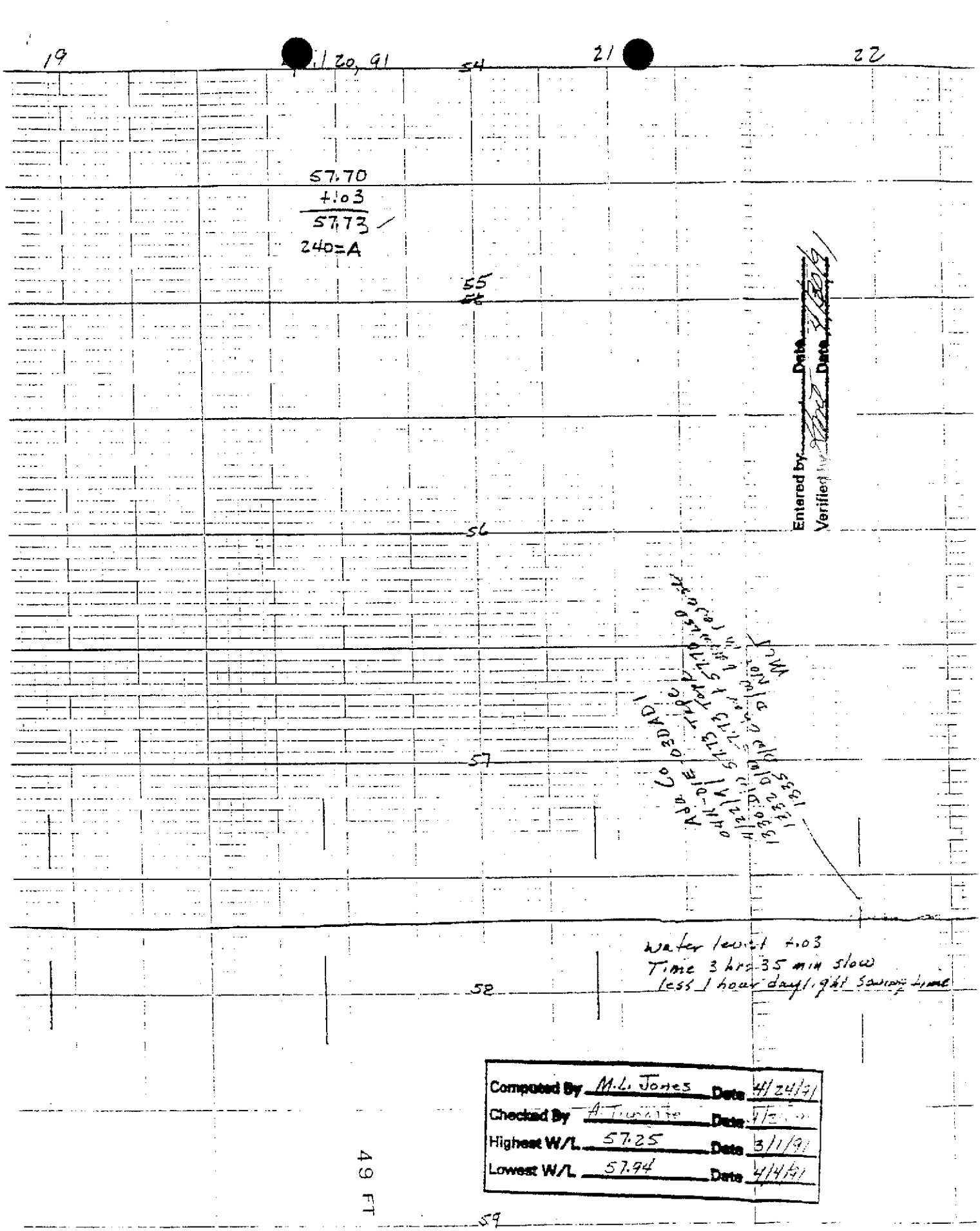
58

59

Entered by [illegible] Date [illegible]
Verified by [illegible] Date [illegible]

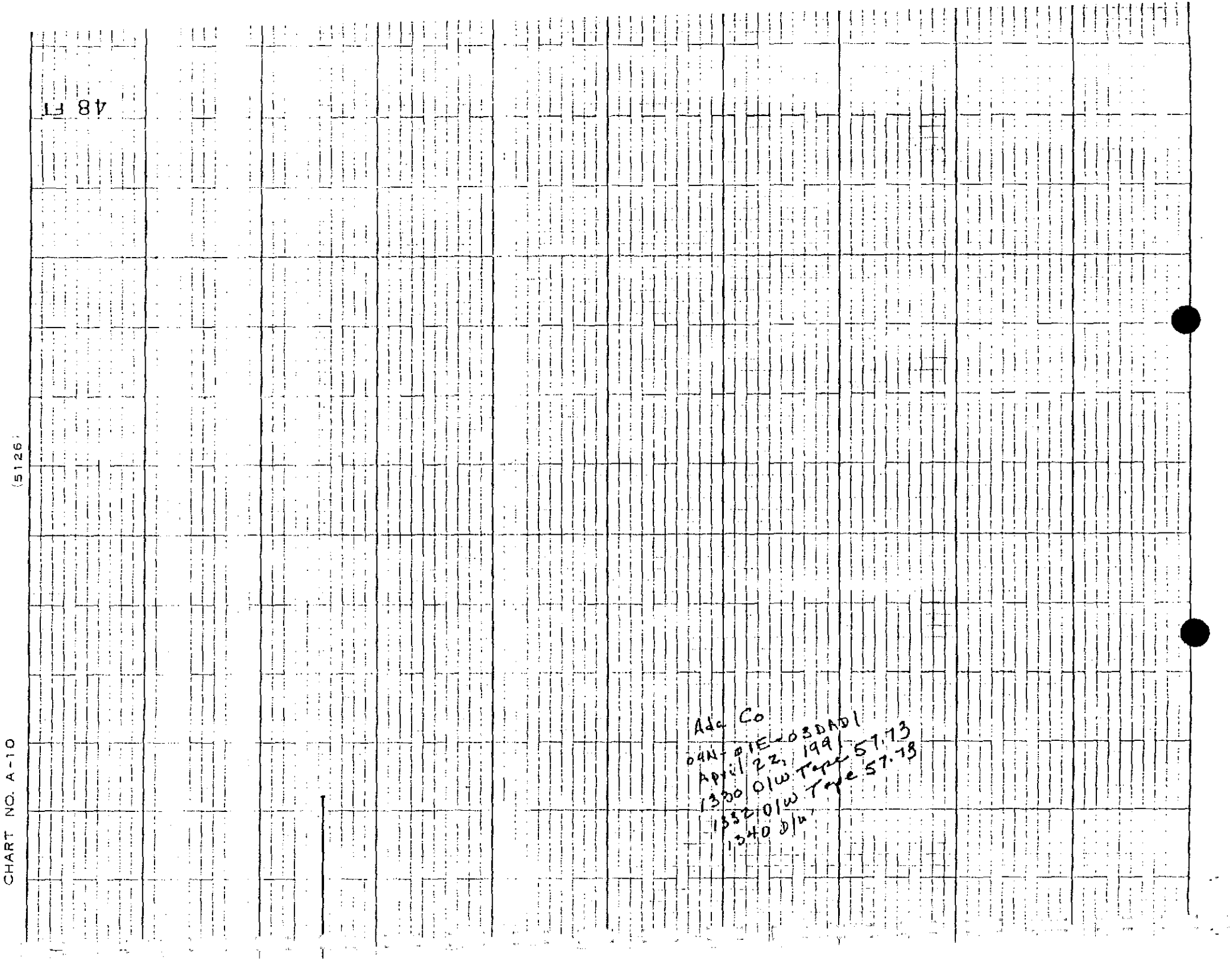
Ada Co 03DAD1
04N-01E-
4/22/91 57.73 Tape
1330 D/W 57.73 Tape
1332 D/W 57.73 Tape
1335 D/W Chart 57.70 [illegible]
D/W Not in [illegible]
MLJ

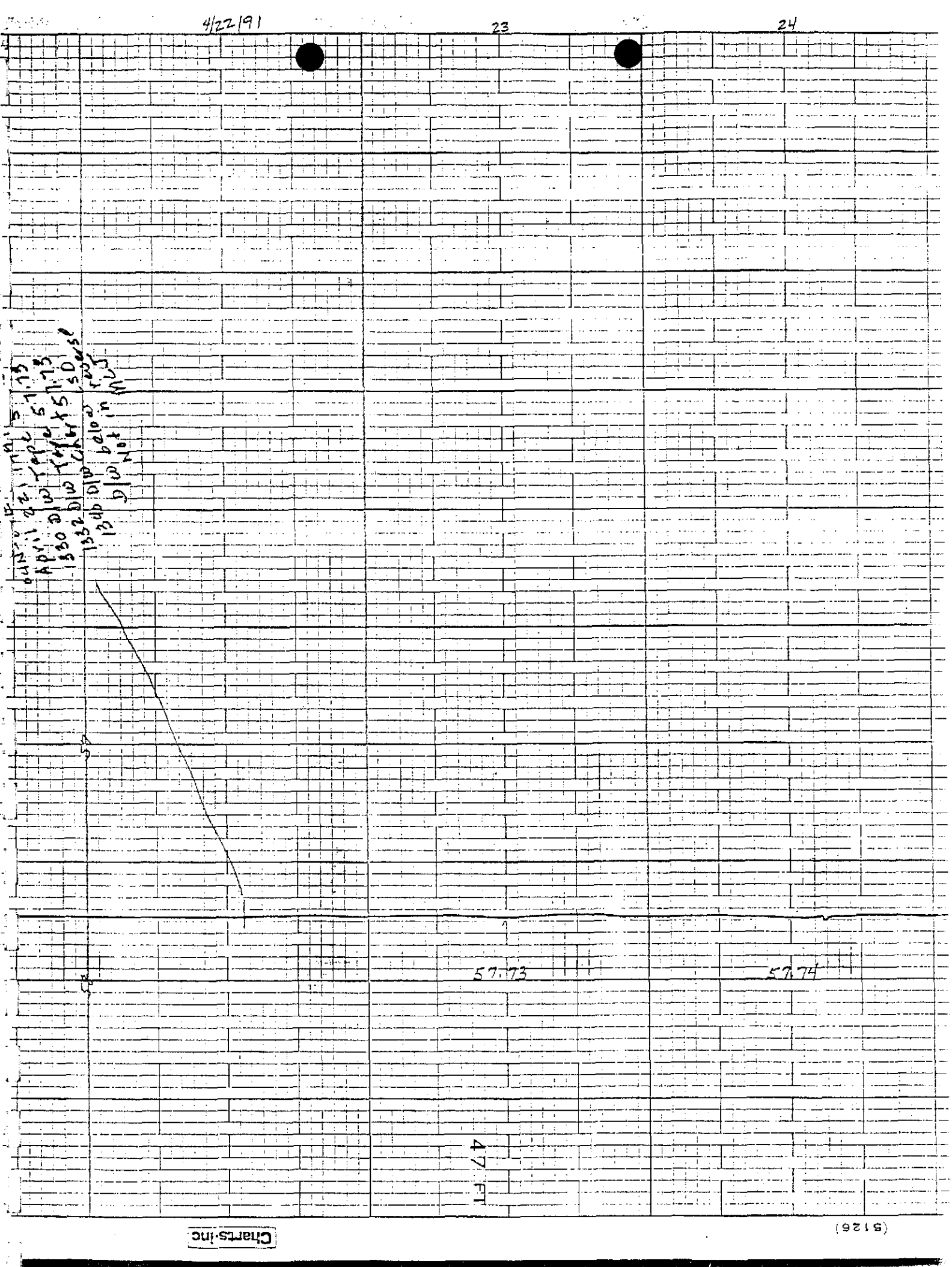
water level +.03
Time 3 hrs 35 min slow
less 1 hour daylight saving time



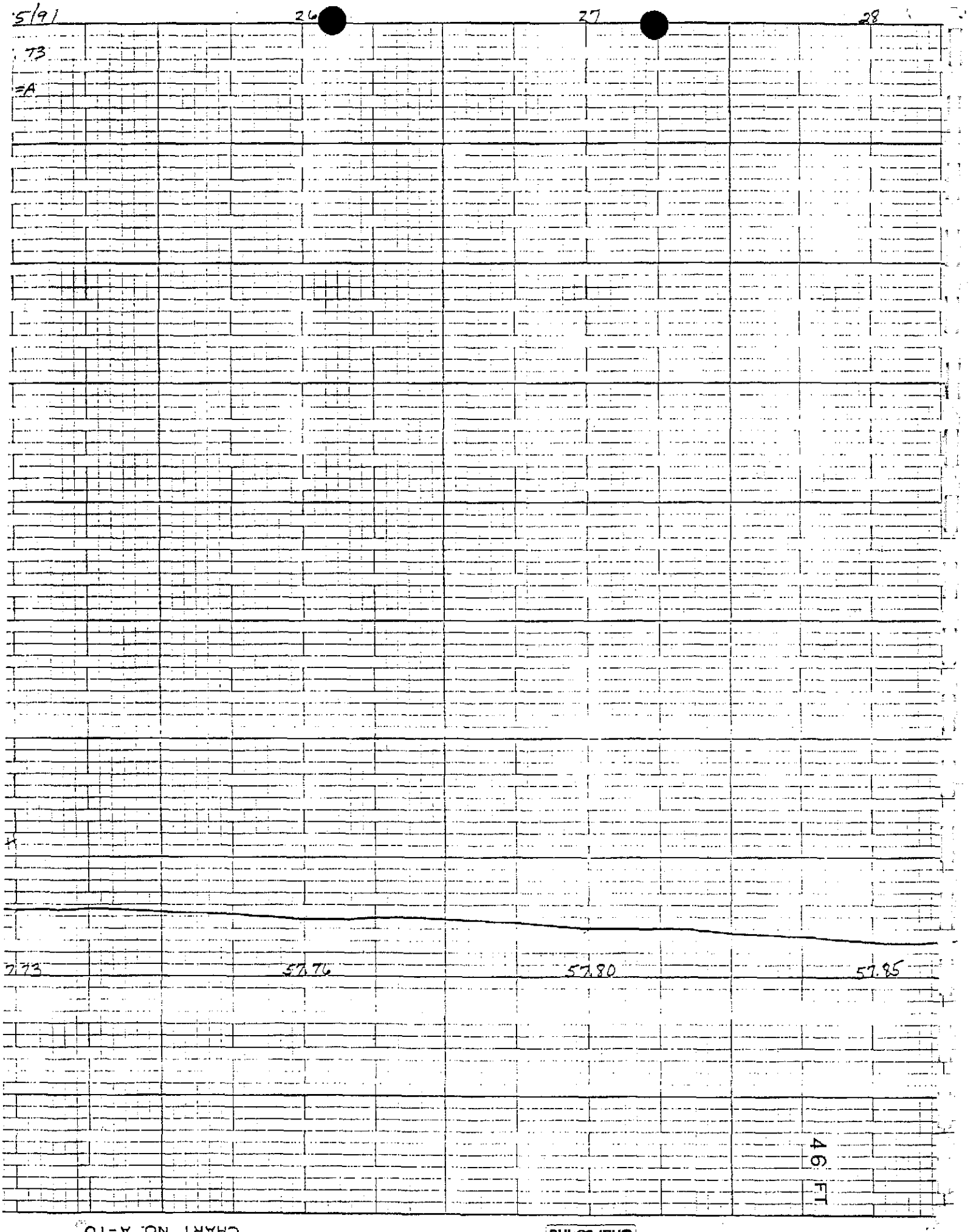
Computed By	M.L. Jones	Date	4/24/91
Checked By	A. Tiwaite	Date	[illegible]
Highest W/L	57.25	Date	3/1/91
Lowest W/L	57.94	Date	4/4/91

49 FT


48 FT
(5126)
CHART NO. A-10
Ada Co
04N-01E-03DAD1
April 22, 1991
1330 D/W Tape 57.73
1332 D/W Tape 57.73
1340 D/W



Charts-inc
(5126)

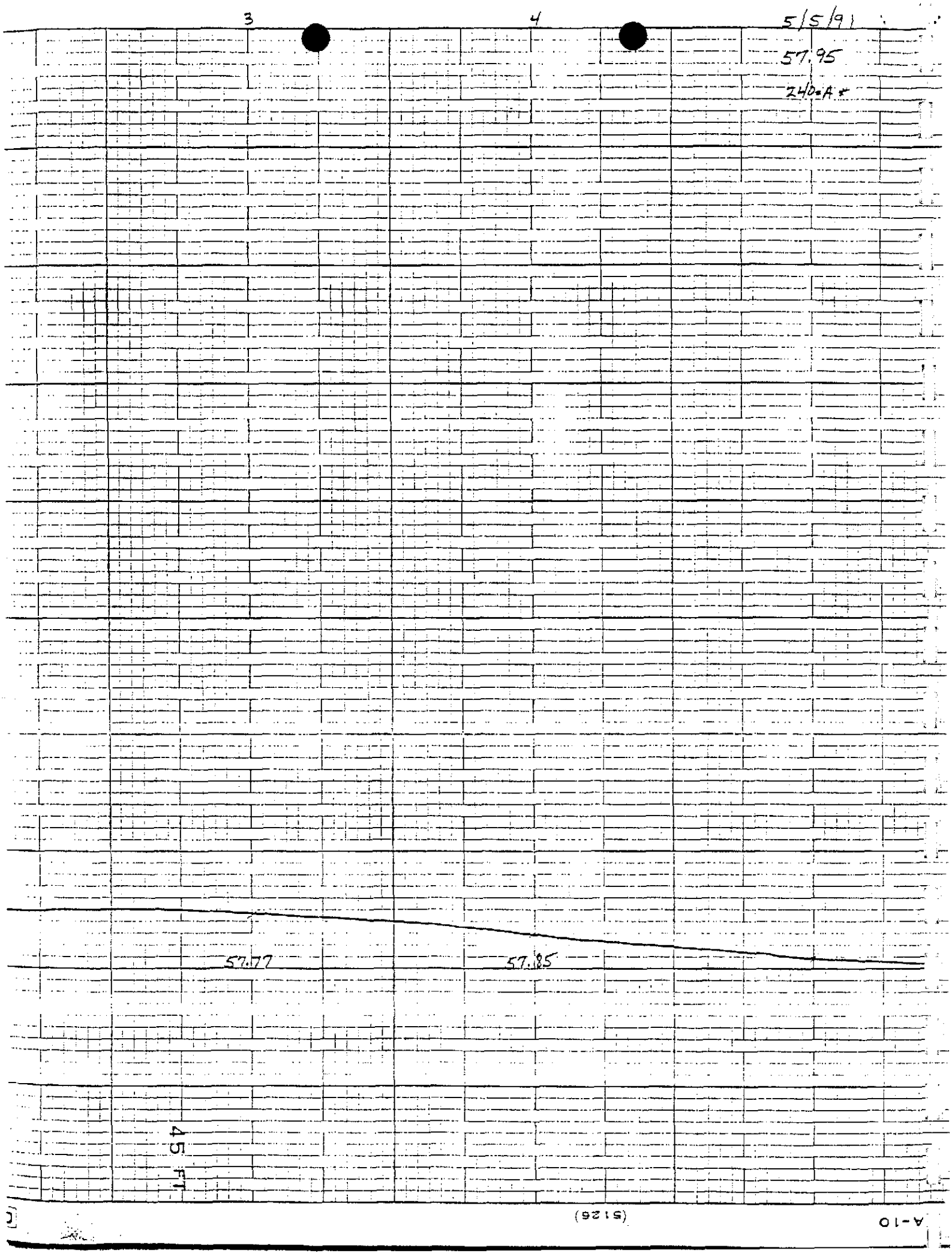

5/91
26
27
28
.73
=A
H
7.73
57.76
57.80
57.85
46 FT.
Charts-Inc
CHART NO. A-10

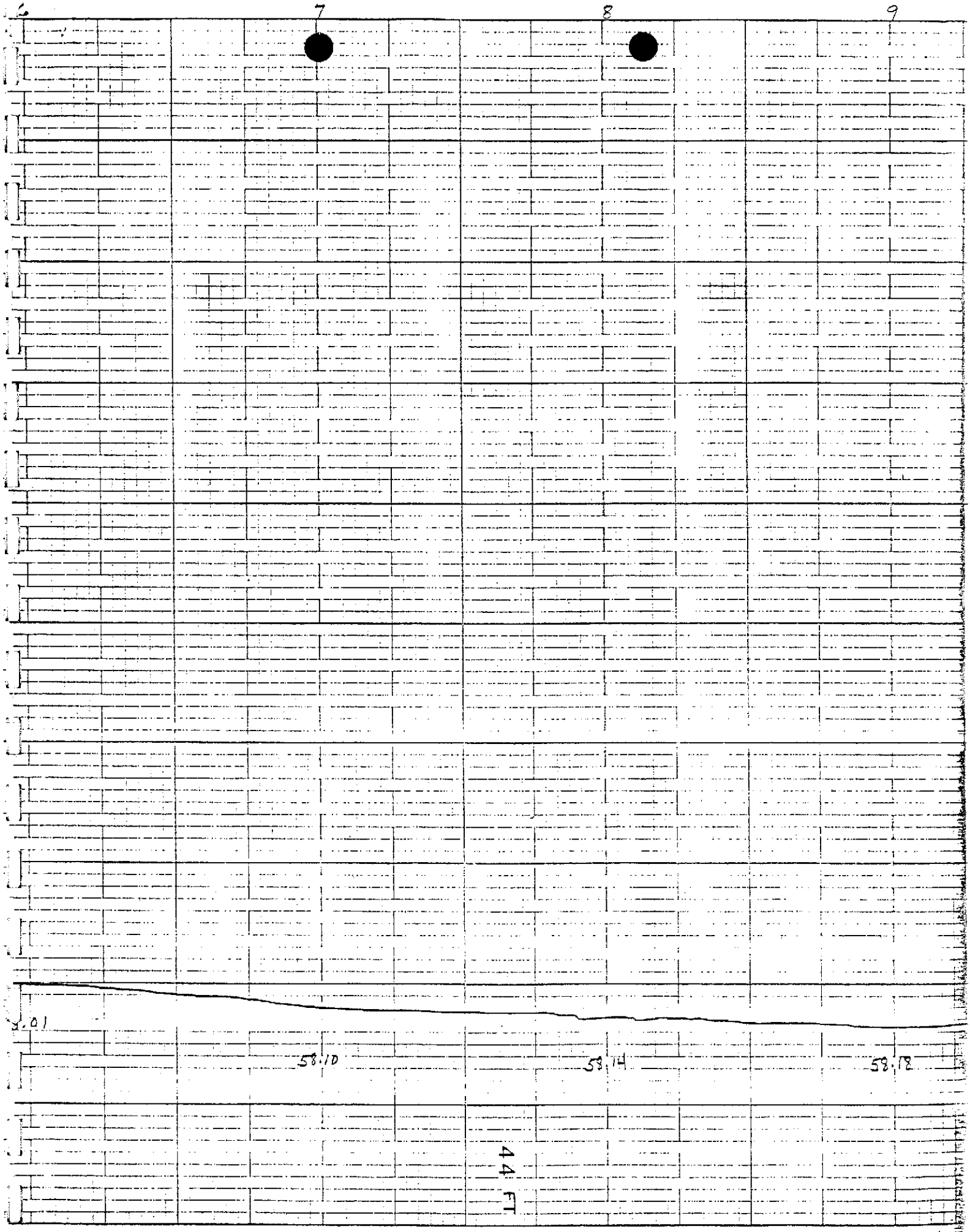
29 4/30/91 1

57.88

240=A+

57.87 57.88 57.84


3
4
5/5/91
57.95
240-A
57.77
57.85
45 FT



Charts·Inc

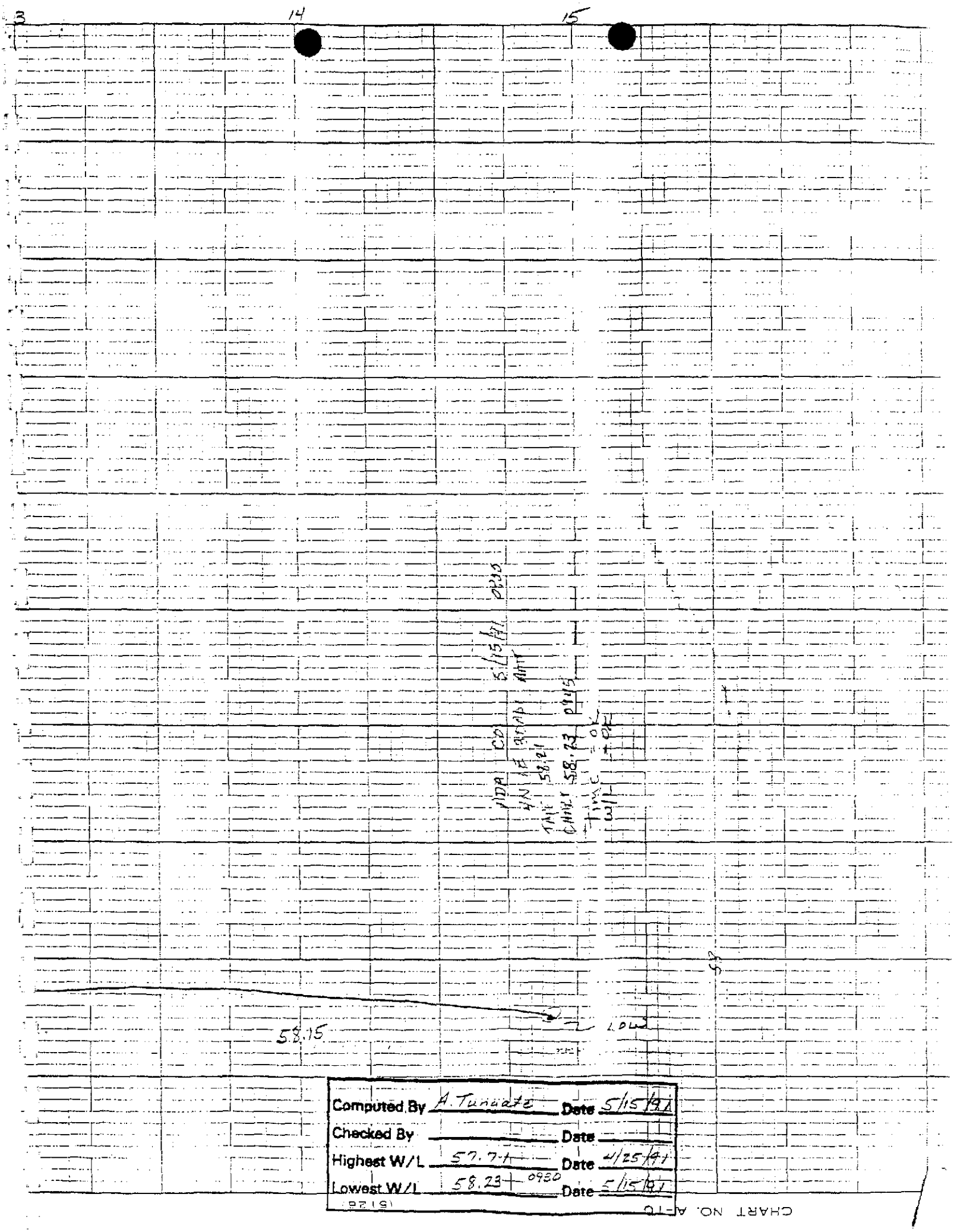
5/10/91

58.19

240=A+

59.19 58.18 58.17

Charts-Inc CHART NO. A-10

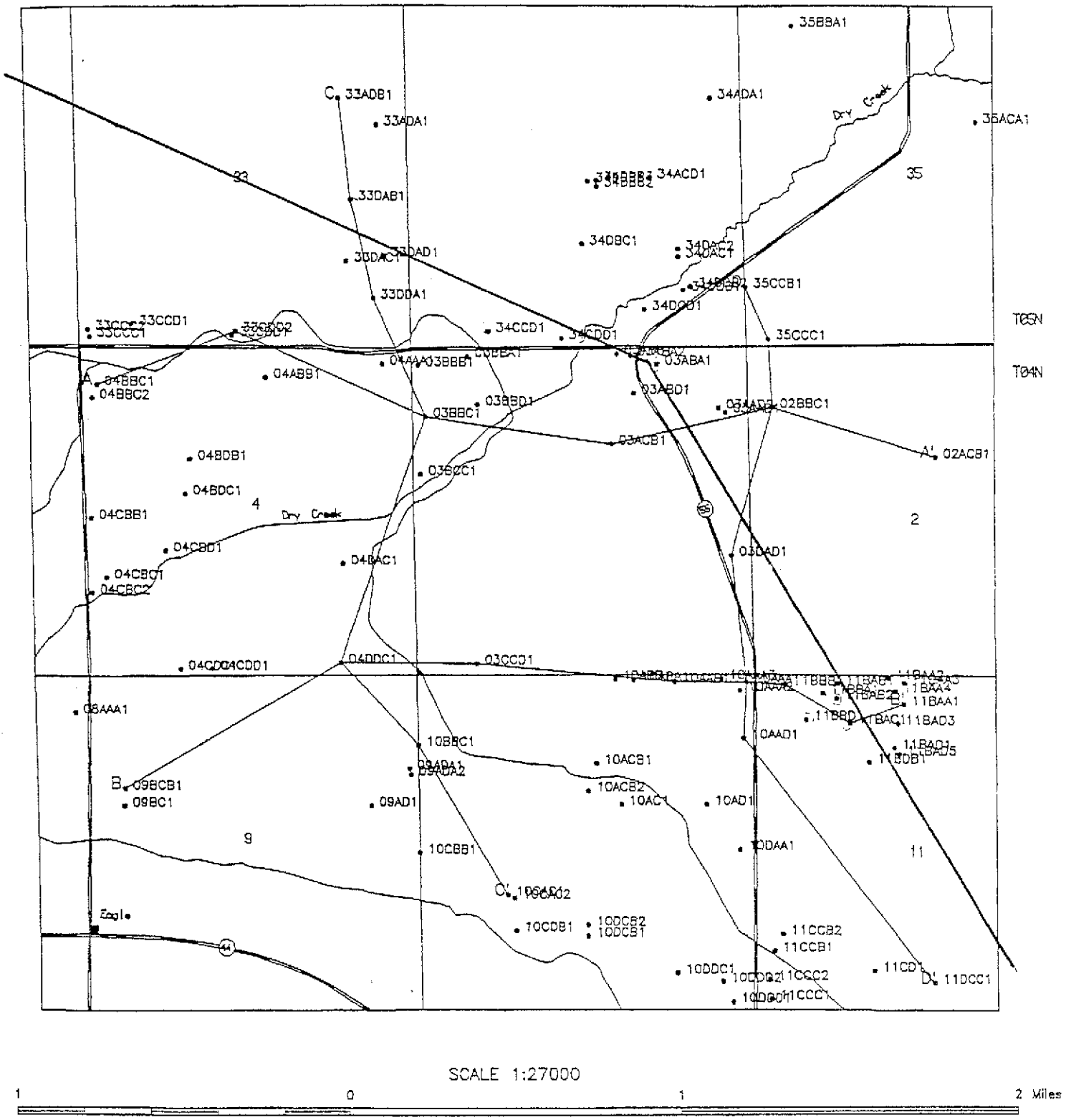


Computed By	A. Tunuate	Date	5/15/91
Checked By		Date	
Highest W/L	57.71	Date	4/25/91
Lowest W/L	58.23 @ 0930	Date	5/15/91

CHART NO. A-10

Appendix D
SUPPLEMENTAL HYDROGEOLOGIC DATA FROM THE IDWR

NORTH EAGLE AREA



SCALE 1:27000

1 0 1 2 Miles

Figure 1. MAP SHOWING LOCATIONS OF INVENTORIED WELLS

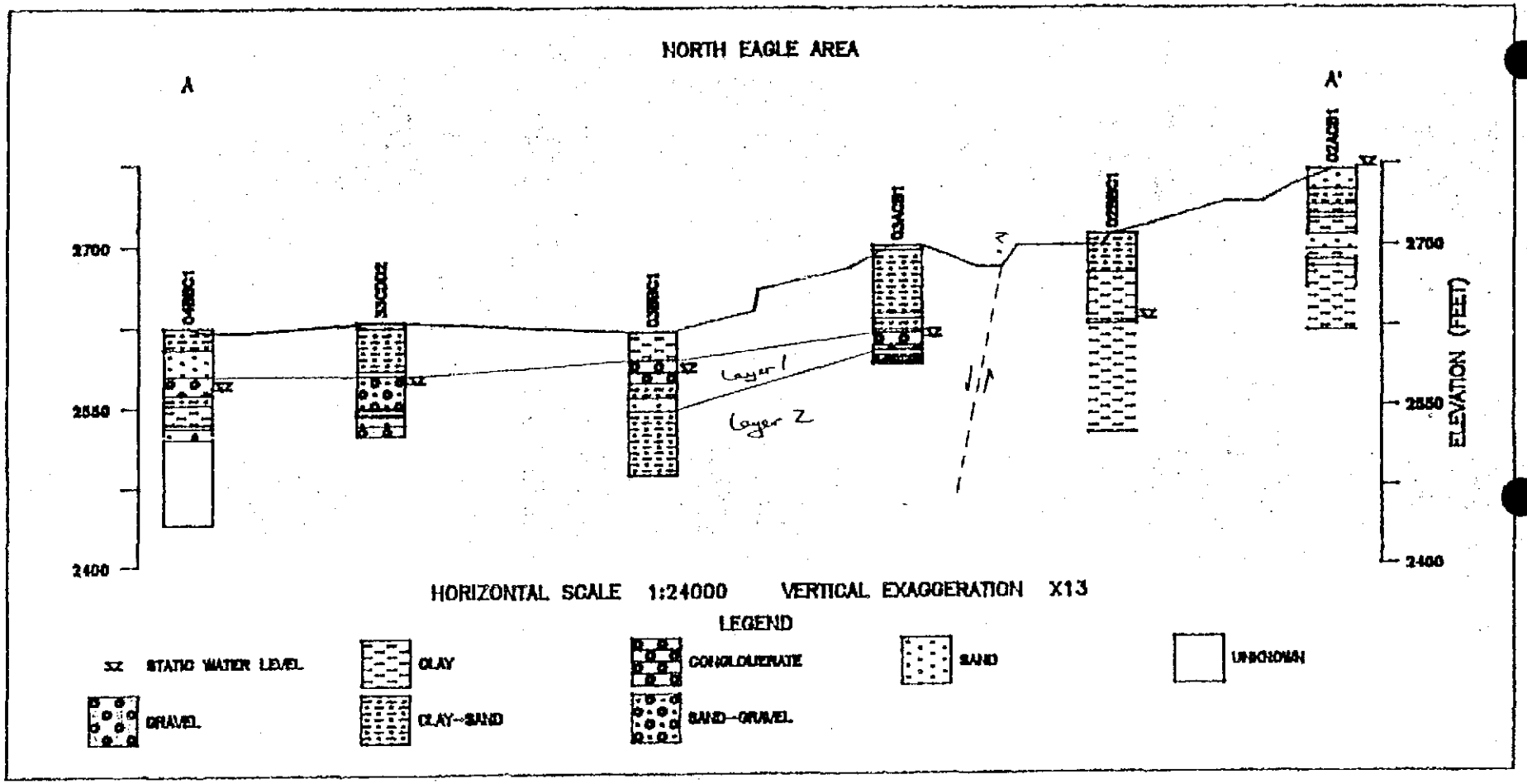


Figure 1. GEOLOGIC CROSS SECTION: A — A'

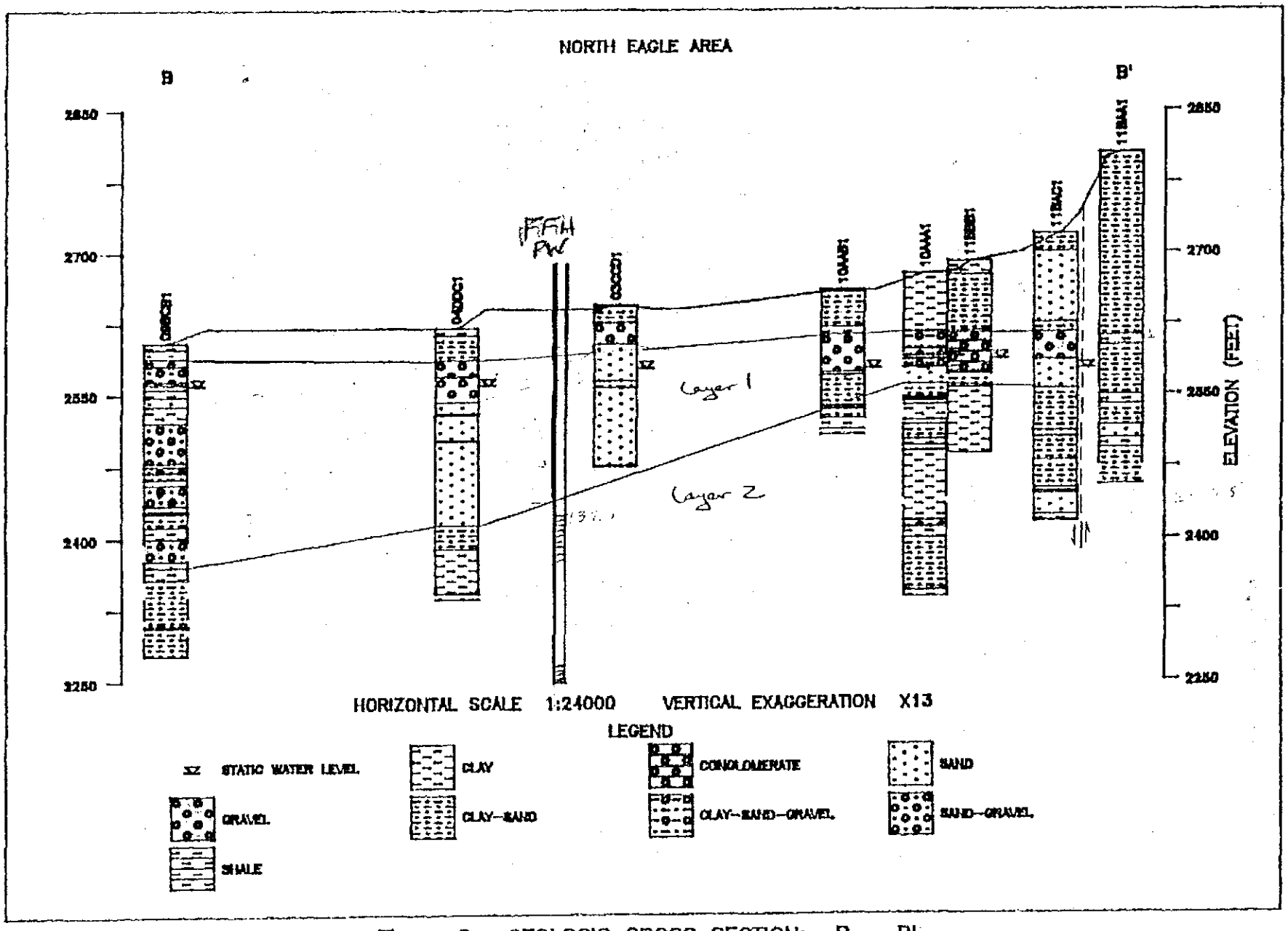


Figure 2. GEOLOGIC CROSS SECTION: B – B'

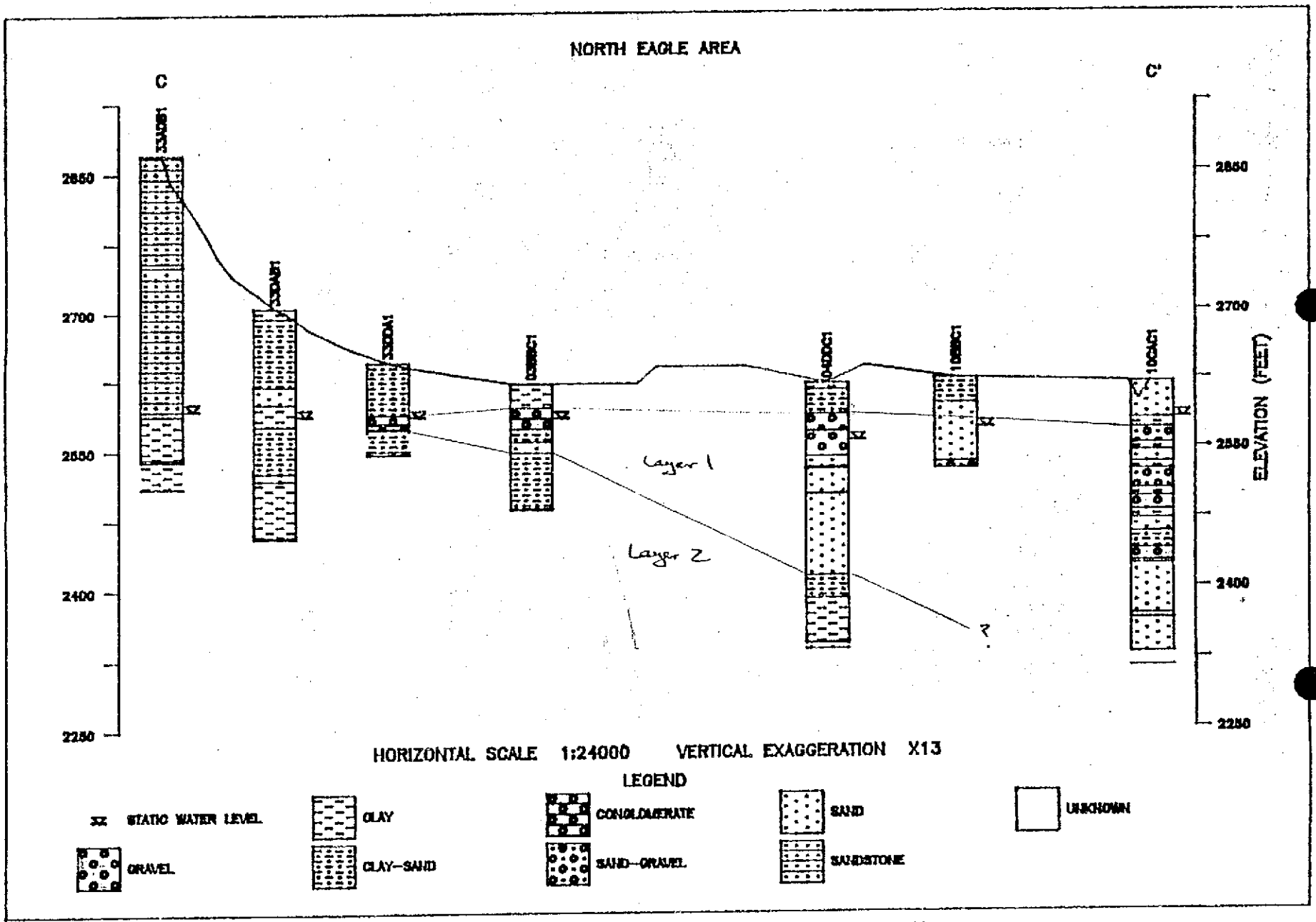


Figure 3. GEOLOGIC CROSS SECTION: C – C'

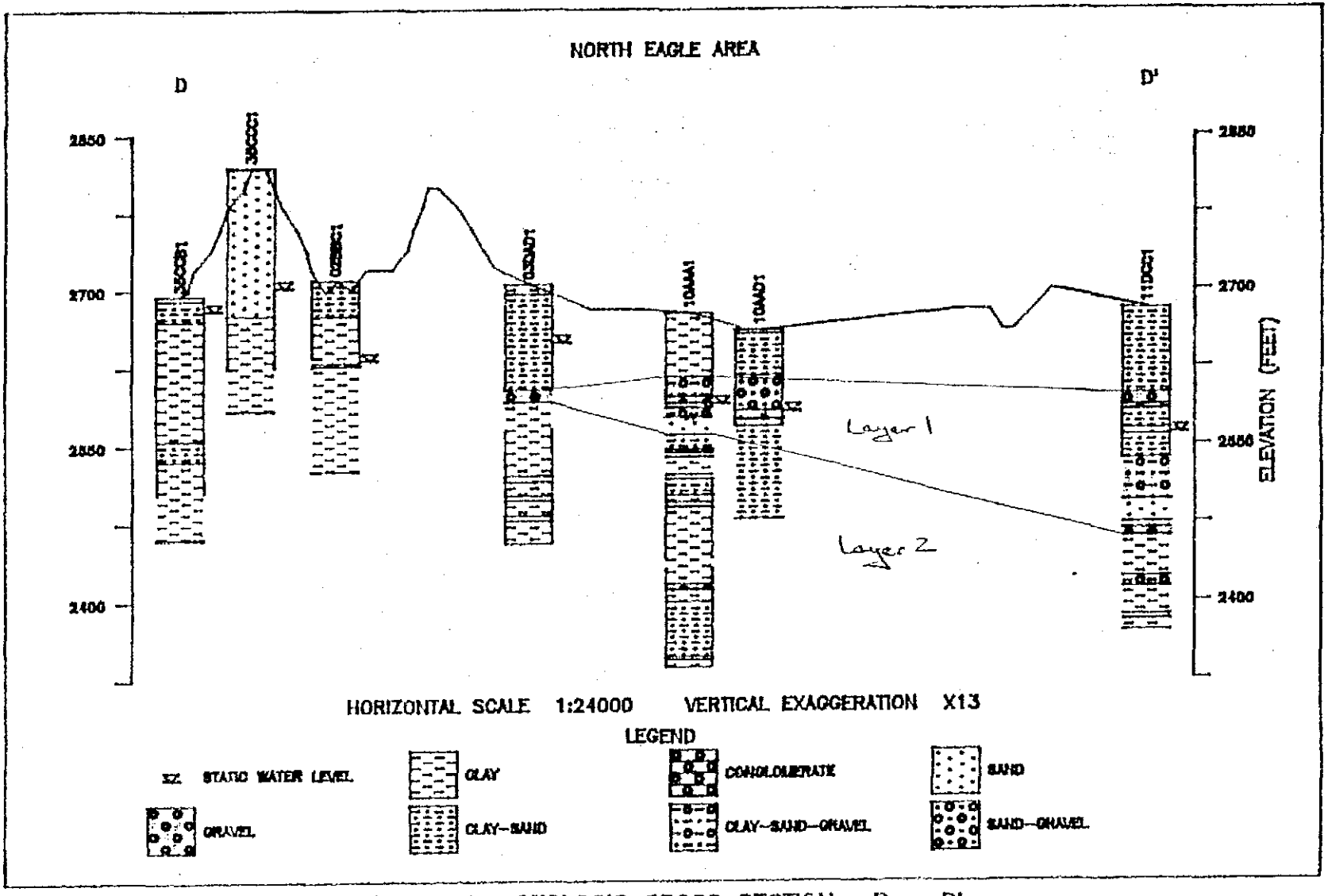


Figure 4. GEOLOGIC CROSS SECTION: D – D'

Appendix E
PUMPING TEST CALCULATION SHEETS

Appendix E-1
PRODUCTION WELL

SUBJECT FTH, INC PUMP TEST BY CREAST DATE 2/13/91

SHEET 1 OF 1

PROJECT NO. 301 31684.41

PRODUCTION WELL

ST TIME DRAWDOWN

T_1 0 - 38 mins

$$T = \frac{264\,Q}{\Delta S} = \frac{264 \times 743}{64.54 - 48.18} = 11,986 \text{ gpd/ft}$$

T_2 38 - 10,000+ mins

$$T = \frac{264\,Q}{\Delta S} = \frac{264 \times 743}{75.91 - 74.55} = 143,749 \text{ gpd/ft}$$

Early time data affected by casing storage (UOP Johnson, 1978)

t_c = time at which casing storage effects negligible

$$t_c = \frac{.6\left(d_c^2 - d_p^2\right)}{Q/s}$$

d_c = diameter casing (inches) = 28

d_p = diameter pump column (in.) = 10

Q/s = specific capacity at time t_c

Assume t_c = 40 min

$$Q/s @ t_c = \frac{750 \text{ gpm}}{73'} = 10.3 \text{ gpm/ft}$$

$$\therefore t_c = \frac{.6\left(28^2 - 10^2\right)}{10.3} = 41 \text{ min}$$

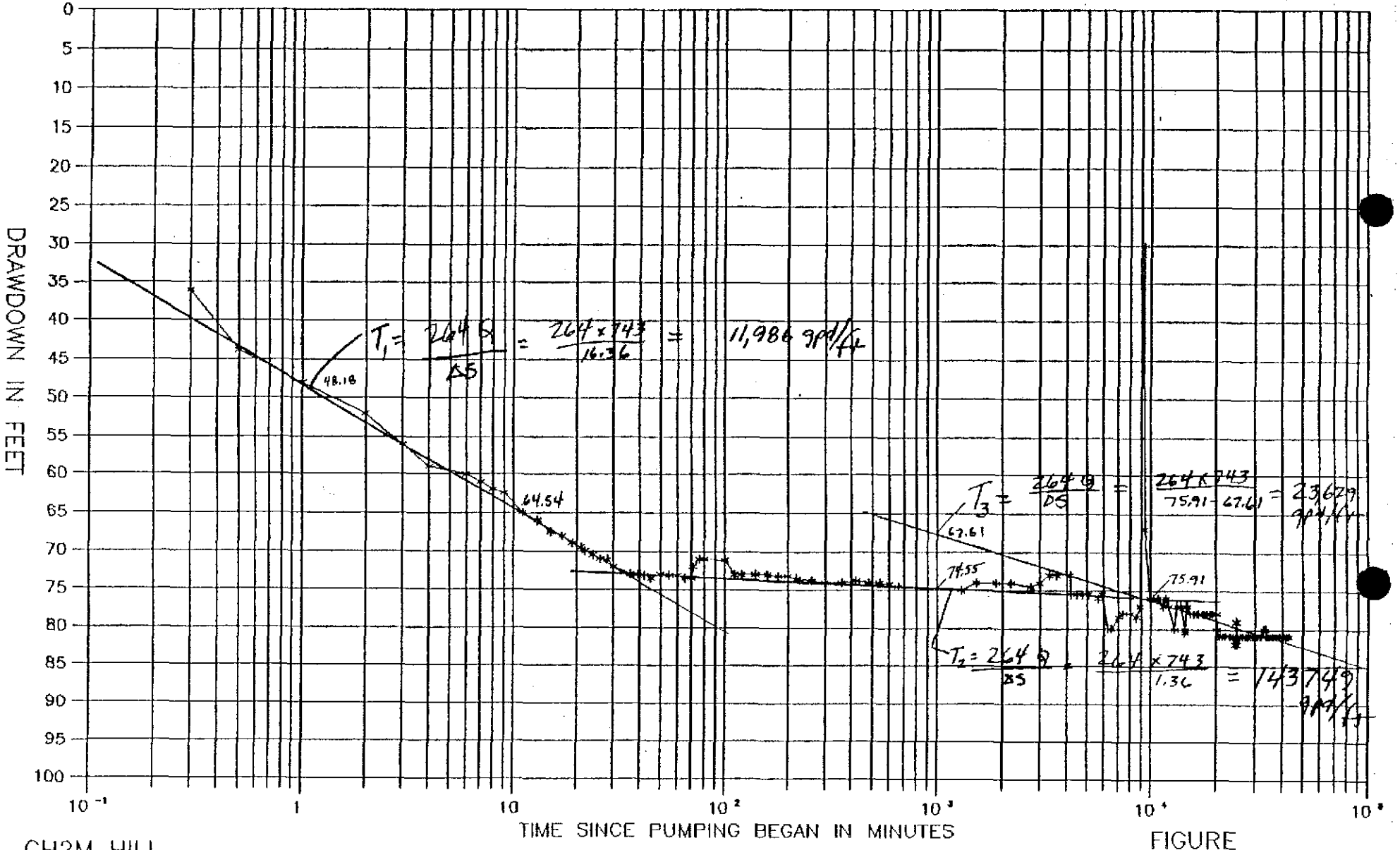
$\therefore$ Casing storage affects T_1 and T_2 is correct T

Also $T_2 = \frac{4T_1}{E}$ where E is well efficiency and E > 30 percent

$$E = \frac{4T_1}{T_2} \quad \frac{4 \times 11986}{143749} = 33\%$$

MAY 24, 1991

FLOATING FEATHER HILLS, INC.



CH2M HILL
B0131684.A1

FIGURE
PRODUCTION WELL
TIME DRAWDOWN

SUBJECT FH, INE PUMP TEST BY C. FEAST DATE 5/13/91

SHEET 1 OF 1

PROJECT NO. 301 31684.A1

PRODUCTION WELL TIME RECOVERY

THIS CURVE has 2 distinct straight line Segments

Early time t/t' = 4000 - 175 ±

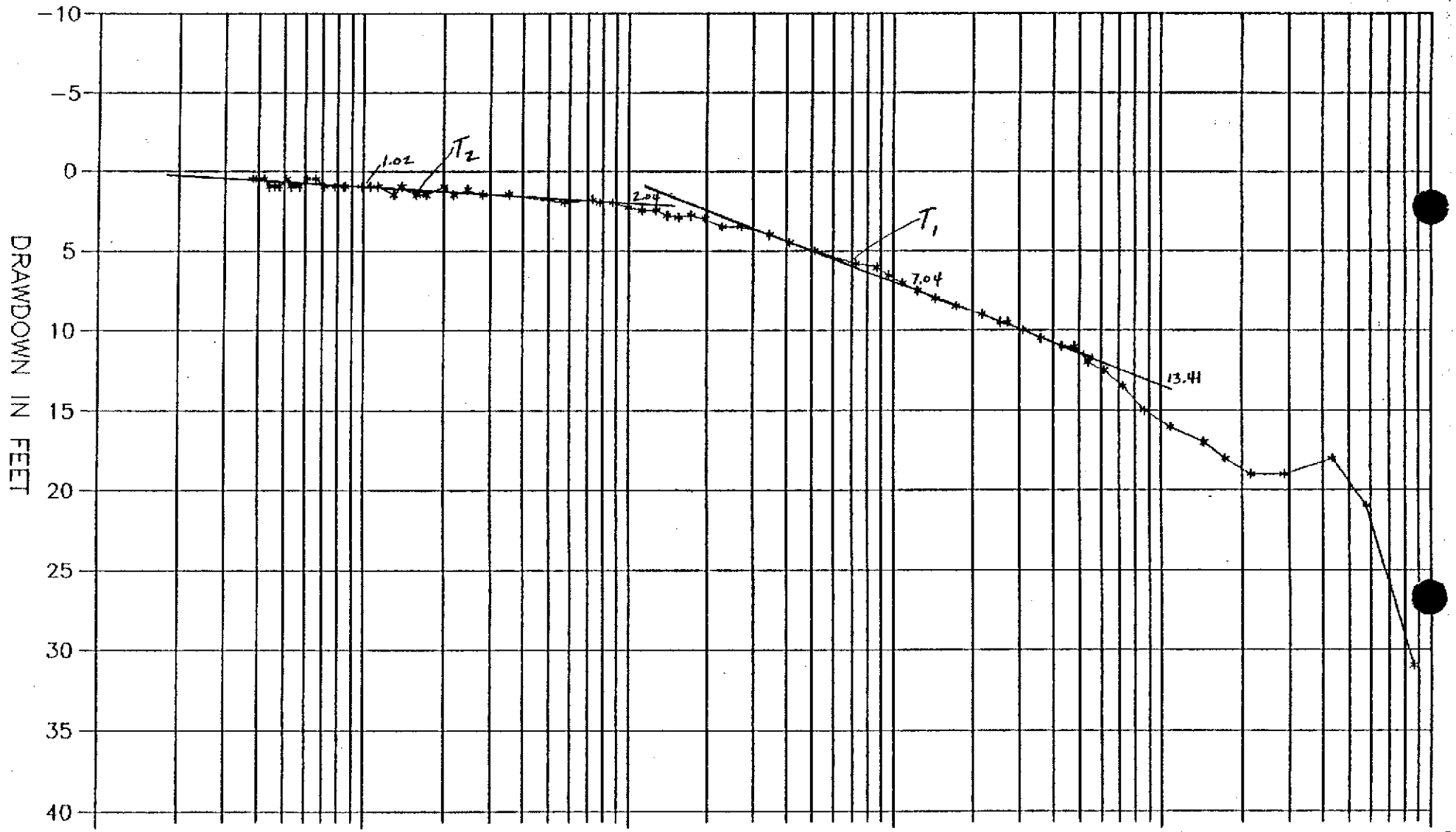
LATE TIME t/t' = 175 to EOT @

$$T_1 \text{ (EARLY)} = \frac{264\,Q}{\Delta S} = \frac{264 \times 743}{13.41 - 7.04} \doteq 30{,}793 \text{ gpd/ft}$$

$$T_2 \text{ (LATE)} = \frac{264\,Q}{\Delta S} = \frac{264 \times 743}{2.04 - 1.02} = 192{,}306 \text{ gpd/ft}$$

MAY 24, 1991

FLOATING FEATHER HILLS, INC.



CH2M HILL
B013168A.AI

FIGURE
PRODUCTION WELL
TIME RECOVERY

Appendix E-2
HOLGATE WELL

SUBJECT FFH, INC PUMP TEST BY C-FEAST DATE 5/14/91

SHEET 1 OF 2

PROJECT NO. 807 31684.A1

HOLGATE TIME DD

METHOD: PRICKETT DELAYED YIELD

MATCH PT A

$1/\mu_a = 1 \quad \mu_a = 1$

$W(\mu_a, r/d) = 1$

$r/d = .6$

$t = 13 \text{ min} = \frac{13}{1440} = .009 \text{ days}$

$A = .8 \text{ ft}$

$r = 900 \text{ ft}$

$Q = 143037 \text{ ft}^3/\text{day}$

$KD = \frac{Q}{4\pi A} \times W(\mu_a, r/d) = \frac{143037}{4\pi \times .8} \times 1 = 14,288 \text{ ft}^2/\text{day}$

$= 106,427 \text{ gpd/ft}$

$S_a = \frac{\mu_a \, 4 \, KD \, t}{r^2} = \frac{1 \times 4 \times 14,288 \times .009}{900^2} = .0006$

Match PT. B =

$\frac{1}{\mu_y} = 1$

$W(\mu_y, r/d) = 1$

$r/d = .6$

$t = 250 \text{ min} = .1736 \text{ days}$

$A = .8 \text{ ft}$

$KD = \frac{Q}{4\pi A} \times W(\mu_y, r/d) = \frac{143037}{4\pi .8} \times 1 = 14,228 \text{ ft}^2/\text{day}$

$= 106,427 \text{ gpd/ft}$

$$S_y = \frac{n_y\ 4\ KD\ t}{r^2} = \frac{1 \times 4 \times 14{,}228 \times .1736 \text{ days}}{900^2}$$

$$= 10.122$$

$$\gamma = 1 + \frac{S_y}{S_a} = 1 + \frac{.0122}{.0006} = 21.33$$

$r = 900$

$r/B = .6$ $\quad \therefore B = r/.6 = 900/.6 = 1{,}500$

$$B = \sqrt{\frac{KD}{\alpha S_y}} \qquad \alpha = \frac{KD}{S_y B^2} = \frac{14{,}228}{(.0122)(1500)^2} = .52$$

From KiR figure 33

$r/B = .6$, $\alpha t_{wt} = 3.6$

$\therefore t_{wt} = 3.6/\alpha = 3.6/.52 = 6.9$ days (9,936 min

$\therefore$ after 6.9 days gravity drainage becomes negligible

$KD = T = 14{,}228 \text{ ft}^2/\text{day} = 106{,}427 \text{ gpd/ft}$

SUBJECT KH Pump TEST BY C. Frost DATE 5/14

SHEET 1 OF 1

PROJECT NO. B01 31684.A1

HOLGATE TIME RECOVERY

This curve has 3 distinct straight line portions

T_1 (early Time)

T_2 (middle time)

T_3 (Late Time)

$$T = \frac{264\,Q}{\Delta S}$$

$Q = 743$ gpm

$$T_1 = \frac{264 \times 743}{4.16 - 3.05} = 176,714 \text{ gpd/ft}$$

$$T_2 = \frac{264 \times 743}{2.84 - 2.36} = 408,650 \text{ gpd/ft}$$

$$T_3 = \frac{264 \times 743}{2.27 - .32} = 100,591 \text{ gpd/ft}$$

MAY 24, 1991

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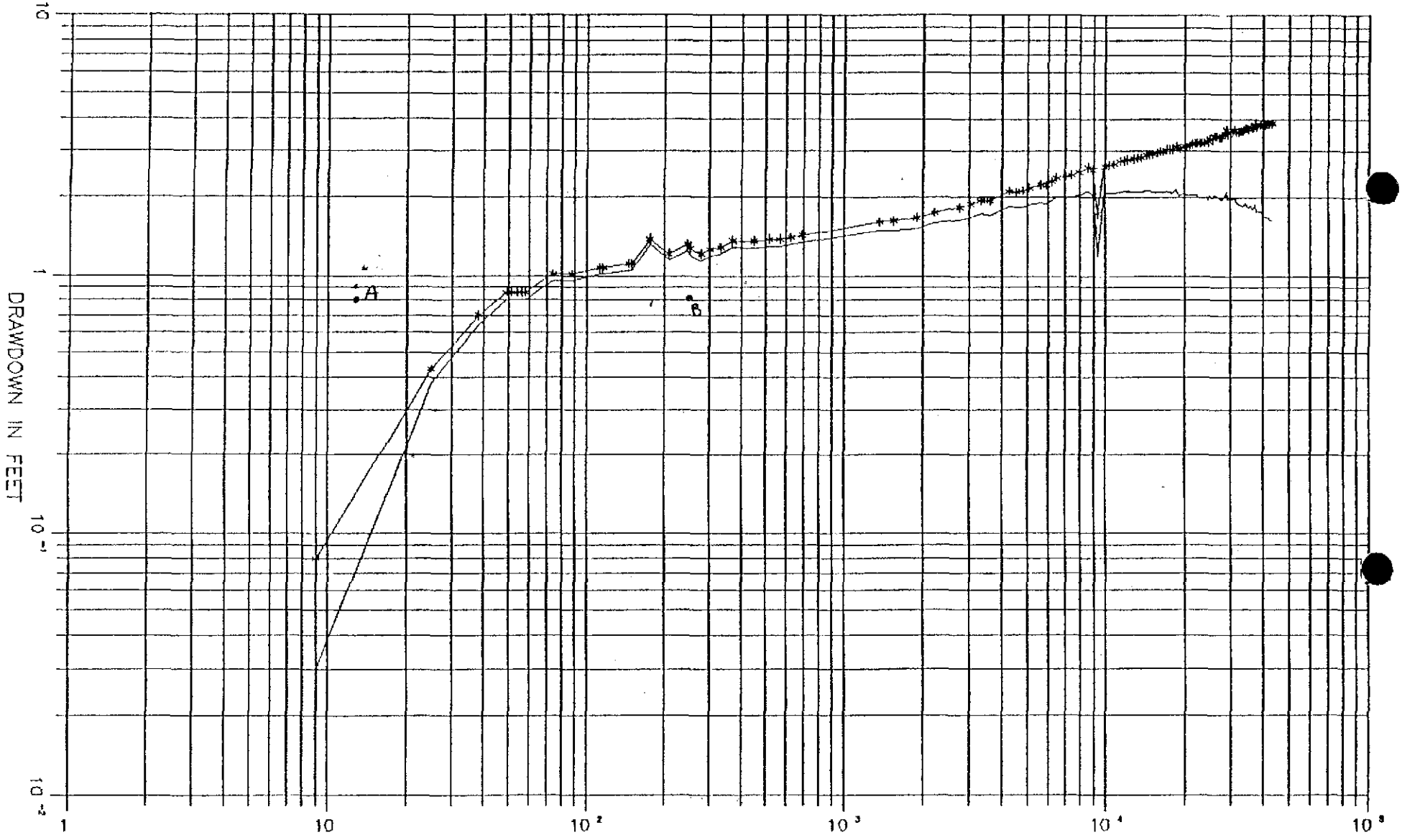

CH2M HILL
B0131684.A1

FIGURE

HOLGATE WELL
TIME DRAWDOWN

SUBJECT KFH, LNC PUMP TEST BY C FEANT DATE 9/14/91

SHEET 1 OF 34

PROJECT NO. B01 31684.41

HOLGATE TIME DD

1) Semi log "Chow" method Kruseman & Ridder p. 57

A') $\Delta SA' = 1.51 - 1.05 = .46$

A: $\Delta A' = 1.51$ ft

$t_{A'} = 1000$ min $= \frac{1000 \text{ min}}{1440 \text{ min/day}} = .69$ day

$s_A = \frac{Q}{4\pi KD} W(u)$

$F(u) = \frac{SA'}{\Delta SA'} = \frac{1.51}{.46} = 3.28$

$F(u) = \frac{W(u) e^u}{2.30}$ from fig 14 $u = .0004$, $W(u) = 7.6$

$Q = 743$ gpm $\div 7.48$ gals/ft^3

$= 99.33$ ft^3/min $\times 1440$ min/day

$= 143{,}037$ ft^3/day

$r = 900$ ft

$s_A = \frac{Q}{4\pi KD} W(u)$

$KD = \frac{Q}{4\pi s_A} W(u)$

$KD = \frac{143{,}037}{4\pi \times 1.51} (7.6) = 57{,}290$ ft^2/day

$= 428{,}526$ gpd/ft

$S = \frac{4 u KD}{r^2} t_A = \frac{4(.0004)(57{,}290)(.69)}{900 \times 900} = 7.8 \times 10^{-5}$

MAY 24, 1991

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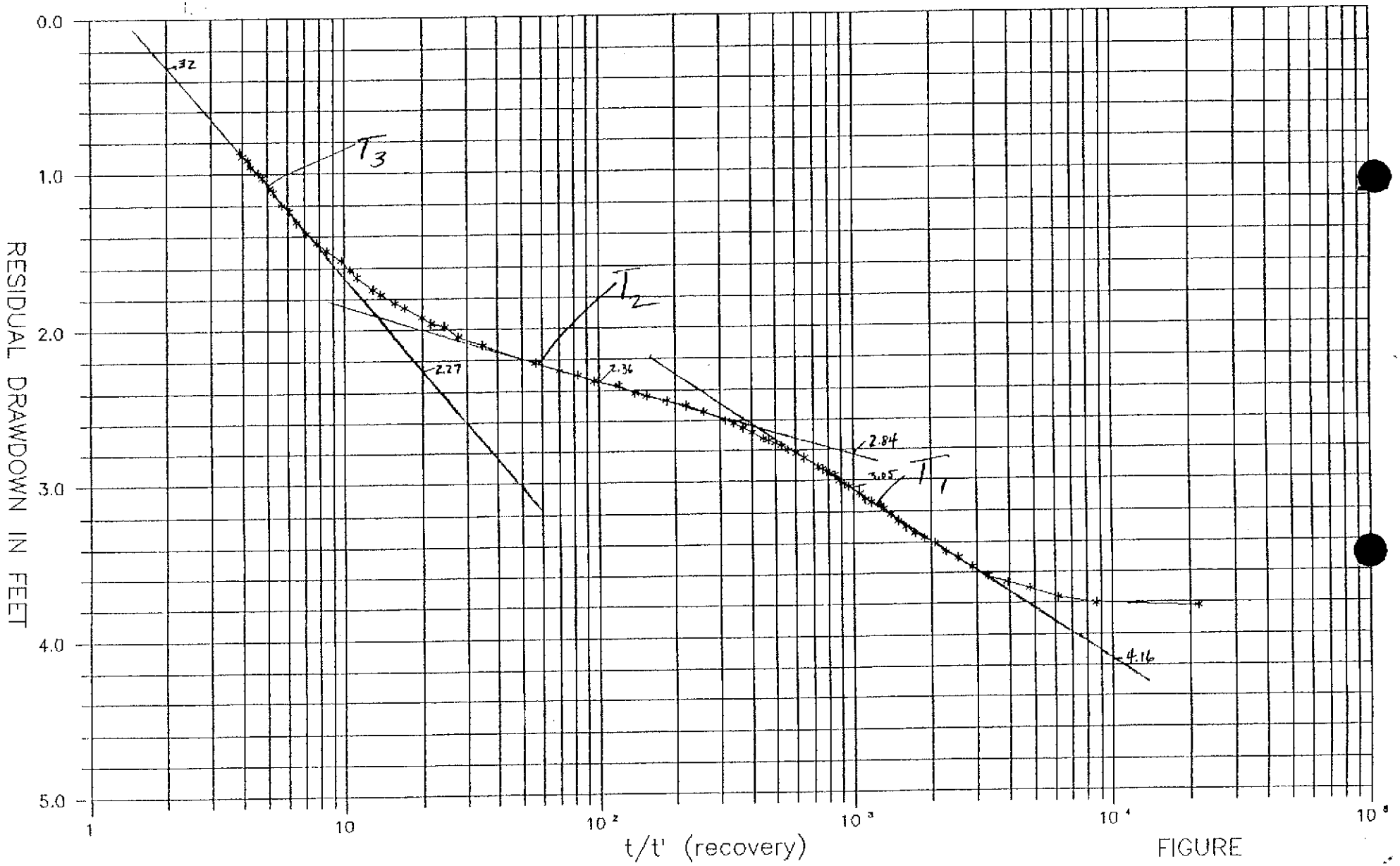


CH2M HILL
B0131684.A1

FIGURE
HOLGATE WELL
TIME RECOVERY

SUBJECT FFH Pump Test BY CF DATE 5/14

SHEET 2 OF 34

PROJECT NO. 07 31684.A1

HOLGATE TIME DD

A") $\Delta SA'' = 2.64'' - 1.075'' = 1.54$

$t_{A''} = 10{,}000 \text{ min} * \frac{1 \text{ day}}{1440 \text{ min}} = 6.94 \text{ days}$

$F(u) = \frac{SA''}{\Delta SA''} = \frac{2.64}{1.56} = 1.69$

$W(u_{A''}) = 3.8$

$u_{A''} = .012$

$Q = 743 \text{ gpm} \times \frac{1 \text{ ft}^3}{7.48 \text{ gal}} \times \frac{1440 \text{ min}}{1 \text{ day}} = 143{,}037 \text{ ft}^3/\text{day}$

$r = 900 \text{ ft}$

$S_A = \frac{Q}{4\pi KD} W(u)$

$KD = \frac{Q}{4\pi SA''} W(u)$

$KD = \frac{143{,}037 \text{ ft}^3}{4\pi \times 2.61} \times 3.8 = 16{,}572 \text{ ft}^2/\text{day} \times \frac{7.48 \text{ gal}}{\text{ft}^3} = 123{,}960 \text{ gpd/ft}$

$S = \frac{4 u_{A''} KD}{r^2} t_{A''}$

$S = \frac{4 (.012) 16{,}572}{900 \times 900} \times 6.94 = .0068$

HOLGATE TIME DD

A''')

$\Delta SA''' = 4.0 - 1.74 = 2.26$

$SA''' = 3.473$

$tA''' = 30{,}000 \text{ min} \times \frac{1 \text{ day}}{1440 \text{ min}} = 20.83 \text{ days}$

$F(u) = \frac{SA'''}{\Delta SA'''} = \frac{3.473}{2.26} = 1.54$

$w(u) = 3.4$

$u = .017$

$Q = 143{,}037 \text{ ft}^3/\text{day}$

$r = 900 \text{ ft}$

$KD = \frac{Q}{4\pi SA'''} w(u) = \frac{143{,}037}{4\pi \, 3.473} \times 3.4$

$= 11{,}153 \text{ ft}^2/\text{day} \times \frac{7.48 \text{ gal}}{\text{ft}^3} = 83{,}424 \text{ gpd/ft}$

$S = \frac{4 \, u a''' \, KD}{r^2} t a'''$

$S = \frac{4(.017)(11{,}153)}{900 \times 900} \times 20.83 = .0195$

CHECK validity of straight line method for $u \leq .02$
Walton p 212

$t_{sl} = \frac{1.35 \times 10^5 r^2 S}{T}$ (gal-ft-day units)

$t_{sl}A' = \frac{1.35 \times 10^5 \times 900^2 \times .8 \times 10^{-5}}{428{,}526} = 20.4 \text{ min}$

$\therefore$ T.A' is valid

$t_{sl}A'' = \frac{1.35 \times 10^5 \times 900^2 \times .0068}{123{,}960} = 5{,}999 \text{ min}$

$\therefore$ T.A'' is VALID

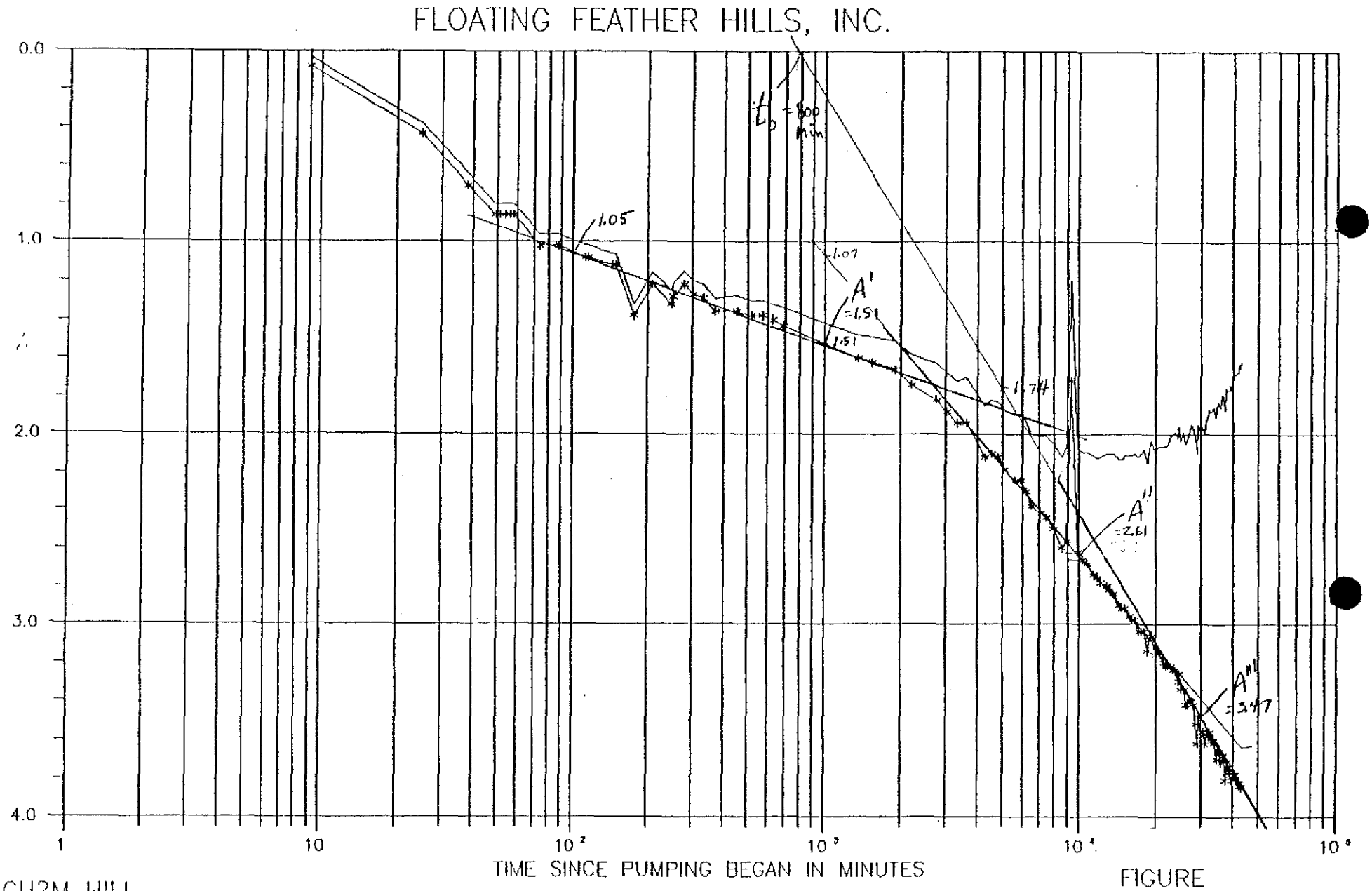
$$t_{sc}\,A'' = \frac{1.35 \times 10^5 \times 900^2 \times .0195}{83,424} = 25,560 \text{ min}$$

$\therefore T_{A''}$ is valid

Conclusion:

Very LATEST time should provide best Aquifer Characteristics because of effect of gravity drainage on early time.

MAY 24, 1991



CH2M HILL
B0131684.A1

FIGURE

HOLGATE WELL
TIME DRAWDOWN

Appendix E-3
CARSON WELL

SUBJECT FFA, INC PUMP TEST BY C. FEAY DATE 3/14/91
SHEET 1 OF 2
PROJECT NO. B07 31684.41

CARSON SL TIME DD

METHOD CHOW

EARLY TIME 200 - 2000 min

LATE TIME 9000 - EOT @ ~45000 min

USE LATE TIME TO NEGATE EFFECTS OF GRAVITY DRAINAGE

LATE TIME

$SA''' = 2.40$

$\Delta SA''' = 3.25 - 1.09 = 2.16$

$t_{A'''} = 40{,}000$ min $= 27.8$ days

$Q = 143037$ ft³/day

$r = 1300$ ft

$$F(u) = \frac{SA'''}{\Delta SA'''} = \frac{2.40}{2.16} = 1.11$$

$W(u) = 2.4$

$(u) = .06$

$$T = \frac{Q}{4\pi\, SA'''} \times W(u) = \frac{143037}{4\pi \times 2.40} \times 2.4 = 11{,}383 \text{ ft}^2/\text{day}$$

$$= 85{,}141 \text{ gpd/ft}$$

$$S = \frac{4\, T\, t_{A'''}}{r^2} \times u = \frac{4 \times 11{,}383 \times 27.8}{1300^2} \times .06 = .0449$$

Early time A''' to check

$SA''' = .20$

$\Delta SA''' = .28 - 0 = .28$

$t_{A'''} = 1000$ min $= .6944$

$F(u) = \frac{SA'''}{\Delta SA'''} = .71$ $W(u) = 1.3$ $u = .17$

$$T = \frac{Q}{4\pi\, SA''} \times W(u) = \frac{143037}{4\pi \cdot .2} \times 1.3 = 73{,}986 \text{ ft}^2/\text{day} = 553{,}418 \text{ gpd/ft}$$

$$S = \frac{4\, T\, t_{A'''}}{r^2} \times u = \frac{4 \times 73986 \times .6944}{1300^2} \times .17 = .0207$$

SUBJECT FCH, INC BY C. HEATT DATE 5/14/91

SHEET 2 OF 2

PROJECT NO. B07 31684.41

Carson SL Time DD Cont'd

Adjusted Drawdown Curve 4000 - 15,000 min

$SA'' = .73$
$\Delta SA'' = 1.65 - .73 = .92$
$t_{A''} = 10{,}000 \text{ min} = 6.94 \text{ days}$

$Q = 143037 \text{ ft}^3/\text{day}$
$r = 1300 \text{ ft}$

$$F(u) = \frac{SA''}{\Delta SA''} = \frac{.73}{.92} = .79$$

$W(u) = 1.6$
$u = .12$

$$T = \frac{Q}{4\pi SA'} \times W(u) = \frac{143037}{4\pi .73} \times 1.6 = 24{,}948 \text{ ft}^2/\text{day}$$
$$= 186{,}610 \text{ gpd/ft}$$

$$S = \frac{4 T t_{A''}}{r^2} \times u = \frac{4 \times 24{,}948 \times 6.94}{1300^2} \times .12 = .0492$$

Check Validity of Jacob Straight Line Method Walton p212

$$t_{SL} = \frac{1.35 \times 10^5 \, r^2 S}{T} \quad \text{(gal-ft-day units)}$$

$$t_{SLA'} = \frac{1.35 \times 10^5 \times 1300^2 \times .039}{88{,}869} = 100{,}000 \text{ min}$$

$\therefore$ $T_{A'}$ (late time data) is NOT VALID Therefore early time data is also not valid.

SUBJECT [illegible] BY [illegible] DATE 5/14/9

SHEET 2 OF 2

PROJECT NO. 30131684.A1

CARSON Delayed Drainage Cont'd

$$B = \frac{r}{r/B} = \frac{1300}{2.5} = 520 \text{ ft}$$

$$\alpha = \frac{KD}{S_Y B^2} = \frac{1138.2}{.0485(520)^2} = .868 \text{ days}^{-1}$$

$$Y = 1 + \left(S_Y / S_a\right) = 1 + \frac{.0485}{.0075} = 17.5$$

$r/B = 2.5 \quad \alpha t_{wt} = 8.3$

$\alpha t_{wt} = 8.3/.868 =$ 9.56 days before gravity drainage becomes neglible

MAY 24, 1991

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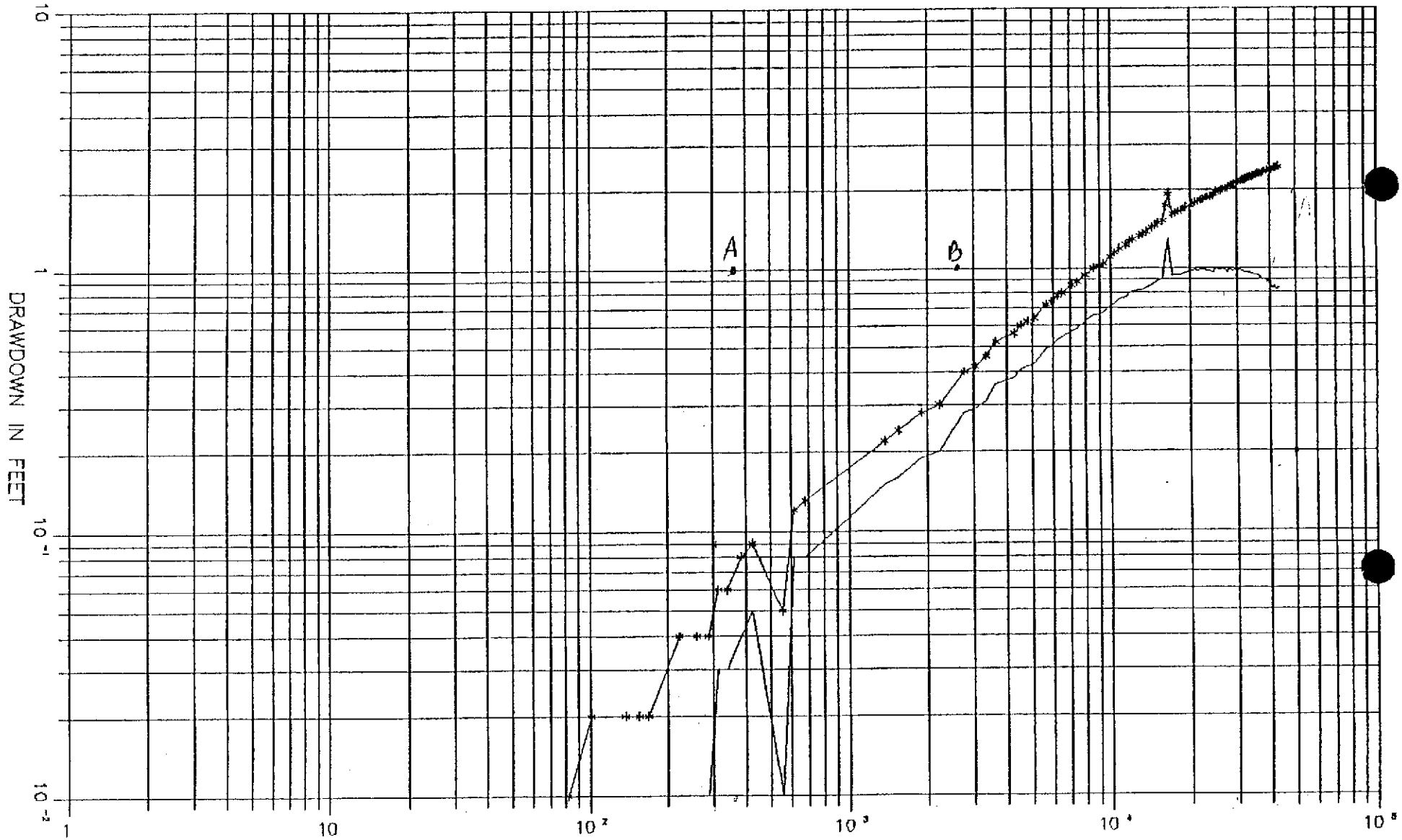

CH2M HILL
B0131684.A1

FIGURE
CARSON WELL
TIME DRAWDOWN

SUBJECT ETH, INC. PUMP TEST BY C. KRAFT DATE 5/17/91

SHEET 1 OF 1

PROJECT NO. 801 31684.A1

CARSON TIME DD DELAYED YIELD

MATCH PT B Late time

$r/b = 2.5$ Poor early time match

$1/\mu_{ay} = 1$

$w(u_{ay}, r/d) = 1$

$r/d = 2.5$

$t = 2600$ min $= 1.8$ days

$A = 1$ ft

$r = 1300$ ft

$Q = 143037$ ft³/day

$$KD = \frac{Q}{4\pi A}(w(u_{ay}, r/d) = \frac{143037}{4\pi \cdot 1}(1) = 11,383 \text{ ft}^2/\text{day}$$

$$= 85,141 \text{ gpd}$$

$$S_y = \frac{\mu_{ay} 4 KD t}{r^2} = \frac{1 \times 4 \times 11,383 \times 1.8}{1300^2} = .0485$$

Match pt A (poor fit) Early time

$1/\mu_a = 1/10$ $\mu_a = .1$

$w(\mu_{ay}, r/b) = 1$

$r/d = 2.5$

$t = 528$ min $= .28$

$A = 1.0$ ft

$r = 1300$

$$KD = \frac{Q}{4\pi s}(w(u_{ay}, r/d)) = \frac{143037}{4\pi \cdot 1} \times 1 = 11,383 \text{ ft}^2/\text{day}$$

$$= 85,141 \text{ gpd}$$

$$S = \frac{\mu_a 4 KD t}{r^2} = \frac{1 \times 4 \times 11,383 \times .28}{1300^2} = .0075$$

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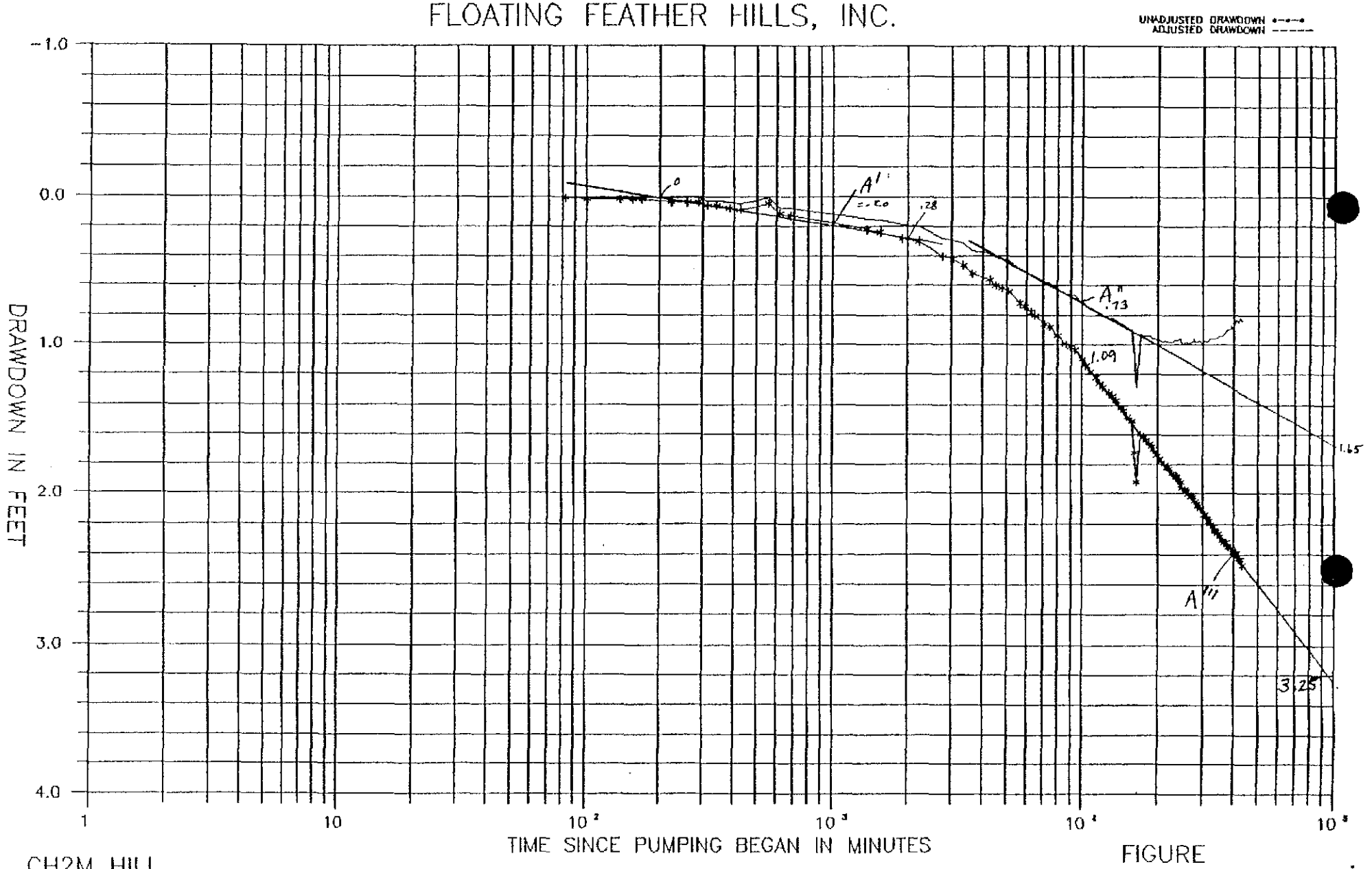

CH2M HILL
B0131684.A1

FIGURE
CARSON WELL
TIME DRAWDOWN

Appendix E-4
EAGLE HILLS GOLF COURSE WELL

SUBJECT [illegible], INC PUMPTEST BY C. FEAST DATE 3/15/91
SHEET 2 OF 3
PROJECT NO. B07 31684.41

EHGC Non Equib Theis Cont'd

Match Pt. C assumes 1 continuous type curve match
Early and late time match well, middle time below curve

$W(u) = 1$
$1/u = 1 \quad u = 1$

$s = .22$ ft
$t = 240$ min $= .17$ day

$$T = \frac{Q}{4\pi s} \times W(u) = \frac{143{,}037}{4\pi \times .22} \times 1 = 51{,}739 \text{ ft}^3/\text{day}$$
$$= 387{,}006$$

$$S = \frac{4Tt}{r^2} \times u = \frac{4 \times 51{,}739 \times .17}{2500^2} = .0056$$

DELAYED YIELD

EARLY TIME MATCH PT. D $\quad r/d = 1.0 \quad W(u_a, r/d) = 1 \quad u = 1$
LATE TIME MATCH PT. B $\quad r/d = 1.0 \quad W(u_\gamma, r/d) = 1 \quad u = 1$

EARLY TIME

$r/d = 1.0 \quad s = .32$
$u = 1.0 \quad t = 270$ min $= .1875$ days
$W(u_a) = 1$

$$T = \frac{Q}{4\pi s} \times W(u_a) = \frac{143037}{4\pi \times .32} \times 1 = 35{,}570 \text{ ft}^2/\text{day} = 266{,}066 \text{ gpd/ft}$$

$$S = \frac{4Tt}{r^2} \times u_a = \frac{4 \times 35{,}570 \times .1875}{2500^2} \times 1 = .0043$$

LATE TIME MATCH PT B

$r/d = 1.0 \quad s = .32$
$u_\gamma = \quad t = 1000$ min $= .6944$ days
$W(u_\gamma, r/d)$

SUBJECT EH, INC PUMP TEST BY C. EAST DATE 5/15/91
SHEET 1 OF 3
PROJECT NO. 801 31684.A1

EH6C NON EQUILIBRIUM THEIS

THIS Curve shows two equilibrium shapes

early time 0 - 3000 min — MATCH PT A

Late time 3000 - 40,000 min — MATCH PT B

EARLY TIME MATCH PT A

t = 145 min = .101 days
A = .13 ft
$w(u)$ = 1
$1/u$ = 1

Q = 143,037 ft³/day
r = 2500 ft

$$T = \frac{Q}{4\pi A} \times w(u) = \frac{143,037}{4\pi \cdot .13} \times 1 = 87,558 \text{ ft}^2/\text{day}$$
$$= 654,935 \text{ gpd/ft}$$

$$S = \frac{4Tt}{r^2} u = \frac{4 \times 87,558 \times .101}{2500^2} \times 1 = .005T$$

LATE TIME - MATCH PT B

t = 1000 min = .6944 days
A = .32
$w(u)$ = 1
$1/u$ = 1

$$T = \frac{Q}{4\pi A} \times w(u) = \frac{143,037}{4\pi \times .32} \times 1 = 35,570 \text{ ft}^2/\text{day}$$
$$= 266,066 \text{ gpd/ft}$$

$$S = \frac{4Tt}{r^2} \times u = \frac{4 \times 35,570 \times .69}{2500} = .0157$$

EH6C DELAYED YIELD CON'T

$$T_{(LATE)} = \frac{Q}{4\pi A} \times W(u_B) = \frac{143037}{4\pi .32} \times 1 = 35570 \text{ ft}^2/\text{day} = 266{,}066 \text{ gpd/ft}$$

$$S_Y = \frac{4Tt}{r^2} \times u_B = \frac{4 \times 35570 \times .6944}{2500^2} \times 1 = .0158$$

$$Y = 1 + \frac{S_Y}{S_e} = 1 + \frac{.0158}{.0043} = 4.67$$

$r = 2500$ ft, $r/D_1 = 1$ $\therefore$ $D_1 = 2500$

$$D_1 = \sqrt{\frac{T}{\alpha S_Y}} \qquad \alpha = \frac{T}{S_Y D_1^2} = \frac{35{,}570}{.0158 \times D_1^2} = .36$$

From fig. 33 K&R

$r/d = 1.0$ $\alpha t_{wt} = 4.5$

$\therefore$ $t_{wt} = 4.5/\alpha = 4.5/.36 = 12.5$ days before gravity drainage becomes negl.ble.

MAY 24, 1991

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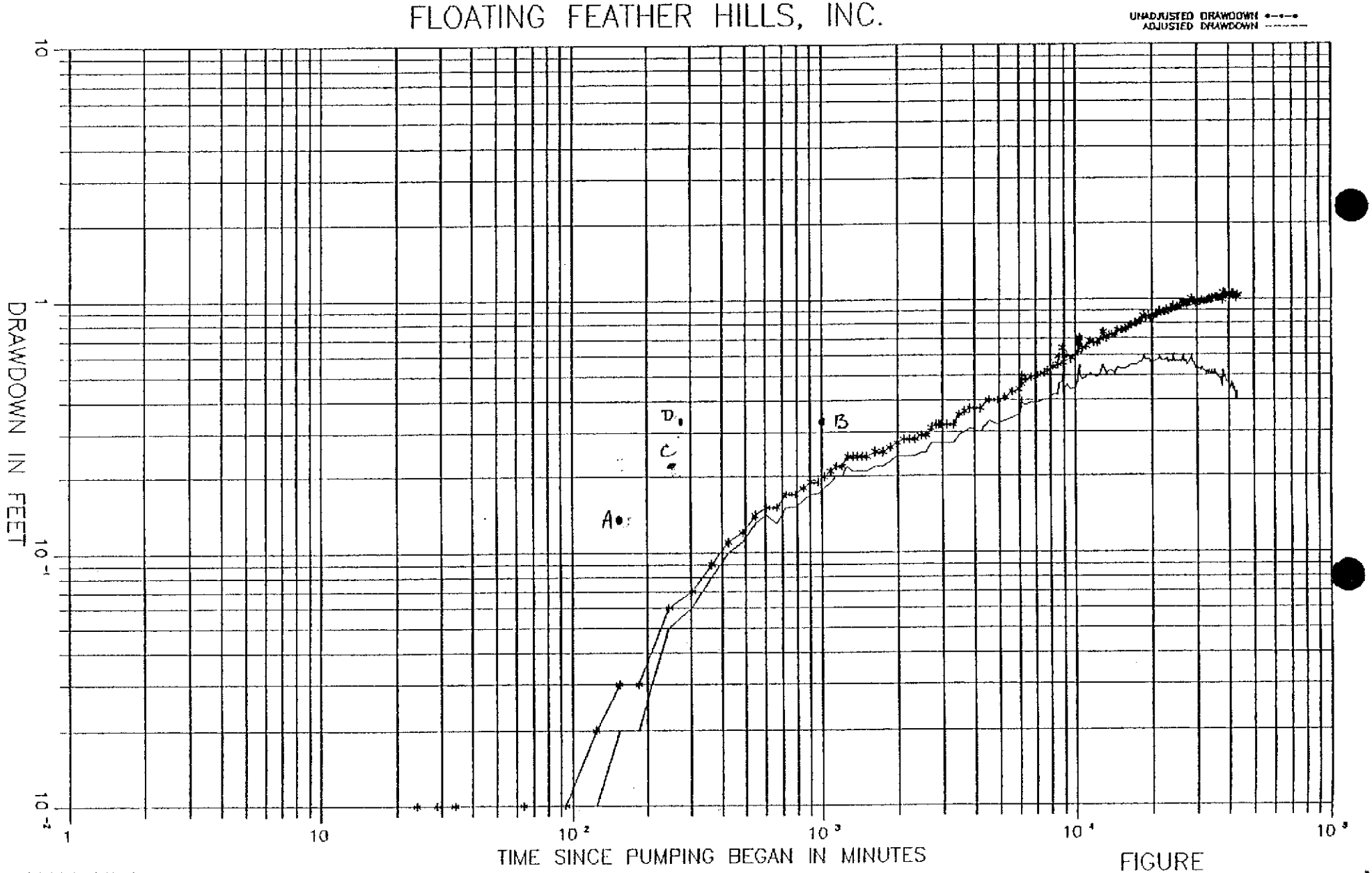

CH2M HILL
B0131684.A1

FIGURE
EAGLE HILLS G.C.
TIME DRAWDOWN

SUBJECT FFH, INC. PUMP TEST BY C. FROST DATE ~~OCT~~ 5/15/

SHEET 1 OF 2

PROJECT NO. B07 31684.A1

EHGC SL TIME DD

METHOD: CHOW

$SA' = .20$
$\Delta SA' = .45 - .20 = .25$
$t_{A'} = 1000 \text{ min} = \frac{1000}{1440} = .69 \text{ days}$ (early time)

$$F(u) = \frac{SA'}{\Delta SA'} = \frac{.20}{.25} = .80$$

$w(u) = 1.6$
$u = .13$

$Q = 743 \text{ gpm} = 143037 \text{ ft}^3/\text{day}$

$r = 2500 \text{ ft}$

$$KD = \frac{Q}{4\pi SA'} w(u) = \frac{143,037}{4 \times \pi \times .20} \times 1.6 = 91,060 \text{ ft}^2/\text{day}$$

$= 681,132 \text{ gpd/ft}$

$$S = \frac{4 (u) KD}{r^2} \times t_{A'} = \frac{4 \times .13 \times 91,060}{2500^2} \times .69 = .0052$$

$SA'' = .62$
$\Delta SA'' = 1.40 - .62 = .78$
$t_{A''} = 10000 \text{ min} = 6.94 \text{ days}$ (Late time)

$$F(u) = \frac{SA''}{\Delta SA''} = \frac{.62}{.78} = .79$$

$w(u) = 1.6$
$u = .13$

SUBJECT FTH, INC PUMP TEST BY C. KEAST DATE 2/15/91

SHEET 2 OF 2

PROJECT NO. 30 31684.A1

EHGC SL TIME DD CONT'D

$$KD = \frac{Q}{4\pi SA''} W(u) = \frac{143{,}037}{4\pi \cdot 62} \times 1.6 \equiv 29{,}374 \text{ ft}^2$$

$$= 219{,}720 \text{ gpd/ft}$$

$$S = \frac{4(u)KD}{r^2} \times t_{A''} = \frac{4 \times .13 \times 29{,}374}{2500^2} \times 6.94 = .017$$

CHECK TIME FOR $U \leq .02$ for validity of JACOBS straight line method. Walton p 212

$$t_{SL} = \frac{1.35 \times 10^5 r^2 S}{T} \quad \text{(gal-ft-day units)}$$

for A' $t_{SL} = \frac{1.35 \times 10^5 r^2 S}{T} = \frac{1.35 \times 10^5 \times 2500^2 \times .0052}{681{,}132} = 6{,}441 \text{ min}$

$= 4.47 \text{ days}$

∴ $T_{A'}$ is not valid

for A'' $t_{SL} = \frac{1.35 \times 10^5 \times 2500^2 \times .017}{219{,}720} = 65{,}282 \text{ minutes}$

$= 45.3 \text{ days}$

∴ $T_{A''}$ is not valid

MAY 24, 1991

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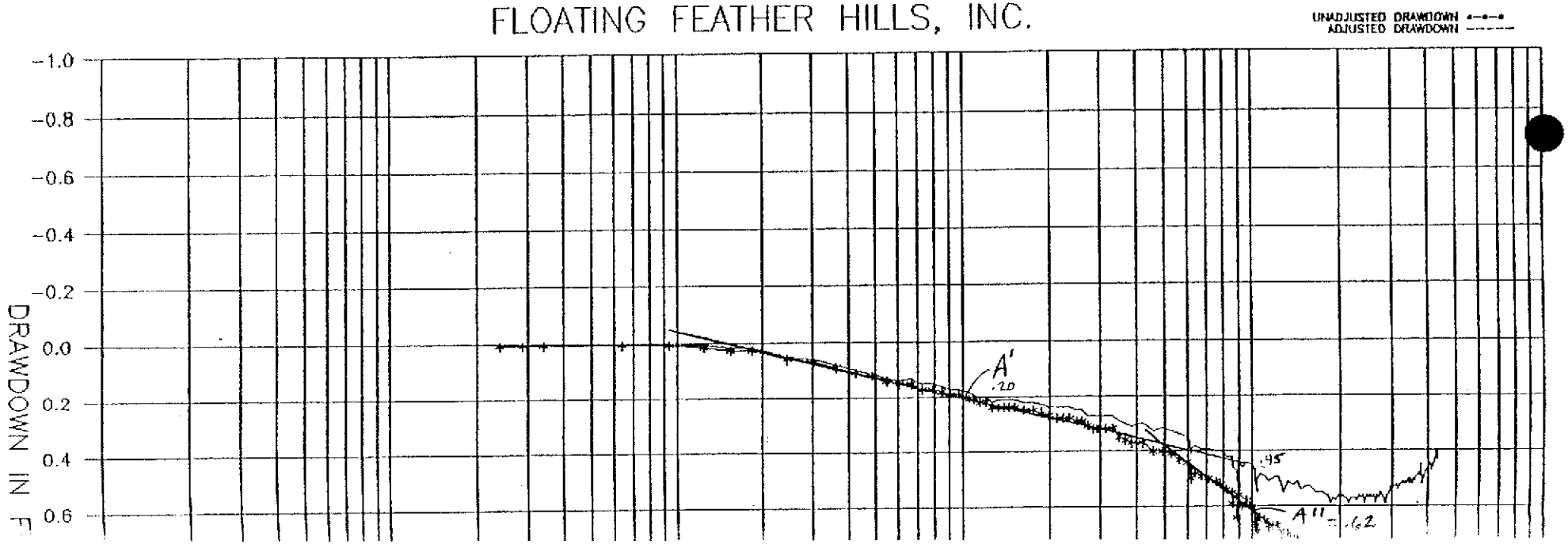

No fit

MAY 15, 1991

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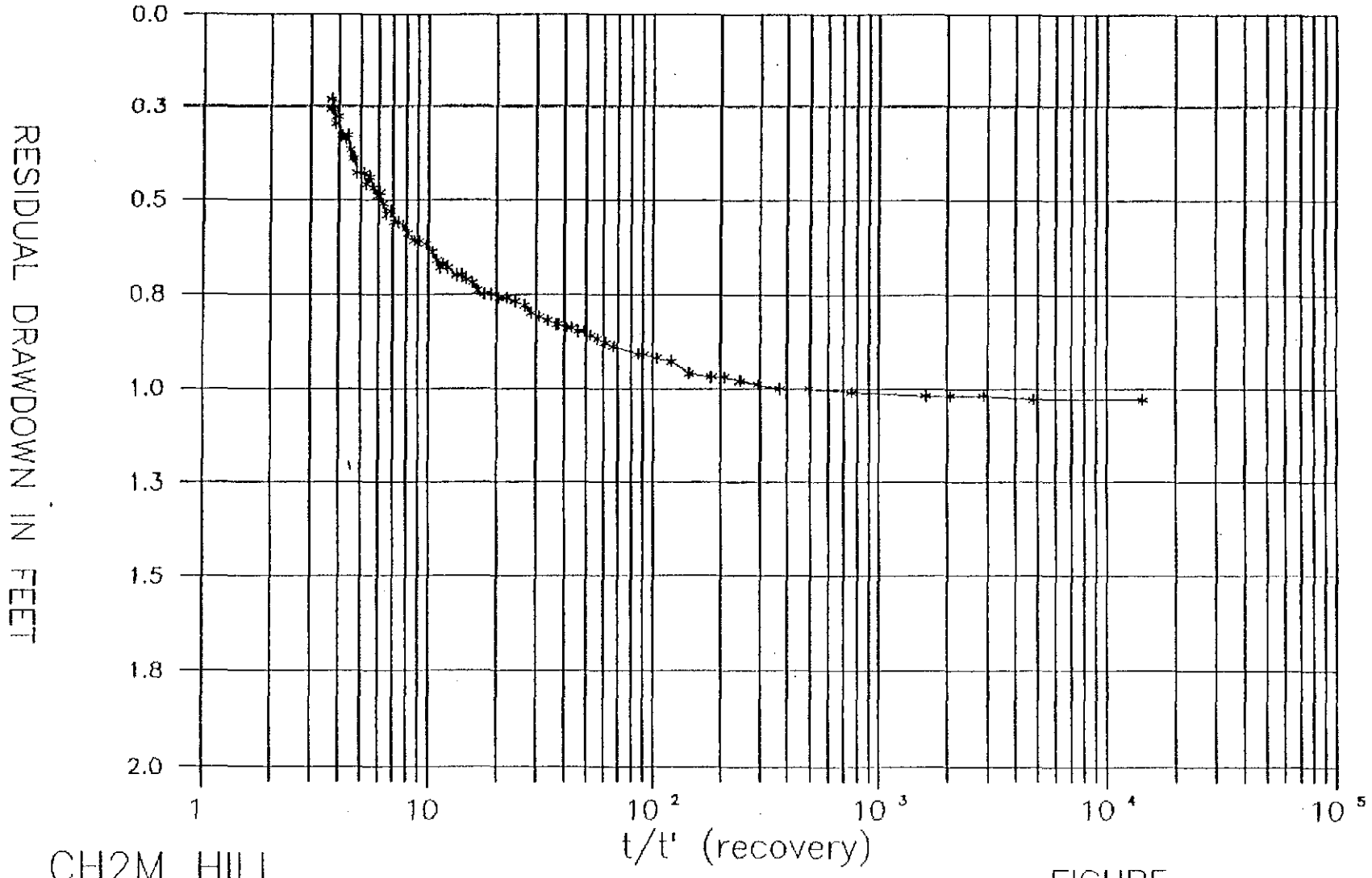


CH2M HILL

B0131684.A1

FIGURE

EAGLE HILLS GOLF COURSE
RECOVERY

Appendix E-5
HORMACHEA WELL

SUBJECT FFH, INC. PUMP TEST BY C. FAST DATE 5/15/91

SHEET 1 OF 1

PROJECT NO. 207 31684.A1

HORMACHEA SL DRAWDOWN

METHOD CHOW

Two slightly different straight line segments

other interferences produce small irregularities in plot

A' $s_{A'} = .25$

$\Delta s_{A'} = .42 - .15 = .27$

$t_{A'} = 2000 \text{ min} = 1.39 \text{ days}$

$Q = 143{,}037 \text{ ft}^3/\text{day}$

$r = 3700 \text{ ft}$

$$F(u) = \frac{s_{A'}}{\Delta s_{A'}} = \frac{.25}{.27} = .93$$

$W(u) = 1.9$

$u = .09$

$$T = \frac{Q}{4\pi s_A} \times W(u) = \frac{143{,}037}{4\pi \cdot .27} \times 1.9 = 42{,}158 \text{ ft}^2/\text{day}$$

$= 315{,}339 \text{ gpd/ft}$

$$S = \frac{4 T t_{A'}}{r^2}(u) = \frac{4 \times 42{,}158 \times 1.39}{3700^2} = .017$$

A'' $s_{A''} = .77$

$\Delta s_{A''} = 1.23 - .58 = .65$

$t_{A''} = 20{,}000 \text{ min} = 13.9 \text{ days}$

$$F(u) = \frac{s_{A''}}{\Delta s_{A''}} = \frac{.77}{.65} = 1.18$$

$W(u) = 2.6$

$u = .04$

$$T = \frac{Q}{4\pi s_{A''}}(W_u) = \frac{143037}{4\pi \cdot .77} \times 2.6 = 38{,}434 \text{ ft}^2/\text{day}$$

$= 287{,}490 \text{ gpd/ft}$

$$S = \frac{4 T t_{A''}}{r^2} \times u = \frac{4 \times 38{,}434 \times 13.9}{3700^2} \times .04 = .0062$$

SUBJECT FFH INC PUMP TEST BY C. FROST DATE 5/15/91

SHEET 2 OF 2

PROJECT NO. 201 31684.41

HORMACHEA SL DD CONT'D

Check validity of straight line solutions by Walton p21

$$t_{SL} = \frac{1.35 \times 10^5 r^2 \times S}{T}$$

$$t_{SL\,A''} = \frac{1.35 \times 10^5 \times 3700^2 \times .06}{110,573} = > 1 \text{ million minutes}$$

∴ JACOB straight line method invalid

SUBJECT EFH, ENC PUMP TEST BY C.FEAST DATE 5/15/91

SHEET 1 OF 2

PROJECT NO. B01 31684.41

HORMACHEA WELL LL DRAWDOWN

This curve has two NON EQUILIBRIUM segments

Early time 0 – 8000 ± min — MATCH PT. A

Late time 8000 ± – EOT @ ~ 45,000 min

EARLY TIME is a better match suggesting interferences from other wells during late time

EARLY TIME

A) $u = 1$ $Q = 143,037$ ~~ft³/day~~

$w(u) = 1$ $r = 3700$ ft

$A = .16$ ft

$t = 240$ min $= .17$ days

$$T = \frac{Q}{4\pi A} w(u) = \frac{143,037}{4\pi .16} \times 1 = 71,141 \text{ ft}^2/\text{day}$$

$$= 532,135 \text{ gpd/ft}$$

$$S = \frac{4Tt}{r^2} \times u = \frac{4 \times 71,141 \times .17}{3700^2} = .0035$$

LATE TIME

B) $u = 1$ $Q = 143,037$ ~~ft³/day~~

$w(u) = 1$ $r = 3700$ ft

$A = .24$

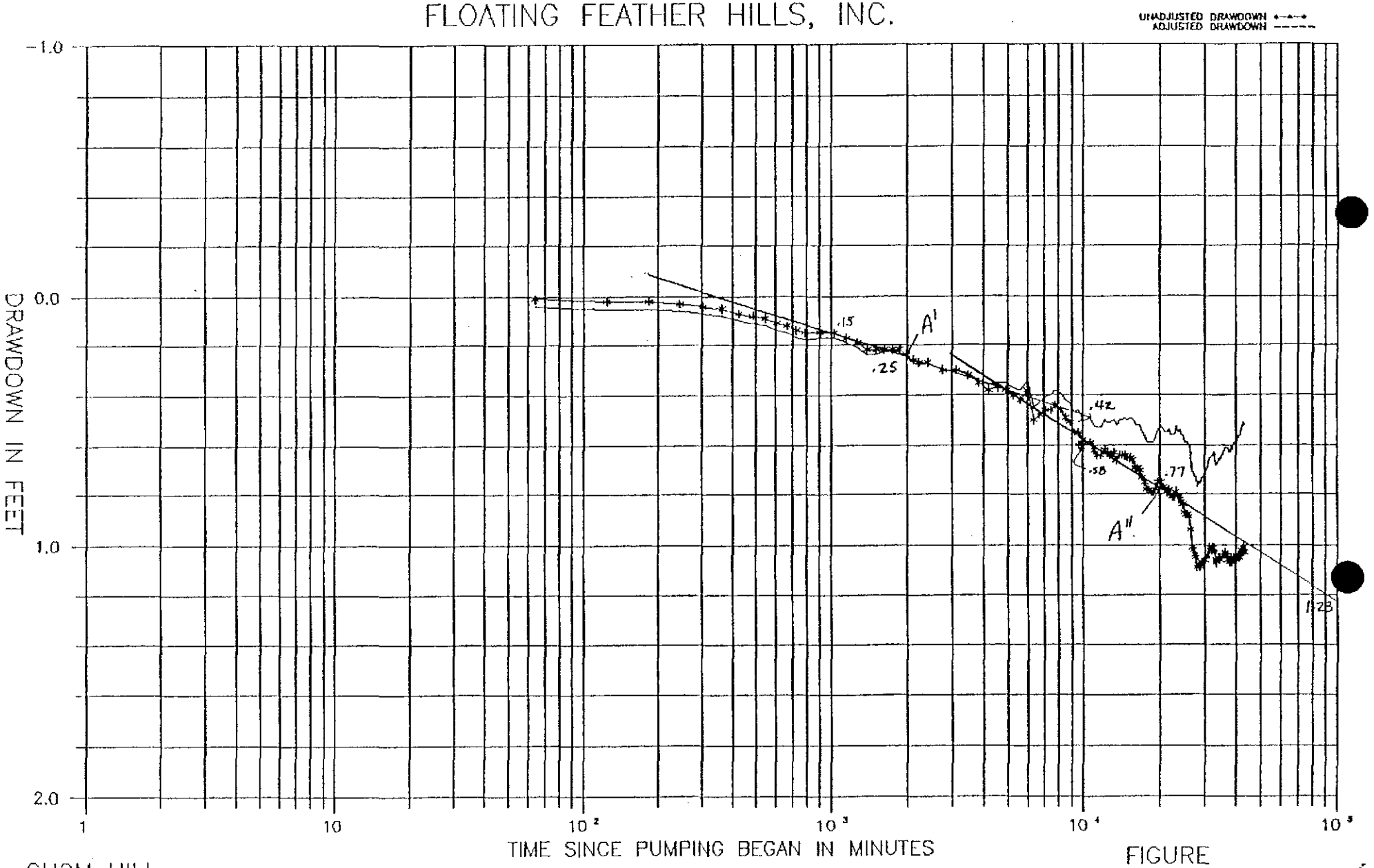
$t = 6800$ min $= 1.42$ days

$$T = \frac{Q}{4\pi S} w(u) = \frac{143,037}{4\pi .24} \times 1 = 47,427 \text{ ft}^2/\text{day}$$

$$= 354,755 \text{ gpd/ft}$$

$$S = \frac{4Tt}{r^2} u = \frac{4 \times 47,427 \times .42}{3700^2} \times 1 = .0058$$

MAY 24, 1991



CH2M HILL
B013168A.AI

FIGURE
HORMACHEA WELL
TIME DRAWDOWN

SUBJECT FFH, INC. PUMP TEST BY C. FEAST DATE 5/15/91

SHEET 2 OF 2

PROJECT NO. 301 31684.A1

HORMACHEA CONT'D

MATCH PT C

ADJUSTED WATER LEVEL

$w(u) = 1$
$(u) = 1$
$A = .13$
$t = 150 \text{ min} = .104 \text{ days}$

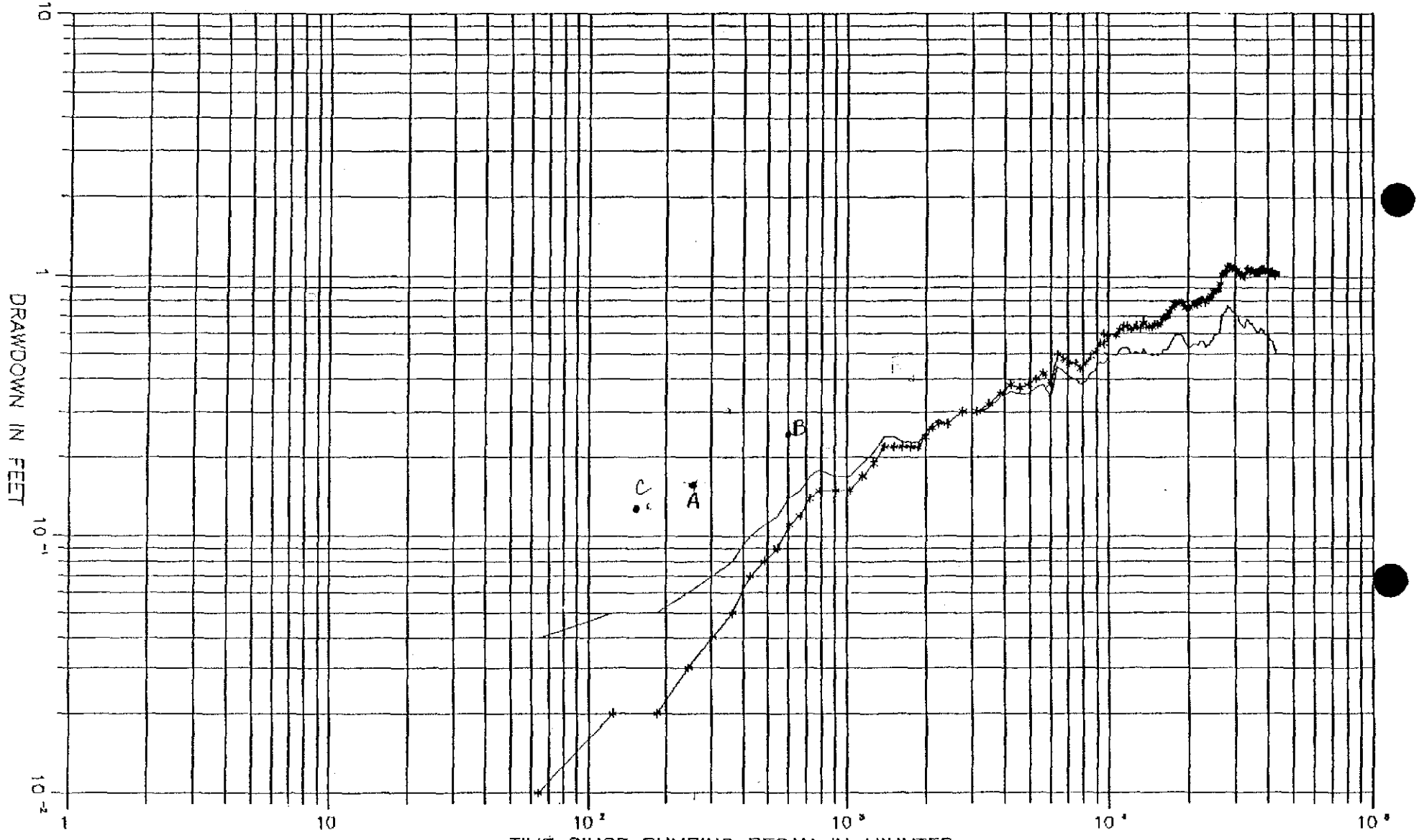
$$T = \frac{Q}{4\pi A} \times w(u) = \frac{143037}{4\pi .13} \times 1 = 87{,}558 \text{ ft}^2/\text{day}$$

$$= 654{,}933 \text{ gpd/ft}$$

$$S = \frac{4Tt}{r^2} \times (u) = \frac{4 \times 87{,}558 \times .104}{3700^2} = .0027$$

MAY 24, 1991

FLOATING FEATHER HILLS, INC.

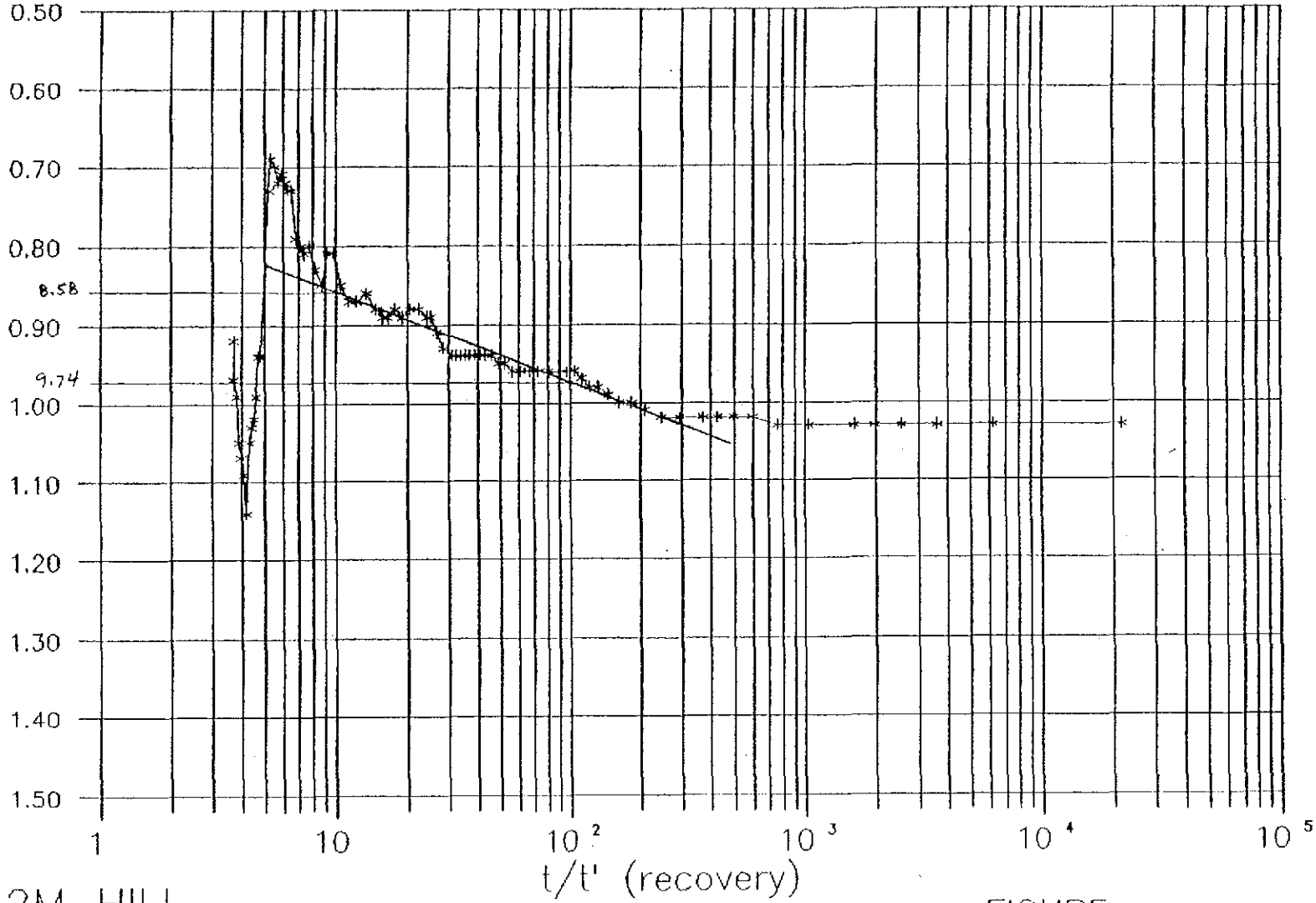


CH2M HILL
B0131684.A1

FIGURE
HORMACHEA WELL
TIME DRAWDOWN

MAY 15, 1991

FLOATING FEATHER HILLS, INC.



RESIDUAL DRAWDOWN IN FEET

CH2M HILL

B0I316B4.A1

FIGURE
HORMACHEA WELL
RECOVERY

$T = \frac{264\,Q}{\Delta S} = \frac{264\,(743)}{9.74 - 8.58} = \frac{196,152}{1.16} = 169,096$ gpd/ft

Appendix F
DRAWDOWN SIMULATION OUTPUT FILES

Appendix E-3
CARSON WELL

SUBJECT [illegible] BY [illegible] DATE [illegible]

SHEET 1 OF 2

PROJECT NO. B07 31684.41

CARSON SL TIME DD

METHOD CHOW

EARLY TIME 200 - 2000 min

LATE TIME 9000 - EOT @ ~45000 min

USE LATE TIME TO NEGATE EFFECTS OF GRAVITY DRAINAGE

LATE TIME

$SA''' = 2.40$

$\Delta SA''' = 3.25 - 1.09 = 2.16$

$t_{A'''} = 40{,}000 \text{ min} = 27.8 \text{ days}$

$Q = 143037 \text{ ft}^3/\text{day}$

$r = 1300 \text{ ft}$

$$F(u) = \frac{SA'''}{\Delta SA'''} = \frac{2.40}{2.16} = 1.11$$

$W(u) = 2.4$

$(u) = .06$

$$T = \frac{Q}{4\pi SA'''} \times W(u) = \frac{143037}{4\pi \times 2.40} \times 2.4 = 11{,}383 \text{ ft}^2/\text{day}$$

$$= 85{,}141 \text{ gpd/ft}$$

$$S = \frac{4 T t_{A'''}}{r^2} \times u = \frac{4 \times 11{,}383 \times 27.8}{1300^2} \times .06 = .0449$$

Early time A''' to check

$SA''' = .20$

$\Delta SA''' = .28 - 0 = .28$

$t_{A'''} = 1000 \text{ min} = .6944$

$F(u) = \frac{SA'''}{\Delta SA'''} = .71$ $W(u) = 1.3$ $u = .17$

$$T = \frac{Q}{4\pi SA''} \times W(u) = \frac{143037}{4\pi \cdot .2} \times 1.3 = 73{,}986 \text{ ft}^2/\text{day} = 553{,}418 \text{ gpd/ft}$$

$$S = \frac{4 T t_{A'''}}{r^2} \times u = \frac{4 \times 73986 \times .6944}{1300^2} \times .17 = .0207$$

SUBJECT FFH, INC BY C. HEATT DATE 5/14/91

SHEET 2 OF 2

PROJECT NO. 807 31684.41

Carson SC TIME DD CONT'D

Adjusted DRAWDOWN Curve 4000 – 15,000 min

$SA'' = .73$

$\Delta SA'' = 1.65 - .73 = .92$

$t_{A''} = 10{,}000 \text{ min} = 6.94 \text{ days}$

$Q = 143037 \text{ ft}^3/\text{day}$

$r = 1300 \text{ ft}$

$$F(u) = \frac{SA''}{\Delta SA''} = \frac{.73}{.92} = .79$$

$W(u) = 1.6$

$u = .12$

$$T = \frac{Q}{4\pi SA'} \times W(u) = \frac{143037}{4\pi \cdot .73} \times 1.6 = 24{,}948 \text{ ft}^2/\text{day}$$

$$= 186{,}610 \text{ gpd/ft}$$

$$S = \frac{4 T t_{A''}}{r^2} \times u = \frac{4 \times 24{,}948 \times 6.94}{1300^2} \times .12 = .0492$$

Check Validity of JACOB STRAIGHT LINE METHOD walton p212

$$t_{SL} = \frac{1.35 \times 10^5 \, r^2 S}{T} \quad \text{(gal-ft-day units)}$$

$$t_{SLA'} = \frac{1.35 \times 10^5 \times 1300^2 \times .039}{88{,}869} = 100{,}000 \text{ min}$$

∴ $T_{A''}$ (late time data) is NOT VALID Therefore early time data is also not valid.

SUBJECT FFA, INC BY L. FEAST DATE 3/14/9

SHEET 2 OF 2

PROJECT NO. 30131684.A1

CARSON Delayed Drainage Cont'd

$$B = \frac{r}{r/B} = \frac{1300}{2.5} = 520 \text{ ft}$$

$$\alpha = \frac{KD}{S_Y B^2} = \frac{17382}{.0485(520)^2} = .868 \text{ days}^{-1}$$

$$Y = 1 + \left(S_Y / S_a\right) = 1 + \frac{.0485}{.0075} = 17.5$$

$r/B = 2.5$ $\alpha t_{wt} = 8.3$

$\alpha t_{wt} = 8.3/.868 =$ 9.56 days before gravity drainage becomes neglible

MAY 24, 1991

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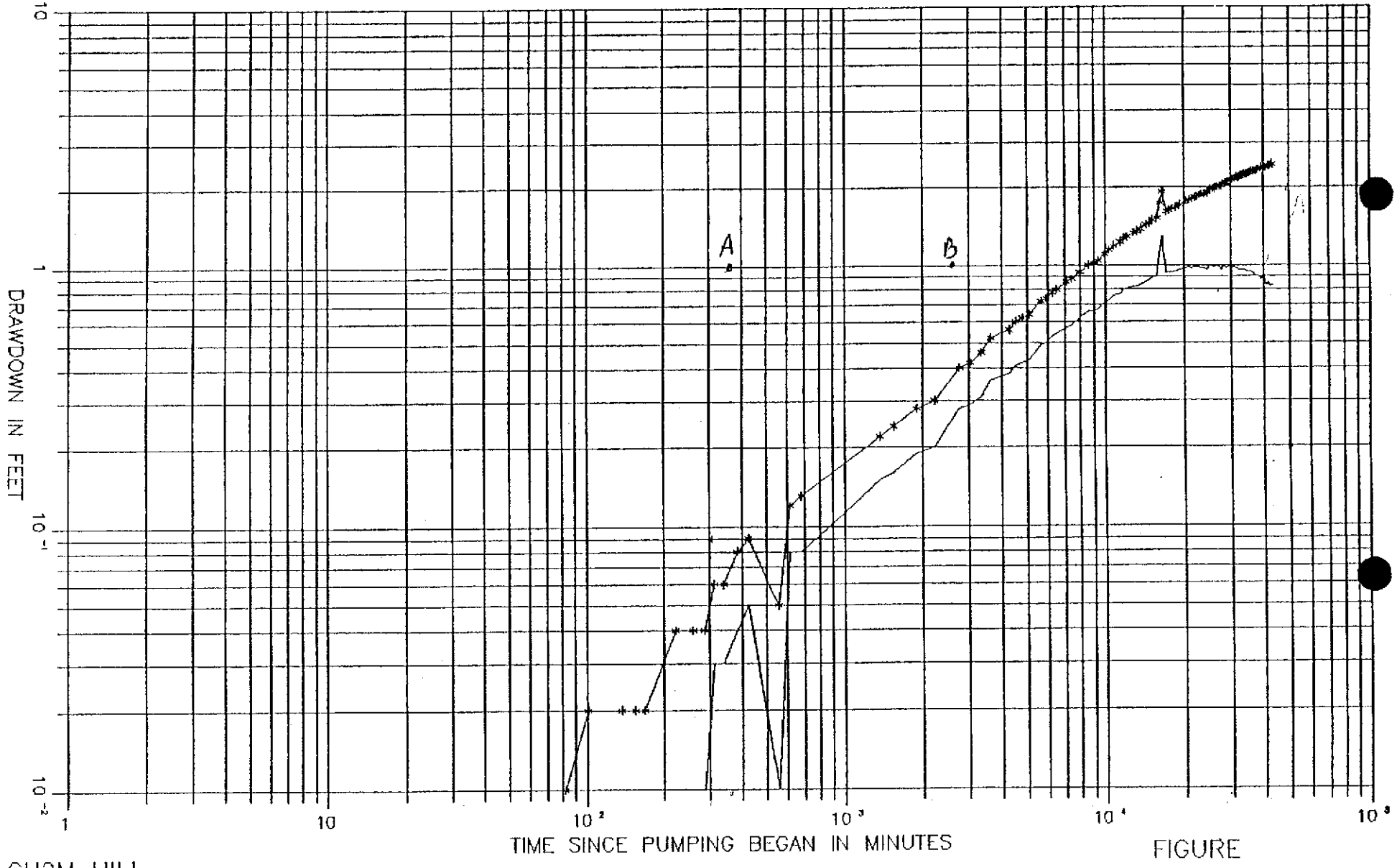

CH2M HILL
B0131684.A1

FIGURE
CARSON WELL
TIME DRAWDOWN

SUBJECT FTH, INC. PUMP TEST BY C. FEAST DATE 5/17/91

SHEET 1 OF 1

PROJECT NO. B07 31684.A1

CARSON TIME DD DELAYED YIELD

MATCH PT B Late time

$r/b = 2.5$ POOR early time match

$1/\mu_y = 1$

$w(U_{ay}, r/d) = 1$

$r/d = 2.5$

$t = 2600$ min $= 1.8$ days

$A = 1$ ft

$r = 1300$ ft

$Q = 143037$ ft³/day

$$KD = \frac{Q}{4\pi A}(w(u_{ay}, r/d) = \frac{143037}{4\pi\ 1}(1) = 11,383 \text{ ft}^2/\text{day}$$

$$= 85,141 \text{ gpd}$$

$$S_y = \frac{\mu_y 4 KD t}{r^2} = \frac{1 \times 4 \times 11,383 \times 1.8}{1300^2} = .0485$$

MATCH PT A (poor fit) Early time

$1/\mu_a = 1.0$ $\mu_a = .1$

$w(\mu_{ay}, r/b) = 1$

$r/d = 2.5$

$t = 540$ min $= .28$

$A = 1.0$ ft

$r = 1300$

$$KD = \frac{Q}{4\pi S}(w(u_{ay}, r/d)) = \frac{143037}{4\pi\ 1} \times 1 = 11,383 \text{ ft}^2/\text{day}$$

$$= 85,141 \text{ gpd}$$

$$S = \frac{\mu_a 4 KD t}{r^2} = \frac{1 \times 4 \times 11,383 \times .28}{1300^2} = .0075$$

MAY 24, 1991

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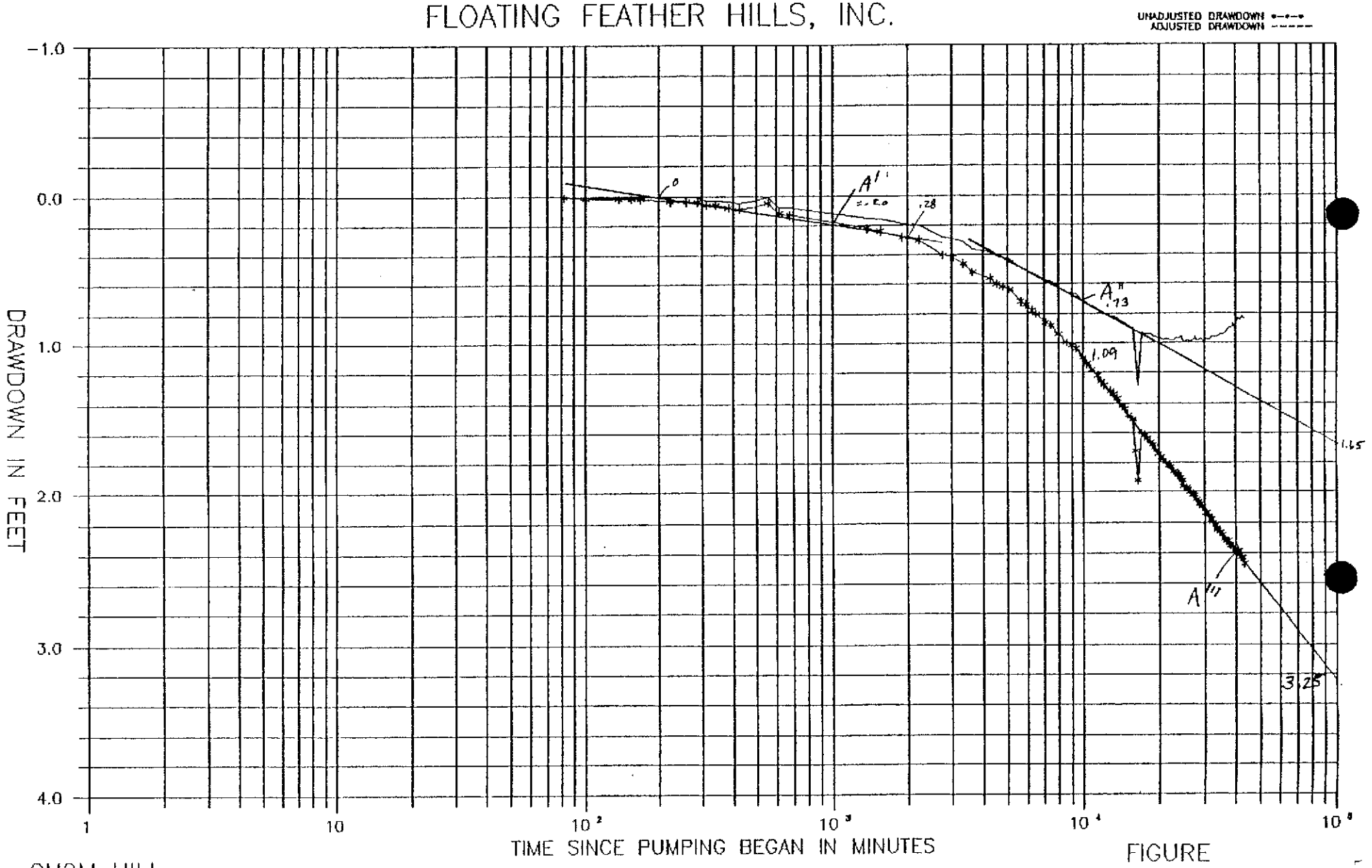

CH2M HILL
B0131684.A1

FIGURE
CARSON WELL
TIME DRAWDOWN

Appendix E-4
EAGLE HILLS GOLF COURSE WELL

SUBJECT T & H, INC PUMPTEST BY C. FEAST DATE 3/15/91
SHEET 2 OF 3
PROJECT NO. B07 31684.41

EHGC Non Equib Theis Cont'd

Match Pt. C assumes 1 continuous type curve match
Early and late time match well, middle time below curve

$W(u) = 1$
$1/u = 1 \quad u = 1$

$s = .22$ ft
$t = 240$ min $= .17$ day

$$T = \frac{Q}{4\pi s} \times W(u) = \frac{143{,}037}{4\pi \times .22} \times 1 = 51{,}739 \text{ ft}^3/\text{day}$$
$$= 387{,}006$$

$$S = \frac{4Tt}{r^2} \times u = \frac{4 \times 51{,}739 \times .17}{2500^2} = .0056$$

DELAYED YIELD

EARLY TIME MATCH PT. D $\quad r/d = 1.0 \quad W(u_a, r/d) = 1 \quad u = 1$
LATE TIME MATCH PT. B $\quad r/d = 1.0 \quad W(u_\gamma, r/d) = 1 \quad u = 1$

EARLY TIME

$r/d = 1.0 \quad s = .32$
$u = 1.0 \quad t = 270$ min $= .1875$ days
$W(u_a) = 1$

$$T = \frac{Q}{4\pi s} \times W(u_a) = \frac{143037}{4\pi \times .32} \times 1 = 35{,}570 \text{ ft}^2/\text{day} = 266{,}066 \text{ gpd/ft}$$

$$S = \frac{4Tt}{r^2} \times u_a = \frac{4 \times 35{,}570 \times .1875}{2500^2} \times 1 = .0043$$

LATE TIME MATCH PT B

$r/d = 1.0 \quad s = .32$
$u_\gamma = \quad t = 1000$ min $= .6944$ days
$W(u_\gamma, r/d)$

SUBJECT KPH, INC PUMP TEST BY C. FEAST DATE 5/15/9[illegible]
SHEET 1 OF 3
PROJECT NO. B07 31684.A1

EHGC NON EQUILIBRIUM THEIS

THIS curve shows two equilibrium shapes

early time 0 - 3000 min — MATCH PT A

late time 3000 - 40,000 min — MATCH PT B

EARLY TIME MATCH PT A

$t = 145$ min $= .101$ days

$s = .13$ ft

$w(u) = 1$

$1/u = 1$

$Q = 143{,}037$ ft³/day

$r = 2500$ ft

$$T = \frac{Q}{4\pi s} \times w(u) = \frac{143{,}037}{4\pi .13} \times 1 = 87{,}558 \text{ ft}^2/\text{day}$$

$$= 654{,}935 \text{ gpd/ft}$$

$$S = \frac{4Tt}{r^2} u = \frac{4 \times 87{,}558 \times .101}{2500^2} \times 1 = .005T$$

LATE TIME - MATCH PT B

$t = 1000$ min $= .6944$ days

$s = .32$

$w(u) = 1$

$1/u = 1$

$$T = \frac{Q}{4\pi s} \times w(u) = \frac{143{,}037}{4\pi \times .32} \times 1 = 35{,}570 \text{ ft}^2/\text{day}$$

$$= 266{,}066 \text{ gpd/ft}$$

$$S = \frac{4Tt}{r^2} \times u = \frac{4 \times 35{,}570 \times .69}{2500} = .0157$$

EHGC DELAYED YIELD CON'T

$$T_{(LATE)} = \frac{Q}{4\pi s} \times W(u_B) = \frac{143037}{4\pi .32} \times 1 = 35570 \text{ ft}^2/\text{day} = 266{,}066 \text{ gpd/ft}$$

$$S_Y = \frac{4Tt}{r^2} \times u_B = \frac{4 \times 35570 \times .6944}{2500^2} \times 1 = .0158$$

$$Y = 1 + \frac{S_Y}{S_e} = 1 + \frac{.0158}{.0043} = 4.67$$

$r = 2500$ ft, $r/D_1 = 1$ $\therefore$ $D_1 = 2500$

$$D_1 = \sqrt{\frac{T}{\alpha S_Y}} \qquad \alpha = \frac{T}{S_Y D_1^2} = \frac{35{,}570}{.0158 \times D_1^2} = .36$$

From fig. 33 K&R

$r/d = 1.0$ $\alpha t_{wt} = 4.5$

$\therefore t_{wt} = 4.5/\alpha = 4.5/.36 = 12.5$ days before gravity drainage becomes negligible.

MAY 24, 1991

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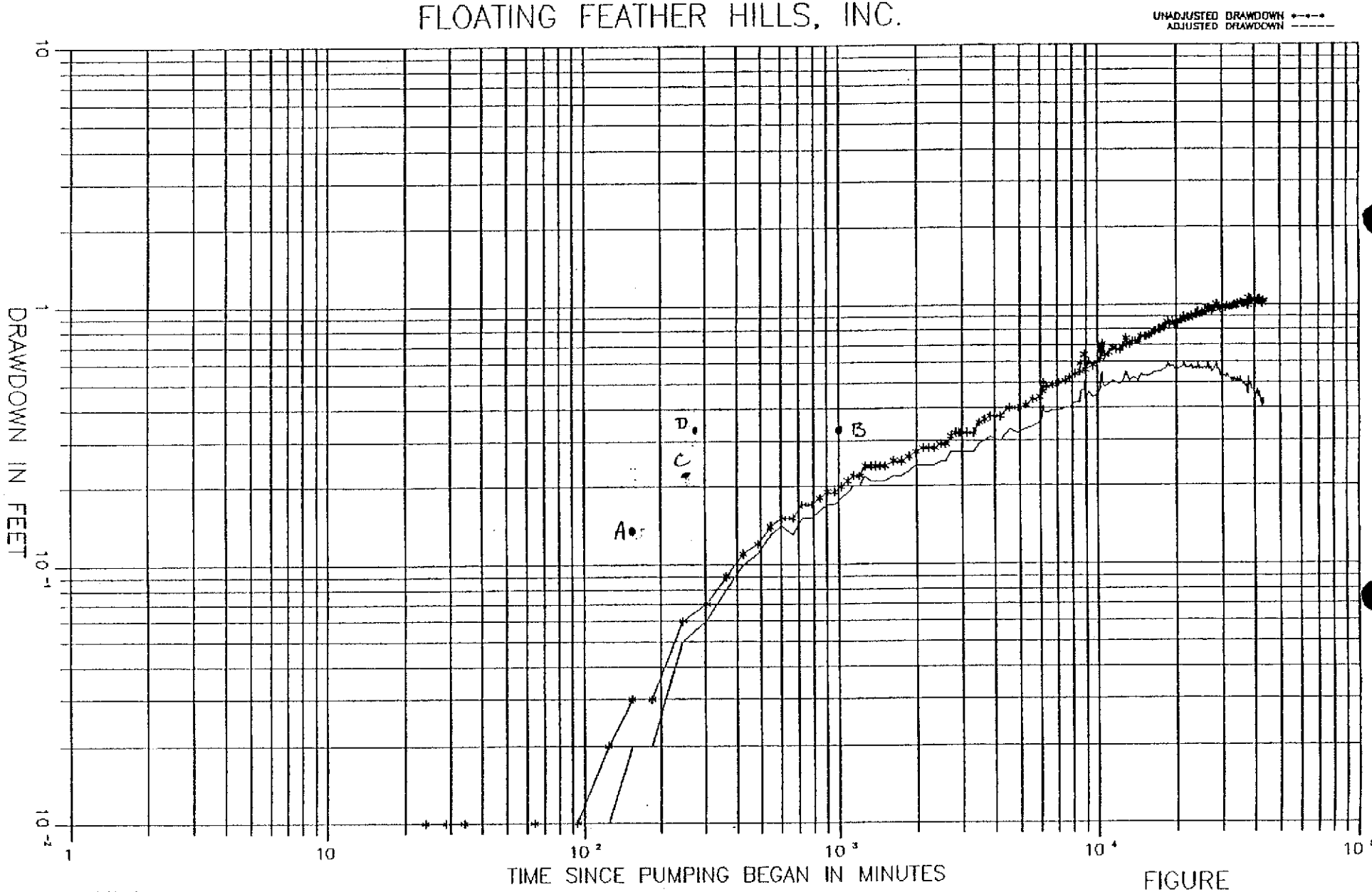

CH2M HILL
B0131684.A1

FIGURE
EAGLE HILLS G.C.
TIME DRAWDOWN

SUBJECT FFH, INC. PUMP TEST BY C. FLAST DATE ~~OCT~~ 5/15

SHEET 1 OF 2

PROJECT NO. B02 31684.A1

EHGC SL TIME DD

METHOD: CHOW

$SA' = .20$
$\Delta SA' = .45 - .20 = .25$
$t_{A'} = 1000 \text{ min} = \frac{1000}{1440} = .69 \text{ days}$ (early time)

$$F(u) = \frac{SA'}{\Delta SA'} = \frac{.20}{.25} = .80$$

$w(u) = 1.6$
$u = .13$

$Q = 743 \text{ gpm} = 143037 \text{ ft}^3/\text{day}$

$r = 2500 \text{ ft}$

$$KD = \frac{Q}{4\pi SA'} w(u) = \frac{143,037}{4 \times \pi \times .20} \times 1.6 = 91,060 \text{ ft}^2/\text{day}$$

$= 681,132 \text{ gpd/ft}$

$$S = \frac{4 (u) KD}{r^2} \times t_{A'} = \frac{4 \times .13 \times 91,060}{2500^2} \times .69 = .0052$$

$SA'' = .62$
$\Delta SA'' = 1.40 - .62 = .78$
$t_{A''} = 10000 \text{ min} = 6.94 \text{ days}$ (Late time)

$$F(u) = \frac{SA''}{\Delta SA''} = \frac{.62}{.78} = .79$$

$w(u) = 1.6$
$u = .13$

SUBJECT FFH, INC PUMP TEST BY C. FROST DATE 2/15/91
SHEET 2 OF 2
PROJECT NO. B01 31684.A1

EHGC SL TIME DD CONT'D

$$KD = \frac{Q}{4\pi S_{A''}} w(u) = \frac{143{,}037}{4\pi .62} \times 1.6 \equiv 29{,}374 \text{ ft}$$
$$= 219{,}720 \text{ gpd/ft}$$

$$S = \frac{4(u)KD}{r^2} \times t_{A''} = \frac{4 \times .13 \times 29{,}374}{2500^2} \times 6.94 = .017$$

CHECK TIME FOR $U \leq .02$ for validity of JACOBS straight line method. Walton p 212

$$t_{SL} = \frac{1.35 \times 10^5 r^2 S}{T} \quad \text{(gal-ft-day units)}$$

$$\text{for } A' \; t_{SL} = \frac{1.35 \times 10^5 r^2 S}{T} = \frac{1.35 \times 10^5 \times 2500^2 \times .0052}{681{,}132} = 6{,}441 \text{ min}$$
$$= 4.47 \text{ days}$$

$\therefore$ $T_{A'}$ is not valid

$$\text{for } A'' \; t_{SL} = \frac{1.35 \times 10^5 \times 2500^2 \times .017}{219{,}720} = 65{,}282 \text{ minutes}$$
$$= 45.3 \text{ days}$$

$\therefore$ $T_{A''}$ is not valid

MAY 24, 1991

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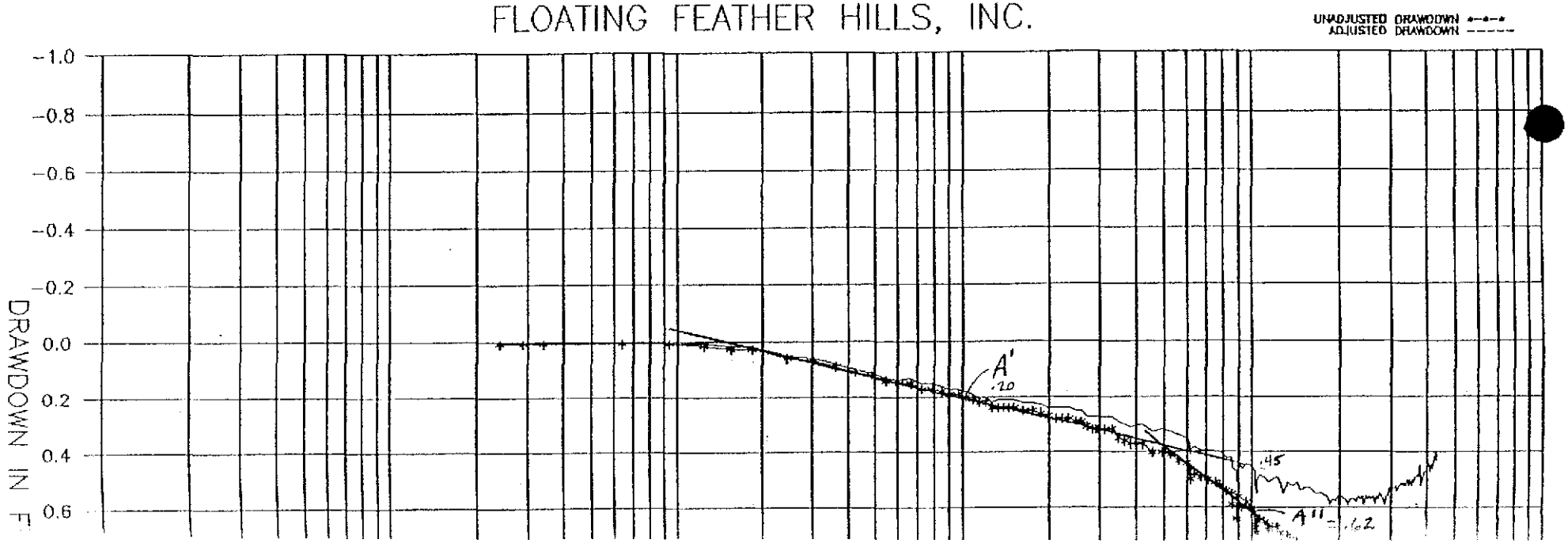

No fit

MAY 15, 1991

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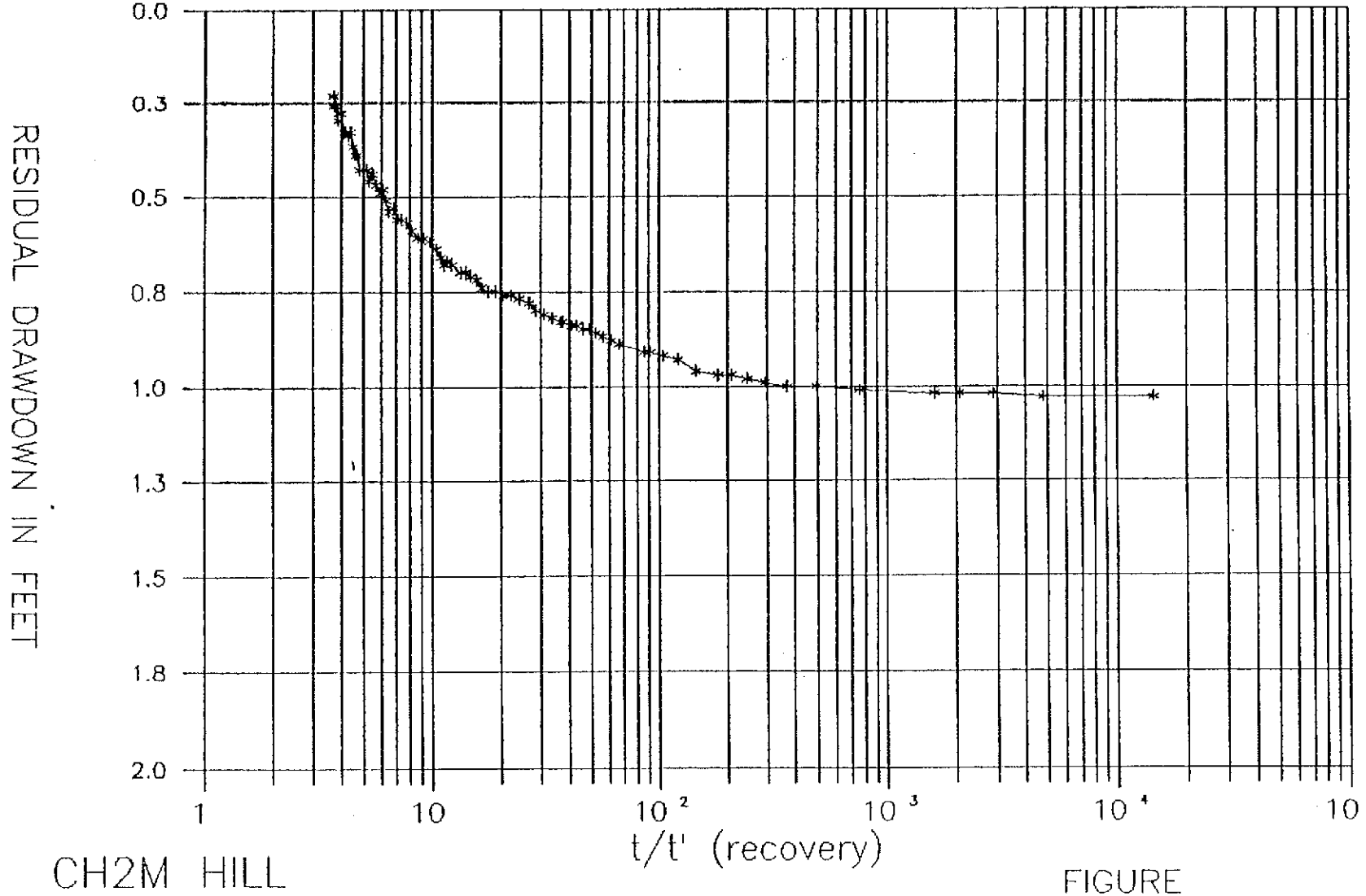

CH2M HILL

B0131684.A1

FIGURE

EAGLE HILLS GOLF COURSE
RECOVERY

Appendix E-5
HORMACHEA WELL

RECEIVED
MAY 10 2004
RECEIVED
MAY 11 2004
WATER RESOURCES
WESTERN REGION

J. Evan Robertson
ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, P.L.L.C.
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P. O. Box 1906
Twin Falls, Idaho 83303-1906
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Facsimile: (208) 736-0041
ISB# 1801
c:\rlw\idwr\witness_exhibit list

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME OF ARIES DEVELOPMENT, LLC	**APPLICANT'S WITNESS & EXHIBIT LIST**

****

COMES NOW ARIES DEVELOPMENT, LLC (hereinafter "Applicant"), by and through its attorney of record, J. Evan Robertson, of the firm Robertson, Hepworth, Slette, Worst & Stover, PLLC, and provides the following information pursuant to the Prehearing Order entered in this matter by Peter R. Anderson, Hearing Officer, dated February 20, 2004:

A. Applicant's Witnesses:

(1) Terry Nyborg.

(2) Michael Hormaechea.

(3) Denise Thiry, G.R.I..

(4) Charles E. Brockway, P.E., Ph.D., (expert witness).

B. Applicant's List of Exhibits, attached hereto respectively as numbered:

(1) Application for Permit 63-31928, dated 6/5/02, with exhibits as follows:

- Narrative in Support of Application dated 2/12/02
- Figure 2 Brookwood Subdivision Irrigated Acreage
- Figure 1 Brookwood Subdivision - overview
- Appendix 1 - Brookwood Pond 5 Seepage Data
- Appendix 2 - Brookwood Pond Model 1 and Water Use
- Appendix 3 - Brookwood Well Interference Analysis

(2) Application for Transfer of Water Right 70604 dated 12/2/02, with exhibits as follows:

- Warranty Deed, Instrument No. 9046013
- Figure 1 Brookwood Subdivision
- Aerial Map of Quarter Circle DJ Ranch Feedlot - 11/11/02
- Narrative in Support of Application dated 12/9/02

(3) Application for Drilling Permit dated 7/13/03, with exhibits as follows:

- Well Section & Configuration Proposed New Well
- Narrative in Support of Application dated 1/7/03
- Water Right Report #63-31689
- Transfer No. 70604 - filing report
- Figure 1 Brookwood Subdivision

(4) Color Map Brookwood Water Table Analysis dated 3/18/04

(5) Well Interference Analysis (Estimated Drawdown) dated 2/12/02

(6) Area Map Proposed Brookwood Well - created 2/18/04; ALR 3/3/04

(7) Map Phases 1 through 4, Brookwood Subdivision

(8) Color Map Brookwood Well Study Topo Map

(9) Well Driller's Logs

DATED this 6th day of May, 2004.

ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, PLLC

By: _____
J. EVAN ROBERTSON

CERTIFICATE OF MAILING

I hereby certify that on this 6th day of May, 2004, I served a copy of the foregoing instrument, by depositing same in the United States mail, postage prepaid, in an envelope, addressed to the following:

Original:

Idaho Department of Water Resources
Attn: Peter R. Anderson
2735 Airport Way
Boise, Idaho 83705-5082
Via U.S. Mail (complete w/attachments)
and Facsimile 208-334-2348 (w/o attachments)

Mike Chase / Chase Family
3482 Hwy 30 W
New Plymouth, ID 83655

Homeowners of Downing Downs Subdivision
c/o Michael J. Sieler
1125 Steeple View Drive
Eagle, ID 83616

Tammy Zokan
City of Eagle
Moore, Smith, Buxton & Turcke, Chtd.
225 N. 9th, Ste 420
Boise, ID 83702

Mark L. Butler
Land Consultants, Inc.
1640 W. Washam Road
Eagle, ID 83616

Alfred & Wanda Thornton
9601 Prairie Road
Eagle, ID 83616

Molly O'Leary
Richard & O'Leary
99 E. State Street, Ste. 200
Eagle, ID 83616

Matt J. Howard
Attorney at Law
P.O. Box 190012
Boise, ID 83719

J. EVAN ROBERTSON

EXHIBIT ROSTER FOR HEARING

EXHIBIT NUMBER	EXHIBIT DESCRIPTION	STATUS OF EVIDENCE	
		INTRODUCED	ADMITTED
1	Application for Permit 63-31928 dtd 6/5/02, w/exhibits as follows:		
	Narrative in Support of Application dtd 2/12/02		
	Figure 2 Brookwood Subd. Irrigated Acreage		
	Figure 1 Brookwood Subd. overview		
	Appendix 1 - Brookwood Pond 5 Seepage Data		
	Appendix 2 - Brookwood Pond Model 1 and Water Use		
	Appendix 3 - Brookwood Well Interference Analysis		
2	Application for Transfer of Water Right 70604 dtd 12/2/02, w/exhbts:		
	Warranty Deed Inst. No. 9046013		
	Figure 1 Brookwood Subd.		
	Aerial Map of Quarter Circle DJ Ranch Feedlot - 11/11/02		
	Narrative in Support of Application dtd 12/9/02		
3	Application for Drilling Permit dtd 7/13/03, w/exhbts as follows:		
	Well Section & Configuration Proposed New Well		
	Narrative in Support of Application dtd 1/7/03		
	Water Right Report #63-31689		
	Transfer No. 70604 - filing report		
	Figure 1 Brookwood Subd.		
4	Color Map Brookwood Water Table Analysis dtd 3/18/04		
5	Well Interference Analysis (Est. Drawdown dtd 2/12/02		

EXHIBIT NUMBER	EXHIBIT DESCRIPTION	STATUS OF EVIDENCE	
		INTRODUCED	ADMITTED
6	Area Map Proposed Brookwood Well Created 2/18/04; ALR 3/3/04		
7	Map Phases 1-4 Brookwood		
8	Color Map Brookwood Well Study Topo Map		
9	Well Driller's Logs		

Form 203
1/96

Ident. No. 63-31528

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR PERMIT

To appropriate the public waters of the State of Idaho

RECEIVED
JUN 05 2002
WATER RESOURCES
WESTERN REGION

1. Name of applicant Aries Development L.L.C Phone 208-336-2200
   Post Office address P.O. Box 6887 Boise, ID 83707
2. Source of water supply Ground water which is a tributary of
3. Location of point of diversion is 1/4 of NE 1/4 of SE 1/4, Govt. Lot
   Sec. 4 Township 4N Range 1E B.M. Ada County; additional points of diversion, if any:
4. Water will be used for the following purposes:
   Amount 0.95cfs (cfs or acre-feet per annum) for Aesthetics purposes from 10-1 to 4-1 (both dates inclusive)
   Amount 60.7 af (cfs or acre-feet per annum) for Aesthetics STORAGE purposes from 1-1 to 12-31 (both dates inclusive)
   Amount (cfs or acre-feet per annum) for purposes from to (both dates inclusive)
   Amount (cfs or acre-feet per annum) for purposes from to (both dates inclusive)
5. Total quantity being appropriated is (a) 0.95 cubic feet per second and/or (b) 60.7 acre-feet per annum
6. Proposed diverting works:
   a. Description of ditches, flumes, pumps, headgates, etc. Well and pipe/ditch distribution to ponds within Brookwood Subdivision See attached narrative
   b. Height of storage dam 0 feet; active reservoir capacity acre-feet; total reservoir capacity 60.7 acre-feet; period of year when water will be diverted to storage: 10-1 to 4-1 inclusive.
   c. Proposed well diameter is 12 inches; proposed depth of well is 200 feet
   d. Is groundwater with a temperature of greater than 85 degrees being sought? No
   e. If well is already drilled, when? ; Drilling firm ;
      Well was drilled for *(well owner)*
7. Time required for completion of works and application of water to proposed beneficial use is 5 years *(minimum 1 year)*
8. Description of proposed uses (if irrigation only, go to item 9):
   a. Hydropower; show total feet of head and proposed capacity in KW.
   b. Stockwatering; list number and kind of livestock.
   c. Municipal; show name of municipality.
   d. Domestic; show number of households ;
   e. Other; describe fully. Ground water for wintertime maintenance of aesthetic ponds See attached narrative

EXHIBIT 1
tabbies

9. Description of place of use:

a. If water is for irrigation, indicate acreage in each subdivision in the tabulation below.

b. If water is used for other purposes, place a symbol of the use (example: D for Domestic) in the corresponding place of use below. See instructions for standard symbols.

TWP	RANGE	SEC	NE 1/4				NW 1/4				SW 1/4				SE 1/4				TOTALS
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	
4N	1E	4									A		A	A	A	A	A	A	

Total number of acres to be irrigated _____

10. Describe any other water rights used for the same purposes as described above. Canal shares from Farmers Union Canal

11. a. Who owns the property at the point of diversion? Applicant

b. Who owns the land to be irrigated or place of use? Applicant

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing: _____

12. Remarks: See attached narrative and mitigation plan for ground water use by recharging the aquifer from Farmers Union canal

Water bearing zone to be appropriated is from 80 to 200 feet. Per 7/31/02 telecon w/ Chuck Brockway. LG

13. MAP OF PROPOSED PROJECT ATTACHED Y show clearly the proposed point of diversion, place of use, section number, township and range number.

BE IT KNOWN that the undersigned hereby makes this application for permit to appropriate the public waters of the State of Idaho as herein set forth.

MEMBERS: Mike Hormaechea
Amy Wray
Richard Hormaechea
Hormaechea Grandchildren's Trust

Richard H. Hormaechea (Applicant)

Received by Lois Fontaine Date 6/5/02 Time 4:45 pm Preliminary check by LG

Fee $ 250.00 Receipted by Lois Fontaine # W029293 Date 6/6/02

Publication prepared by AT Date 8-15 thru 22-02 Published in Id Statesman

Publication approved AT Date 8-30-02

Narrative in Support of Application for Permit

Brookwood Subdivision Exchange Well
Aries Development L.L.C.
by Brockway Engineering P.L.L.C.

February 12, 2002

Brookwood is a 382 unit subdivision located in Section 4, T 4N R 1E Boise Meridian north of Eagle, Idaho. This subdivision, located on bottom land and bench areas of Dry Creek, is being developed on irrigated farmland served by the Farmers Union Canal. The Farmer's Union Canal is the east boundary of the subdivision and the historical irrigation diversion from the canal will continue to serve the irrigation requirements for a pressure irrigation system serving all lots and common areas. Domestic water is provided by the municipal system of the City of Eagle.

The subdivision will include water amenities including six (6) multi-purpose ponds providing irrigation storage and aesthetic benefits, Figure 1. The ponds will be maintained by diversions from the canal system during the irrigation season and be ground water provided from an exchange well during the non-irrigation season.

The purpose of this Application is to obtain a permit for a well to provide water for non-irrigation season maintenance of the pond and ditch system. Water from the canal system, using shares owned by Brookwood in the Farmer's Union Canal will be recharged to the aquifer during the irrigation season through pond leakage and one dedicated recharge pond.

Figure 1 shows the plat of the subdivision, canal diversion, distribution system and the six (6) ponds. Ponds 1,2,3, and 4 are lined with bentonite and compacted earth and Pond 6 is lined with a membrane liner. Pond 5 is unlined and will be utilized for recharge of water from the canal system during the summertime. During the non-irrigation season, the pond levels will be maintained with ground water pumped as necessary.

Brookwood owns 11 shares in the Farmer's Union Canal. Each share represents 11 miner's inches of discharge so the canal discharge available to the project is 121 miner's inches or 2.42 cfs. Historically, 186.0 acres have been irrigated on the Brookwood property from the canal, see Figure 2.

The project plan includes 382 single family lots with approximately 50 acres of common area. Irrigation of landscaping and turf on each lot and the common area will be from a pressure distribution system with two booster pumps from the pipe/pond system. The upper booster is located near the canal diversion, and the lower booster diverts from Pond 1 near the west end of the subdivision. Based on the average lot size of 0.22 acres, a residence footprint and paved area of 4200 square feet, the irrigated area on each lot is estimated to be 0.12 acres. For the 382 residences the irrigated area is therefore 45.8 acres. The total irrigated area is therefore 50 + 45.8 or 95.8 acres.

The six ponds are designed with an average surface area of 5.17 acres and a volume of 60.7 acre feet.

A model of the pipe, ditch and pond system was prepared to simulate the operation of the system during the irrigation season and evaluate the various components of the water balance. A copy of the spreadsheet model is attached to this narrative as Figure 3.

Evapotranspiration for the project was determined using procedures outlined in Allen and Brockway, 1983, using the Boise WSO AP station meteorological and Et data. Free water surface evaporation was determined using procedures outlined in 'Monthly Shallow Pond Evaporation in Idaho by Molnau, Kpordze, and Craine, 1992. ASAE paper PNW 92-111.

Seepage from Pond 5 was measured during the period October 1-12, 2001 by Toothman-Orton Engineering Company. Seepage rates for this unlined pond varied from 0.16 to 0.47 ft/day over pond elevations from 2577.2 to 2580.4. Loss rates were extrapolated to proposed operating pond levels up to elevation 2588 at which the estimated seepage rate for Pond 5 is 0.98 ft per day or 1.08 cfs. The lined ponds and ditch were estimated to have operating loss rates of 0.005 ft/day (1/16 in), Appendix

The pond model indicates that the system can operate during the irrigation season utilizing the 2.42 cfs inflow from the canal and recharge approximately 1.08 cfs to the aquifer through seepage in Pond 5. The total seepage through all ponds is estimated to be 1.09 cfs. Evaporation from the pond system during the irrigation season is 16.2 acre feet.

The total consumptive use of the project including turf and landscape irrigation, pond evaporation, and residential in-house consumptive use (not provided by the irrigation system) is 258 af/year whereas the pre-project consumptive use from crop irrigation on 185.96 acres is 489 acre feet per year.

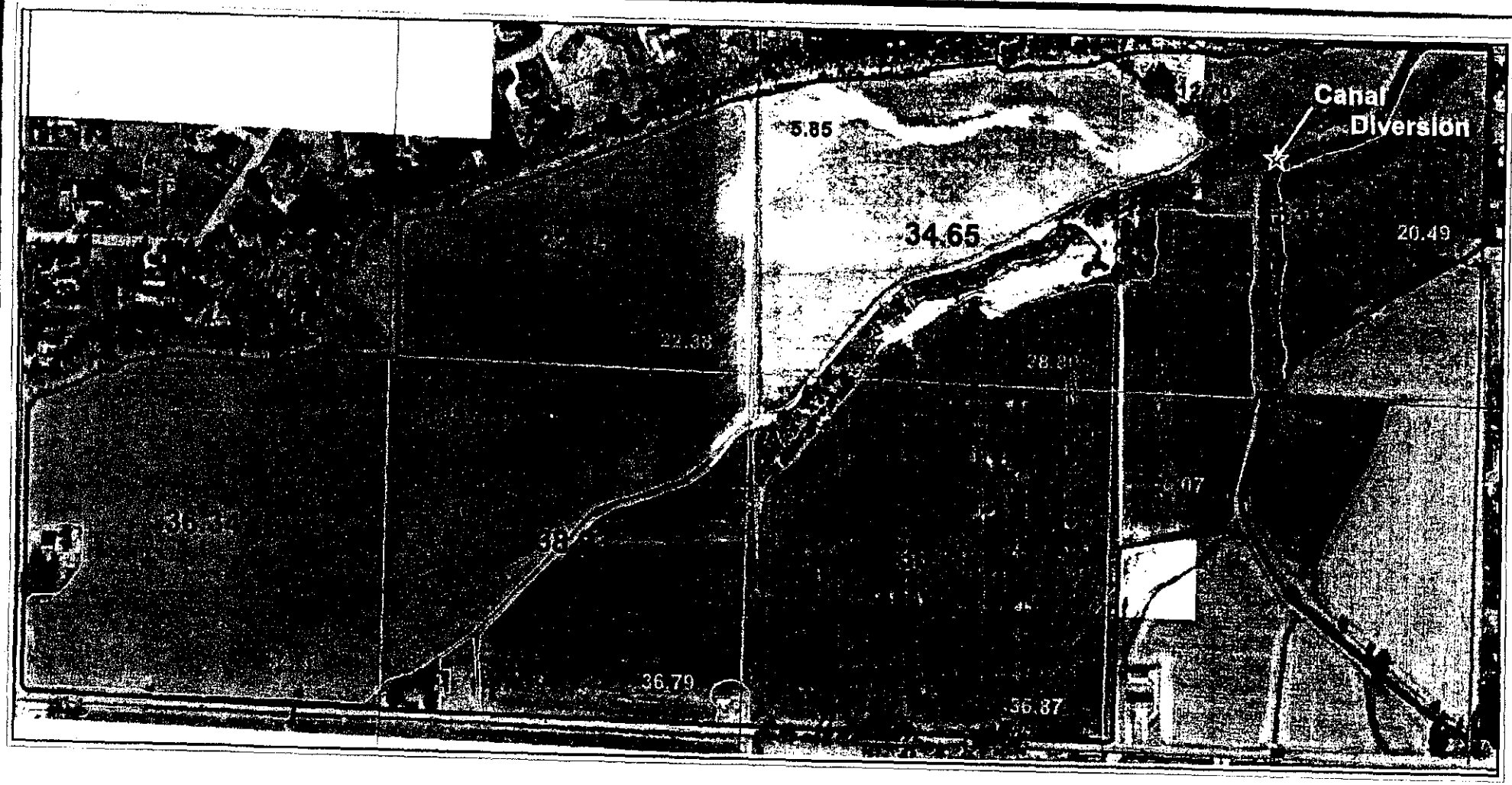
Recharge to the aquifer through the pond system is estimated at 386 acre feet during the irrigation season. Ground water extraction from the exchange well required to maintain pond seepage and evaporation, including seepage from unlined Pond 5, is 380 acre feet.

The maximum required discharge from the exchange well is 425 gpm or 0.95 cfs.

The water balance and pond model indicates that pumping from an exchange well on the project of not-more-than 330 acre feet during the non-irrigation season at a rate of 0.95 cfs can be mitigated by recharge of water diverted under project shares in the Farmer's Union Canal. This exchange will provide non-irrigation season pond maintenance water with no increase in depletion of the resource and with a positive impact on the underlying aquifer.

The proposed exchange well would be located near the canal diversion so that discharge can be integrated into the entire distribution system. The aquifer underlying the area is composed of alluvial sand and gravels with a hydraulic conductivity estimated at 40 ft/day based on well driller's logs in the area. An estimate of the draw down from a 12 inch diameter well pumping 0.95 cfs was estimated using a Theis analysis assuming continuous pumping for a 40 day period. The Theis analysis output is on the spreadsheet included the Appendix. This analysis shows the estimated draw down at 100 feet from the pumped well of 3.6 feet and a draw down of 0.9 feet at 1320 feet from the well. The nearest well to the exchange well is approximately 1200 feet. Operation of the pumped well will not significantly affect aquifer water levels in the area.

During the non-irrigation season operation of the exchange well, a maximum of 425 gpm will be pumped from the well. The pond water levels will be maintained in all ponds and the seepage back into the aquifer from all ponds will be 420 gpm so the impact on the regional aquifer system will not be significant. Pond 5 where 95% of the non-irrigation season seepage returns to the aquifer is approximately 2709 feet from the exchange well.



600 0 600 1200 1800 2400 Feet

N
W E
S

Figure 2.
Brookwood Subdivision
Irrigated Acreage

Property Boundary

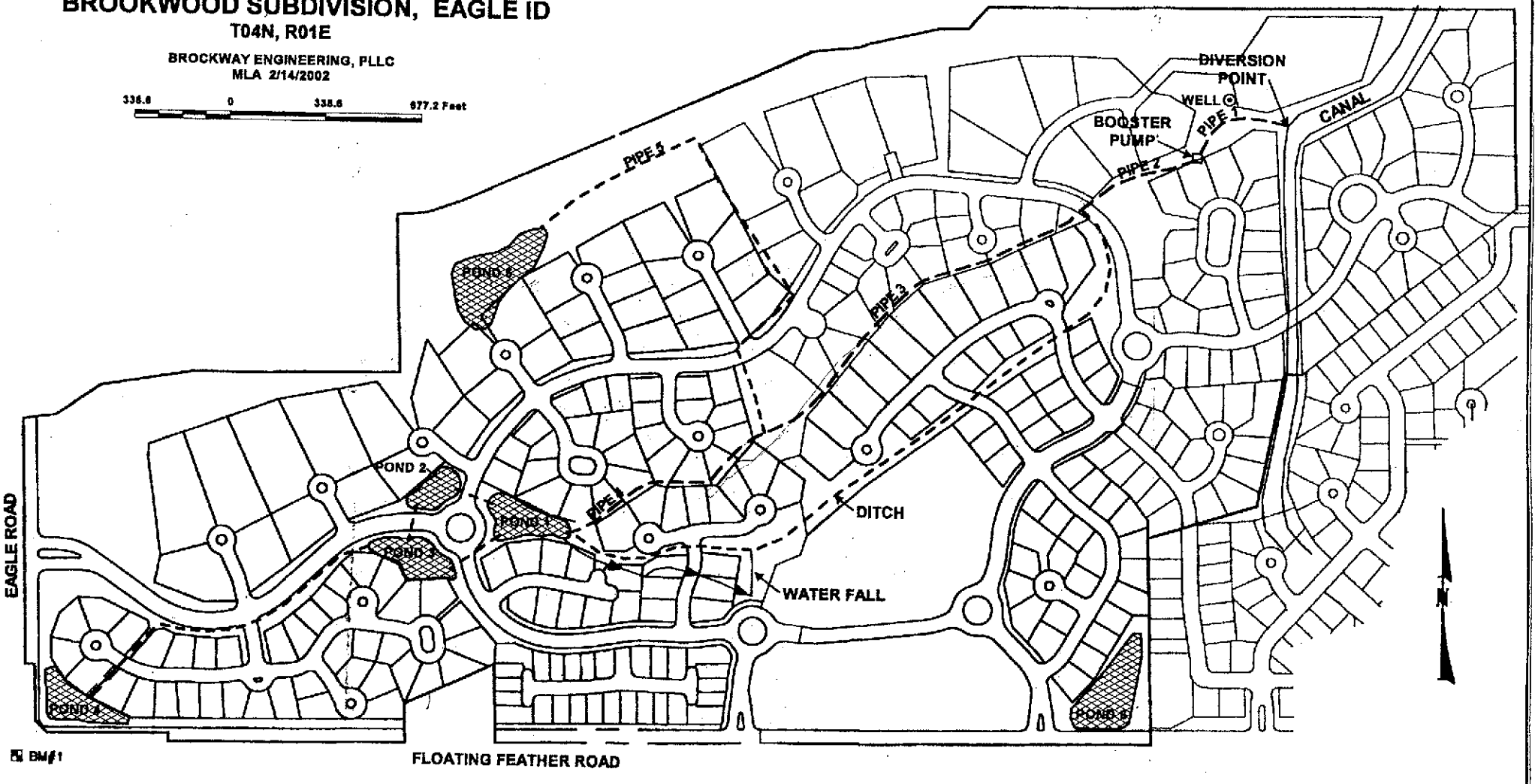
Irrigated Acreage
Overall Acreage = 185.92

Brockway Engineering, PLLC
MLA 5/28/2002

FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

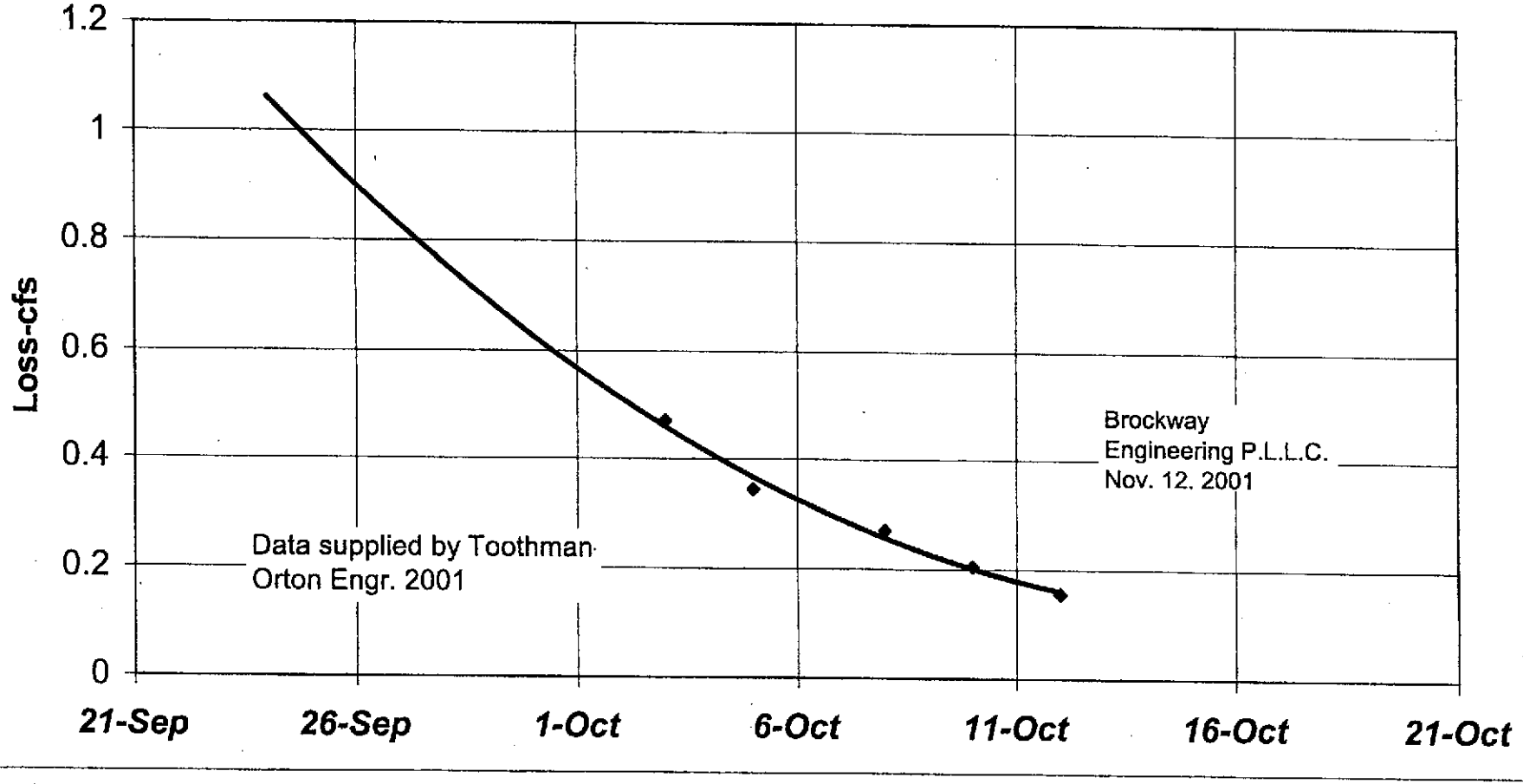
338.6 0 338.6 677.2 Feet



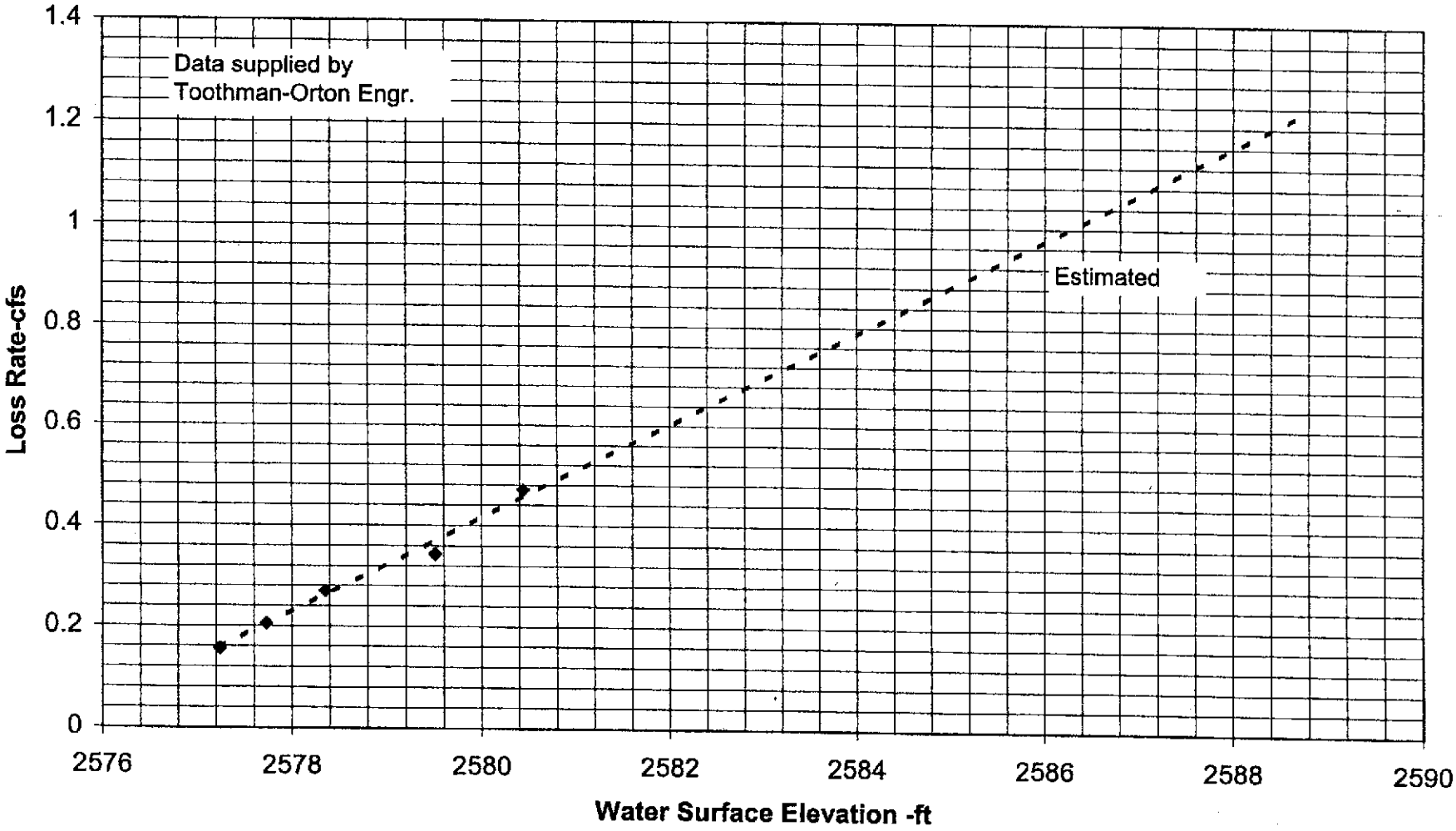
APPENDIX 1

Brookwood Pond 5 Seepage Data

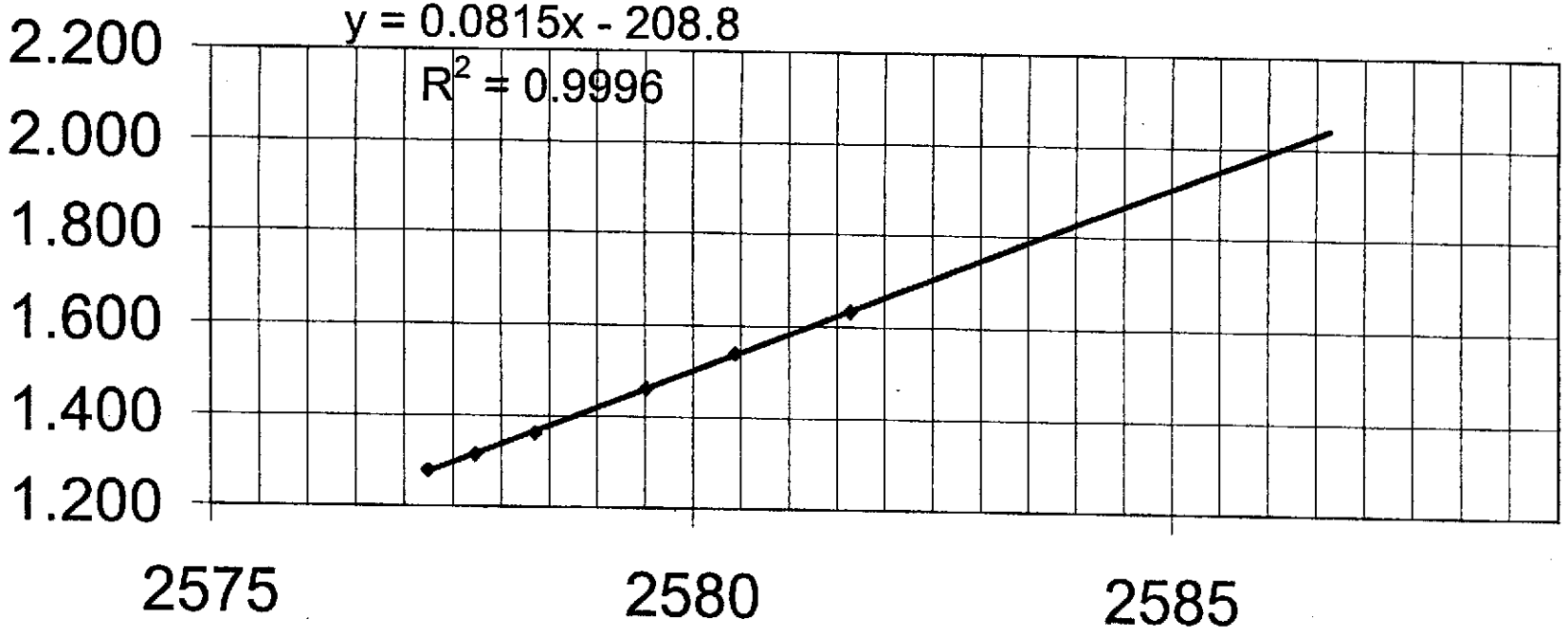
Brookwood Pond 5
Loss Rate vs Time



Brookwood Pond 5
Loss Rate vs Water Surface Elevation



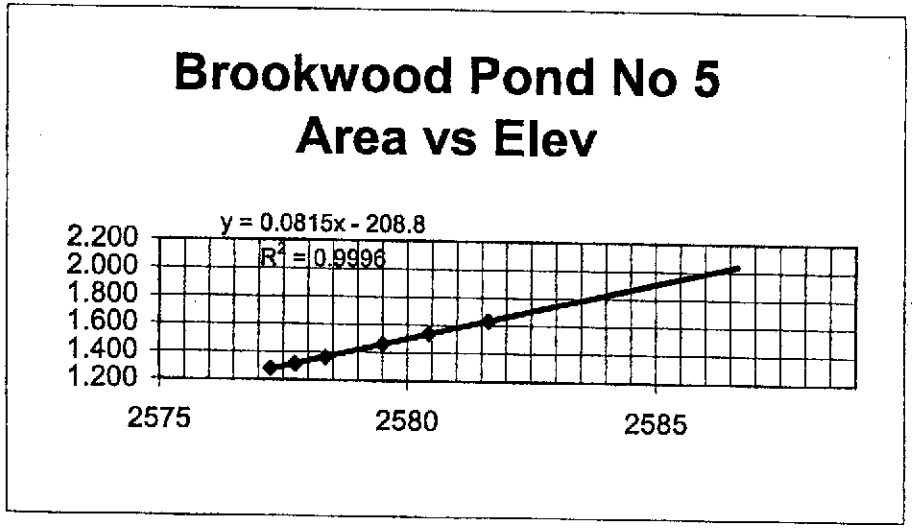
Brookwood Pond No 5
Area vs Elev



Brookwood
Analysis of Pond Seepage Data
Data furnished by Toothman-Orton Engineering

Pond Number 5
Area/Elevation Curve

Elevation		Area ft^2	acres
2581.64	81.64	71126	1.633
2580.44	80.44	67014	1.538
2579.51	79.51	63620	1.461
2578.35	78.35	59292	1.361
2577.73	77.73	57229	1.314
2577.24	77.24	55689	1.278
Intercept	2.09E+02		
Coefficient	0.0815		



Date/Time	Water Leve	Area acres fitted	Delta H	Elapsed Time Hr	Loss Rat ft/day	Loss Rate ft^3/day	ac ft/day	cfs
10/1/01 12:00 AM	2581.64	1.604						
10/3/01 12:00 AM	2580.44	1.506	1.20	48.00	0.60	40635	0.933	0.470
10/5/01 12:00 AM	2579.51	1.430	0.93	48.00	0.46	29734	0.683	0.344
10/8/01 12:00 AM	2578.35	1.336	1.16	72.00	0.39	23291	0.535	0.270
10/10/01 12:00 AM	2577.73	1.285	0.62	48.00	0.31	17693	0.406	0.205
10/12/01 12:00 AM	2577.24	1.245	0.49	48.00	0.25	13501	0.310	0.156

APPENDIX 2

Brookwood Pond Model 1
And Water Use

BROOKWOOD POND MODEL

WATER REQUIRMENTS AND USE DATA

AERIES INVESTIMENT COMPANY,

C.E. BROCKWAY P.E 5/28/02

CROP EVAPOTRANSPIRATION FROM BROCKWAY AND ALLEN 1983
FREE WATER SURFACE EVAPORATION FROM MOLNAU ET AL 1992
ANNUAL FWS LAKE EVAPORATION FOR BOISE = 42 INCHES
BOISE IS LOCATED IN REGION #3 FOR FWS EVAPORATION

MAX. IRRIG. DIV PER ACRE= 5.5 GPM USING SPRINKLERS IRRIG. EFFICIENCY= 90 PERCENT
DIVERSION FROM CANAL 122.1 INCHES
RECIRCULATION 0 INCHES
OTHER DIVERSION 0 INCHES
TOTAL DIVERSION TO POND INFLOW= 122.1 INCHES OR 2.44 CFS
ALL DITCHES & PONDS HAVE 3 TO 1 SIDE SLOPES TOTAL POND AREA = 5.04 ACRES
SEEPAGE RATES ESTIMATED FROM LOSS MEASUREMENTS <<<

	AVG EVAP AVG DAY	AVG EVAP AVG DAY	TOTAL MON. EVAP	PRECIP	PROJECT			EVAP- PRECIP	PROJECT			FWS EVAP MON. DIST	MON.	AVG DAY
					AVG EVAP	AVG EVAP	AVG EVAP	IN/	EVAP- PRECIP	EVAP- PRECIP	EVAP- PRECIP			
MO.	MM	IN	IN.	BOISE IN.	CFS	GPM	MIN.IN	DAY	CFS	GPM	MIN. IN.	%	IN.	IN
JAN	0.5	0.020	0.61	2.20	0.004	1.92	0.21	0.00	0.000	0.00	0.00	0.5	0.2	0.007
FEB	0.6	0.024	0.66	1.50	0.005	2.31	0.26	0.00	0.000	0.00	0.00	1.5	0.6	0.023
MAR	0.76	0.030	0.93	1.03	0.007	2.92	0.33	0.00	0.000	0.00	0.00	4	1.7	0.054
APR	3.67	0.144	4.33	1.17	0.031	14.11	1.57	0.11	0.023	10.30	1.15	8	3.4	0.112
MAY	5.41	0.213	6.60	1.11	0.046	20.79	2.32	0.18	0.039	17.30	1.93	14	5.9	0.190
JUN	6.61	0.260	7.81	0.96	0.057	25.41	2.83	0.23	0.050	22.28	2.48	15	6.3	0.210
JUL	6.73	0.265	8.21	0.31	0.058	25.87	2.88	0.25	0.055	24.89	2.77	17	7.1	0.230
AUG	5.11	0.201	6.24	0.50	0.044	19.64	2.19	0.19	0.040	18.07	2.01	16	6.7	0.217
SEP	3.68	0.145	4.35	0.58	0.032	14.15	1.58	0.13	0.027	12.26	1.37	10	4.2	0.140
OCT	1.45	0.057	1.77	0.81	0.012	5.57	0.62	0.03	0.007	3.02	0.34	6	2.5	0.081
NOV	1.01	0.040	1.19	1.20	0.009	3.88	0.43	0.00	0.000	0.00	0.00	5	2.1	0.070
DEC	0.63	0.025	0.77	2.20	0.005	2.42	0.27	0.00	0.000	0.00	0.00	4	1.7	0.054
	MAX MON.		8.21	2.20	0.058	25.87	2.88	0.25	0.055	24.89	2.77	17	7.1	
	ANNUAL TOT.		43.47	13.57									42.4	
	APR-SEP TOT.		37.54	4.63									33.6	

BROOKWOOD POND MODEL

POND AND IRRIGATION SYSTEM INFLOW AND OUTFLOW LOSS ESTIMATES (SUMMER)

CANAL DIVERSION	2.42	CFS	SOURCE:FARMERS UNION CANAL #SHARES		11.00	IN/SHARE=	11.00	
EXCHANGE WELL	0	CFS						
TOTAL DIVERSION	2.42	CFS	IRRIGATED ACREAGE : UPPER BOOSTER		45.8	LOWER BOOSTER	50	ACRES
DITCH SIDE SLOPE	0	TO 1	SEEPAGE RATES	PIPE	0	FT/DAY	DITCH 0.005	FT/DAY
POND SIDE SLOPE	3	TO 1		PONDS	0.005	FT/DAY	POND 5 0.98	FT/DAY SUMMER ELEV 2588
PIPE 2 TO DITCH SPLIT	35	PERCENT					POND 5 0.8	FT/DAY WINTER ELEV 2584
PIPE 3 TO PIPE 5 SPLIT	90	PERCENT						
POND 1 TO POND 2 SPLIT	50	PERCENT						

	L	WIDTH	AVG DEPTH	SURF. AREA	AREA	WET AREA	WET AREA	SEEP. RATE	VOL	IN-FLOW	SEEP-AGE	EVAP (MAX)	ACRES IRRIG.	IRRIG. DIV.	OUT-FLOW	TURN-OVER
	FT	FT	FT	FT^2	AC.	FT^2	AC.	FT/D	FT^3	CFS	CFS	CFS		CFS	CFS	HRS
PIPE 1(TO BOOSTER 1)	200			0	0.00	0	0.00	0.000	0	2.44	0.000	0.0000	0.0	0.00	2.44	0.0
PIPE 2	650				0.00	0	0.00	0.000	0	2.44	0.000	0.0000	45.8	0.56	1.88	0.0
PIPE 3	1400				0.00	0	0.00	0.000	0	1.22	0.000	0.0000	0.0	0.00	1.22	0.0
PIPE 5	2100				0.00	0	0.00	0.000	0	1.10	0.000	0.0000	0.0	0.00	1.10	0.0
PIPE 4	800				0.00	0	0.00	0.000	0	0.12	0.000	0.0000	0.0	0.00	0.12	0.0
PIPE 6	350				0.00	0	0.00	0.000	0	0.66	0.000	0.0000	0.0	0.00	0.66	0.0
DITCH 1	1850	3	0.50	5550	0.13	7400	0.17	0.005	2775	0.66	0.000	0.0012	0.0	0.00	0.66	1.2
POND 1	150	140	6.60	21000	0.48	21321	0.49	0.005	138600	0.78	0.001	0.0047	50.0	0.61	0.16	49.4
PIPE TO POND 1-2	100				0.00	0	0.00	0.000	0	0.08	0.000	0.0000	0.0	0.00	0.08	0.0
POND 2	100	150	7.50	15000	0.34	16500	0.38	0.005	112500	0.08	0.001	0.0033	0.0	0.00	0.08	390.1
PIPE TO POND 1-3	100				0.00	0	0.00	0.000	0	0.08	0.000	0.0000	0.0	0.00	0.08	0.0
PIPE TO POND 2-3	100				0.00	0	0.00	0.000	0	0.08	0.000	0.0000	0.0	0.00	0.08	0.0
POND 3	230	100	8.00	23000	0.53	26680	0.61	0.005	184000	0.16	0.002	0.0051	0.0	0.00	0.15	327.8
PIPE TO POND 3-4	1200			0	0.00	0	0.00	0.000	0	0.15	0.000	0.0000	0.0	0.00	0.15	0.0
POND 4	200	100	6.00	20000	0.46	20389	0.47	0.005	120000	0.15	0.001	0.0044	0.0	0.00	0.14	223.
POND 5	200	450	14.00	90000	2.07	95600	2.19	0.980	1260000	1.10	1.084	0.0200	0.0	0.00	-0.01	318.1
POND 6(IRRIG.SOURCE)	230	220	16.30	50600	1.16	58098	1.33	0.005	824780	0.01	0.003	0.0112	0.0	0.00	0.00	
TOT. DITCH	1850			5550	0.13	7400	0.17		2775		0.0004	0.0012				
TOT. PONDS				169000	5.04	180491	4.14		1815100		1.0893	0.0375				
TOTAL				225150	5.17	245989	5.65		2642655		1.093	0.0500	95.800	1.174		1310.0

SUMMERTIME

SYSTEM POND & DITCH SEEPAGE LOSS=	0.01	CFS=	0.4	MINERS IN.=	4 GPM
POND 5 RECHARGE	1.08	CFS=	54.2	MINERS IN.=	487 GPM
SYSTEM DESIGN EVAP LOSS=	0.050	CFS=	2.50	MINERS IN.=	22 GPM
SYSTEM IRRIG. REQ'T=	1.174	CFS=	58.70	MINERS IN.=	527 GPM
SYSTEM WATER REQ'T=	2.32	CFS=	115.9	MINERS IN.=	1040 GPM
SYSTEM DIVERSION AVAILABLE=	2.44	CFS=	122.1	MINERS IN.=	1096 GPM
SYSTEM RETURN FLOW	0.12	CFS=	6.2	MINERS IN.=	56 GPM

MAX POND TURNOVER TIME- ALL PONDS= 1310.0 HOURS TOTAL WATER REPLACEMENT

SYSTEM IRRIGATION SEASON POND WATER USE ESTIMATE

IRRIGATION SEASON LENGTH	180.0	DAYS
AVERAGE PROJECT SEEPAGE	0.009	CFS
POND 5 RECHARGE	1.084	CFS
IRRIG SEASON PROJECT SEEPAGE	3	ACRE FEET
IRRIG. SEASON EVAP. (CONSUMPTIVE USE)	16.2	ACRE FEET

SYSTEM IRRIGATION SEASON DISCHARGE REQ'T

POND SEEPAGE LOSS FOR	5.17 ACRES=	4	GPM
POND 5 RECHARGE		487	GPM
MAX. EVAPORATION LOSS		22.4	GPM
IRRIGATION OF	95.8 ACRES FROM PONDS	527	GPM
TOTAL IRRIGATION SEASON DISCHARGE REQ'T		1040	GPM

SYSTEM NON-IRRIGATION SEASON POND WATER USE ESTIMATE

NON-IRRIGATION SEASON LENGTH	185	DAYS
AVERAGE PROJECT SEEPAGE	0.009	CFS
POND 5 RECHARGE	0.885	CFS
NON-IRRIG SEASON PROJECT SEEPAGE	3	ACRE FEET
NON-IRRIG. SEASON EVAP. (CONSUMPTIVE USE)	2.6	ACRE FEET

SYSTEM NON-IRRIGATION SEASON DISCHARGE REQ'T(PONDS FULL)

POND SEEPAGE LOSS FOR	5.17 ACRES=	4	GPM
POND 5 RECHARGE		397	
MAX. EVAPORATION LOSS(OCTOBER)		5.8	GPM
TOTAL NON IRRIGATION SEASON DISCHARGE REQ'T		407	GPM

EXHIBIT C

CONSUMPTIVE USE COMPARISON

ESTIMATED MAXIMUM NET GROUNDWATER USE FOR RESIDENCES

IRRIGATION

NUMBER OF LOTS	380	IRRIG EFF=	60 %
ACRES IRR/LOT=	0	ACRES	
TOTAL ACRES IRRIG.	0.00	ACRES	
MAXIMUM DAILY ET=	0.25	INCHES	
MAX DAILY PR-ET	0.000	CFS=	0.0 GPM
MAX DAILY DIV. REQT	0.000	CFS=	0.0 GPM
SEASONAL ET	0.00	ACRE FT/YEAR	

DOMESTIC C.U.

		75	% OCCUPANCY
USE/HOUSHOLD		75	GPD
FOR	380 LOTS	28500	GPD MAXIMUM
SEASONAL DOMESTIC USE		7801875	GAL
	OR	23.94	ACRE FEET/YEAR

MAX REF ET =	0.3264	INCHES/DAY=	8.29 MM/DAY(ALLEN & BROCKWAY,1983)
SEAS. REF ET=	52.56	INCHES/YEAR=	1335 MM(ALLEN & BROCKWAY,1983)

PROJECT IRRIGATION NON-DOMESTIC

SYSTEM IRRIGATED ACREAGE AND ESTIMATED MAXIMUM ET

VEGETATION EST	ACRES	CROP COEFF.	ET IN/DAY	MAX USE AF/DAY	MAX USE GPD
TURF	57.48	0.80	0.26	1.25	407508
SHRUBS	38.32	0.75	0.24	0.78	254692
TOTAL	95.80			2.03	662200

WEIGHTED MAX DAY CROP COEFF.	0.78	
SEASONAL AVG CROP COEFF	0.52	(ALLEN & BROCKWAY, 1983)
SEASONAL REFERENCE ET	52.56	INCHES
SEASONAL WEIGHTED ET=	27.33	INCHES
TOTAL SEASON ET	218.2	ACRE FEET

CURRENT CROPPING

TOTAL IRRIGATED ACREAGE	185.96 ACRES
CROP	ALFALFA
SEASONAL ALFALFA CROP COEFF	0.6
SEASONAL ALFALFA ET	31.54 INCHES
TOTAL SEASON ET(ALFALFA)	488.69 ACRE FEET

PRE PROJECT V PROJECT

IRRIGATION C.U. WATER BUDGET	PROJECT	PRE PROJECT
CROP CONSUMPTIVE USE		489
POND CONSUMPTIVE USE	16	
LANDSCAPING CONSUMPTIVE USE	218	
RESIDENTIAL CONSUMPTIVE USE	24	
TOTAL	**258**	**489 AF**

ANNUAL PROJECT WATER USE SUMMARY

IRRIGATION SEASON		NON-IRRIGATION SEASON
CANAL WATER USE	862 ACRE FEET	0
POND 5 RECHARGE	386 ACRE FEET	324 ACRE FEET FROM EXCHANGE WELL
POND SEEPAGE	3 ACRE FEET	3 ACRE FEET FROM EXCHANGE WELL
POND EVAPORATION	16 ACRE FEET	3 ACRE FEET FROM EXCHANGE WELL
IRRIGATION APPLICATION	242 ACRE FEET	0
TOTAL RECHARGE +SEEPAG	390 ACRE FEET	330 ACRE FEET FROM EXCHANGE WELL

EXCHANGE WELL MAX DISCHARGE= 407 GPM OR 0.91 CFS - average non-irrig season requirement from well
.95cfs - after irrig season when seepage rate is higher

Boise WSO AP Consumptive Use from Allen and Brockway 83
** Monthly average daily (mm/day) and Seasonal Totals (mm) **

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
ETr									
MEAN ETr	2.17	4.29	5.91	7.65	8.29	6.72	5.24	3.38	1335.
STDV ETr	0.31	0.38	0.46	0.47	0.32	0.40	0.44	0.32	35.
Alfalfa Hay									
MEAN CU	0.76	3.67	5.41	6.61	6.73	5.11	3.68	1.45	1021.
MEAN IR	0.22	2.93	4.63	5.86	6.56	4.84	3.33	1.04	899.
STDEV CU	0.11	0.32	0.42	0.41	0.26	0.30	0.31	0.14	27.
STDEV IR	0.32	0.64	0.75	0.76	0.31	0.57	0.59	0.39	47.
Alfalfa Seed									
MEAN CU	1.20	3.67	5.29	6.32	4.53	2.53	1.18	0.25	762.
MEAN IR	0.65	2.93	4.52	5.59	4.38	2.31	0.88	-0.13	645.
STDEV CU	0.17	0.32	0.41	0.39	0.18	0.15	0.10	0.02	24.
STDEV IR	0.35	0.64	0.74	0.74	0.24	0.41	0.39	0.32	44.
Dry Beans									
MEAN CU			1.77	3.87	7.63	3.25	0.56		525.
MEAN IR			1.25	3.34	7.47	3.05	0.31		474.
STDEV CU			0.14	0.24	0.30	0.19	0.05		16.
STDEV IR			0.42	0.51	0.33	0.41	0.31		29.
Field Corn									
MEAN CU			1.77	3.54	7.58	6.15	3.77	0.91	728.
MEAN IR			1.19	2.96	7.40	5.88	3.43	0.53	656.
STDEV CU			0.14	0.22	0.30	0.36	0.32	0.09	19.
STDEV IR			0.46	0.53	0.34	0.63	0.58	0.34	34.
Silage Corn									
MEAN CU			1.77	3.54	7.58	6.15	3.77		700.
MEAN IR			1.19	2.96	7.40	5.88	3.43		640.
STDEV CU			0.14	0.22	0.30	0.36	0.32		19.
STDEV IR			0.46	0.53	0.34	0.63	0.58		37.
Sweet Corn									
MEAN CU			1.77	3.54	7.48	5.83			574.
MEAN IR			1.19	2.96	7.30	5.56			524.
STDEV CU			0.14	0.22	0.29	0.34			18.
STDEV IR			0.46	0.53	0.34	0.61			32.
Peas									
MEAN CU		1.38	4.13	5.43	2.09				397.
MEAN IR		0.82	3.50	4.82	1.98				338.
STDEV CU		0.12	0.32	0.34	0.08				15.
STDEV IR		0.41	0.60	0.63	0.16				33.
Potatoes									
MEAN CU		1.29	2.18	5.81	6.90	5.03	2.64		729.
MEAN IR		0.81	1.71	5.28	6.76	4.83	2.40		667.
STDEV CU		0.11	0.17	0.36	0.27	0.30	0.22		20.
STDEV IR		0.35	0.40	0.59	0.29	0.48	0.41		36.

Sugar Beets									
MEAN CU		1.29	1.79	4.18	8.16	6.52	4.42	2.07	871.
MEAN IR		0.66	1.19	3.55	7.98	6.23	4.07	1.66	777.
STDEV CU		0.11	0.14	0.26	0.32	0.39	0.37	0.20	21.
STDEV IR		0.44	0.47	0.58	0.36	0.66	0.64	0.43	40.
Spring Grain									
MEAN CU	0.65	1.39	4.77	7.64	6.52	1.27			680.
MEAN IR	0.20	0.84	4.13	6.95	6.37	1.09			598.
STDEV CU	0.09	0.12	0.37	0.47	0.25	0.07			23.
STDEV IR	0.27	0.40	0.64	0.77	0.29	0.29			40.
Winter Grain									
MEAN CU	1.24	4.12	5.91	7.65	5.23	1.05			769.
MEAN IR	0.73	3.40	5.16	6.91	5.09	0.86			675.
STDEV CU	0.18	0.36	0.46	0.47	0.20	0.06			27.
STDEV IR	0.34	0.65	0.76	0.80	0.25	0.30			47.
Pasture									
MEAN CU	0.86	3.29	4.55	5.89	6.38	5.17	4.04	2.60	1003.
MEAN IR	0.35	2.59	3.85	5.21	6.22	4.91	3.70	2.19	887.
STDEV CU	0.12	0.29	0.35	0.36	0.25	0.31	0.34	0.25	25.
STDEV IR	0.31	0.59	0.66	0.69	0.30	0.56	0.60	0.47	43.
Orchard									
MEAN CU		1.84	3.81	6.31	7.04	5.71	4.32	2.09	952.
MEAN IR		1.20	3.14	5.61	6.87	5.44	3.97	1.69	854.
STDEV CU		0.16	0.30	0.39	0.28	0.34	0.36	0.20	24.
STDEV IR		0.48	0.60	0.72	0.32	0.60	0.63	0.43	42.
Vegetables									
MEAN CU			1.80	4.00	6.38	5.34	3.58		647.
MEAN IR			1.35	3.54	6.25	5.14	3.32		600.
STDEV CU			0.14	0.25	0.25	0.32	0.30		18.
STDEV IR			0.37	0.47	0.27	0.50	0.49		30.
Onions									
MEAN CU		1.39	2.94	5.05	6.51	5.37	4.05		774.
MEAN IR		0.91	2.45	4.55	6.38	5.17	3.78		711.
STDEV CU		0.12	0.23	0.31	0.25	0.32	0.34		21.
STDEV IR		0.36	0.45	0.54	0.27	0.50	0.53		36.
Hops									
MEAN CU		1.34	4.14	7.26	7.87	6.37	4.72		969.
MEAN IR		0.73	3.46	6.51	7.69	6.09	4.36		882.
STDEV CU		0.12	0.32	0.45	0.31	0.38	0.40		27.
STDEV IR		0.44	0.63	0.79	0.35	0.64	0.66		49.

End of Data Set

APPENDIX 3

Brookwood Well Interference Analysis

Well Interference Analysis Brookwood Proposed Exchange Well — Estimated Well Drawdown

C.E. BROCKWAY February 12, 2002 Brockway Engineering, P.C.

AQUIFER PROPERTIES BASED ON USBR GROUNDWATER MANUAL-ALLUVIAL SAND AND GRAVEL
AND LOCAL WELL DRILLER'S LOGS
EST. HOLE DIA. 12 INCHES

USING THEIS FORMULA S=114.6*Q/T*W(U)
S= DRAWDOWN IN FT
Q= PUMPING RATE GPM
T= COEFFICIENT OF TRANSMISSIBILITY GPD/FT
W(U)= WELL FUNCTION OF 'U'

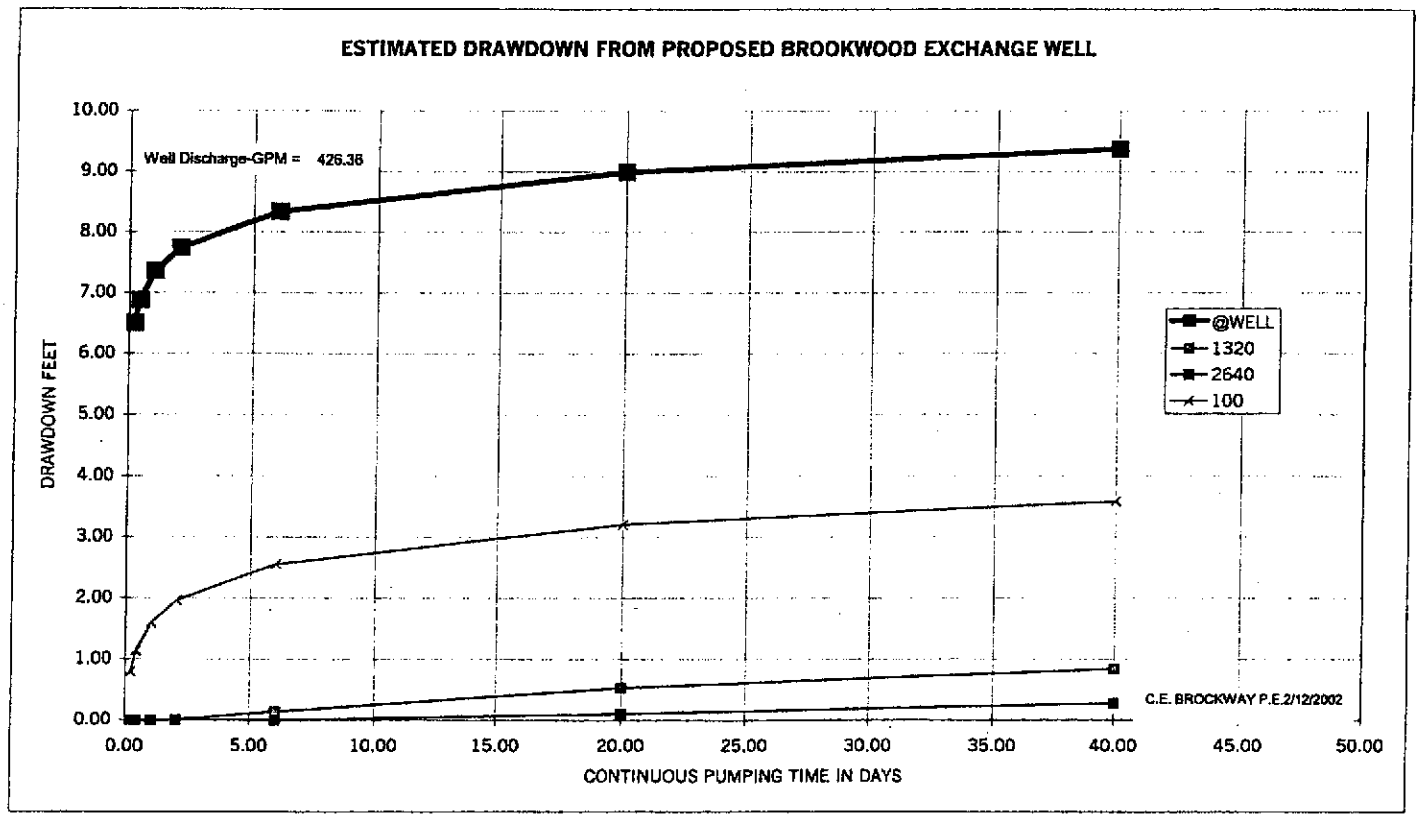
W(U)=-.5772-LOGeU +U-U^2/(2*2!)+U^3/(3*3!)-U^4/(4*4!) .....
U=1.87*r^2*S/(T*t)
r=DISTANCE IN FT. FROM CENTER OF PUMPED WELL TO DRAWDOWN POINT
S=COEFFICIENT OF STORAGE
T=COEFFICIENT OF TRANSMISSIBILITY, GPD/FT
t= TIME SINCE PUMPING STARTED, DAYS

INPUT

r1=	0.500	FT	K=	40.00	FT/DAY
r2=	100	FT	K=	0.00046296	CFS/FT^2
r3=	1320	FT	K=	2.98E+02	GPD/FT^2
r4=	2640	FT	WRIGHT SAT. DEPTH EST.=	300	FT
r5=	5280	FT	TRANSMISSIVITY=	89520	GPD/FT
S=	0.15		TRANSMISSIVITY=	1.39E-01	FT^2/SEC
T=	89520	GPD/FT	TRANSMISSIVITY=	11967.9	FT^2/DAY
Q/WELL	426.36	GPM =	0.950 CFS		

TIME HOURS	TIME t DAYS	U w/r1 0.5	WELL FUNCT. W(U)1	DRAW DOWN @WELL	SPEC. CAP GPM/FT	U W/r2 100	WELL FUNCT. W(U)2	DRAW DOWN @ 100	U W/r3 1320	WELL FUNCT. W(U)3	DRAW DOWN @ 1320	U W/r4 2640	WELL FUNCT. W(U)4	DRAW DOWN @ 2640
5	0.21	3.760E-06	11.9139	6.50	66	1.504E-01	1.4622	0.80	2.621E+01	0.0000	0.00	1.048E+02	0.0000	0.00
10	0.42	1.880E-06	12.6070	6.88	62	7.520E-02	2.0842	1.14	1.310E+01	0.0000	0.00	5.241E+01	0.0000	0.00
24	1.00	7.833E-07	13.4825	7.36	58	3.133E-02	2.9169	1.59	5.460E+00	0.0000	0.00	2.184E+01	0.0000	0.00
48	2.00	3.917E-07	14.1756	7.74	55	1.567E-02	3.5946	1.96	2.730E+00	0.0184	0.01	1.092E+01	0.0000	0.00
144	6.00	1.306E-07	15.2743	8.34	51	5.222E-03	4.6828	2.56	9.099E-01	0.2558	0.14	3.640E+00	0.0032	0.00
480	20.00	3.917E-08	16.4782	8.99	47	1.567E-03	5.8832	3.21	2.730E-01	0.9766	0.53	1.092E+00	0.1885	0.10
960	40.00	1.958E-08	17.1714	9.37	45	7.833E-04	6.5755	3.59	1.365E-01	1.5463	0.84	5.460E-01	0.5076	0.28

HOURS	DAYS	@WELL	100	1320	2640 DISTANCE FEET
0	0.00	0	0	0	0
5	0.21	-6.50	-0.80	0.00	0.00
10	0.42	-6.88	-1.14	0.00	0.00
24	1.00	-7.36	-1.59	0.00	0.00
48	2.00	-7.74	-1.96	-0.01	0.00
144	6.00	-8.34	-2.56	-0.14	0.00
480	20.00	-8.99	-3.21	-0.53	-0.10
960	40.00	-9.37	-3.59	-0.84	-0.28



Brookwood
Well Driller's Logs
Twonship 4N Range 1E

Log Number	Date	Owner	Address	Section	Quarter Quarter	Well Depth	S.W.L	Pump Test Discharge gpm	Pumping Level
1	1966	Danny Tolman	RFD Eagle ID	4	SESE	120	10	20	NA
2	1969	Howard Jenkins	10310 Whispering Cliffs Boise	4	SESE	140	10	45	47
3	1969	Howard Jenkins	10310 Whispering Cliffs Boise	4	SESE	140	10	36	38
4	1970	Howard Jenkins	10310 Whispering Cliffs Boise	4	SESE	116	14	25	30
5	1970	Boyce Peterson	4655 Shannon Ln. Boise	4	SESE	99	8	50	NA
6	1971	Boyce Peterson	720 North Orchard	4	SESE	67	11' 10"	36	NA
7	1970	Boyce Peterson	720 North Orchard	4	SESE	138	8' 5"	60	NA
8	1970	Quarter Circle DJ Ranch	Box 27 F Eagle ID	4	SESE	361	30	40	50
9	1961	William J Holman	Rt. 1 # 334 Boise	4	SWNE	60'2"	40	NA	45
10	1972	Forrest Prohasha	3700 Hill Rd Boise	4	SWSE	285	51	37	42
11	1978	Larry Human	NA	4	SENW	123	43	NA	NA
12	1978	Stan Bastun	Eagle ID	4	NESW	63	15	NA	NA
13	1978	Larry Crawford	5215 Tinker Boise ID	4	SENW	89	11	40	NA
14	1977	Gregory Design Constr.	P.O. Box 362 Eagle ID	4	NWSW	116	20	30	NA
15	1978	Glen Rhodes Cons	Boise ID	4	NWSW	89	40	NA	NA
16	1978	Rick Bechteld	NA	4	NESW	90	43	15	75
17	1979	Gregory Design Constr.	P.O. Box 362 Eagle ID	4	NWSW	45	10	30	NA
18	1975	Cecil Arnold	1024 W. Avalon Kuna ID	4	SENE	95	25	20	30
19	1975	Al Miller	Beacon Light	4	NWSW	47	20	15	20
20	1979	Bill Taylor	Eagle Idaho	4	SWNE	39	14	50	15
21	1980	Behrman Bros. Const.	2075 Ridgeview Way Boise	4	NWSW	112	34	NA	NA
22	1981	Bob A Wright	1311 Jackson Boise	4	NESW	82	NA	50	34
23	1981	Bob A Wright	1311 Jackson Boise	4	NESW	82	31	50	34
24	1983	Jim Trent	Eagle ID	4	NWSW	56	18	45	43
25	1991	Ivan Flemming	4200 Ballantine Ln Eagle ID	4	SWNE	228	60	30	90

Log Number	Date	Owner	Address	Section	Quarter Quarter	Well Depth	S.W.L	Pump Test Discharge	Pumping Level
26	1992	William Weiler	5231 Amberidge Dr. Agoura CA 71301-2301	4	NESW	100	28	50	33
27	1991	Bob Yearsley	P.O. Box 4787 Boise	4	NESW	84	20	30	NA
28	1990	Roger Crandelmire	1400 Floating Feather Rd Eagle	4	SESE	323	32	NA	NA
29	1990	Dan Seanons	50 Rooster Drive Eagle	4	NWSW	120	25	NA	NA
30	1989	Ed Carlson	4280 Greenmeadow Ave Boise	4	SWNE	85	18	60	60
31	1988	Pete Cintirino	Eagle ID	4	SWSE	80	1	60	NA
32	1987	Lowell Rosanbalm	Eagle	4	SENW	57	27	40	NA
33	1983	Laura Ford	NA	4	NWSW	47	10	40	NA
34	1984	Greg Brown	P.O. Box 241 Meridian	4	SENE	90	32	60	NA
35	1993	LDS Church	2710 NW Sunrise Rim Rd Suite200	4	SWNW	470	28	NA	NA
36	1993	LDS Church	2710 NW Sunrise Rim Rd Suite200	4	SWNW	430	28	100	52
37	1993	McCarter-Moonehouse	9703 Ustick Boise	4	SENW	101	25	65	NA
38	1992	Rick Rainer	199 Rooster Eagle ID	4	NWSW	128	25	43	NA
39	1992	Monty Marcus	4102 Star Valley St Boise	4	NESW	104	25	70	NA
40	1992	Rober Slager	575 E Rooster Eagle	4	SENW	87	28	35	75
41	1992	Bud Stork	133 Rooster Dr. Eagle	4	NWSW	199	30	75	NA
42	1998	Mark Urness	2224 N Ram St Eagle	4	SENW	93	20	50	NA
43	1999	Wally Day	153 E Rocky Dr Eagle	4	SENW	87	35	45	82
44	1999	Tim Unruh	2392 N Ram Eagle	4	SENW	108	32	70	100
45	1999	Jack Pfeffers	801 Los Luceros Eagle	4	SWNE	84	35	60	77

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Transfer No. 10604

APPLICATION FOR TRANSFER OF WATER RIGHT
PART 1

Name of applicant Aries Development L.L.C. Phone 208-336-2200

Post Office address P.O. Box 6887 Boise, ID 83707

A. PURPOSE OF TRANSFER

1 ☐ Change point of diversion ☒ Add diversion point ☒ Change place of use
☒ Change nature of use ☒ Change period of use ☐ Other

2. Describe the reason for the proposed changes To provide ground water for mitigation of consumptive use due to evaporation from aesthetic ponds. See attached narrative.

B. DESCRIPTION OF RIGHT(S) OR PORTION THEREOF, AFTER THE REQUESTED CHANGE

1. Right Number	Priority	Amount (cfs/ac-ft)	Nature of Use	Period of Use
63-5087	01/01/1962	0.40/333.0	Stockwater	1/1 to 12/31
		.04/28	Domestic	1/1 to 12/31
		.04/14.0	Rec./Aes.	1/1 to 12/31
				to

2 Total amount of water being transferred .44 cubic feet per second and/or 375 acre-feet per annum.

3. Source of water Ground water tributary to

4. Point(s) of Diversion:

Lot	1/4	1/4	1/4	Sec.	Twp.	Rge	County	Local name for diversion
		NE	NW	3	4N	1W	Ada	
		NE	SE	4	4N	1E	Ada	

5 Lands irrigated or place of use:

Twp	Rge.	Sec.	NE 1/4				NW 1/4				SW 1/4				SE 1/4				Totals
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	
4N	1W	3					S D			S D									
4N	1E	4									A		A	A	A	A	A	A	

Total acres

EXHIBIT
tabbies 2

 Transfer No. _____

PART 1

6. General Information:

a. Description of diversion system Well and pipe/ditch distribution to ponds within Brookwood Subdivision See attached narrative

b. Are the lands from which you propose to transfer the water right subject to any liens, deeds of trust, mortgages, or contracts?

☐ Yes ☒ No. If yes, provide a notarized statement from the holder of the lien, deed of trust, mortgage or contract agreeing to the proposed changes.

c. Describe the effect on the land now irrigated if the place of use is changed pursuant to this transfer:

None

d. Remarks:

ACTION OF THE DIRECTOR, DEPARTMENT OF WATER RESOURCES

This is to certify that I have examined Application for Transfer of Water Rights No. _____

And said application is hereby _____, subject to the following limitations and conditions:

Witness my hand this _____ day of _____, 19 _____.

_____

pg 3a of 6

PART 2

12/26/2002

IDAHO DEPARTMENT OF WATER RESOURCES

Adjudication Claim Report 63-5087

WATER RIGHT NUMBER: 63-5087

Owner Type	Name and Address
Current Owner	QUARTER CIRCLE DJ RANCH CO C/O JAMES C WARREN PO BOX 279 EAGLE, ID 83616 (208)286-7131
Representative	SHERL CHAPMAN 410 S ORCHARD SUITE 144 BOISE, ID 83705 (208)344-6690

Priority Date: 01/01/1962

Basis: Statutory Claim

Status: Active

Source	Tributary
GROUND WATER	

Beneficial Use	From To	Diversion Rate	Annual Volume
DOMESTIC	1/01 to 12/31	0.040 CFS	28.00 AF
STOCKWATER	1/01 to 12/31	0.440 CFS	347.00 AF
	Total Diversion:	0.480 CFS	375.00 AF

Location of Point(s) of Diversion

GROUND WATER NE1/4NW1/4 Sec. 3, Twp 04N, Rge 01W, B.M.

ADA County

Place of Use

DOMESTIC

Twp Rge Sec	NE				NW				SW				SE				
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	Totals
04N 01W 3					X			X									

STOCKWATER

Twp Rge Sec	NE				NW				SW				SE				
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	Totals
04N 01W 3					X			X									

PART 2

Transfer No. _____

10. To your knowledge, has any portion of this water right undergone a period of five or more consecutive years of non-use?

No If yes, describe _____

B. DESCRIPTION OF PORTION OF RIGHT BEING TRANSFERRED

(If the entire right is to be changed by the applicant, omit part B and C)

1. Amount (cfs/ac-ft) 0.4/14.0 for Stockwater purposes from 1/1 to 12/31
   Amount (cfs/ac-ft) _____ for _____ purposes from _____ to _____
   Amount (cfs/ac-ft) _____ for _____ purposes from _____ to _____

2. Point(s) of Diversion:

Lot	1/4	1/4	1/4	Sec.	Twp.	Rge	County	Local name for diversion
		NE	NW	3	4N	1W	Ada	

3. Lands irrigated or place of use:

Twp.	Rge.	Sec.	NE 1/4				NW 1/4				SW 1/4				SE 1/4				Totals
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	
4N	1W	3					S			S									

Total acres _____

C. DESCRIPTION OF UNCHANGED PORTION OF RIGHT *(omit if there is no change)*

1. Amount (cfs/ac-ft) .40/333.0 for Stockwater purposes from 1/1 to 12/31
   Amount (cfs/ac-ft) .04/28 for Domestic purposes from 1/1 to 12/31
   Amount (cfs/ac-ft) _____ for _____ purposes from _____ to _____

2. Point(s) of Diversion:

Lot	1/4	1/4	1/4	Sec.	Twp.	Rge	County	Local name for diversion
		NE	NW	3	4N	1W	Ada	

3. Lands irrigated or place of use:

Twp.	Rge.	Sec.	NE 1/4				NW 1/4				SW 1/4				SE 1/4				Totals
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	
4N	1W	3					S D			S D									

Total acres _____

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Transfer No. _____

APPLICATION FOR TRANSFER OF WATER RIGHT

PART 3

A. Draw a map or attach a USGS map indicating the new point(s) of diversion and/or the new place of use for rights described in part 1. Clearly depict the land by section, township and range number.

See Attachments 1-3

SCALE: 2 inches equals 1 mile. Draw plan in ink.

 Transfer No. _____

PART 3

B. CHANGES IN NATURE OF USE

1. New Nature of Use	Amount (cfs/ac-ft)	Hours/days/year	Period of Use
~~Rec.~~ /Aes.	.04/14	AS NEEDED	1/1 to 12/31
Storage			to

2. Quantity and quality of return flows and location of discharge:

None

3. Describe the effects on other water uses resulting from the proposed change:

None

I hereby assert that no one will be injured by such change and that the change does not constitute an enlargement in use of the original right. The information contained in this application is true to the best of my knowledge.

I understand that any willful misrepresentations made in this application may result in voiding its approval.

(Signature of Applicant)

Subscribed and sworn to before me this 11th day of December 2002

(Notary Public)

DEBORAH MELLVILLE NOTARY PUBLIC STATE OF IDAHO

My commission expires 9-15-04

FOR DEPARTMENT USE ONLY

Transfer contains 6 pages and 6 attachments

Received by KG Date 12/11/02 Protest filed by _____

Prelim. check by _____ Fee 100.00 _____

Receipted by KG Date 12/11/02 W0029917

Published in Idaho Statesman Copies of protest forwarded by _____

Pub. dates 7-3 & 10-03 Hearing held by _____ Date

Watermaster recommendation requested on _____ Recommended for [ ] Approval [ ] Denial

_____ rec'd. _____ by _____

Copy of transfer sent to lien holder _____

9046013

WARRANTY DEED

ADA COUNTY IDAHO
FOR Lawyers Title

'90 AUG 28 PM 3 24
JOHN BASTIDA, RECORDER
BY B Belvedere
3.00

For Value Received

Quarter Circle DJ Ranch, an Idaho general partnership,

the grantor, does hereby grant, bargain, sell, and convey unto

Richard M. Hormaechea and Mary B. Hormaechea, Husband and Wife

the grantee, whose current address is P. O. Box 6887, Boise, Idaho 83707

the following described premises, to-wit:

The South 10 acres of Lot 3 and the Southeast Quarter of the Northwest Quarter and the Northeast Quarter of the Southwest Quarter of Section 3, Township 4 North, Range 1 West, Boise Meridian, Ada County, Idaho.

EXCEPT DITCH AND ROAD RIGHTS-OF-WAY.

TO HAVE AND TO HOLD the said premises, with their appurtenances unto the said Grantee, his heirs and assigns forever. And the said Grantor does hereby covenant to and with the said Grantee, that Grantor is the owner in fee simple of said premises; that said premises are free from all encumbrances except current years taxes, levies, and assessments, and except U. S. Patent reservations, restrictions, easements of record, and easements visible upon the premises, and that Grantor will warrant and defend the same from all claims whatsoever.

Dated: August 28, 190

Quarter Circle DJ Ranch

BY: James C. Warren
James C. Warren, General Partner

David M. Harney, by James C. Warren, his attorney in fact

BY: _____
David M. Harney, General Partner by James C. Warren, his Attorney in Fact

STATE OF IDAHO)
: ss
COUNTY OF ADA)

On This 28th day of August, in the year 1990, before me, a Notary Public in and for said State, personally appeared James C. Warren, known or identified to me to be one of the partners in the partnership of Quarter Circle DJ Ranch, and the partner or one of the partners who subscribed said partnership name to the foregoing instrument, and acknowledged to me that he executed the same in said partnership name.

Notary Public of Idaho
Residing at Boise, Idaho
Commission Expires: 6/27/92

STATE OF IDAHO
COUNTY OF ADA

On this 28th day of August, in the year 1990, before me, a Notary Public in and for said State, personally appeared, James C. Warren, partner of the partnership of Quarter Circle DJ Ranch, known to be the person whose name is subscribed to the within instrument as the attorney-in-fact of David M. Harney, partner of the partnership of Quarter Circle DJ Ranch, and acknowledged to me that he subscribed the name of David M. Harney, thereto as principal, and his own name as attorney-in-fact.

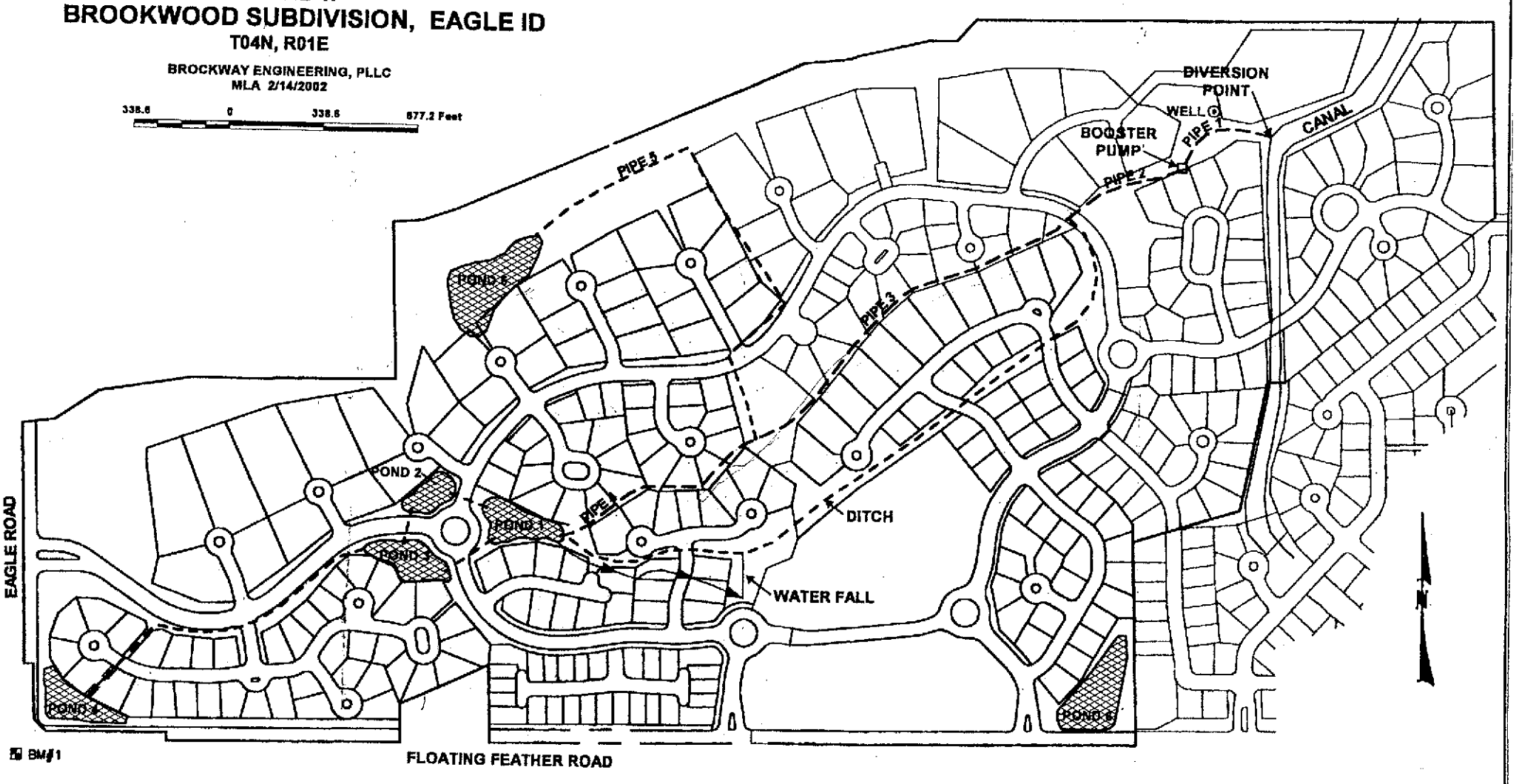
Comm. Expires 6/27/92

First American Title Company of Idaho

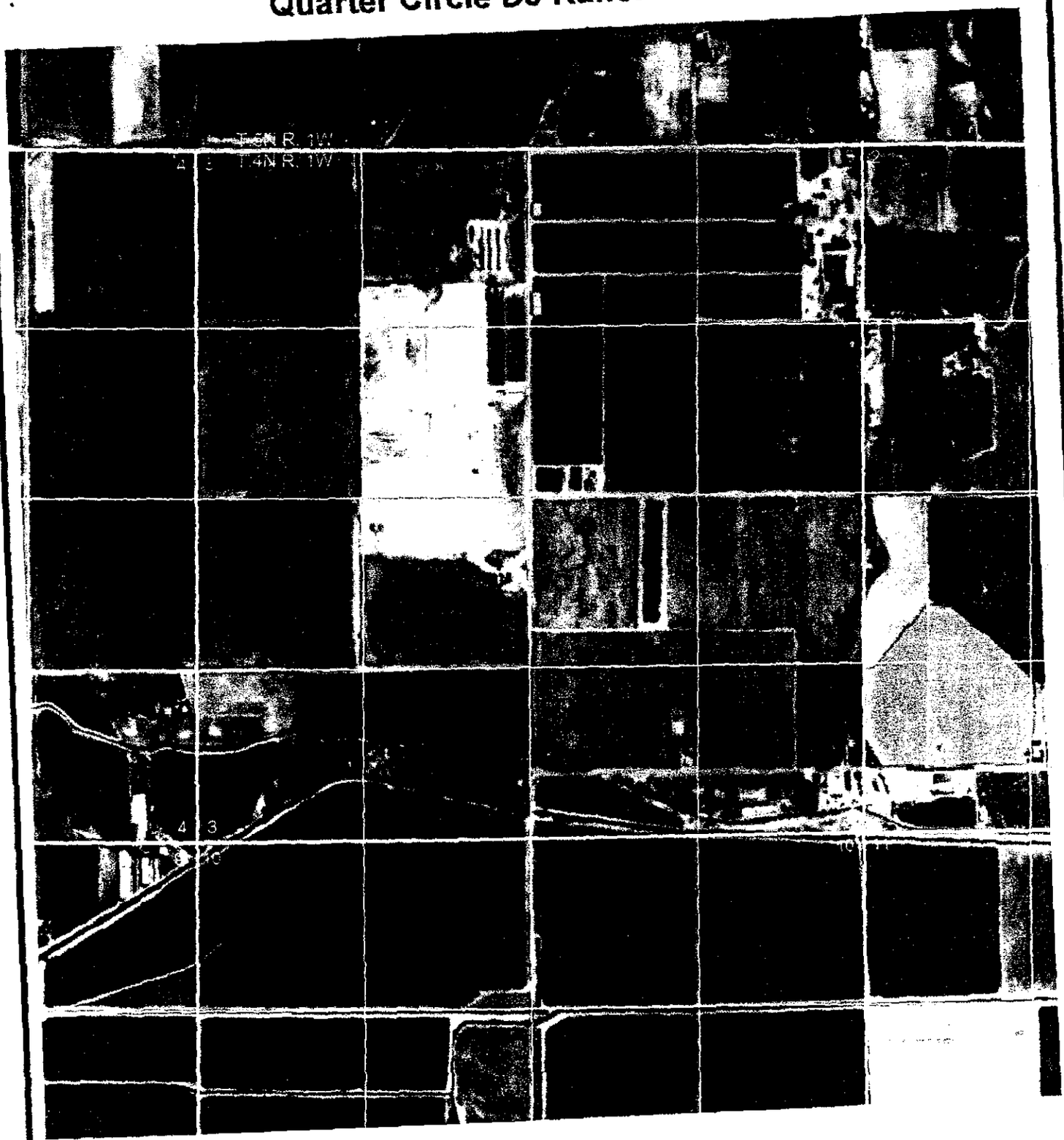
FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet



Quarter Circle DJ Ranch Feedlot



PROPERTY DESCRIPTION
The South 10 acres of Lot 3 and the Southeast Quarter of the Northwest Quarter and the Northeast Quarter of the Southwest Quarter of Section 3, Township 4 North, Range 1 West, Boise Meridian, Ada County, Idaho

N
W E
S

November 11, 2002

Brockway Engineering, PLLC.

Narrative in Support of Application for Permit

Brookwood Subdivision Exchange Well
Aries Development L.L.C.
by Brockway Engineering P.L.L.C.

December 9, 2002

Brookwood is a 382 unit subdivision located in Section 4, T 4N R 1E Boise Meridian north of Eagle, Idaho. This subdivision, located on bottom land and bench areas of Dry Creek, is being developed on irrigated farmland served by the Farmers Union Canal. The Farmer's Union Canal is the east boundary of the subdivision and the historical irrigation diversion from the canal will continue to serve the irrigation requirements for a pressure irrigation system serving all lots and common areas. Domestic water is provided by the municipal system of the City of Eagle.

The subdivision will include water amenities including six (6) multi-purpose ponds providing irrigation storage and aesthetic benefits, Figure 1. The ponds serve as storage for diversions of shares from the canal system during the irrigation season and will be supplemented by ground water provided from an exchange well during the non-irrigation season.

The purpose of this Application is to obtain a permit for a well to provide water for non-irrigation season maintenance of the pond and ditch system. Year round evaporation from the aesthetic/recreational ponds will be mitigated by transfer of a portion of water right 63-5087 from a feedlot owned by the applicant. No mitigation for evaporation from the irrigation/storage ponds is contemplated.

Figure 1 shows the plat of the subdivision, canal diversion, distribution system and the six (6) ponds. Ponds 1,2,3, and 4 are lined with bentonite and compacted earth and Pond 6 is lined with a membrane liner. Pond 5 is unlined and any waste water from the canal system during the summertime and exchange water from the well will infiltrate back into the aquifer thereby reducing any surface water runoff from the property. During the non-irrigation season, the pond levels will be maintained with ground water pumped as necessary.

Brookwood owns 11 shares in the Farmer's Union Canal. Each share represents 11 miner's inches of discharge so the canal discharge available to the project is 121 miner's inches or 2.42 cfs. Historically, 186.0 acres have been irrigated on the Brookwood property from the canal, see Figure 2.

The project plan includes 382 single family lots with approximately 50 acres of common area. Irrigation of landscaping and turf on each lot and the common area will be from a pressure distribution system with two booster pumps from the pipe/pond system. The upper booster is located near the canal diversion, and the lower booster diverts from Pond 1 near the west end of the subdivision. Based on the average lot size of 0.22 acres, a residence footprint and paved area of 4200 square feet, the irrigated area on each lot is

estimated to be 0.12 acres. For the 382 residences the irrigated area is therefore 45.8 acres. The total irrigated area is therefore 50 + 45.8 or 95.8 acres.

Ponds 1,2, and 3 are utilized as irrigation storage and are tied together hydraulically. The pumping plant for the irrigation system is located at the southwest corner of Pond 1. Ponds 4, 5, and 6 are off-line ponds and are primarily recreational; however, Pond 4 does provide storage for waste water which would normally flow off the property at the corner of Eagle Road and Floating Feather Road. The combined area of ponds 4,5, and 6 is 3.69 acres. The six ponds are designed with an average surface area of 5.17 acres and a volume of 60.7 acre feet.

A model of the pipe, ditch and pond system was prepared to simulate the operation of the system during the irrigation season and evaluate the various components of the water balance. A copy of the spreadsheet model is attached to this narrative as Figure 3.

Evapotranspiration for the project was determined using procedures outlined in Allen and Brockway, 1983, using the Boise WSO AP station meteorological and Et data. Free water surface evaporation was determined using procedures outlined in 'Monthly Shallow Pond Evaporation in Idaho by Molnau, Kpordze, and Craine, 1992. ASAE paper PNW 92-111.

Seepage from Pond 5 was measured during the period October 1-12, 2001 by Toothman-Orton Engineering Company. Seepage rates for this unlined pond varied from 0.16 to 0.47 ft/day over pond elevations from 2577.2 to 2580.4. Loss rates were extrapolated to proposed operating pond levels up to elevation 2588 at which the estimated maximum seepage rate for Pond 5 is 0.98 ft per day or 1.08 cfs. This loss rate is expected to decrease with time as sediment on the bottom of the pond increases. Pond 5 will be operated at a lower water level elevation during the winter at which the estimated seepage rate is about 0.95 cfs. The lined ponds and ditch were estimated to have operating loss rates of 0.005 ft/day (1/16 in), Appendix

The pond model indicates that the system can operate during the irrigation season utilizing the 0.95 cfs inflow from the exchange well with irrigation demand furnished from the canal. Infiltration back to the aquifer through the pond will be equal to the well discharge plus any system waste. The total seepage through all ponds during the irrigation season is estimated to be 1.09 cfs. Evaporation from the pond system during the irrigation season is 16.2 acre feet.

The total consumptive use of the project including turf and landscape irrigation, pond evaporation, and residential in-house consumptive use (not provided by the irrigation system) is 258 af/year whereas the pre-project consumptive use from crop irrigation on 185.96 acres is 489 acre feet per year.

Infiltration back to the aquifer through the pond system is estimated at 386 acre feet during the irrigation season. Ground water extraction from the exchange well required to maintain pond seepage and evaporation, including seepage from unlined Pond 5, is 380 acre feet.

The maximum required discharge from the exchange well is 425 gpm or 0.95 cfs.

The water balance and pond model indicates that pumping from an exchange well on the project of not-more-than 330 acre feet during the non-irrigation season at a rate of 0.95

cfs will maintain pond water levels. Evaporation from the ponds will be mitigated by transfer of 0.04 cfs and 13.1 af of ground water under water right 63-5087. Water right 63-5087 is a stockwater right located in the NE1/4 NW1/4 Sec 3 T 4N R1W in Ada County.

The proposed exchange well would be located near the canal diversion so that discharge can be integrated into the entire distribution system. The aquifer underlying the area is composed of alluvial sand and gravels with a hydraulic conductivity estimated at 40 ft/day based on well driller's logs in the area. An estimate of the draw down from a 12 inch diameter well pumping 0.95 cfs was estimated using a Theis analysis assuming continuous pumping for a 40 day period. The Theis analysis output is on the spreadsheet included the Appendix. This analysis shows the estimated draw down at 100 feet from the pumped well of 3.6 feet and a draw down of 0.9 feet at 1320 feet from the well. This analysis assumes no return of water to the aquifer through seepage from ponds, particularly Pond #5. The nearest well to the exchange well is approximately 1200 feet. Operation of the pumped well will not significantly affect aquifer water levels in the area.

During the non-irrigation season operation of the exchange well, a maximum of 425 gpm (.95 cfs) will be pumped from the well. The pond water levels will be maintained in all ponds and the seepage back into the aquifer from all ponds will be 420 gpm so the impact on the regional aquifer system will not be significant. Pond 5 where 95% of the non-irrigation season seepage returns to the aquifer is approximately 2709 feet from the exchange well.

Form 235-1
1/31/03

Drilling Permit No.:_____
Drilling Permit I.D. Tag No.:_____
Water Right Permit No.:_____
Injection Permit No.:_____

State of Idaho
Department of Water Resources

APPLICATION FOR DRILLING PERMIT
(FOR THE CONSTRUCTION OF A WELL)

COPY

1. **Owner (please print):** Aries Development LLC

2. **Mailing Address:** P.O. Box 6887

City: Boise **State:** ID **Zip Code:** 83707 **Telephone:** (208) 939-2552

3. **Proposed Well Location:** Twp. 04N, Rge. 01E, Sec. 4, ____¼, NE ¼, SE ¼;

Gov't Lot No. _____ County Ada Lat. ____: ____: ____ Long. ____: ____: ____

Street Address of Well Site 1/3 mile North of Floating Feather Road City Eagle
Give at least name of road + Distance to Road or Landmark

Lot, block and subdivision Brookwood Subdivision

4. **Proposed Use of Well:**

☐ DOMESTIC: The use of water fro homes, organization camps, public campgrounds, livestock and for any other purpose in connection therewith, including irrigation of up to ½ acre of land, if the total use is not in excess of 13,000 gpd; or any other uses, if the total use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

Domestic does not include water for multiple ownership subdivisions, mobile home parks, commercial or business establishments, unless the use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

NON-DOMESTIC: ☐ Irrigation ☐ Municipal ☐ Industrial
☐ Livestock ☒ Test ☐ Other: _____ (Describe)
Type _____ # Head _____

☐ INJECTION

☐ MONITORING: A well bore schematic and map is required for each blanket permit. No. of proposed wells:____

5. **Well Construction Information:**

A. ☒ New Well ☐ Modify ☐ Replace

B. Proposed Casing Diameter 12" Proposed Maximum Depth 400'

C. Anticipated bottom hole temperature:
☒ 85°F or less (Cold Water Well) ☐ 85°F to 212°F (Low Temp. Geo. Well) ☐ 212°F or more (Geothermal Well)

6. **Construction Start Date:** August 2003

7. **Anticipated Well Driller:** TBD Driller's Lic. No. _____
NOTE: The actual well driller must be identified prior to drilling.

8. **Applicant's Signature:** Charles E. Brockway Date: 7/18/03

Address (if different than owner): Brockway Engineering PLLC, 2016 Washington Street North, Suite 4

City: Twin Falls State: ID Zip Code: 83301 Telephone: 208-736-8543

Title: Charles E. Brockway, Engineer (Owner Representative)
(Owner, Firm Representative, Other)

EXHIBIT
3

ACTION OF THE DEPARTMENT OF WATER RESOURCES

This Permit is _____. Date: _____

If approved, this permit authorizes the construction of modification of a well subject to the following conditions. **READ CAREFULLY!**

GENERAL CONDITIONS:

1. This drilling permit is valid for two (2) months from the above approval date for the start of construction and is valid for one (1) year from the approval date for completion of the well unless an extension has been granted.
2. This permit does not constitute an approval of the District Health Department or the Idaho Department of Health and Welfare, which may be required before construction of the well. All wells must be drilled a minimum distance of 100 feet from a drain field. Domestic and Public Water Supply wells must be drilled a minimum of 50 feet and 100 feet respectively from a septic tank.
3. The well shall be constructed by a driller currently licensed in the State of Idaho who must maintain a copy of the drilling permit at the drilling site.
4. Approval of this drilling permit does not authorize trespass on the land of another party.
5. This permit does not represent a right to divert and use the water of the State of Idaho.
6. This drilling permit does not represent a right to divert and use the water of the State of Idaho.
7. If a bottom hole temperature of 85° or greater is encountered, well construction shall cease and the well driller and the well owner shall contact the Department immediately.
8. Idaho Code, S 55-2201 – 55-2210 requires the applicant and/or his contractors to contact "DigLine" (DigLine is a one-call center for utility notification) not less than 2 working days prior to the start of any excavation for this project. The "DigLine" number for your area is 1-800-342-1585.
9. Please be advised that this drilling permit should be considered and treated as a preliminary permit. If you are in disagreement with this preliminary permit you have fourteen (14) days of the service date of this permit to petition the Department for reconsideration pursuant to Section 67-5243, Idaho Code.
10. The well tag for the drilling permit/start card shall be securely and permanently attached to the well casing through welding or by the use of four closed and domed stainless steel pop rivets. The tag attachment will be done at the time of completion of the well, and prior to removing the drill rig from the drill site.

SPECIFIC CONDITIONS:

_____ _____

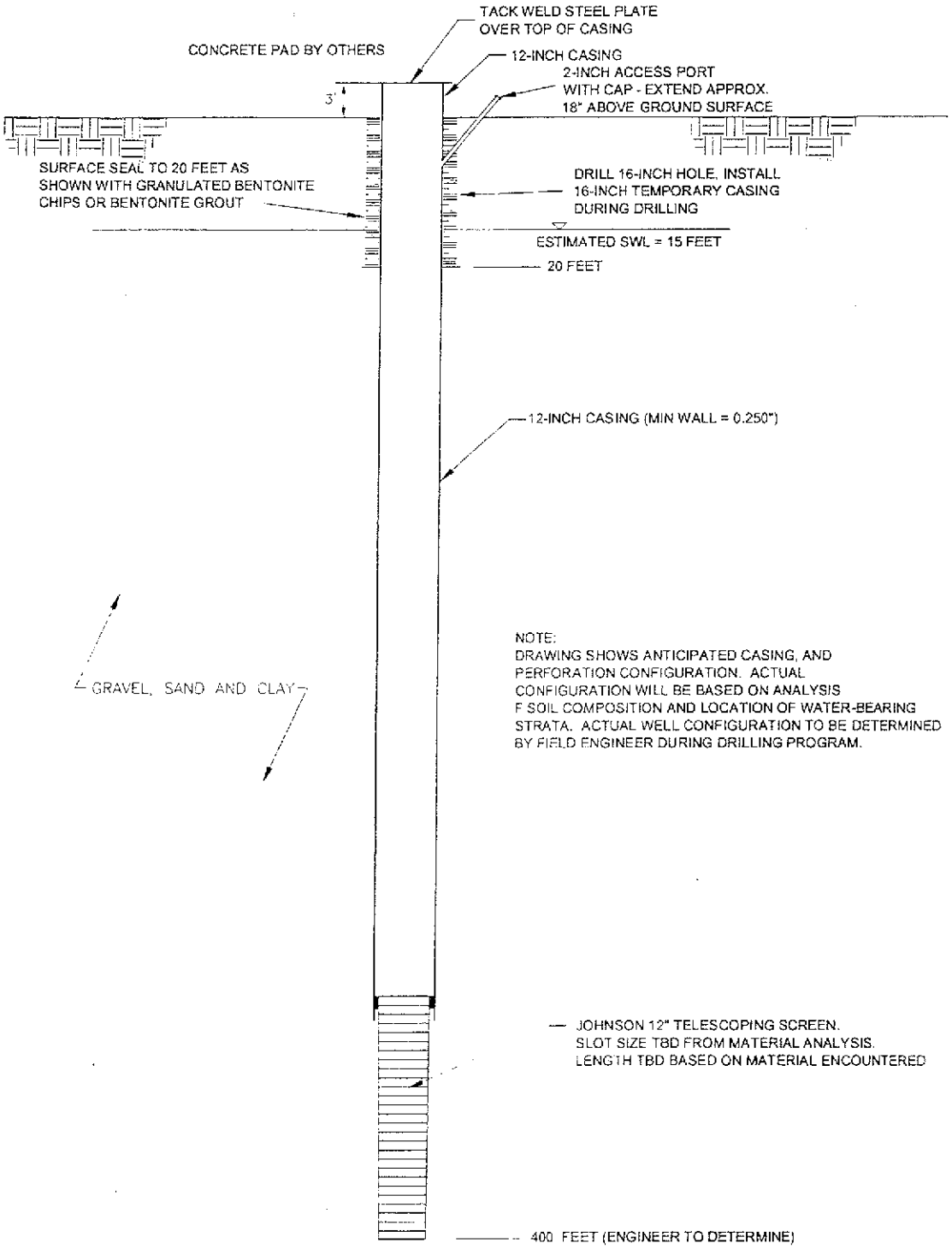
Signature of Authorized Department Representative Title

Receipt No.: _____ Receipted by: _____ Fee: _____ Date: _____

EXTENSION OF DRILLING PERMIT

Extension approved by: _____ Approval Date: _____

This extension expires: _____



BROCKWAY ENGINEERING, PLLC HYDRAULICS – HYDROLOGY – WATER RESOURCES 2016 NORTH WASHINGTON, SUITE 4 TWIN FALLS, ID 83301 (208) 736-8543	ARIES DEVELOPMENT - BROOKWOOD SUBDIVISION WELL SECTION & CONFIGURATION PROPOSED NEW WELL	SHEET 1 OF 1 DATE 7/18/03 SCALE NONE	DRAWN MWB REVISIONS A

Narrative in Support of Application for Permit, Revised

Brookwood Subdivision Exchange Well
Aries Development L.L.C.
by Brockway Engineering P.L.L.C.

January 7, 2003

Brookwood is a 382 unit subdivision located in Section 4, T 4N R 1E Boise Meridian north of Eagle, Idaho. This subdivision, located on bottom land and bench areas of Dry Creek, is being developed on irrigated farmland served by the Farmers Union Canal. The Farmer's Union Canal is the east boundary of the subdivision and the historical irrigation diversion from the canal will continue to serve the irrigation requirements for a pressure irrigation system serving all lots and common areas. Domestic water is provided by the municipal system of the City of Eagle.

The subdivision will include water amenities including six (6) multi-purpose ponds providing irrigation storage and aesthetic benefits, Figure 1. The ponds serve as storage for diversions of shares from the canal system during the irrigation season and will be supplemented by ground water provided from an exchange well during the non-irrigation season.

The purpose of this Application is to obtain a permit for a well to provide water for non-irrigation season maintenance of the pond and ditch system. Year round evaporation from the aesthetic/recreational ponds will be mitigated by transfer of a portion of water right 63-5087 from a feedlot owned by the applicant. No mitigation for evaporation from the irrigation/storage ponds is contemplated.

Figure 1 shows the plat of the subdivision, canal diversion, distribution system and the six (6) ponds. Ponds 1,2,3, and 4 are lined with bentonite and compacted earth and Pond 6 is lined with a membrane liner. Pond 5 is unlined and any waste water from the canal system during the summertime and exchange water from the well will infiltrate back into the aquifer thereby reducing any surface water runoff from the property. During the non-irrigation season, the pond levels will be maintained with ground water pumped as necessary.

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The project plan includes 382 single family lots with approximately 50 acres of common area. Irrigation of landscaping and turf on each lot and the common area will be from a pressure distribution system with two booster pumps from the pipe/pond system. The upper booster is located near the canal diversion, and the lower booster diverts from Pond 1 near the west end of the subdivision. Based on the average lot size of 0.22 acres, a residence footprint and paved area of 4200 square feet, the irrigated area on each lot is

estimated to be 0.12 acres. For the 382 residences the irrigated area is therefore 45.8 acres. The total irrigated area is therefore 50 + 45.8 or 95.8 acres.

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The total consumptive use of the project including turf and landscape irrigation, pond evaporation, and residential in-house consumptive use (not provided by the irrigation system) is 258 af/year whereas the pre-project consumptive use from crop irrigation on 185.96 acres is 489 acre feet per year.

Infiltration back to the aquifer through the pond system is estimated at 386 acre feet during the irrigation season. Ground water extraction from the exchange well required to maintain pond seepage and evaporation, including seepage from unlined Pond 5, is 380 acre feet.

The maximum required discharge from the exchange well is 425 gpm or 0.95 cfs.

The water balance and pond model indicates that pumping from an exchange well on the project of not-more-than 330 acre feet during the non-irrigation season at a rate of 0.95 cfs will maintain pond water levels. Current and any future consumptive use from the pond system will be mitigated. Evaporation from the ponds will be mitigated by transfer of 0.04 cfs and 13.1 af of ground water under water right 63-5087. The 13.1 af/a is the calculated evaporation from open water surfaces associated with the non-irrigation ponds during the irrigation season and all ponds during the non-irrigation season. Water right 63-5087 is a stockwater right located in the NE1/4 NW1/4 Sec 3 T 4N R1W in Ada County.

The proposed exchange well would be located near the canal diversion so that discharge can be integrated into the entire distribution system. The aquifer underlying the area is composed of alluvial sand and gravels with a hydraulic conductivity estimated at 40 ft/day based on well driller's logs in the area. The water bearing zone from which water is to be appropriated is estimated to be from 80 to 200 feet below ground surface. An estimate of the draw down from a 12 inch diameter well pumping 0.95 cfs was estimated using a Theis analysis assuming continuous pumping for a 40 day period. The Theis analysis output is on the spreadsheet included the Appendix. This analysis shows the estimated draw down at 100 feet from the pumped well of 3.6 feet and a draw down of 0.9 feet at 1320 feet from the well. This analysis assumes no return of water to the aquifer through seepage from ponds, particularly Pond #5. The nearest well to the exchange well is approximately 1200 feet. Operation of the pumped well will not significantly affect aquifer water levels in the area.

During the non-irrigation season operation of the exchange well, a maximum of 425 gpm (.95 cfs) will be pumped from the well. The pond water levels will be maintained in all ponds and the seepage back into the aquifer from all ponds will be 420 gpm so the impact on the regional aquifer system will not be significant. Pond 5 where 95% of the non-irrigation season seepage returns to the aquifer is approximately 2709 feet from the exchange well.

Aries Development L.L.C. members are: Mike Hormachea, Amy Wray, Richard Hormachea, and the Hormachea Grandchildren's Trust.

Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Application Report

07/16/2003

WATER RIGHT NO. 63-31689

Owner Type	Name and Address
Current Owner	ARIES DEVELOPMENT LLC PO BOX 6887 BOISE, ID 83707

Priority Date: 01/07/2003
Status: Active

Source	Tributary
GROUND WATER	

Beneficial Use	From	To	Diversion Rate	Volume
AESTHETIC	10/01	04/01	0.95 CFS	
AESTHETIC STORAGE	01/01	12/31		60.7 AFA
Total Diversion			0.95 CFS	60.7 AFA

Location of Point(s) of Diversion:

GROUND WATER	NESE	Sec. 04	Township 04N	Range 01E	ADA County

Place(s) of use:

Place of Use Legal Description: AESTHETIC ADA County

Township	Range	Section	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres
04N	01E	4		NESW			SWSW			SESW				
				NESE			NWSE			SWSE			SESE	

Place of Use Legal Description: AESTHETIC STORAGE ADA County

Township	Range	Section	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres
04N	01E	4		NESW			SWSW			SESW				
				NESE			NWSE			SWSE			SESE	

Dates:
Date Application Received: 01/07/2003
Date Application Denied:
Last Date of Beneficial Use:
Extension End Date:
Protest Deadline Date: 7/21/2003
Number of Protests: 0
Enlargement Use Priority Date:
Enlargement Statute Priority Date:

Other Information:
State or Federal:
Owner Name Connector:
Water District Number:
Generic Max Rate per Acre:
Generic Max Volume per Acre:
Application Type: New Appropriation
Applicant Remarks: See attached narrative and mitigation plan.
Other Water Rights: 63-5087 (transfer for mitigation)
Time to Complete Works: 5
Transfer Affected Description:
Transfer Affected Contracts:
Old Transfer Number:
Transfer Reason:
Transfer Return Flows:
Swan Falls Trust or Nontrust:
Swan Falls Dismissed:
DLE Act Number:
Cary Act Number:
Mitigation Plan: False

Close

Close

TRANSFER NO. 70604

ARIES DEVELOPMENT LLC
PO BOX 6887
BOISE ID 83707, has filed Application No. 70604 for changes to the following water rights within
County: ADA

Date Received: 5/29/2003
Status: Active

Applicant's Statement of Purpose: To provide ground water for mitigation of consumptive use due to evaporation from aesthetic ponds. See attached narrative.

Purpose of Transfer	Water Right Number
Change Nature of Use	63-5087
Change Place of Use	63-5087
Add Point of Diversion	63-5087

Right No. 63-5087
Priority Jan 1 1962 12:00AM
Source GROUND WATER,
Use DOMESTIC 0.04 CFS 28 AFA, STOCKWATER 0.44 CFS 347 AFA,
Total Amount 0.48 CFS 375 AFA
Point(s) of Diversion NENW S3 T04N R01W, ✓
Place Of Use NENW S3 T04N R01W, SENW S3 T04N R01W, ✓

The purpose of the transfer is to change the above rights as follows:

Proposed Right No. 63-31726 is the remainder of Right No. 63-5087

Proposed Right No. 63-31725 is the remainder of Right No. 63-5087

FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet

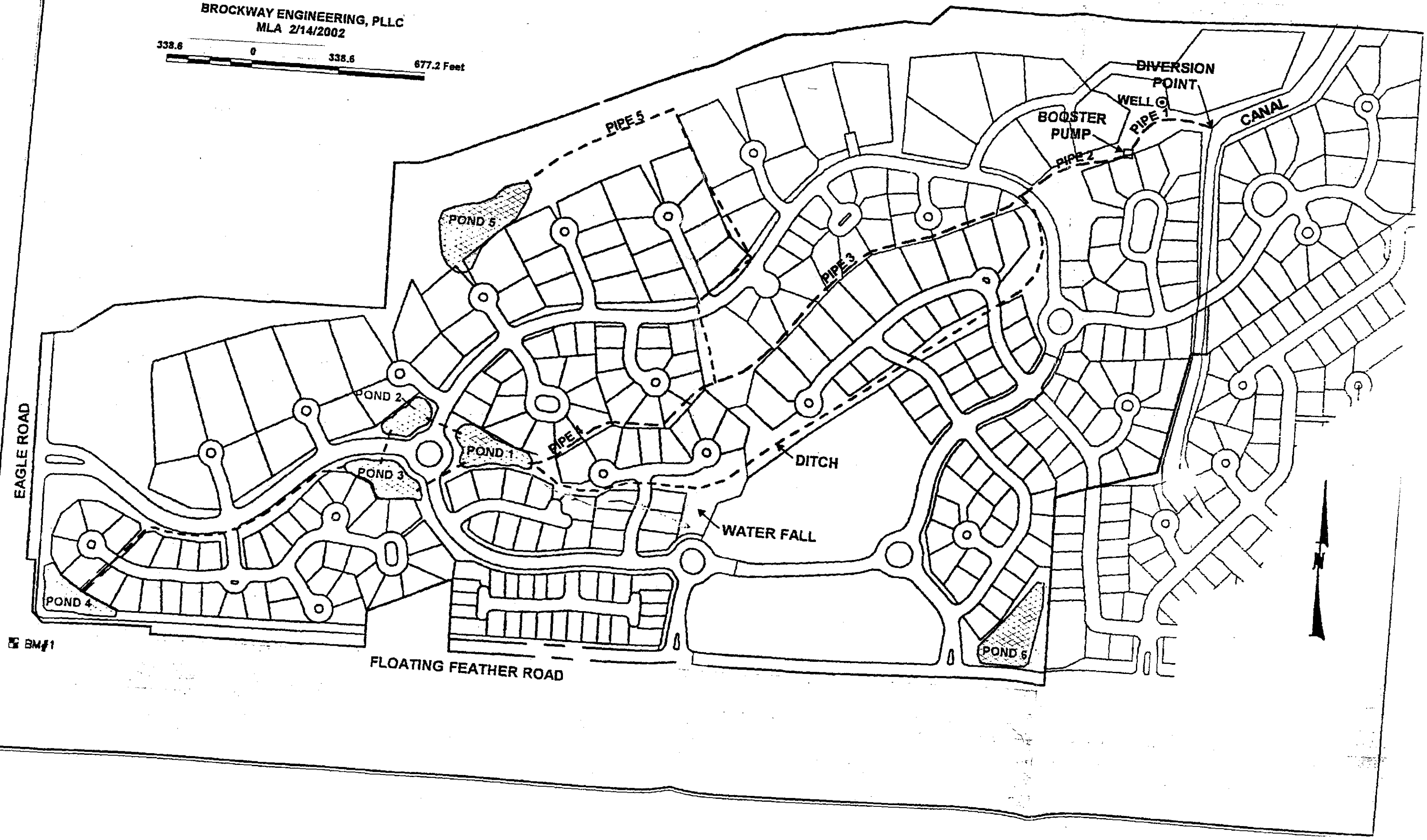
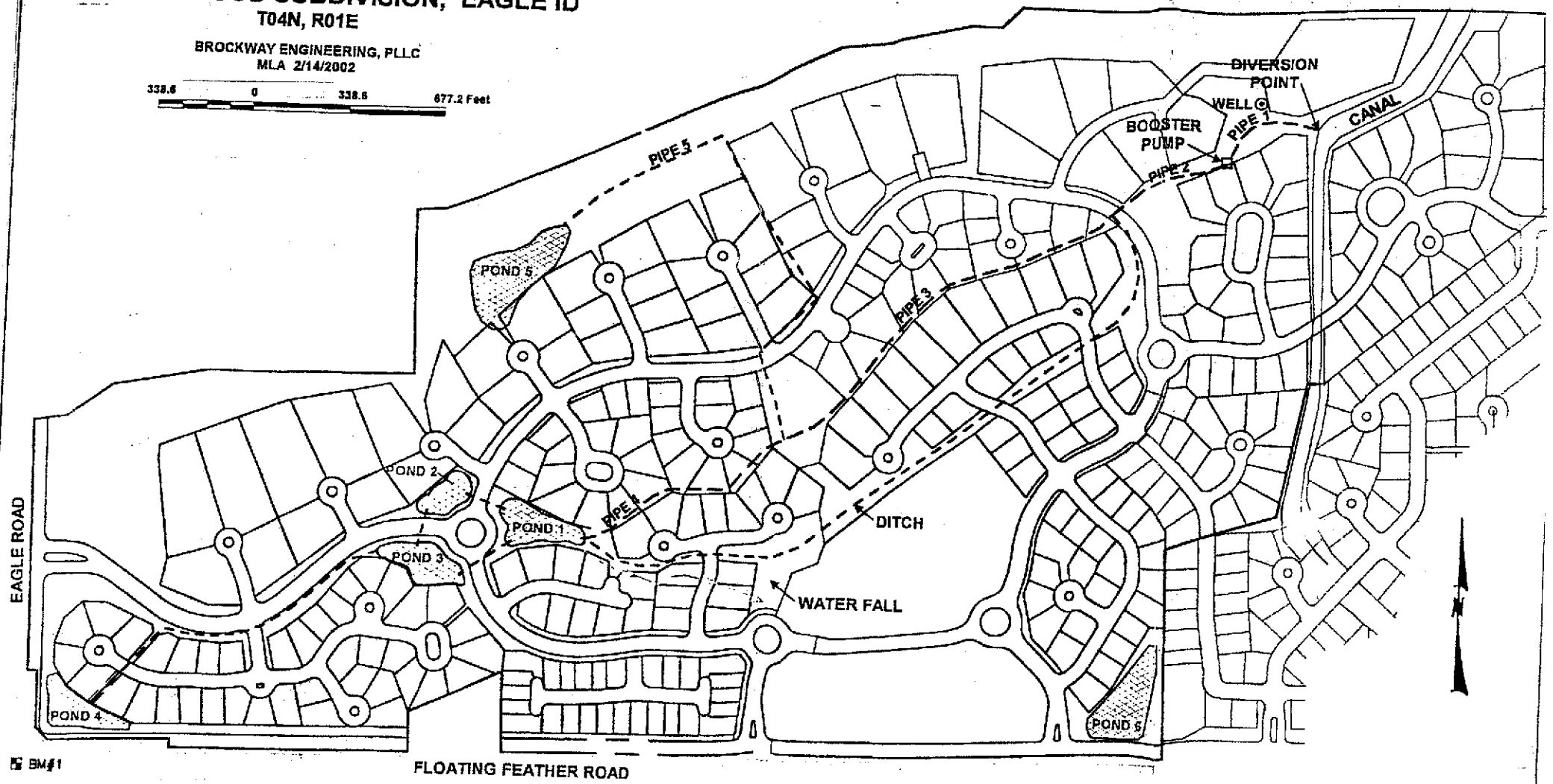
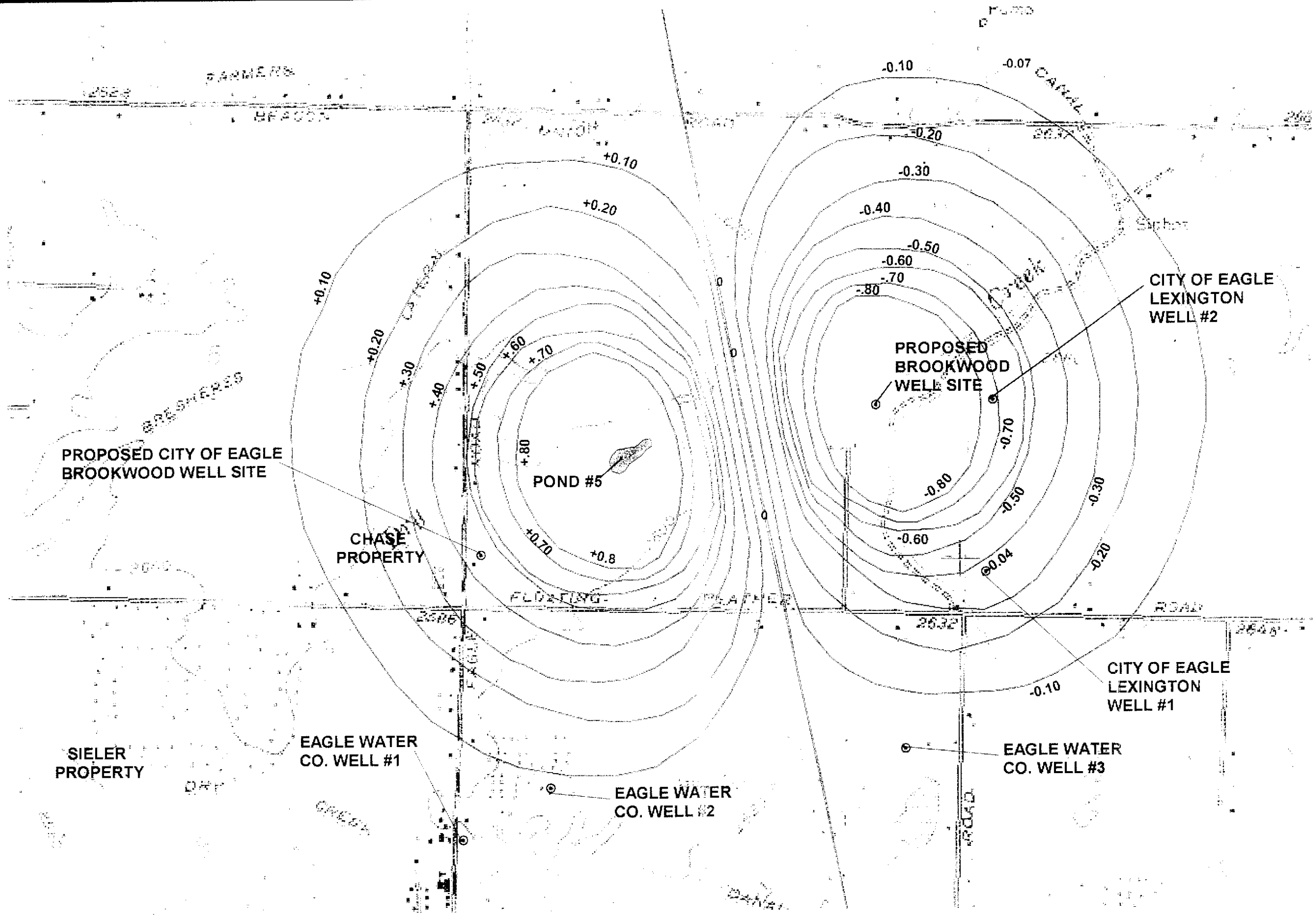


FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet





BROOKWOOD SUBDIVISION
WATER TABLE ANALYSIS

EXHIBIT
4

ROCKWAY ENGINEERING, PLLC.
ALR MARCH 18, 2004

Well Interference Analysis Brookwood Proposed Exchange Well

Estimated Well Drawdown

C.E. BROCKWAY February 12, 2002 Brockway Engineering P.L.L.C.

AQUIFER PROPERTIES BASED ON USBR GROUNDWATER MANUAL-ALLUVIAL SAND AND GRAVEL
AND LOCAL WELL DRILLER'S LOGS
EST. HOLE DIA. 12 INCHES

USING THEIS FORMULA S=114.6*Q/T*W(U)
S= DRAWDOWN IN FT
Q= PUMPING RATE GPM
T= COEFFICIENT OF TRANSMISSIBILITY GPD/FT
W(U)= WELL FUNCTION OF 'U'

W(U)=-.5772-LOGeU +U-U^2/(2*2!)+U^3/(3*3!)-U^4/(4*4!) .....
U=1.87*r^2*S/(T*t)
r=DISTANCE IN FT. FROM CENTER OF PUMPED WELL TO DRAWDOWN POINT
S=COEFFICIENT OF STORAGE
T=COEFFICIENT OF TRANSMISSIBILITY, GPD/FT
t= TIME SINCE PUMPING STARTED, DAYS

PUMPING WELL

r1=	0.500	FT	K=	40.00	FT/DAY
r2=	903	FT	K=	0.00046296	CFS/FT^2
r3=	1806	FT	K=	2.98E+02	GPD/FT^2
r4=	2709	FT	WRIGHT SAT. DEPTH EST.=	300	FT
r5=	5280	FT	TRANSMISSIVITY=	89520	GPD/FT
S=	0.15		TRANSMISSIVITY=	1.39E-01	FT^2/SEC
T=	89520	GPD/FT	TRANSMISSIVITY=	11967.9	FT^2/DAY
Q/WELL	426.36	GPM =	0.950	CFS	

TIME	TIME	U	WELL	DRAW	SPEC.	U	WELL	DRAW	U	WELL	DRAW	U	WELL	DRAW
	t	w/r1	FUNCT.	DOWN	CAP	W/r2	FUNCT.	DOWN @	W/r3	FUNCT.	DOWN @	W/r4	FUNCT.	DOWN @
HOURS	DAYS	0.5	W(U)1	@WELL	GPM/FT	903	W(U)2	903	1806	W(U)3	1806	2709	W(U)4	2709
5	0.21	3.760E-06	11.9139	6.50	66	1.226E+01	0.0000	0.00	4.906E+01	0.0000	0.00	1.104E+02	0.0000	0.00
10	0.42	1.880E-06	12.6070	6.88	62	6.132E+00	0.0000	0.00	2.453E+01	0.0000	0.00	5.519E+01	0.0000	0.00
24	1.00	7.833E-07	13.4825	7.36	58	2.555E+00	0.0231	0.01	1.022E+01	0.0000	0.00	2.299E+01	0.0000	0.00
48	2.00	3.917E-07	14.1756	7.74	55	1.277E+00	0.1403	0.08	5.110E+00	0.0000	0.00	1.150E+01	0.0000	0.00
144	6.00	1.306E-07	15.2743	8.34	51	4.258E-01	0.6610	0.36	1.703E+00	0.0743	0.04	3.832E+00	0.0001	0.00
480	20.00	3.917E-08	16.4782	8.99	47	1.277E-01	1.6043	0.88	5.110E-01	0.5467	0.30	1.150E+00	0.1716	0.09
960	40.00	1.958E-08	17.1714	9.37	45	6.387E-02	2.2365	1.22	2.555E-01	1.0274	0.56	5.749E-01	0.4782	0.26

HOURS	DAYS	@WELL	903	1806	2709	DISTANCE FEET
0	0.00	0	0	0	0	
5	0.21	-6.50	0.00	0.00	0.00	
10	0.42	-6.88	0.00	0.00	0.00	
24	1.00	-7.36	-0.01	0.00	0.00	
48	2.00	-7.74	-0.08	0.00	0.00	
144	6.00	-8.34	-0.36	-0.04	0.00	
480	20.00	-8.99	-0.88	-0.30	-0.09	
960	40.00	-9.37	-1.22	-0.56	-0.26	

RECHARGE WELL

r1=	0.500	FT	K=	40.00	FT/DAY
r2=	901	FT	K=	0.00046296	CFS/FT^2
r3=	1806	FT	K=	2.98E+02	GPD/FT^2
r4=	2709	FT	WRIGHT SAT. DEPTH EST.=	300	FT
r5=	5280	FT	TRANSMISSIVITY=	89520	GPD/FT
S=	0.15		TRANSMISSIVITY=	1.39E-01	FT^2/SEC
T=	89520	GPD/FT	TRANSMISSIVITY=	11967.9	FT^2/DAY
Q/WELL	-426.36	GPM =	-0.950	CFS	

TIME	TIME	U	WELL	DRAW	SPEC.	U	WELL	DRAW	U	WELL	DRAW	U	WELL	DRAW
	t	w/r1	FUNCT.	DOWN	CAP	W/r2	FUNCT.	DOWN @	W/r3	FUNCT.	DOWN @	W/r4	FUNCT.	DOWN @
HOURS	DAYS	0.5	W(U)1	@WELL	GPM/FT	901	W(U)2	901	1806	W(U)3	1806	2709	W(U)4	2709
5	0.21	3.760E-06	11.9139	-6.50	66	1.221E+01	0.0000	0.00	4.906E+01	0.0000	0.00	1.104E+02	0.0000	0.00
10	0.42	1.880E-06	12.6070	-6.88	62	6.105E+00	0.0000	0.00	2.453E+01	0.0000	0.00	5.519E+01	0.0000	0.00
24	1.00	7.833E-07	13.4825	-7.36	58	2.544E+00	0.0235	-0.01	1.022E+01	0.0000	0.00	2.299E+01	0.0000	0.00
48	2.00	3.917E-07	14.1756	-7.74	55	1.272E+00	0.1415	-0.08	5.110E+00	0.0000	0.00	1.150E+01	0.0000	0.00
144	6.00	1.306E-07	15.2743	-8.34	51	4.239E-01	0.6639	-0.36	1.703E+00	0.0743	-0.04	3.832E+00	0.0001	0.00
480	20.00	3.917E-08	16.4782	-8.99	47	1.272E-01	1.6082	-0.88	5.110E-01	0.5467	-0.30	1.150E+00	0.1716	-0.09
960	40.00	1.958E-08	17.1714	-9.37	45	6.359E-02	2.2407	-1.22	2.555E-01	1.0274	-0.56	5.749E-01	0.4782	-0.26

HOURS	DAYS	@WELL	901	1806	2709	DISTANCE FEET
0	0.00	0	0	0	0	
5	0.21	6.50	0.00	0.00	0.00	
10	0.42	6.88	0.00	0.00	0.00	
24	1.00	7.36	0.00	0.00	0.00	
48	2.00	7.74	0.00	0.00	0.00	
144	6.00	8.34	0.00	0.00	0.00	
480	20.00	8.99	0.00	0.00	0.09	
960	40.00	9.37	0.00	0.00	0.26	

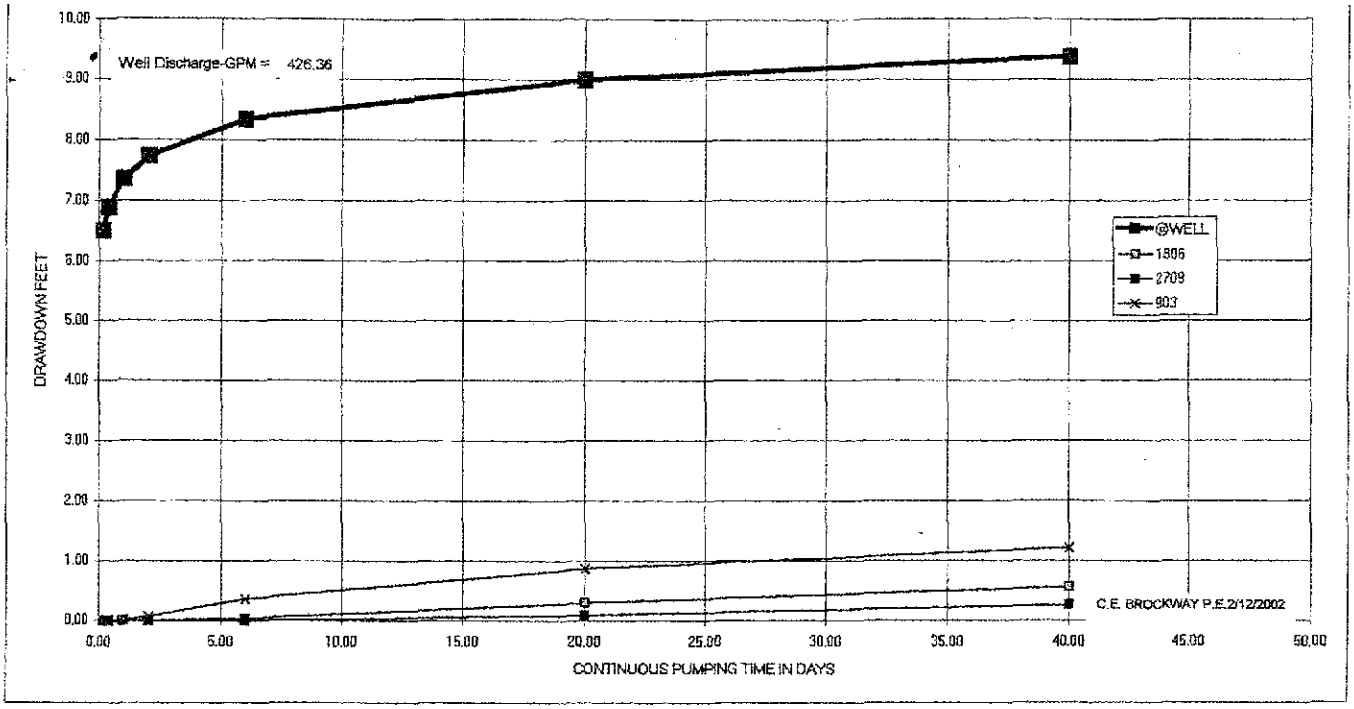
COMBINED EFFECT

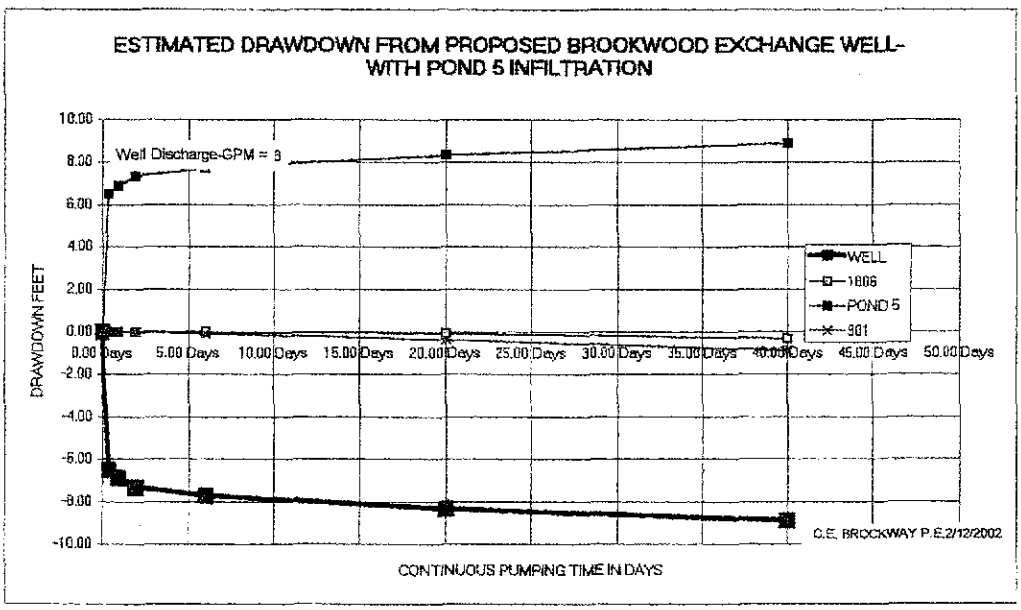
HOURS	DAYS	WELL	901	1806	POND 5
0	0.00 Days	0.00	0.00	0.00	0.00
10	0.42 Days	-6.50	0.00	0.00	6.50
24	1.00 Days	-6.88	0.00	0.00	6.88
48	2.00 Days	-7.36	-0.01	0.00	7.36
144	6.00 Days	-7.74	-0.08	0.00	7.74
480	20.00 Days	-8.34	-0.36	-0.04	8.34
960	40.00 Days	-8.90	-0.88	-0.30	8.90

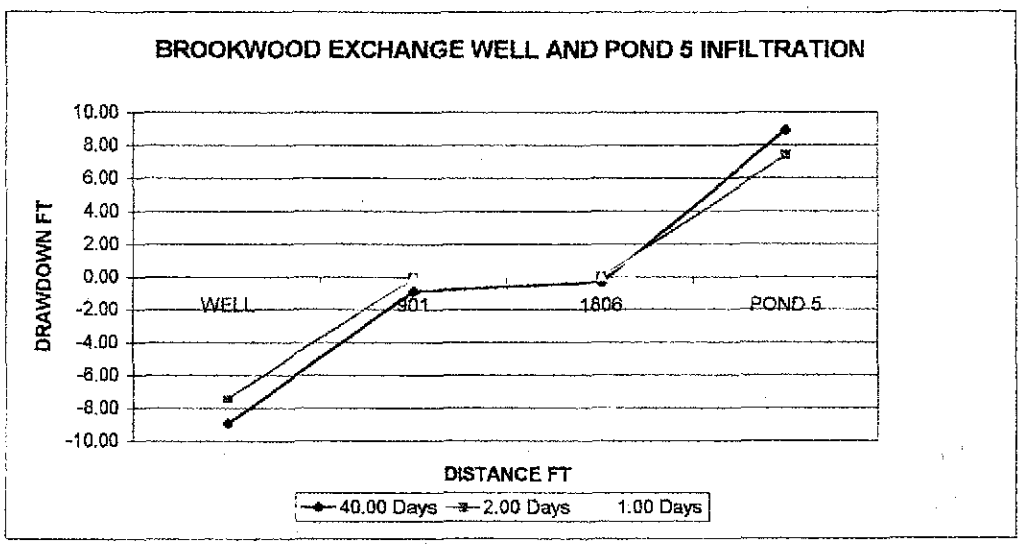
EXHIBIT 5

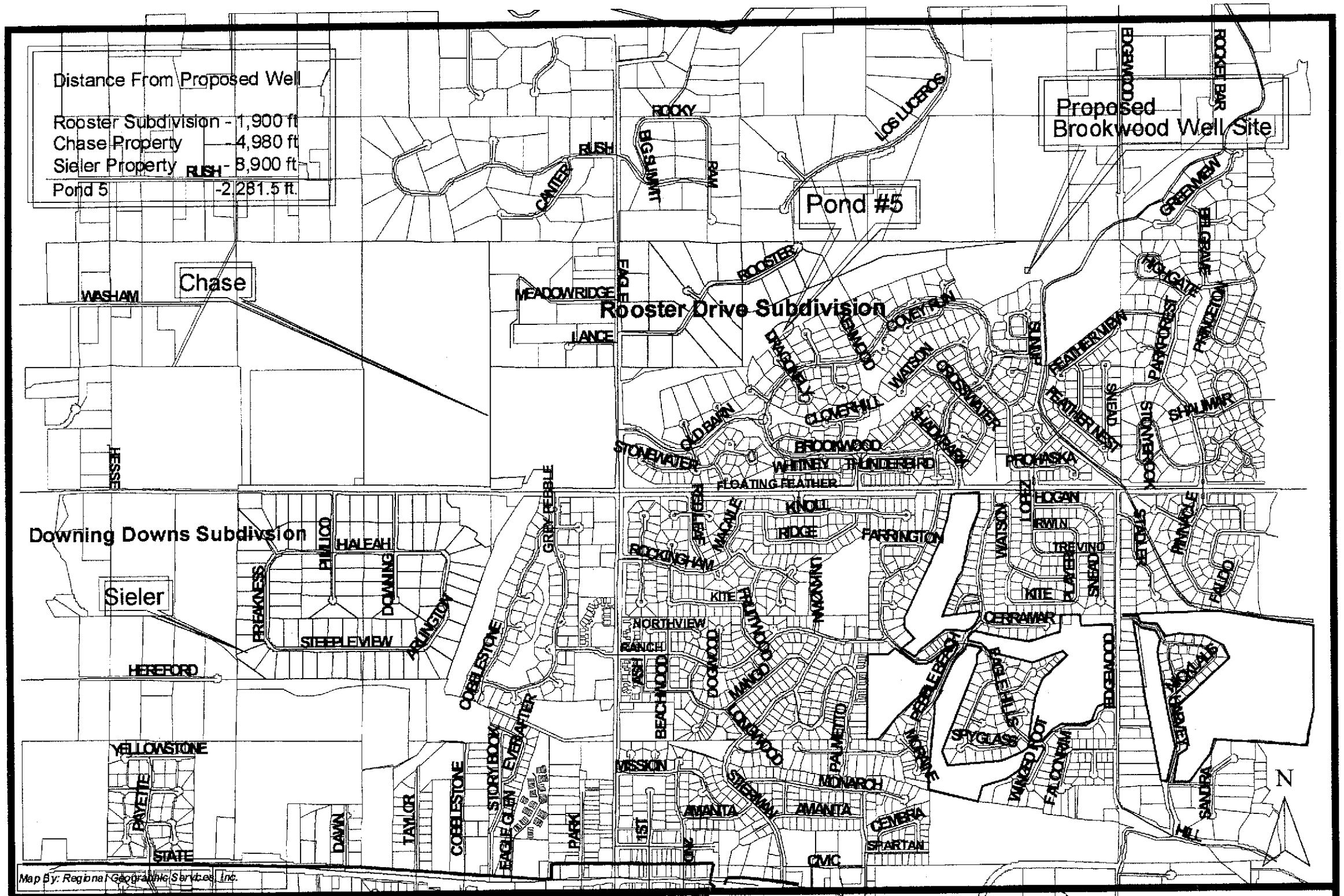
ESTIMATED DRAWDOWN FROM PROPOSED BROOKWOOD EXCHANGE WELL-NO POND 5

10.00


Well Discharge-GPM = 426.36
DRAWDOWN FEET
CONTINUOUS PUMPING TIME IN DAYS
@WELL
1806
2709
903
C.E. BROCKWAY P.E.2/12/2002


ESTIMATED DRAWDOWN FROM PROPOSED BROOKWOOD EXCHANGE WELL-
WITH POND 5 INFILTRATION
Well Discharge-GPM = 8
DRAWDOWN FEET
CONTINUOUS PUMPING TIME IN DAYS
WELL
1806
POND 5
901
C.E. BROCKWAY P.E.2/12/2002


BROOKWOOD EXCHANGE WELL AND POND 5 INFILTRATION
DRAWDOWN FT
WELL
901
1806
POND 5
DISTANCE FT
40.00 Days
2.00 Days
1.00 Days



LANGSTON - WILLIAMS

A REAL ESTATE SERVICE CORPORATION

2229 West State Street
P.O. Box 2891 - Boise, Idaho 83702
Phone: (208) 345-3800, Fax: (208) 345-8236

Area Map
Proposed Brookwood Well

Map Created: February-18-2004

This Map and data displayed is a graphic representation derived from the Ada Counties Geographic Information System (GIS) data. It was designed and intended for staff use only; it is not guaranteed survey accurracy. This map is based on information available and was complied from numerous sources which may not be accurate. Users are to field verify this information. Ada County and Regional Geographic Services, Inc. Are not liable for errors or omissions resulting from the use of this product for any purpose.

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EXHIBIT
6

BROCKWAY ENGINEERING, PLLC.
ALR MARCH 3, 2004

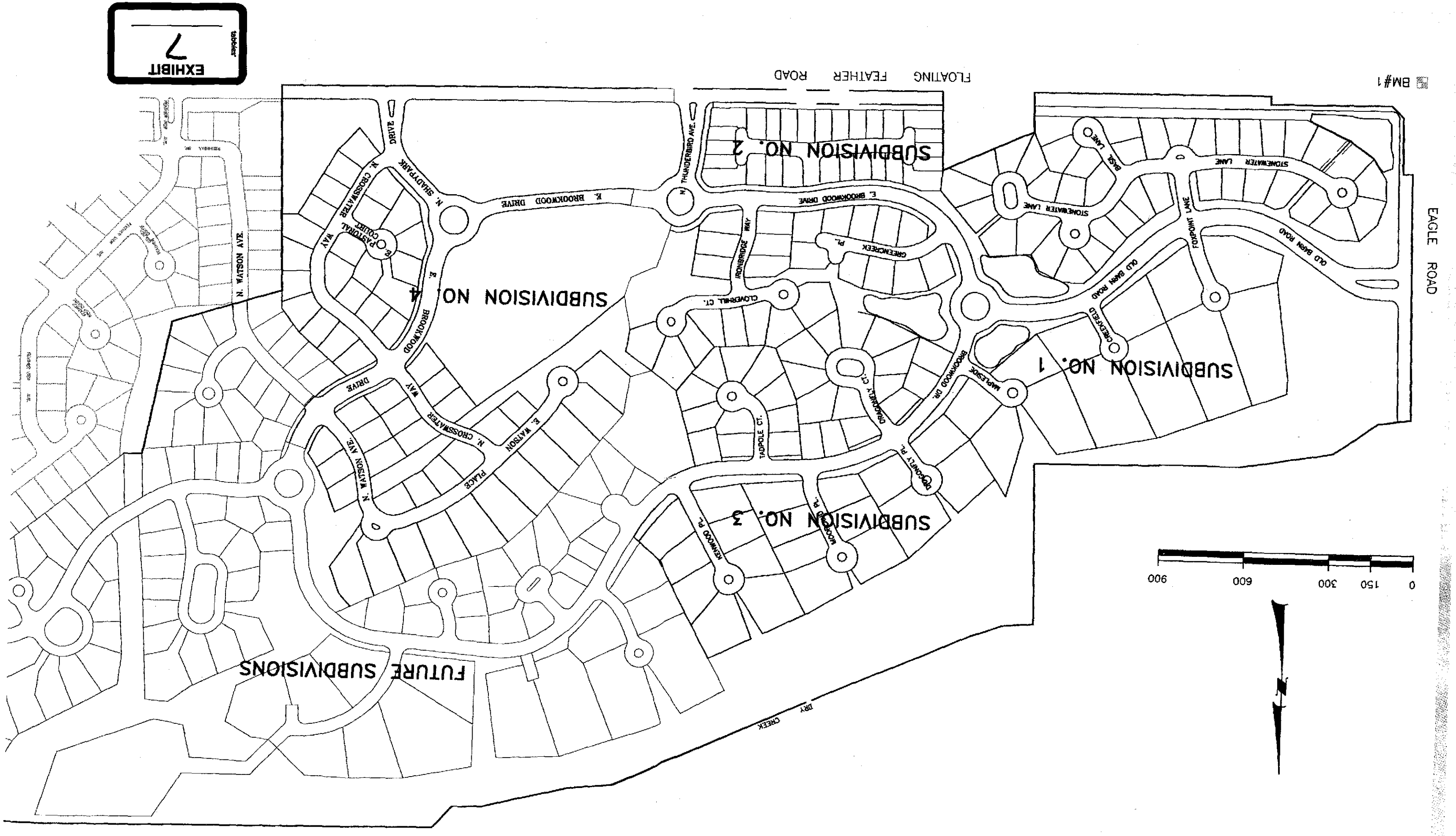
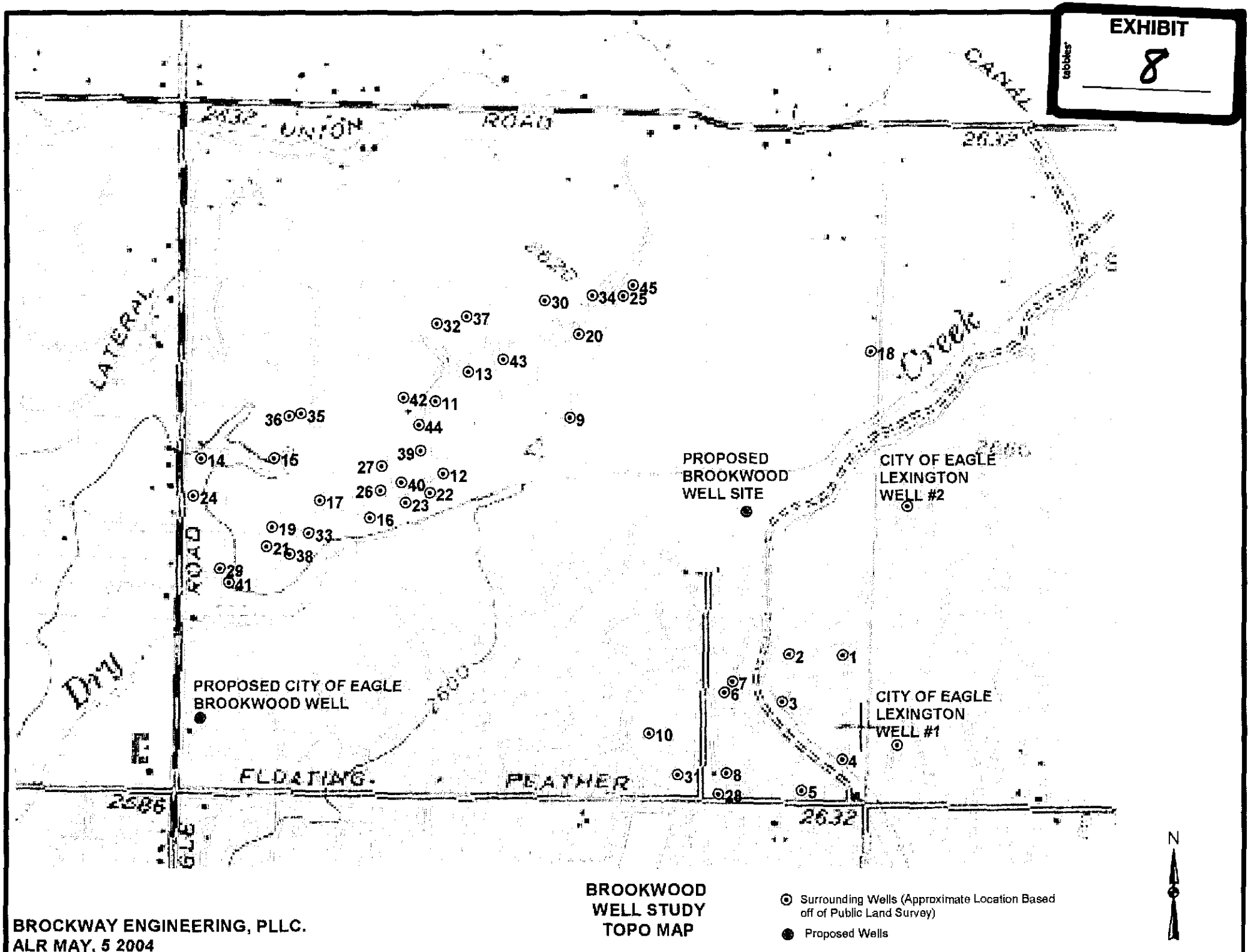


EXHIBIT
7
tabbies
FLOATING FEATHER ROAD
EAGLE ROAD
BM#1
SUBDIVISION NO. 1
SUBDIVISION NO. 2
SUBDIVISION NO. 3
SUBDIVISION NO. 4
FUTURE SUBDIVISIONS
N. WATSON AVE.
N. CROSSWATER WAY
E. BROOKWOOD DRIVE
N. SHADYPARK DRIVE
E. PASTORAL COURT
N. THUNDERBIRD AVE.
IRONBRIDGE WAY
GREENCREEK PL.
CLOVERHILL CT.
TADPOLE CT.
DRAGONFLY CT.
DRAGONFLY PL.
MAPLESIDE
BROOKWOOD DR.
CREEKFIELD
OLD BARN ROAD
FOXPOINT LANE
STONEWATER LANE
BASIL LANE
KENWOOD PL.
MOOREWOOD PL.
E. WATSON PLACE
DRY CREEK
0
150
300
600
900

EXHIBIT 8



BROOKWOOD WELL STUDY TOPO MAP

Surrounding Wells (Approximate Location Based off of Public Land Survey)

Proposed Wells

BROCKWAY ENGINEERING, PLLC.
ALR MAY, 5 2004

Brookwood Area
Well Driller's Logs
Twonship 4N Range 1E

Log Number	Date	Owner	Address	Section	Quarter Quarter	Well Depth	S.W.L.	Pump Test Discharge gpm	Pumping Level	Drawdown	Specific Capacity
1	1966	Danny Tolman	RFD Eagle ID	4	SESE	120	10	20	NA	NA	NA
2	1969	Howard Jenkins	10310 Whispering Cliffs Boise	4	SESE	140	10	45	47	37.0	1.22
3	1969	Howard Jenkins	10310 Whispering Cliffs Boise	4	SESE	140	10	36	38	28.0	1.29
4	1970	Howard Jenkins	10310 Whispering Cliffs Boise	4	SESE	116	14	25	30	16.0	1.56
5	1970	Boyce Peterson	4655 Shannon Ln. Boise	4	SESE	99	8	50	NA	NA	NA
6	1971	Boyce Peterson	720 North Orchard	4	SESE	67	11' 10"	36	NA	NA	NA
7	1970	Boyce Peterson	720 North Orchard	4	SESE	138	8' 5"	60	NA	NA	NA
8	1970	Quarter Circle DJ Ranch	Box 27 F Eagle ID	4	SESE	361	30	40	50	20.0	2.00
9	1961	William J Holman	Rt. 1 # 334 Boise	4	SWNE	60.2	40	NA	45	5.0	NA
10	1972	Forrest Prohasha	3700 Hill Rd Boise	4	SWSE	285	51	37	56	5.0	7.40
11	1978	Larry Human	NA	4	SENW	123	43	NA	NA	NA	NA
12	1978	Stan Bastun	Eagle ID	4	NESW	63	15	NA	NA	NA	NA
13	1978	Larry Crawford	5215 Tinker Boise ID	4	SENW	89	11	40	NA	NA	NA
14	1977	Gregory Design Constr.	P.O. Box 362 Eagle ID	4	NWSW	116	20	30	NA	NA	NA
15	1978	Glen Rhodes Cons	Boise ID	4	NWSW	89	40	NA	NA	NA	NA
16	1978	Rick Bechteld	NA	4	NESW	90	43	15	75	32.0	0.47
17	1979	Gregory Design Constr.	P.O. Box 362 Eagle ID	4	NWSW	45	10	30	NA	NA	NA
18	1975	Cecil Arnold	1024 W. Avalon Kuna ID	4	SENE	95	25	20	30	5.0	4.00
19	1975	Al Miller	Beacon Light	4	NWSW	47	20	15	25	5.0	3.00
20	1979	Bill Taylor	Eagle Idaho	4	SWNE	39	14	15	15	1.0	15.00
21	1980	Behrman Bros. Const.	2075 Ridgeview Way Boise	4	NWSW	112	34	NA	NA	NA	NA
22	1981	Bob A Wright	1311 Jackson Boise	4	NESW	82	NA	50	34	NA	NA
23	1981	Bob A Wright	1311 Jackson Boise	4	NESW	82	31	50	34	3.0	16.67
24	1983	Jim Trent	Eagle ID	4	NWSW	56	18	45	43	25.0	1.80
25	1991	Ivan Flemming	4200 Ballantine Ln Eagle ID	4	SWNE	228	60	30	90	30.0	1.00
26	1992	William Weiler	5231 Amberidge Dr. Agoura CA 71301-2301	4	NESW	100	28	50	33	5.0 NA	10.00 NA
27	1991	Bob Yearsley	P.O. Box 4787 Boise	4	NESW	84	20	30	NA	NA	NA
28	1990	Roger Crandelmire	1400 Floating Feather Rd Eagle	4	SESE	323	32	NA	NA	NA	NA
29	1990	Dan Seanons	50 Rooster Drive Eagle	4	NWSW	120	25	NA	NA	NA	NA
30	1989	Ed Carlson	4280 Greenmeadow Ave Boise	4	SWNE	85	18	60	60	42.0	1.43
31	1988	Pete Cintirino	Eagle ID	4	SWSE	80	1	60	NA	NA	NA
32	1987	Lowell Rosanbalm	Eagle	4	SENW	57	27	40	NA	NA	NA
33	1983	Laura Ford	NA	4	NWSW	47	10	40	NA	NA	NA
34	1984	Greg Brown	P.O. Box 241 Meridian	4	SENE	90	32	60	NA	NA	NA
35	1993	LDS Church	2710 NW Sunrise Rim Rd Suite20	4	SWNW	470	28	NA	NA	NA	NA
36	1993	LDS Church	2710 NW Sunrise Rim Rd Suite20	4	SWNW	430	28	100	52	24.0	4.17
37	1993	McCarter-Moonehouse	9703 Ustick Boise	4	SENW	101	25	65	NA	NA	NA
38	1992	Rick Rainer	199 Rooster Eagle ID	4	NWSW	128	25	43	NA	NA	NA
39	1992	Monty Marcus	4102 Star Valley St Boise	4	NESW	104	25	70	NA	NA	NA
40	1992	Rober Slager	575 E Rooster Eagle	4	SENW	87	28	35	75	47.0	0.74
41	1992	Bud Stork	133 Rooster Dr. Eagle	4	NWSW	199	30	75	NA	NA	NA
42	1998	Mark Urness	2224 N Ram St Eagle	4	SENW	93	20	50	NA	NA	NA
43	1999	Wally Day	153 E Rocky Dr Eagle	4	SENW	87	35	45	82	47.0	0.96
44	1999	Tim Unruh	2392 N Ram Eagle	4	SENW	108	32	70	100	68.0	1.03
45	1999	Jack Pfeffers	801 Los Luceros Eagle	4	SWNE	84	35	60	77	42.0	1.43

(1)

Well no
531

RECEIVED
JUN 10 1966
Department of Reclamation

REPORT OF WELL DRILLER
State of Idaho

State law requires that this report shall be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

WELL OWNER:
Name Danney Talman
Address RED Egal Idaho

Owner's Permit No.
NATURE OF WORK (check): Replacement well ☐
New well ☑ Deepened ☐ Abandoned ☐
Water is to be used for: —
METHOD OF CONSTRUCTION: Rotary ☐ Cable ☑
Dug ☐ Other Drilled
(explain)
CASING SCHEDULE: Threaded — Welded —
0 "Diam. from 105 ft. to — ft.
"Diam. from ft. to ft.
"Diam. from ft. to ft.
"Diam. from ft. to ft.
Thickness of casing: Material:
Steel ☑ concrete ☐ wood ☐ other ☐

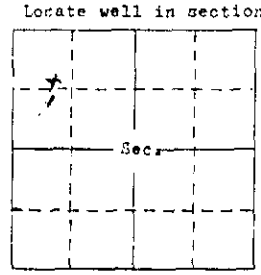
(explain)
PERFORATED? Yes ☐ No ☑ Type of perforator used:

Size of perforations: " by "
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
WAS SCREEN INSTALLED? Yes ☐ No ☐
Manufacturer's name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.
CONSTRUCTION: Well gravel packed? Yes ☑
No. ☑ size of gravel Gravel placed from ft. to ft. Surface seal provided? Yes ☐ No ☐ To what depth? ft. Material used in seal:

Did any strata contain unusable water? Yes ☑
No. ☐ Type of water:
Depth of strata 4 ft. Method of sealing strata off: Drove pipe sticky clay

Surface casing used? Yes ☑ No. ☐
Cemented in place? Yes ☐ No ☐

Locate well in section



LOCATION OF WELL: County
SE ¼ SE ¼ Sec. 4 T. 4 N/S R. E/W

Size of drilled hole: 6" Total depth of well: 120 Standing water level below ground: 10' Temp. 51 Fahr. ° Test delivery: 20 gpm or cfs Pump? ☐ Bail ☐
Size of pump and motor used to make test: Pumps With air Compressor
Length of time of test: 6 Hrs Min.
Drawdown: — ft. Artesian pressure: ft. above land surface Give flow cfs or gpm. Shutoff pressure:
Controlled by: Valve ☐ Cap ☐ Plug ☐
No control ☐ Does well leak around casing? Yes ☐ No ☐

DEPTH FROM FEET	DEPTH TO FEET	MATERIAL	WATER YES OR NO
0	5	top soil	
5	25	sandy clay	
25	45	Gravel	yes
45	72	sticky clay	
72	80	sandy clay	
80	91	yellow sticky clay	
91	95	hard clay mix with Gravel	
95	115	Blue shale	
115	120	yellow clay sand below	

Work started: April 15
Work finished: April 27
Well Driller's Statement: This well was drilled under my supervision and this report is true to the best of my knowledge.
Name:
Address:
Signed by: Francis Veach
License No. 41 Date: June 1 1966

Use other side for additional remarks

WKS

(2)

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Reclamation

WELL DRILLER'S REPORT

Received 11-7-69 Reclamation

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

1. WELL OWNER
Name Howard Jenkins
Address 10310 W. Whispering Cliffs - Boise
Clover Meadows #1
Owner's Permit No.

2. NATURE OF WORK
☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning)

3. PROPOSED USE
☒ Domestic ☐ Irrigation ☐ Test
☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED
☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION
Diameter of hole 4" inches Total depth 140 feet
Casing schedule: ☐ Steel ☐ Concrete

Thickness	Diameter	From	To
.237 inches	4" inches	+1-6" feet	136 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation inches by inches

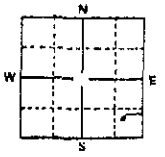
Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name
Type Model No.
Diameter Slot size Set from feet to feet
Diameter Slot size Set from feet to feet

Gravel packed? ☐ Yes ☒ No Size of gravel
Placed from feet to feet

Surface seal? ☒ Yes ☐ No To what depth 25 feet
Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL
Sketch map location must agree with written location.



63
County Ada
SE ¼ SE ¼ Sec. 4 T. 4 N/S, R. 1 E/W

7. WATER LEVEL
Static water level 14' feet below land surface
Flowing? ☐ Yes ☐ No G.P.M. flow
Temperature 52° F. Quality
Artesian closed-in pressure p.s.i.
Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA
☐ Pump ☐ Bailer ☒ Other Compressor

Discharge G.P.M.	Draw Down	Hours Pumped
45	2'	1 hr

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
4"	0	2	Top Soil		X
	2	5	Hard pan		X
	5	7	Dry gravel		X
	7	42	Wet gravel	X	
	42	52	Muddy Sand	X	
	52	90	Hard Sand		X
	90	131	Muddy Heavy Sand	X	X
	131	132	Coarse Sandy gravel		X
	132	135	Sandy Clay		X
	135	138	White Clay		X
	138	170	White Medium Coarse sand		X

10. Work started Oct 14-69 finished Oct 29-69

11. DRILLER'S CERTIFICATION
This well was drilled under my supervision and this report is true to the best of my knowledge.

Ernest Kelsey #39
Driller's or Firm's Name Number
R#1 - Ster Idaho
Address
Signed By Nov 10-69 Date

USE ADDITIONAL SHEETS IF NECESSARY

(3)

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Reclamation

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

Rec'd 3-31-70 [illegible]

1. WELL OWNER

Name Howard Jenkins

Address 10310 Whispering Cliffs Boise, Ida

Owner's Permit No. Clover Meadows #2

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 4" inches Total depth 140 feet

Casing schedule: ☐ Steel ☐ Concrete

Thickness	Diameter	From	To
.237 inches	4 inches	+2 feet	136-6" feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation ____ inches by ____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name

Type Model No.

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Gravel packed? ☐ Yes ☒ No Size of gravel

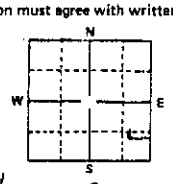
Placed from ___ feet to ___ feet

Surface seal? ☒ Yes ☐ No To what depth 25 feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Ada

SE ¼ SE ¼ Sec. 4 T. 4 N/S, R. 1 E/W

7. WATER LEVEL

Static water level 10' feet below land surface

Flowing? ☐ Yes ☐ No G.P.M. flow

Temperature 50 ° F. Quality

Artesian closed-in pressure ____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other Compressor

Discharge G.P.M.	Draw Down	Hours Pumped
36	2	1 hr 20 min

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
4"	0	2	Top Soil		X
	2	5	Hard Pan		X
	5	7	Dry Gravel		X
	7	42	Wet Gravel	X	
	42	52	Muddy Sand	X	
	52	90	Hard Sand		X
	90	131	Muddy Heaving Sand	X	
	131	132	Coarse Sand & Gravel		X
	132	135	Sandy Clay		X
	135	138	White Clay		X
	138	140	White Medium Coarse Sand		X

10. Work started Oct 31-69 finished Nov 14-69

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

Ernest Kelsey #39

Driller's or Firm's Name Number

R#1 Star Idaho

Address

Signed By Nov 20-69 Date

USE ADDITIONAL SHEETS IF NECESSARY

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Reclamation

WELL DRILLER'S REPORT

Received 3-31-70

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

1. WELL OWNER

Name Howard Jenkins

Address 1031 W. Whispering Cliffs - Boise

Owner's Permit No. Clover Meadows #3

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 4 inches Total depth 116 feet

Casing schedule: ☐ Steel ☐ Concrete

Thickness	Diameter	From	To
.237 inches	4" inches	1 feet	114 feet
____ inches	____ inches	____ feet	____ feet
____ inches	____ inches	____ feet	____ feet
____ inches	____ inches	____ feet	____ feet
____ inches	____ inches	____ feet	____ feet

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation ____ inches by ____ inches

Number	From	To
____ perforations	____ feet	____ feet
____ perforations	____ feet	____ feet
____ perforations	____ feet	____ feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name ____

Type ____ Model No. ____

Diameter ____ Slot size ____ Set from ____ feet to ____ feet

Diameter ____ Slot size ____ Set from ____ feet to ____ feet

Gravel packed? ☐ Yes ☒ No Size of gravel ____

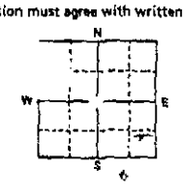
Placed from ____ feet to ____ feet

Surface seal? ☐ Yes ☐ No To what depth 20 feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



63

County Ada

SE ¼ SE ¼ Sec. 4, T. 4 N/S, R. 1 E/W

7. WATER LEVEL

Static water level 14 feet below land surface

Flowing? ☐ Yes ☐ No G.P.M. flow ____

Temperature ____ ° F. Quality ____

Artesian closed-in pressure ____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other Compressor

Discharge G.P.M.	Draw Down	Hours Pumped
25	5	2 hrs

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
4"	0	2	Top Soil		X
	2	6	Hard Pan		X
	6	40	Gravel		X
	40	53	Muddy Sand + Clay Streaks		
	53	65	Clay		X
	65	109	Muddy Sand	X	
	109	110	Clay		X
	110	112	Rotten Clay		X
	112	114½	Gummy Clay Mixed with Silt		
	114½	116	White Med. Coarse Sand	X	

10. Work started Dec 21-69 finished Jan 9-70

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

Ernest Kelsey H 39
Driller's or Firm's Name Number

RR#1 Star Idaho
Address

Alta Kelsey Jan 20-70
Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY

(51)

USE TYPEWRITER OR BALL POINT PEN

sand in

State of Idaho
Department of Reclamation

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

RECEIVED
AUG 27 1970
Department of Water Administration

1. WELL OWNER

Name Bryce Peterson
Address 4655 Norman Ln Boise
Owner's Permit No. Clover Meadows #1

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test
☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth _____ feet
Casing schedule: ☐ Steel ☐ Concrete

Thickness	Diameter	From	To
.25 inches	6 inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☐ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

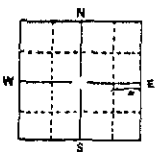
Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____
Placed from _____ feet to _____ feet

Surface seal? ☒ Yes ☐ No To what depth 21 feet
Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Ada
SE ¼ SE ¼ Sec. 4, T. 4 N/S, R. 1 E/W

7. WATER LEVEL

Static water level 8 feet below land surface
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Temperature _____ ° F. Quality _____
Artesian closed-in pressure _____ p.s.i.
Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other Compressor

Discharge G.P.M.	Draw Down	Hours Pumped
50		1 hr

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	2	Top Soil		X
	2	8	Hard Pan		X
	8	20	Gravel		
	20	35	Gravel	X	
	35	95	Thick Muddy Sand		X
	95	98	Coarse White Sand & Pea Gravel		X

10. Work started 8-12-70 finished 8-24-70

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

Ernest Kelsey 39
Driller's or Firm's Name Number
RH 1 Star Idaho
Address
Alta Kelsey 8-25-70
Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

(6)

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Reclamation

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

Garden Home Meadows #3

1. WELL OWNER

Name Bryce Peterson

Address 720 – N. Orchard

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6" inches Total depth 67 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6" inches	+2 feet	64'6" feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☐ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Gravel packed? ☐ Yes ☐ No Size of gravel _____

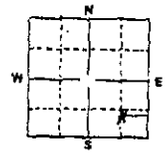
Placed from _____ feet to _____ feet

Surface seal? ☐ Yes ☐ No To what depth 28 feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



3 2

County Ada

SE ¼ SE ¼ Sec. 4 T. 4 N/S R. 1 E/W

7. WATER LEVEL

Static water level 11' 10" feet below land surface

Flowing? ☐ Yes ☐ No G.P.M. flow _____

Temperature _____ ° F. Quality _____

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other air Compressor

Discharge G.P.M.	Draw Down	Hours Pumped
36		5 hrs 15 min

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
	0	2	TOP SOIL		X
	2	6	HARD PAN		X
	6	15	DRY GRAVEL		X
	15	35	GRAVEL & BOULDERS		
			2nd DRILLING WATER		X
	35	57	COARSE MUNCHY SAND		X
			DRILLING WATER ONLY		
	57	65	HARD CLAY		X
	65	67	WHITE SAND & CLAY		
			STREAKS	X	

10. Work started Nov 22 finished Dec 10 - 70

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

Ernest Kelsey 39
Driller's or Firm's Name Number

RR#1 Star Idaho
Address

Signed By A Kelsey Date 1/21/71

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

(1)

USE TYPEWRITER OR BALL POINT PEN

Clover Meadows #2

State of Idaho
Department of Reclamation

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

1. WELL OWNER

Name Bryce Peterson

Address 720 N. Orchard

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

_____

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6" inches Total depth 138 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	_____ inches	+2 feet	136 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☐ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

Number		From	To
_____	perforations	_____ feet	_____ feet
_____	perforations	_____ feet	_____ feet
_____	perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Gravel packed? ☐ Yes ☐ No Size of gravel _____

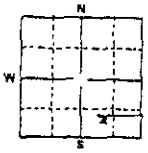
Placed from _____ feet to _____ feet

Surface seal? ☒ Yes ☐ No To what depth 26 feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Ada

SW ¼ SE ¼ Sec. 4 T. 4 N/S R. 1 E/W

7. WATER LEVEL

Static water level 8'5" feet below land surface

Flowing? ☐ Yes ☐ No G.P.M. flow _____

Temperature _____ ° F. Quality _____

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other Compressor

Discharge G.P.M.	Draw Down	Hours Pumped
60		24 hrs

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
	0	2	Top Soil		X
	2	6	Hard Pan		X
	6	37	Gravel		X
	37	43	Cemented Gravel		X
	43	81	Thick Muddy Sand		X
	81	130	Hard Sand & Mixed Clay		X
	130	131	Muddy Fine Gravel		X
	131	138	Coarse Sand & Pea Gravel	X	

10. Work started Oct 27 finished Nov 15-70

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

Ernest Kelsay — 39
Driller's or Firm's Name — Number

RH1 Star Idaho
Address

O Kelsay — 12-1-70
Signed By — Date

USE ADDITIONAL SHEETS IF NECESSARY

FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Reclamation

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

1. WELL OWNER

Name Quarter Circle D-J Ranch

Address Box 278, Eagle, Idaho

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 361 feet

Casing schedule: ☐ Steel ☐ Concrete

Thickness	Diameter	From	To
250 inches	6 inches	+1 feet	355 feet
____ inches	____ inches	____ feet	____ feet
____ inches	____ inches	____ feet	____ feet
____ inches	____ inches	____ feet	____ feet
____ inches	____ inches	____ feet	____ feet

Was a packer or seal used? ☐ Yes ☐ No

Perforated? ☐ Yes ☐ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation ____ inches by ____ inches

Number	From	To
____ perforations	____ feet	____ feet
____ perforations	____ feet	____ feet
____ perforations	____ feet	____ feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from ____ feet to ____ feet

Diameter ___ Slot size ___ Set from ____ feet to ____ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____

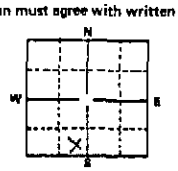
Placed from _____ feet to _____ feet

Surface seal? ☒ Yes ☐ No To what depth 20 feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Ada

SE ¼ SW ¼ Sec. 4 T. 4 N/S R. 1 E/W

7. WATER LEVEL

Static water level 30 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow _____

Temperature ____ °F. Quality _____

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☒ Pump ☐ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped
40	10	10

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	34	Clay		X
[illegible]	34	60	Sand & Clay layers		X
	60	76	Brown Sand	X	
	76	94	Yellow Clay		X
	94	107	Sand & Hardpan		X
	107	158	Sand & Clay layers		X
	158	291	Hardpan Sand		X
	291	360	Blue Clay	[illegible]	X
	360	361	Blue Sand	X	

10. Work started 9-16-70 finished 11-4-70

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

Harvey Stoner

Driller's or Firm's Name Number

Boise 116

Address

Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

(9)

RECEIVED
DEC 27 1961

WELL LOG AND REPORT OF THE STATE RECLAMATION ENGINEER OF IDAHO

Permit No. _____ Well No. _____ County Ada

Owner Mr William J Holman

Address Rt 1, # 234, Boise, Ida.

Driller Chester D Kinsey

Address Rt 1, Eagle, Ida.

Well location SW ¼ NE ¼ Sec. 4, T. 4 N/S, R. 1 E/W.

Size of drilled hole 6"

Total depth of well 60'2"

Locate well in section

NW¼	NE¼
SW¼	SE¼

Give depth to standing water from the ground 40' Water temp. _____ Hrhr.

On "Pumping Test" delivery was 1000 g.p.m. or _____ c.f.s. Drawdown was 5' feet. 30 GPM

Size of pump and motor used to make test 22 Gal Baler

Length of time of test. _____ hours 30 minutes.

If flowing well, give flow _____ c.f.s. or _____ g.p.m. and of shut off pressure _____

If flowing well, described control works _____ (TYPE AND SIZE OF VALVE, ETC.)

Water will be used for Domestic Weight of casing per lineal foot 20 lbs

Thickness of casing .280 wall Casing material steal (STEEL, CONCRETE, WOOD, ETC.)

Diameter, length and location of casing. 6' , 60'8" , 6" above surface to bottom of well. (CASING 12" IN DIAMETER OR LESS, GIVE INSIDE DIAMETER; CASING OVER 12" IN DIAMETER, GIVE OUTSIDE DIAMETER)

CASING RECORD

Diam. Casing	From Feet	To Feet	Length	Remarks—seals, grouting, etc.

Number and size of perforations _____ located _____ feet to _____ feet from ground

Date of commencement of well 9-26-61. Date of completion of well 9-29-61

SWNE 5.4 4N 1E

WATER

63

(10)

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

Received 1-2-73

1. WELL OWNER

Name Forrest Probasha

Address 3700 Hill Rd. - Boise

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 285 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	+1 feet	276 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seal used? ☐ Yes ☐ No

Perforated? ☐ Yes ☐ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation ____ inches by ____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from ____ feet to ____ feet

Diameter ___ Slot size ___ Set from ____ feet to ____ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____

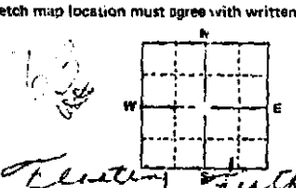
Placed from _____ feet to _____ feet

Surface seal? ☒ Yes ☐ No To what depth 34 feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



Floating Feather Road

County Ada

SW ¼ SE ¼ Sec. 4 T. 4 N/S R. 1 E/W

7. WATER LEVEL

Static water level 51 feet below land surface

Flowing? ☐ Yes ☐ No G.P.M. flow _____

Temperature ____ ° F. Quality _____

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other Compressor

Discharge G.P.M.	Draw Down	Hours Pumped
37	5'	2 Hrs 4 min

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	2	TOP SOIL		
	2	8	GUMMY SOIL		
	8	34	SANDY CLAY		
	34	52	GRAVEL HARD + DRY		
	52	78	THIN WET GRAVEL		
	78	90	COARSE MUDDY SAND		
	90	93	SANDY CLAY		
	93	118	COARSE MUSHY SAND		
	118	119	" SAND + SOME GRAVEL		
	119	206	SUGAR FINE THICK MUDDY SAND		
	206	232	SANDY CLAY		
	232	235	SOFT CLAY		
	235	274	BLUE SWOMP MUD		
	274	278	YELLOW CLAY		
	278	279	SANDY CLAY		
	280	285	GREY SAND + WATER	X	

10. Work started 10-19 finished 11-20-72

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

Ernest Kelsey 39
Driller's or Firm's Name Number

R#1 Box 56 Star Idaho
Address

Alta Kelsey 12/20/72
Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

(11)

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Resources

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Larry Hamm

Address

Owner's Permit No.

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Other (specify type)

☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

4. METHOD DRILLED

☐ Cable ☒ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 123 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	+ 1 feet	123 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was casing drive shoe used? ☒ Yes ☐ No

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation inches by inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name

Type Model No.

Diameter Slot size Set from feet to feet

Diameter Slot size Set from feet to feet

Gravel packed? ☐ Yes ☒ No Size of gravel

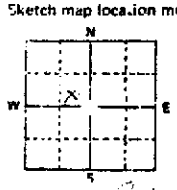
Placed from feet to feet

Surface seal depth 20 Material used in seal ☐ Cement grout ☒ Puddling clay ☐ Well cuttings

Sealing procedure used ☐ Slurry pit ☐ Temporary surface casing ☒ Overbore to seal depth

6. LOCATION OF WELL

Sketch map location must agree with written location. 63



Subdivision Name

Lot No. Block No.

County Ada

SE ¼ NW ¼ Sec. 4, T. 4 N., R. 1 E.

7. WATER LEVEL

Static water level 45 feet below land surface

Flowing? ☐ Yes ☐ No G.P.M. flow

Temperature °F Quality

Artesian closed-in pressure p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	6	Hard pan & topsoil		X
	6	12	Coarse sand		X
	12	68	Gravel	X	
	68	120	Sand	X	
	120	122	Joint clay		X
	122	123	Coarse sand & gravel	X	

Department of Water Resources

10. Work started 5/22/78 finished 5/23/78

11. DRILLERS CERTIFICATION

Firm Name Davis Well Drilling Firm No. 101

Address 415 N. Pitt Lane Nampa Date 5/30/78

Signed by (Firm Official) Charles Davis

and

(Operator)

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE COPY TO THE DEPARTMENT

(12)

Form 238-7
1/78

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Stan Bastian

Address Eagle, Idaho

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning) _____

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☒ Rotary ☒ Air ☐ Hydraulic ☐ Reverse rotary
☐ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
250 inches	6 inches +	1 feet	55.5 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

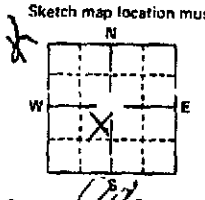
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 48' Material used in seal: ☐ Cement grout ☐ Puddling clay ☒ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____

Lot No. _____ Block No. _____

County Ada

NE ¼ SW ¼ Sec. 4 T. 4 N. R. 1 E.

7. WATER LEVEL

Static water level 15 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
No	Test	

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
9"	0	2	topsoil		X
9"	2	6	Hardpan		X
9"	6	13	Sand		X
9"	13	45	Gravel		X
9"	45	48	Brown Clay		X
6"	48	56	" "		X
6"	56	63	Sand	X	

RECEIVED
AUG 9 1978
Department of Water Resources
Western Regional Office

10. Work started 9/14/78 finished 9/14/78

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name S.O.S. Well Drilling & Pump Co. Firm No. 212
Address 4145 N. Blackcat Meridian, Ida Date 9/20/78
Signed by (Firm Official) Frank Shinn
and
(Operator) Wayne Fairbanks

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

(13)

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Resources

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Larry Crawford

Address 5215 Tinker Boise, ID

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

_____

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Other (specify type)

☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 89 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	+2 feet	89 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☒ Yes ☐ No

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____

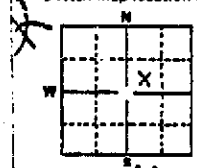
Placed from _____ feet to _____ feet

Surface seal depth 30 Material used in seal ☐ Cement grout ☒ Puddling clay ☒ Well cuttings

Sealing procedure used ☒ Slurry pit ☐ Temporary surface casing ☒ Overbore to seal depth

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____

Lot No. _____ Block No. _____

County Ada

SE ¼ NW ¼ Sec. 4 T. 4N N/S, R. 1E E/W

7. WATER LEVEL

Static water level 11 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow _____

Temperature _____ ° F. Quality _____

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Other

Discharge G.P.M.	Draw Down	Hours Pumped
10		3

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	4	brown clay		x
6	4	35	gravel		x
6	35	46	sandy clay		x
6	46	53	sand and gravel	x	
6	53	65	sandy clay		x
6	65	67	sand ang gravel	x	
6	67	75	sandy clay		x
6	75	79	sand and gravel	x	
6	79	88	sandy clay		x
6	88		sand and gravel	x	

RECEIVED
JUN 27 1979
Department of Water Resources
Western Regional Office

10. Work started 7/14/78 finished 7/21/78

11. DRILLERS CERTIFICATION

Firm Name Engleman Drilling Firm No. 42

Address Rt. 3 Box 3397A Nampa, ID 83651 Date 8/2/78

Signed by (Firm Official) Ralph Engleman

and

(Operator) Larry Engleman

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE COPY TO THE DEPARTMENT

(14)

Form 238-7
1/78

Elec. For Exploration

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Gregory Canyon Construction

Address

Owner's Permit No.

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other

Thickness	Diameter	From	To
0.250 inches	6⅝ inches	+1 feet	43 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation ___ inches by ___ inches

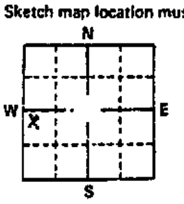
Number		From	To
	perforations	feet	feet
	perforations	feet	feet
	perforations	feet	feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name
Type Model No.
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel
Placed from ___ feet to ___ feet
Surface seal depth 20 Material used in seal: ☐ Cement grout ☐ Puddling clay ☒ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port

6. LOCATION OF WELL

63

Sketch map location must agree with written location.



Subdivision Name

Lot No. 3 Block No. 2

County

NW ¼ SW ¼ Sec. 11, T. 4N N/S, R. 1E E/W.

7. WATER LEVEL

Static water level 20 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow
Artesian closed-in pressure ___ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ___ °F. Quality Good

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other

Discharge G.P.M.	Pumping Level	Hours Pumped
30	Not Known	3

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	11	Topsoil		X
6"	11	23	Sandy Clay		X
6"	23	39	Sand		X
6"	39	45	Clay		X
6"	45	49	good water bearing sand	1	
			Well Casing Open Bottom		

10. Work started 6-20-77 finished 6-25-77

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name [illegible] Firm No. 205

Address [illegible] Date 6-29-77

Signed by (Firm Official) [illegible]

and

(Operator) [illegible]

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

(15)

USE TYPEWRITER OR BALLPOINT PEN

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Glen Rhodes Const.

Address Boise, Id.

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

_____

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Other (specify type)

☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 89 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	+18" feet	82 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☒ Yes ☐ No

Was a packer or seal used? ☒ Yes ☐ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☒ Yes ☐ No

Manufacturer's name Johnson's

Type _____ Model No. _____

Diameter 5" Slot size .030 Set from 83 feet to 85 feet

Diameter ____ Slot size ____ Set from ____ feet to ____ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____

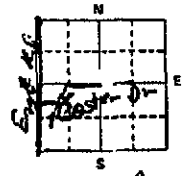
Placed from _____ feet to _____ feet

Surface seal depth 18' Material used in seal: ☐ Cement grout ☐ Puddling clay ☒ Well cuttings

Sealing procedure used: ☐ Slurry pit ☐ Temporary surface casing ☒ Overbore to seal depth

6. LOCATION OF WELL 63

Sketch map location must agree with written location.



Subdivision Name _____

Lot No. _____ Block No. _____

County Ada

NW ¼ SW ¼ Sec. 4, T. 4 N/S, R. 1 E/W

7. WATER LEVEL

Static water level 40 feet below land surface.

Flowing? ☐ Yes ☒ No G.P.M. flow _____

Temperature _____ °F. Quality _____

Artesian closed-in pressure _____ p.s.i.

Controlled by: ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☒ Pump ☒ Bailer ☒ Other Air Compressed

Discharge G.P.M.	Drawdown	Hours Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	7	Top Soil & Clay		☒
	7	15	Conental Ground		☒
	15	40	Sand & Gravel	☒	
	40	46	Sand	☒	
	46	64	Sandy clay		☒
	64	66	Sand	☒	
	66	70	Course White Sand	☒	
	70	78	Sandy clay		☒
	78	79	Sand	☒	
	79	83	Sandy clay		☒
	83	89	Sand	☒	

10. Work started 2-5-78 finished 3-mch-78

11. DRILLERS CERTIFICATION

Firm Name Dennis Phipps Drilling Firm No. 352

Address 2068 Bentley Date 2-mch-78

Signed by (Firm Official) Dennis L Phipps

and

(Operator) Dennis L Phipps

USE ADDITIONAL SHEETS IF NECESSARY – FORWARD THE WHITE COPY TO THE DEPARTMENT

(16)

Form 2.8.7
1/78

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Rick Bechtold

Address

Owner's Permit No.

2. NATURE OF WORK

☑ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☑ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☑ Cable ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Casing schedule: ☑ Steel ☐ Concrete ☐ Other

Thickness	Diameter	From	To
250 inches	6 inches +	1 feet	19 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

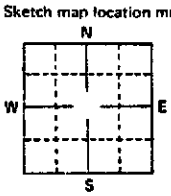
Was casing drive shoe used? ☑ Yes ☐ No
Was a packer or seal used? ☐ Yes ☑ No
Perforated? ☐ Yes ☑ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation inches by inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☑ No
Manufacturer's name
Type Model No.
Diameter Slot size Set from feet to feet
Diameter Slot size Set from feet to feet
Gravel packed? ☐ Yes ☑ No ☐ Size of gravel
Placed from feet to feet
Surface seal depth 20' Material used in seal: ☐ Cement grout ☐ Puddling clay ☑ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☑ Overbore to seal depth
Method of joining casing: ☐ Threaded ☑ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port

6. LOCATION OF WELL (63)

Sketch map location must agree with written location.



N
W E
S

Subdivision Name Fox Fireworks Sub

Lot No. Block No. 13

County Ada

NE ¼ SW ¼ Sec. 4, T. 4 N/S, R. 1 E/W.

7. WATER LEVEL

Static water level 43 feet below land surface.
Flowing? ☐ Yes ☑ No G.P.M. flow
Artesian closed-in pressure p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature °F. Quality

8. WELL TEST DATA

☑ Pump ☑ Bailer ☐ Air ☐ Other

Discharge G.P.M.	Pumping Level	Hours Pumped
15	75	16

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	3	Top Soil		✓
	3	10	Clay		✓
	10	18	Sand some gravel		✓
	18	20	Sand & Gravel		✓
	20	45	Gravel	✓	✓
	45	55	Sand & Gravel	✓	
	55	60	Sandy Clay		✓
	60	62	Sand	✓	
	62	72	Coarse Sand some gravel	✓	
	72	73	Sandy Clay		✓
	73	90	Clay		✓
	90	—	Coarse Sand	✓	

WEB

10. Work started 4/15/78 finished 4/18/78

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Buse Valley Pumps & Drilling Firm No. 207
Address 2950 S Garden Date 4/26/78
Signed by (Firm Official) Ross D. Murphy
and
(Operator) Gary K. Fulton

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

(17)

USE EXPLANATION ON REVERSE BEFORE FILLING OUT PEN

State of Idaho
Department of Water Resources

RECEIVED

WELL DRILLER'S REPORT

State law requires you to file this report with the Director, Department of Water Resources within 30 days after completion of drilling, alteration or plugging of a well.

1. WELL OWNER

Name Gregory Design Construction
Address Route 3 Box 3 Eagle Idaho

2. NATURE OF WORK

[X] New well [ ] Deepened [ ] Replacement
[ ] Abandoned (describe method of abandoning)

3. PROPOSED USE

[X] Domestic [ ] Irrigation [ ] Test [ ] Other (specify type)
[ ] Municipal [ ] Industrial [ ] Stock [ ] Waste Disposal or Injection

4. METHOD DRILLED

[X] Cable [ ] Rotary [ ] Dug [ ] Other

5. WELL CONSTRUCTION

Diameter of hole 6" inches Total depth 45' feet
Casing installed: [X] Steel [ ] Concrete

Thickness	Diameter	From	To
0250 inches	6.5 inches	1 feet	43 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was casing drive shoe used? [X] Yes [ ] No
Was a packer or seal used? [ ] Yes [X] No
Perforated? [ ] Yes [X] No
How perforated? [ ] Factory [ ] Knife [ ] Torch
Size of perforation ____ inches by ____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? [ ] Yes [X] No
Manufacturer's name ____
Type ____ Model No. ____
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Gravel packed? [ ] Yes [X] No Size of gravel ____
Placed from ____ feet to ____ feet

Surface seal depth 20 Material used in seal [ ] Cement grout [ ] Puddling clay [X] Well cuttings
Seating procedure used [ ] Slurry pit [ ] Temporary surface casing [X] Overbore to seal depth

6. LOCATION OF WELL

Sketch map location must agree with written location.

63

N
W E
S

Subdivision Name Eagle Feather
Lot No. 3 Block No. 2
County Ada
NW¼SW¼ Sec. 4 T. 4 N N/S, R 1 E E/W

7. WATER LEVEL

Static water level 10 feet below land surface
Artesian pressure ____ lbs. G.P.M. flow
Temperature ____ F Quality good
Artesian water is controlled by ____ (Valve) ____ (Cap) ____ (Other)

8. WELL TEST DATA

[ ] Pump [ ] Bailer [ ] Other Compressor

Discharge G.P.M.	Draw Down	Hours Pumped
30	Not Known	4

9. LITHOLOGIC LOG

Hole Diam	Depth From	Depth To	Material	Water Yes	Water No
6"	0	9'	Topsoil		X
6"	9	24	Sandy clay	X	
6"	24	36	Sand		X
6"	36	45	gravel clay		X
		46'	Encountered Basalt		
			Water pickup Zone		
			Clay		

10. Work started June 24/77 finished June 27/77

11. DRILLER'S CERTIFICATION

Driller's Name David Kris Drilling & Pump Service Firm No. 305
Address 2711 Overland Rd Boise Date 6-29-77
Signed by (Firm Official) David W Kris
and
(Operator) ____

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE COPY TO THE DEPARTMENT

(18)

#249 RECEIVED

APR 21 1976

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Resources

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

Department of Water Resources

1. WELL OWNER

Name Cecil Arnold

Address 1024 W. Avalon - Kuna, Idaho

Owner's Permit No.

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Other (specify type)

☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 95 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	+ 1 feet	86 feet
.188 inches	5 inches	76 feet	86 feet
.188 inches	5 inches	91 feet	95 feet
____ inches	____ inches	____ feet	____ feet
____ inches	____ inches	____ feet	____ feet

Was casing drive shoe used? ☒ Yes ☐ No

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation ____ inches by ____ inches

Number	From	To
____ perforations	____ feet	____ feet
____ perforations	____ feet	____ feet
____ perforations	____ feet	____ feet

Well screen installed? ☒ Yes ☐ No

Manufacturer's name Johnson

Type stainless steel Model No.

Diameter 5 Slot size 20 Set from 86 feet to 91 feet

Diameter ___ Slot size ___ Set from ____ feet to ____ feet

Gravel packed? ☐ Yes ☒ No Size of gravel

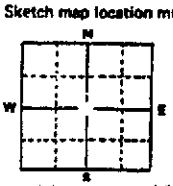
Placed from ____ feet to ____ feet

Surface seal depth 23 Material used in seal ☐ Cement grout ☐ Puddling clay ☒ Well cuttings

Sealing procedure used ☐ Slurry pit ☐ Temporary surface casing ☒ Overbore to seal depth

6. LOCATION OF WELL

Sketch map location must agree with written location. (13)



Subdivision Name Rocket Par

Lot No. 6 Block No. 1

Ada County

SE ¼ NE ¼ Sec. 4 T. 4N N/S, R. 1E E/W

7. WATER LEVEL

Static water level 25 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow

Temperature ____ ° F. Quality

Artesian closed-in pressure ____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Other

Discharge G.P.M	Draw Down	Hours Pumped
20	10	3

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	2	Top soil		x
	2	23	Sandy clay - black		x
	23	42	Gravel	x	
	42	78	Sandy clay		x
	78	87	Clay		x
	87	95	Sand and gravel	x	

10.

Work started 10-28-75 finished 11-5-75

11. DRILLER'S CERTIFICATION

Firm Name L.R.Hunsperger Well Drilling License No. 192

Address 6065 Oreana Dr., Boise Date 11-10-75

Signed by (Firm Official) ____

and

(Operator) ____

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

(19)

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Resources

DEC 1

WELL DRILLER'S REPORT

Department of Water Resources

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name AL MILLER

Address BEACON LIGHT

Owner's Permit No. —

2. NATURE OF WORK

[X] New well [ ] Deepened [ ] Replacement

[ ] Abandoned (describe method of abandoning)

3. PROPOSED USE

[X] Domestic [ ] Irrigation [ ] Test [ ] Other (specify type)

[ ] Municipal [ ] Industrial [ ] Stock [ ] Waste Disposal or injection

4. METHOD DRILLED

[X] Cable [ ] Rotary [ ] Dug [ ] Other

5. WELL CONSTRUCTION

Diameter of hole 6" inches Total depth 47' feet

Casing schedule: [X] Steel [ ] Concrete

Thickness	Diameter	From	To
.250" inches	6" inches	+ 0 feet	47' feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was casing drive shoe used? [X] Yes [ ] No

Was a packer or seal used? [ ] Yes [X] No

Perforated? [ ] Yes [X] No

How perforated? [ ] Factory [ ] Knife [ ] Torch

Size of perforation ____ inches by ____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? [ ] Yes [X] No

Manufacturer's name ____

Type ____ Model No. ____

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Gravel packed? [ ] Yes [X] No Size of gravel ____

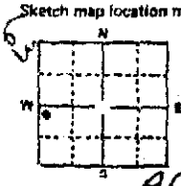
Placed from ____ feet to ____ feet

Surface seal depth 20' Material used in seal [ ] Cement grout [X] Puddling clay [X] Well cuttings

Sealing procedure used [X] Slurry pit [ ] Temporary surface casing [X] Overbore to seal depth

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name ____

Lot No. — Block No. —

County ADA

NW ¼ SW ¼ Sec. 4, T. 4 N/S, R. 1 E/W

7. WATER LEVEL

Static water level 20' feet below land surface

Flowing? [ ] Yes [X] No G.P.M. flow —

Temperature 42 °F. Quality EXCELLENT

Artesian closed-in pressure — p.s.i.

Controlled by [ ] Valve [X] Cap [ ] Plug

8. WELL TEST DATA

[X] Pump [X] Bailer [ ] Other

Discharge G.P.M.	Draw Down	Hours Pumped
15	5'	4 Hours

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6'	0	4	TOP SOIL		✓
	4	10	SANDY SOIL		✓
	10	15	SAND		✓
	15	25	GRAVEL	✓	
	25	29	CLAY		✓
	29	43	GRAVEL	✓	
	43	47	BROWN CLAY		✓
		47	HEAVY SAND (AQUIFER)	✓	

10. Work started 10/11/75 finished 10/19/75

11. DRILLERS CERTIFICATION

Firm Name H2O Well Drilling Firm No. 303

Address SSIV STATE ST. Date 11-12-75

Signed by (Firm Official) Walter R. Connolly Bruce Connolly

and (Operator) Bruce Connolly

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 2/6/7

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

20

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Bill Taylor

Address Eagle Idaho

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning) _____

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
250 inches	5 inches +	1 feet	34 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout ☐ Puddling clay ☒ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port Top of well

6. LOCATION OF WELL 63

Sketch map location must agree with written location.

N / W / E / S

Subdivision Name _____
Eagle Feather Sub
Lot No. 2 Block No. 2

County Ada

SW ¼ NE ¼ Sec. 4, T. 4 N/S, R. 1 E/W.

7. WATER LEVEL

Static water level 14 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ___ °F. Quality _____

8. WELL TEST DATA

☒ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
50	15	24

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
10	0	18	Sandy clay + Gravel		1
8	18	32	Cemented "		1
	32	34	Gray Clay		1
	34		Sand + Gravel	X	

WH

DEC 1 1979
Department of Water Resources

DEC 1 1979
Department of Water Resources
Western Regional Office

10. Work started 7/3/79 finished 7/6/79

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name [illegible] Firm No. 280

Address [illegible] Date 7/9/79

Signed by (Firm Official) [illegible]

and

(Operator) _____

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7
1/78

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

(2)

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Behrman Bros. Const.

Address 2075 Ridgeview Way Boise

Owner's Permit No. _____

2. NATURE OF WORK

XX New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning) _____

3. PROPOSED USE

XX ☐ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
XX ☐ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: XX ☐ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches	+ 1 feet	96'3" feet
.188 inches	5 inches	92'2" feet	98'8" feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

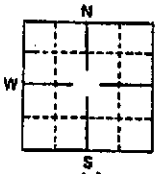
Was casing drive shoe used? XX Yes ☐ No
Was a packer or seal used? XX Yes ☐ No
Perforated? ☐ Yes XX ☐ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number		From	To
_____	perforations	_____ feet	_____ feet
_____	perforations	_____ feet	_____ feet
_____	perforations	_____ feet	_____ feet

Well screen installed? XX Yes ☐ No
Manufacturer's name Cook
Type stainless steel Model No. 304
Diameter 5 Slot size 20 Set from 98'8" feet to 104 feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes XX No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 20 Material used in seal: ☐ Cement grout ☐ Puddling clay XX ☐ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☐ Overbore to seal depth
Method of joining casing: ☐ Threaded ☐ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name Eagle Feather
Lot No. 4 Block No. 1
County Ada
N/W ¼ S/W ¼ Sec. 4, T. 4 N/S R. 1 E/W

7. WATER LEVEL

Static water level 34 feet below land surface.
Flowing? ☐ Yes ☐ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____

8. WELL TEST DATA

☐ Pump XX Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
15	34	
20	49	1 hr.

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	2	topsoil		X
	2	14	sandy brown clay		X
	14	42	cemented sand & gravel		X
	42	88	streaks of muddy brown sand, cemented sand & clay	X	
	88	97	sticky brown clay		X
	97	105	fine, slightly muddy sand	X	
	105	112	brown clay		X
			back filled to 104' with 2" rock		

10.

Work started 4/17/80 finished 4/28/80

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name W.E. Stevens & Sons No. 153
Address 3709 Hawthorne Drive Date 5/2/80
Signed by (Firm Official) Wayne E. Stevens
and
(Operator) _____

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

22

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources, within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name: [illegible] A Knight
Address: [illegible]
Owner's Permit No. 63-9685

2. NATURE OF WORK

X New well Deepened Repair/Alt.
Abandoned (describe method of abandoning)

3. PROPOSED USE

X Domestic Irrigation Test Municipal
Industrial Stock Waste Disposal or injection
Other Specify type

4. METHOD DRILLED

Rotary Air Hydrogen Reverse rotary
X Cable Dug Other

5. WELL CONSTRUCTION

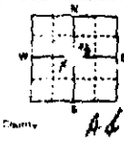
Casing schedule X Steel Concrete Other

Thickness	Diameter	From	To
250 inches	6 inches	1 feet	50 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was casing drive shoe used? Yes No
Was a packer or seal used? Yes X No
Perforated? Yes X No
How perforated? Factory Knife Torch
Size of perforation inches by inches
Number From To
perforations feet feet
perforations feet feet
perforations feet feet
Well screen installed? Yes X No
Manufacturer's name
Type Model No.
Diameter Slot size Set from feet to feet
Diameter Slot size Set from feet to feet
Gravel packed? Yes X No Size of gravel
Placed from feet to feet
Surface seal depth 18 Material used in seal Cement grout
X Puddling clay X Well casing
Sealing procedure used Slurry pit Temp. surface casing
X Overbore to seal depth
Method of joining casing Threaded X Welded Solvent Weld
Cemented between strata
Describe access port Topof well

6. LOCATION OF WELL

Sketch map location must agree with written location



Subdivision Name: Los Sueños
Lot No. 16 Block No.
County: Ada
NE SW Sec. 4 T 4 N R 8 E M

7. WATER LEVEL

Static water level 3 feet below land surface
Flowing? Yes X No G.P.M. flow
Artesian shut in pressure psi
Controlled by Valve Cap Plug
Temperature °F Quality

8. WELL TEST DATA

Pump Bailer Air Other

Discharge (GPM)	Pumping Level	Hours Pumped
50	34	48

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	5	Topsoil		1
8	5	19	Sandy clay		1
8	19	51	Sand & clay		1
	51	74	Yellow clay		1
	74	75	White sand & gravel	X	
	75	80	Yellow clay		1
	80	82	Sand	X	

10. Work started 1/1/81 Finished 8/4/81

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name: [illegible] Drilling Co. Firm No. 280
Address: [illegible] Date 1/5/81
Signed by (Firm Official) [illegible]
and [illegible]
(Operator)

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

NE SW Sec 4 T4N R1EBM JC

Form 238-7
1/78

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

23

1. WELL OWNER

Name Bob A Wright

Address 1311 Jackson Boise

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning) _____

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
250 inches	6 inches +	1 feet	90 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

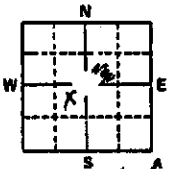
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout ☒ Puddling clay ☒ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port Topof well

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Los Luceros
Lot No. 16 Block No. _____
County Ada
NE ¼ SW ¼ Sec. 22, T. 4 N/S, R. 3 E/W.

7. WATER LEVEL R

Static water level 21 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ____ °F. Quality _____

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
50	34	48

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
9	0	3	Topsoil		1
9	3	19	sandy clay		1
6	19	51	Sand & gravel		1
	51	74	Yellow clay		1
	74	75	White sand 150 gpm	X	
	75	80	Yellow clay		1
	80	92	Sand	X	

RECEIVED
JUN 25 1981
Department of Water Resources

10. Work started 4/1/81 finished 4/4/81

11. DRILLERS CERTIFICATION CB DL

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Jerry O'Leary Drilling Firm No. 290
Address Rigby, Idaho Date 4/5/81
Signed by (Firm Official) Jerry O'Leary
and "
(Operator) _____

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

9/82

DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

(24)

1. WELL OWNER

Name Jim Trent

Address Eagle, Idaho

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal

☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

☐ Other _____ (specify type)

4. METHOD DRILLED

☒ Rotary ☒ Air ☐ Hydraulic ☐ Reverse rotary

☐ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches +	1 feet	59 feet
____ inches	____ inches	____ feet	____ feet
____ inches	____ inches	____ feet	____ feet
____ inches	____ inches	____ feet	____ feet

Was casing drive shoe used? ☒ Yes ☐ No

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation ____ inches by ____ inches

Number	From	To
____ perforations	____ feet	____ feet
____ perforations	____ feet	____ feet
____ perforations	____ feet	____ feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ____ Slot size ____ Set from ____ feet to ____ feet

Diameter ____ Slot size ____ Set from ____ feet to ____ feet

Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____

Placed from _____ feet to _____ feet

Surface seal depth 18 Material used in seal: ☐ Cement grout ☐ Bentonite ☒ Puddling clay ☐ _____

Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth

Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata

Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.

N / W / E / S

Subdivision Name _____

Lot No. _____ Block No. _____

County Ada

NW ¼ SW ¼ Sec. 4, T. 4 N, R. 1 E

7. WATER LEVEL

Static water level 18 feet below land surface.

Flowing? ☐ Yes ☒ No G.P.M. flow _____

Artesian closed-in pressure _____ p.s.i.

Controlled by: ☐ Valve ☐ Cap ☐ Plug

Temperature ____ °F. Quality _____

Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
45	43	1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
9"	0	4	Brown topsoil		X
9"	4	12	Brown sandy clay		X
9"	12	18	Brown sand & gravel		X
6"	18	20	" " "		X
6"	20	38	Brown gravel & sand	X	
6"	38	56	Brown clay		X
6"	56		Brown & white sand	X	

Department of Water Resources
Western Regional Office

10. Work started 1/26/83 finished 1/28/83

11. DRILLERS CERTIFICATION DL

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name F. Skinner Firm No. 212

Address Meridian, Id Date 2/2/83

Signed by (Firm Official) Frank Skinner

and

(Operator) Frank Skinner

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

25

Form 238-7
8/90

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Ivan Flemming
Address 4200 Ballantine LN Boise
Eagle, ID
Drilling Permit No. 63-91-W-008
Water Right Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches +	1 feet	221 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

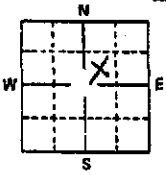
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name Johnson
Type SS Model No. _____
Diameter 5" Slot size .080" Set from 222 feet to 221 feet
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Gravel packed? ☐ Yes ☐ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout
☒ Bentonite ☐ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____
County Ada
SW ¼ NE ¼ Sec. 5, T. 4 ☒ N ☐ S, R. 1 ☒ E ☐ W

7. WATER LEVEL

Static water level 60' feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☒ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
30	90'	1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	5	Top Soil		
	5	23	Sand		
	23	34	Sandy clay		
	34	60	Gravel + Sand		
	60	75	Sand + Gravel (Dirty)		
	75	95	Fine Sandy Clay		
	95	179	Sandy clay		
	179	228	Sand + Some Gravel		
	228	—	Sand + Some Gravel		

JUN 26 1991

Department of Water Resources

10.

Work started 5/20/91 finished 5/25/91

11. DRILLERS CERTIFICATION DE

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Phipps Drilling Firm No. 311
Address 7015 McGlochlin Date 6/10/91
Signed by (Firm Official) _____
and
(Operator) Same

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

26

Form 238-7
8/90

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

RECEIVED MAR 25 1992 Department of Water Resources

1. WELL OWNER

Name William Weiler
Address 5231 Ambridge Dr. Agoura, California 91301-2301
Drilling Permit No. 103-92-W-016
Water Right Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☒ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☐ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches +	1 feet	79 feet
____ inches	____ inches	____ feet	____ feet
____ inches	____ inches	____ feet	____ feet
____ inches	____ inches	____ feet	____ feet

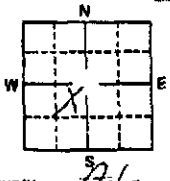
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No 75'
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation ____ inches by ____ inches

Number	From	To
____ perforations	____ feet	____ feet
____ perforations	____ feet	____ feet
____ perforations	____ feet	____ feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name Houston
Type Stainless Steel Model No. _____
Diameter 6" Slot size 25 Set from 80 feet to 100 feet
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout
☐ Bentonite ☒ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing
☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____
County Ada
NE ¼ SW ¼ Sec. 4, T. 4 N☒ S☐ R. 1 E☒ W☐

7. WATER LEVEL

Static water level 28 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ____ °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
50	33	2

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
9"	0	2	Topsoil		X
9"	2	12	Brown Clay		X
9"	12	18	Sand & gravel	X	
6	18	35	" "	X	
6"	35	37	Brown Clay		X
6"	37	45	Brown & White Sand	X	
6"	45	47	Yellow Clay		X
6"	47	52	Brown Sand	X	
6"	52	54	Yellow Clay		X
6"	54	65	Brown Sand	X	
6"	65	70	Yellow Clay		X
6"	70	75	Brown Sand	X	
6"	75	81	Yellow Clay		X
6"	81	88	White Sand	X	
6"	88	89	Brown Clay		X
6"	89	94	White Sand	X	
6"	94	96	Brown Clay		X
6"	96	100	White Sand	X	

RECEIVED MAR 31 1992 Department of Water Resources

10. Work started 01/20/92 finished 01/22/92

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name S.O.S. Welldrill Firm No. 212
Address 4145 N. Blackcat Meridian Ia Date 02/05/92
Signed by (Firm Official) [signature]
and
(Operator) [signature]

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

27

Form 238-7
8/90

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Bob ~~Yearsley~~ YEARSley

Address P.O. Box 4787 Boise Id.

Drilling Permit No. 63-91-Z-186

Water Right Permit No. 63-11584

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches +	1 feet	76 feet
.258 inches	5 inches	71 feet	77 feet
.258 inches	5 inches	82 feet	84 feet
inches	inches	feet	feet

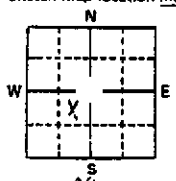
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation _____ inches by _____ inches

Number	From	To
perforations	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name Johnson
Type Stainless Model No. 304
Diameter 5 Slot size .020 Set from 77 feet to 82 feet
Diameter 5 Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout
☒ Bentonite ☒ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing
☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____

Lot No. _____ Block No. _____

County Ada

NE ¼ SW ¼ Sec. 4, T. 4 N ☒ S ☐ R. 1 E ☒ W ☐

7. WATER LEVEL

Static water level 20 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ___ °F. Quality _____
Describe artesian or temperature zones below

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
30		1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	2	Top Soil		X
	2	10	Clay		X
	10	25	Gravel		X
	25	48	Gravel	X	
	48	75	SANDY Clay	X	
	75	82	Course SAND	X	
	82	84	Clay		X

OCT 31 1991

10. Work started 21 Sept 91 finished 2 Oct 91

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Dennis Phipps Firm No. 332

Address Meridian Id Date 29 Oct 91

Signed by (Firm Official) [signature]

and

(Operator) [signature]

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

28

rm 238-7
89

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

USE TYPEWRITER OR BALLPOINT PEN

OCT 18 [illegible]

Department of Water Resources

RECEIVED
OCT 19 1990
Department of Water Resources

1. WELL OWNER

Name Roger Crandelmire
1400 Floating Feather Road
Address Eagle, ID 83616

Owner's Permit No. 63-90-W-209

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☐ Domestic ☒ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☒ Reverse rotary
☐ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	16 inches	+ 18" feet	176 feet
.250 inches	16 inches	316 feet	321 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

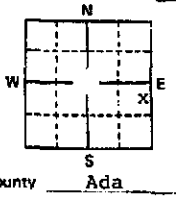
Was casing drive shoe used? ☐ Yes ☐ No
Was a packer or seal used? ☐ Yes ☐ No
Perforated? ☐ Yes ☐ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name Roscoe Moss
Type Wirewrap Model No. _____
Diameter 16 Slot size .040 Set from 176 feet to 316 feet
Diameter _____ Slot size _____ Set from _____ feet to _____ feet
Gravel packed? ☒ Yes ☐ No ☐ Size of gravel 3/8-
Placed from 64 feet to Bottom feet
Surface seal depth 64 Material used to seal: ☒ Cement grout
☐ Bentonite ☐ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing
☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port 2"

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____
County Ada
SE ¼ SE ¼ Sec. 4, T. 4N N S, R. 1E E W

7. WATER LEVEL

Static water level 32 feet below land surface.
Flowing? ☐ Yes ☐ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
26	0	6	Topsoil		
	6	20	Coarse Sand	X	
	20	24	Coarse Sand & Brown Clay	X	
	24	32	River Rock & Gravel		
	32	50	Rock,gravel,sand		
	50	52	Med. Sand	X	
	52	56	Med. to Coarse Sand	X	
	56	75	Brown Clay		
	75	81	Fine Sand	X	
	81	111	Brown Clay		
	111	114	Fine Sand	X	
	114	124	Fine to Med. Sand	X	
	124	131	Med. to Crse. Sand	X	
	131	134	Brown Clay		
	134	135	Med. to crse. sand	X	
	135	144	Brn.Clay w/stks.crse.sand		
	144	151	Brn.Clay		
	151	168	Med. to crse sand	X	
	168	174	Brn. Clay w/sm.stks.sand		
	174	177	Brn.Clay		
	177	194	Crse. Sand-Gravel(¼ & ½)	X	
	194	212	Crse. Sand w/sm.amt.gravel	X	
	212	214	Fine Sand (Golden)	X	
	214	226	Brn.Gray Sand	X	
	226	243	Golden Med. Sand	X	
	243	263	Fine to Med. White Sand	X	
	263	273	Golden Sand (Med.to Crse.	X	
	273	276	White Sand	X	
	276	283	Brn. Clay		
	283	293	Med. Light Brn. Sand	X	
	293	319	Light Brn. Sand	X	
	319	323	Brn. Clay		

10.

Work started 9/13/90 finished 9/18/90

11. DRILLERS CERTIFICATION DL

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

PETE COPE DRILLING CO., INC.
Firm Name _____ Firm No. 213
6505 West Chinden Blvd.
Address Meridian, ID Date 9/19/90

Signed by (Firm Official) _____
and
(Operator) _____

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

COULD NOT FIND A WR. FOR THIS.

JSR

29

Form 238-7
6/89

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Dan Seamons

Address 50 Rooster Drive
Eagle, Idaho 83616

Owner's Permit No. 63-90-W-043

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
Well diameter increase
Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☒ Rotary ☒ Air ☐ Hydraulic ☐ Reverse rotary
☐ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter		From	To
.250	inches × 6	inches +	2 feet	96 feet
	inches	inches	feet	feet
	inches	inches	feet	feet
	inches	inches	feet	feet

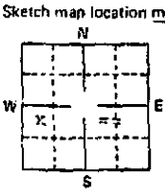
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation _____ inches by _____ inches

Number		From	To
	perforations	feet	feet
	perforations	feet	feet
	perforations	feet	feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 20 Material used in seal: ☐ Cement grout
☒ Bentonite ☐ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☐ Overbore to seal depth
Method of joining casing: ☐ Threaded ☐ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port well seal

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Eagle Feather Sub.
Lot No. 2 Block No. 1
County Ada
NW ¼ SW ¼ Sec. 4, T. 4 ☐ N ☒ S, R. 1 ☒ E ☐ W

7. WATER LEVEL

Static water level 25 feet below land surface.
Flowing? ☐ Yes ☐ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____
Describe artesian or temperature zones below

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	6	Top soil/hard pan		X
8/20	6	50	gravel	X	
6	50	56	Sand	X	
	56	60	Clay		X
	60	75	Sandy clay	X	
	75	82	Clay		X
	82	91	Sand	X	
	91	95	Sand/clay		X
	95	107	Clay		X
	107	115	Sand	X	
	115	117	Clay		X
	117	120	Sand/joint clay	X	

10.

Work started 4-3-90 finished 4-4-90

11. DRILLERS CERTIFICATION

OL

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name DAVIS WELL & PUMP CO. Firm No. 101
Address 415 N. PITT LANE NAMPA, IDAHO 83687 Date 4-27-90
Signed by (Firm Official) Carl McKeen
and
(Operator) Chuck Davis
Res. CMSO

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7
9 82

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

30

VW

1. WELL OWNER

Name ED CARLSON

Address 4280 GEEENMEADOW AVE. BOISE

Owner's Permit No. 63-89-2-070

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☒ Rotary ☒ Air ☐ Hydraulic ☐ Reverse rotary
☐ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches +	.25" feet	82'11" feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

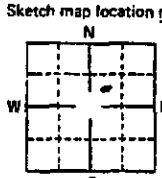
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout ☒ Bentonite ☒ Puddling clay ☐ _____
Sealing procedure used: ☒ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____
County ADA
SW ¼ NE¼ Sec. 4, T. 4N N/S, R. 1E E/W.

7. WATER LEVEL

Static water level 18 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA

☒ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
60+	60'	1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	18	SOIL & GRAVEL		X
6	18	25	GRAVEL		X
6	25	85	GRAVEL W/ CLAY	X	

RECEIVED
MAY 1989
Department of Water Resources

10.

Work started 5/4/89 finished 5/4/89

11. DRILLERS CERTIFICATION DL

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

BILL DOTY DRILLING CO., INC. Firm Name _____ 42 Firm No. _____
25497 FREEZE OUT RD. CALDWELL, ID. Address _____ Date 5/18/89
Signed by (Firm Official) Bill Doty
and
(Operator) Norris Kinard

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

(31)

Form 238-7
9/82

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

NA 9m

1. WELL OWNER

Name Pete Cintolino

Address Eagle Id.

Owner's Permit No. 63-88-W-018

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches +	1 feet	23 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout ☒ Bentonite ☒ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.

N / W / E / S

Subdivision Name _____
Lot No. _____ Block No. _____
P.P. SE NW
County Ada
SW ¼ SE ¼ Sec. 4 T. 4 N/S R. 1 E/W

7. WATER LEVEL

Static water level 1 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
60		2

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	2	Top Soil		X
	2	15	Gravel		X
	15	16	SAND & Gravel	X	
	16	80	SANDy Clay	X	
		80	SAND	X	

Department of Water Resources
Western Regional Office

1988

Department of Water Resources

10.

Work started 8 March 88 finished 9 March 88

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Dennis Phipps Firm No. 332
Address 2068 Bentley Date 4 April 88
Signed by (Firm Official) Dennis Phipps
and
(Operator) _____

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

32

Form 238-7
9/82

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

97

1. WELL OWNER

Name Lowell Rosenbalm

Address Eagle (Beacon)

Owner's Permit No. _____

2. NATURE OF WORK

☑ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☑ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☑ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☑ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches	+ 1 feet	57 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☑ Yes ☐ No
Was a packer or seal used? ☐ Yes ☑ No
Perforated? ☐ Yes ☑ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☑ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Gravel packed? ☐ Yes ☑ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout
☑ Bentonite ☐ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing
☑ Overbore to seal depth
Method of joining casing: ☐ Threaded ☑ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.

N / W / E / S

Subdivision Name _____
Lot No. _____ Block No. _____

County Ada

SE ¼ NW ¼ Sec. 4, T. 4 N/S, R. 1 E/W

7. WATER LEVEL

Static water level 22 ft. feet below land surface.
Flowing? ☐ Yes ☑ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 60 °F. Quality Hard
Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☐ Bailer ☑ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
40	—	2

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	2	Soil		
8	2	15	Sandy Clay		
6-8	15	57	Gravel		

RECEIVED
JUN 02 1987
Department of Water Resources

10.

Work started 6-4-87 finished 6-11-87

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name R. B. Driscoll Firm No. 336
Address 930 S. Wash Date 6-28-87
Signed by (Firm Official) Robert B Driscoll
and
(Operator) Robert B Driscoll

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7
9/82

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

USE TYPEWRITER OR BALLPOINT PEN

33

W

95

1. WELL OWNER

Name Laura Ford

Address

Owner's Permit No.

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches	+ 1 feet	42 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

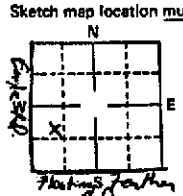
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name Johnson's
Type 301 Model No. _____
Diameter 5 Slot size .025 Set from 45 feet to 50 feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout ☐ Bentonite ☒ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____
County Ada
NW ¼ SW ¼ Sec. 4 , T. 4 N/S, R. 1 E/W.

7. WATER LEVEL

Static water level 10 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____
Describe artesian or temperature zones below

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
40		1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	2	Top soil		X
	2	15	sandy clay		X
	15	35	gravel	X	
	35	47	sand + gravel	X	

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APR 23 1985
Department of Water Resources
Western Regional Office

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APR 23 1985
Department of Water Resources

10. Work started 9-28-83 finished 9-29-83

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Hughipps Drilling Firm No. 332
Address 2047 Bentley Ave. Date 9-30-83
Signed by (Firm Official) [signature]
and
(Operator) _____

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7
9/82

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

34

1. WELL OWNER

Name GREG BROWN

Address P.O. BOX 241 Meridian, Idaho 83642

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☒ Rotary ☒ Air ☐ Hydraulic ☐ Reverse rotary
☐ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches	2 feet	73 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 20' Material used in seal: ☐ Cement grout ☐ Bentonite ☒ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.

N / W / E / S

Subdivision Name _____
Lot No. _____ Block No. _____
County ADA
SE ¼ NE ¼ Sec. 4, T. 4 (N)/S, R. 1 (E)W.

7. WATER LEVEL

Static water level 32 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
60		2

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	1	top soil		x
8	1	10	sand clay		x
8	10	20	sand & gravel		x
6	20	40	sand & gravel	x	
6	40	70	sand & clay layers	x	
6	70	77	clay		x
6	77	80	sandstone	x	
6	80	90	sand	x	

RECEIVED
MAY 7 1985
Department of Water Resources
Western Regional Office

RECEIVED
MAY 6 1985
Department of Water Resources

10.

Work started 3-01-84 finished 3-01-84

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name BILL DOTY WELL DRILLING Firm No. 42
Address RT.7 BOX311 Caldwell, Idaho 83605 Date 6-25-84
Signed by (Firm Official) Bill Doty
and
(Operator) Bob Doty

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Form 238-7
4/92

POOR QUALITY

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JUN 8 1993
Department of Water Resources
Western Regional Office

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

pg 2 of 3

1. WELL OWNER
Name L.D.S. CHURCH
Address 2710 NW SUNRISE RIM RD. SUITE200
Drilling Permit No. 93-7247-0211-000
Water Right Permit No. 63-11392

2. NATURE OF WORK NEW WELL
☐ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase ☐ Modification
☐ Abandoned (describe abandonment or modification procedures such as liners, screen, materials, plug depths, etc. in lithologic log, section 9.)

3. PROPOSED USE CULINARY
☐ Domestic ☐ Irrigation ☐ Monitor
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED MUD ROTARY
☐ Rotary ☐ Air ☐ Auger ☐ Reverse rotary
☐ Cable ☐ Mud ☐ Other _____ (backhoe, hydraulic, etc.)

5. WELL CONSTRUCTION
Casing schedule: ☐ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6" inches	+437 feet	456 feet
.250 inches	6" inches	456 feet	470 feet
.250 inches	12" inches	418" feet	42 feet

Was casing drive shoe used? ☐ Yes ☐ No
Was a packer or seal used? ☐ Yes ☐ No
Perforated? ☐ Yes ☐ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation? _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

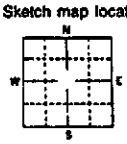
Well screen installed? ☐ Yes ☐ No
Manufacturer _____ Type _____
Top Packer or Headpipe _____
Bottom of Tailpipe _____

Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Gravel packed? ☐ Yes ☐ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet

Surface seal depth 42 Material used in seal: ☐ Cement grout
☐ Bentonite ☐ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit
☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☐ Welded
☐ Solvent Weld ☐ Cemented between strata

Describe access port WELL CAP

6. LOCATION OF WELL
Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____
County TETON
Address of Well Site EAGLE RD. TETON REGION I (give at least name of road)
SW ¼ NW ¼ Sec. 4, T. 1N N ☐ or S ☐, R. 1E E ☐ or W ☐

7. WATER LEVEL
Static water level 23' feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 65 °F. Quality Good
Describe artesian or temperature zones below.

8. WELL TEST DATA
☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
16"	436	442	CLAY		X
	442	444	SAND		X
	444	446	CLAY		X
	446	470	FINE SAND	X	

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JUN 07 1993
Department of Water Resources

10.
Work started _____ finished _____

11. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
Firm Name EASTERN DRILL Firm No. 213
Address SOUTH CLEARFIELD Date _____
Signed by Drilling Supervisor _____
Floating Feather Rd. and
(Operator) _____ (if different than the Drilling Supervisor)

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7
4-02

RECEIVED STATE OF IDAHO JUN 8 1993
DEPARTMENT OF WATER RESOURCES

RECEIVED JUL 07 1993 Department of Water Resources

USE TYPEWRITER OR BALLPOINT PEN

POOR QUALITY

WELL DRILLER'S REPORT

State Department of Water Resources: This report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

pg 1 of 3

1. WELL OWNER

Name _____

Address _____

Drilling Permit No. _____

Water Right Permit No. _____

2. NATURE OF WORK

☐ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase ☐ Modification
☐ Abandoned (describe abandonment or modification procedures such as liners, screen, materials, plug depths, etc. in lithologic log, section 9.)

3. PROPOSED USE

☐ Domestic ☐ Irrigation ☐ Monitor
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Auger ☐ Reverse rotary
☐ Cable ☐ Mud ☐ Other _____ (backhoe, hydraulic, etc.)

5. WELL CONSTRUCTION

Casing schedule: ☐ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
_____ inches	_____ inches	+ _____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☐ Yes ☐ No
Was a packer or seal used? ☐ Yes ☐ No
Perforated? ☐ Yes ☐ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation? _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☒ Yes ☐ No
Manufacturer _____ Type _____
Top Packer or Headpipe _____
Bottom of Tailpipe _____

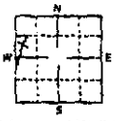
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Gravel packed? ☒ Yes ☐ No ☐ Size of gravel 8-12
Placed from 490 feet to 315 feet

Surface seal depth 315 Material used in seal: ☐ Cement grout
☐ Bentonite ☐ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit
☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☐ Welded
☐ Solvent Weld ☐ Cemented between strata

Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____
County _____
Address of Well Site _____ (give at least name of road)
Floating Feather Rd
T. 4N N ☐ or S ☐
SW ¼ NW ¼ Sec. 4 R. 1E E ☐ or W ☐

7. WATER LEVEL

Static water level _____ feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 65 °F. Quality Good
Describe artesian or temperature zones below.

8. WELL TEST DATA

Time

☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
100	53'	4

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No

10.

Work started _____ finished _____

11. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name _____ Firm No. _____
Address _____ Date _____
Signed by Drilling Supervisor _____
and
(Operator) _____ (If different than the Drilling Supervisor)

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7
4/92

C

37

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name McCarter-Moorehouse

Address 9703 Ustick Boise, Id. 83704

Drilling Permit No. 63-93-W-0213

Water Right Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase ☐ Modification
☐ Abandoned (describe abandonment or modification procedures such as liners, screen, materials, plug depths, etc. in lithologic log, section 9.)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Monitor
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Auger ☐ Reverse rotary
☒ Cable ☐ Mud ☐ Other _____ (backhoe, hydraulic, etc.)

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches	+ 1 feet	101 feet
.258 inches	5 inches	83 feet	89 feet
.258 inches	5 inches	99 feet	101 feet

Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation? _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☒ Yes ☐ No
Manufacturer Johnson Type 304
Top Packer or Headpipe 5' 5"
Bottom of Tailpipe 2'

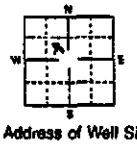
Diameter 5 Slot size .020 Set from 89 feet to 99 feet
Diameter _____ Slot size _____ Set from _____ feet to _____ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet

Surface seal depth 18 Material used in seal: ☐ Cement grout
☒ Bentonite ☒ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit
☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded
☐ Solvent Weld ☐ Cemented between strata

Describe access port Well Seal

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____

Lot No. _____ Block No. _____

County Ada

Address of Well Site Rooster St.
(give at least name of road)

T. 4 N ☒ or S ☐
SE ¼ NW ¼ Sec. 4, R. 1 E ☒ or W ☐

7. WATER LEVEL

Static water level 25 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
65		1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	2	Top Sand		X
	2	11	Clay		X
	11	45	Gravel		X
	45	51	Sand & Gravel	X	
	51	64	Brown Sandy clay	X	
	64	71	C. White Sand	X	
	71	73	Gray Clay		X
	73	87	Clay / Sand Streaks	X	
	87	98	White Sand & Gravel	X	
	98	101	Clay		X

RECEIVED
MAY 4 1993
Department of Water Resources
Western Regional Office

10.

Work started 26 March 93 finished 4-6-93

11. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Dennis Phipps Firm No. 332

Address Meridian Id Date 4-29-93

Signed by Drilling Supervisor [signature]

and

(Operator) [signature]
(If different than the Drilling Supervisor)

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7
4/92

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

USE TYPEWRITER OR BALLPOINT PEN

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SEP - 1 1992
Department of Water Resources
Western Regional Office

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1. WELL OWNER

Name Rick Raines
Address 199 Rooster Eagle Id
Drilling Permit No. 63-92-W-402
Water Right Permit No.

2. NATURE OF WORK

☒ New well ☐ Deepened ☒ Replacement
☐ Well diameter increase ☐ Modification
☐ Abandoned (describe abandonment or modification procedures such as liners, screen, materials, plug depths, etc. in lithologic log, section 9.)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Monitor
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Auger ☐ Reverse rotary
☒ Cable ☐ Mud ☐ Other _____ (backhoe, hydraulic, etc.)

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches	+ 1 feet	120 feet
.258 inches	5 inches	115 feet	120 feet
.258 inches	5 inches	125 feet	127 feet

Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation? _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☒ Yes ☐ No
Manufacturer Houston Type 304
Top Packer or Headpipe 4' 8"
Bottom of Tailpipe 2'

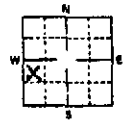
Diameter 5 Slot size .010 Set from 120 feet to 125 feet
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet

Surface seal depth 18 Material used in seal: ☐ Cement grout
☒ Bentonite ☒ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit
☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded
☐ Solvent Weld ☐ Cemented between strata

Describe access port welded metal plate - 1/4 in.

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____
County Ada
Address of Well Site 199 Rooster (give at least name of road)
NW ¼ SW ¼ Sec. 4 T. 4 N ☒ or S ☐ R. 1 E ☒ or W ☐

7. WATER LEVEL

Static water level 25 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
43		1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	4	Top Soil		X
	4	13	Sandy clay		X
	13	44	Gravel		X
	44	53	Clay	X	
	53	56	Sand	X	
	56	61	Sandy clay	X	
	61	66	Coarse sand & gravel	X	
	66	107	Clay		X
	107	108	Coarse sand & gravel	X	
	109	113	Sandy clay	X	
	113	128	Coarse Sand	X	

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OCT 21 1992
Department of Water Resources

RECEIVED
SEP - 8 1992
Department of Water Resources
Western Regional Office

Department of Water Resources
Western Regional Office

10.

Work started 4 June 92 finished 4 July 92

11. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Dennis Phipps Firm No. 332
Address Kuna Id Date 3 Aug 92
Signed by Drilling Supervisor Dennis Phipps
and
(Operator) Mark Phipps
(If different than the Drilling Supervisor)

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7
11/91

C

39

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

USE TYPEWRITER OR BALLPOINT PEN

1. WELL OWNER

Name Monty Mathews

Address 4102 Silver Valley St. Boise

Drilling Permit No. 63-92-W-122

Water Right Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase ☐ Modification
☐ Abandoned (describe abandonment or modification procedures such as liners, screen, materials, plug depths, etc. in lithologic log, section 9.)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Monitor
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Auger ☐ Reverse rotary
☒ Cable ☐ Mud ☐ Other _____ (backhoe, hydraulic, etc.)

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter		From	To
.250	inches 6	inches +	1 feet	91 feet
.258	inches 5	inches	87 feet	92 feet
.258	inches 5	inches	102 feet	104 feet

Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation? _____ inches by _____ inches

Number		From	To
_____	perforations	_____ feet	_____ feet
_____	perforations	_____ feet	_____ feet
_____	perforations	_____ feet	_____ feet

Well screen installed? ☒ Yes ☐ No
Manufacturer Houston Type 304
Top Packer or Headpipe 4' 8"
Bottom of Tailpipe 2' 1"

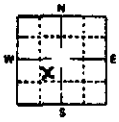
Diameter 5 Slot size .020 Set from 92 feet to 102 feet
Diameter _____ Slot size _____ Set from _____ feet to _____ feet
Gravel packed? ☐ Yes ☐ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet

Surface seal depth 18 Material used in seal: ☐ Cement grout
☒ Bentonite ☒ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit
☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded
☐ Solvent Weld ☐ Cemented between strata

Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name Dry Cr Estates
Lot No. _____ Block No. _____
County Ada
NE ¼ SW ¼ Sec. 4, T. 4N N ☐ S ☐ R. 1E E ☐ W ☐

7. WATER LEVEL

Static water level 25 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ___ °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
70		1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	3	Top Soil		X
	3	28	Gravel		X
	28	38	Gravel & SAND	X	
	38	45	SAND	X	
	45	58	Clay		X
	58	65	SAND	X	
	65	81	S. Clay	X	
	81	83	SAND	X	
	83	87	Clay		X
	87	104	C. SAND	X	

RECEIVED
JUN 2 1992
Department of Water Resources

10.

Work started 24 April 92 finished 4 May 92

11. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Dennis Pfaff Firm No. 332
Address Meridian Id Date 21 May 92
Signed by Drilling Supervisor _____
and
(Operator) _____ (If different than the Drilling Supervisor)

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

(40)

Form 238-7
8/90

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name ROBER SLAGER

Address 575 E ROOSTER, EAGLE, IDA.

Drilling Permit No. 63-92W-240

Water Right Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☒ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☐ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
2.50 inches	6 inches +	2 feet	82 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

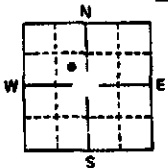
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 20 Material used in seal: ☐ Cement grout
☒ Bentonite ☒ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing
☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____
County ADA
SE ¼ NW ¼ Sec. 4, T. 4 ☐ N ☒ S R. 1 ☒ E ☐ W

7. WATER LEVEL

Static water level 28 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 54 °F. Quality GOOD
Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
35	75	1½

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	2	TOP SOIL		X
	2	8	BROWN SANDY CLAY		X
	8	20	GRAVEL		X
6	20	43	GRAVEL	X	
	43	47	SANDY CLAY		X
	47	55	BROWN CLAY		X
	55	57	SAND	X	
	57	65	BROWN CLAY		X
	65	73	SAND	X	
	73	85	BROWN CLAY		X
	85	87	SAND	X	

RECEIVED
MAY 20 1992
Department of Water Resources

10.

Work started 9-21-92 finished 9-22-92

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name COONSE WELL Drilling Firm No. 409
Address EAGLE, IDA Date 9-22-92
Signed by (Firm Official) Harry E. Coonse
and
(Operator) _____

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

(14)

Form 238-7
11/91

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

USE TYPEWRITER OR BALLPOINT PEN

1. WELL OWNER
Name Bud Stark
Address 133 Rooster Dr. Eagle Id
Drilling Permit No. 63-92-W-158
Water Right Permit No. _____

2. NATURE OF WORK
☒ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase ☐ Modification
☐ Abandoned (describe abandonment or modification procedures such as liners, screen, materials, plug depths, etc. in lithologic log, section 9.)

3. PROPOSED USE
☒ Domestic ☐ Irrigation ☐ Monitor
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other: _____ (specify type)

4. METHOD DRILLED
☐ Rotary ☐ Air ☐ Auger ☐ Reverse rotary
☒ Cable ☐ Mud ☐ Other _____ (backhoe, hydraulic, etc.)

5. WELL CONSTRUCTION
Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

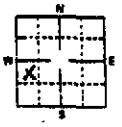
Thickness	Diameter	From	To
.250 inches	8 inches	+ 1 feet	188 feet
.250 inches	6 inches	181 feet	187 feet
.250 inches	6 inches	192 feet	199 feet

Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation? _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☒ Yes ☐ No
Manufacturer Houston Type 304
Top Packer or Headpipe 6
Bottom of Tailpipe 1'2"
Diameter 6 Slot size .020 Set from 182 feet to 192 feet
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Gravel packed? ☐ Yes ☐ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 Material used in seal: ☐ Cement grout ☒ Bentonite ☒ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port _____

6. LOCATION OF WELL
Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____
County Ada
NW¼ SW¼ Sec. 4, T. 4N N ☐ S ☐ R. 1E E ☐ W ☐

7. WATER LEVEL
Static water level 20 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA
☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
75		1

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	2	Top Soil		X
	2	4	Hard pan		X
	4	10	Clay		X
	10	40	Gravel		X
	40	50	SAND & Clay	X	
	50	53	Gravel	X	
	53	63	Clay		X
	63	75	C. SAND	X	
	75	85	F. Sand	X	
	85	103	Clay		X
	103	105	SAND	X	
	105	115	Clay		X
	115	142	SAND	X	
	142	148	Red C. Sand	X	
	148	150	Clay		X
	150	153	SAND	X	
	153	178	Fine SAND	X	
	178	186	F. Clay	X	
	186	195	C. SAND	X	

RECEIVED
MAY 19 1992
Department of Water Resources

10.
Work started 7 April 92 finished 20 April 92

11. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
Firm Name Dennis Phipps Firm No. 332
Address Meridian ID Date 12 May 92
Signed by Drilling Supervisor _____
and
(Operator) Mark Phipps
(If different than the Drilling Supervisor)

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

42

Form 238-7
3/95

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT
Use Typewriter or Ballpoint Pen

Office Use Only
Inspected by _____
Twp ___ Rge ___ Sec ___
___ 1/4 ___ 1/4 ___ 1/4
Lat: : : Long: : :

63-98-W-0866-000

1. DRILLING PERMIT NO. D-0007791
Other IDWR No. _____

2. OWNER:
Name Mark Urness
Address 2224 N. Rom St.
City Eagle State ID Zip 83616

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4 North ☒ or South ☐
Rge. 1 East ☒ or West ☐
Sec. 4, ___ 1/4 SE 1/4 NW 1/4
Gov't Lot ___ County Ada
Lat: : : Long: : :
Address of Well Site 2224 N. Rom St.
(Give at least name of road + Distance to Road or Landmark) City Eagle
Lt. ___ Blk. ___ Sub. Name ___

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ___

5. TYPE OF WORK check all that apply (replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other ___

6. DRILL METHOD
☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other ___

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	0	20	500LB	overbore

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 88 ft
Was drive shoe seal tested? ☐ Y ☐ N How? ___

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	+1.5	87	.25	Steel	☒	☐	☒	☐
5"	83	88	.25	Steel	☒	☐	☒	☐
					☐	☐	☐	☐

Length of Headpipe 5' Length of Tailpipe ___

9. PERFORATIONS/SCREENS
☐ Perforations Method ___
☐ Screens Screen Type ___

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
88	93	.020	-	5"	Stainless	☒	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
20 ft. below ground Artesian pressure ___ lb.
Depth flow encountered ___ ft. Describe access port or control devices: ___

11. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
50GPM	-		

Water Temp. 57° Bottom hole temp. ___
Water Quality test or comments: ___
Depth first Water Encountered 20 ft

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
10	0	3	Top Soil		X
	3	20	Gravel	X	
	20	49	Gravel	X	
	49	56	Tan Clay		X
	56	60	Sand	X	
	60	75	Tan Clay		X
	75	78	Sand	X	
	78	81	Tan Clay		X
	81	83	Sand	X	
	83	88	Tan Clay		X
	88	93	Sand	X	

RECEIVED
FEB 17 1999
Department of Water Resources

RECEIVED
FEB 12 1999
WATER RESOURCES
WESTERN REGION

RECEIVED
JAN 25 1999
WATER RESOURCES
WESTERN REGION

Completed Depth 93 feet (Measurable)
Date: Started 11-25-98 Completed 11-26-98

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Coonse Well Drilling Firm No. 409
Firm Official Gary E. Coonse Date 12-8-98
and
Supervisor or Operator [signature] Date 12-7-98
(Sign except Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

(43)

Form 238-7
11/97

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 000 93198
DRILLING PERMIT NO. 63-99-W 0212-000
Other IDWR No. _____

2. OWNER:
Name Wally Day
Address 153 E. Rocky Dr
City Eagle State ID Zip 83616

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4 North ☒ or South ☐
Rge. 1 East ☒ or West ☐
Sec. 4 ____ 1/4 SE 1/4 NW 1/4
Gov't Lot ____ County _____
Lat: : : Long: : :
Address of Well Site 153 E. Rocky Dr.
City Eagle
(Give at least name of road + Distance to Road + Landmark)

Lt. _____ Blk. _____ Sub. Name _____

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD
☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	0	20	550 lb	Outside

Was drive shoe used? ☐Y ☐ N Shoe Depth(s) _____
Was drive shoe seal tested? ☐ Y☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	+1.5	82	.125	Steel	☒	☐	☒	☐
5"	77	82	.125	Steel	☒	☐	☒	☐
					☐	☐	☐	☐

Length of Headpipe 5 Ft Length of Tailpipe —

9. PERFORATIONS/SCREENS
Perforations Method _____
Screens Screen Type Houston

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
82	87	.020	—	5"	Stainless	☐	☒
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
35 ft. below ground Artesian pressure ____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: _____

11. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
45	—	35	2 Hr

Water Temp. 55° Bottom hole temp. _____
Water Quality test or comments: _____
Depth first Water Encounter 35 Ft

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
10	0	2	Top Soil		X
"	2	7	Hard Pan		X
"	7	12	Sandy Clay		X
"	12	15	Sand		X
"	15	20	Gravel		X
6	20	47	Gravel	X	
"	47	56	Tan Clay		X
"	56	62	Sand	X	
"	62	80	Tan Clay		X
"	80	81	Sand	X	
"	81	82	Tan Clay		X
"	82	87	Sand	X	

RECEIVED
APR 15 1999
Department of Water Resources

RECEIVED
APR 12 1999
WATER RESOURCES
WESTERN REGION

Completed Depth 87 Ft (Measurable)
Date: Started March 31 99 Completed March 31 99

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Greene Well Drilling Firm No. 409
Firm Official Darren E Greene Date 4-1-99
and
Driller or Operator Date 4-1-99
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

44

Form 238-7
11/97

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0009841
DRILLING PERMIT NO. 63-99-W 0606-000
Other IDWR No. _____

2. OWNER:
Name Tim Uneula
Address 2392 N. Ram
City Eagle State ID Zip 83616

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

	X		

Twp. 4 North ☒ or South ☐
Rge. 1 East ☒ or West ☐
Sec. 4 ____ 1/4 SE 1/4 NW 1/4
Gov't Lot ____ County Ada
Lat: : : Long: : :
Address of Well Site 2392 N. Ram
City Eagle
(Give at least name of road + Distance to Road or Landmark)
Lt. ____ Blk. ____ Sub. Name Big Sky

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD
☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	0	20	400 LB	Overbore

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 102
Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	41.5	102	.25	Steel	☒	☐	☒	☐
5"	98	103	.25	Steel	☒	☐	☒	☐
					☐	☐	☐	☐

Length of Headpipe 5 ft Length of Tailpipe —

9. PERFORATIONS/SCREENS
Perforations Method _____
Screens Screen Type Houston

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
103	108	.020	—	5"	Stainless	☐	☒
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
32 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: _____

11. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
70 GPM	—	100 ft	1 hr

Water Temp. 56° Bottom hole temp. ____
Water Quality test or comments: _____
Depth first Water Encounter 32

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
10"	0	3	Topsoil		
"	3	5	Brown Clay		
"	5	20	Tan Clay		
6"	20	67	Gravel and Sand		
"	67	85	Tan Clay		
"	85	89	Sand Sandy Clay		
"	89	96	Tan Clay		
"	96	100	Sand		
"	100	102	Tan Clay		
"	102	108	Sand		

RECEIVED
SEP 23 1999
RECEIVED WATER RESOURCES WESTERN REGION
SEP 28 1999
Department of Water Resources

Completed Depth 108 feet (Measurable)
Date: Started 7-29-99 Completed 7-29-99

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Coarse Well Drilling Firm No. 409
Firm Official [signature] Date 7-30-99
and
Driller or Operator [signature] Date 7-30-99
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

45

Form 238-7
11/97

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Inspected by ____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0012459
DRILLING PERMIT NO. 63-99-W-0993-000
Other IDWR No. ____

2. OWNER:
Name Jack Pfeffers
Address 801 Los Luceros
City Eagle State ID Zip 83616

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

Twp. 4 North ☒ or South ☐
Rge. 1 East ☒ or West ☐
Sec. 4 ____ 1/4 SW 1/4 NE 1/4
Gov't Lot ____ County Ada
Lat: : : Long: : :
Address of Well Site 801 Los Luceros
City Eagle
(Give at least name or road + Distance to Road or Landmark)
Lt. — Blk. ____ Sub. Name ____

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ____

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other ____

6. DRILL METHOD
☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other ____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	0	18	550LB	Overburn

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 77 ft
Was drive shoe seal tested? ☐ Y ☒ N How? ____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	61.5	77	.25	Steel	☒	☐	☒	☐
5"	74	79	.25	Steel	☐	☒	☒	☐
					☐	☐	☐	☐

Length of Headpipe 5 ft Length of Tailpipe —

9. PERFORATIONS/SCREENS
Perforations Method —
Screens Screen Type Johnson

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
79	84	.020	—	5"	Stainless	☐	☒
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
35 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: ____

11. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
60GPM	—	77 ft	30 Min

Water Temp. 58° Bottom hole temp. ____
Water Quality test or comments: ____
Depth first Water Encounter 35 ft

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
10	0	3	Top Soil		X
"	3	8	Brown Clay		X
"	5	18	Sandy Clay		X
6	18	46	Gravel	X	
"	46	51	Tan Clay		X
"	51	53	Sand	X	
"	53	67	Sandy Clay		X
"	67	71	Sand	X	
"	71	73	Tan Clay		X
"	73	74	Sand	X	
"	74	77	Tan Clay		X
"	77	84	Sand	X	

RECEIVED
DEC 13 1999
Department of Water Resources

RECEIVED
DEC 06 1999
WATER RESOURCES
WESTERN REGION

Completed Depth 84 ft (Measurable)
Date: Started 11-26-99 Completed 11-27-99

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Coonce Well Drilling Firm No. 409
Firm Official Gary E. Coonce Date 11-27-99
and
Driller or Operator Andy Clark Date 11-27-99
(Signature of Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	))))))	RECOMMENDED DEFAULT ORDER DENYING BUTLER PROTEST

FINDINGS

1. On January 23, 2004, the Idaho Department of Water Resources ("IDWR") served on all parties to this matter an *Amended Notice of Prehearing Conference.* That *Amended Notice* was served on Protestants Land Consultants Inc. and/or Mark Butler at the address provided in their protest filed with IDWR. A Prehearing Conference was set for February 5, 2004 at 1:30 p.m., at A & B Conference Room in IDWR's main office located at 1301 N. Orchard, Boise, ID.

2. On February 5, 2004 at 1:30 p.m., at A & B Conference Room in IDWR's main office located at 1301 N. Orchard, Boise, Idaho, a sign was posted moving the prehearing conference to DEQ Conf. Room E, at 1410 Hilton St. Information at IDWR's main reception desk also directed parties to the new location.

3. Land Consultants Inc. and/or Mark Butler failed to appear at the February 5, 2004, prehearing conference

4. On February 20, 2004, IDWR issued an *Order to Land Consultants, Inc. And/Or Mark Butler To Show Cause* which gave Land Consultants Inc. and/or Mark Butler seven days to file a written petition requesting that the default order not be entered. Land Consultants Inc. and/or Mark Butler filed no response.

RECOMMENDED DEFAULT ORDER

Based upon Protestants Land Consultants Inc. and/or Mark Butler failure to appear at the time and place set for prehearing conference it is ORDERED that their protest is DENIED pursuant to IDAPA 37.0.01.702.

Butler Rec. order default

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	))))))	RECOMMENDED DEFAULT ORDER DENYING BUTLER PROTEST

FINDINGS

1. On January 23, 2004, the Idaho Department of Water Resources ("IDWR") served on all parties to this matter an *Amended Notice of Prehearing Conference.* That *Amended Notice* was served on Protestants Land Consultants Inc. and/or Mark Butler at the address provided in their protest filed with IDWR. A Prehearing Conference was set for February 5, 2004 at 1:30 p.m., at A & B Conference Room in IDWR's main office located at 1301 N. Orchard, Boise, ID.

2. On February 5, 2004 at 1:30 p.m., at A & B Conference Room in IDWR's main office located at 1301 N. Orchard, Boise, Idaho, a sign was posted moving the prehearing conference to DEQ Conf. Room E, at 1410 Hilton St. Information at IDWR's main reception desk also directed parties to the new location.

3. Land Consultants Inc. and/or Mark Butler failed to appear at the February 5, 2004, prehearing conference

4. On February 20, 2004, IDWR issued an *Order to Land Consultants, Inc. And/Or Mark Butler To Show Cause* which gave Land Consultants Inc. and/or Mark Butler seven days to file a written petition requesting that the default order not be entered. Land Consultants Inc. and/or Mark Butler filed no response.

RECOMMENDED DEFAULT ORDER

Based upon Protestants Land Consultants Inc. and/or Mark Butler failure to appear at the time and place set for prehearing conference it is ORDERED that their protest is DENIED pursuant to IDAPA 37.0.01.702.

PROCEDURAL RIGHTS

This is the Recommended Order of the Hearing Officer. It will not become final without action of the Director of the Idaho Department of Water Resources. Any party may file a petition for reconsideration of this recommended order with the Hearing Officer within fourteen (14) days of the service date of this order. The Hearing Officer will dispose of any petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. *See* Section 67-5243(3) Idaho Code.

Within fourteen (14) days after (a) the service date of this recommended order, (b) the service date of a denial of a petition for reconsideration from this recommended order, or (c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration from this recommended order, any party may in writing support or take exceptions to any part of this recommended order and file briefs in support of the party's position with the Director or Director's designee on any issue in the proceeding. If no party files exceptions to the recommended order with the Director or Director's designee, the Director or Director's designee will issue a final order within fifty-six (56) days after:

i. The last day a timely petition for reconsideration could have been filed with the hearing officer;
ii. The service date of a denial of a petition for reconsideration by the hearing officer; or
iii. The failure within twenty-one (21) days to grant or deny a petition for reconsideration by the hearing officer.

Written briefs in support of or taking exceptions to this recommended order shall be filed with the Director or Director's designee. Opposing parties shall have fourteen (14) days to respond. The Director or Director's designee may schedule oral argument in the matter before issuing a final order. The Director or Director's designee will issue a final order within fifty-six (56) days of receipt of the written briefs or oral argument, whichever is later, unless waived by the parties or for good cause shown. The agency may remand the matter for further evidentiary hearings if further factual development of the record is necessary before issuing a final order.

Dated this 19th day of March, 2004.

Peter R. Anderson

PETER R. ANDERSON
HEARING OFFICER

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 22nd day of March, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MARK L BUTLER
LAND CONSULTANTS INC
1640 W WASHAM RD
EAGLE ID 83616

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
225 N 9TH ST STE 420
BOISE ID 83702

MICHAEL J CHASE
3482 HWY 30 W
NEW PLYMOUTH ID 83655

MICHAEL J SIELER
HOMEOWNERS OF DOWNING
DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

ALFRED & WANDA THORNTON
9601 N PRAIRIE RD
BOISE ID 83714

Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	))))))	RECOMMENDED DEFAULT ORDER DENYING THORNTON PROTEST

FINDINGS

1. On January 23, 2004, the Idaho Department of Water Resources ("IDWR") served on all parties to this matter an *Amended Notice of Prehearing Conference.* That *Amended Notice* was served on Protestants Alfred and Wanda Thornton at the address provided in their protest filed with IDWR. A Prehearing Conference was set for February 5, 2004 at 1:30 p.m., at A & B Conference Room in IDWR's main office located at 1301 N. Orchard, Boise, ID.

2. On February 5, 2004 at 1:30 p.m., at A & B Conference Room in IDWR's main office located at 1301 N. Orchard, Boise, Idaho, a sign was posted moving the prehearing conference to DEQ Conf. Room E, at 1410 Hilton St. Information at IDWR's main reception desk also directed parties to the new location.

3. Alfred and Wanda Thornton failed to appear at the February 5, 2004, prehearing conference

4. On February 20, 2004, IDWR issued an *Order to Thornton's to Show Cause* which gave the Thorntons seven days to file a written petition requesting that the default order not be entered. The Thorntons filed no response.

RECOMMENDED DEFAULT ORDER

Based upon Protestants Alfred and Wanda Thornton failure to appear at the time and place set for prehearing conference it is ORDERED that their protest is DENIED pursuant to IDAPA 37.0.01.702.

PROCEDURAL RIGHTS

This is the Recommended Order of the Hearing Officer. It will not become final without action of the Director of the Idaho Department of Water Resources.

Thornton Rec. ord.
default

Any party may file a petition for reconsideration of this recommended order with the Hearing Officer within fourteen (14) days of the service date of this order. The Hearing Officer will dispose of any petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. *See* Section 67-5243(3) Idaho Code.

Within fourteen (14) days after (a) the service date of this recommended order, (b) the service date of a denial of a petition for reconsideration from this recommended order, or (c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration from this recommended order, any party may in writing support or take exceptions to any part of this recommended order and file briefs in support of the party's position with the Director or Director's designee on any issue in the proceeding. If no party files exceptions to the recommended order with the Director or Director's designee, the Director or Director's designee will issue a final order within fifty-six (56) days after:

i. The last day a timely petition for reconsideration could have been filed with the hearing officer;
ii. The service date of a denial of a petition for reconsideration by the hearing officer; or
iii. The failure within twenty-one (21) days to grant or deny a petition for reconsideration by the hearing officer.

Written briefs in support of or taking exceptions to this recommended order shall be filed with the Director or Director's designee. Opposing parties shall have fourteen (14) days to respond. The Director or Director's designee may schedule oral argument in the matter before issuing a final order. The Director or Director's designee will issue a final order within fifty-six (56) days of receipt of the written briefs or oral argument, whichever is later, unless waived by the parties or for good cause shown. The agency may remand the matter for further evidentiary hearings if further factual development of the record is necessary before issuing a final order.

Dated this 9th day of March, 2004.

Peter R. Anderson

PETER R. ANDERSON
HEARING OFFICER

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 22nd day of March, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MARK L BUTLER
LAND CONSULTANTS INC
1640 W WASHAM RD
EAGLE ID 83616

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
225 N 9TH ST STE 420
BOISE ID 83702

MICHAEL J CHASE
3482 HWY 30 W
NEW PLYMOUTH ID 83655

MICHAEL J SIELER
HOMEOWNERS OF DOWNING
DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

ALFRED & WANDA THORNTON
9601 N PRAIRIE RD
BOISE ID 83714

Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

BEFORE THE DEPARTMENT OF WATER RESOURCES

IN AND FOR THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	))))))	**PREHEARING ORDER**

A prehearing conference in the above-referenced matter was held on February 5, 2004, in Boise, Idaho. This Prehearing Order issues as a result of the discussions at the prehearing conference and pursuant to IDAPA 37.01.01.513, and shall control the course of these proceedings.

IT IS HEREBY ORDERED that the following shall apply to proceedings in this matter. Documents to be filed with the Department of Water Resources ("IDWR") and served on the parties must be filed and served in accordance with the rules of the IDWR on or before the days listed below.

Consolidation of Proceedings.

IDWR has proceeded as if Application for Transfer No. 70604 and Application for Permit No. 63-31689 (the "Application") have been consolidated, with no apparent prejudice to the parties. The Applications do present related issues in that they address water to be withdrawn from the same well and which will be used for the same general purposes. However, there appears to be no order formalizing consolidation. There being no objection to consolidation at the prehearing conference, the proceedings on the Applications are CONSOLIDATED pursuant to IDAPA 37.01.01.556.

Motion to Intervene by Eagle Water Co.

The Eagle Water Company has filed an *Amended Petition to Intervene* in this proceeding. The Eagle Water Company serves water users in the general area of the well proposed to be used by Aries Development Inc. and has a direct and substantial interest in the subject matter of this proceeding. There being no objection to Eagle Water Co.'s intervention by Aries Development or other parties,

Prehearing order

the *Amended Petition to Intervene* of Eagle Water Co. is GRANTED pursuant to IDAPA 37.01.01.350 - .354.

Representation At Hearing.

Protests have been filed in this matter by two groups of concerned citizens. The legal status of these groups is not clear from the record and that status, for purpose of representation, must be determined. "The general rule among this and other states has been that representation of another person before a public agency or service commission constitutes the unauthorized practice of law, where the proceedings before those tribunals are held for purposes of adjudicating the legal rights or duties of a party." *Kyle v. Beco Corp.*, 109 Idaho 267, 271 (1985). IDWR has promulgated rules that specify who may represent parties before it:

> **37.01.01.202, REPRESENTATION OF PARTIES AT HEARING (Rule 202).**
> **01. Appearances And Representation.** To the extent authorized or required by law, appearances and representation of parties or other persons at formal hearing or prehearing conference must be as follows:
> a. Natural Person. A natural person may represent himself or herself or be represented by a duly authorized employee, attorney, or family member, or by a next friend if the person lacks full legal capacity to act for himself or herself.
> b. A partnership may be represented by a partner, duly authorized employee, or attorney.
> c. A corporation may be represented by an officer, duly authorized employee, or attorney.
> d. A municipal corporation, local government agency, unincorporated association or nonprofit organization may be represented by an officer, duly authorized employee, or attorney.
> e. A state, federal or tribal governmental entity or agency may be represented by an officer, duly authorized employee, or attorney.
> **02. Representatives.** The representatives of parties at hearing, and no other persons or parties appearing before the agency, are entitled to examine witnesses and make or argue motions.

The Homeowners of Downing Downs Subdivision and the impacted neighbors who filed protests through Land Consultants, Inc. and/or Mark L Butler will file with IDWR by **March 5, 2004**, a description of the legal status of their groups and how they intend to be represented in this matter. For purposes of service pursuant to IDAPA 37.01.01.200, the representative of these groups are Michael J. Sieler and Land Consultants, Inc. and/or Mark L Butler as shown on the attached certificate of service.

Information Disclosures.

On or before **March 19, 2004,** each party shall serve on the other parties an information exchange that shall include the following information that is in their possession:

a. A list of all persons who have specific knowledge regarding material facts directly related to the Applications, together with a brief narrative summary of the listed person's knowledge.

b. A list, with a copy, of all documents, audio-recordings, pictures, and all other items containing information directly relevant to the Applications.

c. A list of any expert witnesses with specific opinions related to the Applications, together with a brief narrative summary of their opinion. Copies of any expert reports or prepared testimony shall also be exchanged.

Failure to fully comply with this information exchange may lead to delays in the hearing and/or exclusion of withheld information from the hearing. Discovery may be allowed by the Hearing Officer following the information exchange in response to a motion requesting discovery by any party that identifies specifically the requested discovery and why it is needed.

Request for Staff Memorandum.

The Hearing Officer will request a staff memorandum from IDWR. Any such memorandum will be due on **March 19, 2004.**

Prehearing Conference.

A prehearing conference to discuss final hearing procedures is tentatively set for **April 29, 2004** at **1:30 p.m.** A separate notice of prehearing conference shall be served on the parties.

Hearing.

The evidentiary hearing in this matter is tentatively set for **May 12 – 14, 2004.** A separate notice of hearing shall be served on the parties.

Dated this 20th day of February, 2004.

Peter R. Anderson
Hearing Officer

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 20th day of February, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MARK L BUTLER
LAND CONSULTANTS INC
1640 W WASHAM RD
EAGLE ID 83616

MOLLY O LEARY
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PO BOX 1849
EAGLE ID 83616-1849

TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
225 N 9TH ST STE 420
BOISE ID 83702

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NEW PLYMOUTH ID 83655

MICHAEL J SIELER
HOMEOWNERS OF DOWNING
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1125 STEEPLE VIEW DR
EAGLE ID 83616

ALFRED & WANDA THORNTON
9601 N. PRAIRIE RD
BOISE ID 83714

Victoria Wigle
Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	))))))	**ORDER TO LAND CONSULTANTS INC. AND/OR MARK BUTLER TO SHOW CAUSE**

NOTICE OF PROPOSED DEFAULT ORDER

1. On January 23, 2004, the Idaho Department of Water Resources ("IDWR") served on all parties to this matter an *Amended Notice of Prehearing Conference.* That *Amended Notice* was served on Land Consultants, Inc., and/or Mark Butler at the address provided in his protest filed with IDWR. A Prehearing Conference was set for February 5, 2004 at 1:30 p.m., at A & B Conference Room in IDWR's main office located at 1301 N. Orchard, Boise, ID.

2. On February 5, 2004 at 1:30 p.m., at A & B Conference Room in IDWR's main office located at 1301 N. Orchard, Boise, Idaho, a sign was posted moving the prehearing conference to DEQ Conf. Room E, at 1410 Hilton St. Information at IDWR's main reception desk also directed parties to the new location.

3. Land Consultants Inc., and/or Mark Butler failed to appear at the February 5, 2004, prehearing conference

Based upon these facts IDWR gives Land Consultants Inc., and/or Mark Butler NOTICE that the following default order is proposed to be issued because of a failure to appear at the time and place set for prehearing conference pursuant to IDAPA 37.01.01.700.

PROPOSED DEFAULT ORDER

Based upon Protestant Land Consultants Inc., and/or Mark Butler's failure to appear at the time and place set for prehearing conference it is ORDERED that their protest is DENIED.

Land Consult. Butler
order to show
cause

RIGHT TO CHALLENGE

Pursuant to IDAPA 37.01.01.701, Land Consultants Inc., and/or Mark Butler have seven (7) days after the serve of this *Notice of Proposed Default Order* to file a written petition requesting that the default order not be entered. The petition must state that grounds why the petitioning party believes that default should not be entered.

Dated this 20th day of February, 2004.

Peter R. Anderson

PETER R. ANDERSON
HEARING OFFICER

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 30th day of February, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MARK L BUTLER
LAND CONSULTANTS INC
1640 W WASHAM RD
EAGLE ID 83616

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

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DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

ALFRED & WANDA THORNTON
9601 N PRAIRIE RD
BOISE ID 83714

Victoria Wigle
Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	))))))	**ORDER TO THORNTONS TO SHOW CAUSE**

NOTICE OF PROPOSED DEFAULT ORDER

1. On January 23, 2004, the Idaho Department of Water Resources ("IDWR") served on all parties to this matter an *Amended Notice of Prehearing Conference.* That *Amended Notice* was served on Protestants Alfred and Wanda Thornton at the address provided in their protest filed with IDWR. A Prehearing Conference was set for February 5, 2004 at 1:30 p.m., at A & B Conference Room in IDWR's main office located at 1301 N. Orchard, Boise, ID.

2. On February 5, 2004 at 1:30 p.m., at A & B Conference Room in IDWR's main office located at 1301 N. Orchard, Boise, Idaho, a sign was posted moving the prehearing conference to DEQ Conf. Room E, at 1410 Hilton St. Information at IDWR's main reception desk also directed parties to the new location.

3. Alfred and Wanda Thornton failed to appear at the February 5, 2004, prehearing conference

Based upon these facts IDWR gives Protestants Alfred and Wanda Thornton NOTICE that the following default order is proposed to be issued because of a failure of the Protestants to appear at the time and place set for prehearing conference pursuant to IDAPA 37.01.01.700.

PROPOSED DEFAULT ORDER

Based upon Protestants Alfred and Wanda Thornton failure to appear at the time and place set for prehearing conference it is ORDERED that their protest is DENIED.

Thornton order show Cause

RIGHT TO CHALLENGE

Pursuant to IDAPA 37.01.01.701, Protestants Alfred and Wanda Thornton have seven (7) days after the serve of this *Notice of Proposed Default Order* to file a written petition requesting that the default order not be entered. The petition must state that grounds why the petitioning party believes that default should not be entered.

Dated this 20th day of February, 2004.

PETER R. ANDERSON
HEARING OFFICER

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 20th day of February, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MARK L BUTLER
LAND CONSULTANTS INC
1640 W WASHAM RD
EAGLE ID 83616

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

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HOMEOWNERS OF DOWNING
DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

ALFRED & WANDA THORNTON
9601 N PRAIRIE RD
BOISE ID 83714

Victoria Wigle
Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

BEFORE THE DEPARTMENT OF WATER RESOURCES

FOR THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	))))))	**ORDER APPOINTING HEARING OFFICER**

This matter having come before the Idaho Department of Water Resources (department), as a result of protests filed against the referenced applications, the department makes the following Order:

ORDER

IT IS THEREFORE, HEREBY ORDERED that Peter R. Anderson is appointed effectively October 3, 2003 to serve as hearing officer, and is authorized to hear this matter on behalf of the Idaho Department of Water Resources pursuant to IDAPA Rules 37.01.01.410-413 and the provisions of chapter 52, title 67, Idaho Code.

Dated this 1st day of October, 2003.

Karl J. Dreher
Director

Order appointing
Hearing officer

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 2nd day of October, 2003, the above and foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE
WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MICHAEL J CHASE
3482 HWY 30 W
NEW PLYMOUTH ID 83655

MICHAEL J SIELER
HOMEOWNERS OF DOWNING
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9601 PRAIRIE RD
BOISE ID 83714

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

Deborah J. Gibson
Administrative Assistant
Water Allocation Bureau

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087)AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME OF ARIES DEVELOPMENT L.L.C.	**ORDER DENYING MOTION TO STAY**

On August 20, 2003, the City of Eagle ("the City") filed a motion with the Idaho Department of Water Resources ("IDWR") to stay the contested case proceeding for the protests filed against the application to appropriate water and the application for transfer filed by Aries Development L.L.C. ("Aries"). The City asserts that a contract with Aries obligates the City to deliver 50 gallons per minute ("gpm") for maintenance of water amenities within Brookwood Subdivision (the development by Aries). The City argues there is a dispute between the City and Aries about the delivery of water by the City that must be resolved before IDWR considers the contested applications.

Recitals in the contract state that the Brookwood Subdivision needs 200 gpm for potable use and 50 gpm for the water amenities for a total need of 250 gpm. The City and Aries agreed to increase the capacity of the well to 1,000 gpm. The City agreed to pay half the cost of the well as consideration for the enlarged capacity and ownership of the well after it is constructed and operational. The agreement states that the City is obligated to provide the 50 gpm for aesthetic use. Aries must pay for the water at the regular public water supply rate. The language of the agreement does not require that Aries receive any of the City water for the water amenities. There are no apparent restrictions in the contract that would limit IDWR's consideration of the applications.

In addition, Aries seeks to appropriate 0.95 cfs of water for aesthetic purposes. The 50 gpm Aries can legally expect to receive from the City is only 0.12 cfs, a fraction of the quantity Aries seeks to appropriate. The additional quantity sought for appropriation is water that, if

Order Denying
mot. to Stay

needed for the Brookwood water amenities, cannot be demanded from the City's water system.

The City has not provided sufficient information justifying the delay of the hearing.

ORDER

IT IS HEREBY ORDERED that the City of Eagle's motion to stay the contested case hearing is **DENIED**.

IT IS FURTHER ORDERED that a hearing officer will be expeditiously assigned to this contested case, and a hearing date will be determined following the appointment of the hearing officer.

Dated this 24th day of September, 2003.

L. GLEN SAXTON, P.E.
Administrator
Water Management Division

CERTIFICATE OF MAILING

I hereby certify that on the 26th day of September, 2003 I mailed a true and correct copy, postage prepaid, of the foregoing Order Denying Motion to Stay to those listed below:

Deborah J Gibson
Deborah Gibson

MICHAEL J CHASE
3482 HWY 30 W
NEW PLYMOUTH ID 83655

MICHAEL J SIELER
DOWNING DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

MARK BUTLER
LAND CONSULTANTS INC
1640 W WASHAM RD
EAGLE ID 83616

CITY OF EAGLE
C/O TAMMY ZOKAN
225 N 9TH ST STE 420
BOISE ID 83702

ALFRED & WANDA THORNTON
9601 PRAIRIE RD
BOISE ID 83714

INTERVENOR

EAGLE WATER CO
PO BOX 455
EAGLE ID 83616

Form 202
1/96

RECEIVED
07
JAN 13 2003
WATER RESOURCES
WESTERN REGION

(date additional info received)

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Ident. No. 63-31689

APPLICATION FOR PERMIT

To appropriate the public waters of the State of Idaho

1. Name of applicant Aries Development L.L.C Phone 208-336-2200
   Post Office address P.O. Box 6887 Boise, ID 83707
2. Source of water supply Ground water which is a tributary of
3. Location of point of diversion is ____ 1/4 of NE 1/4 of SE 1/4, Govt. Lot ____
   Sec. 4 Township 4N Range 1E B.M. Ada County; additional points of diversion, if any:
4. Water will be used for the following purposes:
   Amount 0.95cfs (cfs or acre-feet per annum) for Aesthetics purposes from 10-1 to 4-1 (both dates inclusive)
   Amount 60.7 af (cfs or acre-feet per annum) for Aes. Storage purposes from 1-1 to 12-31 (both dates inclusive)
   Amount ____ (cfs or acre-feet per annum) for ____ purposes from ____ to ____ (both dates inclusive)
   Amount ____ (cfs or acre-feet per annum) for ____ purposes from ____ to ____ (both dates inclusive)
5. Total quantity being appropriated is (a) 0.95 cubic feet per second and/or (b) 60.7 acre-feet per annum
6. Proposed diverting works:
   a. Description of ditches, flumes, pumps, headgates, etc. Well and pipe/ditch distribution to ponds within Brookwood Subdivision See attached narrative
   b. Height of storage dam 0 feet; active reservoir capacity ____ acre-feet; total reservoir capacity 60.7 acre-feet; period of year when water will be diverted to storage: 1/1 to 12/31 inclusive.
   c. Proposed well diameter is 12 inches; proposed depth of well is 200 feet
   d. Is groundwater with a temperature of greater than 85 degrees being sought? No
   e. If well is already drilled, when? ____; Drilling firm ____;
      Well was drilled for *(well owner)* ____
7. Time required for completion of works and application of water to proposed beneficial use is 5 years *(minimum 1 year)*
8. Description of proposed uses (if irrigation only, go to item 9):
   a. Hydropower; show total feet of head and proposed capacity in KW.
   b. Stockwatering; list number and kind of livestock.
   c. Municipal; show name of municipality.
   d. Domestic; show number of households ____;
   e. Other; describe fully. Ground water for wintertime maintenance of aesthetic ponds See attached narrative

Application Permit

9. Description of place of use: [redacted] [redacted]

a. If water is for irrigation, indicate acreage in each subdivision in the tabulation below.

b. If water is used for other purposes, place a symbol of the use (example: D for Domestic) in the corresponding place of use below. See instructions for standard symbols.

TWP	RANGE	SEC	NE 1/4				NW 1/4				SW 1/4				SE 1/4				TOTALS
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	
4N	1E	4									A		A	A	A	A	A	A	

Total number of acres to be irrigated _____

10. Describe any other water rights used for the same purposes as described above. Transfer from stockwater right 63-5087 for mitigation of pond evaporation

11. a. Who owns the property at the point of diversion? Applicant

b. Who owns the land to be irrigated or place of use? Applicant

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing: _____

12.. Remarks: See attached narrative and mitigation plan

13. MAP OF PROPOSED PROJECT ATTACHED _____ show clearly the proposed point of diversion, place of use, section number, township and range number.

BE IT KNOWN that the undersigned hereby makes this application for permit to appropriate the public waters of the State of Idaho as herein set forth.

[redacted]

(Applicant)

Received by KG Date 12/11/02 Time 12:03 Preliminary check by G

Fee $ 250.00 Receipted by KG # W029917 Date 12/11/02

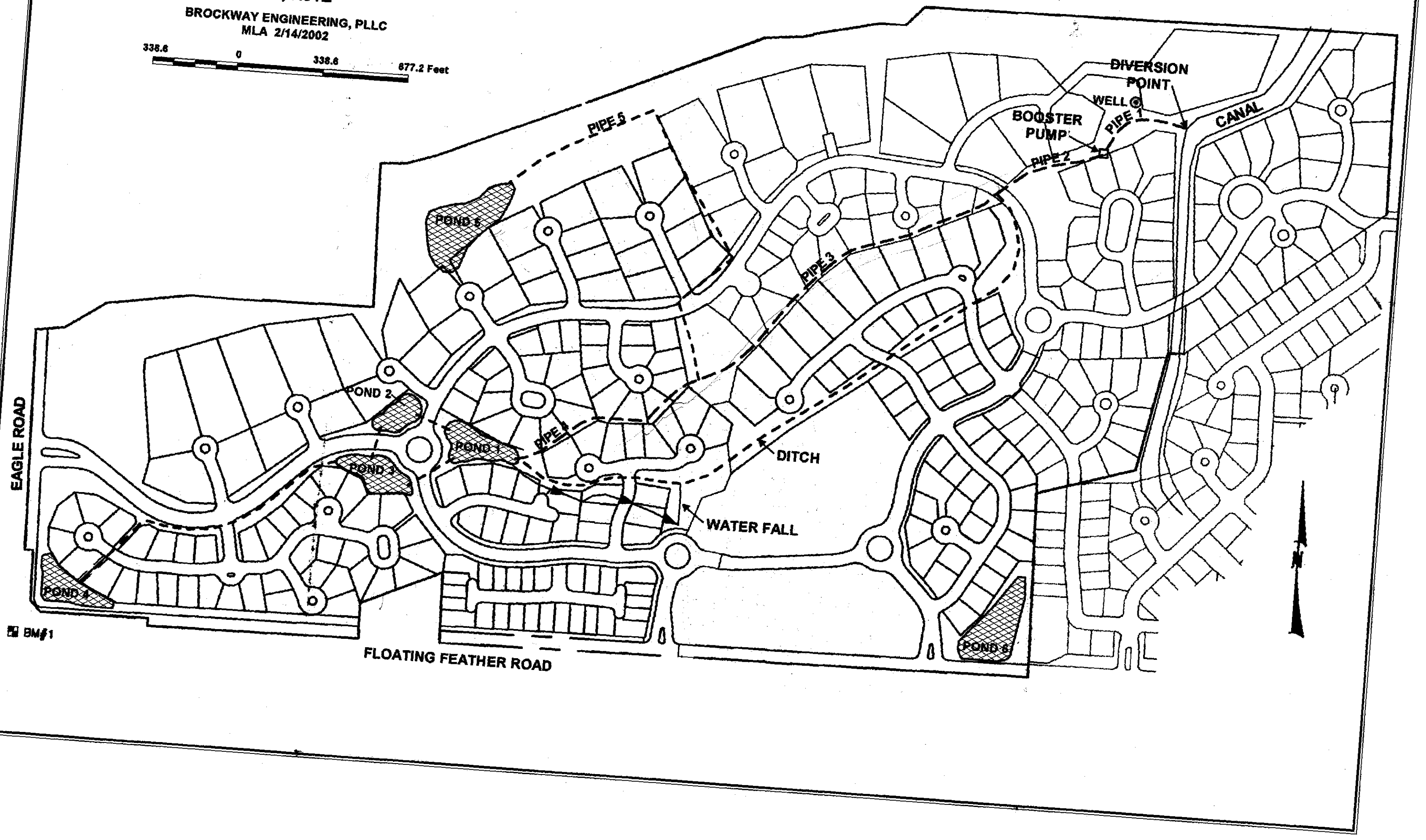
Publication prepared by AT Date 7-3 & 10-03 Published in Id Statesman

Publication approved _____ Date _____

FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet



Narrative in Support of Application for Permit, Revised

Brookwood Subdivision Exchange Well
Aries Development L.L.C.
by Brockway Engineering P.L.L.C.

January 7, 2003

Brookwood is a 382 unit subdivision located in Section 4, T 4N R 1E Boise Meridian north of Eagle, Idaho. This subdivision, located on bottom land and bench areas of Dry Creek, is being developed on irrigated farmland served by the Farmers Union Canal. The Farmer's Union Canal is the east boundary of the subdivision and the historical irrigation diversion from the canal will continue to serve the irrigation requirements for a pressure irrigation system serving all lots and common areas. Domestic water is provided by the municipal system of the City of Eagle.

The subdivision will include water amenities including six (6) multi-purpose ponds providing irrigation storage and aesthetic benefits, Figure 1. The ponds serve as storage for diversions of shares from the canal system during the irrigation season and will be supplemented by ground water provided from an exchange well during the non-irrigation season.

The purpose of this Application is to obtain a permit for a well to provide water for non-irrigation season maintenance of the pond and ditch system. Year round evaporation from the aesthetic/recreational ponds will be mitigated by transfer of a portion of water right 63-5087 from a feedlot owned by the applicant. No mitigation for evaporation from the irrigation/storage ponds is contemplated. during the irrigation season.

Figure 1 shows the plat of the subdivision, canal diversion, distribution system and the six (6) ponds. Ponds 1,2,3, and 4 are lined with bentonite and compacted earth and Pond 6 is lined with a membrane liner. Pond 5 is unlined and any waste water from the canal system during the summertime and exchange water from the well will infiltrate back into the aquifer thereby reducing any surface water runoff from the property. During the non-irrigation season, the pond levels will be maintained with ground water pumped as necessary.

Brookwood owns 11 shares in the Farmer's Union Canal. Each share represents 11 miner's inches of discharge so the canal discharge available to the project is 121 miner's inches or 2.42 cfs. Historically, 186.0 acres have been irrigated on the Brookwood property from the canal, see Figure 2.

The project plan includes 382 single family lots with approximately 50 acres of common area. Irrigation of landscaping and turf on each lot and the common area will be from a pressure distribution system with two booster pumps from the pipe/pond system. The upper booster is located near the canal diversion, and the lower booster diverts from Pond 1 near the west end of the subdivision. Based on the average lot size of 0.22 acres, a residence footprint and paved area of 4200 square feet, the irrigated area on each lot is

estimated to be 0.12 acres. For the 382 residences the irrigated area is therefore 45.8 acres. The total irrigated area is therefore 50 + 45.8 or 95.8 acres.

Ponds 1,2, and 3 are utilized as irrigation storage and are tied together hydraulically. The pumping plant for the irrigation system is located at the southwest corner of Pond 1. Ponds 4, 5, and 6 are off-line ponds and are primarily recreational; however, Pond 4 does provide storage for waste water which would normally flow off the property at the corner of Eagle Road and Floating Feather Road. The combined area of ponds 4,5, and 6 is 3.69 acres. The six ponds are designed with an average surface area of 5.17 acres and a volume of 60.7 acre feet.

A model of the pipe, ditch and pond system was prepared to simulate the operation of the system during the irrigation season and evaluate the various components of the water balance. A copy of the spreadsheet model is attached to this narrative as Figure 3.

Evapotranspiration for the project was determined using procedures outlined in Allen and Brockway, 1983, using the Boise WSO AP station meteorological and Et data. Free water surface evaporation was determined using procedures outlined in 'Monthly Shallow Pond Evaporation in Idaho by Molnau, Kpordze, and Craine, 1992. ASAE paper PNW 92-111.

Seepage from Pond 5 was measured during the period October 1-12, 2001 by Toothman-Orton Engineering Company. Seepage rates for this unlined pond varied from 0.16 to 0.47 ft/day over pond elevations from 2577.2 to 2580.4. Loss rates were extrapolated to proposed operating pond levels up to elevation 2588 at which the estimated maximum seepage rate for Pond 5 is 0.98 ft per day or 1.08 cfs. This loss rate is expected to decrease with time as sediment on the bottom of the pond increases. Pond 5 will be operated at a lower water level elevation during the winter at which the estimated seepage rate is about 0.95 cfs. The lined ponds and ditch were estimated to have operating loss rates of 0.005 ft/day (1/16 in), Appendix

The pond model indicates that the system can operate during the irrigation season utilizing the 0.95 cfs inflow from the exchange well with irrigation demand furnished from the canal. Infiltration back to the aquifer through the pond will be equal to the well discharge plus any system waste. The total seepage through all ponds during the irrigation season is estimated to be 1.09 cfs. Evaporation from the pond system during the irrigation season is 16.2 acre feet which includes all ponds and ditches used for irrigation storage and recreation/aesthetics.

The total consumptive use of the project including turf and landscape irrigation, pond evaporation, and residential in-house consumptive use (not provided by the irrigation system) is 258 af/year whereas the pre-project consumptive use from crop irrigation on 185.96 acres is 489 acre feet per year.

Infiltration back to the aquifer through the pond system is estimated at 386 acre feet during the irrigation season. Ground water extraction from the exchange well required to maintain pond seepage and evaporation, including seepage from unlined Pond 5, is 380 acre feet.

The maximum required discharge from the exchange well is 425 gpm or 0.95 cfs.

The water balance and pond model indicates that pumping from an exchange well on the project of not-more-than 330 acre feet during the non-irrigation season at a rate of 0.95 cfs will maintain pond water levels. Current and any future consumptive use from the pond system will be mitigated. Evaporation from the ponds will be mitigated by transfer of 0.04 cfs and ~~13.1~~ 14.0 af of ground water under water right 63-5087. The ~~13.1~~ 14.0 af/a is the calculated evaporation from open water surfaces associated with the non-irrigation ponds during the irrigation season and all ponds during the non-irrigation season. Water right 63-5087 is a stockwater right located in the NE1/4 NW1/4 Sec 3 T 4N R1W in Ada County.

The proposed exchange well would be located near the canal diversion so that discharge can be integrated into the entire distribution system. The aquifer underlying the area is composed of alluvial sand and gravels with a hydraulic conductivity estimated at 40 ft/day based on well driller's logs in the area. The water bearing zone from which water is to be appropriated is estimated to be from 80 to 200 feet below ground surface. An estimate of the draw down from a 12 inch diameter well pumping 0.95 cfs was estimated using a Theis analysis assuming continuous pumping for a 40 day period. The Theis analysis output is on the spreadsheet included the Appendix. This analysis shows the estimated draw down at 100 feet from the pumped well of 3.6 feet and a draw down of 0.9 feet at 1320 feet from the well. This analysis assumes no return of water to the aquifer through seepage from ponds, particularly Pond #5. The nearest well to the exchange well is approximately 1200 feet. Operation of the pumped well will not significantly affect aquifer water levels in the area.

During the non-irrigation season operation of the exchange well, a maximum of 425 gpm (.95 cfs) will be pumped from the well. The pond water levels will be maintained in all ponds and the seepage back into the aquifer from all ponds will be 420 gpm so the impact on the regional aquifer system will not be significant. Pond 5 where 95% of the non-irrigation season seepage returns to the aquifer is approximately 2709 feet from the exchange well.

Aries Development L.L.C. members are: Mike Hormachea, Amy Wray, Richard Hormachea, and the Hormachea Grandchildren's Trust.

December 27, 2002

Hi Chuck,

Per our telecon 12/27/02, the following items have been previously clarified on the first application for permit for Aries Development submitted 6/5/2002. They were overlooked on the replacement application we received 12/11/2002.

Please add the following to your narrative:

> The water bearing zone to be appropriated is from 80 to 200 feet.
>
> Applicant agrees to mitigate consumptive use in the future if necessary.
>
> Aries Development LLC members are Mike Hormaechea, Amy Wray, Richard Hormaechea and the Hormaechea Grandchildren's Trust.

Also, please send me a new front page of the application with the point of diversion listed as the NESE rather than the NWNW and "Aesthetic Storage" listed as the use for the volume component on no. 4.

Please fax **and** mail me the above requested information. Let me know if you have any questions. Thanks.

Lori Graves
Sr. Water Resource Agent

BROCKWAY
ENGINEERING
P.L.L.C.

Hydraulics
Hydrology
Water Resources

CHARLES E. BROCKWAY, PH.D., P.E.

CHARLES G. BROCKWAY, PH.D., P.E.

2016 NORTH WASHINGTON STREET • SUITE 4

TWIN FALLS, IDAHO 83301

208•736•8543

FAX: 736•8506

January 7, 2003

RECEIVED
JAN 13 2003
WATER RESOURCES
WESTERN REGION

Lori Graves
Idaho Department of Water Resources
Western Region
2735 Airport Way
Boise, ID 83705-5082

VIA FAX - Hard Copy to Follow

Subject: Revised Application for Permit and Application for Transfer-Aries Development, Brookwood Subdivision

Dear Lori:

Enclosed is a revised "Narrative in Support of Application" for the replacement application for Brookwood Subdivision. I have included the items which you requested in your letter of December 27, 2002. Also enclosed is a revised page 1 of the application showing the point of diversion for the well as the NESE rather than the NWNW and a change in the nature of use to "Aesthetic Storage."

You had requested clarification on the annual mitigation volume calculations on the water balance spreadsheet. The Pond Evaporation Mitigation table results in a mitigation requirement of 10.32 af during the irrigation season and 3.69 ~~2.71~~ af during the non-irrigation season for a total of ~~13.03~~ 14.0 af/a. These numbers result from mitigating for only the non-irrigation ponds in the irrigation season and for all ponds and ditches during the non-irrigation season. The pond operations model shows an irrigation season consumptive use of 16.2 af which includes all ponds and ditch evaporation. The annual amount for which mitigation water from the stockwater right must be provided is the ~~13.03~~ 14.0 af. This is the reason for the differences in the tables.

I believe this addresses all of the changes, which you requested. Call me if you have any questions.

Sincerely,

Charles E. Brockway P.E. PhD.

Enclosures: Revised first page of Application for Permit
Revised Narrative

Cc: M. Hormachea
E. Robertson

No. W 4701

[redacted] Due no later than Sep 30, 2002

Annual Report Form

Return to:
SECRETARY OF STATE
700 WEST JEFFERSON
PO BOX 83720
BOISE, ID 83720-0080

NO FILING FEE IF RECEIVED BY DUE DATE

1. Mailing Address - Correct in this box if applicable
ARIES DEVELOPMENT L.L.C.
AMY MARIE WRAY
1101 W RIVER STE 300

BOISE, ID 83702

2. R[redacted]gent and Office NO PO BOX
D JOHN THORNTON
1101 W RIVER STE 340

BOISE, ID 83702

3. New Registered Agent Signature

4. Limited Liability Companies: Enter Names and Addresses of Managers.

Office held	Name	Street or P.O. Address	City	State	Zip
Member	Richard M. Hormaechea	P.O. Box 6887	Boise	ID	83707
Member	Amy H. Wray	P.O. Box 6887	Boise	ID	83707
Member	Michael B. Hormaechea	P.O. Box 6887	Boise	ID	83707
Member	Hormaechea Grandchilrens Trust, A.H. Burroughs Trustee	P.O. Box 1676	Boise	ID	83701

5. Organized Under the Laws of:
IDAHO
W 4701

6.
Signature Amy H. Wray Date 9-12-02
Name (Typed or Printed) Amy H. Wray Title Member

Issued 07/01/2002

Do Not Tape or Staple

2506

BROCKWAY
ENGINEERING
P.L.L.C.

Hydraulics
Hydrology
Water Resources

CHARLES E. BROCKWAY, PH.D., P.E.

CHARLES G. BROCKWAY, PH.D., P.E.

2016 NORTH WASHINGTON STREET • SUITE 4

TWIN FALLS, IDAHO 83301

208•736•8543

FAX: 736•8506

RECEIVED
DEC 1 1 2002
WATER RESOURCES
WESTERN REGION

December 9, 2002

Gary Spackman, Regional Manager
Idaho Department of Water Resources
Western Region
2735 Airport Way
Boise, ID 83705-5082

Subject: Application for Permit and Application for Transfer-Aries Development, Brookwood Subdivision

Dear Gary:

The application for permit submitted on behalf of Aries Development L.L.C. on May 28, 2002 contemplated the use of shares from the Farmer's Union Canal as mitigation for evaporation from aesthetic ponds for the Brookwood Subdivision. This application was protested by the U.S. Bureau of Reclamation, the Farmer's Union Canal, City of Eagle, and the Estate of Eleanor I. Chase. At the pre-hearing conference, which was held in your office, it was apparent that the U.S. Bureau of Reclamation has a defined policy to not allow the use of contracted water for any use other than irrigation. It was also apparent that there was no possibility of negotiation for use of the Farmer's Union Canal shares for the proposed use on the Brookwood Subdivision.

I am therefore requesting on behalf of Aries Development L.L.C. that application for permit 63-31528 be withdrawn and that the applicable refund of the $250 filing fee be returned.

Enclosed is a new application for permit for the exchange well for Brookwood Subdivision. The narrative in support of the application outlines the plan to utilize a new ground water source to provide wintertime pumping to mitigate for evaporative water use for the six ponds planned on the subdivision and maintain water levels. During the irrigation season, the subdivision will be irrigated with shares from the Farmers Union Canal and the pond system used for irrigation storage and aesthetics.

Also enclosed is an application for transfer of a part of a stockwater right to provide consumptive water for evaporation from the aesthetic/recreation ponds on the subdivision.

Please review the applications and supporting documents and let me know if any additional information is required.

I am enclosing a Brockway Engineering Check for $350 for the application fee for the permit ($250) and for the application for transfer ($100).

Sincerely,

Charles E. Brockway P.E. PhD.

Enclosures: Application for Permit
Application for Water Right Transfer
Brockway Engineering Check

Cc: M. Hormachea
E. Robertson

Michael J. Chase
3482 HWY 30 W
New Plymouth, ID 83655

March 20, 2004

RE: IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31889 IN THE NAME OF AIRIES DEVELOPMENT L.L.C

To: State of Idaho Department of Water Resources
1301 North Orchard Street
PO Box 83720
Boise, Idaho 83720-0098

J Evan Robertson
Robertson, Hepworth, Slette, Worst & Stover, PLLC
PO Box 1906
Twin Falls, Idaho 83303-1906

Molly O'Leary
Richardson & O'Leary
PO Box 1849
Eagle, Idaho 86616-1849

Michael J. Sieler
Homeowners of Downing Downs Sub.
1125 Steeple View Dr.
Eagle, Idaho 83616

Mark L. Butler
Land Consultants, Inc.
1640 Washam Rd
Eagle, Idaho 83616

Tammy Zokan
Moore, Smith, Buxton & Turcke Chartered
225 N 9TH St. Ste. 420
Boise, Idaho 83702

Alfred & Wanda Thornton
9601 N Prairie Rd.
Boise, Idaho 83714

In accordance with the Hearing Officer's Prehearing Order dated February 20, 2004, the Chases submit the following information.

A: List of persons with specific knowledge about the application.

1. Mike Chase
2. Bill Chase
3. Dave Shaw, P.E., ERO Resources, Inc.

The above parties are familiar with the Chase water rights and water systems as well as having some knowledge regarding the City of Eagles municipal water system.

4. The City of Eagle, by its designated representatives that are familiar with the City of Eagle municipal water system and / or the Brookwood Subdivision, and the Chase water rights and systems.

B: List of Documents relevant to the application.

1. All documents and information on file with the State of Idaho Department of Water Resources in connection with the current Application for Amendment of Permit No. 63-12448 in the name of the City of Eagle.

C: List of Expert Witnesses.

At this time no expert witnesses have been employed.

The Chases reserve the right to supplement the above information throughout the duration of this protest action.

Respectfully submitted for the Chases

Michael J. Chase

Michael J. Chase

RECEIVED
MAR 2 2 2004
Department of Water Resources

BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME OF ARIES DEVELOPMENT L.L.C.	SUBMISSION OF HOMEOWNERS OF DOWNING DOWNS SUBDIVISION (AKA EAGLE NEIGHBORS, INC.) TO COMPLY WITH PREHEARING ORDER.

By a written Prehearing Order dated 20 February 2004, the Hearing Officer directed the Homeowners of Downing Downs Subdivision (Eagle Neighbors, Inc.) to file with the Idaho Department of Water Resources (IDWR) by 19 March 2004 an information exchange for certain information that is in their possession.

Eagle Neighbors, Inc. does not have a list of persons having specific knowledge regarding material facts directly related to the Applications.

Eagle Neighbors, Inc. does not have a list of any documents, audio recordings, pictures, and any other items containing information directly related to the Applications.

Eagle Neighbors, Inc. does not have any expert witnesses with specific opinions related to the Applications.

Respectfully submitted this 19th day of March, 2004.

Eagle Neighbors, Inc.

Michael J. Sieler

CERTIFICATE OF SERVICE

I hereby certify that on this 19 day of March, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

Peter R. Anderson
Idaho Department of Water Resources
1301 Orchard Road
Boise, ID 83706

J Evan Robertson
Robertson Hepworth Slette Worst & Stover PLLC
PO Box 1906
Twin Falls ID 83303-1906

Mark L. Butler
Land Consultants, Inc.
1640 W Washam Rd.
Eagle, ID 83616

Molly O Leary
Richardson & O Leary
PO Box 1849
Eagle, ID 83616

Tammy Zokan
Moore Smith Buxton & Turcke Chartered
225 N 9th St Suite 420
Boise, ID 83702

Michael J. Chase
3482 Highway 30 W
New Plymouth, ID 83655

Alfred & Wanda Thorton
9601 N. Prairie Road
Boise, ID 83714

Michael J. Sieler
Eagle Neighbors, Inc.

RECEIVED
MAR 0 5 2004
Department of Water Resources

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME OF ARIES DEVELOPMENT L.L.C.	SUBMISSION OF HOMEOWNERS OF DOWNING DOWNS SUBDIVISION TO COMPLY WITH PREHEARING ORDER

By a written Prehearing Order dated February 20, 2004, the Hearing Officer directed the Homeowners of Downing Downs Subdivision to file with Idaho Department of Water Resources ("IDWR") by March 5, 2004, a description of the legal status of their group and how they intend to be represented in this matter.

The Homeowners of Downing Downs Subdivision have formed a nonprofit corporation and they will now be represented by Michael J. Sieler, who will be an officer of such corporation authorized to represent the corporation in this matter pursuant to Rule 202 that is referenced in the above-referenced Prehearing Order. The name of the non-profit corporation is "Eagle Neighbors, Inc."

The service mailing address for the representative of Eagle Neighbors, Inc. shall be:

1125 Steeple View Drive
Eagle, Idaho 83616

The service telephone number shall be 208-939-7306.

Respectfully submitted this 5th day of March, 2004.

EAGLE NEIGHBORS, INC.

Michael J. Sieler

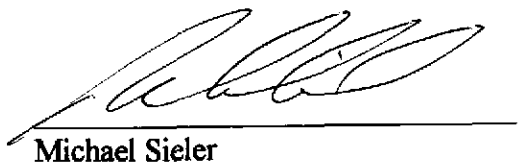
CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 5th day of March, 2004, the foregoing document was served on the following by delivering a copy thereof in person to:

Peter R. Anderson IDAHO DEPARTMENT OF WATER RESOURCES 2735 Airport Way Boise, Idaho 83705-5082	[ ] [√] [ ]	U.S. Mail Hand Delivered Overnight Mail

and by mailing a copy thereof, properly addressed with postage prepaid to:

J Evan Robertson ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC PO Box 1906 Twin Falls, Idaho 83303-1906	[√] [ ] [ ]	U.S. Mail Hand Delivered Overnight Mail
Mark L. Butler LAND CONSUTANTS INC. 1640 W. Washam Rd. Eagle, Idaho 83616	[√] [ ] [ ]	U.S. Mail Hand Delivered Overnight Mail
Molly O Leary RICHARDSON & O LEARY PO Box 1849 Eagle, Idaho 83616-1849	[√] [ ] [ ]	U.S. Mail Hand Delivered Overnight Mail
Tammy Zokan MOORE SMITH BUXTON & TURCKE CHARTERED 225 N 9TH St., Suite 420 Boise, Idaho 83702	[√] [ ] [ ]	U.S. Mail Hand Delivered Overnight Mail
Michael J. Chase 3482 Highway 30 W New Plymouth, Idaho 83655	[√] [ ] [ ]	U.S. Mail Hand Delivered Overnight Mail
Alfred & Wanda Thornton 9601 N. Prairie Road Boise, Idaho 83714	[√] [ ] [ ]	U.S. Mail Hand Delivered Overnight Mail



Michael Sieler

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	))))))	**REQUEST FOR SUBMISSION OF IDWR STAFF MEMORANDUM**

WHEREAS IDAPA 37.01.01.600 allows the Idaho Department of Water Resources ("IDWR's") "experience, technical competence and specialized knowledge" to be used in the evaluation of evidence; and

WHEREAS IDAPA 37.01.01.602 allows a hearing officer to notice technical or scientific facts within IDWR's specialized knowledge, including agency staff memoranda and data; and

WHEREAS the hearing officer is not an employee of IDWR and has no means to utilize IDWR's experience, technical competence and specialized knowledge other than by querying IDWR;

THEREFORE the hearing officer invites IDWR to present staff memoranda or other data compilations evaluating the above-captioned matter, which could include, without limitation:

1. An analysis by IDWR staff of whether the applications at issue should be granted and, if so, any conditions that should be placed on that approval;

2. A listing of any IDWR allocation or other memoranda or orders that are applicable to these applications;

3. A G.I.S. map showing the proposed place of use and points of diversion as described by the applicant.

Any such staff memoranda or data compilations shall be submitted to the hearing officer on or before **March 19, 2004**, and served upon the parties to this matter. IDWR would be

Req. for IDWR staff memo

required to make relevant staff available for cross-examination at any hearing set in this matter pursuant to IDAPA 37.01.01.201 and 602.

Dated this 20th day of February, 2004.

Peter R. Anderson
Hearing Officer

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 20th day of February, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MARK L BUTLER
LAND CONSULTANTS INC
1640 W WASHAM RD
EAGLE ID 83616

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
225 N 9TH ST STE 420
BOISE ID 83702

MICHAEL J CHASE
3482 HWY 30 W
NEW PLYMOUTH ID 83655

MICHAEL J SIELER
HOMEOWNERS OF DOWNING
DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

ALFRED & WANDA THORNTON
9601 PRAIRIE RD
BOISE ID 83714

Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

ROSTER OF ATTENDANCE

IN THE MATTER OF APPLICATION
FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087)
AND APPLICATION FOR PERMIT NO. 63-31689
IN THE NAME Of ARIES DEVELOPMENT L.L.C.

Conducted by Peter Anderson, Hearing Officer
Beginning at 1:30 p.m.,
February 5, 2004

NAME	ADDRESS	REPRESENTING
Charles Brockway	2016 Washington N. Twin Falls	Aries Dev.
Mike Hormaechea	P.O. Box 6887 Boise	Aries Dev
Evan Robertson	Box 1926 Twin Falls 83303	Aries Dev.
Michael J. Chase	3482 Hwy 30 W New Plymouth ID 83655	Chase Family Ranching
MICHAEL J. STELER	1125 STEEPLE VIEW DR EAGLE ID	DOWNS
Tammy Zokan	225 N 9th, Suite 420 Boise 83702	City of Eagle
Bruce Smith	(same)	
ROBERT DESHAZO	172 W. STATE EAGLE	EAGLE WATER CO.
Molly O'Leary	99 E. State Street, Suite 200, Eagle, ID 83616	Eagle Water
Betty Miller	959 Proaknoss Eagle	Downey Downs
MARTY TAYLOR	832 HIALEAH EAGLE	DOWNEY DOWNS
Pat Miller	959 PROAKNOSS EAGLE	DOWNEY DOWNS

Attendance Roster 25-04

BEFORE THE DEPARTMENT OF WATER RESOURCES

FOR THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	))))))	**AMENDED NOTICE OF PREHEARING CONFERENCE**

The prehearing conference previously scheduled for Friday, January 30, 2004, is VACATED. Notice is hereby given that the Department of Water Resources has rescheduled this matter for a prehearing conference as follows:

Date:	**Thursday, February 5, 2004**
Location:	**IDWR Conference Room A/B**
	1301 N. Orchard Street
	Boise, Idaho
	(208) 327-7900
Time:	**1:30 p.m.**

This prehearing conference will be held for the purposes set forth in IDAPA 37.01.01.510 (Rule 510) and will be held informally according to IDAPA 37.01.01.512 (Rule 512). The Department's authority to hold hearings in this matter is based in I.C. §§ 42-203A and 42-222.

The prehearing conference will be conducted in a facility meeting the accessibility requirements of the Americans with Disabilities Act. If you require special accommodations in order to attend, participate in or understand the hearing, please advise the Department within ten (10) days prior to the prehearing conference.

Dated this 23rd day of January, 2004.

Peter R. Anderson

Peter R. Anderson
Hearing Officer

Amend. notice
Prehearing Conf.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 23rd day of January, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MARK L BUTLER
LAND CONSULTANTS INC
1640 W WASHAM RD
EAGLE ID 83616

MOLLY O LEARY
RICHARDSON & O LEARY
PO BOX 1849
EAGLE ID 83616-1849

TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
225 N 9TH ST STE 420
BOISE ID 83702

MICHAEL J CHASE
3482 HWY 30 W
NEW PLYMOUTH ID 83655

MICHAEL J SIELER
HOMEOWNERS OF DOWNING
DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

ALFRED & WANDA THORNTON
9601 PRAIRIE RD
BOISE ID 83714

Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

BEFORE THE DEPARTMENT OF WATER RESOURCES

FOR THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 70604 (CLAIM NO. 63-5087) AND APPLICATION FOR PERMIT NO. 63-31689 IN THE NAME Of ARIES DEVELOPMENT L.L.C.	)	**NOTICE OF PREHEARING CONFERENCE**

The Department of Water Resources has scheduled this matter for prehearing conference as follows:

Date:	Friday, January 30, 2004
Location:	IDWR Conference Room A/B 1301 N. Orchard Street Boise, Idaho (208) 327-7900
Time:	10:00 a.m.

This prehearing conference will be held for the purposes set forth in IDAPA 37.01.01.510 (Rule 510) and will be held formally according to IDAPA 37.01.01.512 (Rule 512). The Department's authority to hold hearings in this matter is based in I.C. § 42-222.

The prehearing conference will be conducted in a facility meeting the accessibility requirements of the Americans with Disabilities Act. If you require special accommodations in order to attend, participate in or understand the hearing, please advise the Department within ten (10) days prior to the prehearing conference.

Dated this 9th day of January, 2004.

Peter R. Anderson

Peter R. Anderson
Hearing Officer

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 9th day of January, 2004, the foregoing document was served on the following by placing a copy of the same in the United States mail, postage prepaid and properly addressed to the following:

J EVAN ROBERTSON
ROBERTSON HEPWORTH SLETTE WORST & STOVER PLLC
PO BOX 1906
TWIN FALLS ID 83303-1906

MARK L BUTLER
LAND CONSULTANTS INC
1640 W WASHAM RD
EAGLE ID 83616

MOLLY O LEARY
RICHARDSON & O LEARY
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TAMMY ZOKAN
MOORE SMITH BUXTON & TURCKE CHARTERED
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MICHAEL J CHASE
3482 HWY 30 W
NEW PLYMOUTH ID 83655

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DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

ALFRED & WANDA THORNTON
9601 PRAIRIE RD
BOISE ID 83714

Victoria Wigle
Administrative Assistant to the Director
Idaho Department of Water Resources

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Boise, ID 83706 - P.O. Box 83720, Boise, ID 83720-0098
Phone: (208) 327-7900 Fax: (208) 327-7866 Web Site: www.idwr.state.id.us

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

October 1, 2003

Re: In the Matter of Application for Transfer No. 70604 and Application for Permit No. 63-31689 in the name of Aries Development, LLC

Dear Parties:

It has been found that the Certificate of Mailing page dated September 26, 2003 for the Order Denying Motion to Stay, was not a complete and accurate list of parties for service in the above-entitled matter. Therefore, enclosed is a second Order Denying Motion to Stay with an Amended Certificate of Service. Please replace your previous copy. I apologize for this inconvenience.

Sincerely,

Deborah J. Gibson

Deborah J. Gibson
Administrative Assistant
Water Allocation Bureau

Encl.
Cc: Regional Office (w/encl.)

MOLLY O'LEARY [ISB No. 4996]
Richardson & O'Leary PLLC
99 East State Street, Suite 200
P.O. Box 1849
Eagle, Idaho 83616
Telephone: (208) 938-7900
Fax: (208) 938-7904

Attorneys for Eagle Water Company, Inc.

BEFORE THE
IDAHO DEPARTMENT OF WATER RESOURCES
OF THE STATE OF IDAHO

In The Matter Of Transfer No. 70604, Aries Development LLC, Petitioner, Application To Transfer Water For Aesthetic Purposes, and In The Matter Of Aries Development LLC's Application to Appropriate Water for Aesthetic Purposes	NOTICE OF APPEARANCE

COMES NOW, Molly O'Leary of the law firm Richardson & O'Leary, PLLC, and files this NOTICE OF APPEARANCE on behalf of Intervenor Eagle Water Company, Inc. ("Eagle Water").

In addition to copies sent directly to Mr. Robert DeShazo, Jr., President of Eagle Water, at the address previously provided by Mr. DeShazo, copies of any and all future correspondence concerning the above-captioned matter should be mailed to:

Molly O'Leary
Richardson & O'Leary, PLLC
P.O. Box 1849
Eagle, ID 83616

CERTIFICATE OF MAILING

DATED this 08th day of September, 2003.

Richardson & O'Leary PLLC

By _____
Molly O'Leary
Attorneys for Eagle Water Company, Inc.

CERTIFICATE OF MAILING

MOLLY O'LEARY (ISB #4996)
Richardson & O'Leary PLLC
99 East State Street, Suite 200
P.O. Box 1849
Eagle, Idaho 83616
Telephone: (208) 938-7900
Fax: (208) 938-7904

Attorneys for Eagle Water Company, Inc.

BEFORE THE
DEPARTMENT OF WATER RESOURCES
FOR THE STATE OF IDAHO

In The Matter Of Transfer No. 70604, Aries Development LLC, Petitioner, Application To Transfer Water For Aesthetic Purposes, and In the Matter of Aries Development LLC's Application to Appropriate Water for Aesthetic Purposes	EAGLE WATER COMPANY, INC.'S AMENDED PETITION TO INTERVENE AND NOTICE OF APPEARANCE

COMES NOW, Eagle Water Company, Inc. ("Eagle Water") and, by and through undersigned counsel, amends its Petition to Intervene in the above-captioned matter.

DIRECT AND SUBSTANTIAL INTEREST OF EAGLE WATER

Eagle Water is a certificated public utility that provides water to residents of Ada County, in and near the City of Eagle, Idaho. Two of Eagle Water's groundwater wells (Eagle Water Well No. 1 and Eagle Water Well No. 3) are located in the vicinity of the proposed diversion. Eagle Water believes that its water rights may be impacted by the proposed diversion. Eagle Water further believes that, in this instance, appropriation of potable groundwater for aesthetic purposes may not be in the public interest and may be contrary to the conservation of water resources within the state of Idaho.

Eagle water
Amend. Pet. Intervene

RESPECTFULLY SUBMITTED this 8th day of September, 2003.

Richardson & O'Leary, PLLC

By _____
Molly O'Leary
Attorneys for Eagle Water Company, Inc.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 8th day of September, 2003, I caused a true and correct copy of the foregoing **NOTICE OF APPEARANCE AND EAGLE WATER COMPANY, INC.'S AMENDED PETITION TO INTERVENE** to be served by the method indicated below, and addressed to the following:

Gary Spackman Idaho Department of Water Resources 2735 Airport Way Boise, Idaho 83707 (208) 334-2348 (Fax)	( ) U.S. Mail, Postage Prepaid ( ) Hand Delivered ( ) Overnight Mail (X) Facsimile ( ) Electronic Mail
Aries Development LLC P.O. Box 6887 Boise, Idaho 83707	(X) U.S. Mail, Postage Prepaid ( ) Hand Delivered ( ) Overnight Mail ( ) Facsimile ( ) Electronic Mail
Evan Robertson, Esq. Robertson, Hepworth, Slete, Worst & Stover, PLLC P.O. Box 1906 Twin Falls, Idaho 83303-1906	(X) U.S. Mail, Postage Prepaid ( ) Hand Delivered ( ) Overnight Mail ( ) Facsimile ( ) Electronic Mail
Mike Chase 70 W. Floating Feather Rd. Eagle, Idaho 83616	(X) U.S. Mail, Postage Prepaid ( ) Hand Delivered ( ) Overnight Mail ( ) Facsimile ( ) Electronic Mail
Monty Marchus 605 Rooster Drive Eagle, Idaho 83616	(X) U.S. Mail, Postage Prepaid ( ) Hand Delivered ( ) Overnight Mail ( ) Facsimile ( ) Electronic Mail

Mike Sieler
Downing Downs Subdivision
1125 Steeple View Drive
Eagle, Idaho 83616

(X) U.S. Mail, Postage Prepaid
( ) Hand Delivered
( ) Overnight Mail
( ) Facsimile
( ) Electronic Mail

Mark L. Butler
1640 West Washam Road
Eagle, Idaho 83616

(X) U.S. Mail, Postage Prepaid
( ) Hand Delivered
( ) Overnight Mail
( ) Facsimile
( ) Electronic Mail

Bruce M. Smith
Tammy A. Zokan
Moore Smith Buxton & Turcke, Chartered
225 North 9th Street, Suite 420
Boise, Idaho 83702
(208) 331-1800
(208) 331-1202 (Facsimile)

( ) U.S. Mail, Postage Prepaid
( ) Hand Delivered
( ) Overnight Mail
(X) Facsimile
( ) Electronic Mail

Signed Nina M. Curtis
Nina M. Curtis

09/08/2003 MON 11:50 FAX 12089387904 RICHARDSON OLEARY EAGLE WATER CO INC
09/04/2003 15:41 5390767

[X] GONE

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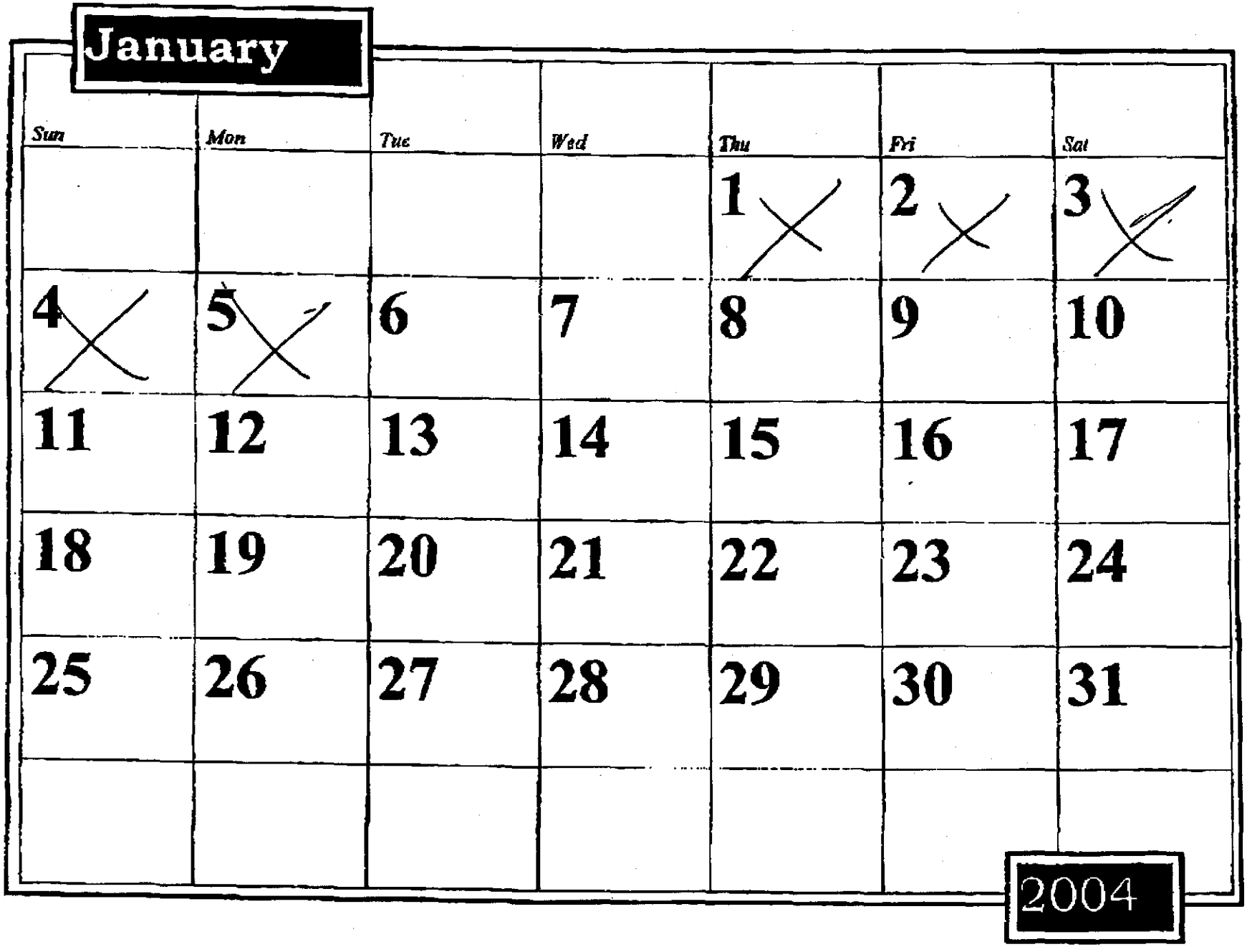
Robert. 989 9952 Cell

THANKS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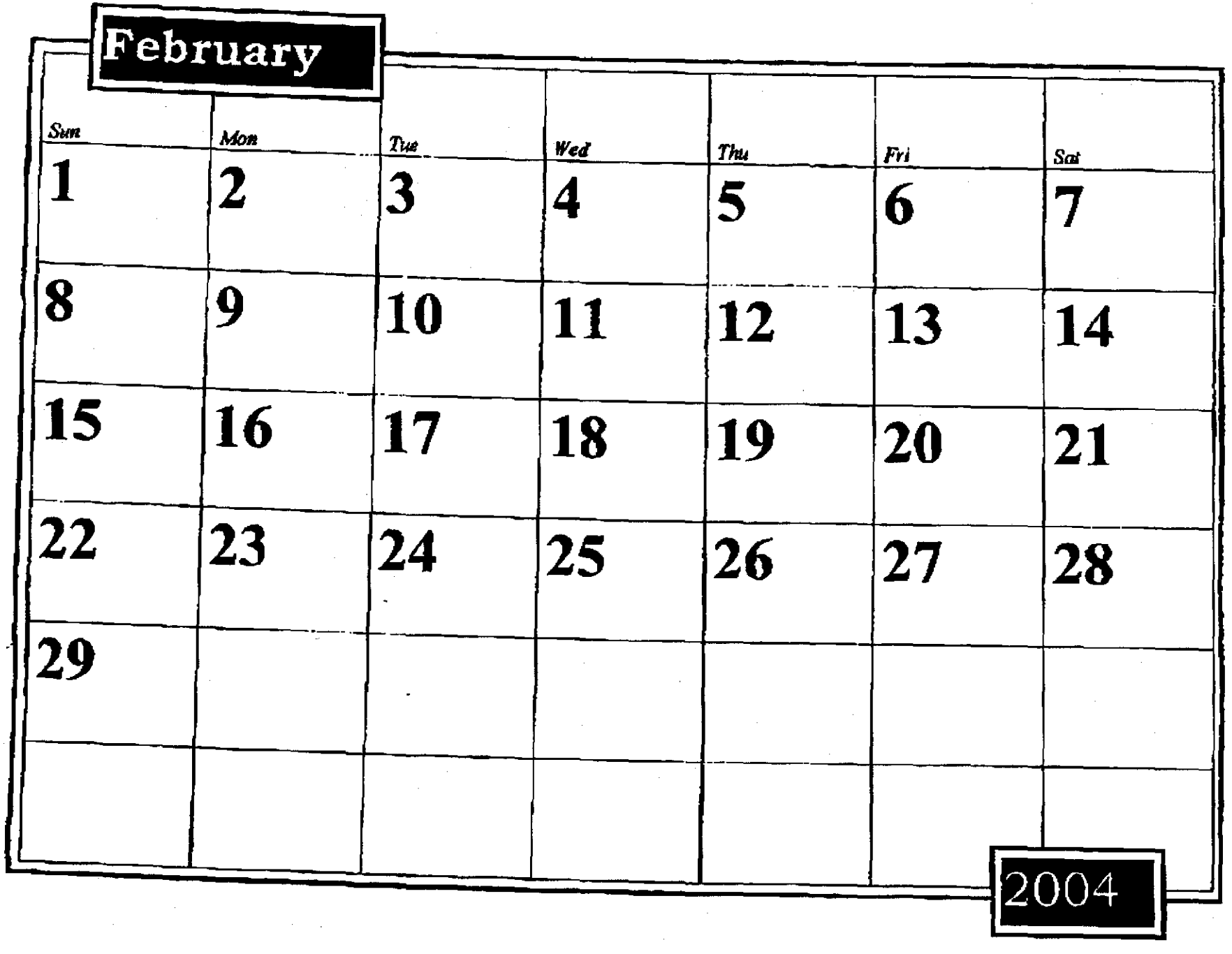
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Molly O'Leary

X - UNAVAILABLE

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2004

Molly O'Leary

09/08/2003 MON 11:51 FAX 12089387904 RICHARDSON OLEARY

February

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2004

Molly O'Leary

RECEIVED
SEP 10 2003
WATER RESOURCES
WESTERN REGION

Michael J. Chase
3482 HWY 30 W
New Plymouth, ID 83655

September 7, 2003

RECEIVED
SEP 12 2003
Department of Water Resources

Gary Spackman
IDWR Western Region
2735 Airport Way
Boise, ID 83707-5082

TO: Gary Spackman

Re: Application for Permit No 63-31689

Dear Gary:

I am returning the calendars you sent with the dates which I would have a conflict with for hearings on the above noted application. However if provided sufficient time of notice of a definite hearing date which conflicts with my present schedule, I would attempt to make changes with my schedule to be available on the IDWR hearing date. Thank you for your consideration in this matter.

Very truly yours.

Michael J. Chase

Michael J. Chase

Mike Chase

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Mike Chase

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2004

Mike Chase

February

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2004

MOORE SMITH BUXTON & TURCKE, CHARTERED

ATTORNEYS AND COUNSELORS AT LAW

225 NORTH 9TH STREET, SUITE 420
BOISE, ID 83702
TELEPHONE: (208) 331-1800 FAX: (208) 331-1202

RECEIVED
SEP 12 2003
Department of Water Resources

RANSOM J. BAILEY
SUSAN E. BUXTON*
MICHAEL C. MOORE‡
BRUCE M. SMITH
PAUL A. TURCKE◊
CHRISTOPHER E. YORGASON
TAMMY A. ZOKAN+

JOHN J. MCFADDEN*‡
Of Counsel

* Also admitted in Oregon
‡Also admitted in Washington
◊ Also admitted in South Dakota
+ Also admitted in New Mexico

September 2, 2003

RECEIVED
SEP 03 2003
WATER RESOURCES
WESTERN REGION

Department of Water Resources
Western Region
Attn: Gary Spackman
2735 Airport Way
Boise, ID 83705-5082

RE: City of Eagle/ Aries Development Protest

Dear Mr. Spackman:

Enclosed please find the dates on which Bruce Smith and Tammy Zokan are unavailable for hearings as requested in your letter dated August 26, 2003.

Sincerely,

Christina Fenner

Christina Fenner
Assistant to Bruce M. Smith and Tammy A. Zokan

/cf
Enclosure

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2004

August 26, 2003

TO: Parties on the Attached List

Re: Application for Permit No. 63-31689

Dear Party (or Prospective Party):

On August 11, 2003, the Idaho Department of Water Resources (IDWR) conducted a prehearing conference for protested applications filed by Aries Development L.L.C. (Aries). At the conclusion of the conference, I said I would forward copies of the calendar months of December 2003 and January 2004 to the parties for hearing scheduling. Enclosed are calendars for the months of December 2003 and January 2004. Also enclosed is a calendar for February 2004. Please mark dates you are unavailable and return to IDWR by September 8, 2003. I will schedule the hearing shortly thereafter.

Eagle Water Company (Eagle Water) wrote a letter to IDWR about the Aries application to appropriate water. The letter was received one day after the protest deadline. The letter asks IDWR to "accept this letter as Eagle Water Company's Petition to Intervene" for application to appropriate water no. 63-31689. The letter states that Eagle Water missed the filing deadline because this is the busy work season for a water supplier. The letter was not served on the applicant. A copy of the letter is enclosed.

Rule 350 of IDWR's Rules of Procedure states that a petition to intervene "must state the direct and substantial interest of the potential intervenor." The letter from Eagle Water did not state the "direct and substantial interest" of Eagle Water. As a result, the petition is deficient. Eagle Water should file an amendment of its petition to intervene to cure this deficiency on or before September 8, 2003. If filed, the amendment should be served upon the parties.

Upon receipt of the amendment to the petition, all of the parties are granted, under Rule 354 of IDWR's Rules of Procedure, seven (7) days after receipt of the petition to oppose the petition to intervene. On or about October 1, 2003, IDWR will act on the petition.

Finally, I stated I would ask for staff memorandum related to this filing. Enclosed is a memo sent to Garth Newton, Section Manager of IDWR's Hydrology Section. The memo asks for a summary of IDWR information about water resources in the Brookwood area. Please note that my request also informs Mr. Newton that the person preparing the document should be available for examination at the hearing.

Sincerely,

Gary Spackman

Encl.

ARIES DEVELOPMENT
PO BOX 6887
BOISE ID 83707

MICHAEL J CHASE
3482 HWY 30 W
NEW PLYMOUTH ID 83655

MICHAEL J SIELER
DOWNING DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

MARK BUTLER
LAND CONSULTANTS INC
1640 W WASHAM RD
EAGLE ID 83616

CITY OF EAGLE
C/O TAMMY ZOKAN
225 N 9TH ST STE 420
BOISE ID 83702

ALFRED & WANDA THORNTON
9601 PRAIRIE RD
BOISE ID 83714

EAGLE WATER CO
PO BOX 455
EAGLE ID 83616

December

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2003

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2004

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2004

MEMORANDUM

To: Garth Newton
Thru: Hal Anderson & Paul Castelin
From: Gary Spackman
Date: August 25, 2003

Re: Request for Staff Memorandum for Aries Development Applications
Application to Appropriate Water no. 63-31689
Application for Transfer no. 70604 (63-5087)

Aries Development LLC (Aries) filed application to appropriate water with the Idaho Department of Water Resources (IDWR), proposing to divert approximately 1.0 cfs of groundwater to maintain the water levels in ponds located in the Brookwood subdivision in Eagle, ID. The Brookwood subdivision is located at the NE corner of Eagle Road and Floating Feather. Because the application proposes diversion of groundwater in Basin 63, the application was accompanied by an application to transfer a claimed stockwater right to mitigate for the losses in the pond. Copies of the applications and supporting documents are enclosed with this memorandum.

The City of Eagle and several individuals or groups of individual homeowners near the Brookwood development protested the Aries applications. The two largest groups own homes on Rooster Drive, just across Dry Creek and immediately north of Brookwood, and in Downing Downs subdivision, located approximately ¼ mile southwest of Brookwood, and perhaps ½ mile southwest of the proposed well location. The owners of Chase Dairy, located on the west side of Eagle Road, protested. The City of Eagle protested. The filing of the protests created a contested case. After the expiration of the protest deadline, Eagle Water Co. petitioned to intervene. The petition to intervene is currently pending before IDWR.

When the land north of Floating Feather and west of Highway 55 was first proposed for development, the applicants for the Lexington Hills subdivision conducted a well-pump test for an extended period of time (several weeks) and gathered data. Much of the data is contained in water right file no. 63-11413. It may be that United Water also independently monitored wells as the Lexington Hills wells were pumped. I also believe Steve Baker analyzed some of the data and wrote a short report.

This memo is a request for staff memorandum as contemplated by Rule 602 of IDWR's Rules of Procedure. The specific questions requested to be addressed are as follows:

1. What studies or reports are available in IDWR's records that attempt to quantify the availability ground water in the local area?

2. What data is available from these studies or reports, or any other source of data, that would be helpful to the parties to determine the possible effect on existing water rights or the sufficiency of the water supply?

3. What is the degree of connection between water found in the various aquifer units from shallow to deep?

The hearing for this contested case will be conducted no earlier than December 2003. I request that the staff memorandum be prepared and distributed prior to November 1, 2003. I will distribute copies of the staff memorandum to the parties after I receive it. If you have questions or concerns about this request, please call me.

BRUCE M. SMITH, ISB #3425
TAMMY A. ZOKAN, ISB #5450
MOORE SMITH BUXTON & TURCKE, CHARTERED
Attorneys at Law
225 North 9th Street, Suite 420
Boise, Idaho 83702
Telephone: (208) 331-1800
Facsimile: (208) 331-1202

RECEIVED
AUG 20 2003
WATER RESOURCES
WESTERN REGION

BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE STATE OF IDAHO

In the Matter of Transfer No. 70604, Aries Development LLC, Petitioner, Application to Transfer Water For Aesthetic Purposes, and	**MOTION TO STAY**
In the Matter of Aries Development LLC's Application to Appropriate Water For Aesthetic Purposes	

The City of Eagle ("Protestant"), by and through counsel of record, MOORE SMITH BUXTON & TURCKE, CHARTERED, hereby moves for a stay of the Department's proceedings on the Aries Development LLC's ("Aries") Application to transfer groundwater for aesthetic storage and Aries' Application to appropriate groundwater for aesthetic use and aesthetic storage (collectively referred to as the "Applications"). For the reasons stated below, proceedings on Aries' Applications should be stayed pending discussions between the Protestant and Aries (the "parties") and the resolution of the parties' contractual dispute.

1. A Stay Would Promote Judicial Economy And The Best Interests Of The Parties.

Aries' Applications are inconsistent with the Well Purchase Agreement between Aries and the Protestant. The parties entered into this agreement on September 26, 2000. It provides in part that the Protestant will make available to Aries up to 50 gallons per minute from the Brookwood Well for the purpose of providing water for streams, ponds and other water features

City of Eagle
motion to stay

within the Brookwood Subdivision. A copy of the Agreement is attached hereto as Exhibit A and by this reference fully incorporated herein. Despite its agreement with the Protestant, Aries filed two (2) applications for water for aesthetic ponds in the Brookwood Subdivision in Eagle, Idaho. The purpose of the Applications is to provide water to maintain pond levels and compensate for pond seepage and evaporation. The Applications seek to secure the very same water the Protestant is to supply to Aries from the Brookwood Well under the Well Purchase Agreement. Given the contractual agreement between the parties, Aries has already contracted for the water needed for its ponds, and thus, Aries does not need to transfer and appropriate the water sought under its Applications.

Since Aries does not need the water sought under its Applications, it is premature for the Department to act on the Applications until the contractual issues have been resolved. Further, the other protestants' concerns would likely be resolved or at least largely satisfied if Aries utilized the water from the Brookwood Well in accordance with the parties' agreement. Therefore, staying the proceedings until the threshold issue of need is resolved would conserve Department resources and the resources of all the protestants in these matters and would be in the best interests of all the parties.

2. Proceeding On The Merits Would Prejudice The Protestant.

The Protestant has incurred substantial expense in designing the Brookwood Well and obtaining the required permits and other authorizations in an attempt to provide water to the Brookwood Subdivision. The Protestant designed the Brookwood Well and sought authorization for the well and withdrawals to meet the needs of the Brookwood Subdivision, including the water for Aries's ponds and water features. Aries did not contact the Protestant before filing its Applications and Aries has not attempted to contact the Protestant since. Proceeding on the

merits of the Applications prior to giving the parties an opportunity to resolving the fundamental contractual issues would amount to interference with the City of Eagle's contractual rights and obligations and would prejudice Eagle.

For the reasons stated herein, the Department should stay the proceedings on the Applications pending resolution of the parties' contractual agreement, which resolution would determine Aries' actual need, if any, to appropriate or transfer water.

RESPECTFULLY SUBMITTED this 20 day of August, 2003

TAMMY A. ZOKAN
MOORE SMITH BUXTON & TURCKE, CHARTERED

Attorneys for the City of Eagle

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on the 20 day of August, 2003, I caused to be served a true and correct copy of the forgoing MOTION TO STAY by the method indicated below, addressed to the following:

Aries Development LLC P.O. Box 6887 Boise, Idaho 83707	X via U.S. MAIL ____ via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE
Idaho Department of Water Resources 2735 Airport Way Boise, Idaho 83705-5082	____ via U.S. MAIL X via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE
Evan Robertson, Esq. Robertson, Hepworth, Slette, Worst & Stover, PLLC P.O. Box 1906 Twin Falls, Idaho 83303-1906	X via U.S. MAIL ____ via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE
Mike Chase 70 W. Floating Feather Rd. Eagle, Idaho 83616	X via U.S. MAIL ____ via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE
Monty Marchus 605 Rooster Dr. Eagle, Idaho 83616	X via U.S. MAIL ____ via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE
Molly O'Leary Richardson & O'Leary 99 E. State Street, Suite 200 Eagle, ID 83616	X via U.S. MAIL ____ via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE
Mike Sieler Downing Downs Subdivision 1125 Steeple View Dr. Eagle, Idaho 83616	X via U.S. MAIL ____ via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE
Mark L. Butler 1640 W. Washam Rd. Eagle, Idaho 83616	X via U.S. MAIL ____ via HAND DELIVERY ____ via OVERNIGHT MAIL ____ via FACSIMILE

TAMMY A. ZOKAN

J. Evan Robertson
ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, P.L.L.C.
Attorneys at Law
P. O. Box 1906
Twin Falls, Idaho 83303-1906
Telephone: (208) 734-0700
Facsimile: (208) 736-0041
ISB# 1801
c:\rlw\idwr\withdraw

RECEIVED
AUG 15 2003
WATER RESOURCES
WESTERN REGION

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR DRILLING PERMIT APPLICANT: ARIES DEVELOPMENT, LLC	**WITHDRAWAL OF APPLICATION**

****

ARIES DEVELOPMENT, LLC (hereinafter "Applicant"), by and through its attorneys, Robertson, Hepworth, Slette, Worst & Stover, PLLC, hereby withdraws its application for a permit to drill a test well filed by the Applicant. A true and correct copy of the front page of said Application for Drill Permit is attached hereto as Exhibit "A".

DATED this 13 day of August, 2003.

ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, PLLC

By: _____
J. EVAN ROBERTSON

Withdrawal of
Drilling Permit

CERTIFICATE OF MAILING

I hereby certify that on this 14th day of August, 2003, I served a copy of the foregoing WITHDRAWAL OF APPLICATION, by depositing same in the United States mail, postage prepaid, in an envelope, addressed to the following:

Original:

Idaho Department of Water Resources
Attn: Gary Spackman
2735 Airport Way
Boise, Idaho 83705-5082
Via U.S. Mail and Facsimile 208-334-2348

Aries Development, LLC
105 Old Barn Road
Eagle, ID 83616

Mike Chase / Chase Family
3482 Hwy 30 W
New Plymouth, ID 83655

Homeowners of Downing Downs Subdivision
C/o Michael J. Sieler
1125 Steeple View Drive
Eagle, ID 83616

Tammy Zokan
City of Eagle
Moore, Smith, Buxton & Turcke, Chtd.
225 N. 9th, Ste 420
Boise, ID 83702

Mark L. Butler
Land Consultants, Inc.
1640 W. Washam Road
Eagle, ID 83616

Robert DeShazo, Jr.
Eagle Water Co., Inc.
P.O. Box 455
Eagle, ID 83616

Alfred & Wanda Thornton
9601 Prairie Road
Eagle, ID 83616

Chris Duncan
City of Eagle
Holladay Engineering Co.
Payette, ID 83661

Monty Marchus and Maggie Kaspar
605 Rooster
Eagle, ID 83616

Molly O'Leary
99 E. State Street, Ste. 200
Eagle, ID 83616

Marti Taylor
832 Hialeah
Eagle, ID 83616

Betty Miller
959 Preahouse
Eagle, ID 83616

Charles E. Brockway, Sr.
206 Washington St. N.
Twin Falls, ID 83301

J. EVAN ROBERTSON

Form 235-1
1/31/03

Drilling Permit No.: _____
Drilling Permit I.D. Tag No.: _____
Water Right Permit No.: _____
Injection Permit No.: _____

State of Idaho
Department of Water Resources

APPLICATION FOR DRILLING PERMIT
(FOR THE CONSTRUCTION OF A WELL)

COPY

1. **Owner (please print):** Aries Development LLC
2. **Mailing Address:** P.O. Box 6887

   City: Boise **State:** ID **Zip Code:** 83707 **Telephone:** (208) 939-2552
3. **Proposed Well Location:** Twp. 04N, Rge. 01E, Sec. 4, ____ ¼, NE ¼, SE ¼;

   Gov't Lot No. _____ County Ada Lat. ____:____:____ Long. ____:____:____

   Street Address of Well Site 1/3 mile North of Floating Feather Road City Eagle
   Give at least name of road + Distance to Road or Landmark

   Lot, block and subdivision Brookwood Subdivision
4. **Proposed Use of Well:**

   ☐ DOMESTIC: The use of water fro homes, organization camps, public campgrounds, livestock and for any other purpose in connection therewith, including irrigation of up to ½ acre of land, if the total use is not in excess of 13,000 gpd; or any other uses, if the total use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

   Domestic does not include water for multiple ownership subdivisions, mobile home parks, commercial or business establishments, unless the use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

   NON-DOMESTIC: ☐ Irrigation ☐ Municipal ☐ Industrial
   ☐ Livestock ☒ Test ☐ Other: _____ (Describe)
   Type _____ # Head _____

   ☐ INJECTION

   ☐ MONITORING: A well bore schematic and map is required for each blanket permit. No. of proposed wells: _____
5. **Well Construction Information:**

   A. ☒ New Well ☐ Modify ☐ Replace

   B. Proposed Casing Diameter 12" Proposed Maximum Depth ~~400'~~ 200' cmg

   C. Anticipated bottom hole temperature:
   ☒ 85°F or less (Cold Water Well) ☐ 85°F to 212°F (Low Temp. Geo. Well) ☐ 212°F or more (Geothermal Well)
6. **Construction Start Date:** August 2003
7. **Anticipated Well Driller:** TBD Driller's Lic. No. _____
   NOTE: The actual well driller must be identified prior to drilling.
8. **Applicant's Signature:** [signature] Date: 7/13/03

   Address (if different than owner): Brockway Engineering PLLC, 2016 Washington Street North, Suite 4

   City: Twin Falls State: ID Zip Code: 83301 Telephone: 208-736-8543

   Title: Charles E. Brockway, Engineer (Owner Representative)
   (Owner, Firm Representative, Other)

EXHIBIT A

J. Evan Robertson
ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, P.L.L.C.
Attorneys at Law
P. O. Box 1906
Twin Falls, Idaho 83303-1906
Telephone: (208) 734-0700
Facsimile: (208) 736-0041
ISB# 1801
c:\rlw\idwr\withdraw

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR DRILLING PERMIT APPLICANT: ARIES DEVELOPMENT, LLC	**WITHDRAWAL OF APPLICATION**

****

ARIES DEVELOPMENT, LLC (hereinafter "Applicant"), by and through its attorneys, Robertson, Hepworth, Slette, Worst & Stover, PLLC, hereby withdraws its application for a permit to drill a test well filed by the Applicant. A true and correct copy of the front page of said Application for Drill Permit is attached hereto as Exhibit "A".

DATED this 13 day of August, 2003.

ROBERTSON, HEPWORTH, SLETTE,
WORST & STOVER, PLLC

By: _____
J. EVAN ROBERTSON

CERTIFICATE OF MAILING

I hereby certify that on this 14th day of August, 2003, I served a copy of the foregoing WITHDRAWAL OF APPLICATION, by depositing same in the United States mail, postage prepaid, in an envelope, addressed to the following:

Original:

Idaho Department of Water Resources
Attn: Gary Spackman
2735 Airport Way
Boise, Idaho 83705-5082
Via U.S. Mail and Facsimile 208-334-2348

Aries Development, LLC
105 Old Barn Road
Eagle, ID 83616

Mike Chase / Chase Family
3482 Hwy 30 W
New Plymouth, ID 83655

Homeowners of Downing Downs Subdivision
C/o Michael J. Sieler
1125 Steeple View Drive
Eagle, ID 83616

Tammy Zokan
City of Eagle
Moore, Smith, Buxton & Turcke, Chtd.
225 N. 9th, Ste 420
Boise, ID 83702

Mark L. Butler
Land Consultants, Inc.
1640 W. Washam Road
Eagle, ID 83616

Robert DeShazo, Jr.
Eagle Water Co., Inc.
P.O. Box 455
Eagle, ID 83616

Alfred & Wanda Thornton
9601 Prairie Road
Eagle, ID 83616

Chris Duncan
City of Eagle
Holladay Engineering Co.
Payette, ID 83661

Monty Marchus and Maggie Kaspar
605 Rooster
Eagle, ID 83616

Molly O'Leary
99 E. State Street, Ste. 200
Eagle, ID 83616

Marti Taylor
832 Hialeah
Eagle, ID 83616

Betty Miller
959 Preahouse
Eagle, ID 83616

Charles E. Brockway, Sr.
206 Washington St. N.
Twin Falls, ID 83301

J. EVAN ROBERTSON

Form 235-1
1/31/03

Drilling Permit No.: _____
Drilling Permit I.D. Tag No.: _____
Water Right Permit No.: _____
Injection Permit No.: _____

State of Idaho
Department of Water Resources

APPLICATION FOR DRILLING PERMIT
(FOR THE CONSTRUCTION OF A WELL)

COPY

1. **Owner (please print):** Aries Development LLC
2. **Mailing Address:** P.O. Box 6887
   City: Boise State: ID Zip Code: 83707 Telephone: (208) 939-2552
3. **Proposed Well Location:** Twp. 04N, Rge. 01E, Sec. 4, ____¼, NE ¼, SE ¼;
   Gov't Lot No. _____ County Ada Lat. ____:____:____ Long. ____:____:____
   Street Address of Well Site 1/3 mile North of Floating Feather Road City Eagle
   Give at least name of road + Distance to Road or Landmark
   Lot, block and subdivision Brookwood Subdivision
4. **Proposed Use of Well:**
   ☐ DOMESTIC: The use of water fro homes, organization camps, public campgrounds, livestock and for any other purpose in connection therewith, including irrigation of up to ½ acre of land, if the total use is not in excess of 13,000 gpd; or any other uses, if the total use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

   Domestic does not include water for multiple ownership subdivisions, mobile home parks, commercial or business establishments, unless the use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

   NON-DOMESTIC: ☐ Irrigation ☐ Livestock Type _____ # Head ____ ☐ Municipal ☒ Test ☐ Industrial ☐ Other: _____ (Describe)

   ☐ INJECTION

   ☐ MONITORING: A well bore schematic and map is required for each blanket permit. No. of proposed wells: ____
5. **Well Construction Information:**
   A. ☒ New Well ☐ Modify ☐ Replace
   B. Proposed Casing Diameter 12" Proposed Maximum Depth 400' 200' ea
   C. Anticipated bottom hole temperature:
      ☒ 85°F or less (Cold Water Well) ☐ 85°F to 212°F (Low Temp. Geo. Well) ☐ 212°F or more (Geothermal Well)
6. **Construction Start Date:** August 2003
7. **Anticipated Well Driller:** TBD Driller's Lic. No. _____
   NOTE: The actual well driller must be identified prior to drilling.
8. **Applicant's Signature:** Charles E. Brockway Date: 7/18/03
   Address (if different than owner): Brockway Engineering PLLC, 2016 Washington Street North, Suite 4
   City: Twin Falls State: ID Zip Code: 83301 Telephone: 208-736-8543
   Title: Charles E. Brockway, Engineer (Owner Representative)
   (Owner, Firm Representative, Other)

EXHIBIT A

State of Idaho
DEPARTMENT OF WATER RESOURCES
Western Region, 2735 Airport Way, Boise, Idaho 83705-5082 - (208) 334-2190
FAX (208) 334-2348

DIRK KEMPTHORNE
Governor
KARL J. DREHER
Director

FAX TRANSMITTAL COVER SHEET

FAX # (208) 334-2348

DATE: 8/12/03

TO: Evan Robertson

FROM Gary Spackman

DOCUMENT DESCRIPTION: IDWR will act as requested when proof of mailing of letter to the parties is submitted to this office. Thanks.

Gary

TOTAL PAGES SENT: _____ + COVER SHEET

CONTACT: _____

ROBERTSON, HEPWORTH, SLETTE, WORST & STOVER, P.L.L.C.
ATTORNEYS AT LAW

J. EVAN ROBERTSON
JEFFREY J. HEPWORTH
GARY D. SLETTE
RICHARD J. "TUG" WORST
TIMOTHY J. STOVER

303 Shoshone Street North
P.O. BOX 1906
TWIN FALLS, IDAHO 83303-1906
TELEPHONE (208) 734-0700
FAX (208) 736-0041

J. EVAN ROBERTSON

August 12, 2003

VIA FACSIMILE 208-334-2348

Gary Spackman
Idaho Dept. of Water Resources
Western Region
2735 Airport Way
Boise, ID 83705-5082

RE: **Aries Development, L.L.C.**

Dear Gary:

I represent Aries Development, L.L.C., which company filed an application for drilling a test well with regard to Brookwood Subdivision, Eagle, Idaho. I just wanted to confirm with you that the application has been *withdrawn*. It was verbally withdrawn yesterday, but I would like confirmation from your office that the same has been accomplished. Please advise at your earliest convenience as to the status of this application. Thank you for your consideration.

Sincerely,

Mailed in absence in order to avoid delay.

J. EVAN ROBERTSON

JER:rlm
cc: Aries Development, LLC
rlw\jer\letter\IDWR-spackman2

ROSTER OF ATTENDANCE

IDAHO DEPARTMENT OF WATER RESOURCES
2735 AIRPORT WAY, BOISE, IDAHO 83705

Re: **Application for Permit No. 63-31689 and Application for Transfer No. 70604 in the Name of Aries Development**

Place: **IDWR Western Region, 2735 Airport Way, Boise, Idaho 83705**

Date: **August 11, 2003**

Conducted by: **Gary Spackman**

NAME **ADDRESS**

EVAN ROBERTSON BOX 1506, Twin Falls 734-0700 Aries Development

Mike Chase - Chase Family 70 W Floating Feather Rd Eagle Id 939-6226 (278-3845)

Tammy Zokan. City of Eagle, MSBT 025 N. 9th, Suite 400, Boise 83702 331-1800

CHRIS DUNCAN - CITY OF EAGLE, HALLADAY ENG. CO. PAYETTE, ID 83661 642-3304

Monty Marchus (and Maggie Kaspar) 605 Rooster Eagle 83616 377-0560. Neighboring landowner. Signatories to a group protest.

ROBERT DESHAZO JR. EAGLE WATER CO. 939-0242

Molly O'Leary Richardson & O'Leary 99 E State Street Suite 300, Eagle, ID 83616; 938-7900; Eagle Water

MARTI TAYLOR - DOWNING, DAVIDS, 832 HIALEAH, EAGLE, ID 83616 939-3351

Betty Miller - Downing Downs - 959 Preakness, Eagle, Ida 83616 939-3322

MIKE SIELER DDS 1125 STEEPLE VIEW DR EAGLE ID 83616 939 7306

Charles E. Brockway 2016 Washington St. North Twin Falls, ID 83301

Michael Hormaechea 1101 W. River St. Suite 300 Boise, ID 83702 336-2000

Ypsent LLC

Attendance Roster 8-11-03

ROSTER OF ATTENDANCE

IDAHO DEPARTMENT OF WATER RESOURCES
2735 AIRPORT WAY, BOISE, IDAHO 83705

Re: **Application for Permit No. 63-31689 and Application for Transfer No. 70604 in the Name of Aries Development**

Place: **IDWR Western Region, 2735 Airport Way, Boise, Idaho 83705**

Date: **August 11, 2003**

Conducted by: **Gary Spackman**

NAME **ADDRESS**

EVAN ROBERTSON BOX 1906, Twin Falls 734-0700 Aries Development

Mike Chase - Chase Family 70 W Floating Feather Rd Eagle Id 278-3845 939-6226

Tammy Zokan - City of Eagle, MSBT 225 N. 9th, Suite 420, Boise 83702 331-1800

CHRIS DUNCAN - CITY OF EAGLE, Holladay Eng. CO. PAYETTE, ID 83661 642-3304

- Monty Marchus (and Maggie Kaspar) 605 Rooster Eagle 83616 373-0560. Neighboring landowner. Signatories to a group protest.

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Molly O'Leary Richardson & O'Leary 99 E State Street Suite 200, Eagle, ID 83616; 938-7900; Eagle Water

MARTI TAYLOR - DOWNING DOWNS, 832 HIALEAH, EAGLE, ID 83616 939-3351

LANDOWNER

Betty Miller - Downing Downs - 959 Preakness, Eagle, Ida 83616 939-3322

MIKE SIELER DDS 1125 STEEPLE VIEW DR EAGLE ID 83616 939 7306

Charles E. Brockway 2016 Washington St. North Twin Falls, ID 83301

Michael Hormaechea 1101 W. River St. Suite 300 Boise, ID 83702 336-2200

Aries Development LLC

State of Idaho
DEPARTMENT OF WATER RESOURCES
Western Region, 2735 Airport Way, Boise, Idaho 83705-5082 - (208) 334-2190
FAX (208) 334-2348

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

FAX TRANSMITTAL COVER SHEET

FAX # (208) 334-2348

DATE: 8-7-03

TO: Monte Marcus **FROM** IDWR - Western

DOCUMENT DESCRIPTION: app for permit #63-31689.
app for x-fer # 70604

TOTAL PAGES SENT: 10 **+ COVER SHEET**

CONTACT: Sue

State of Idaho
DEPARTMENT OF WATER RESOURCES
Western Region, 2735 Airport Way, Boise, Idaho 83705-5082 - (208) 334-2190
FAX (208) 334-2348

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

FAX TRANSMITTAL COVER SHEET

FAX # (208) 334-2348

DATE: 8-5-03

TO: Nina

FROM IDWR

DOCUMENT DESCRIPTION: Narrative

TOTAL PAGES SENT: 3 **+ COVER SHEET**

CONTACT: Sue

EAGLE WATER
COMPANY, INC.

(208) 939-0242
FAX (208) 939-0267
P.O. BOX 455
EAGLE, IDAHO 83616

W0307 60
$15.00

RECEIVED
JUL 22 2003
WATER RESOURCES
WESTERN REGION

July 18, 2003

Idaho Dept. of Water Resource
2735 Airport Way
Boise, Idaho 83705-5082

RE: Water Right Application No. 63-31689
Petition to Intervene

To Whom It May Concern:

Please accept this letter as Eagle Water Company's Petition to Intervene for the above referenced Water Right Application. We apologize for the lateness, this being the time of year that work is the heaviest for our company, we mistakenly missed the date to make a formal protest.

Sincerely,

Robert DeShazo, Jr.
President

Eagle Water
Pet. Intervene

BROCKWAY
ENGINEERING
P.L.L.C.

Hydraulics
Hydrology
Water Resources

July 18, 2003

IDWR – Western Region
Attn: Lori Graves
2735 Airport Way
Boise, ID 83705-5082

RECEIVED
JUL 2 1 2003
WATER RESOURCES
WESTERN REGION

Re: Application for Drilling Permit
Aries Development LLC

To Whom It May Concern:

Enclosed is an application for drilling permit for a 12" diameter test well to be drilled for Aries Development LLC. The proposed test well is to be drilled to determine the capability of developing a source capable of producing 0.95 cfs of groundwater to be used as make-up water in 6 multi-purpose ponds located within the subdivision. Aries Development has applied for a water right permit and submitted a mitigation transfer as discussed in the enclosed narrative. The permit and mitigation transfers are being processed by IDWR at this time.

The applicant understands that granting a drilling permit does not guarantee that either the permit and/or the transfer application will be approved. The applicant understands that if the permit and transfer are not approved, the applicant may be required to abandon and/or cap the test well and not utilize water from this source. However, if the permit and/or transfer applications are approved, the applicant wishes to utilize this test well for the delivery of water under the proposed rights. We have included a copy of the proposed transfer and permit application on file with IDWR.

Please review the enclosed documents, maps, and well schematic and contact our office if you have any questions. We have included a check in the amount of $200 to cover the drilling permit fees. Thank you and have a great day.

Sincerely,

Charles E. Brockway, P.E.

Attachment: Application for Drilling Permit
Proposed Well Schematic
Permit Application Narrative
Brookwood Subdivision Map
Check $200

Cc: Mike Hormachea
Evan Robertson

CHARLES E. BROCKWAY, PH.D., P.E.

CHARLES G. BROCKWAY, PH.D., P.E.

2016 NORTH WASHINGTON STREET • SUITE 4

TWIN FALLS, IDAHO 83301

208•736•8543

FAX: 736•8506

RE: 42-

Application
Drilling Permit

Form 235-1
1/31/03

Drilling Permit No.: _____
Drilling Permit I.D. Tag No.: _____
Water Right Permit No.: _____
Injection Permit No.: _____

RECEIVED
JUL 2 1 2003
WATER RESOURCES
WESTERN REGION

State of Idaho
Department of Water Resources

APPLICATION FOR DRILLING PERMIT
(FOR THE CONSTRUCTION OF A WELL)

1. **Owner (please print):** Aries Development LLC

2. **Mailing Address:** P.O. Box 6887

   City: Boise **State:** ID **Zip Code:** 83707 **Telephone:** (208) 939-2552

3. **Proposed Well Location:** Twp. 04N, Rge. 01E, Sec. 4, ___ ¼, NE ¼, SE ¼;

   Gov't Lot No. _____ County Ada Lat. ___:___:___ Long. ___:___:___

   Street Address of Well Site 1/3 mile North of Floating Feather Road City Eagle
   Give at least name of road + Distance to Road or Landmark

   Lot, block and subdivision Brookwood Subdivision

4. **Proposed Use of Well:**

   ☐ DOMESTIC: The use of water fro homes, organization camps, public campgrounds, livestock and for any other purpose in connection therewith, including irrigation of up to ½ acre of land, if the total use is not in excess of 13,000 gpd; or any other uses, if the total use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

   Domestic does not include water for multiple ownership subdivisions, mobile home parks, commercial or business establishments, unless the use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

   NON-DOMESTIC: ☐ Irrigation ☐ Livestock Type _____ # Head ___ ☐ Municipal ☒ Test ☐ Industrial ☐ Other: _____ (Describe)

   ☐ INJECTION

   ☐ MONITORING: A well bore schematic and map is required for each blanket permit. No. of proposed wells: ___

5. **Well Construction Information:**

   A. ☒ New Well ☐ Modify ☐ Replace

   B. Proposed Casing Diameter 12" Proposed Maximum Depth 400'

   C. Anticipated bottom hole temperature:
   ☒ 85°F or less (Cold Water Well) ☐ 85°F to 212°F (Low Temp. Geo. Well) ☐ 212°F or more (Geothermal Well)

6. **Construction Start Date:** August 2003

7. **Anticipated Well Driller:** TBD Driller's Lic. No. _____
   NOTE: The actual well driller must be identified prior to drilling.

8. **Applicant's Signature:** Charles E Brockway Date: 7/18/03

   Address (if different than owner): Brockway Engineering PLLC, 2016 Washington Street North, Suite 4

   City: Twin Falls State: ID Zip Code: 83301 Telephone: 208-736-8543

   Title: Charles E. Brockway, Engineer (Owner Representative)
   (Owner, Firm Representative, Other)

Withdrawn
8/15/2003

ACTION OF THE DEPARTMENT OF WATER RESOURCES

This Permit is _____. Date: _____

If approved, this permit authorizes the construction of modification of a well subject to the following conditions. **READ CAREFULLY!**

GENERAL CONDITIONS:

1. This drilling permit is valid for two (2) months from the above approval date for the start of construction and is valid for one (1) year from the approval date for completion of the well unless an extension has been granted.
2. This permit does not constitute an approval of the District Health Department or the Idaho Department of Health and Welfare, which may be required before construction of the well. All wells must be drilled a minimum distance of 100 feet from a drain field. Domestic and Public Water Supply wells must be drilled a minimum of 50 feet and 100 feet respectively from a septic tank.
3. The well shall be constructed by a driller currently licensed in the State of Idaho who must maintain a copy of the drilling permit at the drilling site.
4. Approval of this drilling permit does not authorize trespass on the land of another party.
5. This permit does not represent a right to divert and use the water of the State of Idaho.
6. This drilling permit does not represent a right to divert and use the water of the State of Idaho.
7. If a bottom hole temperature of 85° or greater is encountered, well construction shall cease and the well driller and the well owner shall contact the Department immediately.
8. Idaho Code, S 55-2201 – 55-2210 requires the applicant and/or his contractors to contact "DigLine" (DigLine is a one-call center for utility notification) not less than 2 working days prior to the start of any excavation for this project. The "DigLine" number for your area is 1-800-342-1585.
9. Please be advised that this drilling permit should be considered and treated as a preliminary permit. If you are in disagreement with this preliminary permit you have fourteen (14) days of the service date of this permit to petition the Department for reconsideration pursuant to Section 67-5243, Idaho Code.
10. The well tag for the drilling permit/start card shall be securely and permanently attached to the well casing through welding or by the use of four closed and domed stainless steel pop rivets. The tag attachment will be done at the time of completion of the well, and prior to removing the drill rig from the drill site.

SPECIFIC CONDITIONS:

_____ _____

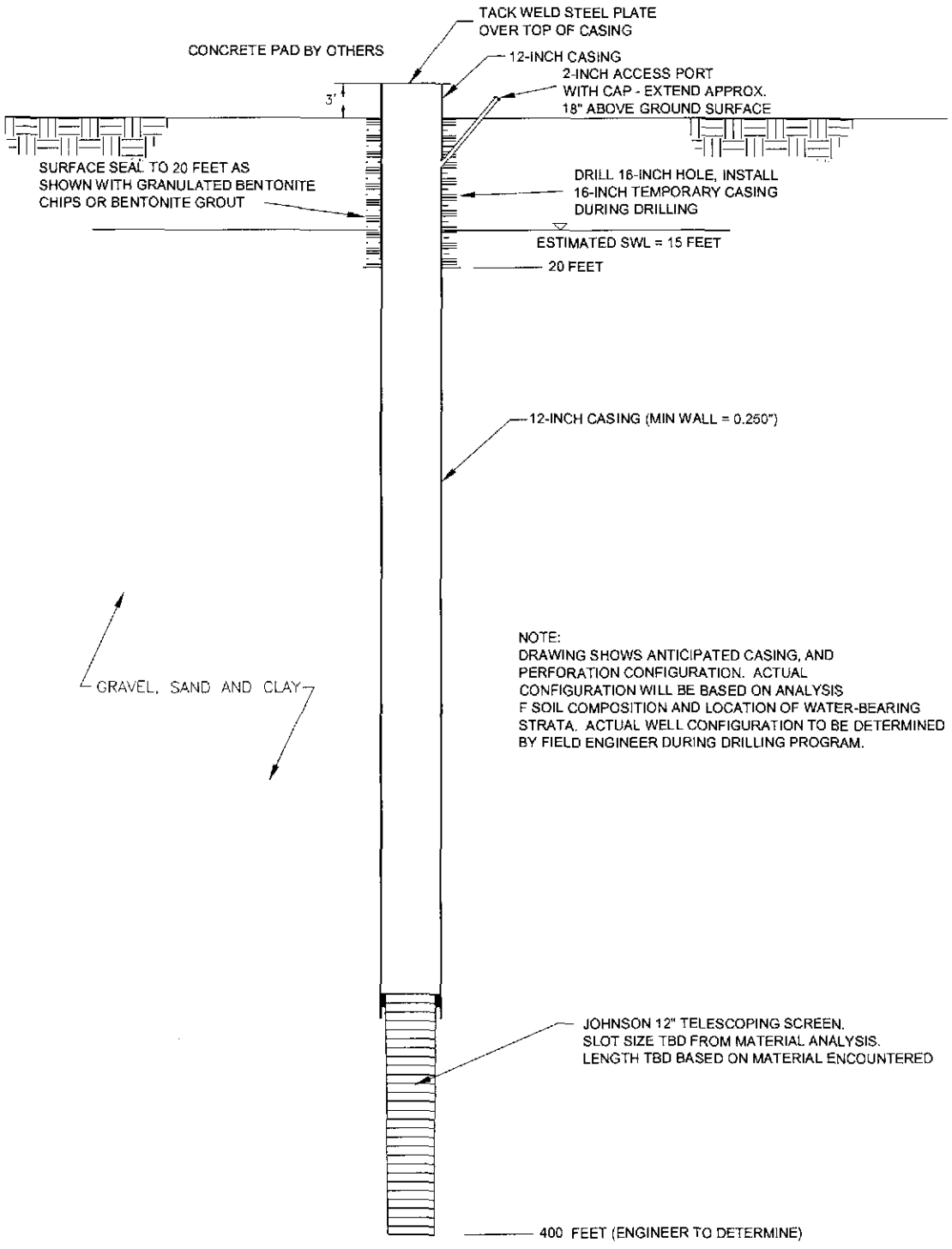
Signature of Authorized Department Representative Title

Receipt No.: W030751 Receipted by: KH Fee: 200.00 Date: 7/21/03

EXTENSION OF DRILLING PERMIT

Extension approved by: _____ Approval Date: _____

This extension expires: _____



BROCKWAY ENGINEERING, PLLC HYDRAULICS – HYDROLOGY – WATER RESOURCES 2016 NORTH WASHINGTON, SUITE 4 TWIN FALLS, ID 83301 (208) 736-8543	ARIES DEVELOPMENT - BROOKWOOD SUBDIVISION	SHEET 1 OF 1	DRAWN MWB
	WELL SECTION & CONFIGURATION PROPOSED NEW WELL	DATE 7/18/03 SCALE NONE	REVISIONS A

Narrative in Support of Application for Permit, Revised

Brookwood Subdivision Exchange Well
Aries Development L.L.C.
by Brockway Engineering P.L.L.C.

January 7, 2003

Brookwood is a 382 unit subdivision located in Section 4, T 4N R 1E Boise Meridian north of Eagle, Idaho. This subdivision, located on bottom land and bench areas of Dry Creek, is being developed on irrigated farmland served by the Farmers Union Canal. The Farmer's Union Canal is the east boundary of the subdivision and the historical irrigation diversion from the canal will continue to serve the irrigation requirements for a pressure irrigation system serving all lots and common areas. Domestic water is provided by the municipal system of the City of Eagle.

The subdivision will include water amenities including six (6) multi-purpose ponds providing irrigation storage and aesthetic benefits, Figure 1. The ponds serve as storage for diversions of shares from the canal system during the irrigation season and will be supplemented by ground water provided from an exchange well during the non-irrigation season.

The purpose of this Application is to obtain a permit for a well to provide water for non-irrigation season maintenance of the pond and ditch system. Year round evaporation from the aesthetic/recreational ponds will be mitigated by transfer of a portion of water right 63-5087 from a feedlot owned by the applicant. No mitigation for evaporation from the irrigation/storage ponds is contemplated.

Figure 1 shows the plat of the subdivision, canal diversion, distribution system and the six (6) ponds. Ponds 1,2,3, and 4 are lined with bentonite and compacted earth and Pond 6 is lined with a membrane liner. Pond 5 is unlined and any waste water from the canal system during the summertime and exchange water from the well will infiltrate back into the aquifer thereby reducing any surface water runoff from the property. During the non-irrigation season, the pond levels will be maintained with ground water pumped as necessary.

Brookwood owns 11 shares in the Farmer's Union Canal. Each share represents 11 miner's inches of discharge so the canal discharge available to the project is 121 miner's inches or 2.42 cfs. Historically, 186.0 acres have been irrigated on the Brookwood property from the canal, see Figure 2.

The project plan includes 382 single family lots with approximately 50 acres of common area. Irrigation of landscaping and turf on each lot and the common area will be from a pressure distribution system with two booster pumps from the pipe/pond system. The upper booster is located near the canal diversion, and the lower booster diverts from Pond 1 near the west end of the subdivision. Based on the average lot size of 0.22 acres, a residence footprint and paved area of 4200 square feet, the irrigated area on each lot is

estimated to be 0.12 acres. For the 382 residences the irrigated area is therefore 45.8 acres. The total irrigated area is therefore 50 + 45.8 or 95.8 acres.

Ponds 1,2, and 3 are utilized as irrigation storage and are tied together hydraulically. The pumping plant for the irrigation system is located at the southwest corner of Pond 1. Ponds 4, 5, and 6 are off-line ponds and are primarily recreational; however, Pond 4 does provide storage for waste water which would normally flow off the property at the corner of Eagle Road and Floating Feather Road. The combined area of ponds 4,5, and 6 is 3.69 acres. The six ponds are designed with an average surface area of 5.17 acres and a volume of 60.7 acre feet.

A model of the pipe, ditch and pond system was prepared to simulate the operation of the system during the irrigation season and evaluate the various components of the water balance. A copy of the spreadsheet model is attached to this narrative as Figure 3.

Evapotranspiration for the project was determined using procedures outlined in Allen and Brockway, 1983, using the Boise WSO AP station meteorological and Et data. Free water surface evaporation was determined using procedures outlined in 'Monthly Shallow Pond Evaporation in Idaho by Molnau, Kpordze, and Craine, 1992. ASAE paper PNW 92-111.

Seepage from Pond 5 was measured during the period October 1-12, 2001 by Toothman-Orton Engineering Company. Seepage rates for this unlined pond varied from 0.16 to 0.47 ft/day over pond elevations from 2577.2 to 2580.4. Loss rates were extrapolated to proposed operating pond levels up to elevation 2588 at which the estimated maximum seepage rate for Pond 5 is 0.98 ft per day or 1.08 cfs. This loss rate is expected to decrease with time as sediment on the bottom of the pond increases. Pond 5 will be operated at a lower water level elevation during the winter at which the estimated seepage rate is about 0.95 cfs. The lined ponds and ditch were estimated to have operating loss rates of 0.005 ft/day (1/16 in), Appendix

The pond model indicates that the system can operate during the irrigation season utilizing the 0.95 cfs inflow from the exchange well with irrigation demand furnished from the canal. Infiltration back to the aquifer through the pond will be equal to the well discharge plus any system waste. The total seepage through all ponds during the irrigation season is estimated to be 1.09 cfs. Evaporation from the pond system during the irrigation season is 16.2 acre feet which includes all ponds and ditches used for irrigation storage and recreation/aesthetics.

The total consumptive use of the project including turf and landscape irrigation, pond evaporation, and residential in-house consumptive use (not provided by the irrigation system) is 258 af/year whereas the pre-project consumptive use from crop irrigation on 185.96 acres is 489 acre feet per year.

Infiltration back to the aquifer through the pond system is estimated at 386 acre feet during the irrigation season. Ground water extraction from the exchange well required to maintain pond seepage and evaporation, including seepage from unlined Pond 5, is 380 acre feet.

The maximum required discharge from the exchange well is 425 gpm or 0.95 cfs.

The water balance and pond model indicates that pumping from an exchange well on the project of not-more-than 330 acre feet during the non-irrigation season at a rate of 0.95 cfs will maintain pond water levels. Current and any future consumptive use from the pond system will be mitigated. Evaporation from the ponds will be mitigated by transfer of 0.04 cfs and 13.1 af of ground water under water right 63-5087. The 13.1 af/a is the calculated evaporation from open water surfaces associated with the non-irrigation ponds during the irrigation season and all ponds during the non-irrigation season. Water right 63-5087 is a stockwater right located in the NE1/4 NW1/4 Sec 3 T 4N R1W in Ada County.

The proposed exchange well would be located near the canal diversion so that discharge can be integrated into the entire distribution system. The aquifer underlying the area is composed of alluvial sand and gravels with a hydraulic conductivity estimated at 40 ft/day based on well driller's logs in the area. The water bearing zone from which water is to be appropriated is estimated to be from 80 to 200 feet below ground surface. An estimate of the draw down from a 12 inch diameter well pumping 0.95 cfs was estimated using a Theis analysis assuming continuous pumping for a 40 day period. The Theis analysis output is on the spreadsheet included the Appendix. This analysis shows the estimated draw down at 100 feet from the pumped well of 3.6 feet and a draw down of 0.9 feet at 1320 feet from the well. This analysis assumes no return of water to the aquifer through seepage from ponds, particularly Pond #5. The nearest well to the exchange well is approximately 1200 feet. Operation of the pumped well will not significantly affect aquifer water levels in the area.

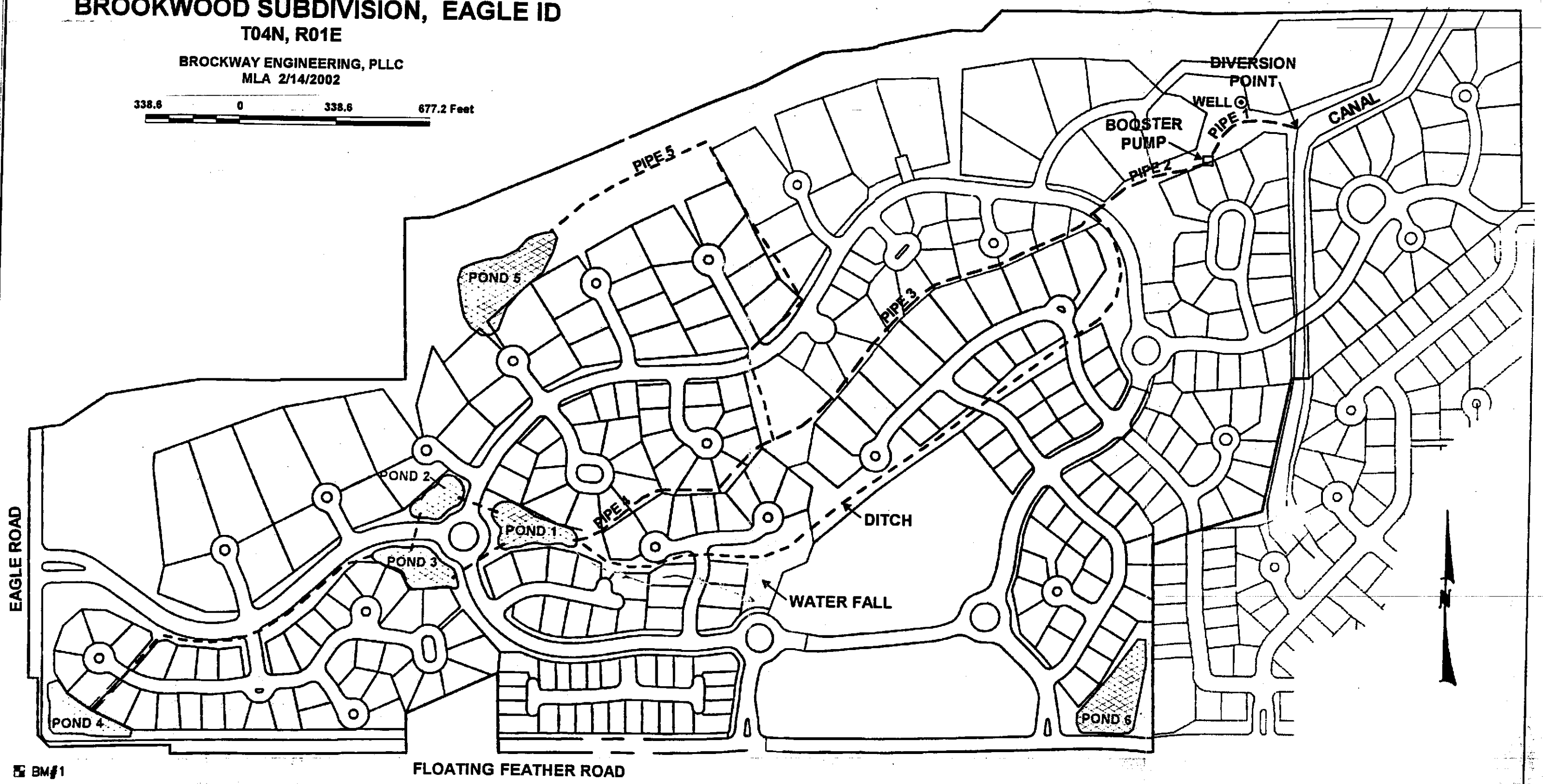
During the non-irrigation season operation of the exchange well, a maximum of 425 gpm (.95 cfs) will be pumped from the well. The pond water levels will be maintained in all ponds and the seepage back into the aquifer from all ponds will be 420 gpm so the impact on the regional aquifer system will not be significant. Pond 5 where 95% of the non-irrigation season seepage returns to the aquifer is approximately 2709 feet from the exchange well.

Aries Development L.L.C. members are: Mike Hormachea, Amy Wray, Richard Hormachea, and the Hormachea Grandchildren's Trust.

FIGURE 1.
BROOKWOOD SUBDIVISION, EAGLE ID
T04N, R01E

BROCKWAY ENGINEERING, PLLC
MLA 2/14/2002

338.6 0 338.6 677.2 Feet



Send comments to attached list + Farmers Union

Form No 202a
November 2002

IDAHO DEPARTMENT OF WATER RESOURCES
APPROPRIATION APPLICATION ANALYSIS SHEET

Initial review by LG Date 12/26/02 Application # 63-31689

REQUIRED INFORMATION

- ✓ Name (If applicant is a corporation or partnership, the names and addresses for the director, officers, and other partners must be included)
- ✓ Address
- ✓ Source (See USGS Quad for names of water sources)
- ✓ Point of Diversion (10 acres for spring, lot & block descriptions for Subdivisions, local name)
- ✓ County
- ✓ Quantity (Flow and /or Volume)
- ✓ Period of use
- ✓ Nature of proposed use (Include description of use)
- ✓ Description of diverting works
- ✓ Time required for beneficial use of water
- ✓ Place of use or acres irrigated
- ✓ Map (Show T, R, S, QQ &/OR QQQ)
- ✓ Subdivision plat (for > 1 home in restricted area ≥ 5 homes in non-restricted area)
- ✓ Signature (if applicant is corporation, partnership, or municipality, title of signatory is required)
- ✓ Correct fee paid

Government Lots
- ✓ P/D
- ✓ P/U

name

ADDITIONAL INFORMATION

✓ ADVERTISE REMARKS (Yes or No)

YES	NO	
✓		Overlapping place of use (Describe source and relationship to present application on next page)
✓		Overlapping point of diversion
	✓	Critical groundwater area
	✓	Ground water management area
	✓	1992 moratoruim
	✓	Surface water source, IDFG letter needed
	✓	Protected river or minimum flow reach, notify water planning bureau
✓		E-mail to Dam Safety staff (for any storage)
✓		Mitigation plan Check any that apply
		✓ Immediate = acceptable plan required and submitted
		Future = open areas, acceptance of condition of approval is in file
	✓	Send power requirement letter &/or fish farm requirement letter
	✓	Power residency affidavit
	✓	Diversion greater than 5 cfs or 500 af or irrigation greater than 200 acres (if YES, attach Large Diversion supplementary analysis sheet)
✓		REQUEST ADDITIONAL INFORMATION FROM THE APPLICANT

see attached e-mail dated 12/27/02

file copy discarded pw 3/25/05

Date Requested 12/27/02 Date Response Received 1/7/03

IDWR Staff memo to File

PROCESSING APPLICATION # 63-31689

YES	NO	
✓		In form for advertising
	✓	Statewide advertising (> 10 cfs &/or 1000 af)
✓		Fee amount, receipt number, and date recorded on application

SEND COPIES TO NOTE IF E-MAIL COMMENT LETTER USED

YES	NO		YES	NO	
	✓	I.D. Environmental Quality		✓	US BLM
	✓	I.D. District Health		✓	US Forest Service
	✓	I.D.Fish & Game		✓	Water Dist #_____
		I.D. Lands		✓	Water Planning Bureau
			✓		Other Farmers Union Ditch Co 4310 Linder Rd Eagle 83616 + attached list

FINAL REGIONAL PROCESSING REVIEW

YES	NO	
✓		Affidavit of publication received
✓		Application published correctly? If not,record action taken_____
✓		Publication dates and paper recorded on application
		Final date for protest 7-21-03
✓		Protests received
		Recommendations attached
		Measuring device required
		Water delivered by water master? District #_____
		Special conditions of approval or cover letter

Recommended Date of Priority (advanced)

Recommendation ☐ Approve ☐ Deny by _____ Date _____

ADDITIONAL INFORMATION

☐ See attached proof report, note any Legal Notice Remarks &/or Comments

☐ See attached shapefile

MEMORANDUM

TO: Transfer File No. 70604
Permit File No. 63-31689

FROM: Lori Graves

DATE: 5/30/03

RE: Evaluation of Sufficiency of Information Submitted

Brief: Applicant proposes changing the nature of use from stockwater to aesthetic storage on .04 cfs and 14 afa portion of the above listed right and divert that water from a proposed well in the NESE S4 to mitigate year around evaporation for six ponds in the S1/2 S4 T4N R1E. See accompaning application no. 63-31689.

The site is aka Brookwood Subdivision located just North of Eagle and Floating Feather Road.

Contact person for the applicant is Chuck Brockway.

Authority to File: A warranty deed in the name of Richard Hormeachea for the claim p/u has been provided. Richard is a member of Aries Development, owners of the proposed p/u, as confirmed by Ada County Assessors office.

Water Right Validity:

Right presumed valid since the right was claimed on 7/31/1989 and beneficial use is assumed to have occurred within the five year period prior to that date. Beneficial use was evidenced by a 1987 aerial photo, supporting documentation provided by the applicant and a preliminary investigation/ recommendation for SRBA claim 63-5087 by Ron Howerton.

Injury to Other Water Rights: The proposal is approximately 5 miles East of the existing use. Applicants proposed portion of right 63-5087 is represented by no. 63-31726, with the remaining numbered 63-31725. When combined, no increase in the total historical amount diverted under right 63-5087 has been proposed.

A previous ground water proposal for Floating Feather Subdivision, located next to Brookwood Subdivision, was heavily protested Notice will be sent to those protestants.

The purpose of this transfer is to prevent injury due to the consumptive use resulting from the development of application 63-31689. Chuck Brockway analyzed surrounding wells and the underlying aquifer of the proposed well. He estimated the potential draw down using a Theis analysis assuming continuous pumping for a 40 day period. The Theis analysis output is on a spreadsheet included in the Appendix 3, Attachment 6. Based on

the results of the analysis, operation of the pumped well, as proposed, will not significantly reduce affect aquifer water levels in the area.

Enlargement of Use: Based on supporting evidence provided by Burgess Pump Co., who installed the pumps for the feedlot, and supporting documentation provided by the applicants, claim 63-5087 will be recommended for decree in the SRBA for use of .31 cfs and 375 afa, per Ron Howerton.

Chuck Brockway prepared a pond model of the Brookwood pipe, ditch and pond system to simulate the operation of the system during the irrigation season and evaluate the various components of the water balance. Evapotranspiration for the project was determined using the Allen/Brockway Report and alfalfa as the historical crop. Free water surface evaporation was determined using procedures outlined in Monthly Shallow Pond Evaporation in Idaho by Molnau, Kpordze, and Crane, 1992. After incorporating information from these sources, the model indicates that mitigation is required for consumptive use of 14 afa resulting from pond evaporation and a flow rate of .04 cfs is needed to refresh the maximum daily evaporation from the ponds in the summer. The recommendation for claim 63-5087 is more than sufficient to support these amounts.

Using the latest Department pond spreadsheet, 5.17 acres of pond area loses 13 afa to evaporation. The applicant's spreadsheet calculated 14 afa, which is the amount being mitigated. Allen Brockway data shows that the historical alfalfa crop consumed 15.3 afa. These comparisons indicate that enlargement is not an issue.

Local Public Interest: No negative impacts are anticipated, however, notice will be sent to concerned citizens in the area as mentioned above.

Beneficial Use/Conservation of Water Resources: Applicant proposed beneficial use consistent with Department standards.

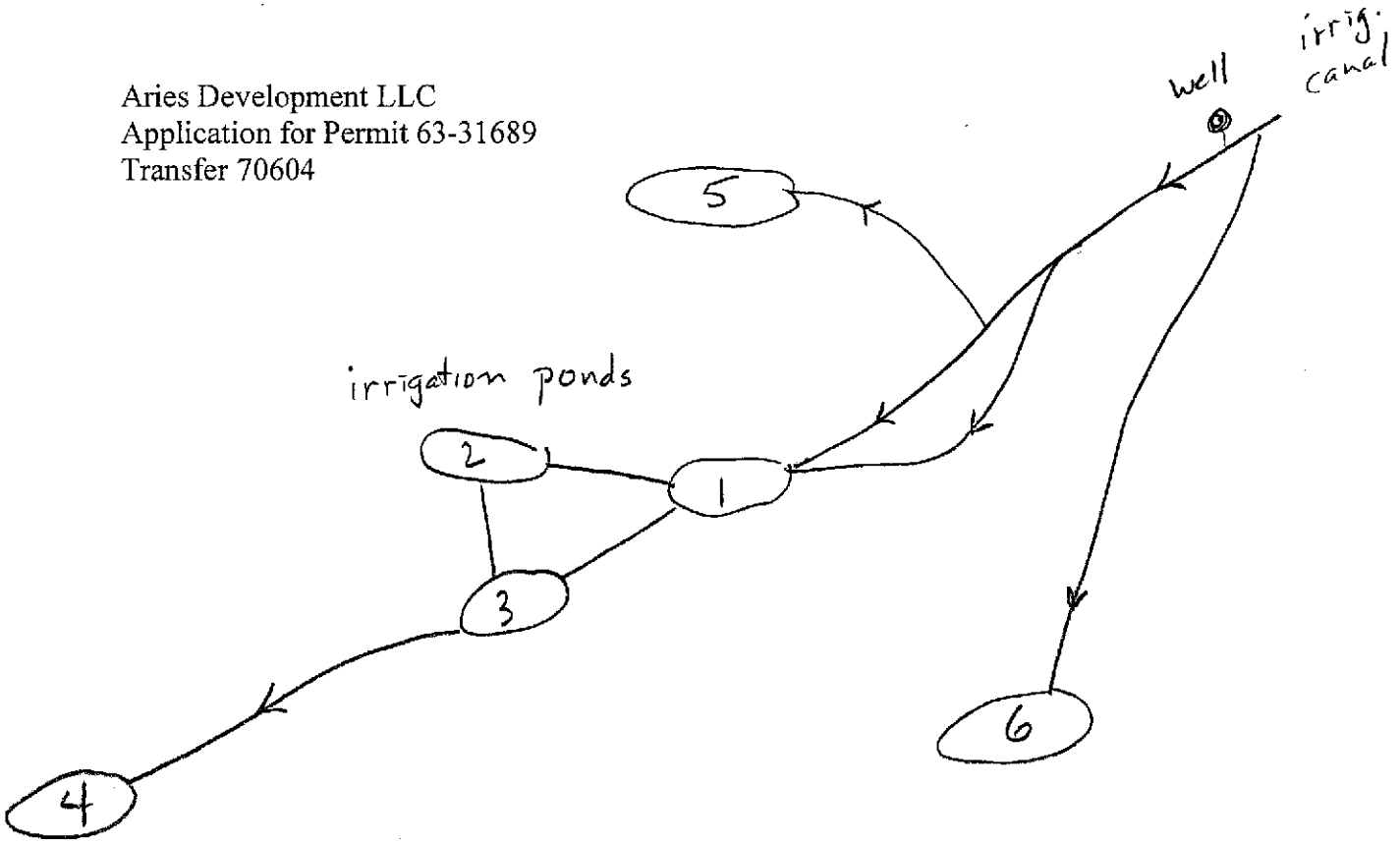
Review of the application finds there is no clear inconsistency with criteria of I.C. § 42-222 preventing processing of this application.

Additional Information: Data entry appeared to affect the correct record. Processing of the application has been delayed due to requirements for additional information and clarifications necessary in understanding the pond model.

Supporting documentation for the statutory claim is located in the SRBA claim file. Explanation of the permit proposals, pond model and water balance is attachment no. 5. The actual model and water balance are attachment no. 6. Please note that on page 3 of Appendix 2, 16.2 af consumptive use represents evaporation from the ponds **and** existing ditches. The ditches are part of the canal water delivery system and have been incorporated into the subdivision's water amenity system. Page 4 of Appendix 2 calculates the consumptive use for the ponds only, which equates to 14.0 afa. Ponds 1, 2, and 3 are used for delivery of irrigation shares and are tied together hydraulically.

5/17/05 gp

Aries Development LLC
Application for Permit 63-31689
Transfer 70604



ponds 1, 2, and 3 – irrigation ponds

10 af capacity
1.5 acre surface area

intent of applications

- irrigation season – maintain level for seepage loss
- non-irrigation season – maintain level for seepage and evaporation losses

questions: authorization for irrigation storage (capacity)? (or aesthetic w/evap)
authorization for aesthetic storage during non-irrigation season (capacity)?
mitigation for irrig. pond evap?

ponds 4, 5, and 6 – aesthetic ponds

50.6 af capacity
3.7 acre surface area

intent of applications

- year-round season – maintain level for seepage and evaporation losses

questions: authorization for aesthetic storage (capacity)?

all ponds

60.7 af capacity
5.2 acre surface area

- applications propose 40 afa for seepage and evaporation (14 afa) losses
- 14 afa evap. losses to be mitigated by xfer
- balance of 26 afa for seepage losses

constested case stipulations

- 40 afa total limit (permit and transfer)
- 0.18 cfs total limit (permit and transfer)
- well depth and size limit
- lined pond(s)

questions: should permit be limited to 26 afa (40 minus 14)? combined limit must require mitigation first
authorization for initial fill of all ponds – consumptive?
how to handle dismissed contested case?

Evaporation from these three ponds was calculated during the non-irrigation season only. Ponds 4, 5, and 6 are off-line aesthetic ponds. Evaporation from these three ponds was calculated year around. Pond 5 is unlined and serves as a recharge pond. The pond model indicates that infiltration back to the aquifer through pond 5 will be equal to the well discharge as proposed on application 63-31689 (see Appendix 1, Attachment 6).

Conditions: Assuming protests are not filed and/or other information does not contradict the above analysis, and assuming it is determined the application should be approved, the following conditions of approval should be applied:

WATER RIGHT NO. 63-31726

046 Right holder shall comply with the drilling permit requirements of Section 42-235, Idaho Code and applicable Well Construction Rules of the Department.

T07 The right holder shall accomplish the change authorized by this transfer within one (1) year of the date of this approval.

T08 Failure of the right holder to comply with the conditions of this transfer is cause for the Director to rescind approval of the transfer.

T09 Approval of this transfer does not preclude the opportunity for review of the validity of this water right in the ongoing Snake River Basin Adjudication.

JOINT SCHOOL DIST #2
C/O DAN MABE
911 MERIDIAN ST
MERIDIAN ID 83642

UNITED WATER ID
PO BOX 7488
BOISE ID 83707

JOANN BUTLER
SPINK & BUTLER
607 N 8TH ST #310
BOISE ID 83702

ROBERT DESCHAZO JR
EAGLE WATER CO
PO BOX 455
EAGLE ID 83616

WAYLAND FISHER
657 E BEACON LIGHT RD
EAGLE ID 83616

ESTATE OF ELEANOR I CHASE
C/O MATT HOWARD
PO BOX 190012
BOISE ID 83719

WELDON FISHER
546 E BEACON LIGHT RD
EAGLE ID 83616

CITY OF EAGLE
C/O BRUCE SMITH
MOORE SMITH BUXTON & TURCKE
225 N 9TH ST STE 420
BOISE ID 83702

STEVE HANULA
ERO RESOURCES CORP
1106 N COLE RD STE C
BOISE ID 83704-8661

AL THORNTON
601 PRAIRIE RD
BOISE ID 83706

NEIL D WILTON
632 N EDGEWOOD LN
EAGLE ID 83616

DENNIS SUTHERLAND
11036 RUNWAY DR
BOISE ID 83703

BILL PARDEW
PO BOX 699
EAGLE ID 83616

JIM BURTON
1896 N EAGLE RD
EAGLE ID 83616

ID DEPT ENV QUALITY
PO BOX 83720
BOISE ID 83706

JOINT SCHOOL DIST #2
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MERIDIAN ID 83642

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Steve Hannula
~~SHERL CHAPMAN~~
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1896 N EAGLE RD
EAGLE ID 83616

ID DEPT ENV QUALITY
PO BOX 83720
BOISE ID 83706

Lexington Hills / Floating Feather mailing List

Comment Letters

IDAHO DEPARTMENT OF WATER RESOURCES

Water Application Report 63-31689

WATER RIGHT NUMBER: 63-31689

Owner Type	Name and Address
Current Owner	ARIES DEVELOPMENT LLC PO BOX 6887 BOISE, ID 83707

Priority Date: 01/07/2003

Basis:

Status: Active

Source: GROUND WATER

Tributary

Beneficial Use	From	To	Diversion Rate	Annual Volume
AESTHETIC	10/01	04/01	0.950 CFS	
AESTHETIC STORAGE	01/01	12/31		60.70 AF
		Total Diversion:	0.950 CFS	60.70 AF

Location of Point(s) of Diversion

GROUND WATER NE1/4SE1/4 Sec. 4, Twp 04N, Rge 01E, B.M.

ADA County

Place of Use

AESTHETIC

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
04N	01E	4									X		X	X	X	X	X	X	

AESTHETIC STORAGE

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
04N	01E	4									X		X	X	X	X	X	X	

Conditions of Approval:

Remarks:

IDAHO DEPARTMENT OF WATER RESOURCES

Water Application Report 63-31689

Comments:

1. lgraves 5/29/2003 Legal Notice Remarks
Comment: Mitigation is proposed for consumptive use.
Water bearing zone to be appropriated is from 80 to 200 feet.

2. lgraves 5/29/2003 Comment/Analysis
Comment: Priority date advance to date additional info was received.

Dates and Other Information:

Application Received Date: 1/7/2003
Application Denied Date:
Last Date of Beneficial Use:
Extension End Date:
Protest Deadline Date:
Number of Protests: 0
Enlargement Use Priority Date:
Enlargement Statute Priority Date:
State or Federal:
Owner Name Connector:
Water District Number:
Generic Max Rate Per Acre:
Generic Max Volume Per Acre:
Application Type: New Appropriation
Applicant Remarks: See attached narrative and mitigation plan.
Other Water Rights: 63-5087 (transfer for mitigation)
Time to Complete Works: 5
Transfer Affected Description:
Transfer Affected Contracts:
Old Transfer Number:
Transfer Reason:
Transfer Return Flows:
Swan Falls Trust or Nontrust:
Swan Falls Dismissed:
DLE Act Number:
Carey Act Number:
Mitigation Plan: False

Element Reviewed/Verified Dates:

Element	Last Reviewed Date	Reviewer	Last Verified Date	Verifier	Status

Verification Log:

Element	Date Time Stamp	Reviewer	Log text

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR PERMIT NO. 63-31689 AND APPLICATION FOR TRANSFER NO. 70604 IN THE NAME OF ARIES DEVELOPMENT	**NOTICE OF PREHEARING CONFERENCE**

On December 11, 2002 Aries Development filed with the Department of Water Resources (IDWR) an application for permit to appropriate the public waters of the State of Idaho and an application for transfer of a water right. The applications were protested by the City of Eagle, Land Consultants, Inc., Downing Downs Subdivision and Michael Chase. Alfred Thornton protested application for permit no. 63-31689 and the Eagle Water Co. filed a petition to intervene for application for permit no. 63-31689.

IDWR has scheduled a conference for the protests to be held on **Monday, August 11, 2003 at 2:00 p.m. at the Idaho Department of Water Resources, Western Region, 2735 Airport Way, Boise, Idaho 83705.** The conference will be held in accordance with provisions of Chapters 2 and 17, Title 42, and Chapter 52, Title 67, of the Idaho Code, the adopted Rules of Procedure of the Department of Water Resources, and Rules 40 and 45 of the adopted Rules of Water Appropriation of the Department of Water Resources.

The conference will be conducted in a facility that satisfies the accessibility requirements of the Americans with Disabilities Act. If you require special accommodations in order to attend, participate in or understand the conference, please advise IDWR at least ten (10) days prior to the conference.

Dated this 31st day of July 2003.

Gary Spackman

NOTICE OF PREHE

notice Prehearing
Conf. 8-11-03

CERTIFICATE OF MAILING

I hereby certify that on the 31st day of July 2003, I mailed a true and correct copy, postage prepaid, of the Notice of Prehearing Conference to those listed:

Sue Taylor
Senior Secretary

MICHAEL J CHASE
3482 HWY 30 W
NEW PLYMOUTH ID 83655

MICHAEL J SIELER
DOWNING DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

MARK BUTLER
LAND CONSULTANTS INC
1640 W WASHAM RD
EAGLE ID 83616

CITY OF EAGLE
C/O TAMMY ZOKAN
225 N 9TH ST STE 420
BOISE ID 83702

ALFRED & WANDA THORNTON
9601 PRAIRIE RD
BOISE ID 83714

INTERVENOR

EAGLE WATER CO
PO BOX 455
EAGLE ID 83616

CONFERENCE AND HEARING PROCEDURE

APPLICATION FOR PERMIT

Section 42-203A, Idaho Code, requires the department to consider the following issues in connection with an application for permit:

1) Will the proposed appropriation injure other water rights?

2) Is the proposed water supply sufficient for the purpose for which it is sought to be appropriated?

3) Was the application made in good faith or for delay or speculative purposes?

4) Does the applicant have sufficient financial resources with which to complete the proposed project?

5) Is the proposed appropriation in the local public interest, which is defined as the affairs of the people in the area directly affected by the proposed use?

6) Is the proposed use contrary to conservation of water resources within the state of Idaho?

BURDEN OF PROOF

The applicant has the initial burden of proof on issues 1, 2, 3, 4, & 6 above and must provide evidence for the department to evaluate these criteria.

The initial burden of proof on issue 5 above lies with both the applicant and protestant as to factors which they are most knowledgeable and cognizant. The applicant has the ultimate burden of persuasion, however, for this issue.

PROCEDURE

The department generally conducts an informal conference with the parties to determine the issues and to try to settle a protested matter before a hearing is scheduled. If a hearing is held, the department will issue a written decision based on the hearing record.

CONFERENCE

The purpose of a prehearing conference is to provide the opportunity for the parties and the department to familiarize themselves with a contested matter and to attempt to resolve the matter. At the conference, the department may also formulate and simplify the issues, identify documents to avoid unnecessary proof, exchange proposed exhibits or prepared testimony, limit witnesses, discuss settlement offers, schedule hearings, establish procedure at hearings and address other matters that may expedite orderly conduct and disposition of the proceeding or its settlement.

HEARING

The department will tape record the hearing. Copies of a hearing tape are available upon written request and the payment of the cost of reproducing the tape.

The hearing likely will be conducted by a hearing officer appointed by the Director rather than the Director himself. If so, the hearing officer will prepare a preliminary order for the Director's consideration. Parties can file exceptions to a preliminary order, briefs in support of the exceptions or may request oral argument. Parties may seek judicial review of any final order issued by the Director.

Parties may, by written stipulation, waive their right to a preliminary order, particularly when a shortened decision process is desirable or necessary. Such a waiver does not eliminate any rights of the parties in connection with the final order of the Director and judicial review of the order.

EXHIBITS

A party who plans to offer an exhibit as part of the hearing record must provide a copy of the proposed exhibit to the parties and to the hearing officer prior to any scheduled hearing.

AMERICANS WITH DISABILITIES ACT

Any hearing scheduled will be conducted in a facility that meets the accessibility requirements of the Americans with Disabilities Act. If you require special accommodations in order to attend, participate in or understand the hearing please advise the department within ten (10) days prior to the hearing.

CONFERENCE AND HEARING PROCEDURE

APPLICATION FOR TRANSFER

Section 42-222, Idaho Code, requires the department to consider the following issues in connection with an application for transfer:

1) Will the proposed transfer injure other water rights?

2) Will the proposed transfer constitute an enlargement in use of the original right?

3) Is the proposed transfer in the local public interest, where local public interest is defined as the affairs of the people in the area directly affected by the proposed use?

4) Is the proposed use contrary to conservation of water resources within the state of Idaho?

BURDEN OF PROOF

The applicant has the initial burden of proof of issues 1, 2 and 4 above and must provide evidence for the department to evaluate these criteria.

The initial burden of proof on issue 3 above lies with both the applicant and protestant as to factors which they are most knowledgeable and cognizant. The applicant has the ultimate burden of persuasion, however, for this issue.

PROCEDURE

The department generally conducts an informal conference with the parties to determine the issues and to try to settle a protested matter before a hearing is scheduled. If a hearing is held, the department will issue a written decision based on the hearing record.

CONFERENCE

The purpose of a prehearing conference is to provide the opportunity for the parties and the department to familiarize themselves with a contested matter and to attempt to resolve the matter. At the conference, the department may also formulate and simplify the issues, identify documents to avoid unnecessary proof, exchange proposed exhibits or prepared testimony, limit witnesses, discuss settlement offers, schedule hearings, establish procedure at hearings and address other matters that may expedite orderly conduct and disposition of the proceeding or its settlement.

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State of Idaho
DEPARTMENT OF WATER RESOURCES
Western Region, 2735 Airport Way, Boise, Idaho 83705-5082 - (208) 334-2190
FAX (208) 334-2348

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

July 31, 2003

To: Those Protestants on the Attached List

Re: Application for Permit No. 63-31689 and Application for Transfer No. 70604 in the Name of Aries Development

Dear Protestants:

This office acknowledges receipt of your protest to the issuance of a permit pursuant to the above referenced applications.

The following are the criteria the department must consider in either approving or denying an application for permit (Section 42-203A, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?
2. Is the proposed water supply insufficient for the purposes intended?
3. Is the application made in good faith or for delay or speculative purposes?
4. Has the applicant sufficient financial resources with which to complete the project?
5. Will the proposed use under this permit conflict with the local public interest?
6. Will the proposed use be contrary to conservation of water resources within the state of Idaho?

The following are the criteria we consider when either approving or denying an application for transfer.

1. Will other water rights be injured by the transfer?
2. Will the change constitute an enlargement in the use of the original right?
3. Will the proposed change conflict with the local public interest?
4. Will the proposed use be contrary to conservation of water resources within the state of Idaho?

Enclosed is a Notice of Prehearing Conference scheduled for August 11, 2003 at the Idaho Department of Water Resources, Western Region, 2735 Airport Way, Boise, Idaho 83705. At the conference, the department will review possibilities for resolution of the protest. If the matter cannot be resolved at that time, a formal hearing will be arranged for a future date.

The department suggests you contact the applicant(s) directly in an effort to determine what is proposed by the application and to attempt to resolve the protest prior to the prehearing conference. Direct, sincere conversation between the parties prior to initiation of formal proceedings can often resolve a protest.

If this office can be of further assistance, please contact us.

Sincerely,

Gary Spackman

GS:st
Encl: Copy of Application
Notice of Prehearing Conference

MICHAEL J CHASE
3482 HWY 30 W
NEW PLYMOUTH ID 83655

MICHAEL J SIELER
DOWNING DOWNS SUB
1125 STEEPLE VIEW DR
EAGLE ID 83616

MARK BUTLER
LAND CONSULTANTS INC
1640 W WASHAM RD
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CITY OF EAGLE
C/O TAMMY ZOKAN
225 N 9TH ST STE 420
BOISE ID 83702

EAGLE WATER CO
PO BOX 455
EAGLE ID 83616

ALFRED & WANDA THORNTON
9601 PRAIRIE RD
BOISE ID 83714

State of Idaho
DEPARTMENT OF WATER RESOURCES
Western Region, 2735 Airport Way, Boise, Idaho 83705-5082 - (208) 334-2190
FAX (208) 334-2348

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

July 31, 2003

ARIES DEVELOPMENT
PO BOX 6887
BOISE ID 83707

Re: Application for Permit No. 63-31689 and Application for Transfer No. 70604 in the Name of Aries Development

Dear Applicant:

Enclosed are copies of protests filed against the issuance of a permit pursuant to the above-referenced applications.

The following are the criteria the department must consider in either approving or denying an application for permit (per Section 42-203A, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?
2. Is the proposed water supply insufficient for the purposes intended?
3. Is the application made in good faith or for delay or speculative purposes?
4. Has the applicant sufficient financial resources with which to complete the project?
5. Will the proposed use under this permit conflict with the local public interest?
6. Will the proposed use be contrary to conservation of water resources within the state of Idaho?

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1. Will other water rights be injured by the transfer?
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Enclosed is a Notice of Prehearing Conference scheduled for August 11, 2003 at the Idaho Department of Water Resources, Western Region, 2735 Airport Way, Boise, Idaho 83705. At the conference, the department will review possibilities for resolution of the protest. If the matter cannot be resolved at that time, a formal hearing will be arranged for a future date.

The department suggests you contact the protestant(s) directly in an effort to determine what is in dispute in the application and to attempt to resolve the protest. Direct, sincere conversation between the parties prior to initiation of formal proceedings can often resolve a protest.

Please contact this office if you have questions regarding this procedure.

Sincerely,

Gary Spackman

GS:st

Enclosure: Copy of protest(s)
Notice of Prehearing Conference

W030753
50 of

BRUCE M. SMITH, ISB #3425
TAMMY A. ZOKAN, ISB #5450
MOORE SMITH BUXTON & TURCKE, CHARTERED
Attorneys at Law
225 North 9th Street, Suite 420
Boise, Idaho 83702
Telephone: (208) 331-1800
Facsimile: (208) 331-1202

RECEIVED
JUL 2 1 2003
WATER RESOURCES
WESTERN REGION

BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE STATE OF IDAHO

In the Matter of Aries Development LLC's Application to Appropriate Water For Aesthetic Purposes	)))	**NOTICE OF PROTEST**

The City of Eagle ("Protestant"), by and through counsel of record, MOORE SMITH BUXTON & TURCKE, CHARTERED, file this protest to Aries Development LLC's ("Aries") Application to appropriate groundwater for aesthetic use and aesthetic storage. It appears certain rights and interests of Protestant may be impacted. The grounds for this Protest include, but are not limited to, the following:

(1) The appropriation may injure the Protestant's existing water rights and the rights of others; and

(2) The appropriation may injure the Protestant's ability to plan for anticipated future needs; and

(3) The appropriation may conflict with the local public interest; and

(4) The appropriation may be inconsistent with the conservation of water resources in the state of Idaho.

City of Eagle
Protest

Protests

RESPECTFULLY SUBMITTED this 21 day of July, 2003.

TAMMY A. ZOKAN
MOORE SMITH BUXTON & TURCKE, CHARTERED

Attorneys for the City of Eagle

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on the 21 day of July, 2003, I caused to be served a true and correct copy of the forgoing NOTICE OF PROTEST by the method indicated below, addressed to the following:

Aries Development LLC
P.O. Box 6887
Boise, Idaho 83707

X via U.S. MAIL
____ via HAND DELIVERY
____ via OVERNIGHT MAIL
____ via FACSIMILE

Idaho Department of Water Resources
2735 Airport Way
Boise, Idaho 83705-5082

____ via U.S. MAIL
X via HAND DELIVERY
____ via OVERNIGHT MAIL
____ via FACSIMILE

TAMMY A. ZOKAN

November 26, 1999

W030744
$150.00

RECEIVED
JUL 2 1 2003
WATER RESOURCES
WESTERN REGION

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
NOTICE OF PROTEST

This form may be used to file a protest with the department under sections 42-108B, 42-203A, 42-203C, 42-211, 42-222 and 42-224, Idaho Code. The department will also accept a timely protest not completed on this form if it contains the same information.

1. Matter being protested: Application No. 63-31689 in the name of Aries Development

2. Name of protestant Homeowners of Downing Downs Subdivision (See attached sheets for signatures).

3. Protestant's Representative for service (If different than protestant)

4. Service mailing address 1125 Steeple View Drive, Eagle, ID 83616

5. Service telephone no. 208 939-7306

6. Basis of protest (including statement of facts and law upon which the protest is based)

See attached sheet

(additional pages may be attached to describe nature of the protest)

7. What would resolve your protest?

See attached sheet

I hereby, acknowledge that if I, or my designated representative, fails to appear at any regularly scheduled conference or hearing in the matter of which I have been notified at the address above, the department may issue a notice of proposed default against me in this matter for failure to appear. I also verify that I have served a copy of this protest upon the applicant.

Signed this 21 day of July, 2003.

Protestant: Michael J. Sieler (Spokesperson)

Protestant's Representative

Downing Downs Sub. No. Protest

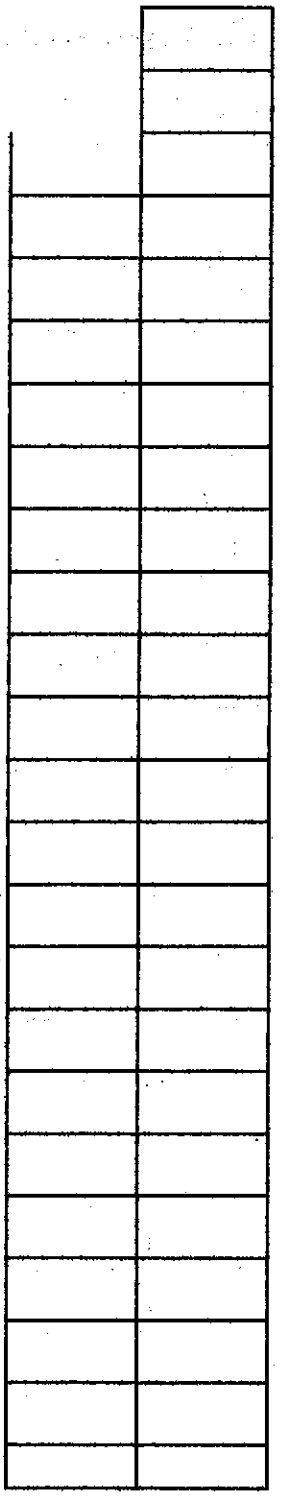
Additional Information to Protest of Application 63-31689

Item 6:
Referencing Idaho Code, Section 42-202B.3, "Local Public Interest." We believe that the requests under consideration, Application 63-31689 and 70604, by the Department of Water Resources will adversely affect the health, welfare, and well being of at least 100 families in the Downing Downs Subdivision and the many other households within the area this request will impact. The local public interest is simply not being served by these requests. Specifically, we believe that this request when fulfilled to its full capability will undermine the integrity of our water wells and that of the aquifer in general. We question the long-term impact of lowering the water table and the secondary consequences to the aquifer. The use of water for aesthetic purposes of a small group for filling ponds is not consistent with the conservation of water resources within the State of Idaho. The use of water for aesthetic purposes fo a small group for filling ponds is not in the public interest of this community of Eagle, particularly with the impending water concerns for this population.

Item 7:
As a neighborhood we have discussed and searched for areas of resolution or possible compromise with respect to the basis of the requests under consideration. We understand the nature of the request and the need to maintain, as well as to enhance, the economic integrity of our town, neighborhoods, and individual properties. However, the requests before you are inherently superficial relative to the local public interest. Therefore, we can only recommend that the Department of Water Resources deny these requests.

We the undersigned property owners of Downing Downs subdivision protest application 63-31689

Name	Address	Phone number	Signature
Pamela Patchin	1024 Arlington	939-4636	Pamela Patchin
Tom Loy	881 Steeplevieu Dr	939-6985	Tom Loy
Warren Keller	933 Steepleview	939-0027	Warren Keller
Ben Strawn	965 Steeple View	939-0365	Ben Strawn
Jean Strawn	965 Steepleview	939-0365	Jean Strawn
ROBERT KREGG	966 STEEPLE VIEW	939-7405	Robert Kregg
Michelle Kregge	966 Steeple View Dr	939-7405	Michelle Kregge
Douglas Jones	934 Steeple View Dr	939-7188	Douglas Jones
Traci Jones	934 Steeple View Dr.	939-7188	Traci Jones
Karen Wardwell	749 Steeple View Dr.	939-6220	Karen Wardwell
CATHERINE HEPNER	642 Steeple View DR	938-2633	C Hepner
Terry Hepner	642 Steeple View DR	938-2633	Terry Hepner
Vickie Stoppello	782 Arlington	939-6218	V. Stoppello
Duane Olsen	847 Arlington Dr	939-5838	Duane Olsen
Jamie Olsen	" " "	"	Jamie Olsen
Alan Hill	936 ARLINGTON	938-4159	A Hill
Jay Hill	"	"	Jay Hill
Douglas Patchin	1024 Arlington Dr.	939-4636	Douglas Patchin
Laurie Skinner	1082 N. Arlington Dr.	938-1646	Laurie Skinner
David Skinner	" "	" "	David C Skinner
BERNICE Johnson	970 FREAKNESS Dr.	939-8019	Bernice Johnson
Calliope Nicholas	1042 Steeple View Dr	939-7580	Calliope Nicholas



We the undersigned property owners of Downing Downs subdivision protest application 63-31689

Name	Address	Phone Number	Signature
Patrick G. Miller	959 Preakness	939-3322	
Martha Taylor	932 Hialeah	939-3351	
Russell Buschert	235 W Floating Feather	939-7213	
Janet Buschert	235 W Floating Feather	939-7213	
Linda Vance	1067 Pimlico	9398705	
Laurie Campbell	1023 Pimlico	939-2664	
Ann Boyd	911 Pimlico	939-8977	
Robert E Stearns	912 Pimlico	939-2912	
Shirlee Gilbreath	948 Pimlico	939-8984	
Jean Gibbons	948 Pimlico	939-8984	
Wendy Potter	1032 Pimlico	939-1305	
Ken Potter	1032 Pimlico	939-1305	
Wesley D. Babendure	1043 Downing	939 2239	
Patricia L Babendure	1043 Downing	939 2239	

We the undersigned property owners of Downing Downs subdivision protest application 63-31689

Name	Address	Phone Number	Signature
George BRECK SKINNER	786 N. Arlington DR, EAGLE	939-7796	George B Skinner
Larry C Brown	1020 Steeple View	9397175	Larry C. Brown
MIKE & MARY SILVERMAN	830 Steepleview	939-8157	Mike Silverman
Mary Frangiosa	830 Steeple View	841-1265	Mary Frangiosa
GARRY J BEHUNIN	566 HIALEAH	939-6264	Garry J Behunin
Marvin O'Heron	1036 Preakness	939-4238	Marvin O'Heron
MARY O'HERON	1036 PREAKNESS	939-4238	Mary O'Heron
Harold Edwards	865 Preakness Dr. Eagle Id. 83616	938-2440	Harold Edwards
Dennis Jensen	1050 Hialeah	939-2545	Dennis A Jensen
BILL KING	1102 N ARLINGTON	939-4561	[illegible]
LeRoy KNIGHTON	1035 PREAKNESS	939-6123	LeRoy Knighton
ELISE HARRISON	882 Steeple View	938-5122	Elise W. Harrison
Steve Furchak	1161 Hialeah Cir	939-0567	[illegible]
DENNIS DEASON	976 DOWNING	939-6840	Dennis Deason
DENNIS HARRISON	882 STEEPLE VIEW	938-5122	Dennis Harrison
Donna Deason	976 Downing	939 6840	Donna Deason
NANCI BLACKMARR	980 HIALEAH	939-1479	Nanci Blackmarr
Gilbert Simpson	837 Hialeah	939-0327	[illegible]
Patricia Marks	966 W. Hialeah Dr.	938-0497	Patricia Marks
RICHARD MARKS	966 W HIALEAH DR	794-0707	[illegible]
KAY K. JENSEN	1050 HIALEAH Dr	939-2545	Kay K. Jensen
MIKE SIELER	125 STEEPLE VIEW	939 7306	[illegible]
Teresa Nicholas	971 Preakness	938-2161	Teresa Nicholas
Geneva A Trent	942 Preakness	939-8206	Geneva A Trent

November 26, 1999

50.00
W0307755 +56

RECEIVED
JUL 21 2003
WATER RESOURCES
WESTERN REGION

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
NOTICE OF PROTEST

This form may be used to file a protest with the department under sections 42-108B, 42-203A, 42-203C, 42-211, 42-222 and 42-224, Idaho Code. The department will also accept a timely protest not completed on this form if it contains the same information.

1. Matter being protested: Application for No. 63-31689 in the name of Aries Development

2. Name of protestant Mark L. Butler and impacted landowners referenced by signatures on attached sheets.

3. Protestant's Representative for service (If different than protestant)

4. Service mailing address 1640 W. Washam Road, Eagle, ID 83616

5. Service telephone no. 208 794-3063

6. Basis of protest (including statement of facts and law upon which the protest is based)

Idaho Code, Section 42-202B.3, "Local Public Interest." Negative impacts on ground water levels. Wells in area have gone dry and further depletion of ground water especially such a large volume for aesthetic purposes is an undue burden upon the area and environment.

(additional pages may be attached to describe nature of the protest)

7. What would resolve your protest?

Deny permit. Aries can provide other open space amenities such as green space/soccer fields versus ponds

I hereby, acknowledge that if I, or my designated representative, fails to appear at any regularly scheduled conference or hearing in the matter of which I have been notified at the address above, the department may issue a notice of proposed default against me in this matter for failure to appear. I also verify that I have served a copy of this protest upon the applicant.

Signed this 21 day of July, 2003.

Mark L Butler

Protestant: Mark L. Butler (Representative)

Mark L Butler

Protestant's Representative

Butler Protest

NOTE:

A protestant is required to timely file a protest with the department together with a $25.00 protest fee for each application being protested in order for the protestant to be considered a full party by the department. In addition, the department's Rule of Procedure, IDAPA 37.01.01203, requires a protestant to send a copy of a protest to the applicant.

INSTRUCTIONS

1. The matter being protested must be clearly identified. A typical matter is identified by the application number such as "Application for Permit No. _____ in the name of _____" or "Application for Transfer No. _____ in the name of _____."
2. Show the name of the protestant. Only one (1) protestant may be shown per protest form. If this protest form is signed by more than one person, the hearing officer will consider the first signer as the official protestant and the representative for service of documents.
3. If the protestant is represented by an attorney or other authorized representative, show the representative's name. The department then will serve documents on the representative and upon the protestant if specifically requested.
4. Show the address where the department is to serve the documents. This should be the address of the authorized representative unless the protestant does not designate a representative.
5. Show the telephone number of the authorized representative unless the protestant does not designate a service representative.
6. Specifically describe the nature of the protest.
7. Describe the relief being sought by the protestant.

FOR DEPARTMENT USE ONLY

Received by _____ Date _____ Time _____

$25.00 fee Receipted by _____ # _____ Date _____

We the undersigned property owners affected hereby protest application 63-31689

Name	Address	Phone No.	Signature
C R Montague	199 Rooster Dr Eagle ID	938-0256	C R Montague
C R Montague			
James L. Burton	1846 N. Eagle Rd	934-0455	James L Burton

We the undersigned property owners affected hereby protest application 63-31689

Name	Address	Phone No.	Signature
VICKI L. KOVASH	222 ROOSTER DR	939-7552	Vicki L. Kovash
SHELBY CONRAD	2022 N. EAGLE RD	938-5104	Shelby Conrad

We the undersigned property owners affected hereby protest application 63-314689

372-0560W

Name	Address	Phone No.	Signature
Monty G. Marchus	605 E. Rooster Ct	939-4704	Monty G. Marchus
Maggie Marchus	"	"	Maggie Marchus
Michael L. McClendon	236 Rooster Dr	939-6688	
Michael L. McClendon	236 Rooster Dr	939-6688	Michael L. McClendon
Cathy McClendon	236 Rooster Dr.	939-6688	Catherine G. McClendon
Hunter Fearon	222 Rooster Dr	939-7552	Hunter Fearon
Bob Southworth	51 Rooster Dr.	939-4028	Bob Southworth

We the undersigned property owners affected hereby protest application 63-311689

Name	Address	Phone No.	Signature
Roger Sleger	575 Rooster	939-8743	Roger Sleger
WILLIAM WEILER	425 ROOSTER	939-1741	
Jon Burke	187 Rooster	939-0287	
EF STARK	133 ROOSTER DR	939-0054	
Kathy Seamons	50 Rooster	939-8755	Kathy Seamons

We the undersigned property owners affected hereby protest application 63-311689

Name	Address	Phone No.	Signature
David Kent	355 Rooster Dr, Eagle	939-9386	D. Kent
Carol L. Kent	355 Rooster Dr. Eagle	939-9386	Carol Kent

We the undersigned property owners affected hereby protest application 63-311689

Name	Address	Phone No.	Signature
ROBERT E. YEARSLEY	505 E. ROOSTER CT.	939-1211	Robert E. Yearsley

[redacted] 0720
#50

Michael J. Chase
3482 Hwy 30 W
New Plymouth, ID 83655

July 15, 2003

Director
Idaho Department of Water Resources
Western Region
2735 Airport Way,
Boise, ID 83705-5082

RE: Protest to Application for Water Right Permit No. 63-31689 (Aries Development)

This protest is being filed on behalf of Kathyrn L. Cock, Charles W. Chase, Michael J. Chase, William D. Chase, and James L. Chase.

This protest is being filed pursuant to Idaho Code Section 42-302A, to the Application for Water Right No. 63-31689, in the name of Aries Development LLC. The basis for this protest includes, but is not limited to the following:

1. The application, if approved, will reduce the quantity of water under existing water rights;
2. The water supply is insufficient for the purpose for which it is sought to be appropriated;
3. The application conflicts with the local public interest; and
4. The Application is contrary to the conservation of water resources.

Enclosed with this protest is a check in the amount of $25.00 as payment for the protest filing fee.

Very truly yours,

Michael J. Chase

Michael J. Chase

Cc:
Aries Development LLC
PO Box 6887
Boise, ID 83707

Chase "Family" Protest

W030725-Kg
$25.00

State of Idaho
Dept. of Water Resources
Western Region
2735 Airport Way
Boise, Idaho

RECEIVED
JUL 16 2003
WATER RESOURCES
WESTERN REGION

Karl J. Dreher, Director

Re: Water Right Applications
Aries Development L.L.C.
Identification No. 63-31689

Dear Mr. Dreher,

My name is Alfred Thornton. I live at 9601 Prairie Road. My wife, Wanda, and I object very strongly to the use of the well water in question, for aesthetic purposes.

Ground water in this area is very precious and in scarce supply. Almost every time a new well is drilled, someone up here has well problems. Also, the use of the water for asthetic purposes after the irrigation season, already lowers the aquifer in most wells.

We have two domestic wells for our one acre. The one with water is 235 ft. deep, from which I can water my large lawn for only three hours before it runs out. The other one, which we had drilled after we started having well problems, is over 400 ft. deep and can furnish such a small amount of water, not enough to use, so it is a "dry hole". We put $10,000 into this useless hole.

The mosquito abatement program isn't working too well in this area anyway and that situation is only made worse by ponds here and there for aesthetic purposes.

I state again, that we strongly object to using ground water purely for aesthetic purposes. We think it is a waste of this limited natural resource. We think you should conserve in this instance.

We urge you to reject this application.

Sincerely Yours,
Alfred E. Thornton
Alfred E. Thornton
Wanda C. Thornton
Wanda C. Thornton

Thornton
Protest

The Idaho Statesman

P.O. Box 40, Boise, Idaho 83707-0040

LEGAL ADVERTISING PROOF OF PUBLICATION

Account #	DTI#	Identification	Amount:
047628	904606	APPLICATION 63-31689	$143.00

Attention	P.O. #	Run Dates
SUE TAYLOR		JULY 3, 10, 2003

IDAHO DEPT. WATER RESOURCES WEST
2735 AIRPORT WY.
BOISE, ID 83705

Number of Lines: 3 X 32

Affidavit: 1

Legal #: 16796

RECEIVED
JUL 16 2003
WATER RESOURCES
WESTERN REGION

16796

LEGAL NOTICE

The following application(s) have been filed to appropriate the public waters of the State of Idaho:

63-31689
ARIES DEVELOPMENT LLC
PO BOX 6887
BOISE ID 83707

Point(s) of Diversion	NESE S4	T04N R01E	ADA County Source GROUND WATER
Use:	AESTHETIC	10/01 To 04/01	0.95 CFS
Use:	AESTHETIC STORAGE	01/01 To 12/31	60.7 AFA
Total Diversion:		0.95 CFS	60.7 AFA
Date Filed:	01/07/2003		
Place Of Use:	AESTHETIC	T04N R01E S4 NESW SWSW SESW NESE NWSE SWSE SESE	
Place Of Use:	AESTHETIC STORAGE	T04N R01E S4 NESW SWSW SESW NESE NWSE SWSE SESE	

Remark: Mitigation is proposed for consumptive use.
Water bearing zone to be appropriated is from 80 to 200 feet.
Permits will be subject to all prior water rights. Protests may be submitted based on the criteria of Sec 42-203A, Idaho Code.
Any protest against the approval of this application must be filed with the Director, Dept. of Water Resource, Western Region, 2735 Airport Wy, Boise ID 83705 together with a protest fee of $25.00 for each application on or before 07/21/2003. The protestant must also send a copy of the protest to the applicant.

KARL J. DREHER, Director

Pub. July 3, 10, 2003

JANICE HILDRETH, being duly sworn, deposes and says: That she is the Principal Clerk of *The Idaho Statesman,* a daily newspaper printed and published at Boise, Ada County, State of Idaho, and having a general circulation therein, and which said newspaper has been continuously and uninterruptedly published in said County during a period of twelve consecutive months prior to the first publication of the notice, a copy of which is attached hereto: that said notice was published in The Idaho Statesman, in conformity with Section 60-108, Idaho Code, as amended, for:

TWO

[X] consecutive weekly [ ] single

[ ] consecutive daily [ ] odd skip insertion(s)

beginning issue of: JULY 3, 2003

ending issue of: JULY 10, 2003

Janice Hildreth

STATE OF IDAHO)
.ss
COUNTY OF ADA)

On this 10 day of JULY in the year of 2003 before me, a Notary Public, personally appeared before me Janice Hildreth known or identified to me to be the person whose name subscribed to the within instrument, and being by me first duly sworn, declared that the statements therein are true, and acknowledged to me that she executed the same.

Tami Wilkins

Notary Public for Idaho
Residing at: Boise, Idaho
My Commission expires: 9-30-08

TAMI WILKINS NOTARY PUBLIC STATE OF IDAHO

State of Idaho
DEPARTMENT OF WATER RESOURCES
Western Region, 2735 Airport Way, Boise, Idaho 83705-5082 - (208) 334-2190
FAX (208) 334-2348

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

June 30, 2003

FARMERS UNION DITCH CO
4310 LINDER RD
EATLE ID 83616

Re: Water Right Applications

Enclosed is a copy of an application(s) that may be of interest to you. Please review the application(s) submit any comments you may have.

This office normally completes the processing of an application within a six-week period and is required to take final action shortly thereafter. However, if you desire to file a formal protest against the approval of this application(s), your written protest along with the $25.00 protest fee must be received in this office by July 21, 2003.

If you have any questions regarding the application, please contact this office.

Sincerely,

Sue Taylor
Senior Secretary

Encl. Copy of Application

State of Idaho
DEPARTMENT OF WATER RESOURCES
Western Region, 2735 Airport Way, Boise, Idaho 83705-5082 - (208) 334-2190
FAX (208) 334-2348

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

June 30, 2003

TO: Those on the Attached List

Re: Water Right Application(s)

Dear Interested Party:

Enclosed is a copy of application(s) that may be of interest to you. Please review the application(s) and submit any comments you may have.

This office normally completes the processing of an application within a six-week period and is required to take final action shortly thereafter. However, if you desire to file a formal protest against the approval of this application(s), your written protest along with the $25.00 protest fee must be received in this office by July 21, 2003.

If you have any questions regarding the application(s), please contact this office.

Sincerely,
Sue Taylor
Senior Secretary

Encl. Copy of Application(s)

State of Idaho
DEPARTMENT OF WATER RESOURCES
Western Region, 2735 Airport Way, Boise, Idaho 83705-5082 - (208) 334-2190
FAX (208) 334-2348

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

June 25, 2003

Legal Notice Department
IDAHO STATESMAN
PO BOX 40
BOISE ID 83707

RE: Transfer No. 70604
Water Right No(s). 63-31689

Dear LEGAL NOTICE DEPARTMENT:

Enclosed you will find a legal notice which we wish to have published in your newspaper on the dates indicated (once a week for two consecutive weekly issues). If you cannot publish the notice on the proposed dates, please contact us immediately.

An affidavit of publication must be submitted to the Department along with the publication bill. Please send the affidavit and bill to this office before 07/21/2003. Your cooperation is appreciated.

Sincerely

Sue Taylor
Senior Secretary

The following application(s) have been filed to appropriate the public waters of the State of Idaho:

63-31689

ARIES DEVELOPMENT LLC
PO BOX 6887
BOISE ID 83707

Point(s) of Diversion NESE S4 T04N R01E ADA County Source GROUND WATER

Use:	AESTHETIC	10/01 To 04/01	0.95 CFS	
Use:	AESTHETIC STORAGE	01/01 To 12/31		60.7 AFA
	Total Diversion:		0.95 CFS	60.7 AFA

Date Filed: 01/07/2003

Place Of Use: AESTHETIC

T04N R01E S4 NESW SWSW SESW NESE NWSE SWSE SESE

Place Of Use: AESTHETIC STORAGE

T04N R01E S4 NESW SWSW SESW NESE NWSE SWSE SESE

Remark: Mitigation is proposed for consumptive use.
Water bearing zone to be appropriated is from 80 to 200 feet.

Permits will be subject to all prior water rights. Protests may be submitted based on the criteria of Sec 42-203A, Idaho Code.

Any protest against the approval of this application must be filed with the Director, Dept. of Water Resource, Western Region, 2735 Airport Wy, Boise ID 83705 together with a protest fee of $25.00 for each application on or before 07/21/2003. The protestant must also send a copy of the protest to the applicant.

KARL J DREHER, Director Published in the Idaho Statesman on July 3 and 10, 2003.