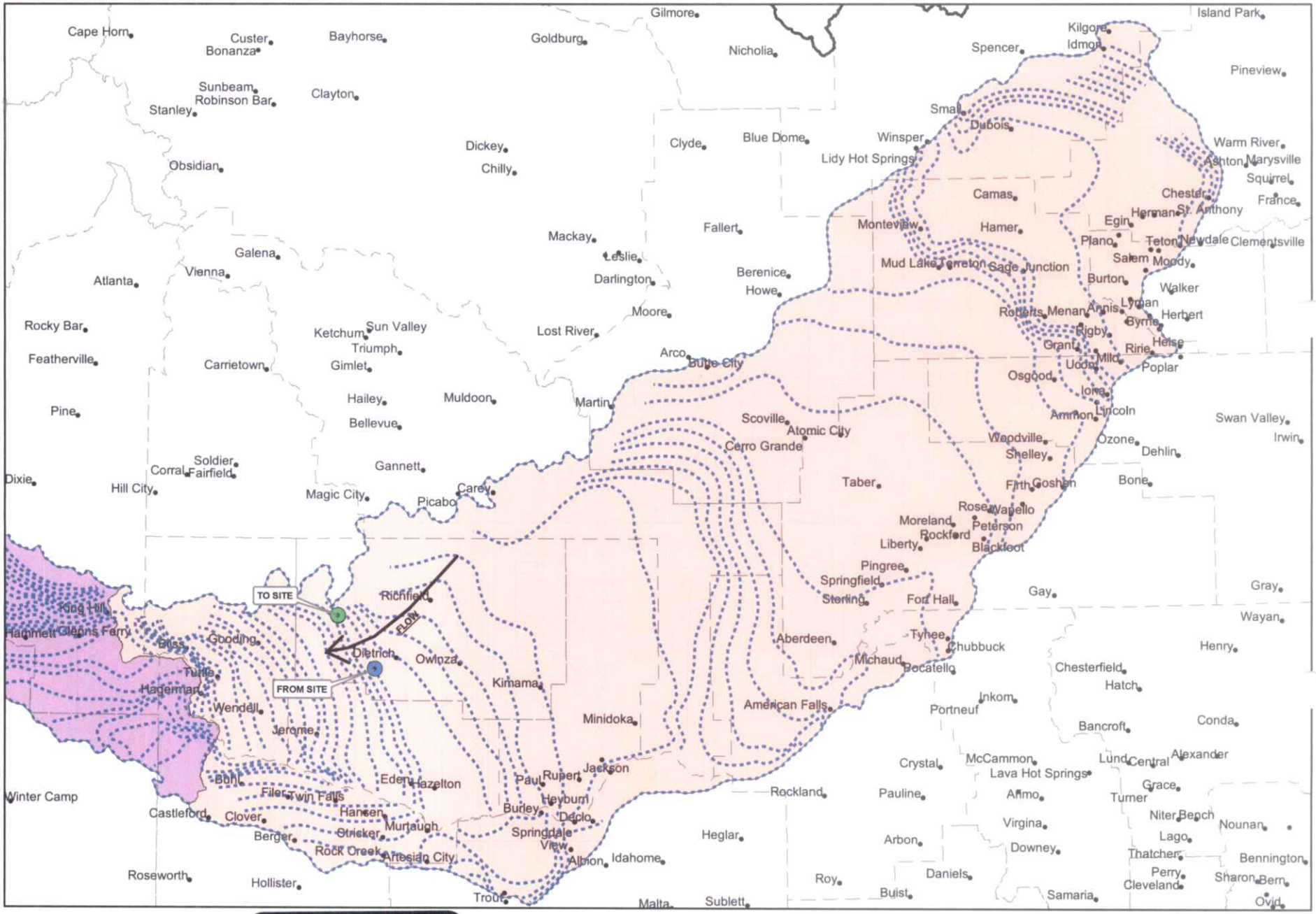
PLEASE REFER TO FILE FOLDER NO. 5

FOR THE CONTINUATION OF THIS WATER RIGHT FILE No. 37-20613

EXHIBIT 1

Applicants
Original
Exhibits.



EXHIBIT

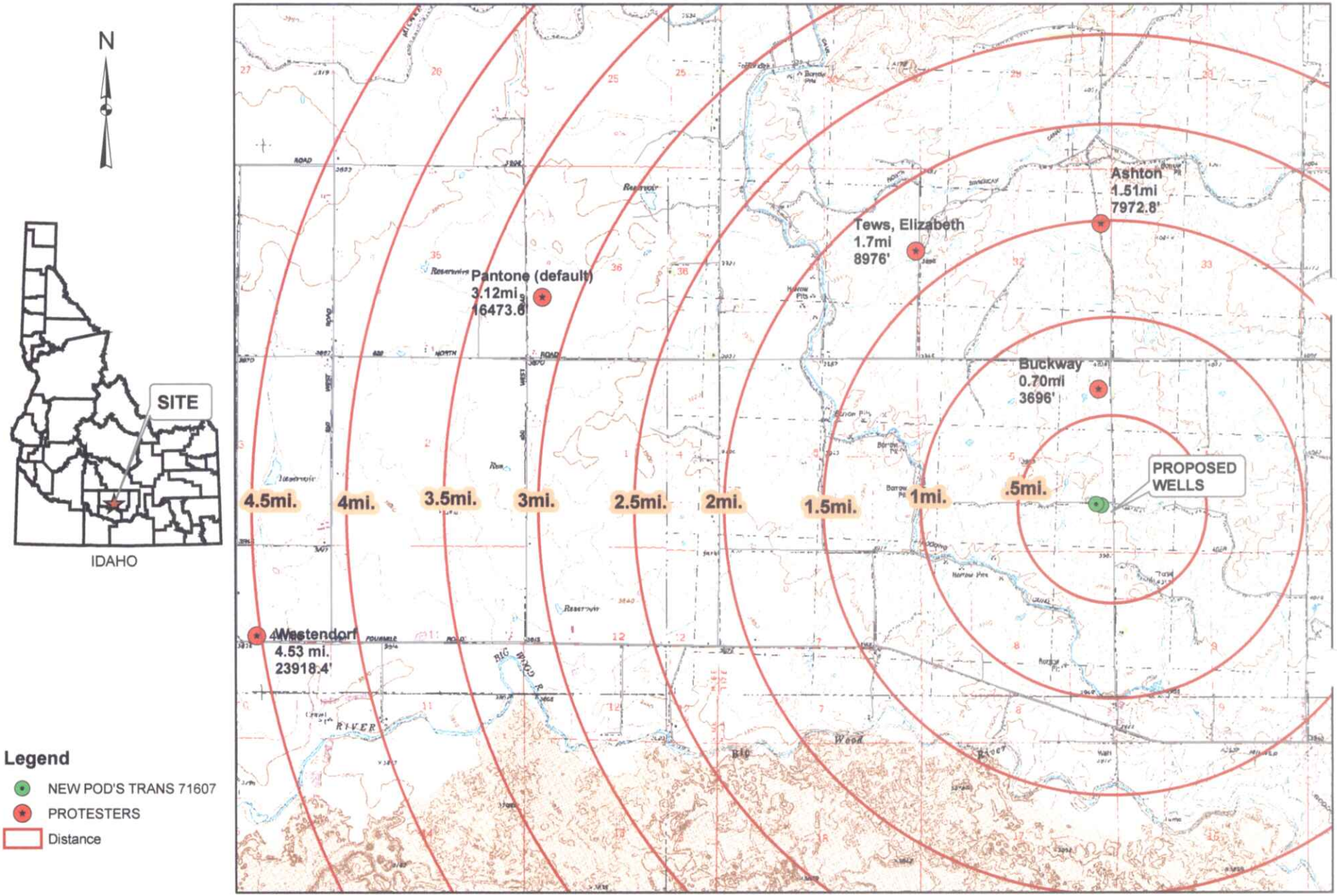
tabbies

1

4-Bros. Dairy, Inc.
Easter Snake River Aquifer - Contours - Flow

Brockway Engineering, PLLC
ALR - April, 28, 2005

EXHIBIT 2



EXHIBIT

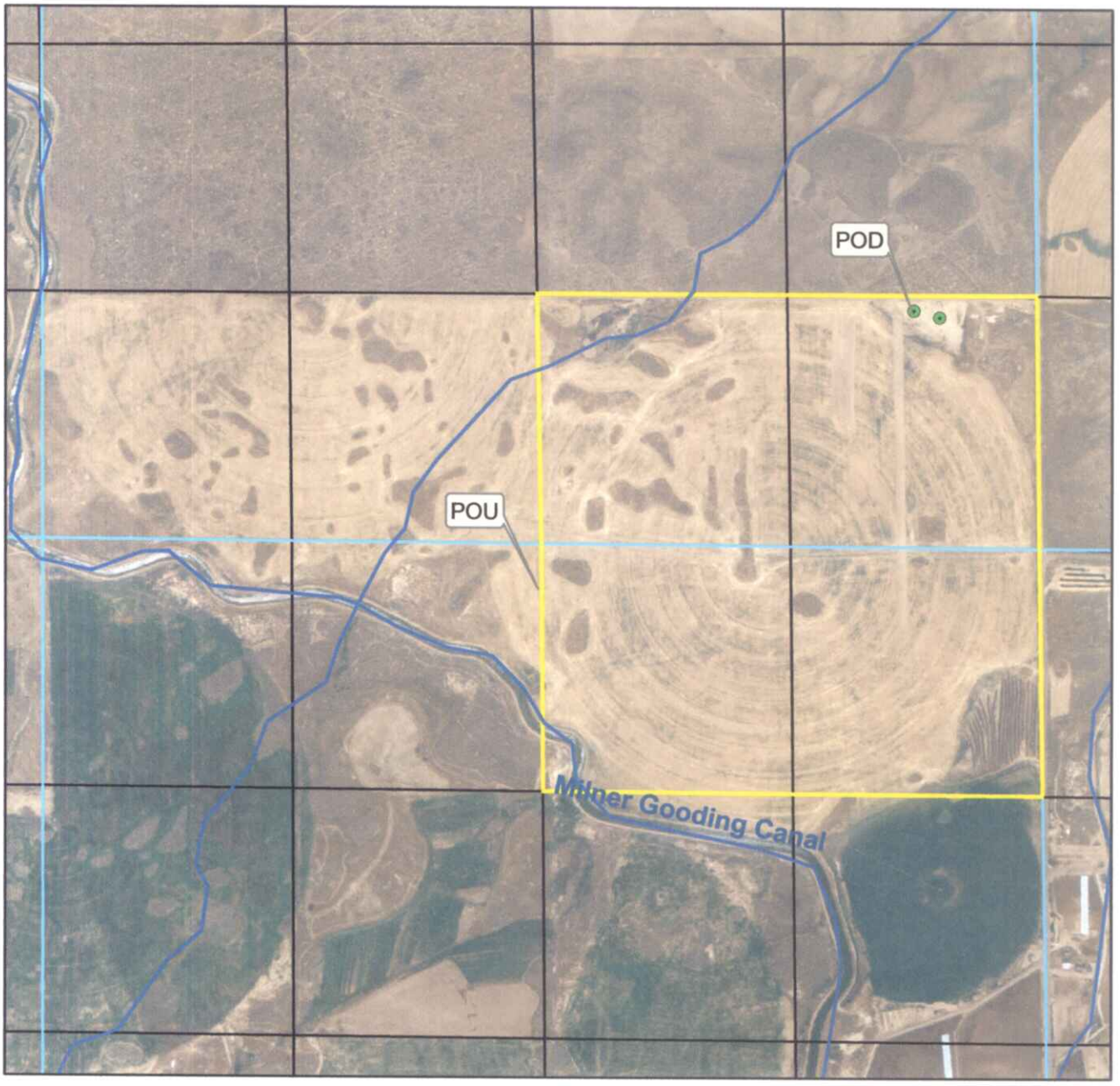
tabbies

2

4-Bros. Dairy, Inc.
Protesters Location
Topographical Map

Brockway Engineering, PLLC
ALR - July 21, 2005

EXHIBIT 3



4-Bros. Dairy, Inc.
SITE LOCATION
2004 NAIP USGS Aerial Photo

Legend

- Place Of Use-Dairy Site
- Points Of Diversion
- Water_Ways
- SECTIONS
- t05s17e

N

Brockway Engineering, PLLC
ALR - JULY 21, 2005

EXHIBIT 3a



FOUR BROTHERS
PROPOSED DAIRY SITE
JULY 2005 OBLIQUE AERIAL

Legend

P.O.U.

P.O.D.

BROCKWAY ENGINEERING, PLLC.
ALR - JULY 21, 2005

EXHIBIT 4

Basin 37
App 68662
Rec 771393
ID 343317

Form 238-7
11/97 JGE

IDAHO DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

C

Office Use Only
Inspected by
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0016654
DRILLING PERMIT NO.
Other IDWR No.

2. OWNER:
Name Andrew Fitzgerald
Address 180 4 Mile Rd.
City Shoshone State ID Zip 83330

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 5 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 9 ____ 1/4 (10 acres) SE 1/4 (40 acres) SE 1/4 (160 acres)
Gov't Lot ____ County Lincoln
Lat: Long:
Address of Well Site 160 4 Mile Rd.
City Shoshone
(Give at least 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
bentonite	0	19	200 Lbs.	dry pour

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s)
Was drive shoe seal tested? ☐ Y ☒ N How?

8. CASING/LINER:

Diameter	From	To	Guage	Material	Casing	Liner	Welded	Threaded
6"	+1	19	.250	steel	☒	☐	☐	☐
5"	20	140	.188	steel	☐	☒	☒	☐
					☐	☐	☐	☐

Length of Headpipe 1' 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:
151 ft. below ground Artesian pressure lb.
Depth flow encountered ft. Describe access port or control devices: well cap

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. <85 Bottom hole temp. <85
Water Quality test or comments:
Depth first Water Encounter

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	0	3	top soil		
8	3	14	black lava		
8	14	17	cinders		
8	17	19	black lava		
6	19	42	black lava		
6	42	47	soft, broken lava & clay		
6	47	96	black lava		
6	96	98	broken lava		
6	98	107	black lava		
6	107	113	medium hard lava		
6	113	116	soft & broken lava		
6	116	126	hard lava		
6	126	130	soft, broken lava & clay		
6	130	144	hard lava		
6	144	146	broken lava		
6	146	211	hard lava		
6	211	218	medium hard lava		
6	218	220	soft & broken lava		
6	220	236	medium hard lava & breaks		
6	236	251	hard lava		
6	251	254	broken lava	X	
6	254	265	hard lava		

RECEIVED
NOV 27 2001
Department of Water Resources
Southern Region

Completed Depth 263' (Measurable)
Date: Started 10/2/2001 Completed 10/3/2001

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 Eaton Drilling & pump Service, Inc. Firm No. 26
Firm Official [signature] Date 11/8/01
and
Driller or Operator [signature] Date 11/8/01
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

EXHIBIT
tabbies 4

Bsn37
App 868723
Per 771454

c 343377

Form 238-7
11/97 JGE

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

C

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0016655
DRILLING PERMIT NO. _____
Other IDWR No. _____

2. OWNER:
Name Clement Fitzgerald
Address 425 N. 250 W.
City Shoshone State ID Zip 83330

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 5 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 9 ____ 1/4 (10 acres) SW 1/4 (40 acres) SW 1/4 (160 acres)
Gov't Lot ____ County Lincoln
Lat: Long:
Address of Well Site 428 N. 250 W.
City Shoshone
(Give at least 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
bentonite	0	19	200 lbs.	dry pour

Was drive shoe used? ☐Y ☒N Shoe Depth(s) ____
Was drive shoe seal tested? ☐Y ☒N How? ____

8. CASING/LINER:

Diameter	From	To	Guage	Material	Casing	Liner	Welded	Threaded
6"	+1	19	.250	steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe 1' 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:
326 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: well cap

11. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
20+			

Water Temp. <85 Bottom hole temp. <85
Water Quality test or comments: ____
Depth first Water Encounter ____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	0	3	top soil		
8	3	11	black lava		
8	11	13	black cinders		
8	13	19	black lava		
6	19	61	black lava		
6	61	64	cinders		
6	64	71	black lava		
6	71	106	medium hard lava		
6	106	123	cinders		
6	123	127	medium hard lava		
6	127	129	broken lava		
6	129	149	black lava		
6	149	151	broken lava		
6	151	175	black lava		
6	175	194	red ash		
6	194	196	cinders		
6	196	226	black lava		
6	226	230	brown ash		
6	230	254	black lava		
6	254	257	cinders	X	
6	257	273	black lava		
6	273	278	cinders	X	
6	278	280	black lava		
6	280	282	cinders	X	
6	282	285	black lava		

RECEIVED
NOV 27 2001
Department of Water Resources
Southern Region

Completed Depth 285' (Measurable)
Date: Started 10/3/2001 Completed 10/5/2001

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 Eaton Drilling & pump Service, Inc. Firm No. 26
Firm Official [signature] Date 11/8/01
and
Driller or Operator [signature] Date 11/8/01
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

3758-S-0028-C

C

Form 238-7
11/97

IDAHO DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

RECEIVED 065401

East Well #2

Office Use Only
Inspected by
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0062489
DRILLING PERMIT NO. 37-
Other IDWR No. 37-074,SD

JUL 01 1998

11. WELL TESTS: ☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Department of Water Resources
Southern Region

2. OWNER:
Name 4 - Bros Dairy INC
Address 427 250 W
City Shoshone State Id Zip 83352

Water Temp. 58° Bottom hole temp. ____
Water Quality test or comments: ____
Depth first Water Encounter ____

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 5 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 19, ____ 1/4 (10 acres) NW 1/4 (40 acres) NE 1/4 (160 acres)
Gov't Lot ____ County Lincoln
Lat: : : Long: : :
Address of Well Site ____
City ____
(Give at least name of road + Distance to Road or Landmark)

Lt. ____ Blk. ____ Sub. Name ____

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☒ Other Dairy

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	19	300 lbs	
Cement	12	400	50 sacks	

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
8	+30	84	.25	Steel	☒	☐	☐	☐
	1	419			☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe 1 Length of Tailpipe ____

RECEIVED
JUL 22 1998
Department of Water Resources

9. PERFORATIONS/SCREENS
Perforations Method ____
Screens Screen Type ____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
26 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: Well Cap

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
10	0	6	Top soil		
	6	47	Black lava		
	47	52	Broken, Cinders		
	52	56	hard		
	56	57	Crevasse		
	57	59	Broken Cinders		
	59	179	Hard Black lava		
	179	187	Med hard Red lava		
	187	194	Black lava		
	194	196	Broken		
	196	302	Black lava		
	302	304	Broken		
	304	308	Med. hard		
	308	311	Soft, Broken Cinders		
	311	314	Med hard		
	314	319	" " Cinders		
	319	322	Soft, Red wh te Sand		
	322	326	Brown Clay		
	326	328	Broken, Brown Sand		
	328	356	Black lava		
	356	359	Broken		X
	359	366	Black lava		
	366	372	Soft Broken lava	X	
	372	379	Black lava		
	379	390	Med hard Breaks, Clay		
	390	409	Soft Br Silty Sands		
V	409	420	Red Lava Ash		
8	420	438	Red Ash MICROFILMED		
	438	444	Broken	X	
	444	449	Red Ash		
	449	469	Red Lava		
	469	471	Broken + Cinders	X	
	471	505	Hard + breaks + Talc	X	

Completed Depth 505 (Measurable)
Date: Started 5-7-98 Completed 5-9-98

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 Eaton Drilling Firm No. 26
Firm Official [signature] Date 6-12-98
and
Driller or Operator [signature] Date 6-12-98
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
11/97 JGE

IDAHO DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT 054460

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0008395
DRILLING PERMIT NO. 37-99-S-0078-000
Other IDWR No. 37-07413B

2. OWNER:
Name 4-Bros Dairy Inc.
Address 427 N. 250 W.
City Shoshone State ID Zip 83352

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 5 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 9 NW 1/4 (10 acres) NE 1/4 (40 acres) NW 1/4 (160 acres)
Gov't Lot ____ County Lincoln
Lat: Long:
Address of Well Site 500 N. 240 W. City Shoshone
(Give at least name of road + Distance to Road or Landmark)
Lt. ____ Blk. ____ Sub. Name ____

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☒ Other dairy

5. TYPE OF WORK: check all that apply (Replacement etc.)
☐ New Well ☐ Modify ☐ Abandonment ☒ Other deepen

6. DRILL METHOD:
☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other ____

7. SEALING PROCEDURES:

Seal/Filter Pack Material	From	To	AMOUNT Sacks or Pounds	METHOD

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____
Was drive shoe seal tested? ☐ Y ☒ N How? ____

8. CASING/LINER:

Diameter	From	To	Guage	Material	Casing	Liner	Welded	Threaded
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

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:
328 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: well cap

11. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
200+			

Water Temp. <85 Bottom hole temp. ____
Water Quality test or comments: ____
Depth first Water Encounter ____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	505	507	black lava		
8	507	511	medium hard lava		
8	511	514	black lava		
8	514	543	black ash & talc	X	
8	543	546	soft broken talc	X	
8	546	567	black ash		
8	567	616	black lava		
8	616	621	red/black ash & talc	X	
8	621	639	granite		
8	639	644	granite		
8	644	650	soft broken granite	X	

RECEIVED
OCT 19 1999
Department of Water Resources

RECEIVED
SEP 03 1999
Department of Water Resources
Southern Region

MICROFILMED
NOV 30 1999

Completed Depth 650' (Measurable)
Date: Started 7/28/99 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 Eaton Drilling & Pump Service, Inc. Firm No. 26
Firm Official ____ Date 8/10/99
and
Driller or Operator ____ Date 8/9/99
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
4/92

C

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.

RECEIVED
APR - 8 1993
Department of Water Resources

USE TYPEWRITER OR BALLPOINT PEN

1. WELL OWNER
Name Andrew Fitzgerald / Four Brothers Dairy
Address 425 N. 250 W Shoshone Id 83352
Drilling Permit No. 37-93-S-0024 000
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
.25 inches	8 inches	+ 3 feet	19 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

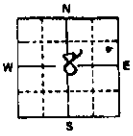
Well screen installed? ☐ Yes ☒ No
Manufacturer _____ Type _____
Top Packer or Headpipe _____
Bottom of Tailpipe _____

Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet

Surface seal depth 19' 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 Sanitary Well Cap

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



Subdivision Name _____
Lot No. _____ Block No. _____
County Lincoln
Address of Well Site Same as above (give at least name of road)
SE ¼ NE ¼ Sec. 8, T. 5 N ☐ or S ☒, R. 17 E ☒ or W ☐

7. WATER LEVEL
Static water level 253 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 58 °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 103773

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
10	0	5	Top Soil		X
10	5	6	Broken Bl Lava		
10	6	8	Br Clay		
10	8	19	Gray Lava		
8	19	61	"		
	61	62	Br Lava		
	62	63	Greasse		
	63	70	Br Lava		
	70	161	Gray Lava		
	161	167	Red Lava		
	167	217	Gray Lava		
	217	221	Br Sand + Clay		
	221	232	Gray Lava		
	232	240	Broken Red + bl Lava		
	240	261	Gray Lava		
	261	285	Br Lava		
	285	291	Bl + Red Lava		
	291	294	Broken Bl + Red Lava + Br Talc	Y	
	294	302	Red + bl Lava		
	302	310	Salt + broken Red Lava + Br Clay	X	
	310	348	Bl Lava		
	348	391	Granit		
	391	394	Broken Granite	X	
	394	396	Granite		
	396	397	Greasse	X	
V	397	405	Granite		

RECEIVED
MAR 01 1993
Department of Water Resources
Southern Region Office

10.
Work started 2-15-93 finished 2-18-93

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 Eaton Drilling Firm No. 26
Address Wendell Date 2-21-93
Signed by Drilling Supervisor Ray Eaton
and
(Operator) Dave Corby
(If different than the Drilling Supervisor)

FILMED
AUG 09 1993

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

Basin 37
App 65487
Per 76840

LP 340733

Form 238-7
11/97 JGE

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

C

Office Use Only
Inspected by
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0016336
DRILLING PERMIT NO.
Other IDWR No.

2. OWNER:
Name Four Bros. Dairy
Address 427 N. 250 W.
City Shoshone State ID Zip 83352

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 5 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 9 ____ 1/4 (10 acres) SW 1/4 (40 acres) NW 1/4 (160 acres)
Gov't Lot ____ County Lincoln
Lat: Long:
Address of Well Site 420 N. 250 W. City Shoshone
(Give at least name of road + Distance to Road or Landmark)
Lt. ____ Blk. ____ Sub. Name ____

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☒ Other stockwater

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	19	200 lbs.	dry pour

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s)
Was drive shoe seal tested? ☐ Y ☒ N How?

8. CASING/LINER:

Diameter	From	To	Guage	Material	Casing	Liner	Welded	Threaded
8"	+1	19	.250	steel	☒	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe 1' Length of Tailpipe

9. PERFORATIONS/SCREENS:
☐ Perforations Method
☒ Screens Screen Type stainless steel

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
275	280	10		71/2	steel	☐	☒
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
244 ft. below ground Artesian pressure lb.
Depth flow encountered ft. Describe access port or control devices: well cap

11. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
70+			

Water Temp. <85 Bottom hole temp.
Water Quality test or comments:
Depth first Water Encounter

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
10	0	4	top soil		
10	4	7	black lava		
10	7	8	broken		
10/8	8	49	black lava		
8	49	56	broken lava & brown clay		
8	56	78	black lava		
8	78	82	broken lava		
8	82	112	black lava		
8	112	116	medium hard black lava		
8	116	122	broken lava		
8	122	151	hard lava		
8	151	154	soft broken lava		
8	154	177	hard lava		
8	177		soft, broken, cinders &		
		183	rocks		
8	183	192	medium hard & breaks		
8	192	196	soft & broken		
8	196	206	hard lava		
8	206	222	cinder & loose rocks		
8	222	262	black lava		
8	262	266	soft, broken & cinders	X	
8	266	268	medium hard lava		
8	268	274	black lava		
8	274	281	sand & gravel	X	
8	281	289	hard lava		
8	289	292	broken lava		
8	292	349	hard & breaks		
8	349	362	medium hard & breaks		
8	362	405	hard lava		
			cement in hole 4'-225' 12		
			yrds, then drill out to 8"		

RECEIVED JUL 17 2001 Department of Water Resources
RECEIVED JUL - 6 2001 Department of Water Resources Southern Region

Completed Depth 402' (Measurable)
Date: Started 6/1/2001 Completed 6/4/2001

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 Eaton Drilling & pump Service, Inc. Firm No. 26
Firm Official Date 7/5/01
and
Driller or Operator Date 7/5/01
(Sign once if Firm Official & Operator)
Helper

FORWARD WHITE COPY TO WATER RESOURCES

Basin 37
App 68662
IP 343317

Pe 271393

Form 238-7
11/97 JGE

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

C

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0016654
DRILLING PERMIT NO. _____
Other IDWR No. _____

2. OWNER:
Name Andrew Fitzgerald
Address 180 4 Mile Rd.
City Shoshone State ID Zip 83330

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 5 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 9 ____ 1/4 (10 acres) SE 1/4 (40 acres) SE 1/4 (160 acres)
Gov't Lot ____ County Lincoln
Lat: Long:
Address of Well Site 160 4 Mile Rd. City Shoshone
(Give at least 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 deepen to 7" liner

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	19	200 Lbs.	dry pour

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____
Was drive shoe seal tested? ☐ Y ☒ N How? ____

8. CASING/LINER:

Diameter	From	To	Guage	Material	Casing	Liner	Welded	Threaded
6"	+1	19	.250	steel	☒	☐	☐	☐
5"	20	240	.188	steel	☐	☒	☒	☐
					☐	☐	☐	☐

Add'l 5" liner

Length of Headpipe 1' 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:
151 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: well cap

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. <85 Bottom hole temp. <85
Water Quality test or comments: ____
Depth first Water Encounter ____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	0	3	top soil		
8	3	14	black lava		
8	14	17	cinders		
8	17	19	black lava		
6	19	42	black lava		
6	42	47	soft, broken lava & clay		
6	47	96	black lava		
6	96	98	broken lava		
6	98	107	black lava		
6	107	113	medium hard lava		
6	113	116	soft & broken lava		
6	116	126	hard lava		
6	126	130	soft, broken lava & clay		
6	130	144	hard lava		
6	144	146	broken lava		
6	146	211	hard lava		
6	211	218	medium hard lava		
6	218	220	soft & broken lava		
6	220	236	medium hard lava & breaks		
6	236	251	hard lava		
6	251	254	broken lava	X	
6	254	265	hard lava		
5	265	270	medium hard lava		
5	270	275	soft lava	X	
5	275	280	medium lava		
5	280	283	broken lava	X	
5	283	299	hard lava		
5	299	302	soft broken lava & cinders	X	

RECEIVED
MAY 15
Department of Water Resources
Southern Region

Completed Depth 302' (Measurable)
Date: Started 4/1/2002 Completed 4/1/2002

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 Eaton Drilling & pump Service, Inc. Firm No. 26
Firm Official Larry Nielsen Date 4/1/2002
and
Driller or Operator ____ Date 4/1/2002
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

1. WELL OWNER

Name Andrew Fitzgerald

Address Shoshone

Owner's Permit No. 37-88-S-017

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
.025 inches	6 5/8 inches +	1½ feet	18½ 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

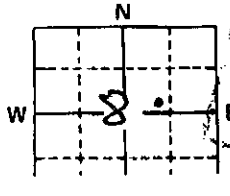
Method of joining casing: ☐ Threaded ☐ Welded ☐ Solvent Weld

☐ Cemented between strata

Describe access port _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____

Lot No. ____ Block No. ____

7. WATER LEVEL

Department of Water Resources

Static water level 40 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

072480

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	1	TOPSoil		X
8	1	6	Gray Lava		X
8	6	10	Black Lava		X
8	10	18	Gray Lava		X
6	18	34	Gray Lava		X
6	34	46	Black Lava		X
	46	355	No Returns	X	

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JAN - 3 1989

Department of Water Resources
Southern Region Office

10.

Work started Aug 24 finished Aug 30 88

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 Eaton Drilling Firm No. 26

Address Wendell Date 12-26-88

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Resources

WELL DRILLER'S REPORT

RECEIVED FEB 1978
Department of Water Resources Southern District Office

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 R. B. Kelly

Address Shoshone, 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 260 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 5/80 inches	+1 feet	-155 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

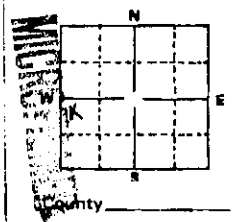
Placed from feet to feet

Surface seal depth 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

Sketch map location must agree with written location. 37



Subdivision Name

Lot No. Block No.

County Lincoln

NW ¼ SW ¼ Sec. 8, T. 5S N/S, R. 17EBM E/W

7. WATER LEVEL

Static water level 189 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 NONE

☐ 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
8	0	3	Top Soil		X
	3	7	Broken Gray Basalt w/top soil		
	7	13	Hard Gray Basalt		
	13	15	Broken Gray Basalt w/yellow Clay		
	15	24	Hard Gray Basalt		
	24	34	Hard Gray Basalt w/small breaks		
	34	39	Med Hard w/large breaks lost return		
	39	47	Hard w/small breaks		
	47	56	Hard w/large breaks		
	56	61	Hard		
	61	66	Hard w/small breaks		
	66	76	Hard		
	76	98	Hard w/small breaks		X
	98	103	Med Hard/large breaks/clay trace wat		e
	103	109	Hard w/large breaks		X
	109	122	Hard Gray Basalt		X
	122	129	Hard Brown Basalt w/lg. breaksxtrace		
	129	137	Hard gray Basalt		wat X
	137	149	Hard redish Brown Basalt w/lg. brk.		
	149	151	Hard Gray Basalt w/small breaks		X
8/6	151	158	Hard Gray Basalt		X
6	158	162	Hard Gray Basalt w/small breaks		
	162	170	Hard Brown clayw/Broken Gray Basalt		
	170	180	Hard Gray Basalt w/sm. breaks		
	180	187	Med Hard Brown Basalt w/lg. breaks		
	187	190	Hard w/small breaks lost return		
	190	195	Hard Gray Basalt		X
	195	200	Hard Gray Basalt w/sm. breaks	X	
	200	211	Hard Gray Basalt w/lg. breaks	X	
	211	240	Med Hard w/small breaks	X	
	240	253	Hard w/small breaks	X	
	253	260	Med Hard w/small breaks	X	

10.

Work started 12/27/77 finished 12/29/77

11. DRILLERS CERTIFICATION

Firm Name SMITH DRILLING & PUMP CO., INC. Firm No. 11

Address 328 West Avenue A, Jerome Date 12/30/77

Signed by (Firm Official)

and

(Operator) Leo A Rhein II

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

Form 238-7
7/94

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ball Point Pen

49705

1. DRILLING PERMIT NO. 37-95-S-0058-000
Other IDWR No.

2. OWNER:
Name Kenneth J + Kathy G. Peterson
Address 495 N. - 375 W.
City Shoshone State Id Zip 83352

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 5 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 7, 10 acres 1/4, 40 acres SW 1/4, 160 acres NE 1/4
Gov't Lot ____ County Lincoln
Address of Well Site Same
City Shoshone
(Give at least name of road + Distance to Road or Landmark)
Lt. ____ Blk. ____ Sub. Name ____

4. PROPOSED USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK
☒ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☒ Air Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Sen Tonite	0	19	300 lb	

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	19	.25	Steel	☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

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:
214 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: Well 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: Ok

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	0	5	Top Soil		
8	5	19	BSI Lava		
6	19	22	" "		
	22	49	Gray "		
	49	50	Broken BSI Lava		
	50	56	Red Ash		
	56	69	BSI Lava		
	69	74	Br Clay		
	74	151	BSI Lava		
	151	[illegible]	Red + bl Lava		
	157	201	BSI Lava		
	201	231	Gray Lava		
✓	231	234	Broken		
	234	245	Gravel	X	

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JUN 19 1995
Department of Water Resources

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JUN 02 1995
Department of Water Resources
Southern Region

AUG 15 1995

Completed Depth 234 (Measurable)
Date: Started 5-24-95 Completed 5-24-95

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 Eaton Drilling Firm No. 26
Firm Official [signature] Date 5-29-95
and
Supervisor or Operator Dave Craig Date 5-29-95
(Sign once if Firm Official & Operator)

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7/94

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IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

JAN 12 1996

Department of Water Resources
Southern Region

1. DRILLING PERMIT NO. 37 -95 - S- 0214 -200
Other IDWR No.

2. OWNER:
Name David O'Dell orPatricia O'Dell
Address 435 N 375W Smiling A Ranch
City Shoshone State Id Zip 83352

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S — X

Twp. 5S North ☐ or South ☐
Rge. 17E East ☐ or West ☐
Sec. 7, ____ 10 acres 1/4 SE 40 acres 1/4 SE 160 acres 1/4
Gov't Lot ____ County Lincoln

Address of Well Site 435 N 375W
City Shoshone
(Give at least name of road + Distance to Road or Landmark)

Lt. ____ Blk. ____ Sub. Name ____

4. PROPOSED USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK
☒ New Well ☐ Modify or Repair ☒ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☒ Air Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	0	-19		Overbore

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 5/8	OD+2	-192	.250	Steel	☒	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe ____ Length of Tailpipe ____

9. PERFORATIONS/SCREENS
MAY 06 1996
☐ Perforations Method
☐ Screens Screen Type

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
156 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices:

11. WELL TESTS: NONE
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

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FEB 13 1996
Department of Water Resources

Water Temp. ____ Bottom hole temp. ____
Water Quality test or comments:

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	0	15"	Top Soil		X
	15"	16	Gray Basalt		
	16	19	Gray Basalt Small Break		
	19	30	Gray Basalt		
	30	36	Gray Baslt Break Brown Clay		
	36	40	Gray Basalt		
	40	54	Reddsh & Gray Basalt Brk Porouse		
	54	61	Gray Basalt Porouse		
	61	64	Red Basalt Clay		
	64	75	Gray Basalt		
	75	77	Pinksh Basalt Small Break		
	77	79	Gray Basalt		
	79	81	Crevice		
	81	91	Gray Basalt		
	91	94	Med Hard		
	94	111	Gray Basalt		
	111	116	Pinkish Basalt		
	116	125	Pinksh Basalt Small Break		
	125	146	Gray Basalt		
	146	149	Pinksh Basalt Soft Red Clay		
	149	162	Gray Basalt Brak Tan Clay	X	
	162	169	Med Hard Gray Basalt		X
	169	175	Med Hard Gray Basalt Sm Brk	X	
	175	179	Pinksh Basalt		X
	179	184	Gray basalt		X
	184	189	Gr Bsalt Break Porouse	X	
6 5/8	189	194	Gray Basalt		
6	194	205	Gr & Pink Basalt Brak	X	
	205	210	Gray Basalt Trace Brwn Clay		
	210	216	Gray & Brwn BAsalt		
	216	226	Gr Basalt med Hard Sm Break	X	

Completed Depth 226 (Measurable)
Date: Started 12-19-95 Completed 12-21-95

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 SMITH DRILLING & PUMP CO., INC. Firm No. 11
Firm Official [signature] Date 1-5-96
and
Supervisor or Operator Melton Rollins Date
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7 C
6/95

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT 065984

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. 0 000 9207
Other IDWR No. 37-97-S-0106-000

2. OWNER:
Name Derrick Peak
Address 408 W. 520 N.
City Shoshone State ID Zip 83352

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 5 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 16 1/4 SE (10 acres) 1/4 (40 acres) SW 1/4 (160 acres)
Gov't Lot ____ County Lincoln
Lat: : : Long: : :
Address of Well Site 408 W 520 N
City Shoshone
(Give at least 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
Bentonite	-1	19	300	Overbore

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	19	.025	Steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe____ Length of Tailpipe____

9. PERFORATIONS/SCREENS
☐ Perforations Method____
☐ Screens Screen Type____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
		N/A				☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
200 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: well 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 ____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8 5/8	0	4	top Soil		
8 5/8	4	6	Hard pan		
8 5/8	6	18	Lava Black		
6"	18	32	Lava Black		
6"	32	33	Red Ash		
6"	33	49	Gray Clay		
6	49	185	Lava		
6	185	255	NO Cutting	X	

RECEIVED
SEP 04 1997
Department of Water Resources
Southern Region
RECEIVED
OCT 10 1997
Department of Water Resources

Completed Depth 254' (Measurable)
Date: Started 8-21-97 Completed 8-22-97

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 Eaton Drilling Firm No. 26
Firm Official [signature] Date 8-26-97
and
Supervisor or Operator [signature] Date 8-25-97
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Bpi 861413

Form 238-7
11/97

Rev 764157

Basin 37 764157

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

C

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0008528
DRILLING PERMIT NO. ____-____-____-____-____
Other IDWR No. _____

2. OWNER:
Name Dorthy Hubb
Address 5209 Decanter Drive
City Boise State ID Zip 83704

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 5 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 9, ____ 1/4 SW 1/4 SE 1/4 (10 acres / 40 acres / 160 acres)
Gov't Lot ____ County Lincoln
Lat: : : Long: : :
Address of Well Site 156 N 4 Mile Rd
City Shoshone
(Give at least 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 Replacement

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	9sacks	Overbore

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 343'
Was drive shoe seal tested? ☐ Y ☒ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	+1½	343	.250	Steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
Perforations Method _____
Screens Screen Type 2 Shale Traps

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
225 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
22			1Hour

Water Temp. _____ Bottom hole temp. _____
Water Quality test or comments: _____
Depth first Water Encounter _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8"	0	7	Top Soil		X
8"	7	18	Black Lava		X
8"	18	31	Brown Lava & Subsoil		X
8"	31	75	Gray Lava		X
8"	75	84	Black Lava		X
8"	84	270	No Returns	X	
8"	270	277	Black Lava	X	
8"	277	280	Red Sand	X	
8"	280	284	Brown Sand & Clay	X	
8"	284	300	Black Lava	X	
8"	300	306	Black Lava	X	
8"	306	320	Red & Brown Sand	X	
8"	320	330	Brown Sand	X	
8"	330	343	Black Lava		X
6"	343	360	Black Lava		X
6"	360	380	Black Lava & Water Tale	X	

RECEIVED
MAY 12 2000
Department of Water Resources

RECEIVED
MAY 16 2000
Department of Water Resources

Completed Depth 380' (Measurable)
Date: Started 04-26-00 Completed 05-05-00

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 Wood River Drilling &Pump Inc. Firm No. 265
Firm Official Ken Smith Date 5-11-00
and
Driller or Operator _____ Date 5-11-00
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
4/92

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 JOESPH BUCKWAY
Address 584 N. 250 W SHOSHONE, ID
Drilling Permit No. 37-93-S-0042-000
Water Right Permit No. A37-10237

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	+ 1½ feet	404 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

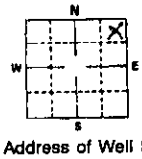
Well screen installed? ☐ Yes ☒ No
Manufacturer _____ Type _____
Top Packer or Headpipe _____
Bottom of Tailpipe _____

Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet

Surface seal depth 47 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 LINCOLN
Address of Well Site 584 N 250 W SHOSHONE
(give at least name of road)
NE ¼ NE ¼ Sec. 5, T. 5 N ☐ or S ☒, R. 17 E ☒ or W ☐

APPROVED AUG 09 1993

7. WATER LEVEL
Static water level 268 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	330	1

9. LITHOLOGIC LOG 103772

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	7	TOP SOIL		✓
8	7	16	HARD BLACK LAVA		✓
8&6	16	60	BLACK LAVA		✓
6	60	66	RED CLAY & LAVA		✓
6	66	84	BROWN CLAY & BLK LAVA		✓
6	84	112	RED LAVA		✓
6	112	140	BROWN CLAY & BLK LAVA		✓
6	140	150	BLACK LAVA		✓
6	150	200	BRN CLAY & BLK LAVA		✓
6	200	217	RED LAVA		✓
6	217	230	BRN CLAY & BLK LAVA		✓
6	230	255	BLK LAVA		✓
6	255	290	RED LAVA, SAND & BRN CLAY		✓
6	290	300	GREY LAVA		✓
6	300	320	RED LAVA & BRN CLAY		✓
6	320	360	BLK LAVA, BROWN CLAY, RED LAVA, RED SAND	✓	
6	360	370	RED LAVA	✓	
6	370	378	BLK LAVA	✓	
6	378	388	BRN CLAY, RED LAVA	✓	
6	388	394	BLK LAVA	✓	
6	394	400	RED LAVA CREVICE NO RETURN	✓	
6	400	440	BLK LAVA & TALC	✓	

RECEIVED
APR 06 1993
Department of Water Resources
Southern Region Office

10.
Work started 3-24-93 finished 3-30-93

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 WOOD RIVER DRILLING & PUMP Firm No. 265
Address BOX 837 BELLEVUE, ID 83313 Date
Signed by Drilling Supervisor Ken Smith
and
(Operator) [illegible] (If different than the Drilling Supervisor)

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

Form 238-7
8/90

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 John Silva

Address 241 4 Mile Road Shoshone, ID 83352

Drilling Permit No. 37-92-S-0201

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 5/8 inches +	1'4" feet	30 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 30 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 - North of Shoshone

Sketch map location must agree with written location.

N / W / E / S

Subdivision Name _____

Lot No. _____ Block No. _____

County Lincoln

NE ¼ NE ¼ Sec. 16, T. 5 ☐ N ☐ S, R. 17 ☐ E ☒ W

7. WATER LEVEL

Static water level 204 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature U/K °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA Unknown

☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped

9. LITHOLOGIC LOG 103776

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	4	Surface		
	4	19	Grey basalt		
	19	20	Red ash, broken basalt		
	20	25	Broken grey basalt		
	25	30	Grey basalt w/ a little brown basalt		
6	30	56	Grey basalt w/ a little brown basalt		
	56	59	Broken basalt		
	59	64	Black basalt		
	64	74	Grey basalt		
	74	77	Broken basalt		
	77	93	Grey basalt		
	93	96	Broken basalt		
	96	108	Black basalt w/ red		
	108	138	Grey basalt		
	138	144	Grey & brown basalt		
	144	148	Brown clay		
	148	151	Black basalt		
	151	154	Brown clay		
	154	156	Brown basalt		
	156	158	Broken, caving a little, Lost circulation		
	158	295	Lost circulation		
	295	355	Lost circulation		
			Casing may be required at a later date.		

RECEIVED
JAN 4 1993
Department of Water Resources

RECEIVED
DEC 14 1992
Department of Water Resources
Southern Region Office

10. Work started 11/11/92 finished 11/12/92

11. DRILLERS CERTIFICATION

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

Walker Water Systems, Inc.
Firm Name 624 Pierce Street Firm No. 15
Twin Falls, Idaho 83301
Address _____ Date 11/18/92

Signed by (Firm Official) Lud Walker

and

(Operator) _____

MICROFILMED
AUG 09 1993

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

Basin 37 Well I.D. # 350604 Permit 77-3 App # 8[illegible]2012

Form 238-7
6/02

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

CA

Office Use Only
Well ID No.
Inspected by
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D _____
DRILLING PERMIT NO. _____
Water Right or Injection Well No. MM8913

2. OWNER:
Name Pantone, Russell
Address 325 W 620 N
City Shoshone State ID Zip 83352

3. LOCATION OF WELL by legal description:
You must provide address or Lot, Blk, Sub. or Directions to well.
Twp. 5 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 5 ____ 1/4 (10 acres) NW 1/4 (40 acres) NW 1/4 (160 acres)
Gov't Lot ____ County Lincoln
Lat: : : Long: : :
Address of Well Site 325 W 620 N
City Shoshone
(Give at least 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 Material	From	To	Weight / Volume	Seal Placement Method
Cement	0	175	9 cb ft	drypour

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
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe ____ Length of Tailpipe ____
Packer ☐Y ☐N Type ____

9. PERFORATIONS/SCREENS PACKER TYPE
Perforation Method ____
Screen Type & Method of Installation ____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. FILTER PACK

Filter Material	From	To	Weight / Volume	Placement Method

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
____ ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: ____

12. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. ____ Bottom hole temp. ____
Water Quality test or comments: ____
Depth first Water Encounter ____

13. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
			Customer abandoned hole		
	0	175	Filled w/ cement		
			weld steel plate on top		

RECEIVED
JUL 02 2003
Department of Water Resources
Southern Region

Completed Depth 175 (Measurable)
Date: Started 06/18/03 Completed 06/18/03

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

Company Name Walker Water Systems, Inc Firm No. 15
Principal Driller [signature] Date 6/30/03
and
Driller or Operator II ____ Date ____
Operator I ____ Date ____
Principal Driller and Rig Operator *Required.*
Operator I must have signature of Driller/Operator II.

FORWARD WHITE COPY TO WATER RESOURCES

R7-135

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

WELL SCHEDULE

Work Unit Southern Idaho Lincoln County

Land Owner Albert L. Knigge Address Shoshone, Idaho Well No. 1

Location: State Idaho County Lincoln NE¼NE¼, NW¼NE¼, NE¼SE¼ ¼ Sec. 8 SW¼NW¼, NW¼SW¼

Source Driller Confidential No

Drilling Commenced 11-10-41 Completed 11-22-41

Driller A. H. Heigh Address Shoshone, Idaho

Topography Rolling

Elevation ft. Datum Meas. point

Type of Well Drilled Method of Drilling Cable Tools

Depth 269 Diameter: top 6" bottom 6" T 5 S, R 17 E

Chief Aquifer Porous lava from 250 to 269

Others

Casing: Type Depth Diameter Screen

Water Level 245 ft. below Top ; ft. above below

Pump Power

Yield Drawdown ft. pumping G.P.M. Time

Use Quality Samples

Graphic Log

Geological Formation Record

Written Log by: Casing
Correlation by: Record

From Feet	To Feet	Thickness ft.	Character of formation and remarks
0	5	5	Top soil
5	27	22	Gray lava broken
27	40	13	Light brown lava
40	50	10	Hard gray lava
50	64	14	Brown lava
64	70	6	Red lava very soft cemented
70	80	10	Light brown lava
80	90	10	Dark gray lava
90	93	3	Brown lava broken
93	98	5	Red lava hard
98	118	20	Gray lava
118	128	10	Light gray lava
128	140	12	Light brown lava
140	145	5	Soft gray lava
145	160	15	Brown lava
160	170	10	Gray lava
170	190	20	Dark gray lava
190	250	60	Hard gray lava
250	269	19	Black porous lava with a very good water flow

The water raised 5' when we hit the flow

Form 238-7
6/93

KC C

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ball Point Pen

RECEIVED
DEC 20 1993
Department of Water Resources

108629

1. DRILLING PERMIT NO. 37-93-S-0160-000
Other IDWR No. 37-08813

2. OWNER:
Name North Valley Milk, Inc.
Address 425 250 W
City Shoshone State Id Zip 83352

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

T. 5 North ☐ or South ☒
R. 17 East ☒ or West ☐
Sec. 9, 1/4 (10 acres) SW 1/4 (40 acres) SW 1/4 (160 acres)
Gov't Lot ____ County Lincoln

Address of Well Site 180 4 Mile Rd Shoshone
(Give at least Direction + Distance to Road or Landmark)

Lot No. ____ Block No. ____ Subd. Name ____

4. PROPOSED USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other Stock

5. TYPE OF WORK
☒ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☒ Air Rotary ☐ Cable ☐ Other ____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	0	19	300/165	

Was drive shoe seal tested? YES ☐ NO ☒ How? ____

8. CASING/LINER:

Diameter	From	To	Guage	Casing	Liner	Steel	Plastic	Welded	Threaded
8	1	19	25			☒	☐	☐	☐
						☐	☐	☐	☐
						☐	☐	☐	☐
						☐	☐	☐	☐

Final location of shoes ____
Top Packer or Headpipe ____ Bottom Tailpipe ____

9. PERFORATIONS/SCREENS
☐ Perforations Method ____
☐ Screens Type ____ Material ____

From	To	Slot Size	Number	Diameter	Tele/Pipe Size	Casing	Liner
						☐	☐
						☐	☐
						☐	☐
						☐	☐

10. WELL TESTS: ☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Depth	Time

Temperature of water 85° Was a water analysis done? Yes ☐ No ☒
By whom? ____
Water Quality (odor, etc.) ____
Bottom Hole Temperature ____

11. STATIC WATER LEVEL:
192 ft. below surface Depth artesian flow found ____
Artesian pressure ____ lb. Describe access port Well Cap
Describe Controlling Devices: ____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	GPM	SWL
10	0	4	Top Soil		
10	4	9	Br Lava		
10	9	11	Br Clay		
10	11	19	Gray Lava		
8	19	36	" "		
	36	39	Broken bl Lava		
	39	74	Bl Lava		
	74	76	Red + bl Cinders		
	76	157	Bl. Lava		
	157	162	Red Lava		
	162	187	Bl Lava		
	187	193	Cinders		
	193	195	Hard		
	195	197	Greyasse	A	
	197	199	Broken	Y	
	199	216	Hard	Q	
	216	222	Broken	X	
	222	246	Hard		
	246	252	Soft Broken (Sand)	X	
	252	266	Hard		
	266	268	Soft Sand		
	268	273	Soft Broken	X	
	273	241	Hard		
	241	244	Broken	X	
	244	280	Med. Hard		

Date: Started 11-3-93 Completed 11-6-93

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 Eaton Drilling Firm No. 26
Firm Official [signature] Date 11-8-93
and
Supervisor or Operator Dave Craig Date 11-9-93
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Basin 37
APP 86973
Per 77247

D 0344291

Form 238-7
11/97 JGE

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

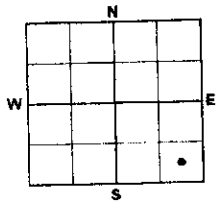
C

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0016844
DRILLING PERMIT NO. _____
Other IDWR No. _____

2. OWNER:
Name Terry Sherman
Address 435 N. 375 W.
City Shoshone State ID Zip 83352

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.



Twp. 5 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 7 1/4 (10 acres) SE 1/4 (40 acres) SE 1/4 (160 acres)
Gov't Lot ____ County Lincoln
Lat: Long:
Address of Well Site 435 N. 375 W. City Shoshone
(Give at least 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 deepen

6. DRILL METHOD:
☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other ____

7. SEALING PROCEDURES:

Seal/Filter Pack			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____
Was drive shoe seal tested? ☐ Y ☒ N How? ____

8. CASING/LINER:

Diameter	From	To	Guage	Material	Casing	Liner	Welded	Threaded
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

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:
191 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
30+			

Water Temp. <85 Bottom hole temp. <85
Water Quality test or comments: ____
Depth first Water Encounter ____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
6	225	241	black lava		
6	241	244	broken lava		
6	244	257	black lava		
6	257	262	broken lava & cinders	X	
6	262	276	black lava		
6	276		soft broken lava & brown		
		280	clay	X	
6	280	285	black lava		

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JAN - 9 2002
Department of Water Resources
Southern Region

Completed Depth 285' (Measurable)
Date: Started 12/9/2001 Completed 12/9/2001

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 Eaton Drilling & pump Service, Inc. Firm No. 26
Firm Official _____ Date 12/9/2001
and
Driller or Operator _____ Date 12/9/2001
(Sign once if Firm Official is Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Bapp 8461413
Per 764157
Basin 37 764157

Form 238-7
11/97

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

C

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0008528
DRILLING PERMIT NO. ____-____-____-_____-_____
Other IDWR No. _____

2. OWNER:
Name Dorthy Hubb
Address 5209 Decanter Drive
City Boise State ID Zip 83704

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S — X

Twp. 5 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 9 ____ 1/4 SW 1/4 SE 1/4
Gov't Lot ____ County Lincoln
Lat: : : Long: : :
Address of Well Site 156 N 4 Mile Rd
City Shoshone
(Give at least 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 Replacement

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	9sacks	Overbore

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 343'
Was drive shoe seal tested? ☐ Y ☒ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	+1½	343	.250	Steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
Perforations Method _____
Screens Screen Type 2 Shale Traps

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
225 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
22			1Hour

Water Temp. _____ Bottom hole temp. _____
Water Quality test or comments: _____
Depth first Water Encounter _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8"	0	7	Top Soil		X
8"	7	18	Black Lava		X
8"	18	31	Brown Lava & Subsoil		X
8"	31	75	Gray Lava		X
8"	75	84	Black Lava		X
8"	84	270	No Returns	X	
8"	270	277	Black Lava	X	
8"	277	280	Red Sand	X	
8"	280	284	Brown Sand & Clay	X	
8"	284	300	Black Lava	X	
8"	300	306	Black Lava	X	
8"	306	320	Red & Brown Sand	X	
8"	320	330	Brown Sand	X	
8"	330	343	Black Lava		X
6"	343	360	Black Lava		X
6"	360	380	Black Lava & Water Tale	X	

RECEIVED
MAY 12 2000
Department of Water Resources
RECEIVED
MAY 16 2000
Department of Water Resources

Completed Depth 380' (Measurable)
Date: Started 04-26-00 Completed 05-05-00

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 Wood River Drilling &Pump Inc. Firm No. 265
Firm Official Ken Smith Date 5-11-00
and
Driller or Operator _____ Date 5-11-00
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

Received 6-6-74 D WD

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

1. WELL OWNER

Name DEAN BARNEY

Address RT #1 SHOSHONE 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 243 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	+2 feet	30 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 _____

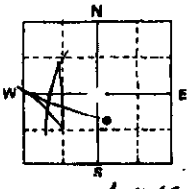
Placed from _____ feet to _____ feet

Surface seal 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.



35

Subdivision Name _____

Lot No. _____ Block No. _____

County LINCOLN

SW ¼ SE ¼ Sec. 8, T. 5 ☐N/☒S, R. 17 ☐E/☒W

7. WATER LEVEL

Static water level 188 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
	UNTESTED	

9. LITHOLOGIC LOG 045661

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
8"	0	7	BROWN SOIL		
8"	7	16	LIGHT GREY LAVA		
8"	16	30	DARK GREY LAVA — SCORIA		
6"	30	33	LIGHT GREY LAVA		
"	33	35	SOFT BROWN LAVA		
"	35	44	BROWN LAVA		
"	44	45	" " — SCORIA		
"	45	67	DARK GREY LAVA —		
"	67	69	" " — SCORIA		
"	69	71	DARK GREY LAVA		
"	71	87	" " " — SCORIA		
"	87	95	" " "		
"	95	100	" " " — SCORIA		
"	100	103	" " "		
"	103	108	BROWN CLAY		
"	108	143	HARD DARK GREY LAVA		
"	143	144	" " " — SCORIA		
"	144	162	BROWN LAVA		
"	162	168	BROWN CLAY		
"	168	206	BROWN LAVA		
"	206	208	" " SCORIA	X	
"	208	240	BLACK LAVA		
"	240	242	" " — SCORIA	X	
"	242	243	BURNT RED LAVA		
			WATER SEEPAGE FROM 16–30 SEALED OFF BY CEMENTED IN 6" PIPE		

10. Work started 23 MAY 74 finished 4 JUNE 74

11. DRILLERS CERTIFICATION

RAY ROESSLER

Firm Name WELL DRILLING 129 5TH AVE E Firm No. 262

Address GOODING IDA 83330 Date 5 JUN 74

Signed by (Firm Official) Ray Roessler

and

(Operator) Ray Roessler

MICROFILMED

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

EXHIBIT 5

EXHIBIT 5

IDAHO DEPARTMENT OF WATER RESOURCE

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. 37-96-S-0148-000
Other IDWR No. _____

2. OWNER:
Name BLACK BUTTE PROP. LLC
Address P.O. BOX 1877
City KETCHUM State ID Zip 83340

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4 North ☐ or South ☐ X
Rge. 17 East ☐X or West ☐
Sec. 29, ____ (10 acres) 1/4 NE (40 acres) 1/4 NE (160 acres) 1/4
Gov't Lot ____ County LINCOLN
Lat: : : Long: : :
Address of Well Site _____
City SHOSHONE
(Give at least name of road + Distance to Road or Landmark)

Lt. _____ Blk. _____ Sub. Name _____

4. USE:
☐X 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 ☐X Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
BENTONITE	0	39	300#	OVERBORE

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
8.625	+1	39	.250	STEEL	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
☐ Perforations Method _____
☐ Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

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OCT 15 1996
Department of Water Resources
Southern Region

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
235 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
239	45'	280'	3.5

Water Temp. 60 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
10	0	11	SURFACE DIRT		X
	11	17	GREY BASALT		X
	17	21	GREY BROWN BASALT		X
	21	23	GREY BASALT		X
	23	27	GREY BROWN		X
	27	36	SOFT CLAY		X
	36	44	GREY BASALT		X
8	44	49	CINDERS SOFT LST CIRCULATION		X
	49	65	SOLID		X
	65	72	SOFT BROKEN		X
	72	75	SOFT		X
	75	80	BROKEN		X
	80	105	SOLID		X
	105	140	GREY BASALT		X
	140	170	GREY BASALT		X
	170	188	DARK GREY		X
	188	207	GREY BASALT CLAY		X
	207	220	RED CLAY		X
	220	224	GREY BASALT CLAY		X
	224	240	DARK GREY		X
	240	250	BLACK		X
	250	260	BLACK BASALT RED	X	
	260	290	BLACK BASALT RED	X	
	290	335	GREY BASALT		X
	335	360	GREY BROWN BASALT		X
	360	401	BROWN BLACK BROKEN	X	
	401	430	BROWN BLACK BROKEN	X	
	430	440	BROWN DECOMPOSED GRANITE	X	
	430	440	SAND GRAVEL CAVING	X	
	440				X

Completed Depth 430' (Measurable)
Date: Started 09/20/96 Completed 09/25/96

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 WALKER WATER SYSTEMS INC. Firm No. 15
Firm Official Fred Walker Date 10/10/96
and
Supervisor or Operator _____ Date 10/10/96
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

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: : :

1. DRILLING PERMIT NO. 37- 96- S 0126 - 000
Other IDWR No. _____

2. OWNER:
Name BLACK BUTTE RANCH LLC
Address P.O. BOX 1877
City KETCHUM State ID Zip 83340

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4 North ☐ or South ☐ X
Rge. 17 East ☐X or West ☐
Sec. 29 , ____ 10 acres 1/4 NE 40 acres 1/4 NE 160 acres 1/4
Gov't Lot ____ County LINCOLN
Lat: : : Long: : :
Address of Well Site _____
(Give at least name of road + Distance to Road or Landmark) City SHOSHONE
Lt. _____ Blk. _____ Sub. Name _____

4. USE:
☐X Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply
☐X New Well ☐ Modify ☐ Abandonment (Replacement etc.) ☐ Other _____

6. DRILL METHOD
☐ Air Rotary ☐X Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
BENTONITE	0	19	150#	OVERBORE

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
8.625	+1	19	.250	STEEL	☐X	☐	☐X	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

ngth of Headpipe _____ Length of Tailpipe _____

PERFORATIONS/SCREENS
Perforations Method _____
Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

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Department of Water Resources
Southern Region

STATIC WATER LEVEL OR ARTESIAN PRESSURE:
____ft. below ground Artesian pressure _____lb.
h flow encountered _____ft. Describe access port or
ol devices: _____

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. 60 Bottom hole temp. _____
Water Quality test or comments: _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)
Depth first Water Encountered _____

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
10	0	2	SURFACE DIRT		X
	2	9	GREY BASALT		X
	9	14	BROWN GREY		X
	14	26	GREY		X
	26	28	BROWN GREY		X
	28	39	GREY SOFT BASALT		X
8	39	41	GREY SOFT BASALT		X
	41	55	CINDERS SOFT LST CIRCULATION		X
	55	70	SOLID		X
	70	74	CINDERS BROKEN		X
	74	76	SOFT		X
	76	81	BROKEN SOFT CAVING		X
	81	105	SOLID		X
	105	115	SOFT		X
	115	125	BROKEN SOLID		X
	125	135	SOLID		X
	135	145	BROKEN		X
	145	151	SOLID		X
	151	163	BROKEN		X
	163	176	SOLID		X
	176	215	SOLID HARDER		X
	215	218	SOFT BROKEN		X
	218	227	SOLID		X
	227	294	SOFT TALC		X
	294	340	SOLID HARDER	X	
	340	425	SOLID GREY BROWN		X
	345	425	RHYOLITE		X
	425	450	BROKEN CINDERS TALC		X
	450	466	BLACK RED BASALT		X
	466	470	VOID	X	
	470	480	DECOMPOSED BASALT SAND	X	
	470	480	GRAVEL CAVING	X	
			TO BE CONTINUED ON NEXT PAGE	X	

Completed Depth 470'
Date: Started 09/16/96 Completed 06/19/96 (Measurable)

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 WALKER WATER SYSTEMS INC. Firm No. 15
Firm Official and Supervisor or Operator Ted Walk Date 10/10/96

Form 238-7
7/94

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ball Point Pen

SEP 15 1994
Department of Water Resources
Southern Region Office

1. DRILLING PERMIT NO. 37-94-S-0105-000
Other IDWR No.

2. OWNER:
Name Richard A. Olsen
Address 251 West Thorn Creek Road
City Shoshone, Idaho State Zip 83352

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4S North ☐ or South ☐
Rge. 17E East ☐ or West ☐
Sec. 25, ____ 10 acres 1/4 SW 40 acres 1/4 NW 160 acres 1/4
Gov't Lot ____ County Lincoln

Address of Well Site
251 West Thorn Creek Road City Shoshone
(Give at least name of road + Distance to Road or Landmark)

Lt. ____ Blk. ____ Sub. Name ____

4. PROPOSED USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ____

5. TYPE OF WORK
☒ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☒ Air Rotary ☐ Cable ☐ Other ____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	0	19		

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 5/8	+1 1/2	370 1/2	250	steel	☒	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

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:
298 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

Water Temp. ____ Bottom hole temp. ____
Water Quality test or comments: ____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	0	58	Top Soil		X
	58	121/2	Gray Basalt		
	121/2	14	Gray Basalt large breaks		
	14	30	Gray Basalt		
	30	40	Gray & Pink Basalt porous		
	40	461/2	Gray Basalt		
	461/2	48	Crevice		
	48	55	Med Hard		
	55	57	Large Breaks & Crevice		
	57	60	Med Hard small breaks		
	60	75	Med Hard		
	75	78	Med Hard small breaks		
	78	86	Large breaks & crevices		
	86	95	Med Hard		
	95	105	Med Hard small breaks		
	105	125	Med Hard Gray Basalt		
	125	135	Med Hard small breaks		
	135	141	Med Hard Gray Basalt		
	141	147	Broken w/brown clay		
	147	157	Med Hard		
	157	1571/2	Large breaks		
	1571/2	165	Med Hard		
	165	179	Med Hard Gray Basalt		
	179	182	Large breaks		
	182	195	Med Hard		
	195	205	Med Hard large Breaks		
	205	209	Med Hard		
	209	215	Med Hard Large Breaks		
	215	225	Med Hard		
	225	229	Gray Basalt large breaks		
	229	230	small breaks med hard		
	230	2311/2	Crevice		
	2311/2	236	Med Hard		

Completed Depth 449 (Measurable)
Date: Started 8/18/94 Completed 8/20/94

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 SMITH DRILLING & PUMP CO., INC. Firm No. 11
Firm Official [signature] Date 9/15/94
and
Supervisor or Operator Melton Robbins Date ____

37-97-S-0031-000

Form 238-7
3/95

IDAHO DEPARTMENT OF WATER RESOURCE

WELL DRILLER'S REPORT

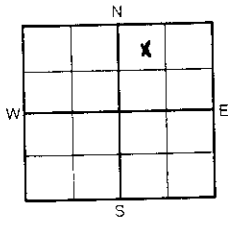
Use Typewriter or Ballpoint Pen

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____1/4 ____1/4 ____1/4
Lat: : : Long: : :

1. DRILLING PERMIT NO.
37 - 97 - S - 0031 - 000
Other IDWR No. _____

2. OWNER:
Name THOMAS J. WEST
Address P.O. BOX 3333
City KETCHUM State ID Zip 83340

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.



Twp. 4 North ☐ or South ☐
Rge. 17 East ☒ or West ☐
Sec. 29, ____ 1/4 (10 acres) ____ 1/4 (40 acres) ____ 1/4 (160 acres)
Gov't Lot ____ County LINCOLN
Lat: : : Long: : :
Address of Well Site LAKE KUPU LOT 9
City _____
(Give at least name of road + Distance to Road or Landmark)

Lt. 9 Blk. _____ Sub. Name BLACK BUTTE RANCHES

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			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	
BENTONITE	0	38	7 SACKS	OVERBORE

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
6.625	+1	38	.280	STEEL	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

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:
175 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
30+			

Water Temp. 58 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
6	0	5	SURFACE DIRT		
	5	14	SOFT DECOMPOSED BASALT		
	14	17	SOLID GREY BASALT		
	17	32	SOFT BLACK BROWN		
	32	33	DECOMPOSED BASALT		
	33	38	GREY BASALT		
	38	53	GREY BASALT		
	53	62	BROWN BASALT		
	62	75	SOFT SMALL CINDERS		
	75	78	BLACK RED CLAY		
	78	120	GREY BASALT		
	120	200	SOFT GREY BASALT		
	200	220	BLACK TALC BASALT		
	220	300	SOFT CLAY TALC		
	220	300	YELLOW GREEN CALCITE		
	300	380	BLACK BASALT SOFT		
	380	390	BLACK BASALT TALC		
	390	400	BLACK BASALT SOFT		
	400	420	SOFT BLACK BASALT		
	400	420	TALC GREEN		
	420				

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Department of Water Resources
Southern Region

Completed Depth 420 (Measurable)
Date: Started 04/15/97 Completed 04/22/97

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 WALKER WATER SYSTEMS INC. Firm No. _____
Firm Official _____ Date 05/09/97
and
Supervisor or Operator _____ Date 05/09/97
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
3/95

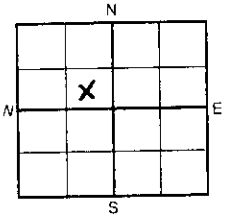
IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT
Use Typewriter or Ballpoint Pen

Office Use Only
Inspected by _____
Twp____ Rge____ Sec____
____1/4 ____1/4 ____1/4
Lat: : : Long: : :

1. DRILLING PERMIT NO. 37 - 91 - S - 0030 - 000
Other IDWR No. _____

2. OWNER:
Name MIKE HANLEY
Address P.O. BOX 4598
City KETCHUM State ID Zip 83340

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.



Twp. 4 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 29, ____ 1/4 (10 acres) ____ 1/4 (40 acres) ____ 1/4 (160 acres)
Gov't Lot ____ County LINCOLN
Lat: : : Long: : :
Address of Well Site _____
City SHOSHONE
(Give at least name of road + Distance to Road or Landmark)

Lt. 12 Blk. _____ Sub. Name BLACK BUTTE RANCHES

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			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	
BENTONITE	0	78.5	350#	OVERBORE

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 5/8	+1.5	-78	.250	Steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
☐ Perforations Method _____
☐ Screens Screen Type _____

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Department of Water Resources

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
161 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
30+			

Water Temp. 56 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
8	0	3	SURFACE DIRT		X
	3	5	GREY BASALT		X
	5	7	BROWN CLAY		X
	7	16	BLACK BASALT		X
	16	18	SOFT BROWN CLAY &		X
	18	19	GREY BASALT		X
	19	30	SOFT GREY BASALT		X
	30	31	BROWN CLAY		X
	31	40	GREY BASALT		X
	40	60	VERY SOFT BROWN		X
	40	60	CLAY & GREY		X
	40	60	BASALT WITH TALC		X
	60	78.5	BROKEN BASALT WITH		X
	60	78.5	CLAY & TALC		X
6	78.5	100	GREY BASALT WITH		X
	78.5	100	CLAY & TALC		X
	100	130	VERY SOFT BROKEN		X
	100	130	BROWN CALCITE		X
	130	208	SOFT BLACK BASALT	X	
	208	210	TALC		X
	210	260	BLACK BASALT CINDERS	X	
	260	280	HARD BLACK BASALT	X	
	260	280	TALC CALCITE	X	
	280	340	HARD BLACK BASALT		X
	340	372	GREY RHYOLITE		X
	372	400	GREY BROWN RHYOLITE	X	
	400	410	GREY BROWN RHYOLITE		X
	410	420	DECOMPOSED GRANITE	X	
	420				X

Completed Depth 420' (Measurable)
Date: Started 04/25/97 Completed 04/30/97

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 WALKER WATER SYSTEMS INC. Firm No. _____
Firm Official _____ Date 05/08/97
and
Supervisor or Operator _____ Date 05/08/97
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
11/97

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: : :

1. WELL TAG NO. D _____
DRILLING PERMIT NO. 37-99-S-0083-000
Other IDWR No. 00008398

2. OWNER:
Name SEDLACK, GEORGE & CAROL
Address P.O. BOX 6270
City SUN VALLEY State ID Zip 83353

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4 North ☐ or South ☐ X
Rge. 17 East ☐X or West ☐
Sec. 29, ____ 1/4 (10 acres) NE 1/4 (40 acres) NE 1/4 (160 acres)
Gov't Lot ____ County LINCOLN
Lat: : : Long: : :
Address of Well Site 798 N 250 W
City SHOSHONE
(Give at least name of road + Distance to Road or Landmark)

Lt. 2-3 Blk. _____ Sub. Name BLACK BUTTE RANCHES

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	119	20SKS	OVERBORE

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
6.625	+1	119	.250	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:
78ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: CAP

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
40			

Water Temp. 56 Bottom hole temp. _____
Water Quality test or comments: _____
Depth first Water Encounter _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	0	19	SOIL & CLAY		X
	19	40	GREY BASALT		X
	40	80	GREY BASALT BROKEN		X
	80	100	RED BASALT BROKEN		X
	100	105	GREY BASALT SOFT		X
	105	119	GREY BASALT HARD		X
6	119	190	BLACK BASALT		X
	190	210	GREY BASALT SOFT		X
	210	275	GREY GREEN BASALT		X
	275	290	BLACK SAND & TALC	X	
	290	360	BLACK BASALT		X
	360	410	BLACK BASALT HARD		X
	410	425	BLACK BASALT SAND & TALC	X	
	425	430	GRANITE SAND	X	

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SEP 15 1999
Department of Water Resources
Southern Region

Completed Depth 430 (Measurable)
Date: Started 08/10/99 Completed 08/25/99

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 WALKER WATER SYSTEMS INC. Firm No. 15
Firm Official Ted Walker Date 09/10/99
and
Driller or Operator [signature] Date 09/10/99
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO

Form 238-7
11/97

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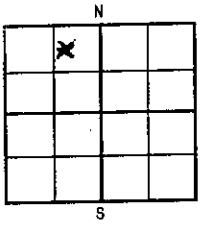
IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D _____
DRILLING PERMIT NO. 37-99-S-0012-000
Other IDWR No. 00008003

2. OWNER:
Name RIELLY, RON
Address 9158 NORTH FLINT WAY
City PARK CITY State ___ Zip 84098

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.



Twp. 4 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 29, ____ (10 acres) 1/4 NE (40 acres) 1/4 NW (160 acres) 1/4
Gov't Lot ____ County LINCOLN
Lat: : : Long: : :
Address of Well Site _____
City SHOSHONE
(Give at least name of road + Distance to Road or Landmark)

Lt. _____ Blk. _____ Sub. Name BLACK BUTTE

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	120	1350#	OVERBORE

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
6.625	+1	119	250	STEEL	☒	☐	☒	☐
5	115	345	188	STEEL	☐	☒	☒	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
X Perforations Method _____
Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
280	340	.125	120	5	STEEL	☐	☒
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
290 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: CAP

11. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
35			

Water Temp. 58 Bottom hole temp. ____
Water Quality test or comments: _____
Depth first Water Encounter ____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	0	4	BROWN SOIL		X
	4	20	BROWN DECOMPOSED BASALT		X
	20	80	BROWN DECOMPOSED BASALT		X
	80	100	BROKEN CAVING		X
	80	100	DECOMPOSED BASALT		X
	100	115	DECOMPOSED BASALT & TALC		X
6	115	132	SOFT DECOMPOSED BASALT		X
	132	150	SOFT GREY BASALT	X	
	150	155	GREY BASALT & TALC		X
	155	158	TALC SOFT BASALT		X
	158	165	SOFT BROWN BASALT		X
	158	165	& CALCITE		X
	165	180	BROWN BASALT		X
	180	185	FIRM BROWN BASALT		X
	185	240	HARD BROWN BASALT		X
	240	265	FIRM BASALT		X
	265	315	SOFT TALC &		X
	265	315	BLACK CINDERS		X
	315	355	FIRM BASALT & TALC		X
	355	372	SOFT BASALT	X	
	372	435	GREY SOFT BASALT	X	
	435	438	BROWN SOFT BASALT	X	
	438	455	GRANITE & SAND	X	

Completed Depth 455 (Measurable)
Date: Started 03/23/99 Completed 03/30/99

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 WALKER WATER SYSTEMS INC. Firm No. 15
Firm Official _____ Date 04/12/99
and
Driller or Operator _____ Date 04/12/99
(Sign once if Firm Official & Operator)

Basin 37
APP 8 72748
Per 78142

P 352518

Form 238-7
11/97

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

CA

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0023165
DRILLING PERMIT NO. ____-____-__-_____-_____
Other IDWR No. _____

2. OWNER:
Name Scott Curtis
Address P. o. Box 1246
City Ketchum State ID Zip 83340

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. 17 East ☒ or West ☐
Sec. 29, ____ 1/4 SE 1/4 NW 1/4 (10 acres / 40 acres / 160 acres)
Gov't Lot ____ County Lincoln
Lat: : : Long: : :
Address of Well Site _____
City _____
(Give at least name of road + Distance to Road or Landmark)

Lt. 11 Blk. _____ Sub. Name Black Butte Ranch

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	95	1,000#	Overbore

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
6.625	+1.5	98.5	250	Steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

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:
193 ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: well cap

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
± 50			

Water Temp. 56° Bottom hole temp. _____
Water Quality test or comments: _____
Depth first Water Encounter _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	0	5	Soil		
	5	60	Grey basalt		
	60	74	Brown basalt		
	74	99	Broken basalt		
6	99	130	Brown basalt		
	130	160	Soft red & black basalt, talc		
	160	200	Grey basalt, firm		
	200	240	Grey basalt & talc, soft	X	
	240	290	Brown basalt & talc	X	
	290	330	Brown basalt, firm		
	330	390	Grey basalt		
	390	440	Granite sand	x	

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SEP 03 2002
Department of Water Resources
Southern Region

Completed Depth 440 (Measurable)
Date: Started 7/29/02 Completed 7/29/02

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 _____ Firm No. 15
Firm Official Paul Walker Date _____
and
Driller or Operator Paul Walker Date 8-15-02
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Basin 37 A1 #76713 J800994 ID371 8

Form 238-7
6/02

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

CA

Office Use Only
Well ID No.
Inspected by
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0023690
DRILLING PERMIT NO.
Water Right or Injection Well No.

2. OWNER:
Name Barrymore, Debbie & Blake
Address P.O. Box 3341
City Hailey State ID Zip 83333

3. LOCATION OF WELL by legal description:
You must provide address or Lot, Blk, Sub. or Directions to well.
Twp. 4 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 29 NW 1/4 (10 acres) NE 1/4 (40 acres) SE 1/4 (160 acres)
Gov't Lot County Lincoln
Lat: : : Long: : :
Address of Well Site City Shoshone
(Give at least name of road + Distance to Road or Landmark)
Lt. 9 Blk. Sub. Name Black Butte Ranches

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 Material	From	To	Weight / Volume	Seal Placement Method
~~OverBore~~	0	100	35 Bags	~~Bentonite~~
Bentonite				Overbore

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
6.625	+2	118	250	Steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe Length of Tailpipe
Packer ☐ Y ☐ N Type

9. PERFORATIONS/SCREENS PACKER TYPE
Perforation Method
Screen Type & Method of Installation

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. FILTER PACK

Filter Material	From	To	Weight / Volume	Placement Method

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
240 ft. below ground Artesian pressure lb.
Depth flow encountered ft. Describe access port or control devices:
cap

12. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
± 80			

Water Temp. 56 Bottom hole temp.
Water Quality test or comments:
Depth first Water Encounter

13. LITHOLOGIC LOG: (Describe repairs or abandonment) Wa

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Y
8	0	10	Dirt	
	10	20	Soft Decomposed Basalt	
	20	40	Gray Basalt	
	40	60	Brown Basalt	
6	60	118	Lost Circulation	
	118	120	Lost Circulation	
	120	260	Firm Black Basalt	
	260	300	Soft Basalt clay & talc green	X
			calcite	
	300	360	Black Basalt	
	360	396	Black Basalt Talc	
	396	440	Granite Brown & White	X
	440	460	Caving Course Granite Sand	

RECEIVED
JUN 16 2003
Department of Water Resources

Completed Depth 440 (Measurat
Date: Started 5/14/03 Completed 5/21/03

14. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
WALKER WATER SYSTEMS
624 PIERCE ST. TWIN FALLS, ID 83301
Company Name Firm No. 15
Principal Driller Date 6-11-
and
Driller or Operator II Date 6-9-
Operator I Date
Principal Driller and Rig Operator *Required.*
Operator I must have signature of Driller/Operator II.

Appr 87616, Permit 798236, ID 369182

Form 238-7
11/97 JGE

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 0023670
DRILLING PERMIT NO. RECEIVED
Other IDWR No. JUL 14 2003
Department of Water Resources Southern Region

2. OWNER:
Name Raymond Alexander
Address 111 4 Mile Rd.
City Shoshone State ID Zip 83352

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

CA

N / W / E / S

Twp. 4 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 15 ____ 1/4 (10 acres) NE 1/4 (40 acres) NW 1/4 (160 acres)
Gov't Lot ____ County Lincoln
Lat: Long:
Address of Well Site as above
City Shoshone
(Give at least 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 replacement

6. DRILL METHOD:
☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other ____

7. SEALING PROCEDURES:

Seal/Filter Pack			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	
bentonite	0	18	200 lbs	dry pour

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____
Was drive shoe seal tested? ☐ Y ☒ N How?

8. CASING/LINER:

Diameter	From	To	Guage	Material	Casing	Liner	Welded	Threaded
6"	+1	18	.250	steel	☒	☐	☐	☐
5"	43	343	.188	steel	☐	☒	☒	☐
					☐	☐	☐	☐

Length of Headpipe 1' Length of Tailpipe ____

9. PERFORATIONS/SCREENS: SCANNED
☐ Perforations Method ____
☐ Screens Screen Type ____ JUL 16 2003

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
258' ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: well cap

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. <85 Bottom hole temp. <85
Water Quality test or comments: ____
Depth first Water Encounter 260

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	0	6	top soil		
8	6	18	medium lava		
6	18	40	medium lava		
6	40	41	cinders		
6	41	49	medium lava		
6	49	52	soft broken lava		
6	52	121	medium soft lava		
6	121		soft broken lava, cinders &		
		127	rock		
6	127	145	medium lava		
6	145	180	ash & soft lava		
6	180	187	clay		
6	187	208	soft lava		
6	208	219	soft broken lava & cinders		
6	219	239	soft lava		
6	239	242	soft lava, cinders & clay		
6	242	260	medium soft lava & red sand		
6	260	290	medium soft lava & breaks	X	
6	290	296	soft broken lava & cinders	X	
6	296	299	medium lava		
6	299	309	soft broken lava & cinders	X	
6	309	310	medium lava		
6	310	318	soft lava & ash	X	
6	318	326	medium lava		
6	326	331	soft broken lava & cinders	X	
6	331	343	medium lava		
6	343	389	medium soft lava	X	
6	389	420	medium hard lava		
6	420	439	medium lava		
6	439	441	soft lava	X	
6	441	456	medium lava		
6	456	470	soft lava	X	
6	470	489	medium lava		
6	489	490	soft lava	X	

~~Continued on next page~~

Completed Depth 490' (Measurable)
Date: Started 4/25/2003 Completed 6/25/2003

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 Eaton Drilling & pump Service, Inc. Firm No. 26
Firm Official [signature] Date 6/25/2003
and
Driller or Operator [signature] Date 6/25/2003
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
11/97 JGE

App 58624.2

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 0030060
DRILLING PERMIT NO. 58974
Other IDWR No. ID 379750

2. OWNER:
Name Ted Lennon
Address 770 N. 150 W.
City Shoshone State ID Zip 83352

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

CA

N / W / E / S

Twp. 4 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 27 ____ 1/4 (10 acres) NW 1/4 (40 acres) SW 1/4 (160 acres)
Gov't Lot ____ County Lincoln
Lat: Long:
Address of Well Site as above
City Shoshone
(Give at least 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			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	
bentonite	-6	18	200 lbs	dry pour

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____
Was drive shoe seal tested? ☐ Y ☒ N How? ____

8. CASING/LINER:

Diameter	From	To	Guage	Material	Casing	Liner	Welded	Threaded
6"	+2	18	.250	steel	☒	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe 2' 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:
276 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: well cap

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. <85 Bottom hole temp. <85
Water Quality test or comments: ____
Depth first Water Encounter 290

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	0	4	clay & sand		
8	4	6	medium broken lava		
8	6	8	sand		
8	8	15	medium hard lava		
8	15	18	broken & loose		
6	18	31	medium lava		
6	31	52	soft lava, breaks & cinders		
6	52	65	medium lava		
6	65		medium soft, breaks &		
		85	cinders		
6	85	90	medium lava		
6	90	96	medium soft lava & breaks		
6	96	165	medium lava		
6	165	171	soft lava & breaks		
6	171	227	medium lava		
6	227	239	soft lava		
6	239	290	medium soft lava		
6	290	294	soft lava & ash	X	
6	294	310	medium soft lava		
6	310	314	ash, soft lava & cinders	X	
6	314	325	soft lava		
6	325	340	soft lava, ash & talc	X	
6	340	350	soft lava & cinders	X	
6	350	360	cinders & clay	X	

SCANNED
DEC 1 2003

RECEIVED
DEC 09 2003
Department of Water Resources
Southern Region

Completed Depth 340' (Measurable)
Date: Started 11/12/2003 Completed 11/13/2003

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 Eaton Drilling & pump Service, Inc. Firm No. 26
Firm Official ____ Date 11/13/2003
and
Driller or Operator ____ Date 11/13/2003
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Page 2

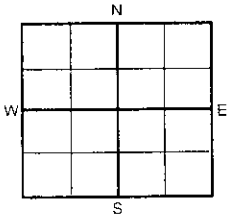
Use Typewriter or Ballpoint Pen

Office Use Only
Inspected by _____
Twp____ Rge____ Sec____
____1/4 ____1/4 ____1/4
Lat: : : Long: : :

1. DRILLING PERMIT NO. ____-____-__-_____-_____
Other IDWR No._____

2. OWNER:
Name Black Butte Properties, LLC
Address P. O. Box 1877
City Ketchum State ID Zip 83340

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.



Twp. 4 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 29, ____ 10 acres 1/4 NE 40 acres 1/4 NE 160 acres 1/4
Gov't Lot ____ County Lincoln
Lat: : : Long: : :
Address of Well Site _____
_____ City Shoshone
(Give at least 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			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	

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
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

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:
_____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

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
	470	480	Brown decomposed granite	X	

Completed Depth 430 (Measurable)
Date: Started 9/20/96 Completed 9/25/96

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 WALKER WATER SYSTEMS 624 PIERCE ST. TWIN FALLS, ID 83301 Firm No. 15
Firm Official Fred Walker Date_____
and
Supervisor or Operator_____ Date_____

38-7

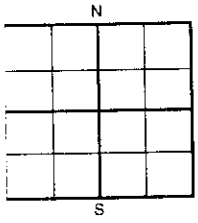
IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter
or
Ball Point Pen

1. DRILLING PERMIT NO. ____-____- __-_____-_____
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.



Twp._____ North ☐ or South ☐
Rge. _____ East ☐ or West ☐
Sec. _____, _____1/4 _____1/4 _____1/4
(10 acres, 40 acres, 160 acres)
Gov't Lot _____ County_____
Address of Well Site_____
_____ City_____
(Give at least name of road + Distance to Road or Landmark)

Lt._____ Blk._____Sub. Name_____
_____

4. PROPOSED USE:
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other_____

5. TYPE OF WORK
☐ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☐ Air Rotary ☐ Cable ☐ Other_____

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	

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
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

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:
_____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

Water Temp._____ Bottom hole temp._____
Water Quality test or comments:_____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	236	260	Hard-Soft spots redish & clay		
	260	265	Med Hard		
	265	274	Med Hard		
	274	285	Med Hard & soft spots		
	285	325	Med Hard and small breaks		
	325	336	Med Hard		
	336	341	Soft		
	341	345	Med Hard breaks		
8/6	345	384	Redish clay		
	384	404	Gray Basalt porous Lg. breaks	Y	
	404	407	Large breaks Gray basalt		
	407	424	Gray Basalt Broken		
	424	449	Gray Basalt Porous & Breaks		

RECEIVED
SEP 15 1994
Department of Water Resources
Southern Region Office

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)

Form 238-7
11/97

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

C

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0016487
DRILLING PERMIT NO. 37 - - - 770743
Other IDWR No. app. 868008; ID 342689

2. OWNER:
Name Tews Land & Livestock
Address 2473 East 4100 North
City Filer State ID Zip 83328

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S — X

Twp. 4 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 10, ____ 1/4 NW 1/4 NW 1/4 (10 acres / 160 acres)
Gov't Lot ____ County Lincoln
Lat: : : Long: : :
Address of Well Site 6 mi Northwest of Mammoth Ice Caves
City Shoshone
(Give at least 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
Bentonite	5	30	9 S	Poured
Overbore to seal depth				

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 768'
Was drive shoe seal tested? ☒ Y ☐ N How? Air pressure

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	+2	768	.250	Steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
Perforations Method Factory
Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
710	750	1/8 x 3	6 R	6"	Steel	☒	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
323 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

Water Temp. _____ Bottom hole temp. _____
Water Quality test or comments: _____
Depth first Water Encounter _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8"	0	1	Topsoil		x
	1	185	Decomposed brown basalt		x
	185	201	Brown cinders		x
	201	245	Gray basalt		x
	245	315	Brown basalt		x
	315	345	Gray basalt		x
	345	390	Brown rhyolite	x	
	390	728	Gray rhyolite, hard		x
	728	740	Black sandstone	x	
	740	765	Broken basalt, water talc	x	
	765	768	Red ash & cinders	x	

RECEIVED
SEP 06 2001
Department of Water Resources
Southern Region

Completed Depth 768 ft. (Measurable)
Date: Started 8-28-01 Completed 8-30-01

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 Elsing Drillnig Firm No. 31
Firm Official Arnold Elsing Date 9-5-01
and
Driller or Operator CRAIG EGAN Date 9-5-01
(Sign once if Firm Official & Operator)

PRINTER: WHITE COPY TO WATER RESOURCES

m 238-7
32

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT

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.

WELL OWNER

Name [illegible]

Address [illegible]

Owner's Permit No. _____

NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

PROPOSED USE

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

METHOD DRILLED

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

WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches +	1 feet	135 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 135 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 _____

LOCATION OF WELL

Sketch map location must agree with written location.

N / W / E / S

Subdivision Name _____

Lot No. _____ Block No. _____

County Twin Falls

¼ ¼ ¼ Sec. 11, T. 4 N/S, R. 17 E/W.

7. WATER LEVEL

Static water level 238 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 ?
	0	6	SAND GRAVEL		
	6	18	CLAY GRAVEL		
	18	23	RED CLAY		
	23	37	FINE SAND		
	37	45	HARD RETURNS		

RECEIVED
JAN 5 1984
Department of Water Resources
Southern District Office

10.

Work started 12/13/83 finished 12/20/83

11. DRILLERS CERTIFICATION

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

Firm Name [illegible] Firm No. [illegible]

Address [illegible] Date 1/2/84

Signed by (Firm Official) [signature]

and

(Operator) [signature]

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

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 Richard Olson

Address Shoshone Box 644

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 ~~Steel~~

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 19 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.

N / W / E / S — 14

Subdivision Name _____
Lot No. _____ Block No. _____
County LINCOLN
W ½ S W ¼ Sec. 14 T. 4 N/S, R. 17 E/W.

7. WATER LEVEL

Static water level 220 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

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	3	Cap Soil		X
	3	12	Gray lava		X
6	12	42	Gray lava		X
	42	44	Red lava		X
	44	54	Gray lava		X
	54	77	Red lava		X
	77	85	Gray lava		X
	85	141	Red lava		X
	141	183	Gray lava		X
	183	210	Red lava		X
	210	262	Gray lava		X
	262	265	Red lava		X
	265	270	Red Sand		X
	270	315	Brown Clay		X
	315	332	Gray lava		X
	332	351	Brown Clay		X
	351	439	Gray lava	✓	
	439	474	Red lava	✓	
	474	500	Brown lava	✓	

10. Work started 5-4 finished 5-9

11. DRILLERS CERTIFICATION

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

Firm Name CB Fatey Firm No. 46
Address Wendell Date 5-11-78
Signed by (Firm Official) [signature]
and
(Operator) [signature]

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

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPE
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 Richard Olsen

Address Shoshone

Owner's Permit No. _____

2. NATURE OF WORK

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

Casing

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	980 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

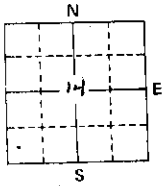
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

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 380 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 LINCOLN
SW ¼ SW ¼ Sec. 14 T. 4 N/S, R. 17 E/W.

7. WATER LEVEL

Static water level 250 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

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	3	top Soil		
	3	19	Gray lava		
	19	40	Gray lava		✓
	40	44	Red lava		✓
	44	54	Gray lava		✓
	54	77	Red lava		✓
	77	85	Gray lava		✓
	85	141	Red lava		✓
	141	183	Gray lava		✓
	183	210	Red lava		✓
	210	262	Gray lava		✓
	262	265	Red lava		✓
	265	270	Red Sand		✓
	270	305	Brown Clay		✓
	305	332	Gray lava		✓
	332	351	Brown Clay		✓
	351	439	Gray lava		✓
	439				
	351	380	Gray lava		✓
6	380	439	Gray lava	✓	
	439	476	Red lava	✓	
	476	508	Brown lava	✓	

10.

Work started June 14 finished June 21

11. DRILLERS CERTIFICATION

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

Firm Name C B Eaton Firm No. 44
Address Wendell Date _____
Signed by (Firm Official) _____
and
(Operator) _____

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.

WELL OWNER

Name Richard Olsen

Address Shoshone

Owner's Permit No. _____

NATURE OF WORK

☐ New well ☒ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning) _____

Casing

PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal

☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

☐ Other _____ (specify type)

METHOD DRILLED

☒ Rotary ☒ Air ☐ Hydraulic ☐ Reverse rotary

☐ Cable ☐ Dug ☐ Other _____

WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches +	1 feet	980 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 _____ 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 _____

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 _____

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped

9. LITHOLOGIC LOG

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

10.

Work started June 14 finished June 23

. LOCATION OF WELL

Sketch map location must agree with written location.

N / W / E / S

Subdivision Name _____

Lot No. _____ Block No. _____

County Lincoln

SW ¼ SW ¼ Sec. 14, T. 4 N/S, R. 17 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 C A Eaton Firm No. 46

Address Wendell Date _____

Signed by (Firm Official) Carroll Eaton

and

(Operator) Donald Doyle

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

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: : :

1. DRILLING PERMIT NO. 37 - 97 - S - 0047 - 000
Other IDWR No. _____

2. OWNER:
Name David Orr %Ameriquest Manufactured Homes
Address P.O. Box 2300
City Twin Falls State ID Zip 83303

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S — X

Twp. 4 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 36, ____ 1/4 SW 1/4 SW 1/4
(10 acres / 40 acres / 160 acres)
Gov't Lot ____ County Lincoln
Lat: : : Long: : :
Address of Well Site _____
City _____
(Give at least name of road + Distance to Road or Landmark)

Lt. 7 & 8 Blk. ____ Sub. Name Stowell North 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 _____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	0	18	3 S	Poured
Overbore to seal depth				

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"	+2	18	250	Steel	☒	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

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:
275 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

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
8"	0	1	Topsoil		x
	1	18	Gray basalt		x
6"	18	70	Gray basalt		x
	70	74	Broken basalt		x
	74	96	Fractured basalt		x
	96	104	Cinders		x
	104	126	Fractured basalt		x
	126	131	Cinders		x
	131	174	Fractured basalt, soft		x
	174	181	Cinders		x
	181	206	Fractured basalt, soft		x
	206	270	Basalt		x
	270	350	Fractured basalt	x	

RECEIVED
MAY 14 1997
Department of Water Resources
Southern Region

Completed Depth 350 ft. (Measurable)
Date: Started 5-6-97 Completed 5-6-97

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 Elsing Drilling Firm No. 31
Firm Official Arnold Elsing Date 5-12-97
and
Supervisor or Operator CRAIG EGAN Date 5-12-97
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

907-4

Form 238-7
3/95

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ballpoint Pen

37-98-S-0009-100

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____1/4 ____1/4 ____1/4
Lat: : : Long: : :

1. DRILLING PERMIT NO. ~~37-97-S-0847-000~~
Other IDWR No. Tag: D002366

2. OWNER:
Name David Orr %Ameriquest Manufactured
Address P.O. Box 2300 Homes
City Twin Falls State ID Zip 83303

3. LOCATION OF WELL by legal description: 38-
Sketch map location must agree with written location.

N / W / E / S

Twp. 4 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 36, ____ 1/4 SW 1/4 SW 1/4 (10 acres / 40 acres / 160 acres)
Gov't Lot ____ County Lincoln
Lat: : : Long: : :

Address of Well Site
P.O. Box 503 City Moorhouse
(Give at least name of road + Distance to Road or Landmark)

Lt. 7 & 8 Blk. ____ Sub. Name
Stowell North 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

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	0	18	3 S	Poured
Overbore to seal depth				

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"	+2	356	.250	STeel	☒	☐	☐	☐
					☒	☐	☒	☐
					☐	☐	☐	☐

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:
275 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	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	Water Y	Water N
8"	0	1	Topsoil		x
	1	18	Gray basalt		x
	18	70	Gray basalt		x
	70	74	Broken basalt		x
	74	96	Fractured basalt		x
	96	104	Cinders		x
	104	126	Fractured basalt		x
	126	131	Cinders		x
	131	174	Fractured basalt, soft		x
	174	181	Cinders		x
	181	206	Fractured basalt, soft		x
	206	270	Basalt		x
	270	350	Fractured basalt	x	
			(Deepen 3-11-98)		
	350	360	Fractured basalt	x	
6"	360	370	Fractured basalt	x	
	370	455	Basalt		x
	455	496	Fractured basalt		x
	496	520	Basalt		x
	520	605	Cinders, water talc	x	

RECEIVED
MAR 24 1998
Department of Water Resources
Southern Region

Completed Depth 605 ft. (Measurable)
Date: Started 5-6-97 Completed 5-6-97
3/11/98 3/12/98

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 Elsing Drilling Firm No. 31
Firm Official Arnold Elsing Date 5-12-97
and

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: : :

1. DRILLING PERMIT NO. 37-96-S-0021-000
Other IDWR No. _____

2. OWNER:
Name Martin Peterson
Address P.O. Box 2191
City Hailey State ID Zip 83330

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4S North ☐ or South ☒
Rge. 17E East ☒ or West ☐
Sec. 36, ____ 10 acres 1/4 SE 40 acres 1/4 SW 160 acres 1/4
Gov't Lot ____ County Lincoln
Lat: : : Long: : :
Address of Well Site 88 East 620 North
(Give at least name of road + Distance to Road or Landmark)
City Shoshone
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	19	150 LBS	Dry

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	19	.250	Steel	☒	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe +1' Length of Tailpipe 19'

9. PERFORATIONS/SCREENS
☐ Perforations Method _____
☐ Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
233 ft. below ground Artesian pressure _____ lb.
Depth flow encountered 318 ft. Describe access port or control devices: Well Cap

11. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. ~85° Bottom hole temp. ~85°
Water Quality test or comments: _____
Depth first Water Encountered 318

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		
↓	2	5	Brown Sandy Clay		
8/6	5	45	Gray Lava		
6	45	52	Red Lava		
|	52	66	Gray Lava		
|	66	69	Black & Red Lava		
|	69	78	Broken - No Returns		
|	78	82	Crevice Cinders		
|	82	86	Soft Broken		
|	86	94	Med Hard		
|	94	99	Soft Broken		
|	99	105	Med Hard		
|	105	108	Soft Broken		
|	108	135	Med Hard		
|	135	163	Hard		
|	163	178	Med Hard		
|	178	225	Hard		
|	225	238	Med Hard		
|	238	252	Hard		
|	252	264	Med Hard		
|	264	284	Hard		
|	284	290	Med Hard		
|	290	298	Hard		
|	298	316	Med Hard		
|	316	318	Crevice	X	
|	318	319	Broken	X	
|	319	326	Soft Broken		
↓	326	330	Med Hard		

RECEIVED
APR 25 1996
Department of Water Resources
Southern Region

Completed Depth 330 (Measurable)
Date: Started 3-27-96 Completed 4-1-96

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 Eaton Drilling Firm No 26
Firm Official _____ Date 4-9-96
and
Supervisor or Operator Michael Copeland Date 4-9-96
(Sign once if Firm Official & Operator)

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: : :

1. DRILLING PERMIT NO. 37-96-S-0109-000
Other IDWR No. _____

2. OWNER:
Name Raymond Pugh
Address 28 E 620 S
City Shoshone State ID Zip 83352

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4 S North ☐ or South ☒
Rge. 17 E East ☒ or West ☐
Sec. 36 ____ 1/4 (10 acres) SW 1/4 (40 acres) SW 1/4 (160 acres)
Gov't Lot ____ County Lincoln
Lat: : : Long: : :
Address of Well Site Same as above
(Give at least name of road + Distance to Road or Landmark) City _____
Lt. _____ Blk. _____ Sub. Name Parcel #6

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	180	450 lbs	Dry

Was drive shoe used? ☒Y ☒N Shoe Depth(s) 180'
Was drive shoe seal tested? ☐Y ☒N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	+1	180	.25	Steel	☒	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe +1' Length of Tailpipe 180'

9. PERFORATIONS/SCREENS
☐ Perforations Method _____
☐ Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
218 ft. below ground Artesian pressure _____ lb.
Depth flow encountered 234 ft. Describe access port or control devices: 1/2" well cap

11. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min	Drawdown	Pumping Level	Time

Water Temp. 45° Bottom hole temp. 85°
Water Quality test or comments: _____
Depth first Water Encountered 259

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8"	0	5	Brown Clay		
8"	5	41	Gray Lava		
8"	41	43	Black lava		
	43	45	Crevice + Broken		
	45	48	Med Hard - Broken		
	48	49	Broken		
	49	52	Med Hard		
	52	67	Hard - Gray Lava		
	67	80	Med Hard		
	80	81	Brown Sandy Clay		
	81	84	Gray Lava		
	84	101	Brown Ash		
	101	115	Gray Lava		
	115	130	Brown & White Clay		
	130	152	Soft Broken - No Returns		
	152	161	Med Hard		
	161	164	Broken		
	164	171	Med Hard		
▽	171	180	Hard		
6"	180	185	Med Hard		
	185	225	Hard		
	225	234	Med Hard		
	234	284	Hard		
	284	287	Med Hard - Broken	X	
	287	317	Hard		
	317	319	Crevice	X	
▽	319	330	Soft Broken	X	

NOV 22 1996
Department of Water Resources

Completed Depth 320 (Measurable)
Date: Started 10-16-96 Completed 10-19-96

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 Eaton Drilling Firm No. 26
Firm Official [signature] Date 10-24-96
and
Supervisor or Operator Michael Yoder Date 10-23-96
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

T4S R17E S36 SW SW

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: : :

1. DRILLING PERMIT NO. 37 - 96 - S - 0070 - 000 (0070)
Other IDWR No.

2. OWNER:
Name Curt Hanford
Address P.O. Box 3611
City Hailey State ID Zip 83333

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4 S North ☐ or South ☒
Rge. 17 E East ☒ or West ☐
Sec. 36, ___ (10 acres) 1/4 SE (40 acres) 1/4 SW (160 acres) 1/4
Gov't Lot ___ County Lincoln
Lat: : : Long: : :
Address of Well Site 620 North
Approx 28 East (Give at least name of road + Distance to Road or Landmark) City Shoshone
Lt. ___ Blk. ___ Sub. Name Parcel #2

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	150 185	Dry

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	19	250	Steel	☒	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe +1 Length of Tailpipe 19

9. PERFORATIONS/SCREENS
☐ Perforations Method
☐ Screens Screen Type

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
212 ft. below ground Artesian pressure ___ lb.
Depth flow encountered 324 ft. Describe access port or control devices: Well cap

11. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. 85-0 Bottom hole temp. 85-0
Water Quality test or comments:
Depth first Water Encountered 212

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8"	0	4	Brown Clay		
8/6	4	44	Gray Lava		
6"	44	46	Broken Lava		
	46	47	Brown Clay		
	47	49	Brown Lava		
	49	55	Gray Lava		
	55	57	Black & Red Lava - Broken		
	57	61	Black & Red Lava		
	61	75	Gray Lava		
	75	100	Red Lava		
	100	102	Crevaice		
	102	142	Hard		
	142	145	Med Hard		
	145	152	Soft Broken		
	152	175	Hard		
	175	178	Broken		
	178	200	Med Hard		
	200	280	Hard		
	280	286	Med Hard - Breaks	X	
	286	305	Hard		
	305	324	Med Hard		
	324	327	Med Hard - Broken	X	
↓	327	330	Med Hard		

RECEIVED
JUL 17 1996
Department of Water Resources
Southern Region

Completed Depth 330 (Measurable)
Date: Started 6-26-96 Completed 6-26-96

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 Eaton Drilling Firm No. 26
Firm Official [signature] Date 7-11-96
and
Supervisor or Operator [signature] Date 7-8-96
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

1 044' R17E T36 1 SE SW

C.

Form 238-7
1/94

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ball Point Pen

37-94-S-0127-000

1. DRILLING PERMIT NO. 37-94-S-0127-000
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. ___ North ☐ or South ☑
Rge. ___ East ☑ or West ☐
Sec. ___, ___ 1/4 (10 acres) ___ 1/4 (40 acres) ___ 1/4 (160 acres)
Gov't Lot ___ County

Address of Well Site
City
(Give at least name of road + Distance to Road or Landmark)

Lt. Blk. Sub. Name

4. PROPOSED USE:
☑ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK
☑ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☑ Air Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD

Was drive shoe used? Y ☐ N ☐
Was drive shoe seal tested? Y ☐ N ☐ How?

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
					☑	☐	☑	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

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:
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

Water Temp. Bottom hole temp.
Water Quality test or comments:

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8		1	Top soil		
	1	2	Clay Loam		
	2	3	Clay		
	3	42	Hard		
	42	45	Cinders	✓	
	45	46	Clay Loam		
	46	53	BW Lava		
	53	71	Broken Dry Lava Bed/Clay	✓	
	71	100	Dry Lava		
	100	210	Dry Lava		
	210	265	Cement		
	265	269	Broken Lava Bed		
	269	284	Hard Cement		
	284	294	Red - Dry Cement		
	294	295	Soft Broken "		
	295	325	Hard Cement		
	325	326	Broken Rock/Lava	✓	
			Water - Tan Tuff	✓	
	326	342	Hard Cement		
	342	391	Broken "	✓	
	391	405	Cement		

RECEIVED
SEP 12 1994
Department of Water Resources
Southern Region Office

Completed Depth 405 (Measurable)
Date: Started 9-6-94 Completed 9-7-94

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 9-8-94
and
Supervisor or Operator Date
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

7 45' - 7 NE - 7 NS - SE

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:

37 97 S 0028 00D

1. DRILLING PERMIT NO. ~~47 - 97 - S - 0044 - 000~~
Other IDWR No. _____

2. OWNER:
Name Jack & Cathy Burke
Address 1773 East 2900 South
City Wendell State ID Zip 83355

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4 10 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 36 ____ 1/4 SW 1/4 SW 1/4
(10 acres / 40 acres / 160 acres)
Gov't Lot ____ County Lincoln
Lat: : : Long: : :
Address of Well Site _____
City _____
(Give at least 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
Bentonite	0	18	3 S	Poured
Overbore to seal depth				

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"	+2	18	250	Steel	☒	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

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:
105 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

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
8"	0	1	Fill		X
	1	18	Gray basalt		X
6"	18	19	Gray basalt		X
	19	26	Brown basalt		X
	26	65	Gray basalt		X
	65	68	Fractured basalt, lost circulation		X
	68	73	Gray basalt		X
	73	120	Cinders, soft	X	
	120	235	Soft fractured basalt	X	
	235	355	Fractured basalt	X	

RECEIVED
APR 03 1997
Department of Water Resources

Completed Depth 355 ft. (Measurable)
Date: Started 3-26-97 Completed 3-26-97

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 Elsing Drilling Firm No 31
Firm Official Arnold Elsing Date 3-31-97
and
Supervisor or Operator CRAIG EGAN Date 3-31-97
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

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: : :

1. DRILLING PERMIT NO. 37 - 97 - S - 0048 - 000
Other IDWR No. _____

2. OWNER:
Name Rod Kegley
Address Box 2063
City Ketchum State ID Zip 83340

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S — X

Twp. 4 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 36, ____ 10 acres 1/4 SW 40 acres 1/4 SW 160 acres 1/4
Gov't Lot ____ County Lincoln
Lat: : : Long: : :
Address of Well Site _____
64 East 620 North City Shoshone
(Give at least name of road + Distance to Road or Landmark)
Lt. _____ Blk. _____ Sub. Name _____
Parcel #3 Stowell North 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 _____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	0	358	4 S	Poured
Overbore to seal depth				

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"	+2	358	250	Steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
☒ Perforations Method Knife
☐ Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
300	340	1/8x				☐	☐
		3	4 R	6"	STeel	☒	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
280 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

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
8"	0	4	Topsoil		x
	4	25	Gray basalt		x
	25	31	Broken basalt		x
	31	44	Cinders, lost circulation		x
	44	60	Fractured basalt		x
	60	210	Basalt		x
	210	216	Fractured basalt		x
	216	218	Crevice		x
	218	241	Cinders		x
	241	285	Fractured basalt		x
	285	296	Cinders	x	
	296	358	Fractured basalt	x	
6"	358	360	Fractured basalt	x	

RECEIVED
MAY 28 1997
Department of Water Resources
Southern Region

Completed Depth 360 ft. (Measurable)
Date: Started 5-23-97 Completed 5-27-97

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 Elsing Drilling Firm No. 31
Firm Official Elsing Date 5-28-97
and
Supervisor or Operator Craig Egan Date 5-28-97
(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 ROCK CREEK INC.

Address BOX 505 SHOSHONE, 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 473 feet

Casing schedule: ☑ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6" inches	0 feet	318 feet
25liner inches	5" inches	289 feet	412 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 _____

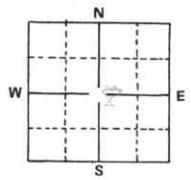
Placed from _____ feet to _____ feet

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 LINCOLN

¼ ¼ Sec. _____, T. _____ N/S, R. _____ E/W

7. WATER LEVEL

Static water level 300 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 G.P.M.	10'	21

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
10"	0	2	TOP SOIL		X
10"	2	6	YELLOW CLAY		X
10"	6	20	GRAY BASALT SOFT 4' HOUR		X
6"	20	55	GRAY BASALT " " "		X
6"	55	65	GRAY BASALT HARD 1' HOUR		X
6"	65	86	(BLUE) SCORIA		X
6"	86	91	(BROWN) CLAY		X
6"	91	126	(GRAY) BASALT 4' HOUR		X
6"	126	135	(RED) SCORIA		X
6"	135	176	& (GRAY) BASALT 4' HOUR		X
6"	176	213	(BROWN) SCORIA		X
6"	213	249	(GRAY) BASALT 3' HOUR		X
6"	249	255	(RED) SCORIA WITH WATER CARRYING RED SAND	X	
6"	255	280	(RED) SANDY CLAY WATER UNUSABLE BECAUSE OF SAND	X	
6"	280	285	(RED) SCORIA		
6"	285	318	(GRAY) BASALT HARD RAN 6" CASING TO PUT'S POINT CASED ABOVE WATER OFF		X
6"	318	336	(GRAY) BASALT		
6"	338	352	(RED) SCORIA WITH CLAY		
6"	352	369	(GRAY) BASALT		
6"	369	408	(RED) SCORIA WITH CLAY WATER WATER CARRYING SANDY SILT COULDN'T CLEAN PROPERLY		
6"	406	412	HARD SAND STONE - RAN 5" LINER CASED ABOVE WATER OFF		
5"	412	460	HARD SAND STONE		
5"	460	473	SOFT SAND STONE SOME CLAY CARRYING GOOD WATER		

10.

Work started 2 AUGUST 84 finished 12 AUG. 84

11. DRILLER'S CERTIFICATION

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

BEAR [illegible] 133

Driller's or Firm's Name Number

Address

Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY

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: : :

1. DRILLING PERMIT NO. 37-96-S-0069-000
Other IDWR No. _____

2. OWNER:
Name Gary Jenks
Address 620 North 58 East
City Shoshone State ID Zip 83352

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4S North ☐ or South ☒
Rge. 17E East ☒ or West ☐
Sec. 36 , ____ 1/4 SE 1/4 SW 1/4
(10 acres / 40 acres / 160 acres)
Gov't Lot ____ County Lincoln
Lat: : : Long: : :
Address of Well Site 620 N 58 E
City Shoshone
(Give at least name of road + Distance to Road or Landmark)

Lt. 4 Blk. _____ Sub. Name _____

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

RECEIVED
JUL 17 1996
Department of Water Resources
Southern Region

5. TYPE OF WORK check all that apply (Replacement well, 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	305	1250 LBS	Dry

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 305
Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	+1	305	.250	Steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe +1' Length of Tailpipe 305'

9. PERFORATIONS/SCREENS
☐ Perforations Method _____
☐ Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
284 ft. below ground Artesian pressure _____ lb.
Depth flow encountered 289 ft. Describe access port or control devices: Well Cap

11. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. 85° Bottom hole temp. 85°
Water Quality test or comments: _____
Depth first Water Encountered 289

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8"	0	2½	Top Soil		
	2½	6	Brown clay		
	6	9	Brown Sandy clay		
	9	30	Gray Lava		
	30	32	Brown & Black Lava		
	32	55	Gray Lava		
	55	60	Broken - No Returns		
	60	64	Hard		
	64	65	Crevice		
	65	74	Hard		
	74	108	Med Hard		
	108	160	Hard		
	160	168	Med Hard		
	168	178	Hard		
	178	189	Med Hard		
	189	190	Crevice		
	190	199	Soft Broken		
	199	223	Med Hard - Breaks		
	223	224	Crevice		
	224	231	Med Hard		
	231	236	Hard		
	236	239	Med Hard Broken		
	239	268	Hard		
	268	270	Med Hard		
	270	279	Soft Broken		
	279	280	Crevice		
	280	289	Soft Broken		
	289	291	Crevice - Sand	X	
↓	291	295	Med Hard Broken		
8 & 6"	295	315	Med Hard		
6"	315	320	Soft Broken		
	320	322	Med Hard		
↓	322	324	Crevice		

Completed Depth 630' (Measurable)
Date: Started 6-12-96 Completed 6-29-96

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 Eaton Drilling Firm No. 26
Firm Official _____ Date 7-11-96
and
Supervisor or Operator _____ Date 7-10-96
(Sign once if Firm Official & Operator)

Form 238-7
3/95

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

(Continued)
Page TWO

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. 32-96-5-0069-000
Other IDWR No. _____

2. OWNER:
Name Gary Jenks
Address _____
City Shoshone State ____ Zip ____

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4S North ☐ or South ☒
Rge. 17E East ☒ or West ☐
Sec. 36 , ____ (10 acres) 1/4 SE (40 acres) 1/4 SW (160 acres) 1/4
Gov't Lot ____ County Lincoln
Lat: : : Long: : :
Address of Well Site _____
City _____
(Give at least 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			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	

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
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

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:
_____ 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

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
6"	324	326	Med Hard		
	326	327	Crevice		
	327	375	Brown Lava		
	375	421	Gray Lava		
	421	485	Brown Lava		
	485	495	Decomposed Granite		
	495	505	Brown Lava		
	505	528	Gray Granite		
	528	541	Brown Lava		
	541	556	Gray Granite		
	556	557	Decomposed Gray Granite	X	
	557	580	Gray + Green Lava		
	580	584	Gray + Green Lava		
	584	595	Brown Granite		
	595	607	Gray + Green Lava Broken	X	
	607	614	Brown Granite		
	614	622	Green Lava		
↓	622	630	Brown Granite		

Completed Depth 630 (Measurable)
Date: Started 6-12-96 Completed 6-29-96

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 Eaton Drilling Firm No. 26
Firm Official _____ Date 7-11-96
and
Supervisor or Operator _____ Date 7-10-96
(Sign once if Firm Official & Operator)

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.

Department of Reclamation

1. WELL OWNER

Name ROCK CREEK INC.

Address BOX 505 SHOSHONE, 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 473 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6" inches	0 feet	318 feet
.250liner inches	5" inches	289 feet	412 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

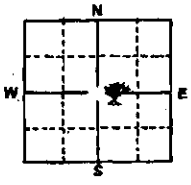
Placed from feet to feet

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.



•37

County LINCOLN

NW ¼ SE ¼ Sec. 33 , T 4S , R. 17E E

7. WATER LEVEL

Static water level 300 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 G.P.M	10'	21

9. LITHOLOGIC LOG 39460

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
16"	0	2	TOP SOIL		X
10"	2	6	YELLOW CLAY		X
10"	6	20	GRAY BASALT SOFT 4' HOUR		X
6"	20	55	GRAY BASALT " " "		X
6"	55	65	GRAY BASALT HARD 1' HOUR		X
6"	65	86	(BLUE) SCORIA		X
6"	86	91	(BROWN) CLAY		X
6"	91	126	(GRAY) BASALT 4' HOUR		X
6"	126	135	(RED) SCORIA		X
6"	135	176	(GRAY) BASALT 4' HOUR		X
6"	176	213	(BROWN) SCORIA		X
6"	213	249	(GRAY) BASALT 3' HOUR		X
6"	249	255	(RED) SCORIA WITH WATER		
			CARRYING RED SAND	X	
6"	255	280	(RED) SANDY CLAY WATER		
			UNUSABLE BECAUSE OF SAND	X	
6"	280	285	(RED) SCORIA		
6"	285	318	(GRAY) BASALT HARD RAN 6"		
			CASING TO THIS POINT CASED		
			ABOVE WATER OFF		X
6"	318	338	(GRAY) BASALT		X
6"	338	350	(RED) SCORIA WITH CLAY	X	
6"	350	369	(GRAY) BASALT		X
6"	369	408	(RED) SCORIA WITH CLAY WATER	X	
			WATER CARRYING SANDY SILT		
			WOULD'NT CLEAR PROPERLY		
6"	408	412	HARD SAND STONE- RAN 5"		
			LINER CASED ABOVE WATER OFF		
5"	412	460	HARD SAND STONE		X
5"	460	473	SOFT SAND STONE SOME GRAVEL		
			CARRYING GOOD WATER	X	

10.

Work started 5 AUGUST 69 finished 17 OCT. 69

11. DRILLER'S CERTIFICATION

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

CLAUDE NICHOLSON WELL DRILLING 159
Driller's or Firm's Name Number

BOX 322 SHOSHONE, IDAHO
Address

Claude Nicholson 20 OCT 69
Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY

App 88070

Form 238-7
6/02

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Well ID No.
Inspected by
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0030123
DRILLING PERMIT NO. 8096648
Water Right or Injection Well No. ID 380389

2. OWNER: Bev & Val Ashton
Name %Magic Homes
Address 5475 Highway 93
City Jerome State ID Zip 83338

3. LOCATION OF WELL by legal description:
You must provide address or Lot, Blk, Sub. or Directions to well.
Twp. 4 North ☐ or South ☒
Rge. 17 East ☒ or West ☐
Sec. 32 ____ 1/4 (10 acres) SE 1/4 (40 acres) NE 1/4 (160 acres)
Gov't Lot ____ County Lincoln
Lat: : : Long: : :
Address of Well Site
685 North 250 West City Shoshone
(Give at least 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 Material	From	To	Weight / Volume	Seal Placement Method
Bentonite	5	18	4 S	Poured

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 326 ft
Was drive shoe seal tested? ☒ Y ☐ N How? Air pressure

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	+1	326	.250	Steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe ____ Length of Tailpipe ____
Packer ☐ Y ☐ N Type ____

9. PERFORATIONS/SCREENS PACKER TYPE
Perforation Method Knife
Screen Type & Method of Installation

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
275	300	1/8	4 R	6"	Steel	☒	☐
		x 3				☐	☐
						☐	☐

10. FILTER PACK

Filter Material	From	To	Weight / Volume	Placement Method

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
246 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: ____

12. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. ____ Bottom hole temp. ____
Water Quality test or comments: ____
Depth first Water Encounter ____

13. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8"	0	2	Topsoil		x
	2	20	Gray basalt		x
	20	83	Fractured gray basalt		x
	83	122	Brown basalt		x
	122	177	Fractured basalt		x
	177	189	Cinders		x
	189	228	Fractured gray basalt		x
	228	240	Brown basalt		x
	240	302	Fractured gray basalt	x	
	302	320	Tan sandy clay		x
	320	326	Fractured gray basalt	x	
6"	326	430	Fractured gray basalt	x	
			actual bore hole diameter is 8-3/4" and 6-1/8"		

RECEIVED
DEC 29 2003
Department of Water Resources
Southern Region

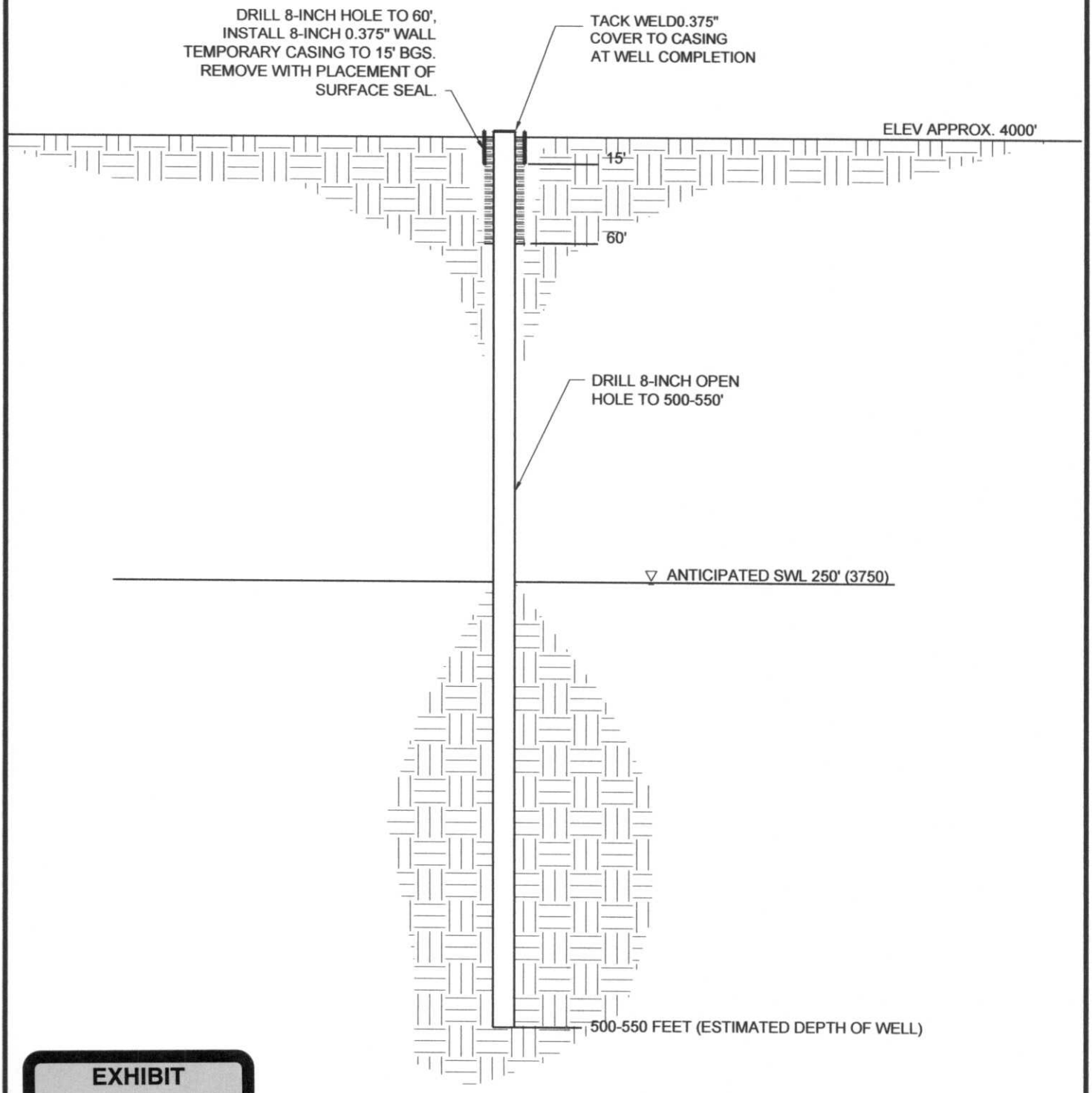
Completed Depth 430 ft. (Measurable)
Date: Started 12-16-03 Completed 12-17-03

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

Company Name Elsing Drilling Firm No. 31
Principal Driller Arnold Elsing Date 12-26-03
and
Driller or Operator II CRAIG EGAN Date 12-26-03
Operator I Lloyd Rhyden Date 12-26-03
Principal Driller and Rig Operator *Required.*
Operator I must have signature of Driller/Operator II.

FORWARD WHITE COPY TO WATER RESOURCES

EXHIBIT 6



EXHIBIT

tabbies

6

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 1"-80' (8.5 X 11 DWG ONLY) DESIGNED BY JCH DRAWN BY ALR	BROCKWAY ENGINEERING, PLLC HYDRAULICS - HYDROLOGY - WATER RESOURCES 2016 NORTH WASHINGTON, SUITE 4 WTIN FALLS, ID 83301 (208) 736-8543	FOUR BROTHERS DAIRY INC. WELL SCHEMATIC	PROJECT # 279-02-2004 DWG# 1 REV △

EXHIBIT 7

Fitzgerald Brothers Farms - New Dairy Operation Water Use Estimates

Estimates Based on Average Water Use Levels

4/8/2004

ry Herd Water Use Data

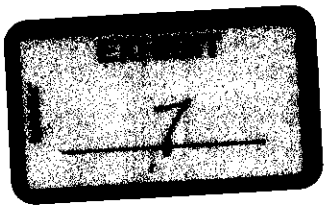
Milking Herd..... 3500 Cows
Replacements..... 500 Heifers

Drinking Water Requirements

Milking Herd	% of herd	High Consumption per Day	Low Consumption per Day	Average Consumption per Day	
Lactating Cows	85	45.7 gal	22 gal	33.85 gal	18.7 Cu.Ft.
Dry Cows	15	16.2 gal	9.7 gal	12.95 gal	1.455 Cu.Ft.
Consumption / 1 cow/day (gal)		41.28 gal	20.16 gal	30.715 gal	
Consumption/1cow/year (gal)		15065.38 gal	7356.58 gal	11210.975 gal	
Consumption/1cow/year (CuFt)		2014.1 Cu.Ft.	983.5 Cu.Ft.	1498.8 Cu.Ft.	980.88 Cu.Ft.

Replacements	% of Replacements	High Consumption per Day	Low Consumption per Day	Average Consumption per Day	
16-24 months	100	14.5 gal	8.70 gal	11.6 gal	8.7 Cu.Ft.
13-15 months	0	10.6 gal	6.30 gal	8.45 gal	0 Cu.Ft.
9-12 months	0	6.1 gal	3.70 gal	4.9 gal	0 Cu.Ft.
5-8 months	0	3.3 gal	2.00 gal	2.65 gal	0 Cu.Ft.
3-4 months	0	3.3 gal	2.00 gal	2.65 gal	0 Cu.Ft.
0-2 months	0	1 gal	0.75 gal	0.875 gal	0 Cu.Ft.
Consumption / 1 heifer/day (gal)		14.50 gal	8.70 gal	11.60 gal	
Consumption/1heifer/year (gal)		5292.50 gal	3175.50 gal	4234 gal	
Consumption/1heifer/year (CuFt)		707.55348 Cu.Ft.	424.5321 Cu.Ft.	566.04 Cu.Ft.	423.40 Cu.Ft.

Annual Milking Herd Drinking Water ..... (Includes Dry Cows)			
	High Intake.....	52,728,813 Gallons	7,125,515 Cu.Ft.
	Average Intake.....	39,238,413 Gallons	5,302,488 Cu.Ft.
	Low Intake.....	25,748,013 Gallons	3,479,461 Cu.Ft.
Annual Replacement Drinking Water.....			
	High Intake.....	2,646,250 Gallons	357,601 Cu.Ft.
	Average Intake.....	2,117,000 Gallons	286,081 Cu.Ft.
	Low Intake.....	1,587,750 Gallons	214,561 Cu.Ft.
Barn Water Use from Waste System...			
	Daily.....	15,000 Gallons	2,027 Cu.Ft.
	Annual.....	5,475,000 Gallons	739,865 Cu.Ft.
All Water Used			
	High Usage.....	60,850,063 Gallons	8,222,981 Cu.Ft.
	Average Usage.....	46,830,413 Gallons	6,328,434 Cu.Ft.
	Low Usage.....	32,810,763 Gallons	4,433,887 Cu.Ft.
Acre Feet/ cfs at Varing Use Levels			
	High Usage.....	188.8 Acre Ft.	0.26 cfs
	Average Usage.....	145.3 Acre Ft.	0.20 cfs
	Low Usage.....	101.8 Acre Ft.	0.14 cfs



Prepared by ROBERT OHLENSEHLEN 4/8/2004

EXHIBIT 8

Shoshone 1 WNW Consumptive Use from Allen and Brockway 83
** Monthly average daily (mm/d) and Seasonal Totals (mm) **

	Mar	Apr	May	J	Jul	Aug	Sep	Oct	Total
ETr									
MEAN ETr	1.82	4.91	6.48	8.15	8.27	6.79	5.24	3.57	1377.
STDV ETr	0.46	0.51	0.54	0.58	0.36	0.46	0.46	0.37	50.
Alfalfa Hay									
MEAN CU		3.07	6.00	7.10	6.72	5.12	3.44	1.20	994.
MEAN IR		2.62	5.35	6.53	6.57	4.92	3.14	0.85	913.
STDEV CU		0.32	0.50	0.51	0.29	0.34	0.30	0.13	37.
STDEV IR		0.60	0.82	0.97	0.39	0.57	0.57	0.37	57.
Dry Beans									
MEAN CU			1.94	3.16	7.14	4.70	0.72		541.
MEAN IR			1.51	2.78	7.01	4.54	0.51		500.
STDEV CU			0.16	0.23	0.31	0.31	0.06		23.
STDEV IR			0.41	0.57	0.39	0.50	0.34		31.
Field Corn									
MEAN CU			1.94	3.55	7.44	6.27	3.92	0.99	735.
MEAN IR			1.47	3.12	7.29	6.06	3.63	0.66	677.
STDEV CU			0.16	0.25	0.32	0.42	0.35	0.10	29.
STDEV IR			0.45	0.64	0.42	0.64	0.59	0.34	38.
Silage Corn									
MEAN CU			1.94	3.55	7.44	6.27	3.92		705.
MEAN IR			1.47	3.12	7.29	6.06	3.63		656.
STDEV CU			0.16	0.25	0.32	0.42	0.35		29.
STDEV IR			0.45	0.64	0.42	0.64	0.59		39.
Sweet Corn									
MEAN CU			1.94	3.42	7.23	6.04			571.
MEAN IR			1.47	2.99	7.08	5.83			531.
STDEV CU			0.16	0.24	0.32	0.40			26.
STDEV IR			0.45	0.63	0.41	0.63			36.
Peas									
MEAN CU		1.49	3.68	6.61	2.89				445.
MEAN IR		1.13	3.18	6.13	2.79				401.
STDEV CU		0.15	0.30	0.47	0.13				21.
STDEV IR		0.41	0.57	0.86	0.21				42.
Potatoes									
MEAN CU		1.47	2.09	5.59	6.95	5.27	3.07		744.
MEAN IR		1.17	1.72	5.21	6.83	5.12	2.86		697.
STDEV CU		0.15	0.17	0.40	0.30	0.35	0.27		30.
STDEV IR		0.36	0.38	0.70	0.36	0.51	0.45		42.
Sugar Beets									
MEAN CU		1.47	1.95	3.79	7.88	6.68	4.55	2.37	875.
MEAN IR		1.08	1.46	3.34	7.73	6.46	4.23	2.00	802.
STDEV CU		0.15	0.16	0.27	0.34	0.45	0.40	0.25	31.
STDEV IR		0.45	0.45	0.67	0.44	0.68	0.65	0.47	46.
Spring Grain									
MEAN CU		1.54	4.88	8.13	6.83	1.39			693.
MEAN IR		1.19	4.35	7.61	6.70	1.25			642.
STDEV CU		0.16	0.40	0.58	0.30	0.09			30.
STDEV IR		0.41	0.67	0.98	0.37	0.30			49.
Winter Grain									
MEAN CU	0.83	4.49	6.48	8.15	6.59	1.24			847.
MEAN IR	0.37	4.03	5.85	7.59	6.45	1.10			774.
STDEV CU	0.21	0.47	0.54	0.58	0.29	0.08			37.
STDEV IR	0.36	0.72	0.84	1.02	0.37	0.31			62.
Pasture									
MEAN CU		3.04	4.99	6.27	6.37	5.23	4.04	2.75	995.
MEAN IR		2.61	4.40	5.76	6.23	5.04	3.74	2.37	918.
STDEV CU		0.32	0.41	0.45	0.28	0.35	0.36	0.29	35.
STDEV IR		0.59	0.71	0.87	0.37	0.57	0.60	0.49	53.
Vegetables									
MEAN CU			1.98	4.26	6.37	5.40	3.58		657.
MEAN IR			1.61	3.91	6.26	5.25	3.36		620.
STDEV CU			0.16	0.30	0.28	0.36	0.32		28.
STDEV IR			0.37	0.60	0.34	0.52	0.49		34.

EXHIBIT 9

STATE OF IDAHO

DEPARTMENT OF AGRICULTURE

DIRK KEMPTHORNE
Governor
PATRICK A. TAKASUGI
Director

May 20, 2004

Four Brothers Dairy Inc.
Andrew Fitzgerald
425 N 250 N
Shoshone, ID 83352

Dear, Fitzgerald:

Enclosed are summaries of nitrate results obtained by the Idaho State Department of Agriculture from water samples taken at your dairy wells. The results are from 10/05/1999 through 03/01/2004.

Please contact this office if you have any questions. 208-332-8550

Sincerely

Marv Patten
Chief, Bureau of Dairying

rb

Maintenance Permits Output Utility Quit | 05/20/2004

1908

Producer ... ANDREW FITZGERALD Producer # ... 9075
Company .... FOUR BROS DAIRY #2 Grade [A] (Active)
Plant ..... Glanbia Foods Class [4]

Wells Tests For Producer: 9075

SAMPLE ID	DATE	INSP	NITRATE	ISOTOPE	DY
99-5090	12/02/1999		1.300	0.000	DY16630307
02-5090	05/17/0202		1.420	0.000	DY16630307
03-5090	03/10/2003		1.070	0.000	DY16630307
04-5090	03/01/2004		0.980	0.000	DY16630307

Functions : [A]dd, [E]dit, [D]elete, Esc Key to Pick Next of Dairying

Maintenance Permits Output Utility Quit | 05/20/2004

132

Producer ... JEROME & ANDREW FITZGERALD Producer # ... 9009

Company .... FOUR BROTHERS DAIRY INC. #1 Grade [A] (Active)

Plant ..... Glanbia Foods Class [2]

Wells Tests For Producer: 9009

SAMPLE ID	DATE	INSP	NITRATE	ISOTOPE	DY
99-5039	10/05/1999		2.190	0.000	DY16630308
02-5039	04/23/2002		2.600	0.000	DY16630308
03-5039	06/11/2003		2.380	0.000	DY16630308
04-5039	03/01/2004		2.120	0.000	DY16630308

Functions : [A]dd, [E]dit, [D]elete, Esc Key to Pick Next Coeau of Dairying

Water Resources

Data Category: Water Quality | Geographic Area: Idaho | go

Water Quality Samples for Idaho

Some complex retrievals may take a few minutes.

Site Selection Results -- 7 sites found

Site name contains string = 05S 17E

Save file of selected sites to local disk for future upload

Data for individual sites can be obtained by selecting the site number below

Agency	Site Number	Site Name	From	To	Count
USGS	425946114241001	05S 17E 14ABB1	2002-08-02	2002-08-02	1
USGS	425808114245801	05S 17E 22DDAC1	2001-09-25	2002-05-02	4
USGS	425729114233701	05S 17E 25CBCA1	2001-06-12	2002-04-25	5
USGS	425746114240101	05S 17E 26ACA1	1960-07-29	1960-07-29	1
USGS	425718114244701	05S 17E 26CCBC1	2001-09-25	2002-04-25	4
USGS	425628114253301	05S 17E 34CDA1	1973-02-14	1973-08-03	2
USGS	425624114242501	05S 17E 35CDB1 DRAIN WELL INFLOW	1973-04-17	1973-04-17	1

Questions about data Idaho NWISWeb Data Inquiries
Feedback on this website Idaho NWISWeb Maintainer

Top
Explanation of terms

Water Quality Samples -- 7 sites found
http://waterdata.usgs.gov/id/nwis/qwdata?

Retrieved on 2005-04-27 16:52:57 EDT
Department of the Interior, U.S. Geological Survey
USGS Water Resources of Idaho
Privacy Statement || Disclaimer || Accessibility || FOIA
11.49 0.97 nadww01

Water Quality Samples for Idaho

Brockway Engineering, PLLC
JCH 4/27/2005

Lincoln County, Idaho
Hydrologic Unit Code 17040219
Latitude 42°59'46.8", Longitude 114°24'10.8" NAD27
Gage datum 4,015. feet above sea level NGVD29

>	- Actual value is known to be greater than the value shown.
A	- Average value
M	- Presence of material verified but not quantified
N	- Presumptive evidence of presence of material
S	- Most probable value
U	- Material specifically analyzed for but not detected
V	- Value affected by contamination
E	- Estimated value
<	- Actual value is known to be less than the value shown.

Data Links

- Parameter Group data summary
- Inventory of available water-quality data
- Inventory of water-quality data with retrieval
- Tab-separated ASCII file, serial order
- Tab-separated ASCII file, wide order
- Reselect output format

USGS 425946114241001 05S 17E 14ABB1

8/2/02 9:40 AM	<--DATE&TIME
6	MEDIUMCODE
14.7	# 00010 - Temperature, water, degrees Celsius
25.0	# 00020 - Temperature, air, degrees Celsius
656	# 00025 - Barometric pressure, millimeters of mercury
80020	# 00028 - Agency analyzing sample, code
477	# 00095 - Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius
7.2	# 00300 - Dissolved oxygen, water, unfiltered, milligrams per liter
7.5	# 00400 - pH, water, unfiltered, field, standard units
7.8	# 00403 - pH, water, unfiltered, laboratory, standard units
210	# 00410 - Acid neutralizing capacity, water, unfiltered, fixed endpoint (pH 4.5) titration, field, milligrams per liter as calcium carbonate
256	# 00440 - Bicarbonate, water, unfiltered, fixed endpoint (pH 4.5) titration, field, milligrams per liter
.0	# 00445 - Carbonate, water, unfiltered, fixed endpoint (pH 8.3) titration, field, milligrams per liter
< .04	# 00608 - Ammonia, water, filtered, milligrams per liter as nitrogen
< .008	# 00613 - Nitrite, water, filtered, milligrams per liter as nitrogen
1.62	# 00631 - Nitrite plus nitrate, water, filtered, milligrams per liter as nitrogen
.07	# 00671 - Orthophosphate, water, filtered, milligrams per liter as phosphorus
47.2	# 00915 - Calcium, water, filtered, milligrams per liter
22.0	# 00925 - Magnesium, water, filtered, milligrams per liter
22.2	# 00930 - Sodium, water, filtered, milligrams per liter
3.49	# 00935 - Potassium, water, filtered, milligrams per liter
6.01	# 00940 - Chloride, water, filtered, milligrams per liter
16.2	# 00945 - Sulfate, water, filtered, milligrams per liter
.4	# 00950 - Fluoride, water, filtered, milligrams per liter
38.2	# 00955 - Silica, water, filtered, milligrams per liter
2.6	# 01000 - Arsenic, water, filtered, micrograms per liter
40.6	# 01005 - Barium, water, filtered, micrograms per liter
< .04	# 01025 - Cadmium, water, filtered, micrograms per liter
< 10	# 01030 - Chromium, water, filtered, micrograms per liter

USGS 425946114241001 05S 17E 14ABB1	
8/2/02 9:40 AM	<--DATE&TIME
3.7	# 01040 - Copper, water, filtered, micrograms per liter
< 10	# 01046 - Iron, water, filtered, micrograms per liter
.66	# 01049 - Lead, water, filtered, micrograms per liter
< 2.0	# 01056 - Manganese, water, filtered, micrograms per liter
153	# 01090 - Zinc, water, filtered, micrograms per liter
.4	# 01145 - Selenium, water, filtered, micrograms per liter
< 1	# 31625 - Fecal coliform, M-FC MF (0.7 micron) method, water, colonies per 100 milliliters
452	# 90095 - Specific conductance, water, unfiltered, laboratory, microsiemens per centimeter at 25 degrees Celsius
226	# 90410 - Acid neutralizing capacity, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, milligrams per liter as calcium carbonate

E - Estimated value

< - Actual value is known to be less than the value shown.

Water Quality Samples for Idaho

Lincoln County, Idaho
Hydrologic Unit Code 17040219
Latitude 42°58'08", Longitude 114°24'58" NAD27
Gage datum 3,960. feet above sea level NGVD29

> - Actual value is known to be greater than the value shown.
A - Average value
M - Presence of material verified but not quantified
N - Presumptive evidence of presence of material
S - Most probable value
U - Material specifically analyzed for but not detected
V - Value affected by contamination
E - Estimated value
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Data Links

Parameter Group data summary
Inventory of available water-quality data
Inventory of water-quality data with retrieval
Tab-separated ASCII file, serial order
Tab-separated ASCII file, wide order
Reselect output format

USGS 425808114245801 05S 17E 22DDAC1

9/25/2001 9:45	9/25/2001 9:46	5/2/2002 10:00	5/2/2002 10:01	<--DATE&TIME
6	0	6	0	MEDIUMCODE
14.5		12.5		# 00010 - Temperature, water, degrees Celsius
21.0		12.0		# 00020 - Temperature, air, degrees Celsius
663		654		# 00025 - Barometric pressure, millimeters of mercury
	1028		1028	# 00027 - Agency collecting sample, code
80020	9801	80020	9801	# 00028 - Agency analyzing sample, code
279		274		# 00095 - Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius
6.8		6.8		# 00300 - Dissolved oxygen, water, unfiltered, milligrams per liter
7.7		7.6		# 00400 - pH, water, unfiltered, field, standard units
7.9				# 00403 - pH, water, unfiltered, laboratory, standard units
120		108		# 00410 - Acid neutralizing capacity, water, unfiltered, fixed endpoint (pH 4.5) titration, field, milligrams per liter as calcium carbonate
145		128		# 00440 - Bicarbonate, water, unfiltered, fixed endpoint (pH 4.5) titration, field, milligrams per liter
.0		.0		# 00445 - Carbonate, water, unfiltered, fixed endpoint (pH 8.3) titration, field, milligrams per liter
< .04		< .04		# 00608 - Ammonia, water, filtered, milligrams per liter as nitrogen
< .006		< .008		# 00613 - Nitrite, water, filtered, milligrams per liter as nitrogen
.92		.97		# 00631 - Nitrite plus nitrate, water, filtered, milligrams per liter as nitrogen
.052		.050		# 00666 - Phosphorus, water, filtered, milligrams per liter
.04		.05		# 00671 - Orthophosphate, water, filtered, milligrams per liter as phosphorus
31.7		31.2		# 00915 - Calcium, water, filtered, milligrams per liter
10.1		10.0		# 00925 - Magnesium, water, filtered, milligrams per liter
9.54		9.01		# 00930 - Sodium, water, filtered, milligrams per liter
2.11		2.17		# 00935 - Potassium, water, filtered, milligrams per liter
4.89		6.05		# 00940 - Chloride, water, filtered, milligrams per liter
12.1		12.5		# 00945 - Sulfate, water, filtered, milligrams per liter
.3		.2		# 00950 - Fluoride, water, filtered, milligrams per liter
27.5		28.5		# 00955 - Silica, water, filtered, milligrams per liter
E 1		1.5		# 01000 - Arsenic, water, filtered, micrograms per liter
22.0		21.0		# 01005 - Barium, water, filtered, micrograms per liter
27				# 01020 - Boron, water, filtered, micrograms per liter
< .1		.05		# 01025 - Cadmium, water, filtered, micrograms per liter
E .6				# 01030 - Chromium, water, filtered, micrograms per liter
E .9				# 01040 - Copper, water, filtered, micrograms per liter
< 10		< 10		# 01046 - Iron, water, filtered, micrograms per liter
< 1				# 01049 - Lead, water, filtered, micrograms per liter
< 3.0		4.4		# 01056 - Manganese, water, filtered, micrograms per liter

USGS 425808114245801 05S 17E 22DDAC1				
9/25/2001 9:45	9/25/2001 9:46	5/2/2002 10:00	5/2/2002 10:01	<--DATE&TIME
< 5				# 01075 - Silver, water, filtered, micrograms per liter
< 20				# 01090 - Zinc, water, filtered, micrograms per liter
5				# 01130 - Lithium, water, filtered, micrograms per liter
< 2		.4		# 01145 - Selenium, water, filtered, micrograms per liter
			< .50	# 30202 - Bromomethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 30217 - Dibromomethane, water, unfiltered, recoverable, micrograms per liter
< 1		< 1		# 31501 - Total coliform, M-Endo MF method, immediate, water, colonies per 100 milliliters
< 1		< 1		# 31625 - Fecal coliform, M-FC MF (0.7 micron) method, water, colonies per 100 milliliters
	< .5		< .5	# 32101 - Bromodichloromethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 32102 - Tetrachloromethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 32103 - 1,2-Dichloroethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 32104 - Tribromomethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 32105 - Dibromochloromethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 32106 - Trichloromethane, water, unfiltered, recoverable, micrograms per liter
< 16		< 16		# 32730 - Phenolic compounds, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34010 - Toluene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34030 - Benzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34301 - Chlorobenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34311 - Chloroethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34371 - Ethylbenzene, water, unfiltered, recoverable, micrograms per liter
	< .5			# 34413 - Bromomethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34418 - Chloromethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34423 - Dichloromethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34475 - Tetrachloroethene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34488 - Trichlorofluoromethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34496 - 1,1-Dichloroethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34501 - 1,1-Dichloroethene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34506 - 1,1,1-Trichloroethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34511 - 1,1,2-Trichloroethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34516 - 1,1,2,2-Tetrachloroethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34536 - 1,2-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34541 - 1,2-Dichloropropane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34546 - trans-1,2-Dichloroethene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34551 - 1,2,4-Trichlorobenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34566 - 1,3-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34571 - 1,4-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34668 - Dichlorodifluoromethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34696 - Naphthalene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34704 - cis-1,3-Dichloropropene, water, unfiltered, recoverable, micrograms per liter
.05		.06		# 38260 - Methylene blue active substances, water, unfiltered, recoverable, milligrams per liter
	< .5			# 38760 - 1,2-Dibromo-3-chloropropane, water, unfiltered, recoverable, micrograms per liter
	< .2			# 39082 - 1,2-Dibromoethene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 39175 - Vinyl chloride, water, unfiltered, recoverable, micrograms per liter

E - Estimated value
< - Actual value is known to be less than the value shown.

USGS 425808114245801 05S 17E 22DDAC1				<--DATE&TIME
9/25/2001 9:45	9/25/2001 9:46	5/2/2002 10:00	5/2/2002 10:01	
	< .5		< .5	# 39180 - Trichloroethene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 39702 - Hexachlorobutadiene, water, unfiltered, recoverable, micrograms per liter
< .01				# 71890 - Mercury, water, filtered, micrograms per liter
	50.00		50.00	# 71999 - Sample purpose, code
219.68				# 72019 - Depth to water level, feet below land surface
	< .5		< .5	# 77093 - cis-1,2-Dichloroethene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77128 - Styrene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77168 - 1,1-Dichloropropene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77170 - 2,2-Dichloropropane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77173 - 1,3-Dichloropropane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77222 - 1,2,4-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77223 - Isopropylbenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77224 - n-Propylbenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77226 - 1,3,5-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77275 - 2-Chlorotoluene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77277 - 4-Chlorotoluene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77297 - Bromochloromethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77342 - n-Butylbenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77350 - sec-Butylbenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77353 - tert-Butylbenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77356 - 4-Isopropyltoluene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77443 - 1,2,3-Trichloropropane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77562 - 1,1,1,2-Tetrachloroethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77613 - 1,2,3-Trichlorobenzene, water, unfiltered, recoverable, micrograms per liter
			< .2	# 77651 - 1,2-Dibromoethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 78032 - Methyl tert-butyl ether, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 81551 - Xylenes, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 81555 - Bromobenzene, water, unfiltered, recoverable, micrograms per liter
			< .5	# 82625 - 1,2-Dibromo-3-chloropropane, water, unfiltered, recoverable, micrograms per liter
		4020		# 84164 - Sampler type, code
271				# 90095 - Specific conductance, water, unfiltered, laboratory, microsiemens per centimeter at 25 degrees Celsius
121		117		# 90410 - Acid neutralizing capacity, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, milligrams per liter as calcium carbonate
4024.00				# 99615 - Set number, lab code 0052
200127600				# 99620 - Set number, lab code 0096
23		32		# 99872 - Turbidity, water, unfiltered, laboratory, Hach 2100AN, nephelometric turbidity units

E - Estimated value

< - Actual value is known to be less than the value shown.

Water Quality Samples for Idaho

Lincoln County, Idaho
Hydrologic Unit Code 17040221
Latitude 42°57'29", Longitude 114°23'35" NAD27
Gage datum 3,980. feet above sea level NGVD29

> - Actual value is known to be greater than the value shown.
A - Average value
M - Presence of material verified but not quantified
N - Presumptive evidence of presence of material
S - Most probable value
U - Material specifically analyzed for but not detected
V - Value affected by contamination
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Data Links
Parameter Group data summary
Inventory of available water-quality data
Inventory of water-quality data with retrieval
Tab-separated ASCII file, serial order
Tab-separated ASCII file, wide order
Reselect output format

USGS 425729114233701 05S 17E 25CBCA1

6/12/2001 0:01	6/12/2001 10:45	6/12/2001 10:46	4/25/2002 15:10	4/25/2002 15:11	<--DATE&TIME
0	6	0	6	0	MEDIUMCODE
	16.6		15.7		# 00010 - Temperature, water, degrees Celsius
	27.5		18.0		# 00020 - Temperature, air, degrees Celsius
	663		641		# 00025 - Barometric pressure, millimeters of mercury
1028	1028	1028		1028	# 00027 - Agency collecting sample, code
9801	80020	9801	80020	9801	# 00028 - Agency analyzing sample, code
	349		388		# 00095 - Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius
	3.2		5.1		# 00300 - Dissolved oxygen, water, unfiltered, milligrams per liter
	7.7		7.6		# 00400 - pH, water, unfiltered, field, standard units
	7.8				# 00403 - pH, water, unfiltered, laboratory, standard units
	143		135		# 00410 - Acid neutralizing capacity, water, unfiltered, fixed endpoint (pH 4.5) titration, field, milligrams per liter as calcium carbonate
	171		159		# 00440 - Bicarbonate, water, unfiltered, fixed endpoint (pH 4.5) titration, field, milligrams per liter
	.0		.0		# 00445 - Carbonate, water, unfiltered, fixed endpoint (pH 8.3) titration, field, milligrams per liter
	E .04		< .04		# 00608 - Ammonia, water, filtered, milligrams per liter as nitrogen
	E .003		.013		# 00613 - Nitrite, water, filtered, milligrams per liter as nitrogen
	.82		.31		# 00631 - Nitrite plus nitrate, water, filtered, milligrams per liter as nitrogen
	.065		.078		# 00666 - Phosphorus, water, filtered, milligrams per liter
	.07		.07		# 00671 - Orthophosphate, water, filtered, milligrams per liter as phosphorus
	37.3		40.1		# 00915 - Calcium, water, filtered, milligrams per liter
	12.2		13.1		# 00925 - Magnesium, water, filtered, milligrams per liter
	13.4		15.5		# 00930 - Sodium, water, filtered, milligrams per liter
	3.22		3.71		# 00935 - Potassium, water, filtered, milligrams per liter
	9.67		16.4		# 00940 - Chloride, water, filtered, milligrams per liter
	19.1		28.6		# 00945 - Sulfate, water, filtered, milligrams per liter
	.3		.2		# 00950 - Fluoride, water, filtered, milligrams per liter
	31.6		32.9		# 00955 - Silica, water, filtered, milligrams per liter
	E 2		1.7		# 01000 - Arsenic, water, filtered, micrograms per liter
	49.0		69.4		# 01005 - Barium, water, filtered, micrograms per liter
	30				# 01020 - Boron, water, filtered, micrograms per liter
	.1		< .04		# 01025 - Cadmium, water, filtered, micrograms per liter
	1.0				# 01030 - Chromium, water, filtered, micrograms per liter
	< 1.0				# 01040 - Copper, water, filtered, micrograms per liter
	< 10		< 10		# 01046 - Iron, water, filtered, micrograms per liter
	< 1				# 01049 - Lead, water, filtered, micrograms per liter
	9.7		E 1.0		# 01056 - Manganese, water, filtered, micrograms per liter
	< 5				# 01075 - Silver, water, filtered, micrograms per liter
	< 20				# 01090 - Zinc, water, filtered, micrograms per liter
	4				# 01130 - Lithium, water, filtered, micrograms per liter
	< 2		.4		# 01145 - Selenium, water, filtered, micrograms per liter
				< .50	# 30202 - Bromomethane, water, unfiltered, recoverable, micrograms per liter

E - Estimated value
< - Actual value is known to be less than the value shown.

USGS 425729114233701 05S 17E 25CBCA1					
6/12/2001 0:01	6/12/2001 10:45	6/12/2001 10:46	4/25/2002 15:10	4/25/2002 15:11	<--DATE&TIME
< .5		< .5		< .5	# 30217 - Dibromomethane, water, unfiltered, recoverable, micrograms per liter
	< 1		37		# 31501 - Total coliform, M-Endo MF method, immediate, water, colonies per 100 milliliters
	< 1		< 1		# 31625 - Fecal coliform, M-FC MF (0.7 micron) method, water, colonies per 100 milliliters
< .5		< .5		< .5	# 32101 - Bromodichloromethane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 32102 - Tetrachloromethane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 32103 - 1,2-Dichloroethane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 32104 - Tribromomethane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 32105 - Dibromochloromethane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 32106 - Trichloromethane, water, unfiltered, recoverable, micrograms per liter
	< 16		< 17		# 32730 - Phenolic compounds, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34010 - Toluene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34030 - Benzene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34301 - Chlorobenzene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34311 - Chloroethane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34371 - Ethylbenzene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5			# 34413 - Bromomethane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34418 - Chloromethane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34423 - Dichloromethane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34475 - Tetrachloroethene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34488 - Trichlorofluoromethane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34496 - 1,1-Dichloroethane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34501 - 1,1-Dichloroethene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34506 - 1,1,1-Trichloroethane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34511 - 1,1,2-Trichloroethane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34516 - 1,1,2,2-Tetrachloroethane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34536 - 1,2-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34541 - 1,2-Dichloropropane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34546 - trans-1,2-Dichloroethene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34551 - 1,2,4-Trichlorobenzene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34566 - 1,3-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34571 - 1,4-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34668 - Dichlorodifluoromethane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34696 - Naphthalene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 34704 - cis-1,3-Dichloropropene, water, unfiltered, recoverable, micrograms per liter
	< .02		E .03		# 38260 - Methylene blue active substances, water, unfiltered, recoverable, milligrams per liter
< .5		< .5			# 38760 - 1,2-Dibromo-3-chloropropane, water, unfiltered, recoverable, micrograms per liter
< .2		< .2			# 39082 - 1,2-Dibromoethene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 39175 - Vinyl chloride, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 39180 - Trichloroethene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 39702 - Hexachlorobutadiene, water, unfiltered, recoverable, micrograms per liter
	< .01				# 71890 - Mercury, water, filtered, micrograms per liter
50.00		50.00		50.00	# 71999 - Sample purpose, code
	225				# 72015 - Depth to top of sample interval, feet below land surface datum
	212.50		222.70		# 72019 - Depth to water level, feet below land surface
< .5		< .5		< .5	# 77093 - cis-1,2-Dichloroethene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77128 - Styrene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77168 - 1,1-Dichloropropene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77170 - 2,2-Dichloropropane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77173 - 1,3-Dichloropropane, water, unfiltered, recoverable, micrograms per liter

E - Estimated value
< - Actual value is known to be less than the value shown.

USGS 425729114233701 05S 17E 25CBCA1					
6/12/2001 0:01	6/12/2001 10:45	6/12/2001 10:46	4/25/2002 15:10	4/25/2002 15:11	<--DATE&TIME
< .5		< .5		< .5	# 77222 - 1,2,4-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77223 - Isopropylbenzene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77224 - n-Propylbenzene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77226 - 1,3,5-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77275 - 2-Chlorotoluene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77277 - 4-Chlorotoluene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77297 - Bromochloromethane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77342 - n-Butylbenzene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77350 - sec-Butylbenzene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77353 - tert-Butylbenzene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77356 - 4-Isopropyltoluene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77443 - 1,2,3-Trichloropropane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77562 - 1,1,1,2-Tetrachloroethane, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77613 - 1,2,3-Trichlorobenzene, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 77651 - 1,2-Dibromoethane, water, unfiltered, recoverable, micrograms per liter
				< .2	# 78032 - Methyl tert-butyl ether, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 81551 - Xylenes, water, unfiltered, recoverable, micrograms per liter
< .5		< .5		< .5	# 81555 - Bromobenzene, water, unfiltered, recoverable, micrograms per liter
		< .5		< .5	# 82625 - 1,2-Dibromo-3-chloropropane, water, unfiltered, recoverable, micrograms per liter
				< .5	# 84164 - Sampler type, code
	4020		4020		# 90095 - Specific conductance, water, unfiltered, laboratory, microsiemens per centimeter at 25 degrees Celsius
	361				# 90410 - Acid neutralizing capacity, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, milligrams per liter as calcium carbonate
			145		# 99615 - Set number, lab code 0052
	200120600				# 99620 - Set number, lab code 0096
	1387.00				# 99872 - Turbidity, water, unfiltered, laboratory, Hach 2100AN, nephelometric turbidity units
	6.7		3.4		

Water Quality Samples for Idaho

Lincoln County, Idaho
Hydrologic Unit Code 17040221
Latitude 42°57'45.5", Longitude 114°24'04.7" NAD27
Gage datum 3,972.64 feet above sea level NGVD29

>	- Actual value is known to be greater than the value shown.
A	- Average value
M	- Presence of material verified but not quantified
N	- Presumptive evidence of presence of material
S	- Most probable value
U	- Material specifically analyzed for but not detected
V	- Value affected by contamination
E	- Estimated value
<	- Actual value is known to be less than the value shown.

Data Links

- Parameter Group data summary
- Inventory of available water-quality data
- Inventory of water-quality data with retrieval
- Tab-separated ASCII file, serial order
- Tab-separated ASCII file, wide order
- Reselect output format

USGS 425746114240101 05S 17E 26ACA1

7/29/1960 0:00	<--DATE&TIME
6	MEDIUMCODE
15	# 00010 - Temperature, water, degrees Celsius
61	# 07000 - Tritium, water, unfiltered, picocuries per liter
E 251.00	# 72008 - Depth of well, feet below land surface datum
E 190.00	# 72019 - Depth to water level, feet below land surface

Water Quality Samples for Idaho

Lincoln County, Idaho
Hydrologic Unit Code 17040221
Latitude 42°57'18", Longitude 114°24'47" NAD27
Gage datum 3,945. feet above sea level NGVD29

> - Actual value is known to be greater than the value shown.
A - Average value
M - Presence of material verified but not quantified
N - Presumptive evidence of presence of material
S - Most probable value
U - Material specifically analyzed for but not detected
V - Value affected by contamination
E - Estimated value
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Data Links
Parameter Group data summary
Inventory of available water-quality data
Inventory of water-quality data with retrieval
Tab-separated ASCII file, serial order
Tab-separated ASCII file, wide order
Reselect output format

USGS 425718114244701 05S 17E 26CCBC1

9/25/2001 12:40	9/25/2001 12:41	4/25/2002 16:50	4/25/2002 16:51	<--DATE&TIME
6	0	6	0	MEDIUMCODE
16.5		13.5		# 00010 - Temperature, water, degrees Celsius
27		19.5		# 00020 - Temperature, air, degrees Celsius
657		656		# 00025 - Barometric pressure, millimeters of mercury
	1028	1028	1028	# 00027 - Agency collecting sample, code
80020	9801	80020	9801	# 00028 - Agency analyzing sample, code
229		341		# 00095 - Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius
2.6		6.3		# 00300 - Dissolved oxygen, water, unfiltered, milligrams per liter
8.2		7.8		# 00400 - pH, water, unfiltered, field, standard units
7.9				# 00403 - pH, water, unfiltered, laboratory, standard units
100		143		# 00410 - Acid neutralizing capacity, water, unfiltered, fixed endpoint (pH 4.5) titration, field, milligrams per liter as calcium carbonate
121		169		# 00440 - Bicarbonate, water, unfiltered, fixed endpoint (pH 4.5) titration, field, milligrams per liter
0		0		# 00445 - Carbonate, water, unfiltered, fixed endpoint (pH 8.3) titration, field, milligrams per liter
< .04		< .04		# 00608 - Ammonia, water, filtered, milligrams per liter as nitrogen
< .006		< .008		# 00613 - Nitrite, water, filtered, milligrams per liter as nitrogen
0.56		1.19		# 00631 - Nitrite plus nitrate, water, filtered, milligrams per liter as nitrogen
0.017		0.039		# 00666 - Phosphorus, water, filtered, milligrams per liter
< .02		0.03		# 00671 - Orthophosphate, water, filtered, milligrams per liter as phosphorus
23.6		38.8		# 00915 - Calcium, water, filtered, milligrams per liter
7.35		12.1		# 00925 - Magnesium, water, filtered, milligrams per liter
11.9		11.7		# 00930 - Sodium, water, filtered, milligrams per liter
2.41		2.51		# 00935 - Potassium, water, filtered, milligrams per liter
4.9		5.76		# 00940 - Chloride, water, filtered, milligrams per liter
10.1		13.2		# 00945 - Sulfate, water, filtered, milligrams per liter
0.2		0.3		# 00950 - Fluoride, water, filtered, milligrams per liter
15.7		28.6		# 00955 - Silica, water, filtered, milligrams per liter
< 2		1.4		# 01000 - Arsenic, water, filtered, micrograms per liter
13.3		27.5		# 01005 - Barium, water, filtered, micrograms per liter
26				# 01020 - Boron, water, filtered, micrograms per liter
< .1		E .02		# 01025 - Cadmium, water, filtered, micrograms per liter
< .8				# 01030 - Chromium, water, filtered, micrograms per liter
< 1.0				# 01040 - Copper, water, filtered, micrograms per liter
13		< 10		# 01046 - Iron, water, filtered, micrograms per liter
< 1				# 01049 - Lead, water, filtered, micrograms per liter
15.2		7.2		# 01056 - Manganese, water, filtered, micrograms per liter
< 5				# 01075 - Silver, water, filtered, micrograms per liter

USGS 425718114244701 05S 17E 26CCBC1

E - Estimated value
< - Actual value is known to be less than the value shown.

9/25/2001 12:40	9/25/2001 12:41	4/25/2002 16:50	4/25/2002 16:51	<--DATE&TIME
< 20				# 01090 - Zinc, water, filtered, micrograms per liter
E 3				# 01130 - Lithium, water, filtered, micrograms per liter
< 2		0.4		# 01145 - Selenium, water, filtered, micrograms per liter
		< .5		# 04029 - Bromacil, water, filtered, recoverable, micrograms per liter
		< .5		# 04037 - Prometon, water, filtered, recoverable, micrograms per liter
			< .50	# 30202 - Bromomethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 30217 - Dibromomethane, water, unfiltered, recoverable, micrograms per liter
< 1		< 1		# 31501 - Total coliform, M-Endo MF method, immediate, water, colonies per 100 milliliters
< 1		< 1		# 31625 - Fecal coliform, M-FC MF (0.7 micron) method, water, colonies per 100 milliliters
	< .5		< .5	# 32101 - Bromodichloromethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 32102 - Tetrachloromethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 32103 - 1,2-Dichloroethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 32104 - Tribromomethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 32105 - Dibromochloromethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 32106 - Trichloromethane, water, unfiltered, recoverable, micrograms per liter
< 16		< 16		# 32730 - Phenolic compounds, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34010 - Toluene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34030 - Benzene, water, unfiltered, recoverable, micrograms per liter
		< .5		# 34221 - Anthracene, water, filtered, recoverable, micrograms per liter
		< .5		# 34248 - Benzo[a]pyrene, water, filtered, recoverable, micrograms per liter
		< .5		# 34288 - Tribromomethane, water, filtered, recoverable, micrograms per liter
	< .5		< .5	# 34301 - Chlorobenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34311 - Chloroethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34371 - Ethylbenzene, water, unfiltered, recoverable, micrograms per liter
		< .5		# 34377 - Fluoranthene, water, filtered, recoverable, micrograms per liter
		< .5		# 34409 - Isophorone, water, filtered, recoverable, micrograms per liter
	< .5			# 34413 - Bromomethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34418 - Chloromethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34423 - Dichloromethane, water, unfiltered, recoverable, micrograms per liter
		< .5		# 34443 - Naphthalene, water, filtered, recoverable, micrograms per liter
		< 2		# 34459 - Pentachlorophenol, water, filtered, recoverable, micrograms per liter
		< .5		# 34462 - Phenanthrene, water, filtered, recoverable, micrograms per liter
		< .5		# 34466 - Phenol, water, filtered, recoverable, micrograms per liter
		< .5		# 34470 - Pyrene, water, filtered, recoverable, micrograms per liter
	< .5		< .5	# 34475 - Tetrachloroethene, water, unfiltered, recoverable, micrograms per liter
		< .5		# 34476 - Tetrachloroethene, water, filtered, recoverable, micrograms per liter
	< .5		< .5	# 34488 - Trichlorofluoromethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34496 - 1,1-Dichloroethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34501 - 1,1-Dichloroethene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34506 - 1,1,1-Trichloroethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34511 - 1,1,2-Trichloroethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34516 - 1,1,2,2-Tetrachloroethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34536 - 1,2-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34541 - 1,2-Dichloropropane, water, unfiltered, recoverable, micrograms per liter

E - Estimated value
< - Actual value is known to be less than the value shown.

USGS 425718114244701 05S 17E 26CCBC1				<--DATE&TIME
9/25/2001 12:40	9/25/2001 12:41	4/25/2002 16:50	4/25/2002 16:51	
	< .5		< .5	# 34546 - trans-1,2-Dichloroethene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34551 - 1,2,4-Trichlorobenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34566 - 1,3-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34571 - 1,4-Dichlorobenzene, water, unfiltered, recoverable, micrograms per liter
		< .5		# 34572 - 1,4-Dichlorobenzene, water, filtered, recoverable, micrograms per liter
	< .5		< .5	# 34668 - Dichlorodifluoromethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34696 - Naphthalene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 34704 - cis-1,3-Dichloropropene, water, unfiltered, recoverable, micrograms per liter
< .05		E .04		# 38260 - Methylene blue active substances, water, unfiltered, recoverable, milligrams per liter
	< .5			# 38760 - 1,2-Dibromo-3-chloropropane, water, unfiltered, recoverable, micrograms per liter
		< 1.00		# 38775 - Dichlorvos, water, filtered, recoverable, micrograms per liter
		< .5		# 38933 - Chlorpyrifos, water, filtered, recoverable, micrograms per liter
	< .2			# 39082 - 1,2-Dibromoethene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 39175 - Vinyl chloride, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 39180 - Trichloroethene, water, unfiltered, recoverable, micrograms per liter
		< .5		# 39415 - Metolachlor, water, filtered, recoverable, micrograms per liter
		< .5		# 39572 - Diazinon, water, filtered, recoverable, micrograms per liter
	< .5		< .5	# 39702 - Hexachlorobutadiene, water, unfiltered, recoverable, micrograms per liter
		< .5		# 50305 - Caffeine, water, filtered, recoverable, micrograms per liter
		< .5		# 50359 - Metalaxyl, water, filtered, recoverable, micrograms per liter
		< 1		# 61705 - Diethoxyoctylphenol, water, filtered, recoverable, micrograms per liter
		< 1		# 61706 - Ethoxyoctylphenol, water, filtered, recoverable, micrograms per liter
		< 1.00		# 62005 - Cotinine, water, filtered, recoverable, micrograms per liter
		< .5		# 62054 - 1-Methylnaphthalene, water, filtered, recoverable, micrograms per liter
		< .5		# 62055 - 2,6-Dimethylnaphthalene, water, filtered, recoverable, micrograms per liter
		< .5		# 62056 - 2-Methylnaphthalene, water, filtered, recoverable, micrograms per liter
		< 2		# 62057 - 3-beta-Coprostanol, water, filtered, recoverable, micrograms per liter
		< 1		# 62058 - 3-Methyl-1H-indole, water, filtered, recoverable, micrograms per liter
		< 5		# 62059 - 3-tert-Butyl-4-hydroxyanisole, water, filtered, recoverable, micrograms per liter
		< 1		# 62060 - 4-Cumylphenol, water, filtered, recoverable, micrograms per liter
		< 1		# 62061 - 4-Octylphenol, water, filtered, recoverable, micrograms per liter
		< 1		# 62062 - 4-tert-Octylphenol, water, filtered, recoverable, micrograms per liter
		< 2		# 62063 - 5-Methyl-1H-benzotriazole, water, filtered, recoverable, micrograms per liter
		< .5		# 62064 - Acetophenone, water, filtered, recoverable, micrograms per liter
		< .5		# 62065 - Acetyl hexamethyl tetrahydro naphthalene, water, filtered, recoverable, micrograms per liter
		< .5		# 62066 - 9,10-Anthraquinone, water, filtered, recoverable, micrograms per liter
		< .5		# 62067 - Benzophenone, water, filtered, recoverable, micrograms per liter
		< 2		# 62068 - beta-Sitosterol, water, filtered, recoverable, micrograms per liter
		< 1		# 62069 - Bisphenol A, water, filtered, recoverable, micrograms per liter
		< .5		# 62070 - Camphor, water, filtered, recoverable, micrograms per liter
		< .5		# 62071 - Carbazole, water, filtered, recoverable, micrograms per liter
		< 2		# 62072 - Cholesterol, water, filtered, recoverable, micrograms per liter
		< .5		# 62073 - D-Limonene, water, filtered, recoverable, micrograms per liter
		< .5		# 62075 - Hexahydrohexamethyl cyclopentabenzopyran, water, filtered, recoverable, micrograms per liter

E - Estimated value
< - Actual value is known to be less than the value shown.

USGS 425718114244701 05S 17E 26CCBC1				
9/25/2001 12:40	9/25/2001 12:41	4/25/2002 16:50	4/25/2002 16:51	<--DATE&TIME
		< .5		# 62076 - Indole, water, filtered, recoverable, micrograms per liter
		< .5		# 62077 - Isoborneol, water, filtered, recoverable, micrograms per liter
		< .5		# 62078 - Isopropylbenzene, water, filtered, recoverable, micrograms per liter
		< .5		# 62079 - Isoquinoline, water, filtered, recoverable, micrograms per liter
		< .5		# 62080 - Menthol, water, filtered, recoverable, micrograms per liter
		< .5		# 62081 - Methyl salicylate, water, filtered, recoverable, micrograms per liter
		< .5		# 62082 - DEET, water, filtered, recoverable, micrograms per liter
		< .5		# 62083 - Diethoxynonylphenol, water, filtered, recoverable, micrograms per liter
		< 5		# 62084 - p-Cresol, water, filtered, recoverable, micrograms per liter
		< 1		# 62085 - 4-Nonylphenol, water, filtered, recoverable, micrograms per liter
		< 5		# 62086 - beta-Stigmastanol, water, filtered, recoverable, micrograms per liter
		< 2		# 62087 - Tris(2-chloroethyl) phosphate, water, filtered, recoverable, micrograms per liter
		< .5		# 62088 - Tris(dichloroisopropyl) phosphate, water, filtered, recoverable, micrograms per liter
		< .5		# 62089 - Tributyl phosphate, water, filtered, recoverable, micrograms per liter
		< .5		# 62090 - Triclosan, water, filtered, recoverable, micrograms per liter
		< 1		# 62091 - Triethyl citrate, water, filtered, recoverable, micrograms per liter
		< .5		# 62092 - Triphenyl phosphate, water, filtered, recoverable, micrograms per liter
		< .5		# 62093 - Tris(2-butoxyethyl) phosphate, water, filtered, recoverable, micrograms per liter
		< .5		# 71890 - Mercury, water, filtered, micrograms per liter
< .01				# 71999 - Sample purpose, code
	50		50	# 72019 - Depth to water level, feet below land surface
		203.06		# 77093 - cis-1,2-Dichloroethene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77128 - Styrene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77168 - 1,1-Dichloropropene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77170 - 2,2-Dichloropropane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77173 - 1,3-Dichloropropane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77222 - 1,2,4-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77223 - Isopropylbenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77224 - n-Propylbenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77226 - 1,3,5-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77275 - 2-Chlorotoluene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77277 - 4-Chlorotoluene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77297 - Bromochloromethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77342 - n-Butylbenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77350 - sec-Butylbenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77353 - tert-Butylbenzene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77356 - 4-Isopropyltoluene, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77443 - 1,2,3-Trichloropropane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77562 - 1,1,1,2-Tetrachloroethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 77613 - 1,2,3-Trichlorobenzene, water, unfiltered, recoverable, micrograms per liter
			< .2	# 77651 - 1,2-Dibromoethane, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 78032 - Methyl tert-butyl ether, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 81551 - Xylenes, water, unfiltered, recoverable, micrograms per liter
	< .5		< .5	# 81555 - Bromobenzene, water, unfiltered, recoverable, micrograms per liter

USGS 425718114244701 05S 17E 26CCBC1				<--DATE&TIME
9/25/2001 12:40	9/25/2001 12:41	4/25/2002 16:50	4/25/2002 16:51	
			< .5	# 82625 - 1,2-Dibromo-3-chloropropane, water, unfiltered, recoverable, micrograms per liter
		< 1		# 82680 - Carbaryl, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter
		4020		# 84164 - Sampler type, code
312				# 90095 - Specific conductance, water, unfiltered, laboratory, microsiemens per centimeter at 25 degrees Celsius
140		155		# 90410 - Acid neutralizing capacity, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, milligrams per liter as calcium carbonate
		0		# 99583 - Bisphenol A-d3, surrogate, Schedule/lab code 2033/8033, water, filtered, percent recovery
		1.6		# 99584 - Caffeine-13C, surrogate, Schedule/lab code 2033/8033, water, filtered, percent recovery
		8.6		# 99585 - Decafluorobiphenyl, surrogate, Schedule/lab code 2033/8033, water, filtered, percent recovery
		81.2		# 99586 - Fluoranthene-d10, surrogate, Schedule/lab code 2033/8033, water, filtered, percent recovery
		917		# 99587 - Sample volume, wastewater method, water, filtered, milliliters
4024				# 99615 - Set number, lab code 0052
200127600				# 99620 - Set number, lab code 0096
24		75		# 99872 - Turbidity, water, unfiltered, laboratory, Hach 2100AN, nephelometric turbidity units

E - Estimated value
< - Actual value is known to be less than the value shown.

Water Quality Samples for Idaho

Lincoln County, Idaho
Hydrologic Unit Code 17040221
Latitude 42°56'28", Longitude 114°25'33" NAD27
Gage datum 3,958. feet above sea level NGVD29

> - Actual value is known to be greater than the value shown.
A - Average value
M - Presence of material verified but not quantified
N - Presumptive evidence of presence of material
S - Most probable value
U - Material specifically analyzed for but not detected
V - Value affected by contamination
E - Estimated value
< - Actual value is known to be less than the value shown.

Data Links

- Parameter Group data summary
- Inventory of available water-quality data
- Inventory of water-quality data with retrieval
- Tab-separated ASCII file, serial order
- Tab-separated ASCII file, wide order
- Reselect output format

USGS 425628114253301 05S 17E 34CDA1

2/14/1973 15:00	8/3/1973 12:00	<--DATE&TIME
6	6	MEDIUMCODE
285	395	# 00095 - Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius
	1.4	# 00631 - Nitrite plus nitrate, water, filtered, milligrams per liter as nitrogen
	0.09	# 00660 - Orthophosphate, water, filtered, milligrams per liter
	0.03	# 00671 - Orthophosphate, water, filtered, milligrams per liter as phosphorus
	7	# 00940 - Chloride, water, filtered, milligrams per liter
	19	# 00945 - Sulfate, water, filtered, milligrams per liter
U	U	# 31501 - Total coliform, M-Endo MF method, immediate, water, colonies per 100 milliliters
U	U	# 31616 - Fecal coliform, M-FC MF (0.45 micron) method, water, colonies per 100 milliliters
U	U	# 31673 - Fecal streptococci, KF streptococcus MF method, water, colonies per 100 milliliter

Water Quality Samples for Idaho

Lincoln County, Idaho
Hydrologic Unit Code 17040221
Latitude 42°56'24", Longitude 114°24'25" NAD27
Gage datum 3,968. feet above sea level NGVD29

> - Actual value is known to be greater than the value shown.
A - Average value
M - Presence of material verified but not quantified
N - Presumptive evidence of presence of material
S - Most probable value
U - Material specifically analyzed for but not detected
V - Value affected by contamination
E - Estimated value
< - Actual value is known to be less than the value shown.

Data Links
Parameter Group data summary
Inventory of available water-quality data
Inventory of water-quality data with retrieval
Tab-separated ASCII file, serial order
Tab-separated ASCII file, wide order
Reselect output format

USGS 425624114242501 05S 17E 35CDB1 DRAIN WELL INFLOW

4/17/1973 13:00	<--DATE&TIME
9	MEDIUMCODE
0.01	# 00061 - Discharge, instantaneous, cubic feet per second
1700	# 00070 - Turbidity, water, unfiltered, Jackson turbidity units
713	# 00095 - Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius
9.8	# 00631 - Nitrite plus nitrate, water, filtered, milligrams per liter as nitrogen
14	# 00660 - Orthophosphate, water, filtered, milligrams per liter
4.6	# 00671 - Orthophosphate, water, filtered, milligrams per liter as phosphorus
43	# 00940 - Chloride, water, filtered, milligrams per liter
110	# 00945 - Sulfate, water, filtered, milligrams per liter
4580	# 80154 - Suspended sediment concentration, milligrams per liter
0.12	# 80155 - Suspended sediment discharge, tons per day

EXHIBIT 10

HOURS	DAYS	@WELL	2000	5860.8	7445	8395 DISTANCE FEET
0.0	0.00	0	0	0	0	0
0.1	0.00	-0.91	0.00	0.00	0.00	0.00
2.0	0.08	-1.31	0.00	0.00	0.00	0.00
12.0	0.50	-1.51	0.00	0.00	0.00	0.00
48.0	2.00	-1.66	0.00	0.00	0.00	0.00
240.0	10.00	-1.84	-0.06	0.00	0.00	0.00
720.0	30.00	-1.96	-0.15	-0.01	0.00	0.00
1440.0	60.00	-2.04	-0.22	-0.04	-0.02	-0.01

ESTIMATED DRAWDOWN FROM PROPOSED NEW STOCK/COMMERCIAL WELL
4 BROTHERS TRANSFER 71607 AVERAGE DIVERSION

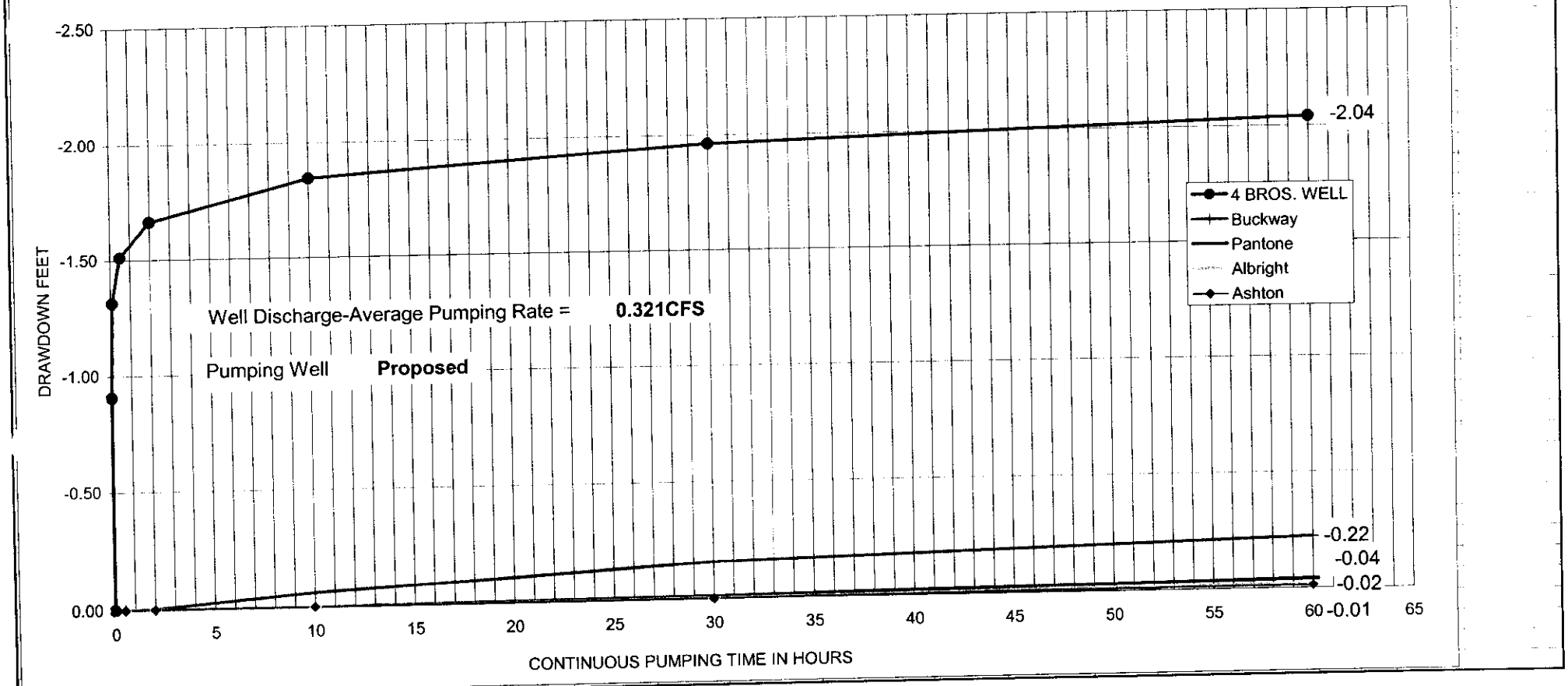


EXHIBIT
tabbies 10

7/14/2005

Interference(Design)Projects\FourBrothers\Exhibits\WellInterference-design_Parameters.xls

Well Interference Analysis

4-Bros.Transfer #71607 of 232.2 afa to 5S, 17E, Sec. 5

Brockway Engr, PLLC

J. Helms July 11, 2005

Pumping Rate= 0.32 cfs (Average diversion rate, 0.32 cfs = 232.2 annual acre-ft)

Pumping Well Proposed Stock well

Transfer 71607

AQUIFER PROPERTIES BASED ON USBR GROUNDWATER MANUAL-Fractured Basalt

HOLE DIA. 12 IN.

USING THEIS FORMULA S=114.6*Q/T*W(U)

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	4 BROS. WE	K=	100.00	FT/DAY
r2=	2000	FT	Buckway	K=	0.001157	CFS/FT^2
r3=	5860.8	FT	Pantone	K=	7.48E+02	GPD/FT^2
r4=	7444.8	FT	Albright	SAT. DEPTH EST.=	200	FT
r5=	8395.2	FT	Ashton	TRANSMISSIVITY=	149600	GPD/FT
S=	0.1			TRANSMISSIVIT\	2.31E-01	FT^2/SEC
T=	149600	GPD/FT		TRANSMISSIVITY=	20000.0	FT^2/DAY

Q/WEL 144 GPM = 0.321CFS

TIME	TIME	U	WELL	DRAW	SPEC.	U	WELL	DRAW	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 @	W/r4	FUNCT.	DOWN @
		0.5	W(U)1	@WELL	GPM/FT	2000	W(U)2	2000	5860.8	W(U)3	5860.8	7444.8	W(U)4	7444.8	8395.2	W(U)5	8395.2
HOURS	DAYS																
0.05	0.00	1.500E-04	8.2278	0.91	159	2.400E+03	0.0000	0.00	2.061E+04	0.0000	0.00	3.326E+04	0.0000	0.00	4.229E+04	0.0000	0.00
2.00	0.08	3.750E-06	11.9166	1.31	110	6.000E+01	0.0000	0.00	5.152E+02	0.0000	0.00	8.314E+02	0.0000	0.00	1.057E+03	0.0000	0.00
12.00	0.50	6.250E-07	13.7083	1.51	95	1.000E+01	0.0000	0.00	8.587E+01	0.0000	0.00	1.386E+02	0.0000	0.00	1.762E+02	0.0000	0.00
48.00	2.00	1.563E-07	15.0946	1.66	86	2.500E+00	0.0249	0.00	2.147E+01	0.0000	0.00	3.464E+01	0.0000	0.00	4.405E+01	0.0000	0.00
240.00	10.00	3.125E-08	16.7040	1.84	78	5.000E-01	0.5598	0.06	4.294E+00	0.0000	0.00	6.928E+00	0.0000	0.00	8.810E+00	0.0000	0.00
720.00	30.00	1.042E-08	17.8027	1.96	73	1.667E-01	1.3745	0.15	1.431E+00	0.1109	0.01	2.309E+00	0.0321	0.00	2.937E+00	0.0139	0.00
######	60.00	5.208E-09	18.4958	2.04	71	8.333E-02	1.9893	0.22	7.156E-01	0.3629	0.04	1.155E+00	0.1703	0.02	1.468E+00	0.1049	0.01

EXHIBIT 11

Idaho Department of Water Resources Receipt

Receipt ID S026663

Payment Amount $290.00 **Date Received** 4/19/2004 11:47:26 AM **Region** Southern **Status**

Payment Type Check **Check Number** 27797

Payer 4 BROS DAIRY INC

Comment Transfer 37-20613

Fee Detail

Amount	Description	Fund	FD	PCA	SO
$290.00	TRANSFERS	0229	21	64106	1155

Signature Line (Dept. Representative)

EXHIBIT

11

Page _____ of _____

STATE OF IDAHO
DEPARTMENT OF WATER RESOU[illegible]S

Transfer No. 71607

APPLICATION FOR TRANSFER OF WATER RIGHT

PART 1

Name of applicant 4 Bros Dairy Inc, Fitzgerald Dairy Andrew Fitzgerald - Phone 886-7716

Post Office address 427 No. 250 W Shoshone Id 83352

A. PURPOSE OF TRANSFER

1. ☒ Change point of diversion ☒ Add diversion point(s) ☒ Change place of use

☒ Change nature of use ☒ Change period of use ☐ Other _____

2. Describe the reason for the proposed changes To provide water for a new dairy. ~~et~~

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
37-20613	12/19/74	1.12/232.2	Stock/Com	01/01 to 12/
				to
				to
				to
				to

2. Total amount of water being transferred 1.12 Cubic feet per second and/or 232.2 acre-feet per an

3. Source of water Groundwater tributary to _____

4. Points of Diversion:

Lot	1/4	1/4	1/4	Sec.	Twp	Rge	County	Local name of diversion
		SE	SE	5	5S	17E	Lincoln	two new wells

5. Lands irrigated or place of use:

Twp	Rge	Sec.	NE 1/4				NW 1/4				SW 1/4				SE 1/4				Total
			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	
5S	17E	5															S/C	S/C	
5S	17E	8	S/C	S/C															

Total acres _____

PART 1

6. General Information:

a. Description of diversion system Pumps, Pipes and Lateral Lines to barn and Water Troughs

b. Are the lands from which you propose to transfer the water right subject to any liens, deeds of trust, mortgages, or contracts? ___ Yes X 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: Lands will be dried up and no longer irrigated

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___.

___

Page _____ of _____ Transfer No. _____

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR TRANSFER OF WATER RIGHT

PART 2

(Attach one copy for each right)

A. DESCRIPTION OF RIGHT AS RECORDED

1. Right evidenced by:

   a. Decree No. _____ Decreed to _____

   in case of _____ vs. _____

   dated _____ in _____ county of _____

   b. License No. 37-20613 issued by the Idaho Department of Water Resources.

   c. Claim No. _____ on file with the Idaho Department of Water Resources.

   d. Transfer No. _____ which produced this right.

2. Attach a copy of last year's tax notice for the property to which the water right is appurtenant or other documents which show ownership. Label document as attachment A. Check appropriate box below:

   ☐ Tax Notice ☐ Warranty Deed ☐ Other _____

3. Source of water Groundwater tributary to _____

4. Date or priority 12/19/74

5. Water is used for the following purpose:

   amount 1.12/309.6 (cfs/ac-ft) for irrigation purposes from 03/15 to 11/15

   amount _____ (cfs/ac-ft) for _____ purposes from _____ to _____

   amount _____ (cfs/ac-ft) for _____ purposes from _____ to _____

6. Total amount of water under right 1.12 cubic feet per second and/or 309.6 acre-feet per annum.

7. Point(s) of Diversion:

Lot	¼	¼	¼	Sec.	Twp.	Rge.	County	Local name for diversion
		NE	SE	20	06S	18E	Lincoln	

8. Lands irrigated or place of use:

Twp.	Rge.	Sec.	NE ¼				NW ¼				SW ¼				SE ¼				Totals
			NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	
06S	18E	20													38.7			38.7	

Total acres 77.4

9. Describe any other water rights used for the same purpose as described above None

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) for _____ purposes from _____ to _____
   amount _____ (cfs/ac-ft) for _____ purposes from _____ to _____
   amount _____ (cfs/ac-ft) for _____ purposes from _____ to _____

2. Point(s) of Diversion:

Lot	¼	¼	¼	Sec.	Twp.	Rge.	County	Local name for diversion

3. Lands irrigated or place of use:

Twp.	Rge.	Sec.	NE ¼				NW ¼				SW ¼				SE ¼				Totals
			NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	

Total acres _____

C. DESCRIPTION OF UNCHANGED PORTION OF RIGHT *(omit if there is no change)*

1. amount _____ (cfs/ac-ft) for _____ purposes from _____ to _____
   amount _____ (cfs/ac-ft) for _____ purposes from _____ to _____
   amount _____ (cfs/ac-ft) for _____ purposes from _____ to _____

2. Point(s) of Diversion:

Lot	¼	¼	¼	Sec.	Twp.	Rge.	County	Local name for diversion

3. Lands irrigated or place of use:

Twp.	Rge.	Sec.	NE ¼				NW ¼				SW ¼				SE ¼				Totals
			NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	

Total acres _____

Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

04/14/2004

WATER RIGHT NO. 37-20613

Owner Type	Name and Address
Current Owner	4-BROS DAIRY INC C/O ANDREW FITZGERALD 427 N 250 W SHOSHONE, ID 83352 (208)886-7716
Original Owner	HERBERT J MC COWAN 882 N MAIN AVE DIETRICH, ID 83324 (208)544-2501
Original Owner	RUBY MC COWAN PO BOX 402 DIETRICH, ID 83324 (208)544-2501

Priority Date: 12/19/1974
Basis: Decreed
Status: Active

Source	Tributary
GROUND WATER	

Beneficial Use	From	To	Diversion Rate	Volume
IRRIGATION	03/15	11/15	1.12 CFS	309.6 AFA
Total Diversion			1.12 CFS	

Location of Point(s) of Diversion:

GROUND WATER	SENESE	Sec. 20	Township 06S	Range 18E	LINCOLN County

Place(s) of use:

Place of Use Legal Description: IRRIGATION LINCOLN County

Township	Range	Section	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres

06S	18E	20		NESE	38.7		SESE	38.7						

Total Acres: 77.4

Conditions of Approval:

1.	C18	THIS PARTIAL DECREE IS SUBJECT TO SUCH GENERAL PROVISIONS NECESSARY FOR THE DEFINITION OF THE RIGHTS OR FOR THE EFFICIENT ADMINISTRATION OF THE WATER RIGHTS AS MAY BE ULTIMATELY DETERMINED BY THE COURT AT A POINT IN TIME NO LATER THAN THE ENTRY OF A FINAL UNIFIED DECREE. SECTION 42-1412(6), IDAHO CODE.

Dates:
Licensed Date:
Decreed Date: 12/11/2002
Enlargement Use Priority Date:
Enlargement Statute Priority Date:
Water Supply Bank Enrollment Date Accepted:
Water Supply Bank Enrollment Date Removed:
Application Received Date:
Protest Deadline Date:
Number of Protests: 0

Other Information:
State or Federal: S
Owner Name Connector: AND
Water District Number:
Generic Max Rate per Acre:
Generic Max Volume per Acre:
Civil Case Number:
Old Case Number:
Decree Plantiff:
Decree Defendant:
Swan Falls Trust or Nontrust:
Swan Falls Dismissed:
DLE Act Number:
Cary Act Number:
Mitigation Plan: False

Close

Page _____ of _____ Transfer No. _____

PART 3

B. CHANGES IN NATURE OF USE

	New Nature of Use	Amount (cfs/ac-ft)	Hours/days/year	Period of Use
1	Stock Water/Commercial	1.11/ft3.2 acres	d	01/01 to 12/31
				to

2. Quantity and quality of return flows and location of discharge:
No Water Will Leave property

3. Describe effects on other water uses resulting from the proposed change:
Should be 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.

Understand that any willful misrepresentations made in this application may result in voiding its approval. J-BROSPAIR-FITZGERALD D

Andrew FitzGerald AVO SEC-TRES
(Signature of Applicant)

Subscribed and sworn to before me this 15 day of April, 2004

MICHELE FITZGERALD NOTARY PUBLIC STATE OF IDAHO

(Notary Public)

My commission expires 12/17/09

FOR DEPARTMENT USE ONLY

Transfer contains _____ pages and _____ attachments

Received by _____ Date 4-19-04 Protest filed by _____

Prelim. check by J.F. Fee $290.00 5076663

Receipted by _____ Date _____

Published in _____ Copies of protest forwarded by _____

Pub. dates _____ Hearing held by _____ Date _____

Watermaster recommendation requested on _____ Recommended for ☐ approval ☐ denial

_____ rec'd. _____ by _____

Copy of transfer sent to lien holder _____

Fitzgerald Brothers Farms - New Dairy Operation Water Use Estimates

Estimates Based on Average Water Use Levels

Dairy Herd Water Use Data

4/8/2004

Milking Herd..... 3500 Cows
Replacements..... 500 Heifers

Drinking Water Requirements

Milking Herd	% of herd	High Consumption per Day	Low Consumption per Day	Average Consumption per Day	
Lactating Cows	85	45.7 gal	22 gal	33.85 gal	18.7 Cu.Ft.
Dry Cows	15	16.2 gal	9.7 gal	12.95 gal	1.455 Cu.Ft.
Consumption / 1 cow/day (gal)		41.28 gal	20.16 gal	30.715 gal	
Consumption/1cow/year (gal)		15065.38 gal	7356.58 gal	11210.975 gal	
Consumption/1cow/year (CuFt)		2014.1 Cu.Ft.	983.5 Cu.Ft.	1498.8 Cu.Ft.	980.88 Cu.Ft.

Replacements	% of Replacements	High Consumption per Day	Low Consumption per Day	Average Consumption per Day	
16-24 months	100	14.5 gal	8.70 gal	11.6 gal	8.7 Cu.Ft.
13-15 months	0	10.6 gal	6.30 gal	8.45 gal	0 Cu.Ft.
9-12 months	0	6.1 gal	3.70 gal	4.9 gal	0 Cu.Ft.
5-8 months	0	3.3 gal	2.00 gal	2.65 gal	0 Cu.Ft.
3-4 months	0	3.3 gal	2.00 gal	2.65 gal	0 Cu.Ft.
0-2 months	0	1 gal	0.75 gal	0.875 gal	0 Cu.Ft.
Consumption / 1 heifer/day (gal)		14.50 gal	8.70 gal	11.60 gal	
Consumption/1heifer/year (gal)		5292.50 gal	3175.50 gal	4234 gal	
Consumption/1heifer/year (CuFt)		707.55348 Cu.Ft.	424.5321 Cu.Ft.	566.04 Cu.Ft.	423.40 Cu.Ft.

Annual Milking Herd Drinking Water ..... (Includes Dry Cows)			
	High Intake.....	52,728,813 Gallons	7,125,515 Cu.Ft.
	Average Intake.....	39,238,413 Gallons	5,302,488 Cu.Ft.
	Low Intake.....	25,748,013 Gallons	3,479,461 Cu.Ft.
Annual Replacement Drinking Water.....			
	High Intake.....	2,646,250 Gallons	357,601 Cu.Ft.
	Average Intake.....	2,117,000 Gallons	286,081 Cu.Ft.
	Low Intake.....	1,587,750 Gallons	214,561 Cu.Ft.
Barn Water Use from Waste System...			
	Daily.....	15,000 Gallons	2,027 Cu.Ft.
	Annual.....	5,475,000 Gallons	739,865 Cu.Ft.
All Water Used			
	High Usage.....	60,850,063 Gallons	8,222,981 Cu.Ft.
	Average Usage.....	46,830,413 Gallons	6,328,434 Cu.Ft.
	Low Usage.....	32,810,763 Gallons	4,433,887 Cu.Ft.
Acre Feet/ cfs at Varing Use Levels			
	High Usage.....	188.8 Acre Ft.	0.26 cfs
	Average Usage.....	145.3 Acre Ft.	0.20 cfs
	Low Usage.....	101.8 Acre Ft.	0.14 cfs

Prepared by ROBERT OHLENSEHLEN 4/8/2004

Operator Name and Address ID

4 BROS DAIRY INC 4570
425 N 250 W
SHOSHONE, ID 83352-5141

Original: _____

Revision: _____

Cropland: 240.2

Farmland: 440.0

Tract Number	Field Num ID	Irr Prc	Crop	Var/ Type	Int Use	Lnd Use	Reported Acreage	Determined Acreage	O/ M	Crop Stat	Prod Share	Prod ID	RMA Unit	Ost Unit
0		Ni	OFAV			F FAV	.00				1.0000	4570		

Crop Type Prac IU Non-Irrig Irrigated
OFAV N .0

Photo Number/Legal Description: None

Cropland: .0 Reported: .0 Difference: .0 Reported D.S.R: .0

482	8	Ir	ALFAL		Forage		63.70			I	1.0000	4570		
	9	Ir	ALFAL		Forage		108.50			I	1.0000	4570		
	11	Ir	ALFAL		Forage		62.00			I	1.0000	4570		

Crop Type Prac IU Non-Irrig Irrigated
ALFAL I FG 234.2

Photo Number/Legal Description: MAP G12 S20,29-T6-R18 TRACT 482

Cropland: 240.2 Reported: 234.2 Difference: -6.0 Reported D.S.R: .0

LINCOLN, IDAHO

Form Approved - OMB No. 0560-0032

FSA-578 (02-01-91)

REPORT OF ACREAGE

PROGRAM YEAR 2001

FARM NUMBER: 915

FARM SUMMARY

DATE: 04-12-2004

Original: _____

Revision: _____

Operator Name and Address ID

4 BROS DAIRY INC 4570
425 N 250 W
SHOSHONE, ID 83352-5141

Cropland: 240.2

Farmland: 440.3

NOTE: The following statements are made in accordance with the Privacy Act of 1974(5 USC 552a). The Agricultural Adjustment Act of 1938, as amended, and the Agricultural Act of 1949, as amended, authorized the collection of the following data. The data will be used to determine eligibility for assistance. Furnishing the data is voluntary, however, without it assistance cannot be provided. The data may be furnished to any agency responsible for enforcing the provisions of the Acts. Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate, or any other aspect of this collection of information, including suggestions for reducing this burden, to the Department of Agriculture, Clearance Officer, Ag Box 7630, Washington, D.C. 20250; and to the Office of Management and Budget, Paperwork Reduction Project (OMB No. 0560-0004), Washington, D.C. 20503. RETURN THIS COMPLETED FORM TO YOUR FSA COUNTY OFFICE.

Producer Name	ID	Crop	Share
4 BROS DAIRY INC	4570	ALFAL	1.0000

Crop	Type	Prac	IU	Reported	Determined	Crop	Type	Prac	IU	Reported	Determined
ALFAL		I	FG	234.2		OFAV		N		.0	

OPERATOR'S CERTIFICATION: I certify to the best of my knowledge and belief that the acreage of crops and land uses listed herein are true and correct, and that all required crops and land uses have been reported for the farm as applicable. The signing of this form gives FSA representatives authorization to enter and inspect crops and land uses on the above identified land.

Operator's Signature | Date

This program or activity will be conducted on a nondiscriminatory basis without regard to race, color, religion, national origin, sex, age, marital status, or disability.

PARCEL NUMBER: RP 05S17E056000 A PROPERTY ADDRESS:

EFFECTIVE DATE: 10/01/1983
EXPIRATION DATE: 00/00/0000

TAX CODE AREA: 0040000

NAME: 4 BROS DAIRY INC

LEGAL: S1/2S1/2
5-5-17

ADDRESS: 425 NORTH 250 WEST

SHOSHONE ID 83352 OLD PARCEL #:

CAT	SHT	RY	QUANTITY	UN	MARKET VALUE	HO VALUE	HO EXEMPT	CB VALUE	OTHER EXEMP
1		2002	61.000	AC	14,490				
2		2002	21.100	AC	4,640				
5		2002	76.990	AC	2,080				
19		2002	.910	AC					

TOTALS: 160.000 21,210

	CAMA AREA #:		COMMENTS:
DEED REFERENCES:	RELATED PARCELS:	SUB-SYS:	HOMEOWNERS: NONE
DATE: 11/20/1997			ZONING:
163193			PHOTO NUMBER:
			MAP NUMBER: 04-07
			INSP YEAR: 2002
			PARCEL TYPE:
			LOCATION CODE: 0000
TAX SPECIALS			SW UNITS:
			SW TYPES:

V A L U A T I O N S U M M A R Y S H E E T

TIME: 14:24:35
DATE 7/17/2003

PARCEL NUMBER: RP 06S18E207200 A PROPERTY ADDRESS:

EFFECTIVE DATE: 10/01/1983
EXPIRATION DATE: 00/00/0000

TAX CODE AREA: 0450000

NAME: 4 BROS DAIRY INC

LEGAL: E1/2SE
20-6-18

ADDRESS: 425 NORTH 250 WEST

SHOSHONE ID 83352 OLD PARCEL #:

CAT	SHT	RY	QUANTITY	UN	MARKET VALUE	HO VALUE	HO EXEMPT	CB VALUE	OTHER EXEMP
1		2002	56.520	AC	23,360				
5		2002	21.660	AC	580				
19		2002	1.820	AC					

JTALS.	80.000	23,940	

	CAMA AREA #:			COMMENTS:
DEED REFERENCES:	RELATED PARCELS:	SUB-SYS:	HOMEOWNERS: NONE	
DATE: 07/28/1998			ZONING:	
165334			PHOTO NUMBER:	
163193			MAP NUMBER: 07-11	
162552			INSP YEAR: 2002	
156450			PARCEL TYPE:	
			LOCATION CODE: 0000	
TAX SPECIALS:			SW UNITS:	
			SW TYPES:	

PARCEL NUMBER: RP 05S17E036000 A PROPERTY ADDRESS:

EFFECTIVE DATE: 10/01/1983
EXPIRATION DATE: 00/00/0000 TAX CODE AREA: 0040000

NAME: 4 BROS DAIRY INC LEGAL: S1/2S1/2
5-5-17

ADDRESS: 425 NORTH 250 WEST

SHOSHONE ID 83352 OLD PARCEL #:

CAT	SHT	RY	QUANTITY	UN	MARKET VALUE	HD VALUE	HD EXEMPT	CB VALUE	OTHER EXEMP
1		2002	61.000	AC	14,490				
2		2002	21.100	AC	4,640				
5		2002	76.990	AC	2,080				
15		2002	.910	AC					

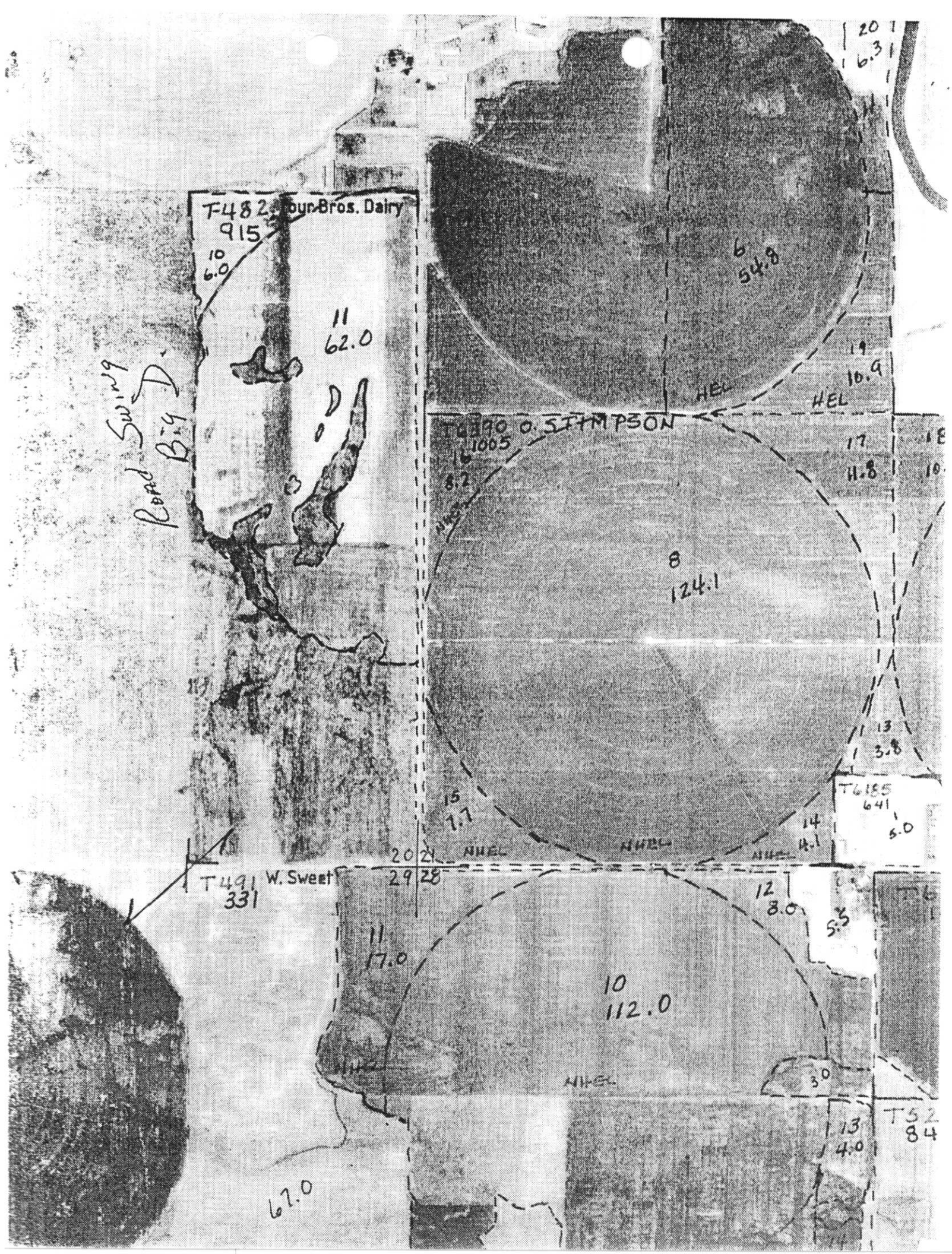
TOTALS: 160.000 21,210

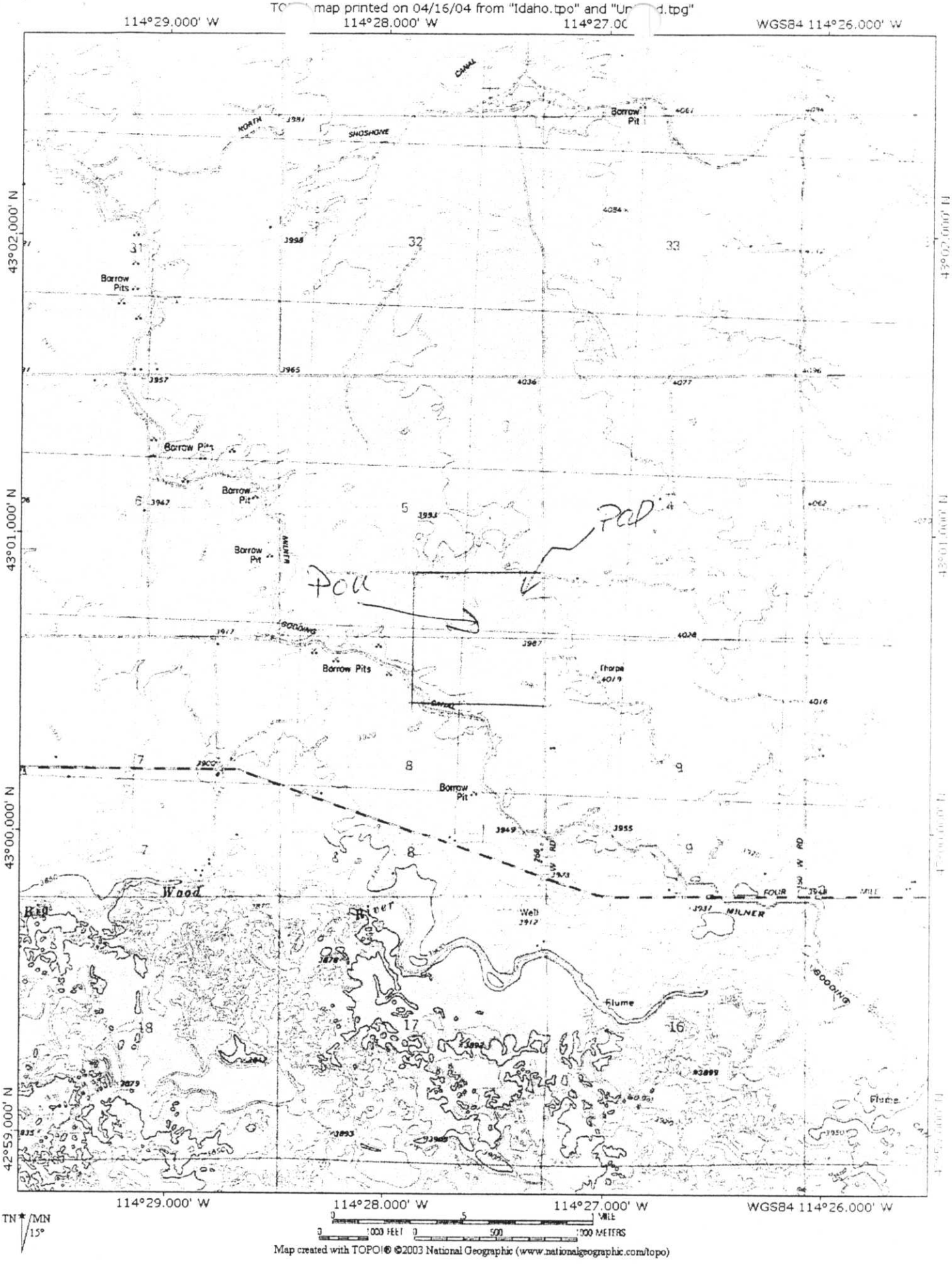
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DEED REFERENCES: RELATED PARCELS: SUB-SYS:
DATE: 11/20/1997
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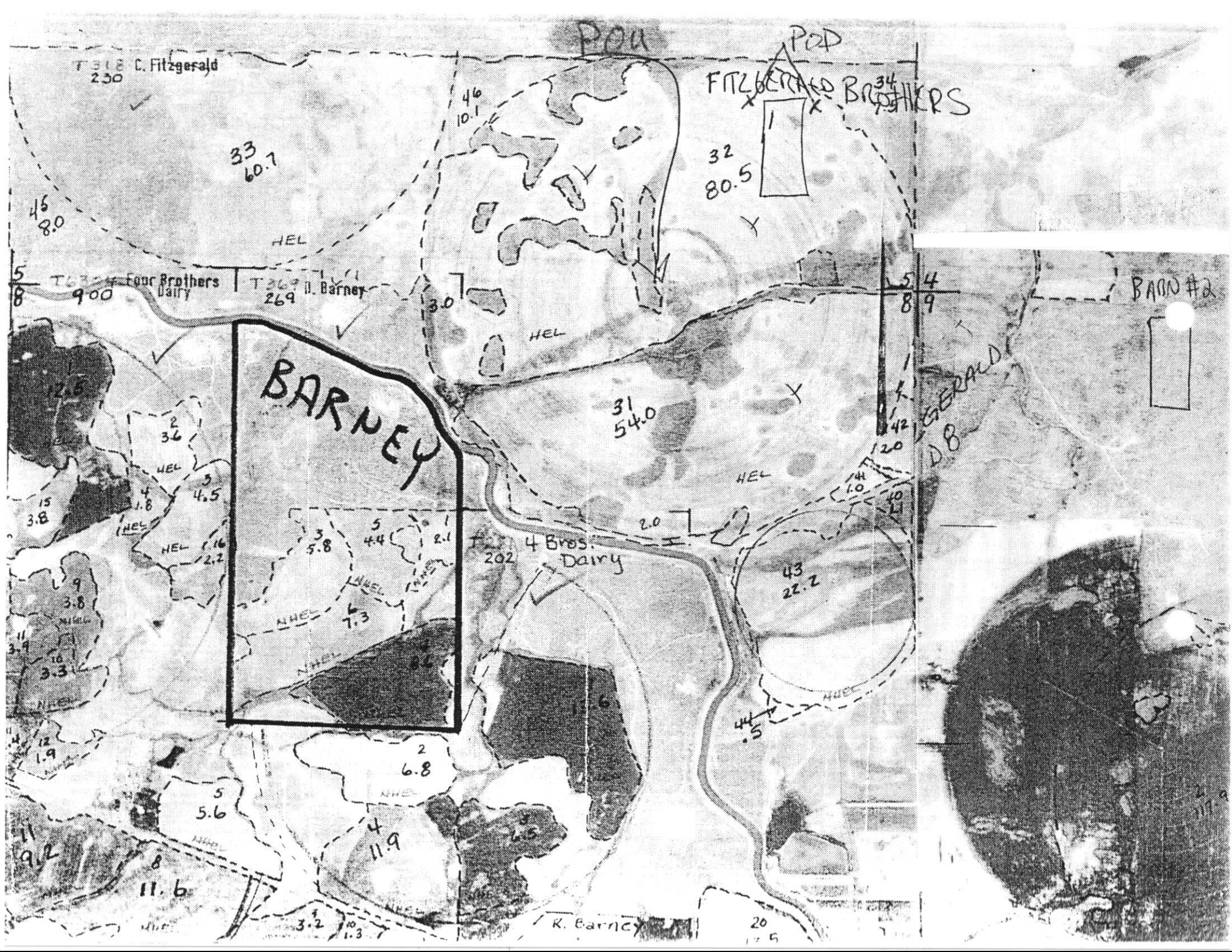
TAX SPECIALS:

HOMEOWNERS: NONE
ZONING:
PHOTO NUMBER:
MAP NUMBER: 04-07
INSP YEAR: 2002
PARCEL TYPE:
LOCATION CODE: 0000
SW UNITS:
SW TYPES:

COMMENTS:


T4824 Boyer Bros. Dairy
915
10
6.0
11
62.0
Road Swing D
T4390 O. SIMPSON
1005
16
8.2
HEL
HEL
6
54.8
19
10.9
17
11.8
8
124.1
13
3.8
T6185
641
5.0
15
7.7
14
4.1
NHEL
NHEL
NHEL
T4491 W. Sweet
331
20
21
29
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T52
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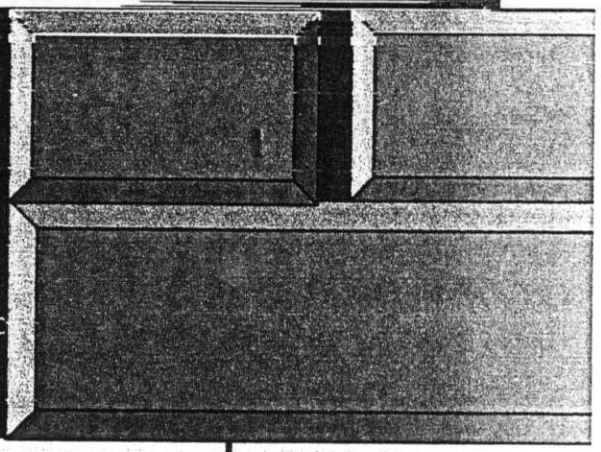

TOPO map printed on 04/16/04 from "Idaho.tpo" and "Unnamed.tpg"
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114°28.000' W
114°27.000' W
WGS84 114°26.000' W
43°02.000' N
43°01.000' N
43°00.000' N
42°59.000' N
Borrow Pit
Borrow Pits
Borrow Pit
Borrow Pit
Borrow Pits
Borrow Pit
Thorpe
4019
Wood River
Flume
Flume
MILNER
SHOSHONE
CANAL
TN 15° MN
1000 FEET
500
1000 METERS
Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)


POU
POD
T 318 C. Fitzgerald
230
FITZGERALD BROTHERS
34
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900
T 269 R. Barney
269
3.0
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BARNEY
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54.0
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202
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22.2
BARN #2
FITZGERALD
D8
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K. Barney
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6.6
12.6
6.2

GROUND-WATER RIGH

UNIVERSITY OF IDAHO - IDAHO WATER RESOURCES RESEA

Cells this color are set up for user entries



ENTER STARTING DATE FOR SIMULATION. THEN PUSH "UPDATE DATES" BUTTON

YEAR 1974 Fitzgerald to Fitgeralc

SEASON WINTER

ENTER CELL LOCATIONS:	'TO' CELL	'FROM1' CELL	'FROM2' CELL	'FROM3' CELL
ROW	16	13	0	0
COLUMN	13	15	0	0

TRIMESTER OF ACTIVITY	TO WELL Projected Use AF/TRIMESTER	FROM1 WELL With Transfer AF/TRIMESTER	FROM1 WELL Without Transfer AF/TRIMESTER	FROM2 WI With Transfer AF/TRIMESTER
WIN 1974	0	100	100	0
SPR 1975	0	100	100	0
SUM 1975	0	100	100	0
WIN 1975	0	100	100	0
SPR 1976	0	100	100	0
SUM 1976	0	100	100	0
WIN 1976	0	100	100	0
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WIN 1977	0	100	100	0
SPR 1978	0	100	100	0
SUM 1978	0	100	100	0
WIN 1978	0	100	100	0
SPR 1979	0	100	100	0
SUM 1979	0	100	100	0
WIN 1979	0	100	100	0
SPR 1980	0	100	100	0
SUM 1980	0	100	100	0

WIN 1980	0	100	100	0
SPR 1981	0	100	100	0
SUM 1981	0	100	100	0
WIN 1981	0	100	100	0
SPR 1982	0	100	100	0
SUM 1982	0	100	100	0
WIN 1982	0	100	100	0
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WIN 1985	0	100	100	0
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WIN 1988	0	100	100	0
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WIN 2002	0	100	100	0
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WIN 2005	100	0	100	0
SPR 2006	100	0	100	0
SUM 2006	100	0	100	0
WIN 2006	100	0	100	0
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SUM 2007	100	0	100	0
WIN 2007	100	0	100	0
SPR 2008	100	0	100	0
SUM 2008	100	0	100	0
WIN 2008	100	0	100	0
SPR 2009	100	0	100	0
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WIN 2009	100	0	100	0
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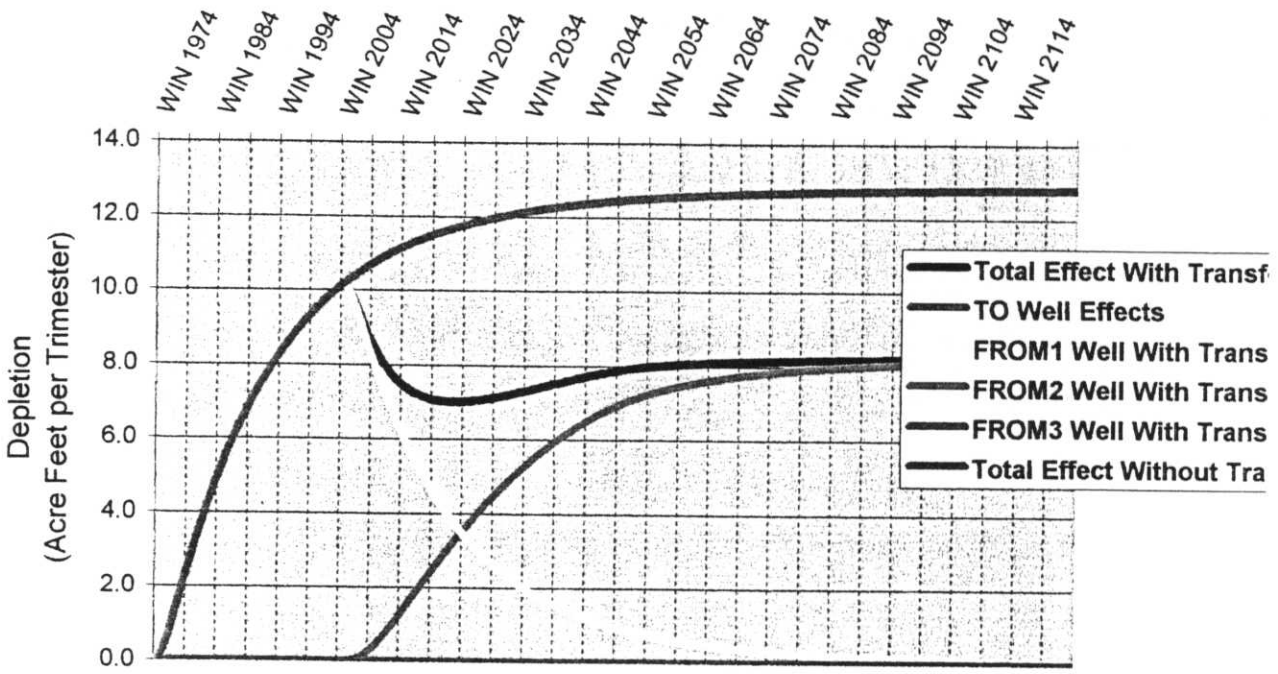
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SUM 2017	100	0	100	0
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SUM 2020	100	0	100	0
WIN 2020	100	0	100	0
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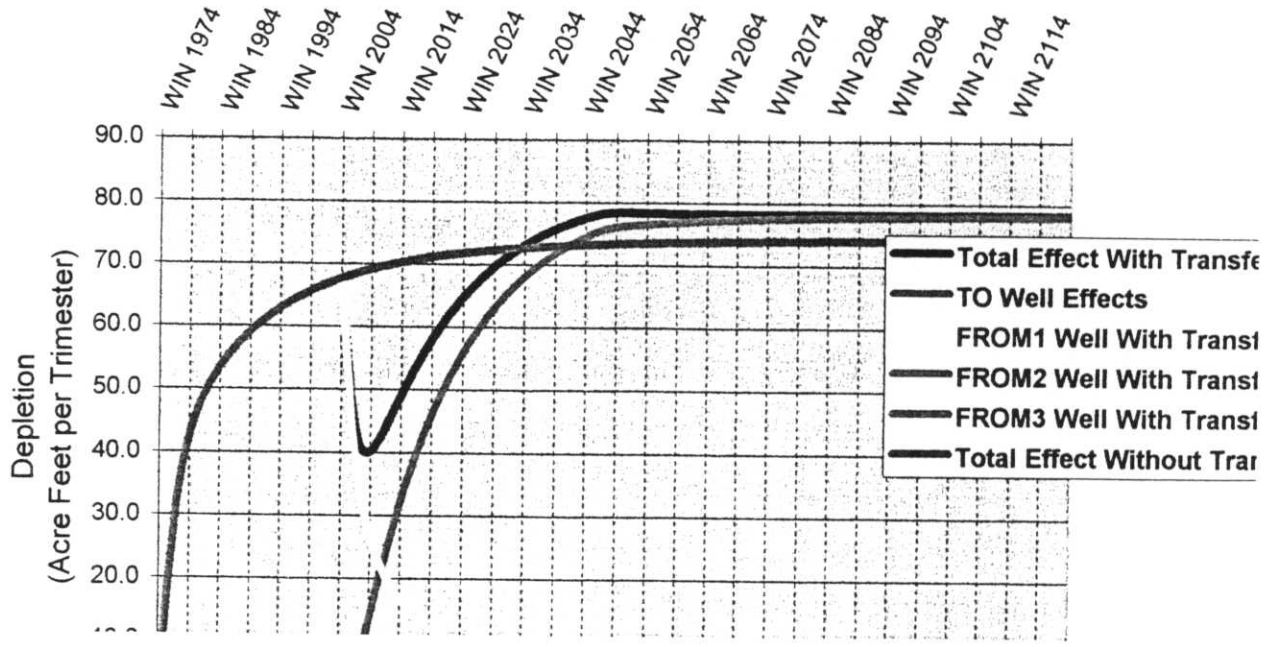
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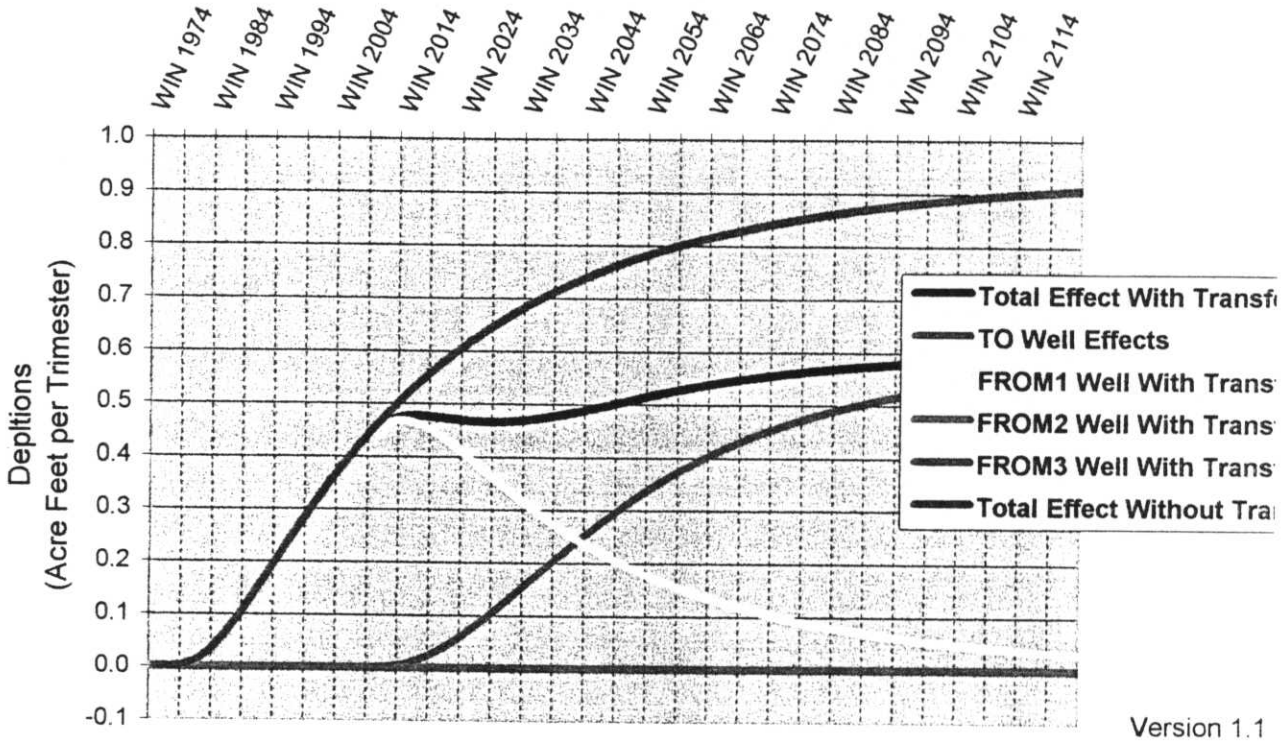
Hydrologic Response--Neeley to Minidoka Reach



Hydrologic Response-- Milner to King Hill Reach

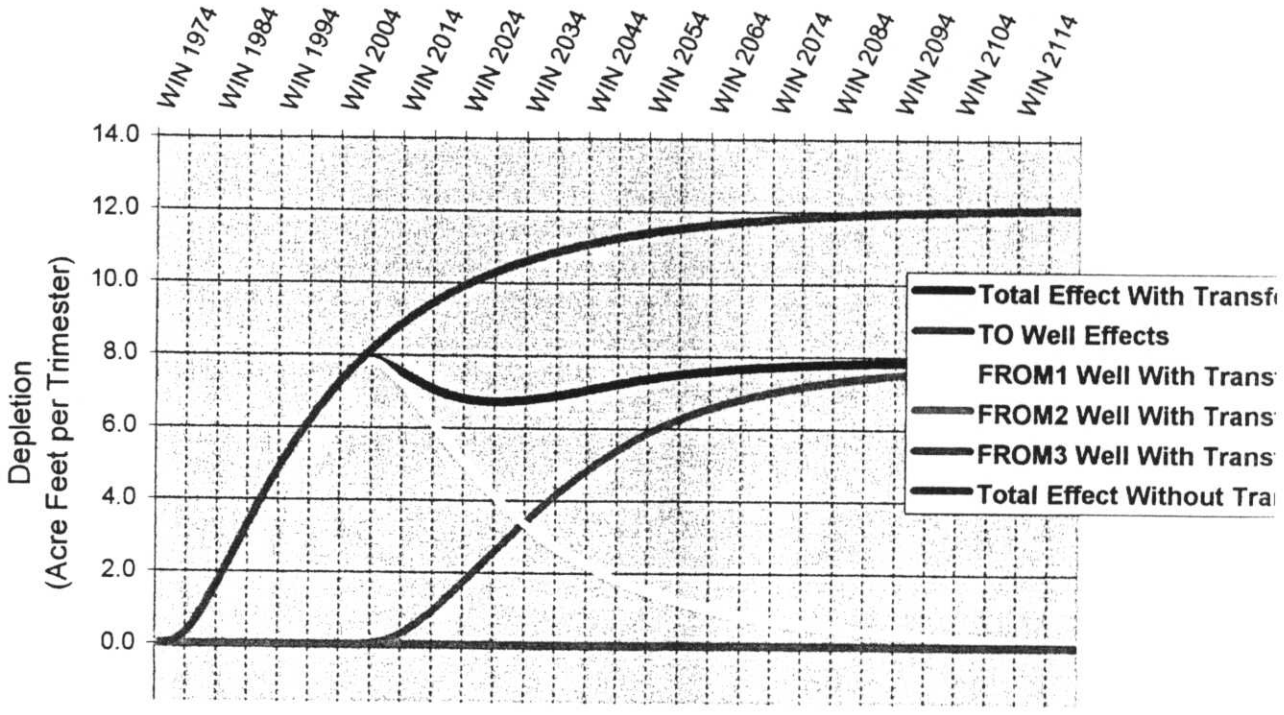


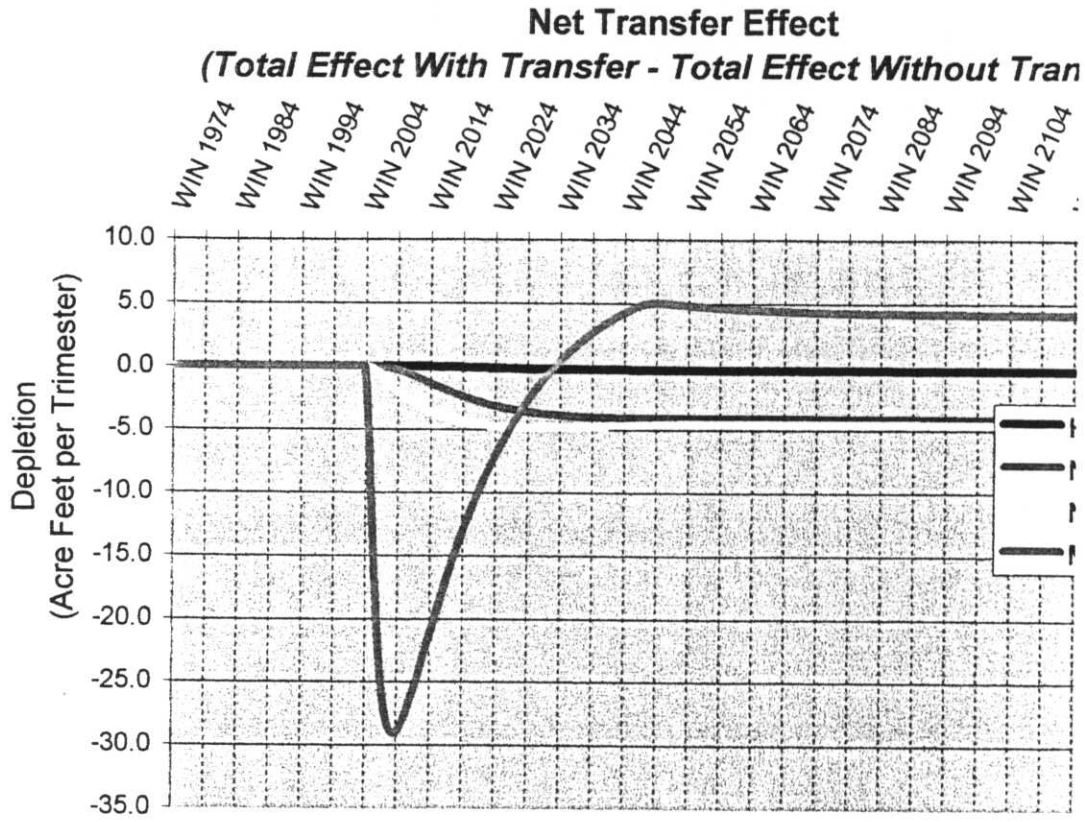
Hydrologic Response--Heise/Ashton to Lewisville



Version 1.1

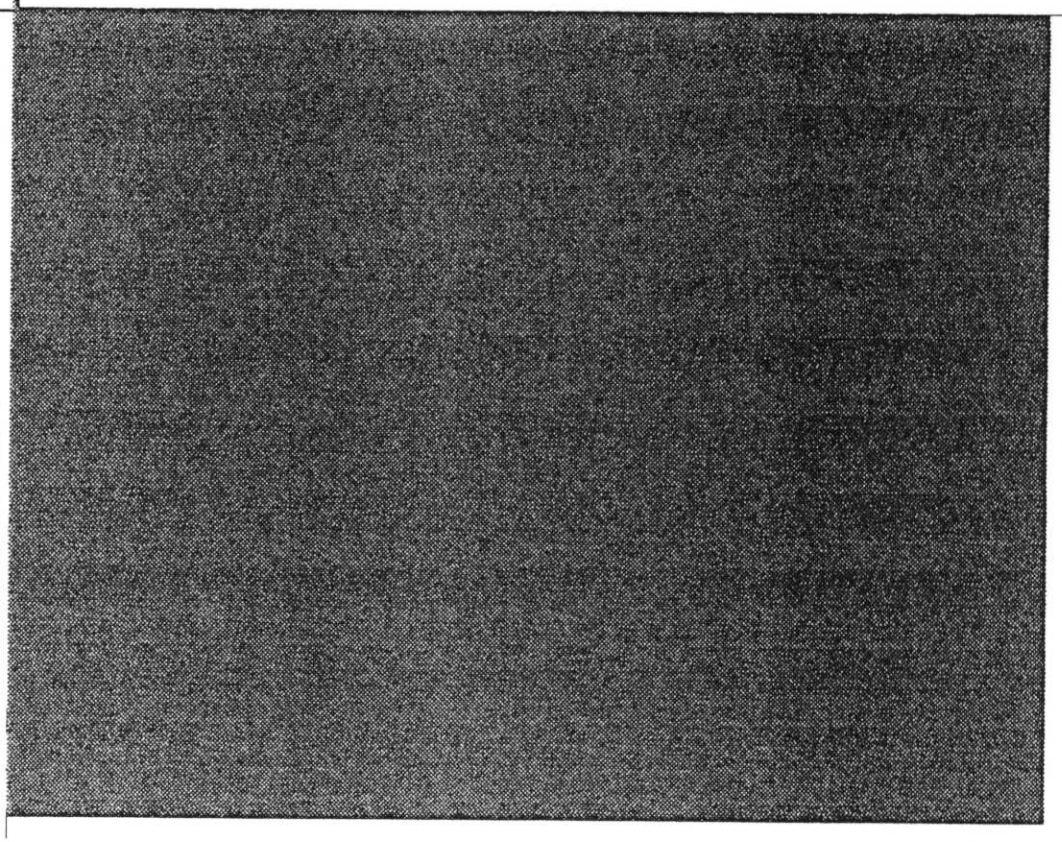
Hydrologic Response--Near Shelley to Neeley Reach





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IDAHO WATER COMPANY

Water Rights & Shares: Buy * Sell * Transfer
1135 Valley Road South
Eden, Idaho 83325

April 15, 2004

The Groundwater Rights Transfer Tool calls for a reduction in pumping after the spring 2046 of 5% for the mitigation plan for this transfer. The applicant is agreeable with this plan.

Regards,

Del Kohtz
Idaho Water Co. LLC

Andrew Fitzgerald – Fitzgerald Bros. Farms

IDAHO WATER COMPANY LLC.

Water Rights & Shares: Buy * Sell * Transfer
1135 Valley Road South
Eden, Idaho 83325

Subject: Consumptive Irrigation Use

The Allen and Brockway Consumptive Irrigation Coefficient for Alfalfa growing in Shoshone is 913mm/25.4=2.99acre feet /year. The allowable pumping for water right 37-20613 is 231.4 AFA.

Schedule of allowable pumping: Years 2004 to 20046 = 231.4 AFA
Years 2046 forward = 219.8 AFA

2002 DEC 11 PM 02:00
DISTRICT COURT - SRBA
TWIN FALLS CO., IDAHO
FILED _____

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE
STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

In Re SRBA	)	PARTIAL DECREE PURSUANT TO
	)	I.R.C.P. 54(b) FOR
Case No. 39576	)	
	)	Water Right 37-20613

DEETRICH
S6N6-

NAME AND ADDRESS:	4-BROS DAIRY INC C/O ANDREW FITZGERALD 427 N 250 W SHOSHONE, ID 83352		
SOURCE:	GROUND WATER		
QUANTITY:	1.12 CFS 309.60 AFY		
PRIORITY DATE:	12/19/1974		
POINT OF DIVERSION:	T06S R18E S20	SENESE	Within Lincoln County

PURPOSE AND PERIOD OF USE:	PURPOSE OF USE	PERIOD OF USE	QUANTITY
	Irrigation	03-15 TO 11-15	1.12 CFS 309.60 AFY

PLACE OF USE:	Irrigation		Within Lincoln County
	T06S R18E S20	NESE 38.7	SESE 38.7
	77.4 Acres Total		

OTHER PROVISIONS NECESSARY FOR DEFINITION OR ADMINISTRATION OF THIS WATER RIGHT:

THIS PARTIAL DECREE IS SUBJECT TO SUCH GENERAL PROVISIONS NECESSARY FOR THE DEFINITION OF THE RIGHTS OR FOR THE EFFICIENT ADMINISTRATION OF THE WATER RIGHTS AS MAY BE ULTIMATELY DETERMINED BY THE COURT AT A POINT IN TIME NO LATER THAN THE ENTRY OF A FINAL UNIFIED DECREE. I.C. SECTION 42-1412(6).

RULE 54(b) CERTIFICATE

With respect to the issues determined by the above judgment or order, it is hereby CERTIFIED, in accordance with Rule 54(b), I.R.C.P., that the court has determined that there is no just reason for delay of the entry of a final judgment and that the court has and does hereby direct that the above judgment or order shall be a final judgment upon which execution may issue and an appeal may be taken as provided by the Idaho Appellate Rules.

Roger Burdick

Roger Burdick
Presiding Judge of the
Snake River Basin Adjudication

EXHIBIT 12

USGS

Water Resources | Data Category: Ground Water | Geographic Area: Idaho | go

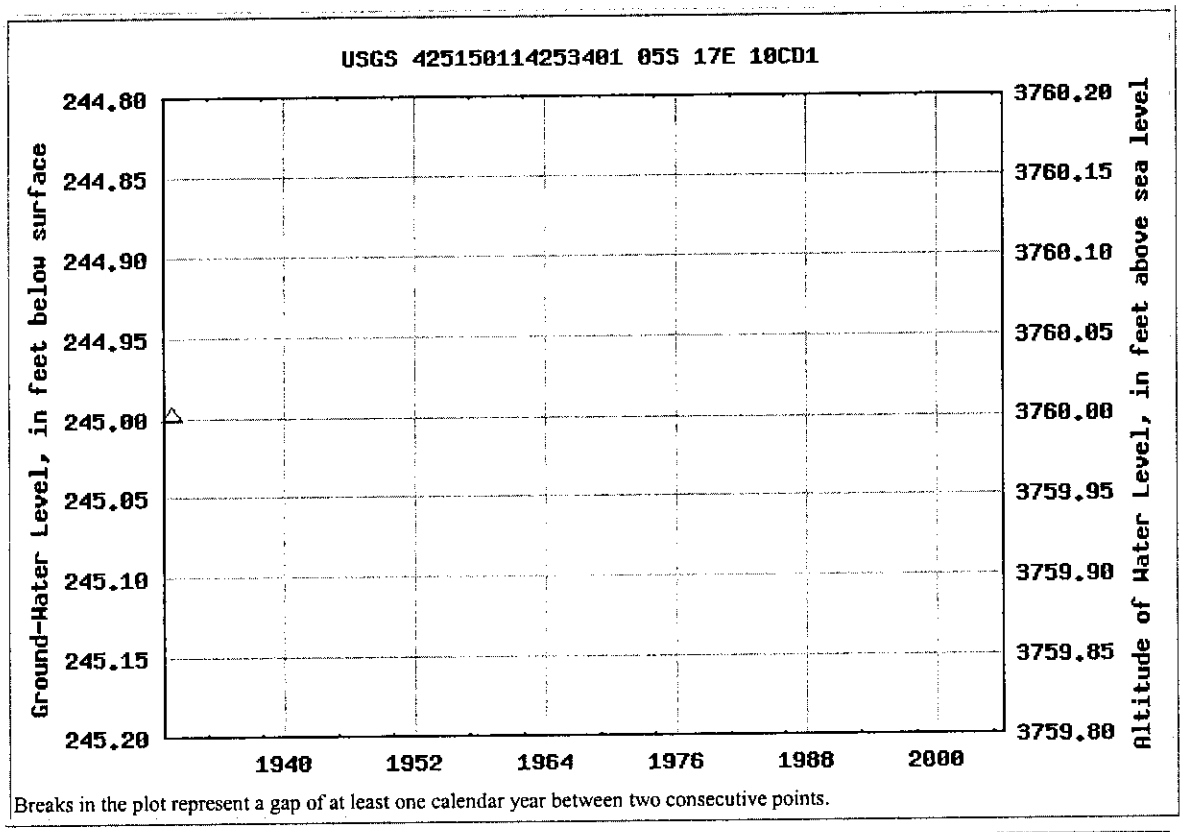
Ground-water levels for Idaho

Search Results -- 37 sites found

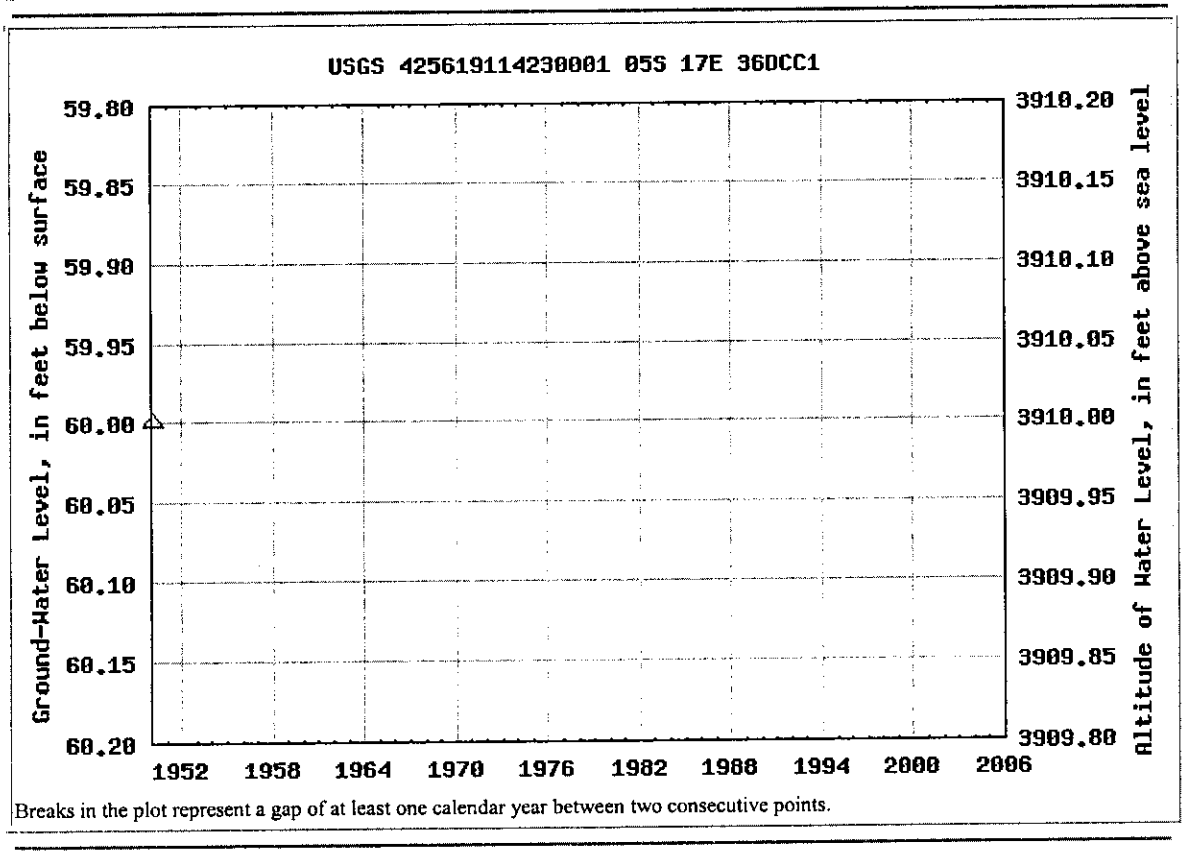
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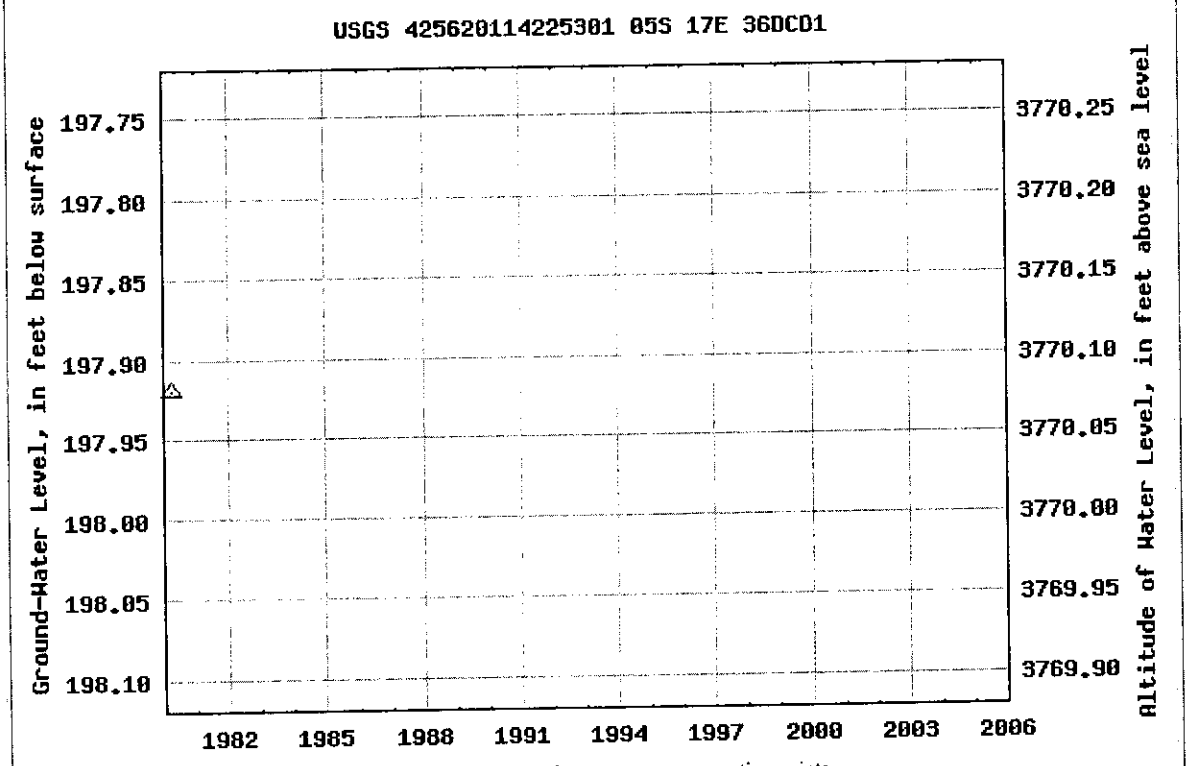
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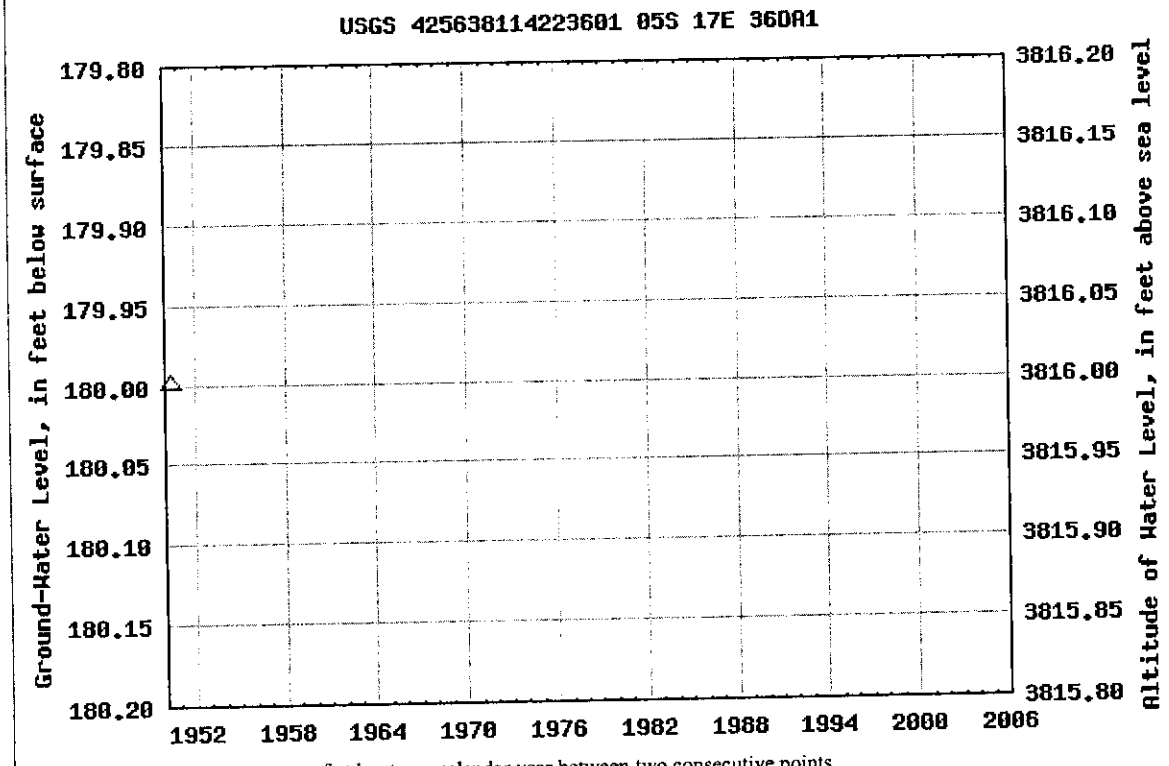
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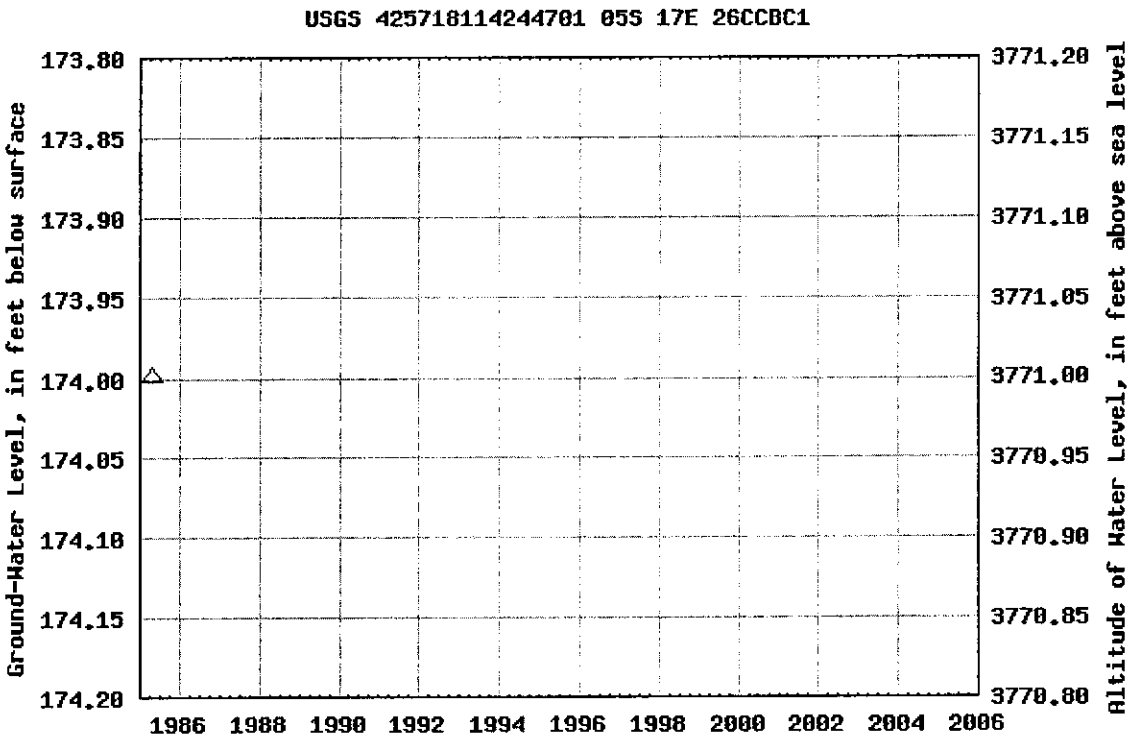
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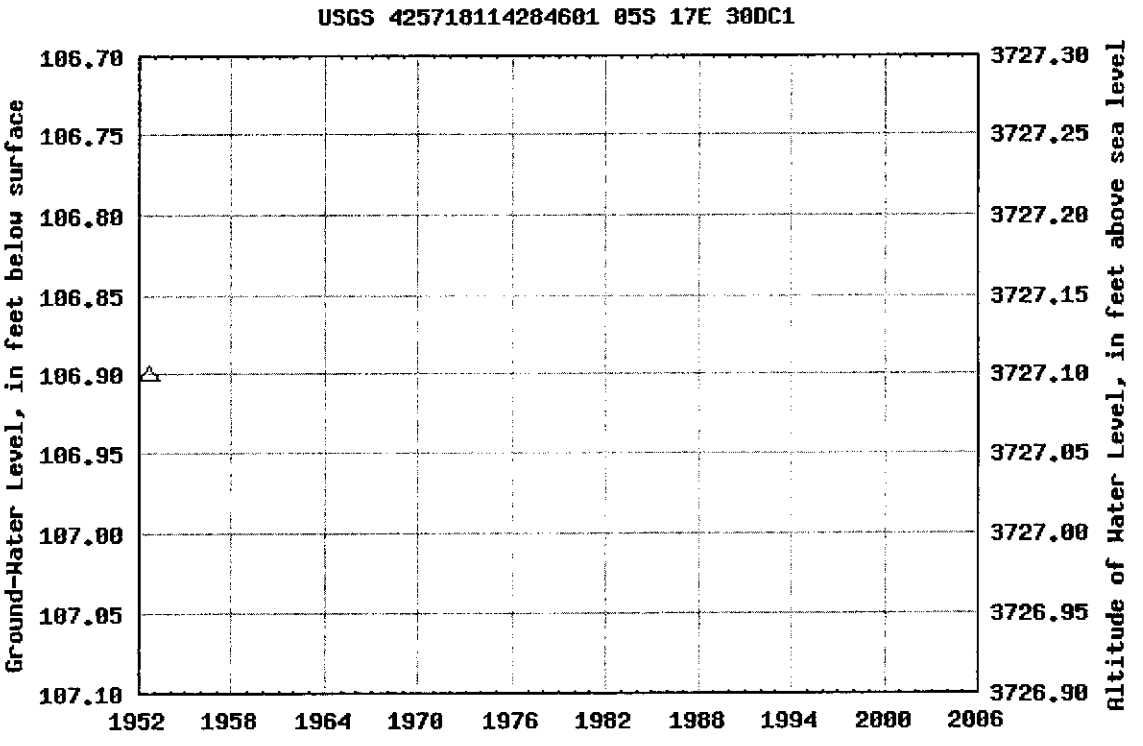
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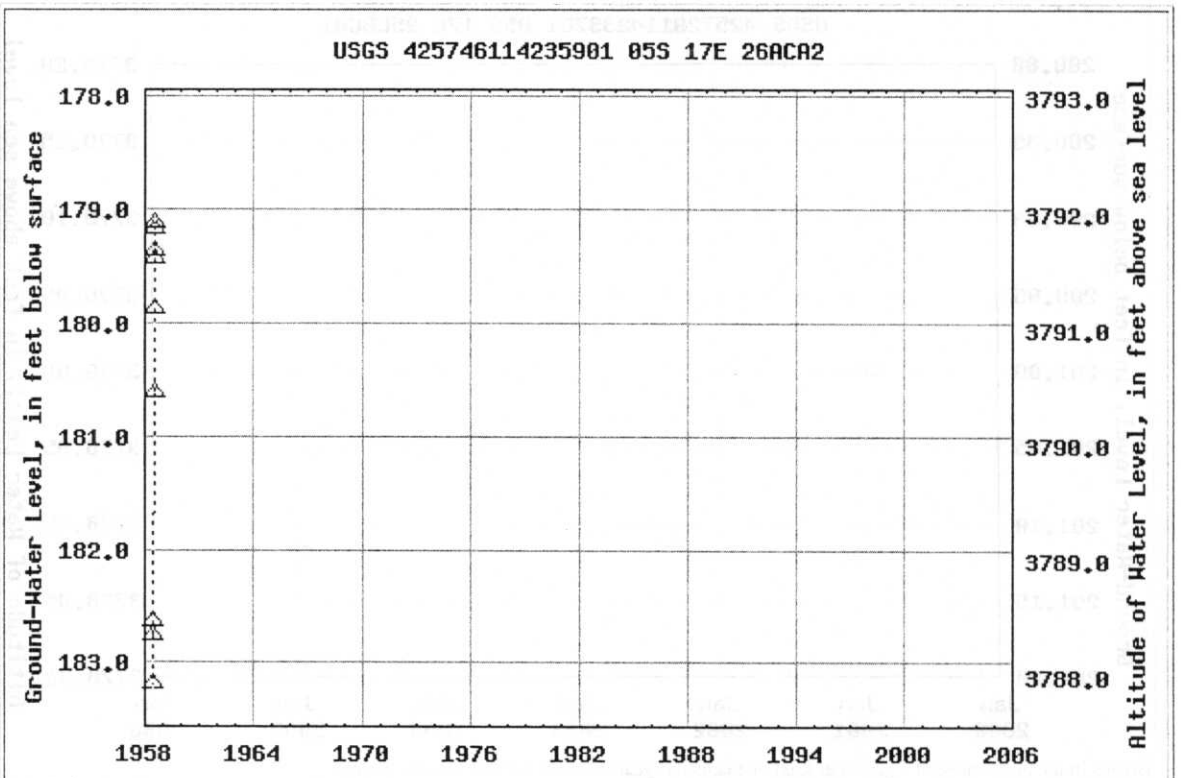
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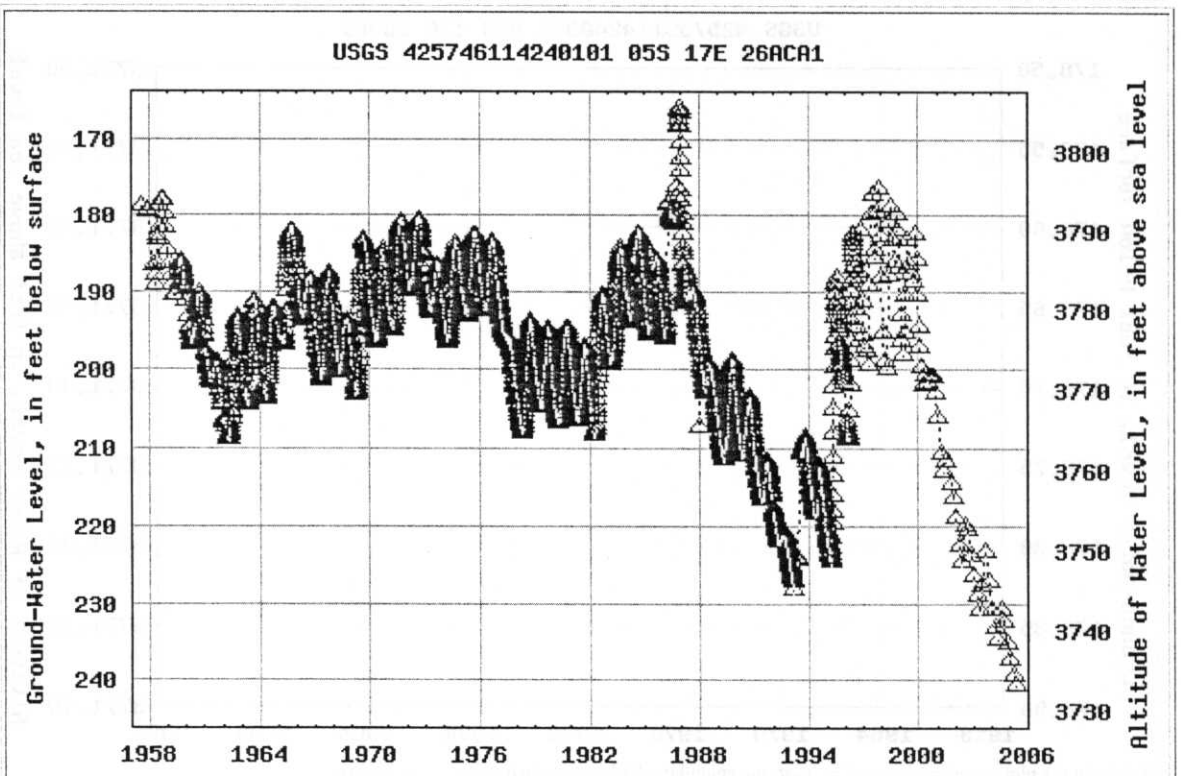
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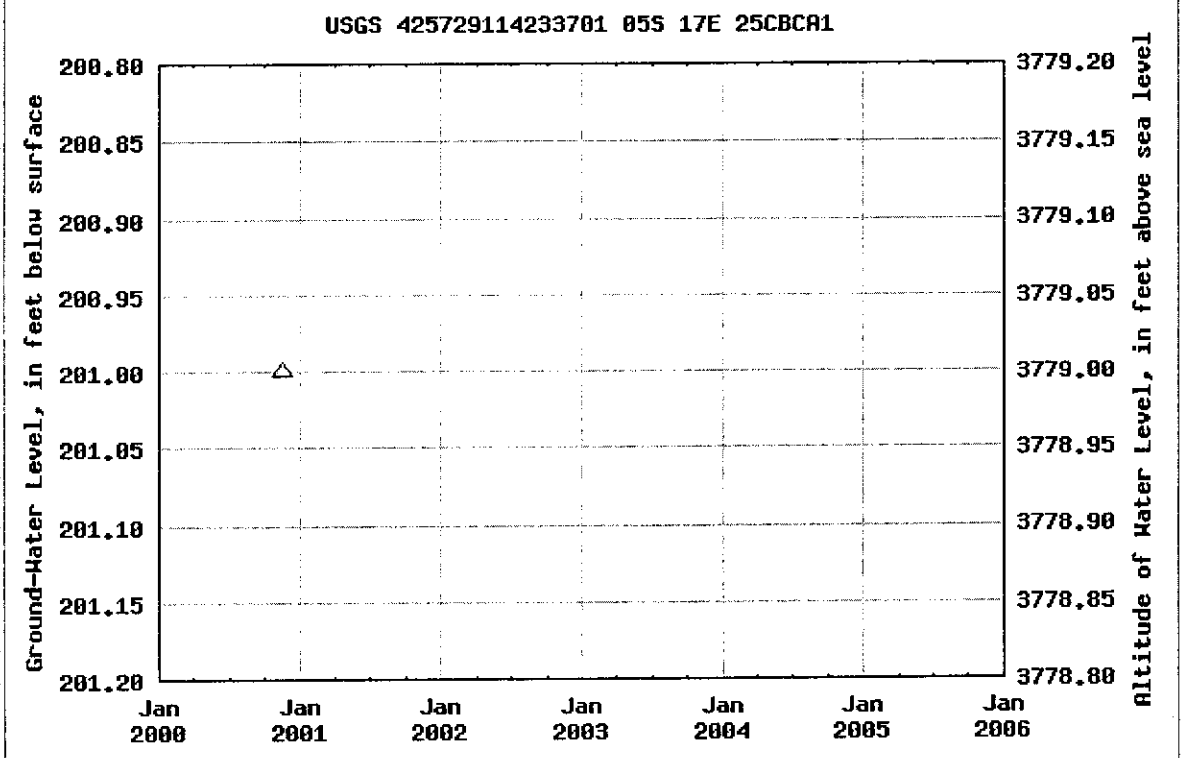
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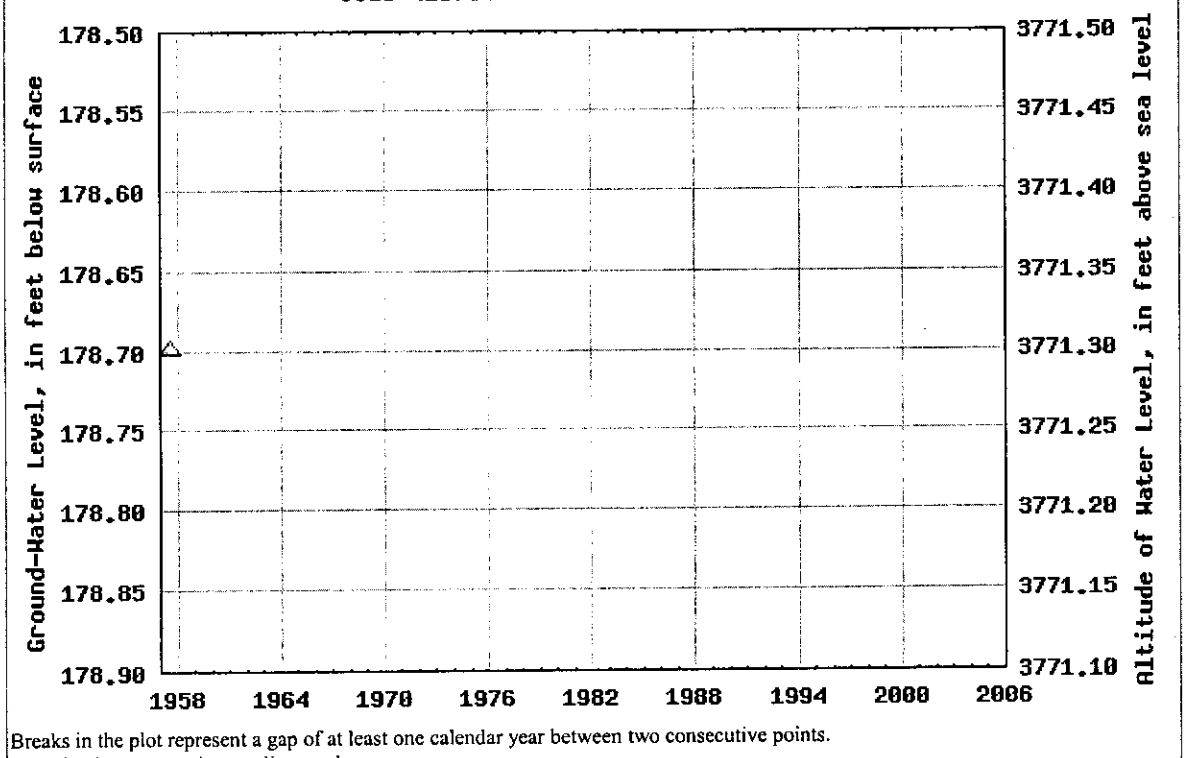
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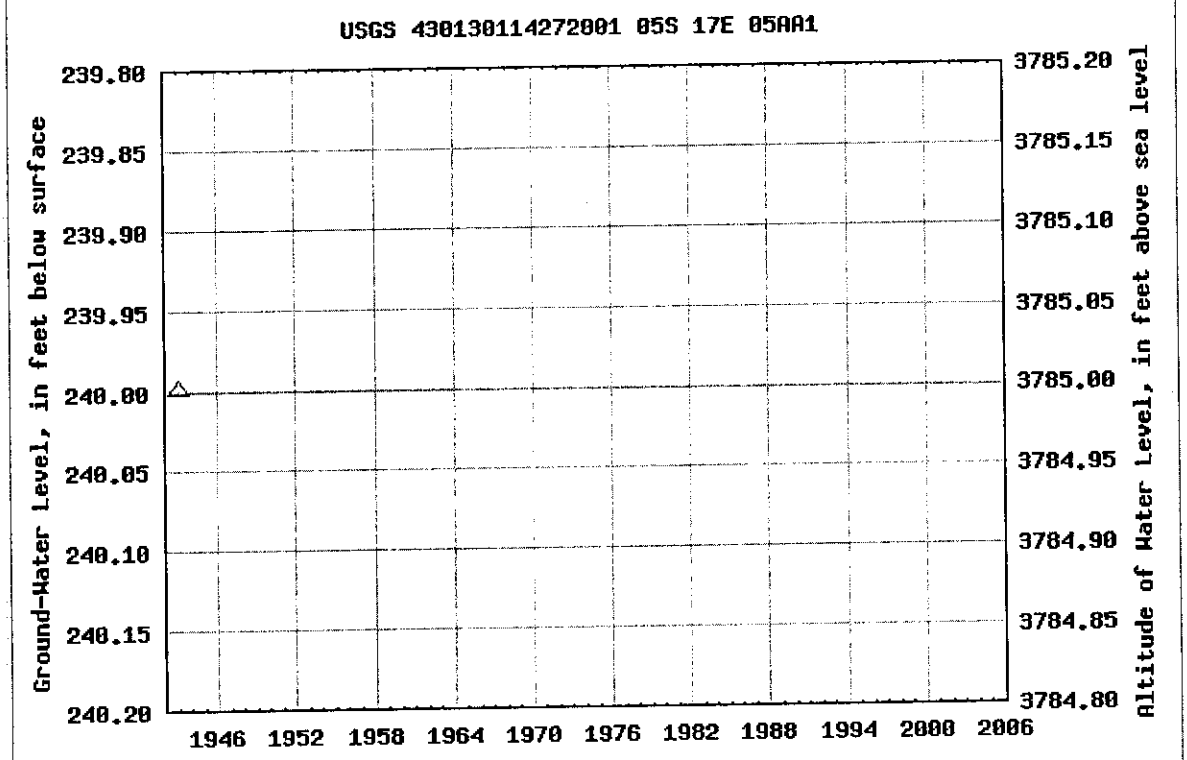
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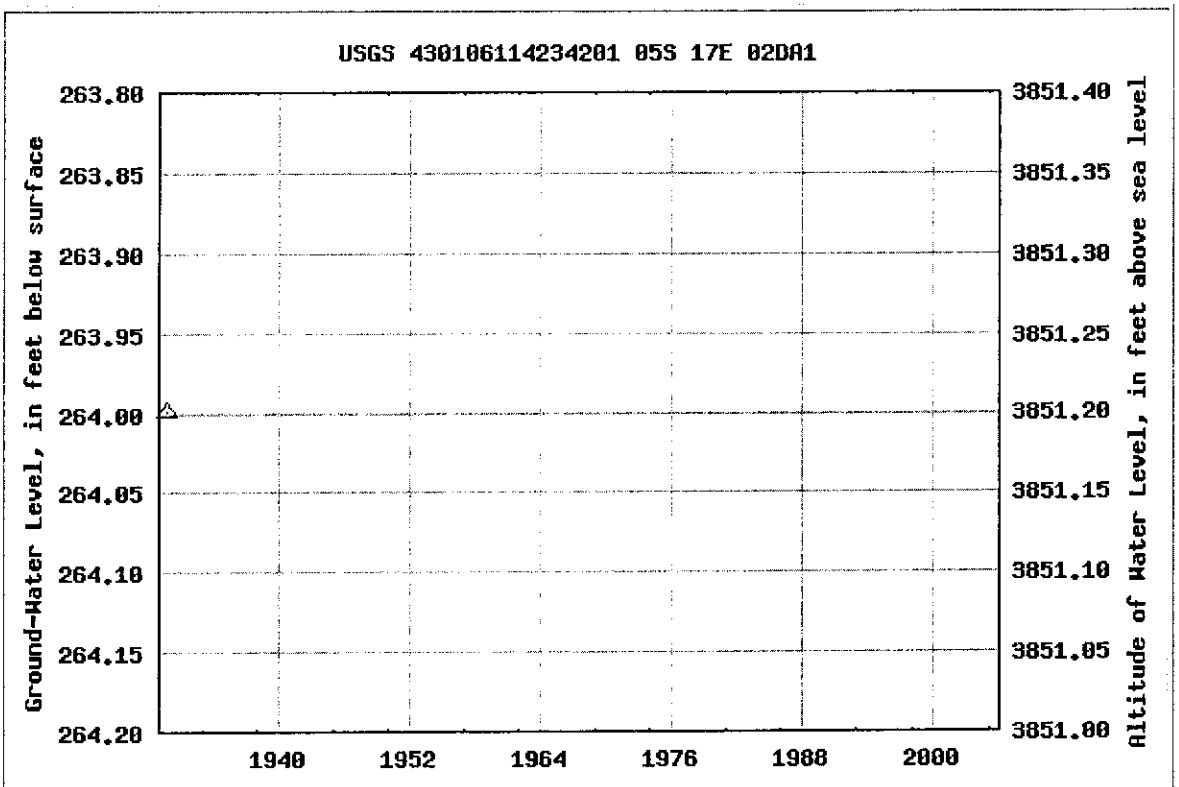
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Feedback on this website — Idaho NWISWeb Maintainer

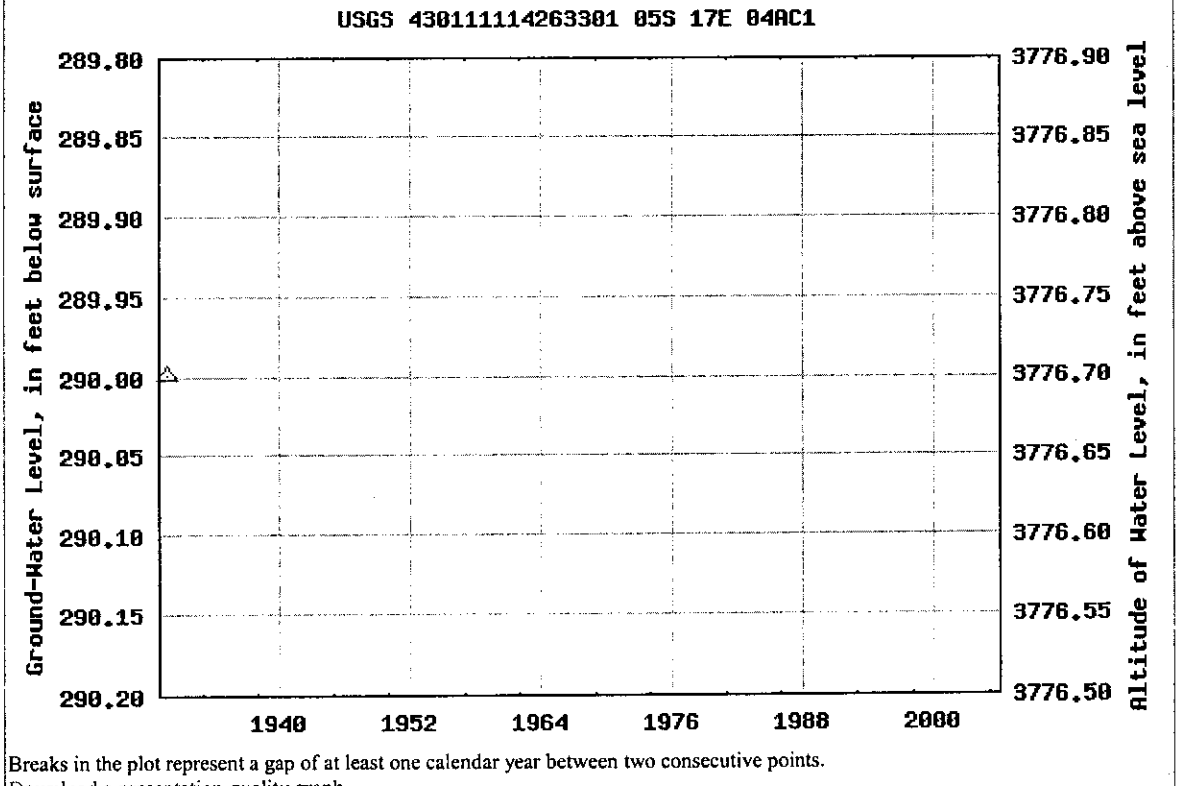
Top
Explanation of terms

Ground water for Idaho: Water Levels
http://waterdata.usgs.gov/id/nwis/gwlevels?

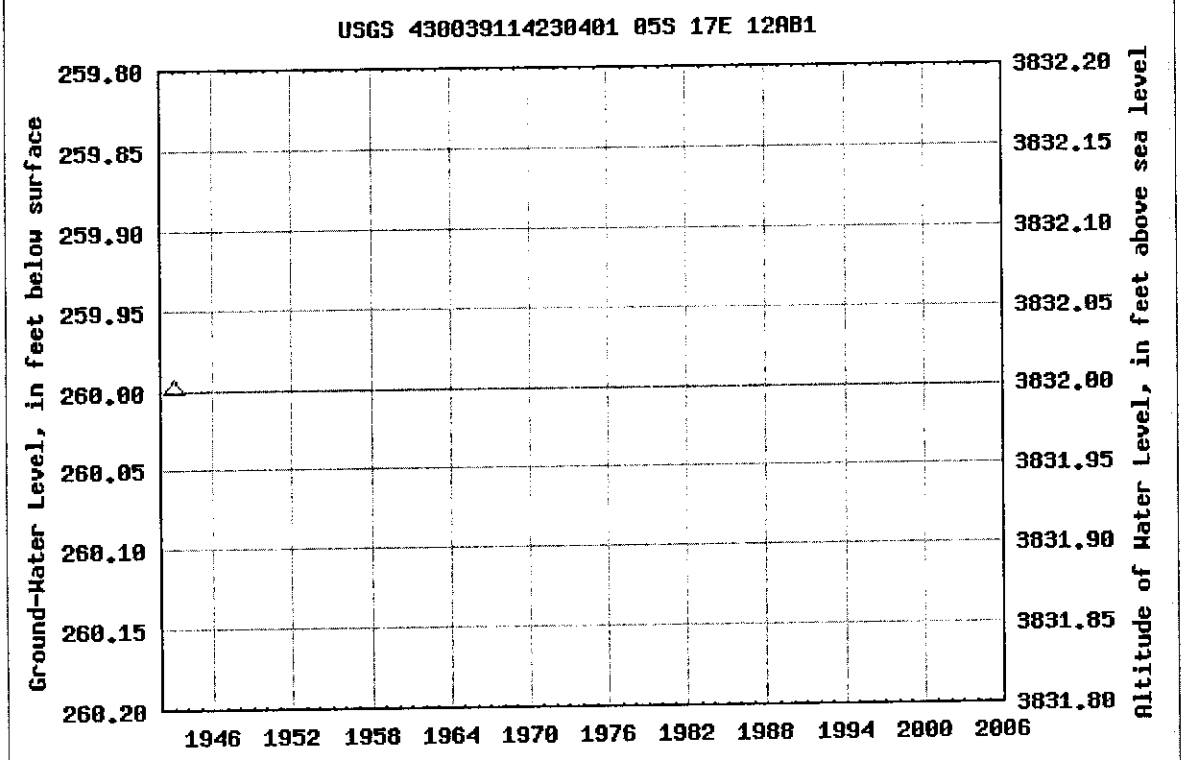
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Department of the Interior, U.S. Geological Survey
USGS Water Resources of Idaho
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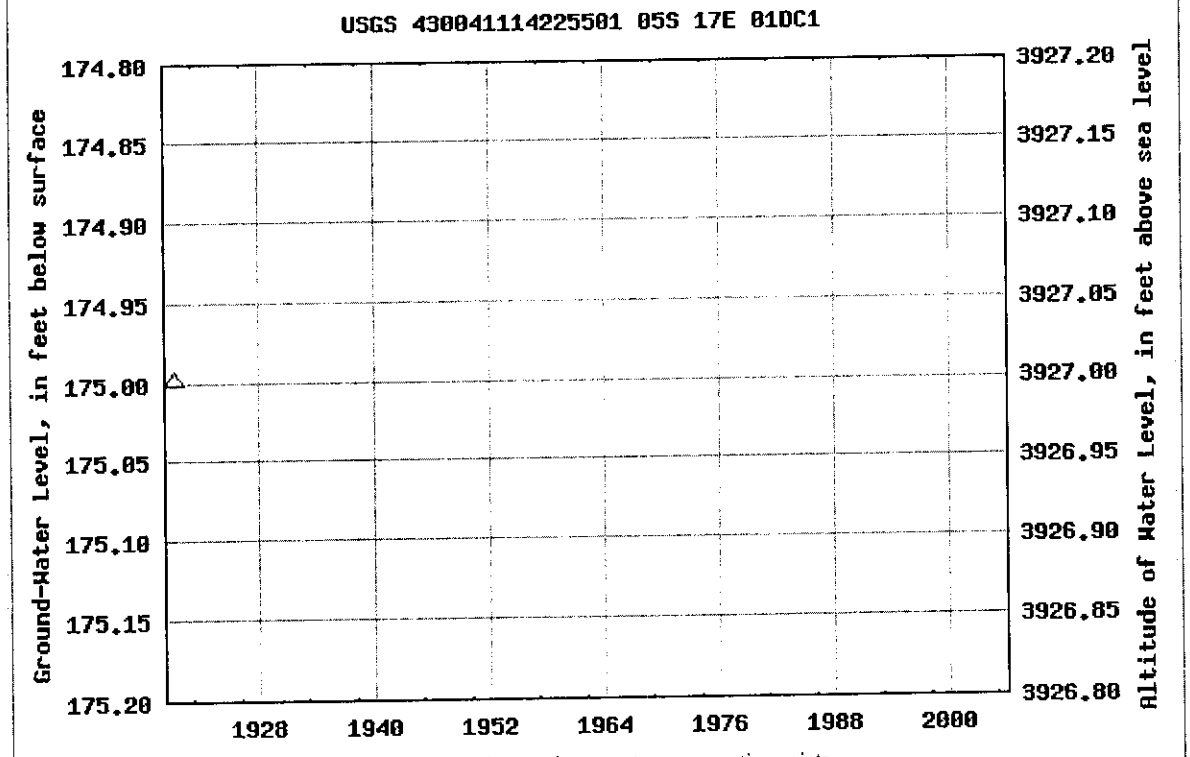
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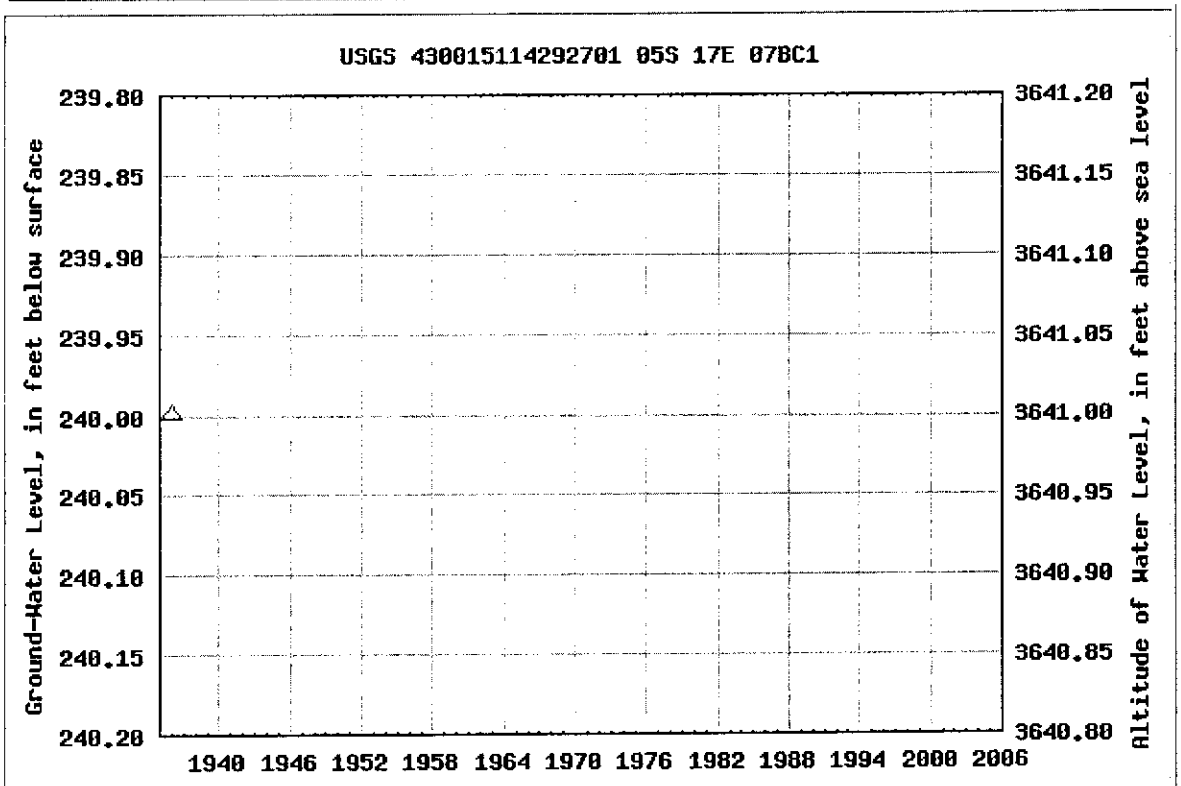
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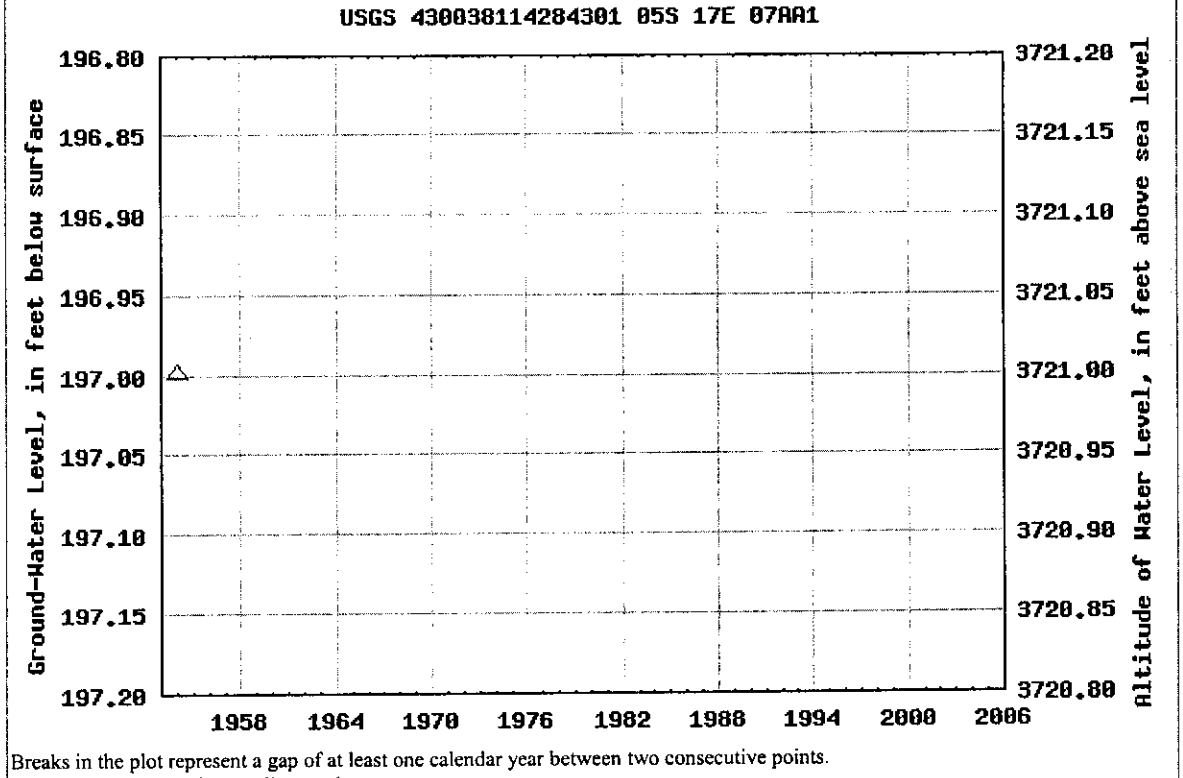
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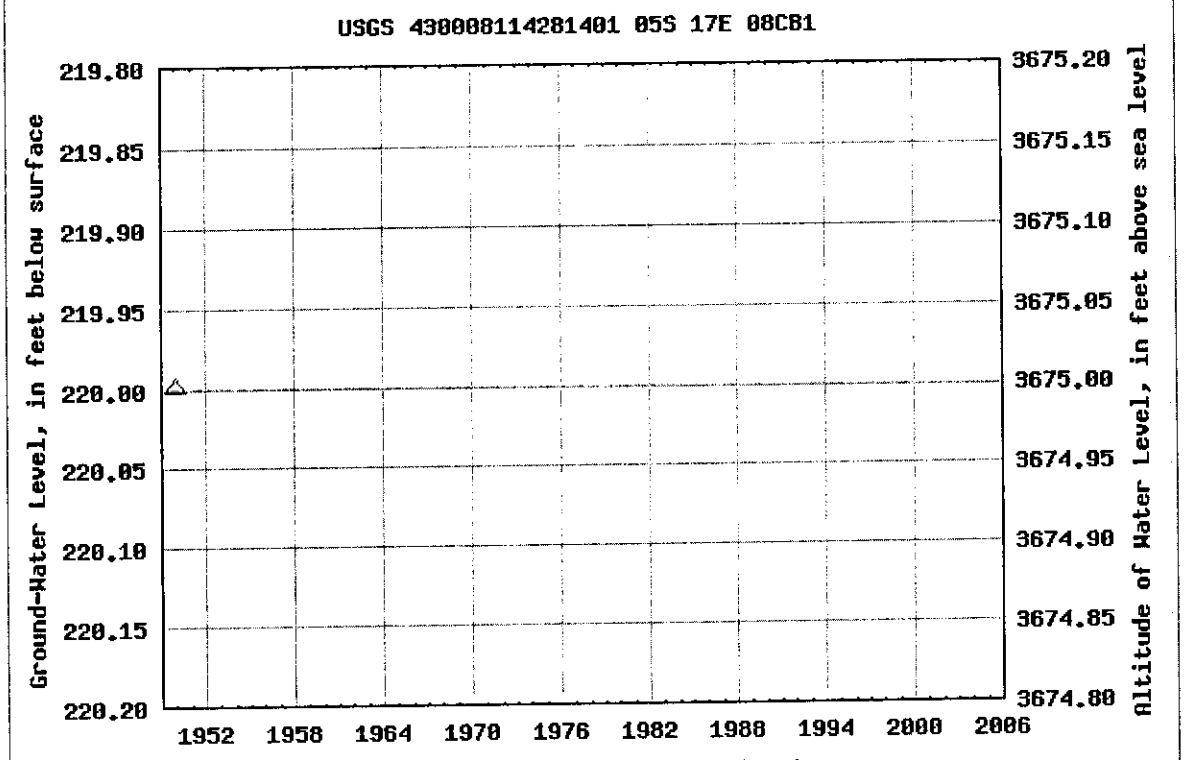
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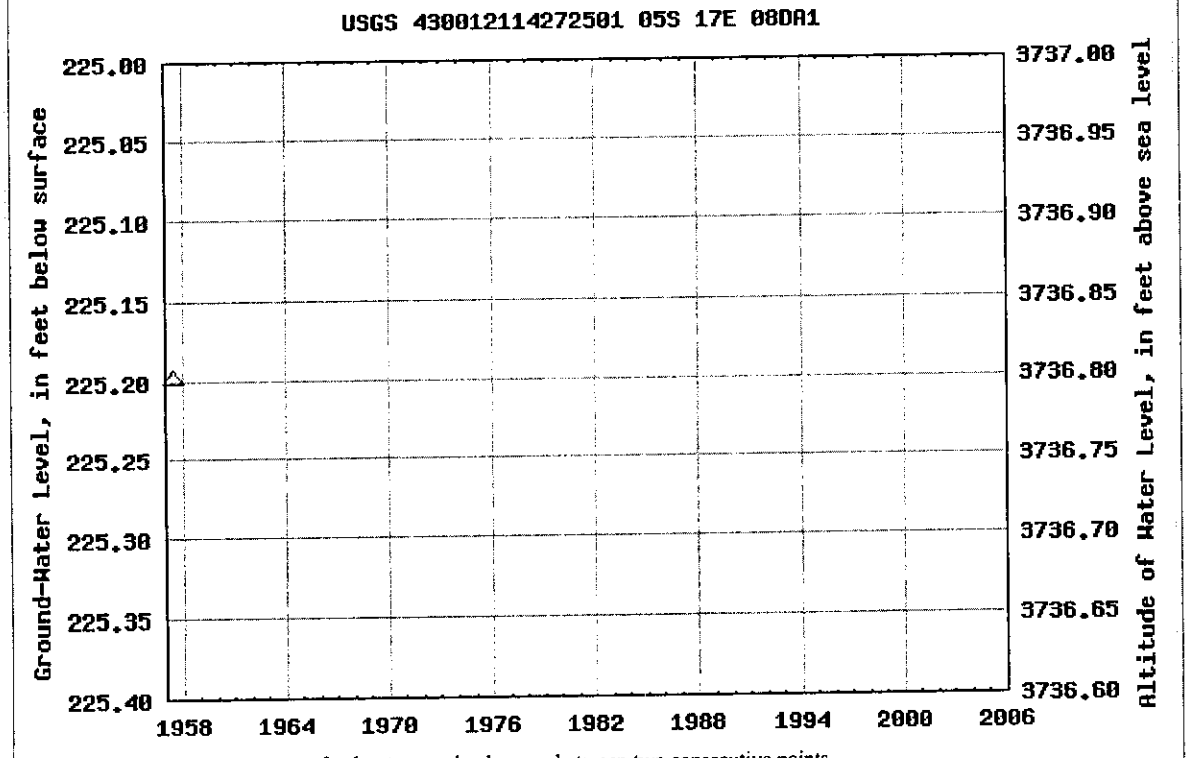
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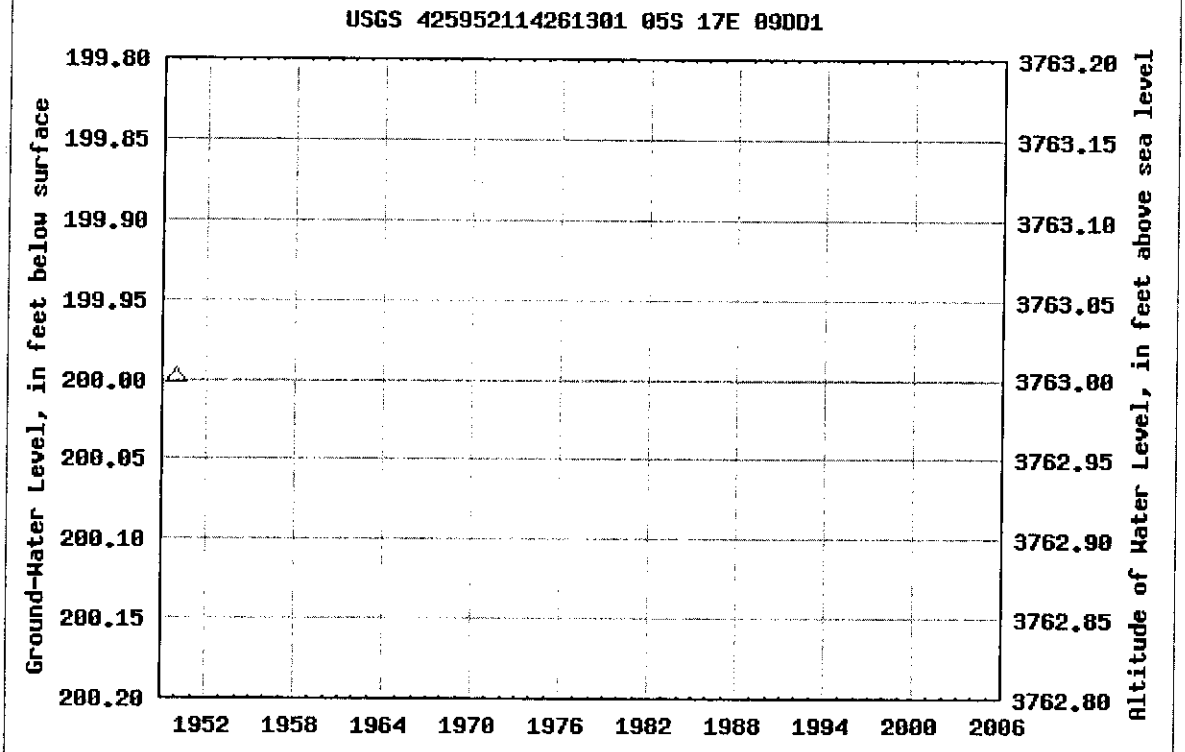
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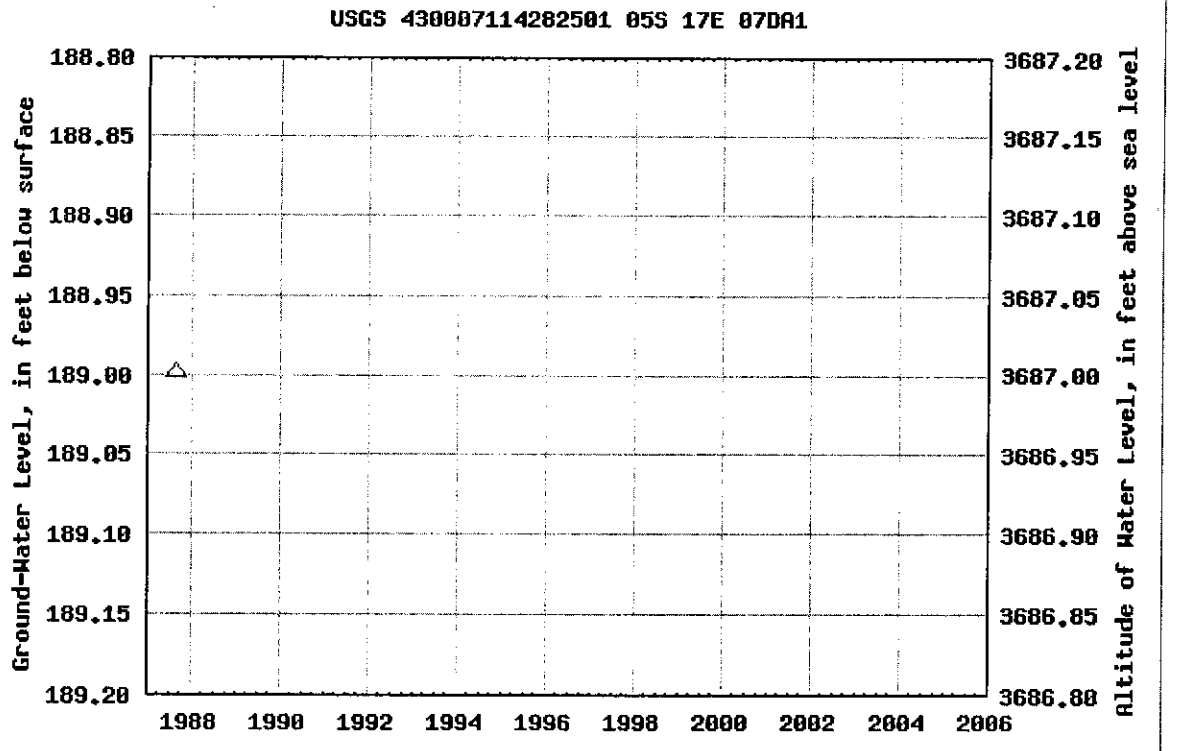
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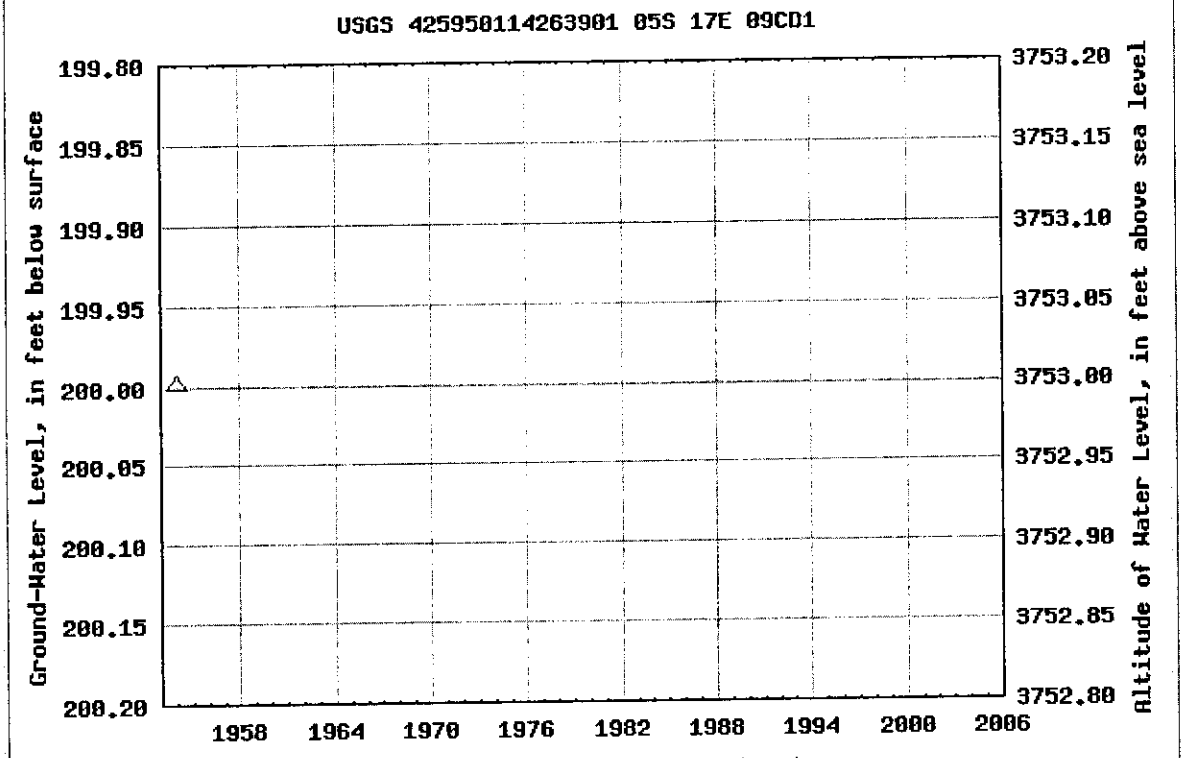
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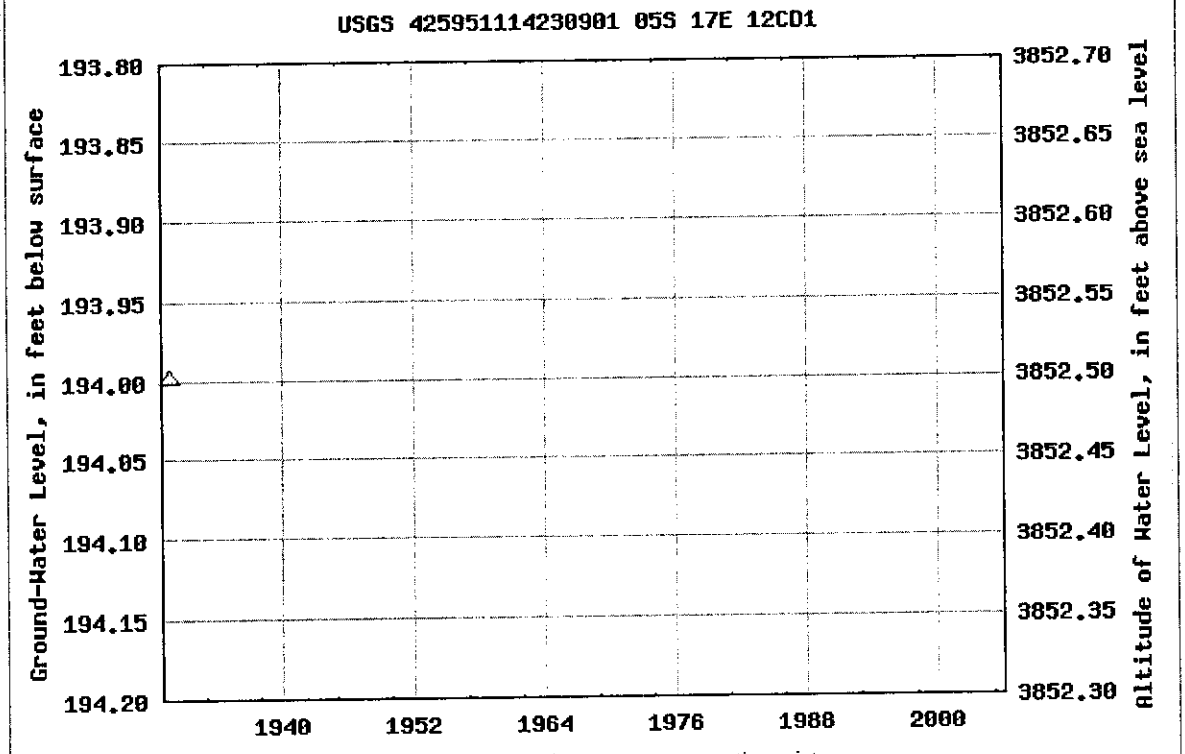
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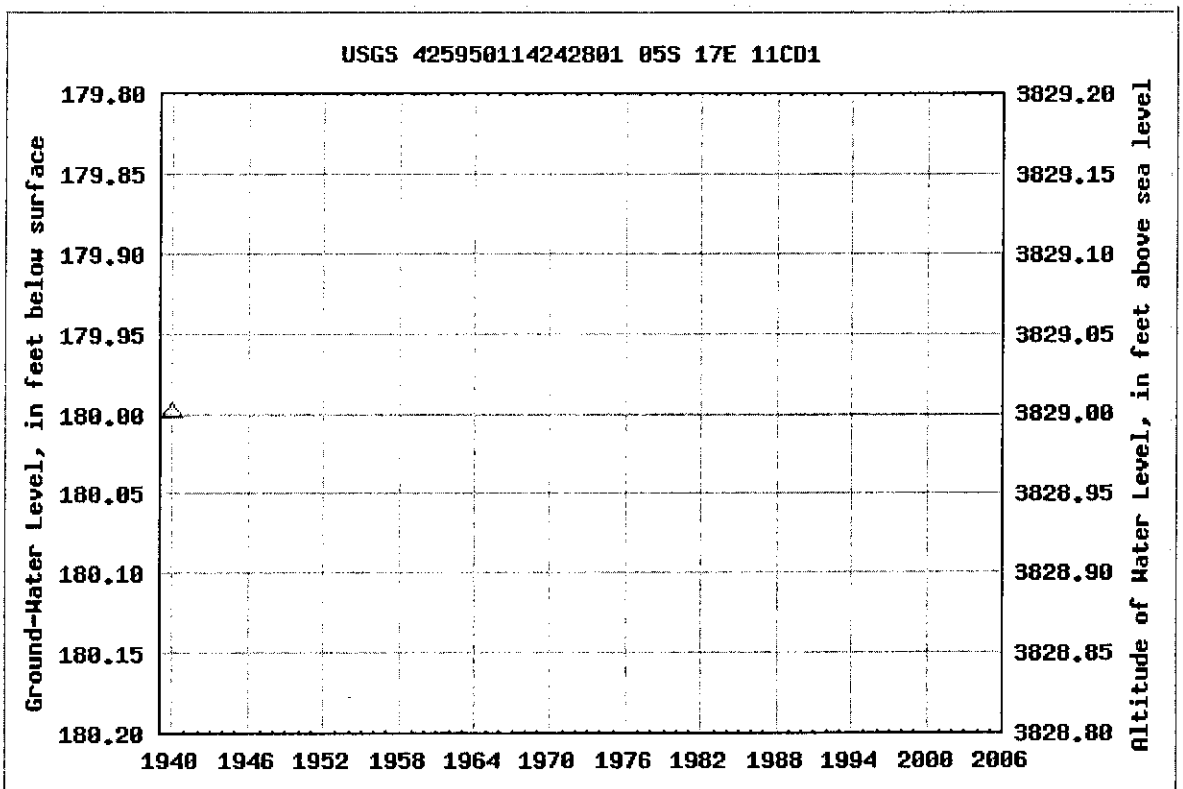
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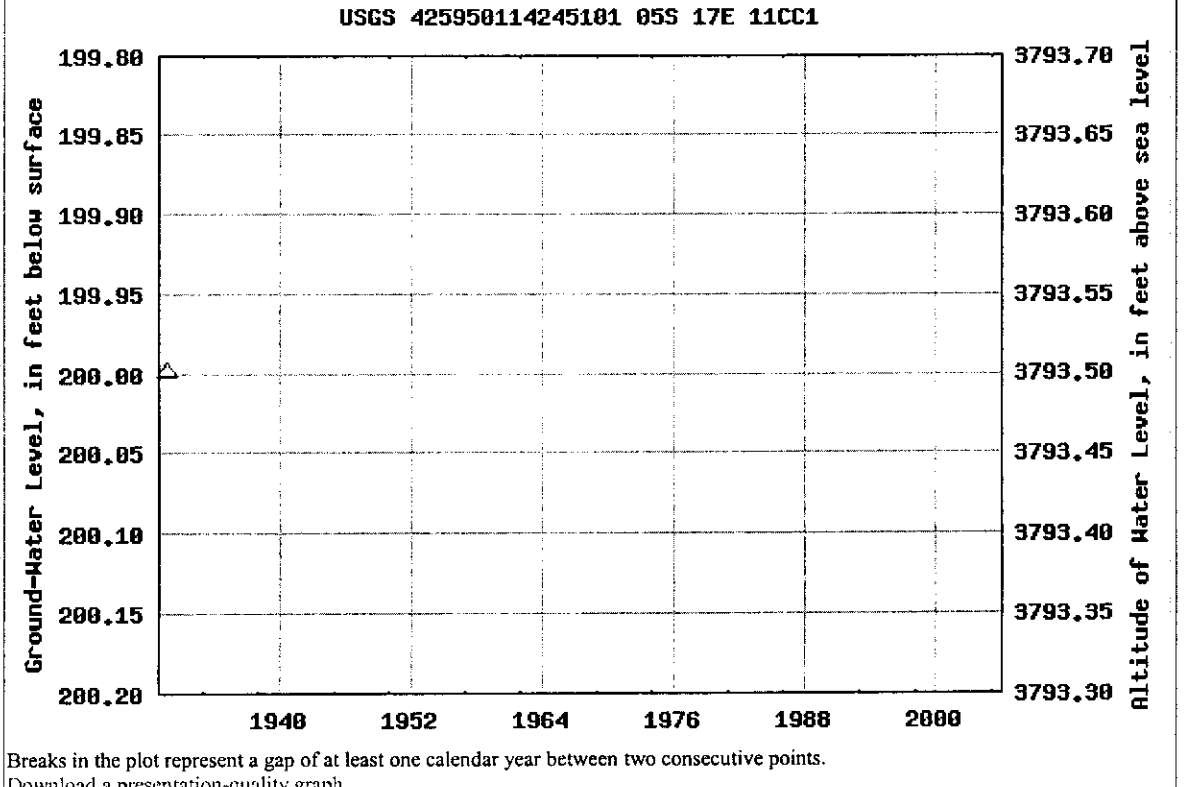
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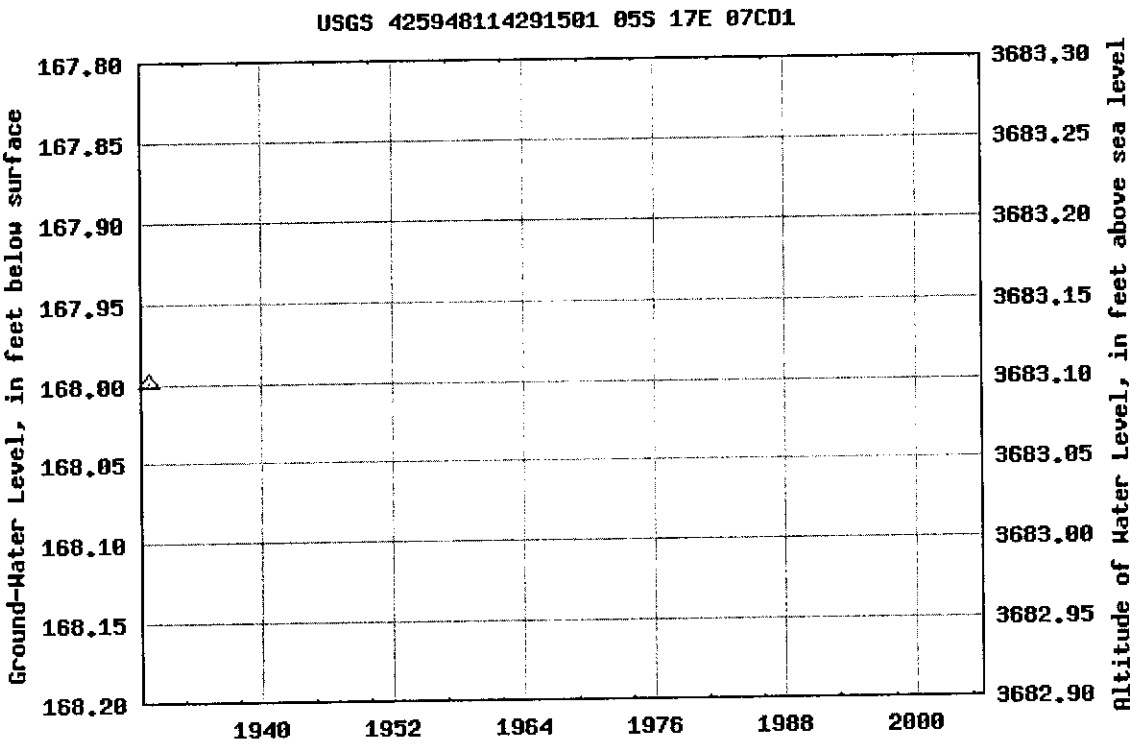
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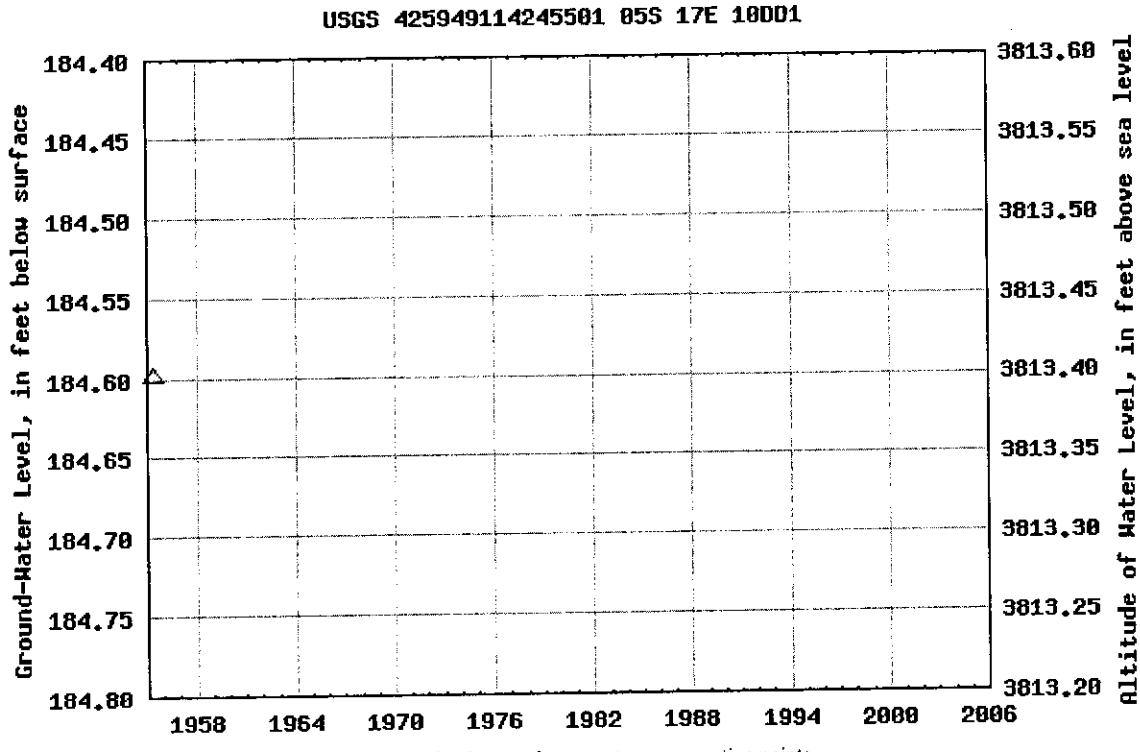
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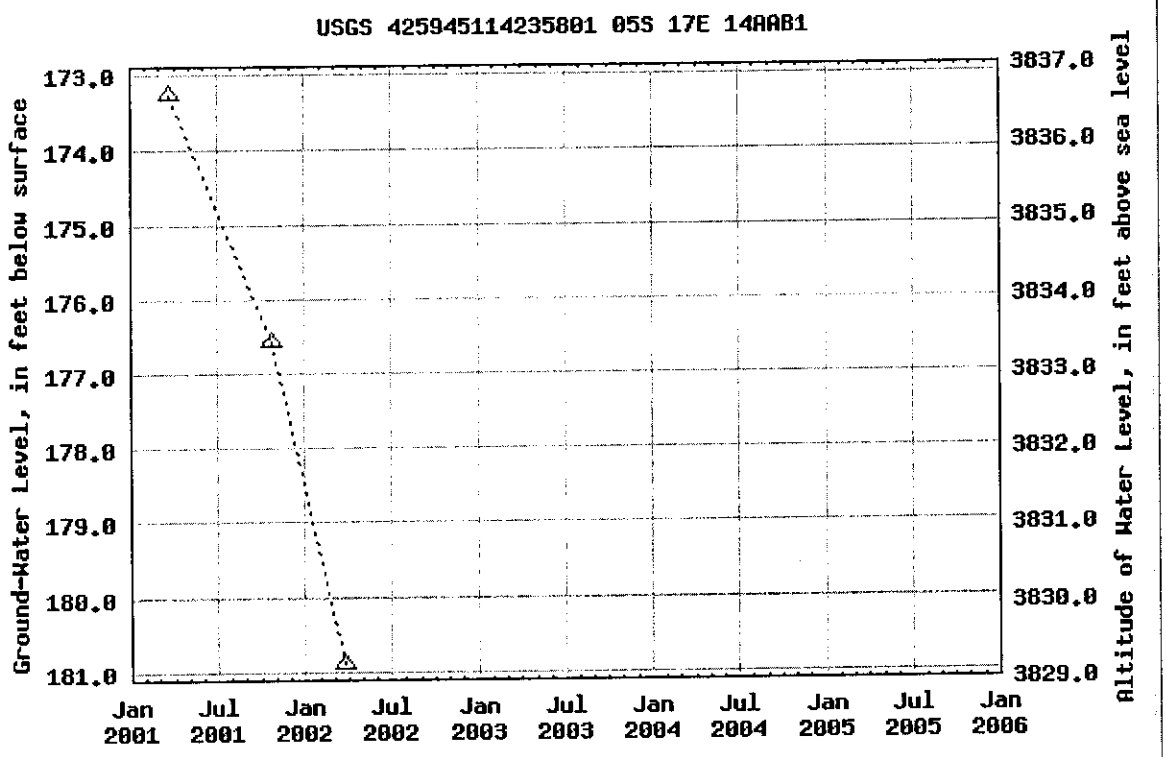
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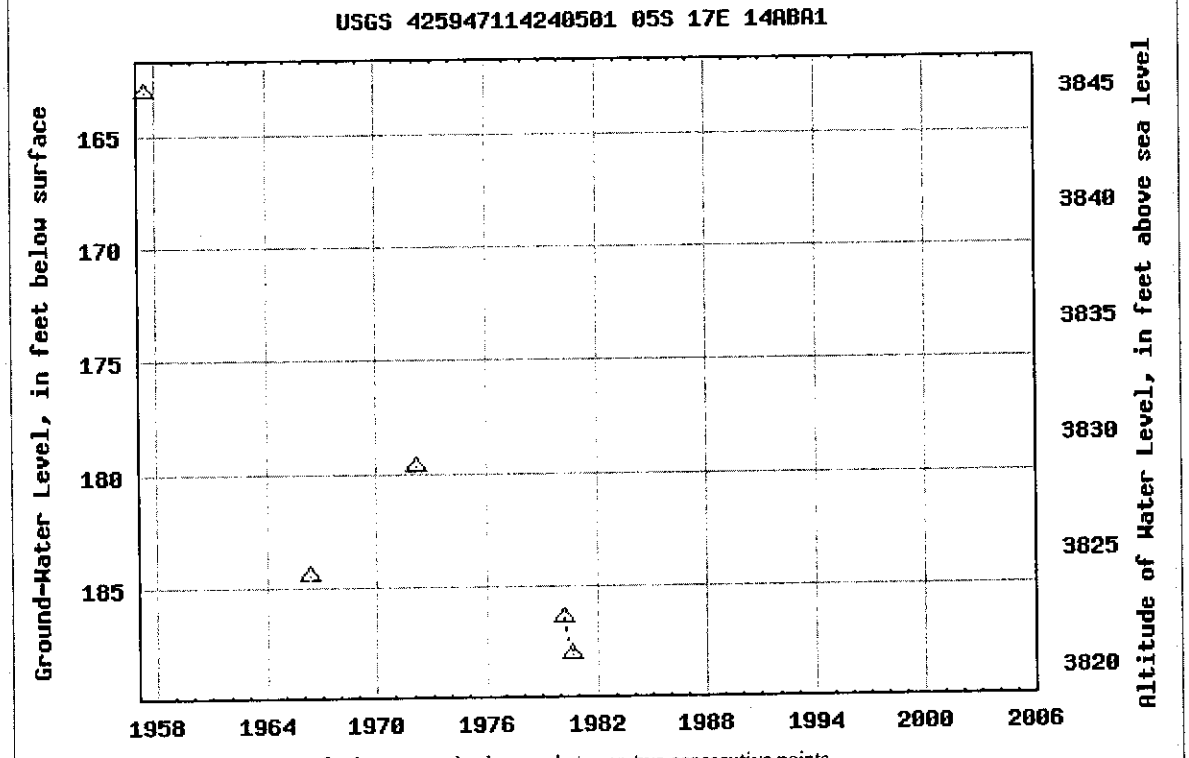
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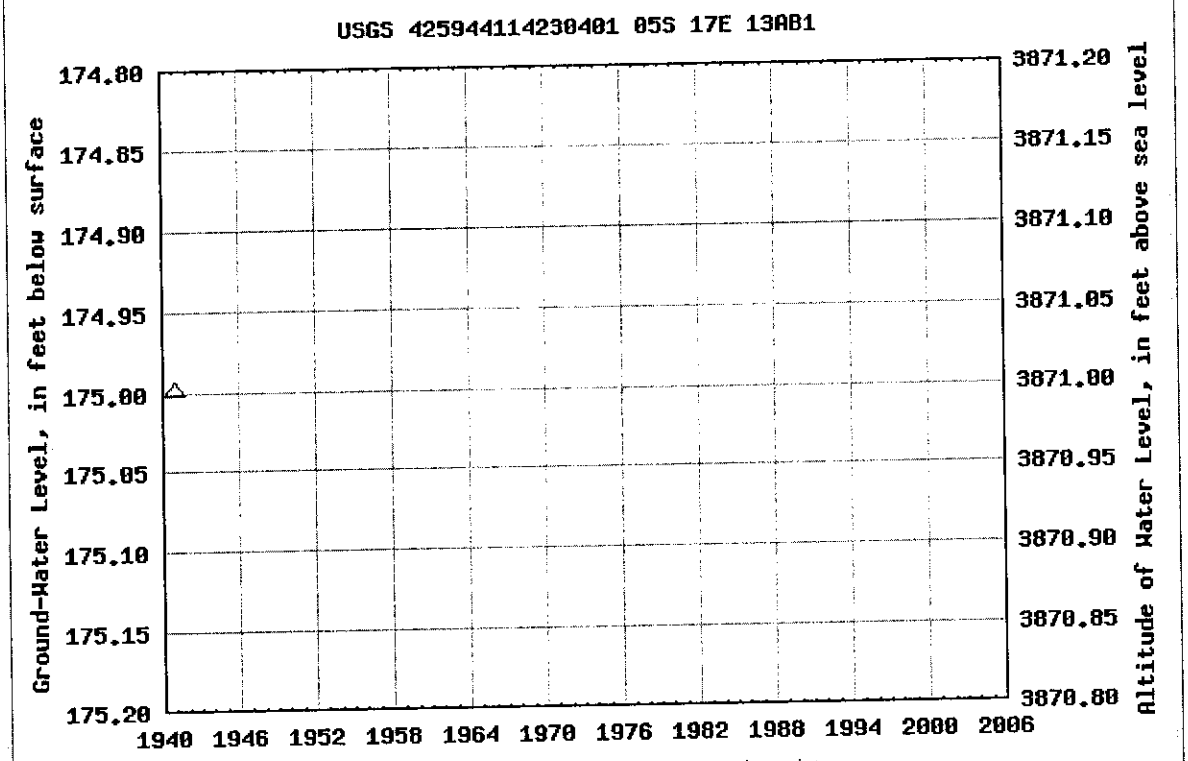
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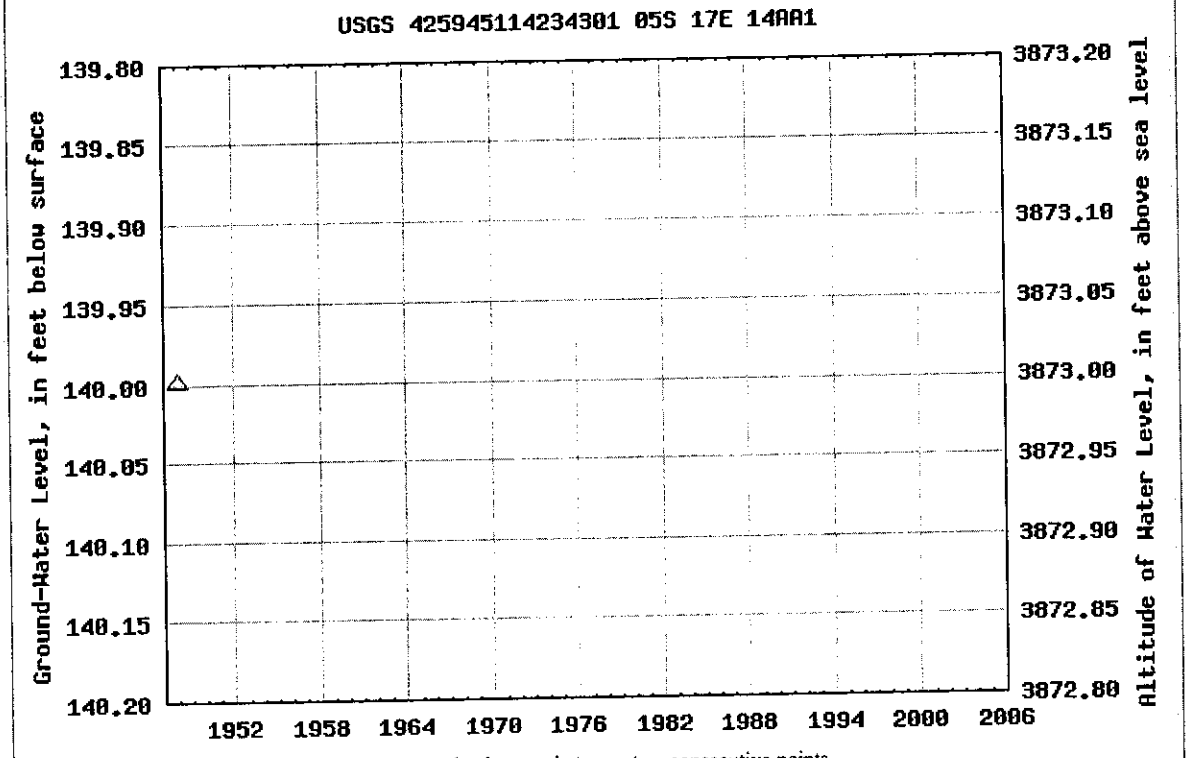
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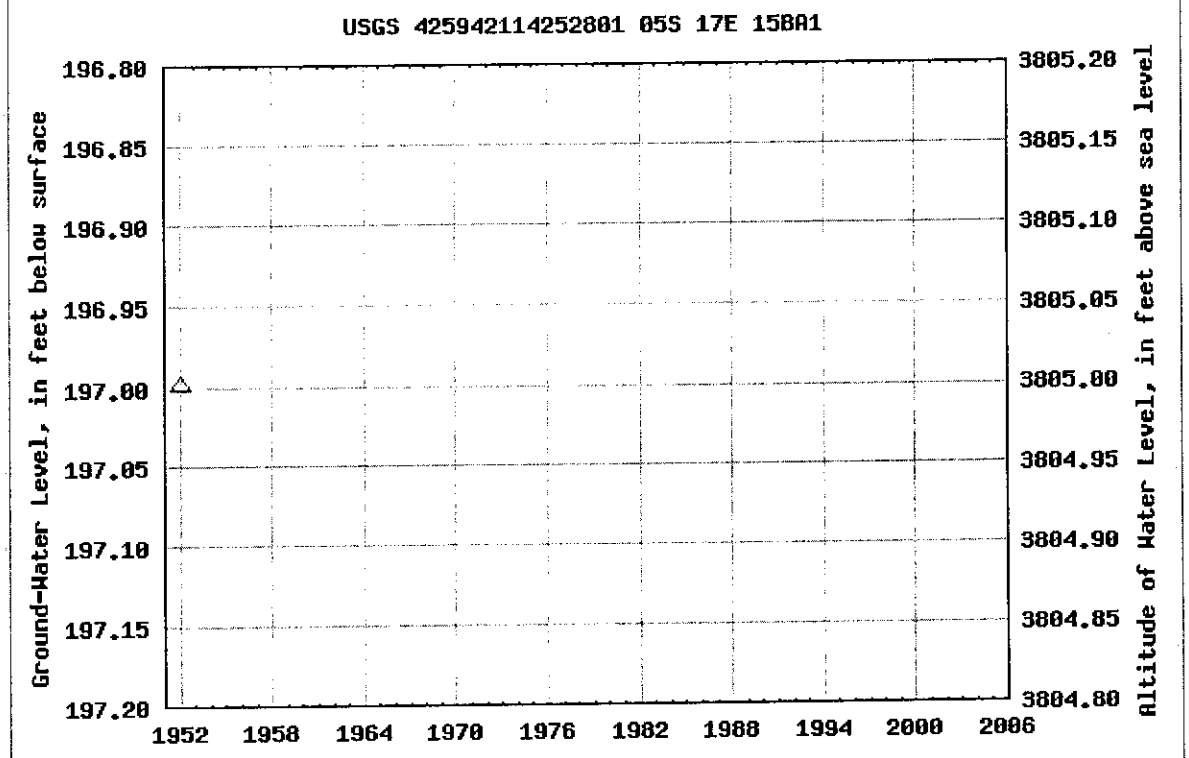
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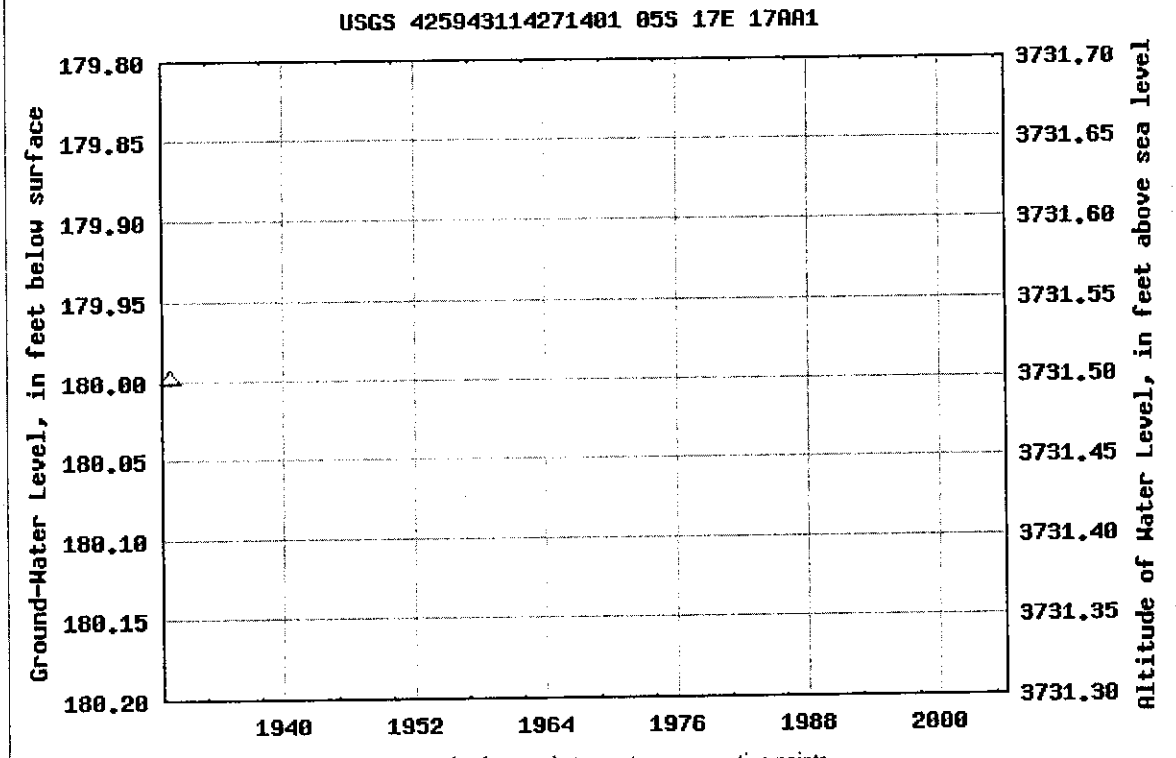
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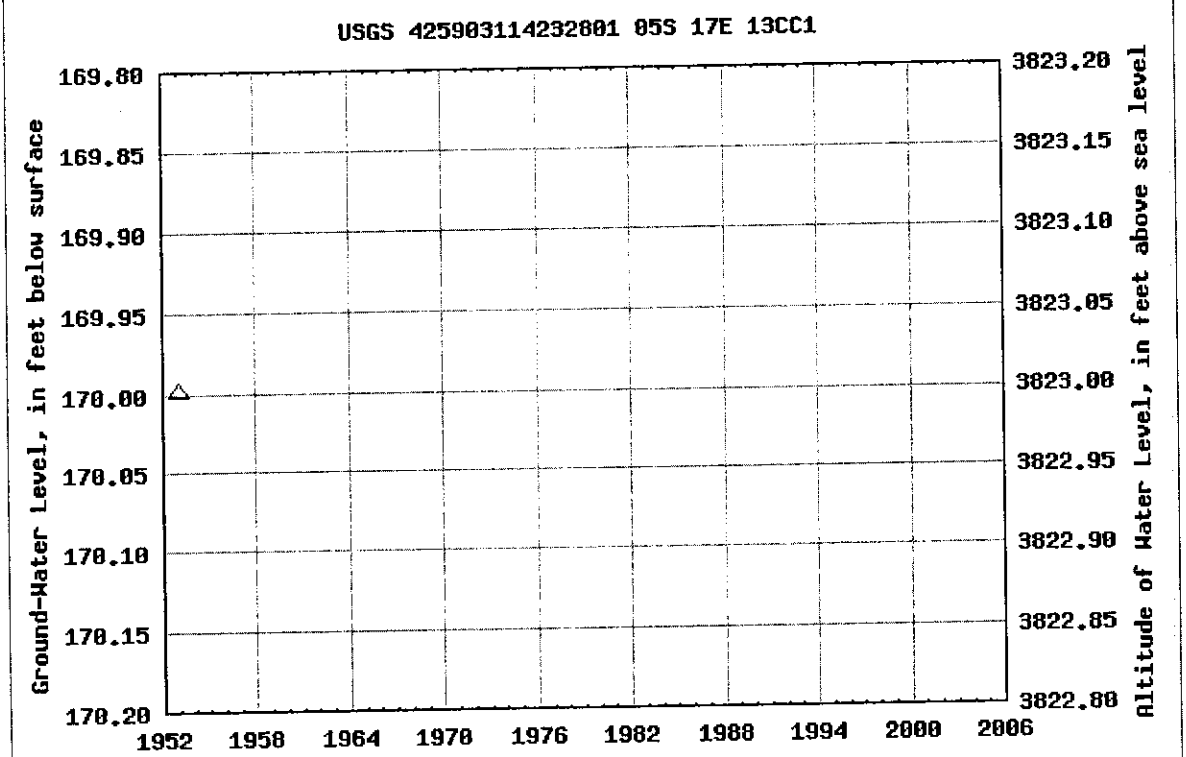
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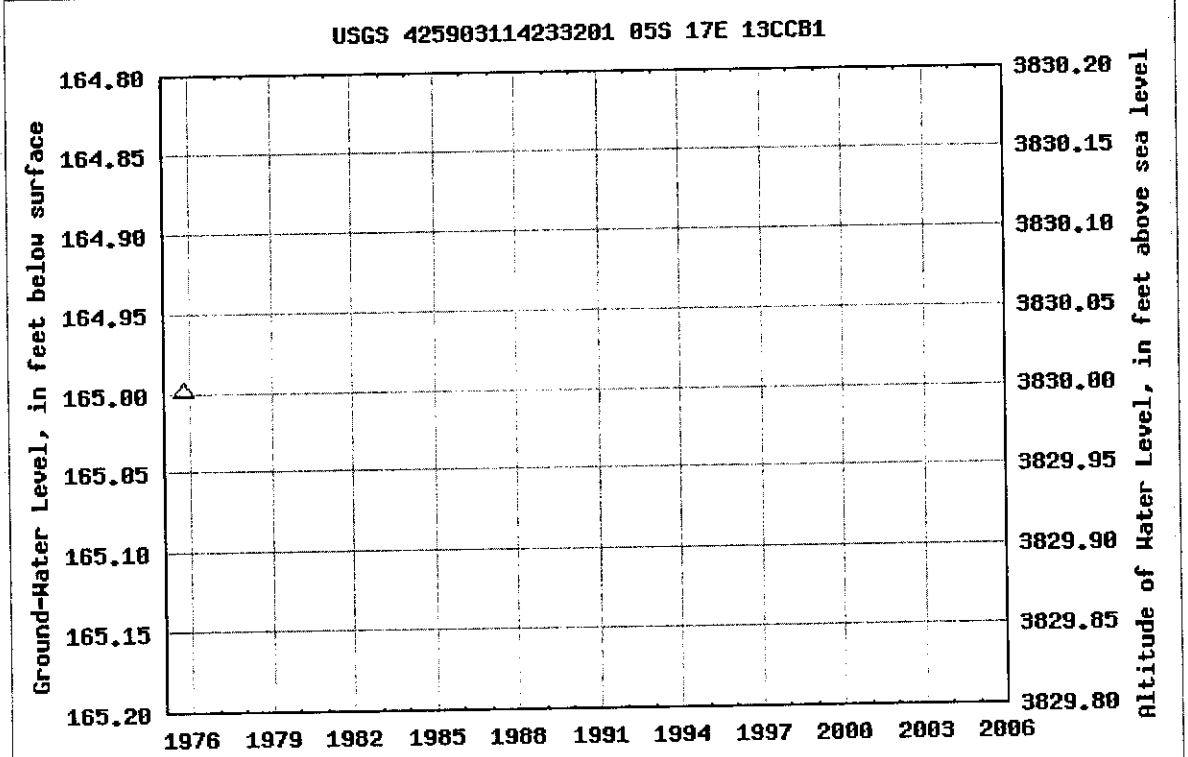
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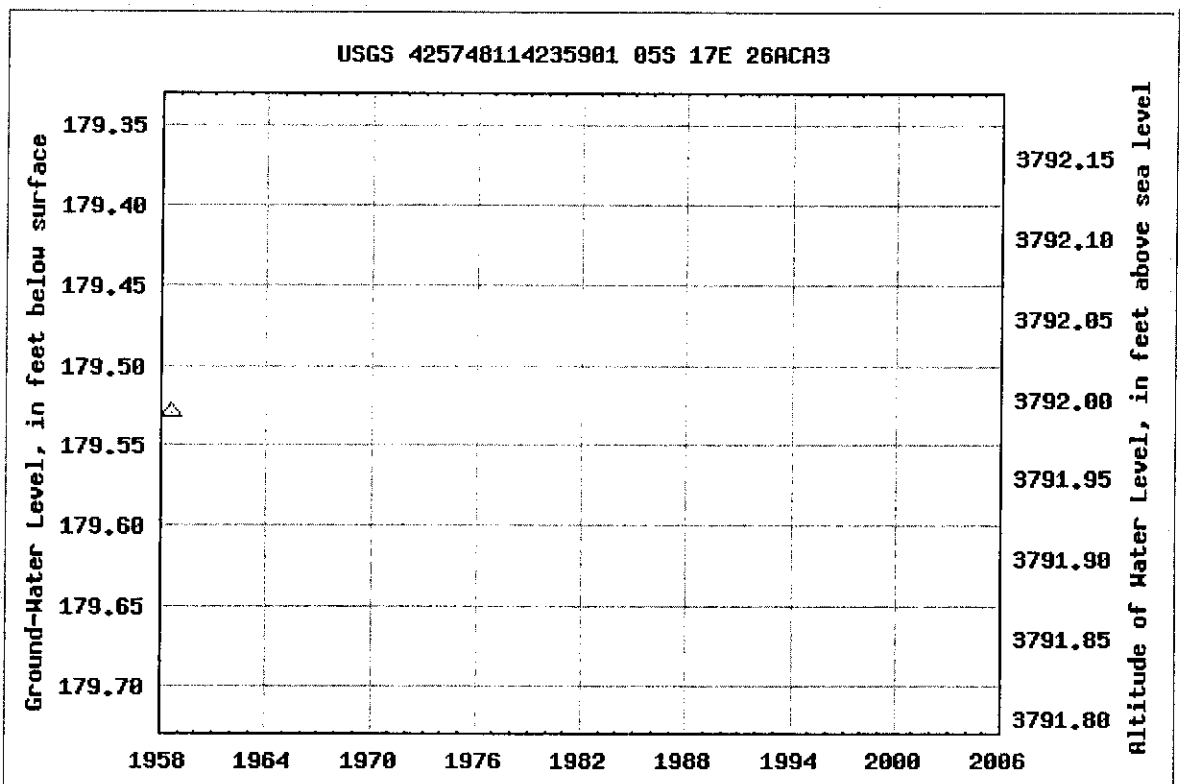
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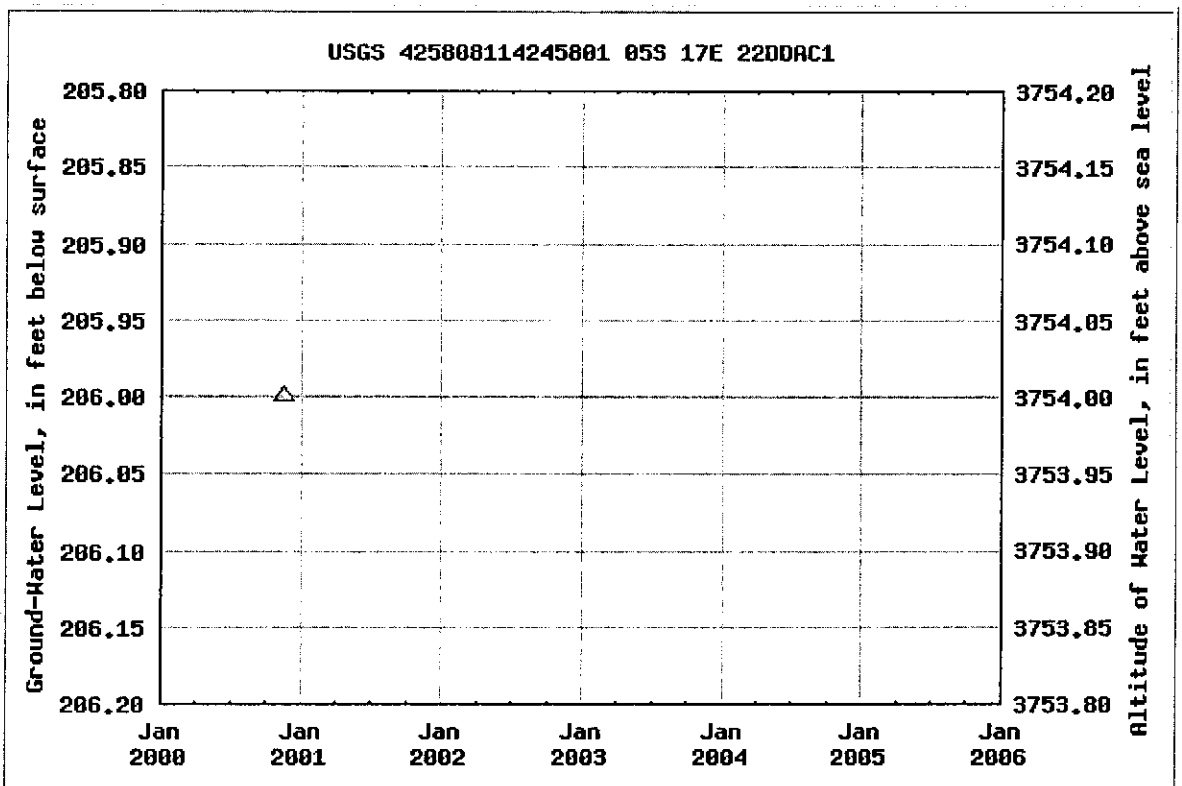
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USGS

Water Resources | Data Category: Ground Water | Geographic Area: Idaho | go

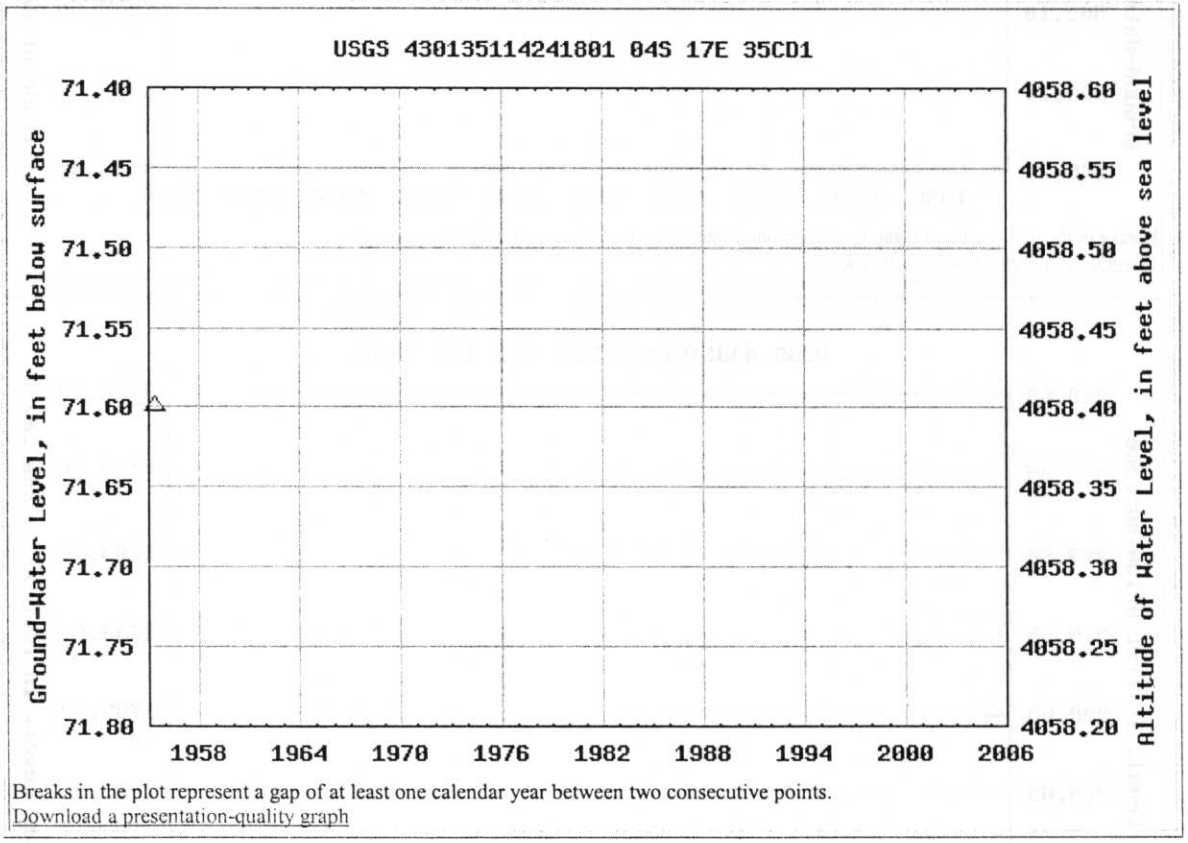
Ground-water levels for Idaho

Search Results -- 10 sites found

Search Criteria

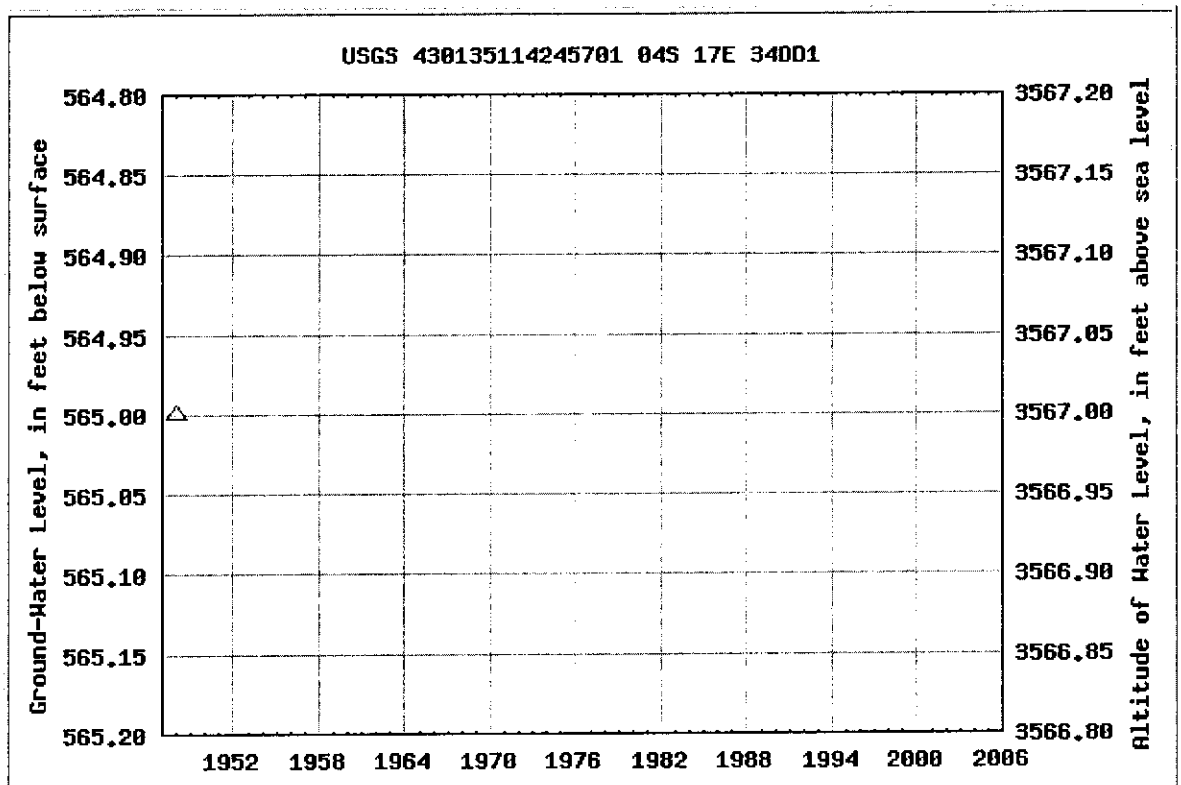
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Save file of selected sites to local disk for future upload

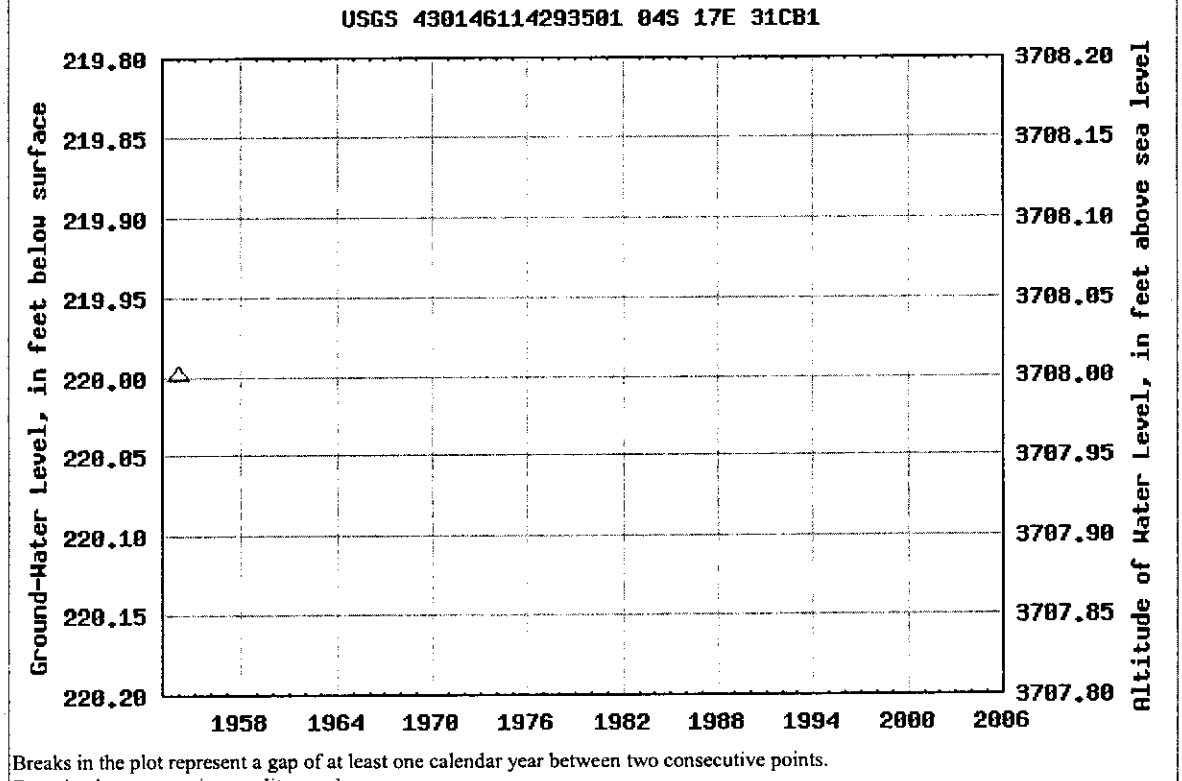


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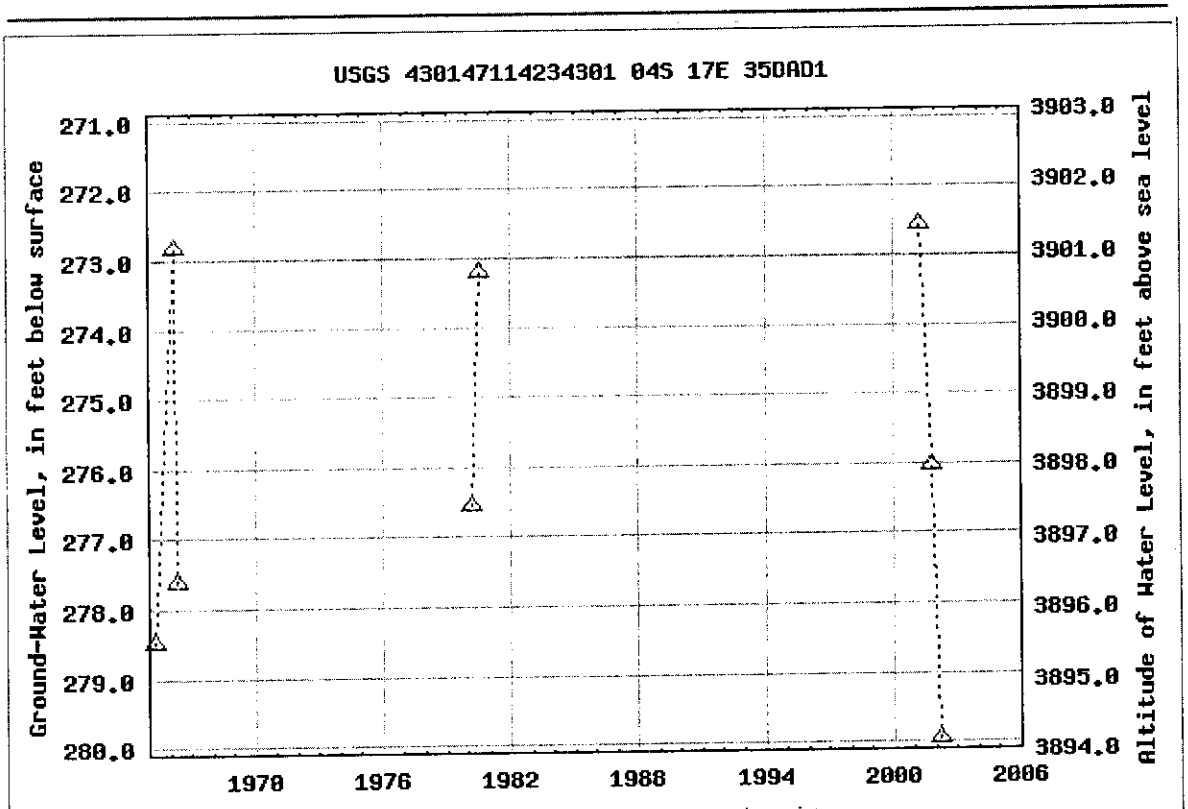
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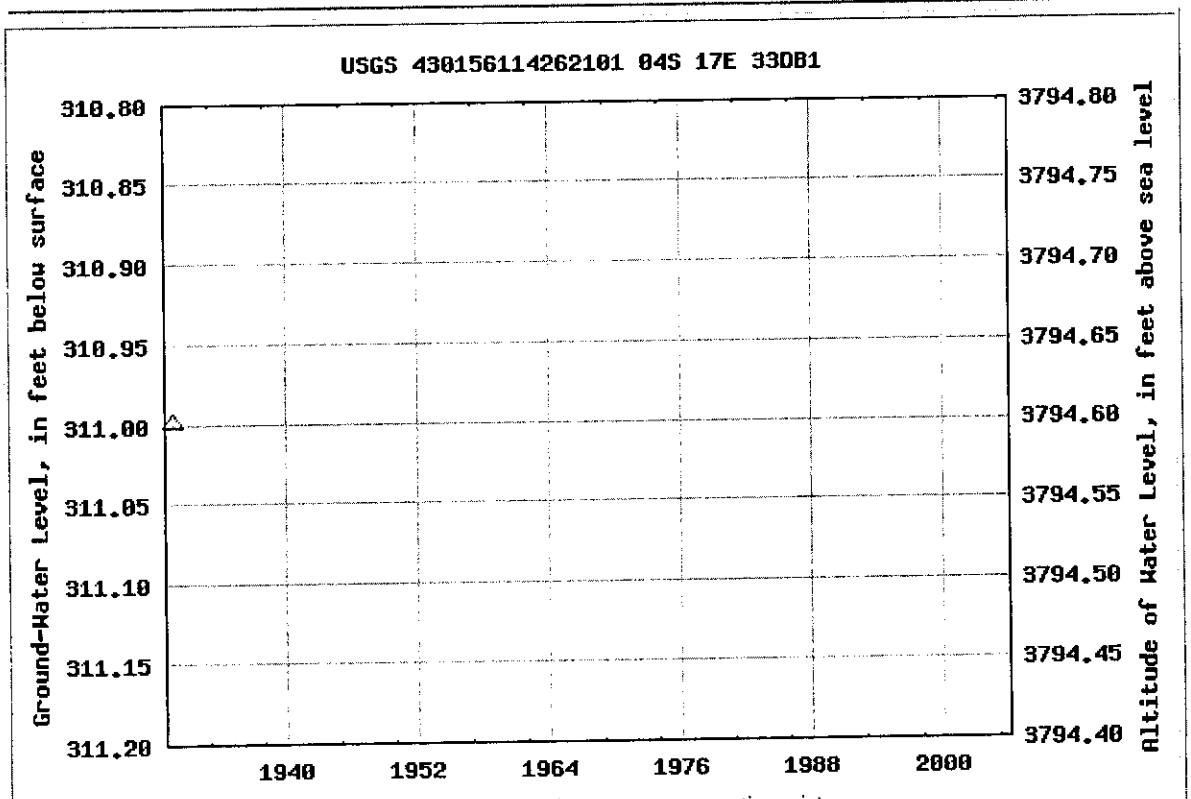
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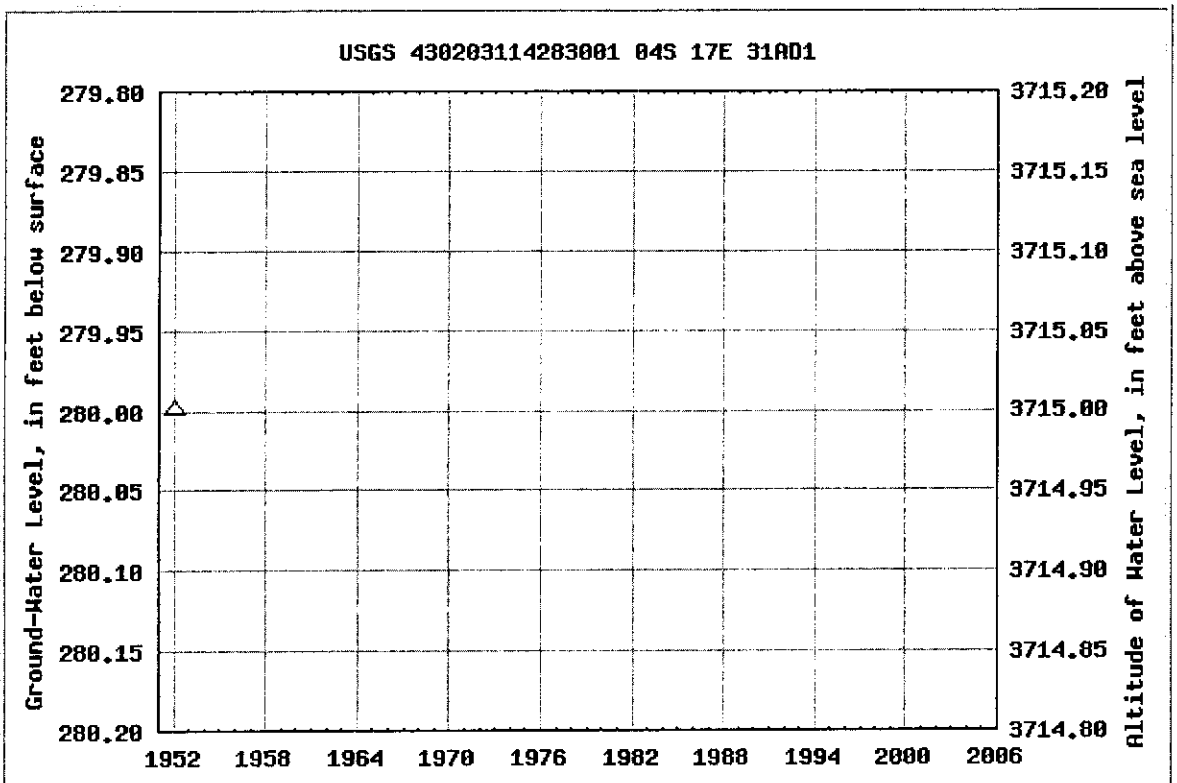
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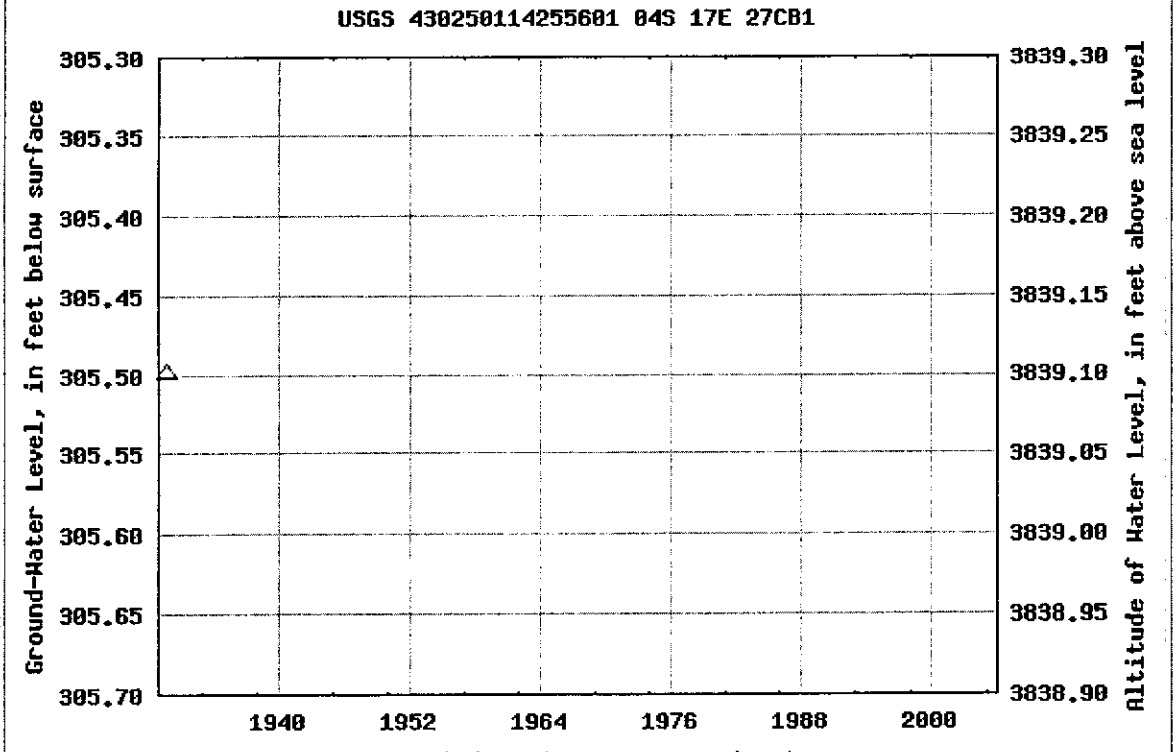
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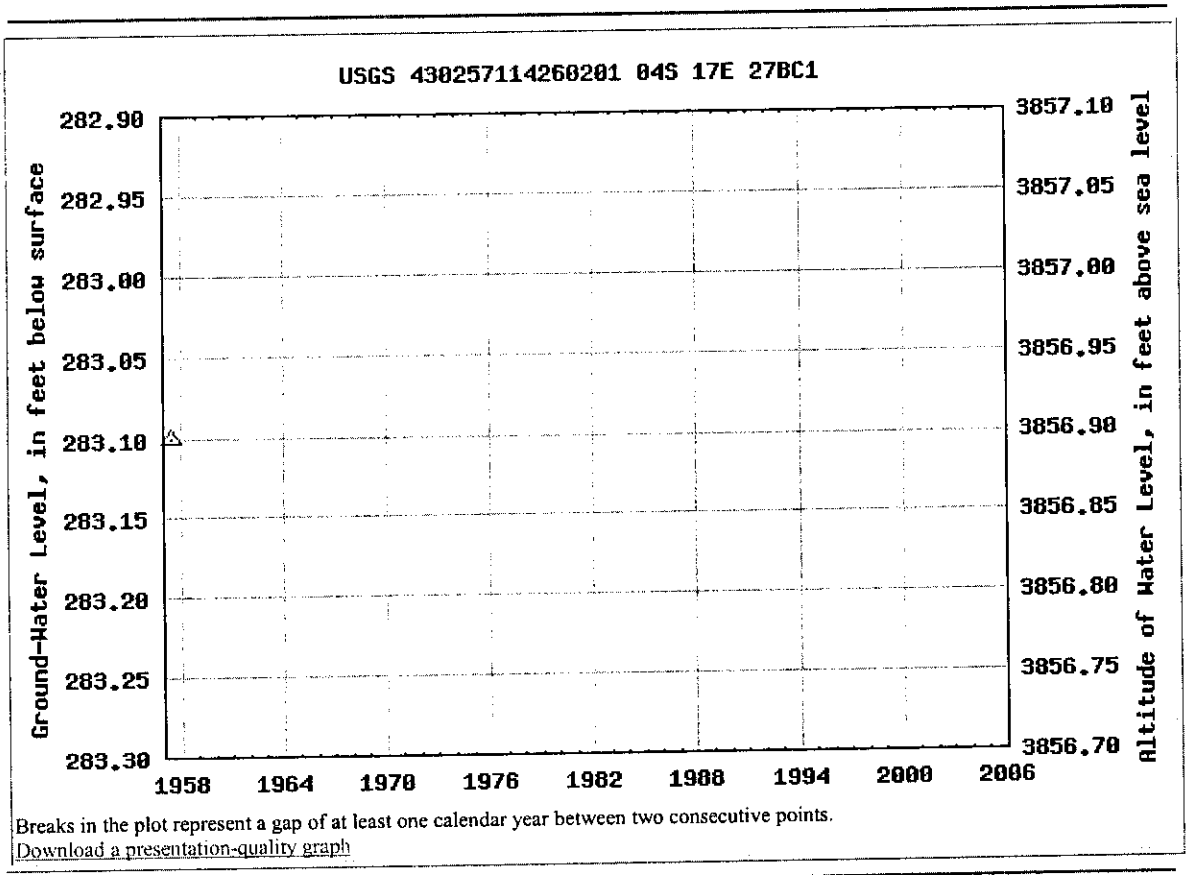
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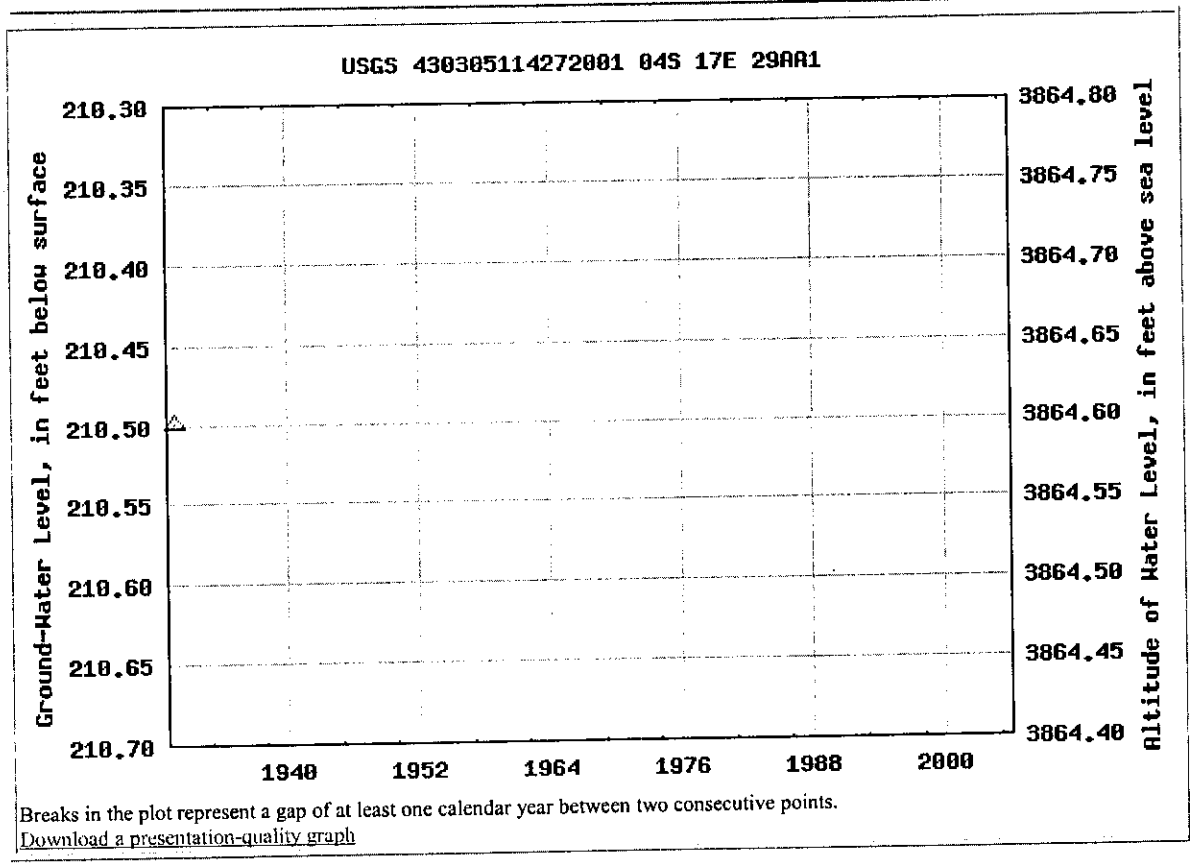
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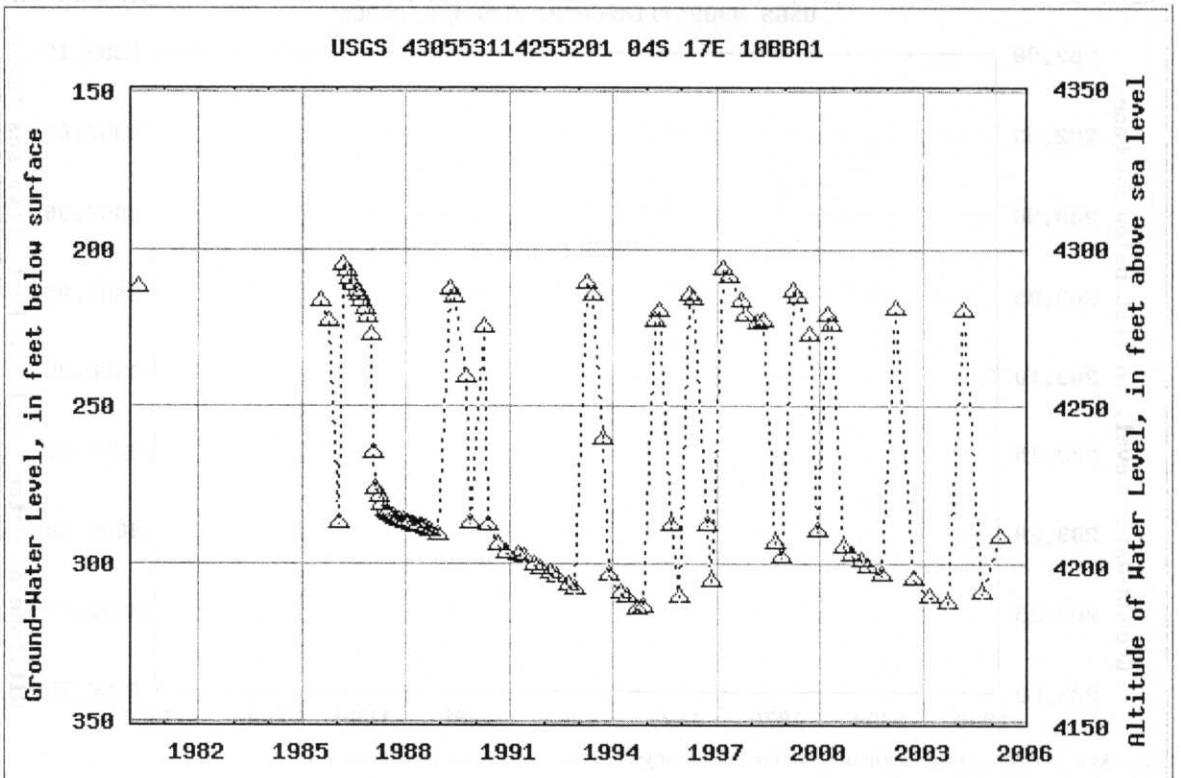
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Questions about data — Idaho NWISWeb Data Inquiries — Top
Feedback on this website — Idaho NWISWeb Maintainer — Explanation of terms

Ground water for Idaho: Water Levels
http://waterdata.usgs.gov/id/nwis/gwlevels?

Retrieved on 2005-07-12 16:02:26 EDT
Department of the Interior, U.S. Geological Survey
USGS Water Resources of Idaho
Privacy Statement || Disclaimer || Accessibility || FOIA
28.48 4.1 nadww01

EXHIBIT 13

ANALYSIS OF WATER RIGHT TRANSFER TO DAIRY
Brockway Engineering, PLLC 7/20/2005

4 Brothers Dairy Expansion
Long Term Water Use (with mitigation)

*****TYPICAL YEAR Long Term*****
Water rights: 36-20613
ET determined from Allen & Brockway 1983 using Jerome &/or Shoshone station

Pasture ET	993 mm/year
Pasture CIR	**918** mm/year
	3.01 af/ac
	(Shoshone 1 WNW)
	(also Jerome)

CURRENT
Usage: crop irrigated with groundwater as primary source
No Surface water applicable

Total irrigated area	77.4	acres (g.w.)
Canal share reliability	None	
Crop consumptive irrig.req't	3.01	ac-ft/acre (pasture)
Runoff coefficient	0.00	
Diversion volume	4.0	ac-ft/acre
Irrigation Diversion Volume	309.6	ac-ft/year
Maximum diversion rate	1.12	cfs

Water balance calculation:
(All values in acre-feet)

Total applied to crop	309.6
Volume supplied by canal	0.0
Volume supplied by g.w.	**309.6**
Total consumptive irrigation req't	233.1
C.U. supplied by canal	0.0
C.U. supplied by g.w.	**233.1**
Surface runoff	0.0
Recharge to aquifer	76.5
Aquifer net gain/loss	**-233.1**

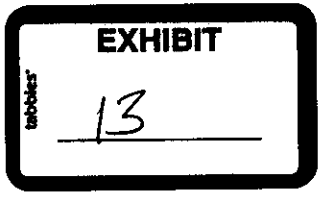
AFTER TRANSFER
Usage:Dairy Expansion(4000 Heifers)
Groundwater used in Dairy

Irrigated area	0.0	acres	
Crop consumptive irrig.req't	3.01	ac-ft/acre	
Runoff coefficient	0.00		
Diversion volume for irrig.	4.0	ac-ft/ac	
New Dairy diversion volume	231.4		Per Idaho Water Co.
New Dairy consumptive use	231.4	ac-ft/yr	Transfer Stipulation
Maximum diversion rate	1.12	cfs	

Water balance calculation:
(All values in acre-feet)

Total applied to crop	0
Total volume used in dairy	231.4
Total volume needed on site	231.4
Volume supplied by canal	0.0
Volume supplied by g.w.	**231.4**
Consumptive irrig.req't of crop	0
Consumptive use of dairy	231.4
Total consumptive req't	231.4
C.U. supplied by canal	0
C.U. supplied by g.w.	**231.4**
Surface runoff	0
Recharge to aquifer	0
Aquifer net gain/loss	**-231.4**

Notes:
1. Canal reliability is the average fraction of crop demand (diversion volume and c.u.) the surface water is capable of supplying.
2. Dairy usage limited by transfer 71607 proposed water usage



ANALYSIS OF WATER RIGHT TRANSFER TO DAIRY
Brockway Engineering, PLLC 11/14/2005

4 Brothers Dairy Expansion
Transfer with hydrologic mitigation

*****TYPICAL YEAR Long Term*****
Water rights: 36-20613
ET determined from Allen & Brockway 1983 using Shoshone station

Pasture ET	993 mm/year
Pasture CIR	**918** mm/year
	3.01 af/ac
	(Shoshone 1 WNW)

CURRENT
Usage: crop irrigated with groundwater as primary source
No Surface water applicable

Total irrigated area	77.4	acres (g.w.)
Canal share reliability		None
Crop consumptive irrig.req't	3.01	ac-ft/acre (pasture)
Runoff coefficient	0.00	
Diversion volume	4.0	ac-ft/acre
Irrigation Diversion Volume	309.6	ac-ft/year
Maximum diversion rate	1.12	cfs

Water balance calculation:
(All values in acre-feet)

Total applied to crop	309.6
Volume supplied by canal	0.0
Volume supplied by g.w.	**309.6**
Total consumptive irrigation req't	233.1
C.U. supplied by canal	0.0
C.U. supplied by g.w.	**233.1**
Surface runoff	0.0
Recharge to aquifer	76.5
Aquifer net gain/loss	**-233.1**

AFTER TRANSFER
Usage:Dairy Expansion(4000 Heifers)
Groundwater used in Dairy

Irrigated area	0.0	acres
Crop consumptive irrig.req't	3.01	ac-ft/acre
Runoff coefficient	0.00	
Diversion volume for irrig.	4.0	ac-ft/ac
New Dairy diversion volume	231.8	232.2 Per Idaho Water Co.
New Dairy consumptive use	231.8	ac-ft/yr Transfer Stipulation
Maximum diversion rate	1.12	cfs

Water balance calculation:
(All values in acre-feet)

Total applied to crop	0
Total volume used in dairy	173.9 with 25% reduction for mitigation
Total volume needed on site	173.9 with 25% reduction for mitigation
Volume supplied by canal	0.0
Volume supplied by g.w.	**173.9**
Consumptive irrig.req't of crop	0
Consumptive use of dairy	173.9
Total consumptive req't	173.9
C.U. supplied by canal	0
C.U. supplied by g.w.	**173.9**
Surface runoff	0
Recharge to aquifer	0
Aquifer net gain/loss	**-173.9**

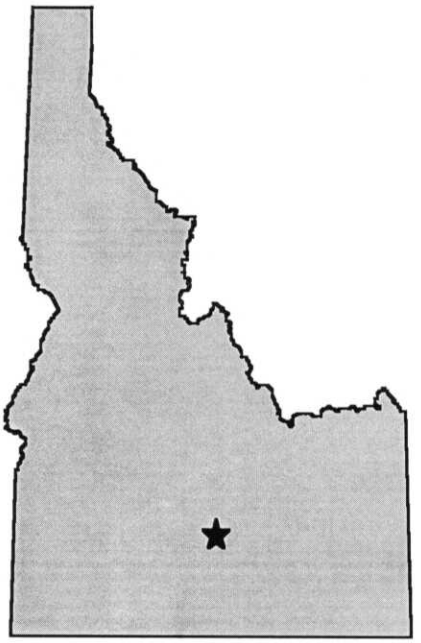
Notes:
1. Canal reliability is the average fraction of crop demand (diversion volume and c.u.) the surface water is capable of supplying.
2. Dairy usage limited by transfer 71607 proposed water usage

EXHIBIT
13A

EXHIBIT 14

IDAHO COMMUNITY PROFILES

SHOSHONE



Lincoln County

POPULATION

	1970	1980	1990	2003
CITY	1,233	1,242	1,249	1,488
	1970	1980	1990	2003
COUNTY	3,057	3,436	3,308	4,321

COMMUNITY AGE GROUPS

	1980	1990	2000
Under 5 years	85	75	92
5 to 19 years	255	268	322
20 to 44 years	356	377	437
45 to 64 years	279	244	273
65+ years	267	285	274
Median age	39.1	38.7	36.5

HOUSING

COMMUNITY

	1980 & 1990 Census	1990 & 2000 Census
Percent Built Between	5.9%	11.8%

	1980	1990	2000
Total Housing Units	556	563	615
Median Value of Owner-Occupied Housing	32,200	38,200	72,500
Median Rent	113	176	511

COUNTY

	1980	1990	2000
Total Housing Units	1,343	1,386	1,651
Median Value of Owner-Occupied Housing	30,400	37,000	75,700

COUNTY INCOME/PAYROLL (In Dollars)

	1969	1979	1989	1999
Median Household Income	7,102	12,007	21,640	32,484
	1969	1979	1989	2002
Per Capita Income	2,866	7,058	13,547	21,184
Personal Income Total (000)	8,744	23,955	43,486	89,522
	1969	1979	1989	2001
Avg. Monthly Wage	413	848	1,291	1,879
Annual Payroll (000)	2,480	7,608	12,841	26,429

IDAHO Works

Idaho Commerce & Labor
P.O. Box 83720, Boise, ID 83720-0093
(208) 334-2470
http:/ /www.idahoworks.com

COUNTY LABOR FORCE DATA

Nonfarm Employment	2003
Total Nonfarm Employment	1,095
Manufacturing	*
Food Products Mg	*
Wood Products Mfg	*
Computer &Electronics Mfg	*
Construction	86
Information	*
Trade, Utilities & Trnsp.	138
Retail & Wholesale Trade	98
Transportation	9
Financial Activities	13
Professional & Business Services	35
Educational & Health Services	132
Leisure & Hospitality	59
Other Services	6
Government	554

Civilian Labor Force	2002	2003
Total Labor Force	1,987	2,193
Total Employment	1,878	2,081
Total Unemployed	109	112
Percent Unemployed	5.5%	5.1%
Farm Employment	332	516

* -- indicates no employment or suppressed data

REGIONAL LABOR COSTS *

Average Hourly	1st Quart.	Median	3rd Quart.
Business & Financial	$ 11.01	$ 18.52	$ 25.82
Computer & Math	13.79	20.31	28.52
Architecture & Engineering	15.00	23.66	32.69
Healthcare Practitioners & Technical	11.02	17.67	23.49
Sales & Related	6.74	9.87	14.55
Office & Administrative Support	7.72	10.72	13.76
Construction & Extraction	10.13	14.16	18.27
Production	7.46	10.75	13.65

* Idaho contains six wage survey regions.

Community specific wages may differ from regional averages.

LARGEST EMPLOYERS/MANUFACTURERS

Name	Product or Service	Employees
State Hwy. District #4	State and Federal Hwy. Repairs	187
Bureau of Land Management	Fire Central and Recreation	100
School Dist. #312	Education	50
Valley Corp.	Farm Supplies, Fuel, & Convenience Store	15

TRANSPORTATION

MAJOR HIGHWAYS

Jurisdiction	Route Designation	Direction (Route)	Miles To Access
Federal Highway	U.S. 93	N/S	0
State Highway	75	N/S	0
State Highway	24	E/W	0
State Highway	26	E/W	0

AIR SERVICE

	Navigation Equipment	Runway Length	Miles To Downtown
Gooding Municipal	none	4,736	16
Joslin Field	ILS, NDB, VOR	8,703	28

	Scheduled Passenger Flights		Freight Flights		Local Charter
	Carriers	Flights per day	Carriers	Flights per day	Service Available?
Gooding Municipal	0	0	0	0	yes
Joslin Field	2	5	4	8	yes

RAIL SERVICE

Railroads Serving the Community	Union Pacific		
Freight Service Available	no	Distance to Nearest	0 mi
Passenger Service Available	no		

COMMUNICATIONS

	Yes	No	Distance to nearest
Radio Broadcast Station (local)		X	20 mi
Televison Broadcast Stations (local)		X	30 mi
Cable/CATV/Satellite TV Companies	X		0 mi
Number of Local Daily Newspapers	1		
Number of Local Weekly Newspapers	1		

Telephone Systems:	Yes	No
Digital Switching Available	X	
Electronic Analog Switching Available	X	
Universal One-Party Service	X	

MEETING & LODGING FACILITIES

	Public Owned	Private Owned
Number of Meeting Facilities	2	0
Number of Meeting Rooms	1	0
Total Seating Capacity	150	0
Seating Capacity of Largest Room	100	0
Number of Lodging Rooms		6

HEALTH CARE FACILITIES

Number of Hospitals	0	
Distance to Nearest	20	mi
Number of Beds	0	
Ambulance Service Available	yes	
Number of General Clinics	1	

MUNICIPAL SERVICES

Water System

Maximum Plant Daily Production	1 mgd
Maximum Daily Usage	1.5 mgd
Average Daily Usage	250 tgd
Storage Capacity	65 tg

Regulatory System	Yes	No
Comprehensive Plan	X	
Zoning Ordinance	X	
Building Permit System	X	
Subdivision Ordinance	X	
Territory Covered by Zoning Municipality	X	
County		X

Number of Public Libraries 1

Sewer System

Treatment Plant Design Capacity	200 tgd
Average Daily Usage (% of capacity)	60 %
Largest Main Line Capacity (diameter)	15 inches

Fire Protection System

Rating by Idaho Surveying & Rating Bureau (1 = best; 10 = worst)	5
Number of Paid and Volunteer Firefighters	10

Police Protection

Number of Full-Time Officers	4
Part One Crimes* Per 100,000 Population	679 ** (2003)

* Part One crimes are the 8 most serious crimes as defined by the FBI.

** county rate

COMMUNITY GOVERNMENT REVENUE

Typical Property Tax Rate	2.2922800 %
Total Net Market Value 2004	34,469,060

EDUCATIONAL FACILITIES

PUBLIC SCHOOLS

District Name

Shoshone Joint District #312

PRIVATE SCHOOLS

	(all grades)
Number of Schools in County	0
(*Not all private schools report)	

COMMUNITY COLLEGES

	Distance (in miles)
College of Southern Idaho	26

FOUR-YEAR COLLEGES OR UNIVERSITIES

	Distance (in miles)
Boise State University	124
Idaho State University	135

PROFESSIONAL-TECHNICAL SCHOOLS

Public Secondary Programs (by District)

Shoshone Joint District #312

Post-Secondary	Distance (in miles)
College of Southern Idaho Professional-Technical	21
Idaho State University Professional-Technical	134

ENERGY

	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	CUSTOMER-OWNED GAS TRANSPORT FEE
NATURAL GAS	$ 67.08 (75 therms/mo.)	$ 341.69 (400 therms/mo.)	$ 67,611 (100,000 therms/mo. Direct Sale)	$ 5,983 (100,000 therms/mo.)
ELECTRICITY	$ 61.32 (1,000 KWH/Mo.)	$ 3,909.26 (300 KW, 90,000 KWH/Mo.)	$ 15,967.70 (1 MW, 400,000 KWH/Mo.)	

WEATHER/CLIMATE

TEMPERATURE

	Degree	Month
Lowest Average Daily Minimum Temperature	16.1	January
Highest Average Daily Maximum Temperature	92.8	July

Hottest Month	July	Coldest Month	January
Driest Month	July	Wettest Month	January

ELEVATION

3,965 feet

PRECIPITATION

Average Annual Total Precipitation	9.95 inches
Average Annual Snowfall	27.3 inches

HUMIDITY

Average July Afternoon Humidity	N/A %
Average January Afternoon Humidity	N/A %

RECREATIONAL OPPORTUNITIES

State Parks (within 50 miles)	Distance (miles)
Malad Gorge	25
Niagara Springs	32
Three Island Crossing	50

National Forests (within 50 miles)	Distance (miles)
Boise	50
Challis	50
Sawtooth	50

	Number	Acres
City Parks	2	3

	Number
Golf Courses	0

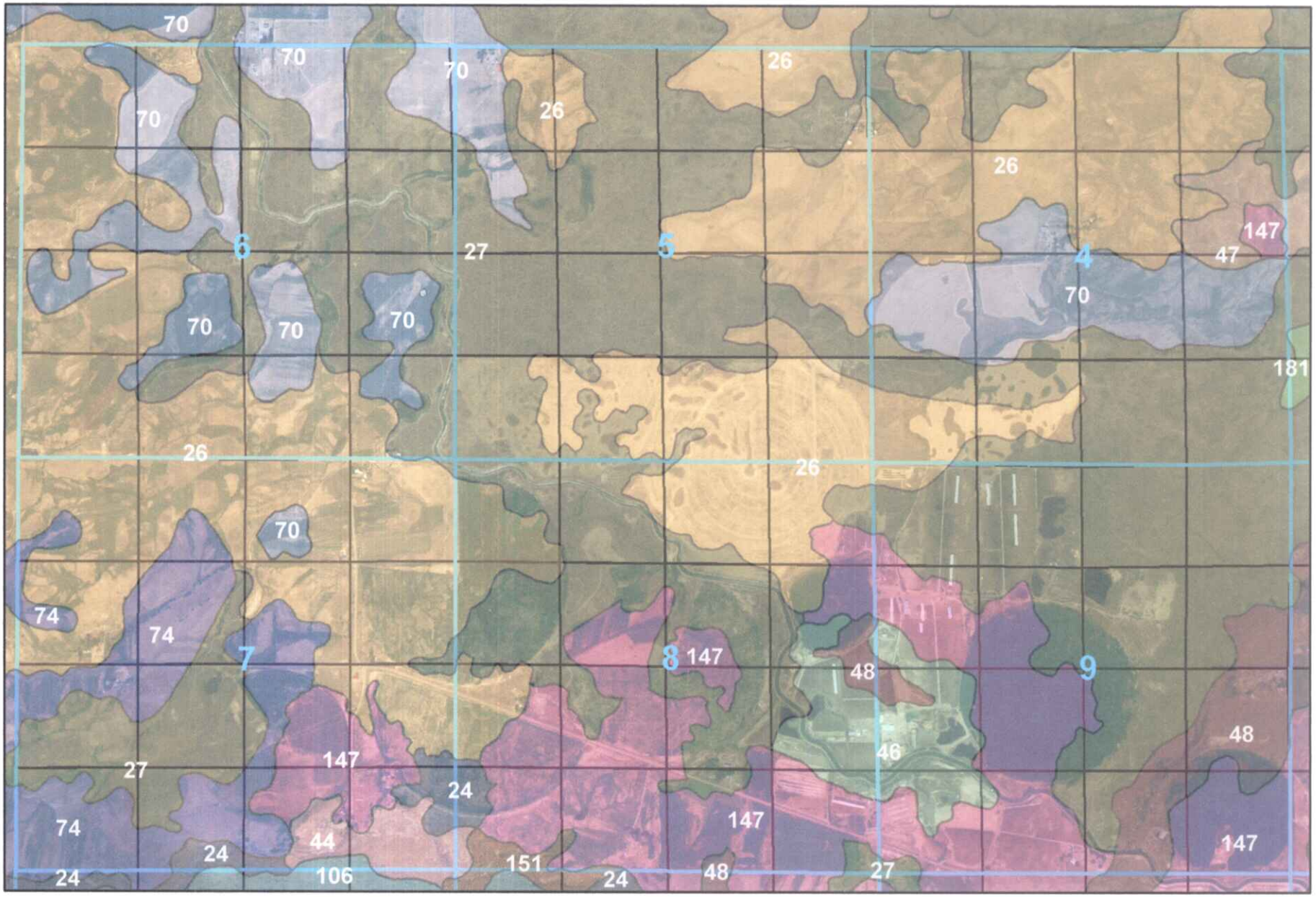
National Parks, Monuments, Recreation Areas and Major Natural Amenities (within 100 miles)	Distance (miles)
Shoshone Falls	20
Shoshone Ice Caves	20
Blaine County Historical Museum	40
Balanced Rock	50
Clarendon Hot Springs	60
Craters of the moon	100

Downhill Ski Areas (within 100 miles)	Distance (miles)
Magic Mountain	40
Sun Valley	50
Pomerrel	60
Soldier Mountain	60

LOCAL & REGIONAL ECONOMIC DEVELOPMENT ORGANIZATIONS

Name	Contact	Phone (208)	E-Mail Address
City of Shoshone	Richard Andreasen, Mayor	886-2030	shocity@pmt.org
Region IV Development Association	Joseph Herring, Exec Director	732-5727	joe@rivda.org
Rural Magic Valley Econ. Dev. Assoc.	James Scott	837-4522	scotty@rmvidaho.com

EXHIBIT 15



0 800 1,600 3,200 4,800 6,400 Feet

4-Bros. Dairy, Inc.
NRCS Soils Data
2004 NAIP Aerial Photo

Legend
SECTIONS
t05s17e
<all other values>
MUSYM_C
106
147
151
181
24
26
27
44
46
47
48
70
74

N

Brockway Engineering, PLLC
ALR - July 14, 2005

57 to 60 inches—light gray and light brownish gray fine sandy loam
Depth class: Very deep
Drainage class: Well drained
Frequency of flooding: Rare
Permeability: Moderate
Available water capacity: Moderate
Potential rooting depth: 60 inches or more
Runoff: Very slow
Hazard of wind erosion: Moderate

Characteristics of the Dryck Soil

Position on landscape: Stream terraces
Typical profile:
0 to 2 inches—dark grayish brown loamy fine sand
2 to 9 inches—brown loamy sand
9 to 29 inches—dark yellowish brown and yellowish brown loamy fine sand
29 to 32 inches—yellowish brown very gravelly loamy sand
32 to 54 inches—grayish brown and gray extremely gravelly sand and sand
54 to 63 inches—light gray and gray extremely gravelly sand
Depth class: Very deep
Drainage class: Well drained
Frequency of flooding: Rare
Permeability: Moderate or moderately rapid to a depth of 29 inches and very rapid below this depth
Available water capacity: Very low
Potential rooting depth: 60 inches or more
Restriction to rooting depth: Stratified sand and gravel at a depth of 29 inches
Runoff: Very slow
Hazard of wind erosion: Severe

Contrasting Inclusions

- Soils that are similar to Vining loamy fine sand and Banbury fine sandy loam but have a dark-colored surface layer and are in convex positions (10 percent)
- Small areas of Rock outcrop in convex positions (5 percent)

Use and Management

Major use: Rangeland
Major management factors: Hazard of wind erosion, very low available water capacity, and rare flooding

Rangeland

Dominant vegetation in potential natural plant community: Basin big sagebrush, Indian ricegrass, and needleandthread

Major management considerations:
- Planned grazing systems that encourage the growth of ground cover help to minimize the risk of wind erosion.
- The very low available water capacity limits the selection of species suitable for seeding.
- Seeding should be delayed until late in spring or until fall to minimize the risk of flooding.

Interpretive Groups

Capability classification: VIc, nonirrigated
Range site: Burch and Dryck soils—011AY014ID Sand 8-12 ARTRT/ACHY-HECOC8

24—Burch-Quencheroo-Dryck complex, 0 to 2 percent slopes

Composition

Burch loam and similar inclusions—45 percent
Quencheroo loam and similar inclusions—30 percent
Dryck very fine sandy loam and similar inclusions—15 percent
Contrasting inclusions—10 percent

Setting

Elevation: 3,500 to 4,200 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 49 degrees F
Frost-free period: About 110 days

Characteristics of the Burch Soil

Position on landscape: Smooth, slightly concave areas on stream terraces
Typical profile:
0 to 13 inches—brown loam
13 to 21 inches—pale brown silt loam
21 to 60 inches—pale brown very fine sandy loam
Depth class: Very deep
Drainage class: Well drained
Frequency of flooding: Rare
Permeability: Moderate
Available water capacity: Moderate
Potential rooting depth: 60 inches or more
Runoff: Slow

Characteristics of the Quencheroo Soil

Position on landscape: Smooth, slightly elevated areas on stream terraces
Typical profile:
0 to 8 inches—grayish brown loam
8 to 27 inches—brown loam

27 to 56 inches—brown silt loam
56 inches—lime- and silica-coated basalt
Depth class: Deep
Drainage class: Well drained
Frequency of flooding: Rare
Permeability: Moderately slow
Available water capacity: Moderate
Hazard of water erosion: None or slight
Potential rooting depth: 40 to 60 inches
Runoff: Very slow

Characteristics of the Dryck Soil

Position on landscape: Smooth, low areas on stream terraces
Typical profile:
0 to 3 inches—brown very fine sandy loam
3 to 8 inches—brown very fine sandy loam
8 to 11 inches—brown very fine sandy loam
11 to 23 inches—brown very fine sandy loam
23 to 28 inches—brown fine sand
28 to 60 inches—multicolored sand and gravel
Depth class: Very deep
Drainage class: Well drained
Frequency of flooding: Rare
Permeability: Moderate or moderately rapid to a depth of 23 inches and very rapid below
Available water capacity: Low
Potential rooting depth: 60 inches or more
Restriction to rooting depth: Sand and gravel at a depth of 28 inches
Runoff: Slow

Contrasting Inclusions

- Soils that are similar to the Quencheroo soil but have bedrock at a depth of less than 40 inches (5 percent)
- Soils immediately adjacent to streams and rivers that are similar to the Burch, Quencheroo, and Dryck soils but are wet (5 percent)

Use and Management

Major uses: Cropland, pasture, and hayland
Major management factors: Few limitations

Cropland

Commonly grown crops: Irrigated wheat, barley, sugar beets, potatoes, and corn
Major management considerations:
- Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
- The risk of erosion is increased in areas where corrugation or furrow irrigation systems are used.
- Sprinkler irrigation is the most suitable method of applying water.

Hayland and Pasture

Commonly grown crops: Irrigated alfalfa and pasture
Major management considerations:
- Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
- The risk of erosion is increased in areas where corrugation or furrow irrigation systems are used.
- Sprinkler irrigation is the most suitable method of applying water.

Interpretive Groups

Capability classification: IIc, irrigated

25—Burwill-Rock outcrop-Connet complex, 12 to 60 percent slopes

Composition

Burwill very channery loam and similar inclusions—50 percent
Rock outcrop—20 percent
Connet very gravelly loam and similar inclusions—20 percent
Contrasting inclusions—10 percent

Setting

Elevation: 4,000 to 5,200 feet
Average annual precipitation: About 13 inches
Average annual air temperature: About 46 degrees F
Frost free period: About 85 days

Characteristics of the Burwill Soil

Position on landscape: Concave areas on canyonsides in foothills
Typical profile:
0 to 15 inches—brown very channery loam
15 to 44 inches—yellowish brown extremely gravelly loam
44 inches—highly fractured, welded tuff
Depth class: Deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Potential rooting depth: 40 to 60 inches
Runoff: Rapid or very rapid
Hazard of water erosion: Severe or very severe

Characteristics of the Rock Outcrop

Kind of rock: Vertical hoodoos of "City of the Rocks" welded tuff (fig. 10)
Position on landscape: Convex areas on canyonsides

and bluebunch wheatgrass; Connet soil—low sagebrush and bluebunch wheatgrass

Major management considerations:

- Seeding, mechanical treatment, and distribution of livestock are limited by the steep slopes of the Burwill soil, the shallow depth to bedrock in the Connet soil, and the areas of Rock outcrop.
- Planned grazing systems that encourage the growth of ground cover help to minimize the risk of water erosion.
- The very low available water capacity of the Connet soil limits the selection of species suitable for seeding.
- Construction of fences and distribution of livestock are limited by the shallow depth to bedrock in the Connet soil and the areas of Rock outcrop.

Interpretive Groups

Capability classification: VIIe, nonirrigated

Range site: Burwill soil—010AY030ID South Slope Channery 11-13 ARTRX/PSSP6; Connet soil—010AY007ID Shallow Stony Loam 8-16 ARAR8/PSSP6

26—Catchell silt loam, 3 to 6 percent slopes

Composition

Catchell silt loam and similar inclusions—80 percent

Contrasting inclusions—20 percent

Setting

Elevation: 3,500 to 4,200 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Characteristics of the Catchell Soil

Position on landscape: Convex, smooth areas on basalt plains

Typical profile:

0 to 3 inches—light brownish gray silt loam
3 to 17 inches—brown clay
17 to 27 inches—pale brown clay
27 to 31 inches—pale brown loam
31 to 32 inches—white, lime- and silica-cemented hardpan
32 inches—basalt

Depth class: Moderately deep to a hardpan

Drainage class: Well drained

Permeability: Very slow

Available water capacity: Low

Potential rooting depth: 20 to 38 inches

Restriction to rooting depth: Lime- and silica-cemented hardpan at a depth of 31 inches

Runoff: Slow or medium

Hazard of water erosion: Moderate or severe

Contrasting Inclusions

- Gooding silt loam in concave positions (5 percent)
- Rock outcrop on ridges (5 percent)
- Bruncan stony loam in convex positions and on south-facing slopes (5 percent)
- Elijah silt loam in areas similar to those of the Catchell soil (5 percent)

Use and Management

Major uses: Cropland, pasture, and hayland

Major management factors: Hazard of water erosion, very slow permeability, and depth to bedrock and to a hardpan

Cropland

Commonly grown crops: Irrigated wheat, barley, sugar beets, potatoes, and corn

Major management considerations:

- Excavation for irrigation mainlines and ditches is limited by the depth to bedrock and to the hardpan.
- Irrigation water should be applied slowly to compensate for the very slow permeability.
- Suitable management practices are needed to overcome the hazard of water erosion.
- Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
- The risk of erosion is increased in areas where furrow or corrugation irrigation systems are used.
- Sprinkler irrigation is the most suitable method of applying water.

Hayland and Pasture

Commonly grown crops: Irrigated alfalfa and pasture

Major management considerations:

- Excavation for irrigation mainlines and ditches is limited by the depth to bedrock and to the hardpan.
- Irrigation water should be applied slowly to compensate for the very slow permeability.
- Suitable management practices are needed to overcome the hazard of water erosion.
- Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
- The risk of erosion is increased in areas where furrow or corrugation irrigation systems are used.
- Sprinkler irrigation is the most suitable method of applying water.

Interpretive Groups

Capability classification: IVe, irrigated

27—Catchell-Gooding complex, 2 to 6 percent slopes

Composition

Catchell very stony silt loam and similar inclusions—50 percent
Gooding silt loam and similar inclusions—30 percent
Contrasting inclusions—20 percent

Setting

Elevation: 3,600 to 4,200 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 49 degrees F
Frost-free period: About 110 days

Characteristics of the Catchell Soil

Position on landscape: Convex areas on basalt plains
Typical profile:
0 to 2 inches—brown very stony silt loam (stones have been removed mechanically in cropland areas)
2 to 6 inches—pale brown very stony silt loam
6 to 19 inches—light yellowish brown silty clay loam
19 to 21 inches—light brown silty clay loam
21 to 26 inches—pink silty clay loam
26 to 30 inches—lime- and silica-cemented hardpan
30 inches—basalt
Depth class: Moderately deep to a hardpan
Drainage class: Well drained
Permeability: Very slow
Available water capacity: Low
Potential rooting depth: 20 to 38 inches
Restriction to rooting depth: Lime- and silica-cemented hardpan at a depth of 26 inches
Runoff: Medium or rapid
Hazard of water erosion: Moderate or severe

Characteristics of the Gooding Soil

Position on landscape: Smooth and concave areas on basalt plains
Typical profile:
0 to 10 inches—pale brown silt loam
10 to 17 inches—light brown silty clay loam
17 to 23 inches—light yellowish brown silty clay
23 to 27 inches—pale brown silty clay loam
27 to 45 inches—very pale brown silty clay loam
45 to 54 inches—light yellowish brown loam
54 to 59 inches—very pale brown, lime- and silica-cemented hardpan
59 inches—basalt
Depth class: Deep to a hardpan
Drainage class: Well drained
Permeability: Very slow
Available water capacity: Moderate
Potential rooting depth: 40 to 60 inches
Restriction to rooting depth: Lime- and silica-cemented hardpan at a depth of 54 inches
Runoff: Medium or rapid
Hazard of water erosion: Moderate or severe

Contrasting Inclusions

- Rubbleland in convex positions (10 percent)
- Bruncan silt loam in convex positions (5 percent)
- Power silt loam in concave positions (5 percent)

Use and Management

Major uses: Cropland, pasture, hayland, and rangeland
Major management factors: Hazard of water erosion, rock fragments in the surface layer, very slow permeability, and depth to bedrock

Cropland

Commonly grown crops: Irrigated wheat, barley, sugar beets, potatoes, and corn
Major management considerations:
- Excavation for irrigation mainlines and ditches is limited by the depth to bedrock in the Catchell soil.
- Rock fragments in the surface layer of the Catchell soil need to be removed.
- Irrigation water should be applied slowly to compensate for the very slow permeability of the soils.
- Suitable management practices are needed to overcome the hazard of water erosion.
- Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
- The risk of erosion is increased in areas where corrugation or furrow irrigation systems are used.
- Sprinkler irrigation is the most suitable method of applying water.

Hayland and Pasture

Commonly grown crops: Irrigated alfalfa and pasture
Major management considerations:
- Excavation for irrigation mainlines and ditches is limited by the depth to bedrock in the Catchell soil.
- Rock fragments in the surface layer of the Catchell soil may need to be removed in areas of hayland.
- Irrigation water should be applied slowly to compensate for the very slow permeability of the soils.
- Suitable management practices are needed to overcome the hazard of water erosion.
- Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
- The risk of erosion is increased in areas where corrugation or furrow irrigation systems are used.

big sagebrush and bluebunch wheatgrass; Rekima soil—Wyoming big sagebrush and bluebunch wheatgrass

Major management considerations:

- Planned grazing systems that encourage the growth of ground cover help to minimize the risks of wind and water erosion.
- The very low and low available water capacity limit the selection of species suitable for seeding.
- Construction of fences and distribution of livestock are limited by the shallow depth to bedrock in the Rekima soil.

Interpretive Groups

Capability classification: VIIs, nonirrigated
Range site: Deerhorn soil—011AY009ID Loamy 8-12 ARTRT/PSSP6; Wildors soil—011AY011ID Stony Loam 10-12 ARTRT/PSSP6; Rekima soil—011AY002ID Shallow Loamy 8-12 ARTRW8/PSSP6

43—Deter silt loam, 0 to 2 percent slopes

Composition

Deter silt loam and similar inclusions—85 percent
Contrasting inclusions—15 percent

Setting

Elevation: 3,000 to 4,000 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 50 degrees F
Frost-free season: About 115 days

Characteristics of the Deter Soil

Position on landscape: Nearly level stream terraces
Typical profile:
0 to 3 inches—grayish brown silt loam
3 to 22 inches—grayish brown silty clay loam
22 to 63 inches—brown, light yellowish brown, and yellowish brown silty clay loam and silty clay
Depth class: Very deep
Drainage class: Well drained
Frequency of flooding: Rare
Permeability: Slow
Available water capacity: High
Potential rooting depth: 60 inches or more
Runoff: Very slow or slow

Contrasting Inclusions

- Gooding silt loam on the edges of interfaces of stream terraces and basalt plains (10 percent)
- Soils that are near streams and rivers and are similar to the Deter soil but are wet (5 percent)

Use and Management

Major uses: Cropland, pasture, and hayland
Major management factor: Rare flooding

Cropland

Commonly grown crops: Irrigated wheat, barley, sugar beets, potatoes, and corn

Major management considerations:

- Irrigation water management is needed to overcome the slow permeability of the subsoil.
- Planting may have to be delayed in some years when flooding occurs.
- Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
- The risk of erosion is increased in areas where furrow or corrugation irrigation systems are used.
- Sprinkler irrigation is the most suitable method of applying water.

Hayland and Pasture

Commonly grown crops: Irrigated alfalfa and pasture

Major management considerations:

- Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
- The risk of erosion is increased in areas where furrow or corrugation irrigation systems are used.
- Sprinkler irrigation is the most suitable method of applying water.

Interpretive Groups

Capability classification: IIs, irrigated

44—Dryck-Loupence complex, 0 to 1 percent slopes

Composition

Dryck very fine sandy loam and similar inclusions—55 percent
Loupence silt loam and similar inclusions—35 percent
Contrasting inclusions—10 percent

Setting

Elevation: 3,500 to 4,100 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 49 degrees F
Frost-free period: About 110 days

Characteristics of the Dryck Soil

Position on landscape: Smooth, low areas on stream terraces
Typical profile:
0 to 8 inches—brown very fine sandy loam

8 to 11 inches—brown loam
11 to 23 inches—brown very fine sandy loam
23 to 28 inches—brown fine sand
28 to 60 inches—multicolored sand and gravel
Depth class: Very deep
Drainage class: Well drained
Frequency of flooding: Rare
Permeability: Moderate or moderately rapid to a depth of 23 inches and very rapid below this depth
Available water capacity: Low
Potential rooting depth: 60 inches or more
Restriction to rooting depth: Sand and gravel at a depth of 28 inches
Runoff: Slow

Characteristics of the Loupence Soil

Position on landscape: Smooth, slightly concave areas on stream terraces
Typical profile:
0 to 5 inches—dark grayish brown silt loam
5 to 19 inches—grayish brown silty clay loam
19 to 28 inches—grayish brown silt loam
28 to 42 inches—brown very fine sandy loam
42 to 67 inches—brown silty clay loam
Depth class: Very deep
Drainage class: Well drained
Frequency of flooding: Rare
Permeability: Moderately slow
Available water capacity: High
Potential rooting depth: 60 inches or more
Runoff: Very slow

Contrasting Inclusions

- Soils that are near streams and are similar to the Dryck and Loupence soils but are wet (10 percent)

Use and Management

Major uses: Cropland, pasture, and hayland
Major management factors: Few limitations

Cropland

Commonly grown crops: Irrigated wheat, barley, sugar beets, potatoes, and corn
Major management considerations:
- Commonly used irrigation methods include furrow, corrugation, and sprinkler systems.
- The risk of erosion is increased in areas where corrugation or furrow irrigation systems are used.
- Sprinkler irrigation is the most suitable method of applying water.

Hayland and Pasture

Commonly grown crops: Irrigated alfalfa and pasture
Major management considerations:
- Commonly used irrigation methods include furrow, corrugation, and sprinkler systems.
- The risk of erosion is increased in areas where corrugation or furrow irrigation systems are used.
- Sprinkler irrigation is the most suitable method of applying water.

Interpretive Groups

Capability classification: IIc, irrigated

45—Duguesclin-Starhope complex, 1 to 6 percent slopes

Composition

Duguesclin very cobbly clay loam and similar inclusions—50 percent
Starhope silt loam and similar inclusions—35 percent
Contrasting inclusions—15 percent

Setting

Elevation: 5,100 to 5,900 feet
Average annual precipitation: About 14 inches
Average annual air temperature: About 44 degrees F
Frost-free period: About 80 days

Characteristics of the Duguesclin Soil

Position on landscape: Eroded drainageways and concave areas of basalt plains
Typical profile:
0 to 2 inches—yellowish brown very cobbly clay loam
2 to 11 inches—yellowish brown clay
11 to 22 inches—brown clay
22 to 33 inches—light brown clay loam
33 to 41 inches—pink silica-cemented hardpan
41 inches—basalt
Depth class: Moderately deep to a hardpan
Drainage class: Well drained
Permeability: Very slow
Available water capacity: Moderate
Potential rooting depth: 20 to 40 inches
Restriction to rooting depth: Silica-cemented pan at a depth of 33 inches
Runoff: Medium to very rapid
Hazard of water erosion: Slight or moderate

Characteristics of the Starhope Soil

Position on landscape: Smooth, convex areas on basalt plains
Typical profile:
0 to 9 inches—grayish brown and brown silt loam

9 to 17 inches—brown silty clay loam
17 to 25 inches—brown silty clay
25 inches—fractured basalt
Depth class: Moderately deep
Drainage class: Well drained
Permeability: Slow
Available water capacity: Moderate
Potential rooting depth: 20 to 40 inches
Runoff: Medium or rapid
Hazard of water erosion: Moderate or severe

Contrasting Inclusions

- Polecreek very cobbly silt loam on ridges (5 percent)
- Mug extremely stony loam in convex positions (5 percent)
- Schooler extremely stony silty clay loam in convex positions (5 percent)

Use and Management

Major use: Rangeland
Major management factors: Hazard of water erosion, very slow and slow permeability, and shrink-swell potential

Rangeland

Dominant vegetation in potential natural plant community: Duguesclin soil—low sagebrush and bluebunch wheatgrass; Starhope soil—mountain big sagebrush and Idaho fescue
Major management considerations:
- The very slow and slow permeability of the subsoil results in saturation of the surface layer in spring. Livestock grazing should be deferred during this period to minimize soil compaction and the risk of water erosion.
- The high shrink-swell potential of the Duguesclin soil limits the selection of species suitable for seeding.
- Planned grazing systems that encourage the growth of ground cover help to minimize the risk of water erosion.

Interpretive Groups

Capability classification: IVs, nonirrigated
Range site: Duguesclin soil—010AY038ID Stony Clayey 8-16 ARAR8/PSSP6; Starhope soil—010AY004ID Loamy 12-16 ARTRV/FEID

46—Elijah-Bruncan complex, 1 to 4 percent slopes

Composition

Elijah silt loam and similar inclusions—55 percent
Bruncan silt loam and similar inclusions—25 percent
Contrasting inclusions—20 percent

Setting

Elevation: 4,200 to 4,600 feet
Average annual precipitation: About 11 inches
Average annual air temperature: About 48 degrees F
Frost-free period: About 100 days

Characteristics of the Elijah Soil

Position on landscape: Concave areas and side slopes of basalt plains and buttes
Typical profile:
0 to 5 inches—brown silt loam
5 to 15 inches—yellowish brown silt loam
15 to 18 inches—light yellowish brown silt loam
18 to 32 inches—very pale brown silt loam
32 to 53 inches—white, lime- and silica-cemented hardpan
53 inches—basalt
Depth class: Moderately deep to a hardpan
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: Moderate
Potential rooting depth: 20 to 39 inches
Restriction to rooting depth: Lime- and silica-cemented hardpan at a depth of 32 inches
Runoff: Medium
Hazard of erosion: By water—moderate; by wind—slight

Characteristics of the Bruncan Soil

Position on landscape: Ridges on basalt buttes and plains
Typical profile:
0 to 6 inches—brown silt loam
6 to 14 inches—yellowish brown silt loam
14 to 18 inches—very pale brown very cobbly silt loam
18 to 37 inches—lime- and silica-cemented hardpan
37 inches—unweathered basalt
Depth class: Shallow to a hardpan
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: Low
Potential rooting depth: 11 to 19 inches
Restriction to rooting depth: Lime- and silica-cemented hardpan at a depth of 18 inches
Runoff: Slow
Hazard of erosion: By water—slight; by wind—slight

Contrasting Inclusions

- Power silt loam in concave positions (10 percent)

• Catchell very stony silt loam in convex positions (5 percent)

Use and Management

Major uses: Cropland, pasture, and hayland
Major management factors: Hazard of water erosion, very slow permeability, and depth to a hardpan

Cropland

Commonly grown crops: Irrigated wheat, barley, sugar beets, potatoes, and corn
Major management considerations:
• Excavation for irrigation mainlines and ditches is limited by the depth to the hardpan in the Elijah soil.
• Suitable management practices are needed to overcome the hazard of water erosion on the Gooding soil.
• Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
• The risk of erosion is increased in areas where corrugation or furrow irrigation systems are used.
• Sprinkler irrigation is the most suitable method of applying water.

Hayland and Pasture

Commonly grown crops: Irrigated alfalfa and pasture
Major management considerations:
• Excavation for irrigation mainlines and ditches is limited by the depth to the hardpan in the Elijah soil.
• Suitable management practices are needed to overcome the hazard of water erosion on the Gooding soil.
• Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
• The risk of erosion is increased in areas where corrugation or furrow irrigation systems are used.
• Sprinkler irrigation is the most suitable method of applying water.

Interpretive Groups

Capability classification: IVe, irrigated

48—Elijah-McPan complex, 2 to 6 percent slopes

Composition

Elijah silt loam and similar inclusions—50 percent
McPan silt loam and similar inclusions—35 percent
Contrasting inclusions—15 percent

Setting

Elevation: 3,550 to 4,250 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 49 degrees F
Frost-free period: About 110 days

Characteristics of the Elijah Soil

Position on landscape: Smooth and concave areas and side slopes of basalt plains
Typical profile:
0 to 5 inches—brown silt loam
5 to 10 inches—yellowish brown silty clay loam
10 to 15 inches—light yellowish brown silty clay loam
15 to 23 inches—yellowish brown silt loam
23 to 31 inches—very pale brown loam
31 to 45 inches—very pale brown, lime- and silica-cemented hardpan
45 inches—basalt
Depth class: Moderately deep to a hardpan
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: Moderate
Potential rooting depth: 20 to 39 inches
Restriction to rooting depth: Lime- and silica-cemented hardpan at a depth of 31 inches
Runoff: Medium
Hazard of water erosion: Slight

Characteristics of the McPan Soil

Position on landscape: Convex areas on basalt plains
Typical profile:
0 to 6 inches—brown silt loam
6 to 10 inches—brown silty clay loam
10 to 20 inches—dark yellowish brown silty clay loam
20 to 27 inches—very pale brown cobbly loam
27 to 29 inches—white, lime- and silica-cemented hardpan
29 inches—basalt
Depth class: Moderately deep to a hardpan
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: Low
Potential rooting depth: 20 to 39 inches
Restriction to rooting depth: Lime- and silica-cemented hardpan at a depth of 27 inches
Runoff: Medium
Hazard of water erosion: Moderate

Contrasting Inclusions

• Gooding silt loam on smooth side slopes (5 percent)
• Power silt loam in concave positions (5 percent)
• Catchell silt loam in convex positions (5 percent)

Use and Management

Major uses: Cropland, pasture, and hayland

Major management factors: Hazard of water erosion, depth to a hardpan and to bedrock, and low available water capacity

Cropland

Commonly grown crops: Irrigated wheat, barley, sugar beets, potatoes, and corn
Major management considerations:
- Excavation for irrigation system mainlines is limited by the depth to the cemented pan and by the depth to bedrock in the McPan soil.
- Irrigation water management is needed to overcome the low available water capacity of McPan soil.
- Suitable management practices are needed to overcome the hazard of water erosion.
- Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
- The risk of erosion is increased in areas where corrugation or furrow irrigation systems are used.
- Sprinkler irrigation is the most suitable method of applying water.

Hayland and Pasture

Commonly grown crops: Irrigated alfalfa and pasture
Major management considerations:
- Excavation for irrigation system mainlines is limited by the depth to the cemented pan and by the depth to bedrock in the McPan soil.
- Irrigation water management is needed to overcome the low available water capacity of the McPan soil.
- Suitable management practices are needed to overcome the hazard of water erosion.
- Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
- The risk of erosion is increased in areas where corrugation or furrow irrigation systems are used.
- Sprinkler irrigation is the most suitable method of applying water.

Interpretive Groups

Capability classification: IIIe, irrigated

49—Elijah-Purdam complex, 0 to 12 percent slopes

Composition

Elijah silt loam and similar inclusions—60 percent
Purdam very fine sandy loam and similar inclusions—25 percent
Contrasting inclusions—15 percent

Setting

Elevation: 3,200 to 4,300 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 49 degrees F
Frost-free period: About 110 days

Characteristics of the Elijah Soil

Position on landscape: Slightly convex areas on basalt plateaus
Typical profile:
0 to 5 inches—brown silt loam
5 to 10 inches—yellowish brown silty clay loam
10 to 15 inches—light yellowish brown silty clay loam
15 to 23 inches—yellowish brown silt loam
23 to 31 inches—very pale brown loam
31 to 45 inches—very pale brown, lime- and silica-cemented hardpan
45 inches—basalt
Depth class: Moderately deep to a hardpan
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: Moderate
Potential rooting depth: 20 to 39 inches
Restriction to rooting depth: Lime- and silica-cemented hardpan at a depth of 31 inches
Runoff: Very slow to rapid
Hazard of water erosion: Slight to severe

Characteristics of the Purdam Soil

Position on landscape: Drainageways and slightly concave areas on basalt plateaus
Typical profile:
0 to 5 inches—light yellowish brown very fine sandy loam
5 to 9 inches—yellowish brown very fine sandy loam
9 to 16 inches—light yellowish brown silty clay loam
16 to 20 inches—light yellowish brown silt loam
20 to 38 inches—white silt loam
38 to 60 inches—pinkish gray, lime- and silica-cemented hardpan
Depth class: Moderately deep to a hardpan
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: Moderate
Potential rooting depth: 21 to 38 inches
Restriction to rooting depth: Lime- and silica-cemented hardpan at a depth of 38 inches
Runoff: Very slow to rapid
Hazard of water erosion: Slight to severe

Contrasting Inclusions

- Power silt loam on mounds (10 percent)
- Soils that are similar to the Purdam soil but have a

• Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
• The risk of erosion is increased in areas where corrugation or furrow irrigation systems are used.
• Irrigation water should be applied slowly to compensate for the very slow permeability.
• Sprinkler irrigation is the most suitable method of applying water.

Interpretive Groups

Capability classification: IIIs, irrigated

70—Gooding-Catchell complex, 1 to 3 percent slopes

Composition

Gooding silt loam and similar inclusions—55 percent
Catchell very stony silt loam and similar inclusions—30 percent
Contrasting inclusions—15 percent

Setting

Elevation: 3,500 to 4,200 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 49 degrees F
Frost-free period: About 110 days

Characteristics of the Gooding Soil

Position on landscape: Smooth and concave areas on basalt plains
Typical profile:
0 to 10 inches—pale brown silt loam
10 to 17 inches—light brown silty clay loam
17 to 23 inches—light yellowish brown silty clay
23 to 27 inches—very pale brown silty clay loam
27 to 45 inches—very pale brown silty clay loam
45 to 54 inches—light yellowish brown loam
54 to 59 inches—very pale brown, lime- and silica-cemented hardpan
59 inches—basalt
Depth class: Deep to a hardpan
Drainage class: Well drained
Permeability: Very slow
Available water capacity: Moderate
Potential rooting depth: 40 to 60 inches
Restriction to rooting depth: Lime- and silica-cemented hardpan at a depth of 54 inches
Runoff: Slow or medium
Hazard of water erosion: Slight or moderate

Characteristics of the Catchell Soil

Position on landscape: Convex areas on basalt plains
Typical profile:
0 to 6 inches—brown and pale brown very stony silt loam
6 to 19 inches—light yellowish brown silty clay loam
19 to 21 inches—light brown silty clay loam
21 to 26 inches—pink silty clay loam
26 to 30 inches—lime- and silica-cemented hardpan
30 inches—basalt
Depth class: Moderately deep to a hardpan
Drainage class: Well drained
Permeability: Very slow
Available water capacity: Low
Potential rooting depth: 20 to 38 inches
Restriction to rooting depth: Lime- and silica-cemented hardpan at a depth of 26 inches
Runoff: Slow or medium
Hazard of water erosion: Slight or moderate

Contrasting Inclusions

• McPan silt loam in convex areas (5 percent)
• Bruncan stony loam in convex areas (5 percent)
• Power silt loam on bottoms (5 percent)

Use and Management

Major uses: Cropland, pasture, and hayland
Major management factors: Hazard of water erosion, stones in the surface layer, very slow permeability, and depth to bedrock

Cropland

Commonly grown crops: Irrigated wheat, barley, sugar beets, potatoes, and corn
Major management considerations:
• Excavation for irrigation mainlines and ditches is limited by the depth to bedrock in the Catchell soil.
• The Catchell soil is poorly suited to use as cropland because of the stones in the surface layer.
• Suitable management practices are needed to overcome the hazard of water erosion.
• Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
• The risk of erosion is increased in areas where corrugation or furrow irrigation systems are used.
• Sprinkler irrigation is the most suitable method of applying water.

Hayland and Pasture

Commonly grown crops: Irrigated alfalfa and pasture
Major management considerations:
• Excavation for irrigation mainlines and ditches is limited by the depth to bedrock in the Catchell soil.

- Rubbleland near fault scarps (3 percent)
- Bruncan stony loam in convex positions (2 percent)

Use and Management

Major use: Rangeland
Major management factors: Shrink-swell potential, very slow permeability, and hazard of water erosion

Rangeland

Dominant vegetation in potential natural plant community: Wyoming big sagebrush and bluebunch wheatgrass
Major management considerations:
- The high shrink-swell potential limits the selection of species suitable for seeding.
- The very slow permeability of the subsoil of the Gooding and McHandy soils causes saturation of the surface layer in spring. Livestock grazing should be deferred during this period to minimize soil compaction and the risk of water erosion.
- Planned grazing systems that encourage the growth of ground cover help to minimize the risk of water erosion on the Gooding and McHandy soils.

Interpretive Groups

Capability classification: VIe, nonirrigated
Range site: Gooding soil—011AY005ID Claypan 8-12 ARTRW8/PSSP6; McHandy soil—011AY010ID Churning Clay 8-12 ARTRW8/PSSP6; Power soil—011AY004ID Loamy 8-12 ARTRW8/PSSP6

74—Gooding-Power complex, 0 to 2 percent slopes

Composition

Gooding silt loam and similar inclusions—55 percent
Power silt loam and similar inclusions—30 percent
Contrasting inclusions—15 percent

Setting

Elevation: 3,500 to 4,200 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 49 degrees F
Frost-free period: About 110 days

Characteristics of the Gooding Soil

Position on landscape: Smooth and concave areas and intermounds on basalt plains
Typical profile:
0 to 10 inches—pale brown silt loam
10 to 17 inches—light brown silty clay loam
17 to 23 inches—light yellowish brown silty clay
23 to 27 inches—pale brown silty clay loam
27 to 45 inches—very pale brown silty clay loam
45 to 54 inches—light yellowish brown loam
54 to 59 inches—very pale brown, lime- and silica-cemented hardpan
59 inches—basalt
Depth class: Deep to a hardpan
Drainage class: Well drained
Permeability: Very slow
Available water capacity: Moderate
Potential rooting depth: 40 to 60 inches
Restriction to rooting depth: Lime- and silica-cemented hardpan at a depth of 54 inches
Runoff: Slow or medium
Hazard of water erosion: Slight or moderate

Characteristics of the Power Soil

Position on landscape: Concave areas and mounds on basalt plains
Typical profile:
0 to 6 inches—brown silt loam
6 to 23 inches—yellowish brown silt loam
23 to 29 inches—pale brown silt loam
29 to 40 inches—very pale brown silt loam
40 to 64 inches—very pale brown very fine sandy loam
Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: High
Potential rooting depth: 60 inches or more
Runoff: Very slow

Contrasting Inclusions

- Catchell silt loam in intermounds (10 percent)
- Antelope Springs loam in slick spots on intermounds (5 percent)

Use and Management

Major uses: Cropland, pasture, and hayland
Major management factors: Hazard of water erosion and very slow permeability

Cropland

Commonly grown crops: Irrigated wheat, barley, sugar beets, potatoes, and corn
Major management considerations:
- Suitable management practices are needed to overcome the hazard of water erosion on Gooding soil.
- Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.

• The risk of erosion is increased in areas where corrugation or furrow irrigation systems are used.
• Irrigation water should be applied slowly to compensate for the very slow permeability of the Gooding soil.
• Sprinkler irrigation is the most suitable method of applying water.

Hayland and Pasture

Commonly grown crops: Irrigated alfalfa and pasture
Major management considerations:
• Suitable management practices are needed to overcome the hazard of water erosion.
• Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
• The risk of erosion is increased in areas where corrugation or furrow irrigation systems are used.
• Irrigation water should be applied slowly to compensate for the very slow permeability of the Gooding soil.
• Sprinkler irrigation is the most suitable method of applying water.

Interpretive Groups

Capability classification: IVs, irrigated

75—Haploxerolls-Camborthids-Rock outcrop complex, 1 to 3 percent slopes

Composition

Haploxerolls loam and similar inclusions—50 percent
Camborthids loamy sand and similar inclusions—20 percent
Rock outcrop—15 percent
Contrasting inclusions—15 percent

Setting

Elevation: 3,500 to 4,400 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 49 degrees F
Frost-free period: About 110 days

Characteristics of the Haploxerolls

Position on landscape: Smooth, slightly concave areas on stream terraces
Example profile:
0 to 3 inches—brown loam
3 to 16 inches—dark yellowish brown loam
16 to 60 inches—stratified fine gravel, sand, and loamy sand
Depth class: Very deep
Drainage class: Well drained
Frequency of flooding: Occasional
Permeability: Moderate to a depth of 16 inches and very rapid below
Available water capacity: Low
Potential rooting depth: 60 inches or more
Runoff: Very slow or slow

Characteristics of the Camborthids

Position on landscape: Smooth, slightly elevated areas on stream terraces
Example profile:
0 to 14 inches—light brownish gray loamy sand
14 to 17 inches—light yellowish brown sandy loam
17 inches—basalt
Depth class: Shallow
Drainage class: Well drained
Frequency of flooding: Occasional
Permeability: Moderate
Available water capacity: Very low
Potential rooting depth: 10 to 20 inches
Runoff: Slow or very slow
Hazard of wind erosion: Severe

Characteristics of the Rock Outcrop

Kind of rock: Exposed basalt

Contrasting Inclusions

• Soils near streams and rivers that are similar to the Haploxerolls and Camborthids but are wet (15 percent)

Use and Management

Major use: Wildlife habitat
Major management factors: Rock outcrop, low and very low available water capacity, hazard of wind erosion, depth to bedrock, and hazard of flooding

Wildlife Habitat

Major management considerations:
• Rock outcrop, and the shallow depth to bedrock in the Camborthids limit the installation of fences and pipelines.
• Permanent cover is needed to minimize the risk of wind erosion.
• Seeding of native or adapted forage species is limited by the areas of Rock outcrop and the low and very low available water capacity.

Interpretive Groups

Capability classification: VIs, nonirrigated
Range site: Haploxerolls—011AY008ID Loamy Bottom



Figure 12.—Rangeland in an area of Lava flows-Cinderhurst complex, 2 to 15 percent slopes.

Major management considerations:
- The very low available water capacity limits the selection of species suitable for seeding.
- Seeding and mechanical treatment are limited by the areas of Lava flows.
- Construction of fences and distribution of livestock are limited by the very shallow depth to bedrock in the Cinderhurst soil and the areas of Lava flows.

Interpretive Groups

Capability classification: VIIs, nonirrigated

Range site: Cinderhurst soil—010AY020ID Mixed Shrub 12-16 ARTRV/POSE

106—Lava flows-Lithic Torriorthents complex, 2 to 8 percent slopes

Composition

Lava flows—70 percent
Lithic Torriorthents very cobbly silt loam and similar inclusions—20 percent
Contrasting inclusions—10 percent

Setting

Elevation: 3,500 to 4,400 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 49 degrees F
Frost-free period: About 110 days

Characteristics of the Lava Flows

Description of areas: Barren flows of basalt associated with recent volcanic activity and typified by the Craters of the Moon National Monument
Common features: Pressure ridges, fissures, and sinkholes
Position on landscape: All positions

Characteristics of the Lithic Torriorthents

Position on landscape: Depressions in basalt plains
Example profile:
0 to 2 inches—brown very cobbly silt loam
2 to 9 inches—yellowish brown cobbly silt loam
9 inches—basalt
Depth class: Very shallow
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Very low
Potential rooting depth: 4 to 10 inches
Runoff: Slow

Contrasting Inclusions

• Soils that are similar to the Lithic Torriorthents but are 20 to 40 inches deep and are in fractures of Lava flows (10 percent)

Use and Management

Major use: Rangeland
Major management factors: Depth to bedrock, Lava flows, and very low available water capacity

Rangeland

Dominant vegetation in potential natural plant community: Lithic Torriorthents—Wyoming big sagebrush and bluebunch wheatgrass
Major management considerations:
• Seeding and mechanical treatment are limited by the very shallow depth to bedrock.
• The very low available water capacity limits the selection of species suitable for seeding.
• Construction of fences and distribution of livestock are limited by the very shallow depth to bedrock and the areas of Lava flows.

Interpretive Groups

Capability classification: VIIs, nonirrigated
Range site: Lithic Torriorthents—011AY002ID Shallow Loamy 8-12 ARTRW8/PSSP6

107—Little Wood sandy loam, 6 to 30 percent slopes

Composition

Little Wood sandy loam and similar inclusions—80 percent
Contrasting inclusions—20 percent

Setting

Elevation: 4,800 to 5,400 feet
Average annual precipitation: About 13 inches
Average annual air temperature: About 44 degrees F
Frost-free period: About 85 days

Characteristics of the Little Wood Soil

Position on landscape: Dissected alluvial terraces
Typical profile:
0 to 10 inches—dark brown sandy loam
10 to 24 inches—light yellowish brown very gravelly sandy clay loam
24 to 60 inches—brown extremely gravelly loamy coarse sand
Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate in the upper part and very rapid below
Available water capacity: Moderate
Potential rooting depth: 60 inches or more
Restriction to rooting depth: Sand, gravel, and cobbles at a depth of 24 inches
Runoff: Medium or rapid
Hazard of water erosion: Moderate or severe

Contrasting Inclusions

• Skelter very gravelly loam on concave, north-facing sides slopes and toeslopes (10 percent)
• Simonton loam on north-facing side slopes (10 percent)

Use and Management

Major use: Rangeland
Major management factor: Hazard of water erosion

Rangeland

Dominant vegetation in potential natural plant community: Basin big sagebrush and bluebunch wheatgrass
Major management considerations:
• Planned grazing systems that encourage the growth

periods in spring and are in the lowest positions in the areas of Playas

Major Use

Habitat for waterfowl, shore birds, and various mammals in spring

Interpretive Groups

Capability classification: VIII

147—Power silt loam, 0 to 3 percent slopes

Composition

Power silt loam and similar inclusions—85 percent
Contrasting inclusions—15 percent

Setting

Elevation: 3,500 to 4,350 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 49 degrees F
Frost-free period: About 110 days

Characteristics of the Power Soil

Position on landscape: Concave areas on basalt plains and buttes
Typical profile:
0 to 10 inches—brown silt loam
10 to 23 inches—yellowish brown silt loam
23 to 29 inches—pale brown silt loam
29 to 40 inches—very pale brown silt loam
40 to 64 inches—very pale brown very fine sandy loam
Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: High
Potential rooting depth: 60 inches or more
Runoff: Very slow or slow

Contrasting Inclusions

- Gooding silt loam and Elijah silt loam in convex positions and on side slopes (10 percent)
- Purdam silt loam in convex positions (5 percent)

Use and Management

Major uses: Cropland, pasture, and hayland
Major management factors: Few limitations

Cropland

Commonly grown crops: Irrigated wheat, barley, sugar beets, potatoes, and corn
Major management considerations:
- Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
- The risk of erosion is increased in areas where corrugation or furrow irrigation systems are used.
- Sprinkler irrigation is the most suitable method of applying water.

Hayland and Pasture

Commonly grown crops: Irrigated alfalfa and pasture
Major management considerations:
- Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
- The risk of erosion is increased in areas where corrugation or furrow irrigation systems are used.
- Sprinkler irrigation is the most suitable method of applying water.

Interpretive Groups

Capability classification: IIe, irrigated

148—Power-McPan complex, 1 to 3 percent slopes

Composition

Power silt loam and similar inclusions—65 percent
McPan silt loam and similar inclusions—20 percent
Contrasting inclusions—15 percent

Setting

Elevation: 4,200 to 4,400 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 48 degrees F
Frost-free period: About 105 days

Characteristics of the Power Soil

Position on landscape: Side slopes and basins between ridges on basalt plains and buttes
Typical profile:
0 to 6 inches—brown silt loam
6 to 38 inches—yellowish brown silt loam
38 to 64 inches—very pale brown silt loam
Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: High
Potential rooting depth: 60 inches or more
Runoff: Slow
Hazard of water erosion: Slight or moderate

Characteristics of the McPan Soil

Position on landscape: Side slopes of ridges on basalt plains and buttes
Typical profile:

Runoff: Slow or medium
Hazard of water erosion: Moderate or severe

Characteristics of the Rock Outcrop

Kind of material: Basalt
Position on landscape: Basalt pressure ridges that rise steeply from adjacent, nearly level basins

Contrasting Inclusions

- Farmell silt loam that has slopes of 0 to 1 percent and is in depressions (10 percent)
- McPan silt loam in convex positions (5 percent)

Use and Management

Major uses: Cropland, pasture, hayland, and rangeland
Major management factors: Rock outcrop, hazard of water erosion, very low available water capacity, and depth to bedrock

Cropland

Commonly grown crops: Irrigated wheat, barley, sugar beets, potatoes, and corn
Major management considerations:
- Excavation for irrigation system mainlines and ditches is limited by the areas of Rock outcrop and the depth to bedrock in the Starbuck soil.
- Suitable management practices are needed to overcome the hazard of water erosion.
- Irrigation water management is needed to overcome the very low available water capacity of the Starbuck soil.
- Corrugation, furrow, and sprinkler irrigation systems commonly are used on the Power soil, but only sprinkler systems are used on the Starbuck soil.
- The risk of erosion is increased in areas where furrow or corrugation irrigation systems are used.
- Sprinkler irrigation is the most suitable method of applying water.

Hayland and Pasture

Commonly grown crops: Irrigated alfalfa and pasture
Major management considerations:
- Excavation for irrigation system mainlines and ditches is limited by the areas of Rock outcrop and the depth to bedrock in the Starbuck soil.
- Suitable management practices are needed to overcome the hazard of water erosion.
- Irrigation water management is needed to overcome the very low available water capacity of the Starbuck soil.
- Corrugation, furrow, and sprinkler irrigation systems commonly are used on the Power soil, but only sprinkler systems are used on the Starbuck soil.
- The risk of erosion is increased in areas where furrow or corrugation irrigation systems are used.
- Sprinkler irrigation is the most suitable method of applying water.

Rangeland

Dominant vegetation in potential natural plant community: Wyoming big sagebrush and bluebunch wheatgrass
Major management considerations:
- Rangeland seeding and brush management are limited by the hazard of water erosion, very low available water capacity, and areas of Rock outcrop.
- Forage species that can tolerate droughtiness should be seeded.
- Proper distribution of livestock and fencing are limited by the areas of Rock outcrop and the depth to bedrock in the Starbuck soil.
- Construction of stock water pipelines is limited by the areas of Rock outcrop and the depth to bedrock in the Starbuck soil.

Interpretive Groups

Capability classification: IVe, irrigated, and VIe, nonirrigated
Range site: Power soil—011AYOO9ID Loamy 8-12 ARTRT/PSSP6; Starbuck soil—011AY003ID Shallow Fractured 8-12 ARTRT/PSSP6

151—Quencheroo-Loupence complex, 0 to 1 percent slopes

Composition

Quencheroo silt loam and similar inclusions—65 percent
Loupence silt loam and similar inclusions—20 percent
Contrasting inclusions—15 percent

Setting

Elevation: 3,500 to 4,200 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 49 degrees F
Frost-free period: About 110 days

Characteristics of the Quencheroo Soil

Position on landscape: Smooth, slightly elevated areas on stream terraces
Typical profile:
0 to 5 inches—grayish brown silt loam
5 to 21 inches—brown loam

21 to 49 inches—brown silt loam
49 inches—lime- and silica-coated basalt
Depth class: Deep
Drainage class: Well drained
Frequency of flooding: Rare
Permeability: Moderately slow
Available water capacity: Moderate
Potential rooting depth: 40 to 60 inches
Runoff: Very slow

Characteristics of the Loupence Soil

Position on landscape: Smooth, slightly concave areas on stream terraces
Typical profile:
0 to 5 inches—dark grayish brown silt loam
5 to 19 inches—grayish brown silty clay loam
19 to 28 inches—grayish brown silt loam
28 to 42 inches—brown very fine sandy loam
42 to 67 inches—brown silty clay loam
Depth class: Very deep
Drainage class: Well drained
Frequency of flooding: Rare
Permeability: Moderately slow
Available water capacity: High
Potential rooting depth: 60 inches or more
Runoff: Very slow

Contrasting Inclusions

- Soils that are similar to the Quencheroo soil but have bedrock at a depth of less then 40 inches (10 percent)
- Soils that are immediately adjacent to streams and rivers and are similar to the Quencheroo and Loupence soils but are wet (5 percent)

Use and Management

Major uses: Cropland, pasture, and hayland
Major management factors: Few limitations

Cropland

Commonly grown crops: Irrigated wheat, barley, sugar beets, potatoes, and corn
Major management considerations:
- Proper irrigation water management is needed.
- Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
- The risk of erosion is increased in areas where furrow or corrugation irrigation systems are used.
- Sprinkler irrigation is the most suitable method of applying water.

Hayland and Pasture

Commonly grown crops: Irrigated alfalfa and pasture
Major management considerations:
- Proper irrigation water management is needed.
- Commonly used irrigation methods include sprinkler, furrow, and corrugation systems.
- The risk of erosion is increased in areas where furrow or corrugation irrigation systems are used.
- Sprinkler irrigation is the most suitable method of applying water.

Interpretive Groups

Capability classification: IIc, irrigated

152—Quiero-Ruckles-Nammoth complex, 1 to 12 percent slopes

Composition

Quiero loam and similar inclusions—30 percent
Ruckles very gravelly loam and similar inclusions—30 percent
Nammoth extremely bouldery loam and similar inclusions—25 percent
Contrasting inclusions—15 percent

Setting

Elevation: 4,200 to 5,000 feet
Average annual precipitation: About 12 inches
Average annual air temperature: About 47 degrees F
Frost-free period: About 90 days

Characteristics of the Quiero Soil

Position on landscape: Structural benches and side slopes of foothills
Typical profile:
0 to 10 inches—grayish brown and brown loam
10 to 21 inches—yellowish brown loam and clay loam
21 to 36 inches—brown clay loam
36 inches—welded tuff
Depth class: Moderately deep
Drainage class: Well drained
Permeability: Slow
Available water capacity: Low
Potential rooting depth: 20 to 40 inches
Runoff: Slow to rapid
Hazard of water erosion: Slight to severe

Characteristics of the Ruckles Soil

Position on landscape: Eroded structural benches on foothills
Slope: 1 to 8 percent
Typical profile:
0 to 7 inches—brown very gravelly loam

Rangeland

Dominant vegetation in potential natural plant community: Starbuck soil—Wyoming big sagebrush and bluebunch wheatgrass
Major management considerations:
- The very low available water capacity limits the selection of species suitable for seeding.
- Seeding and mechanical treatment are limited by the areas of Lava flows.
- Construction of fences and distribution of livestock are limited by the shallow depth to bedrock in the Starbuck soil and the areas of Lava flows.

Interpretive Groups

Capability classification: VIs, nonirrigated
Range site: Starbuck soil—011AY002ID Shallow Loamy 8-12 ARTRW8/PSSP6

181—Starbuck-McPan-Rock outcrop complex, 2 to 20 percent slopes

Composition

Starbuck silt loam and similar inclusions—40 percent
McPan silt loam and similar inclusions—30 percent
Rock outcrop—20 percent
Contrasting inclusions—10 percent

Setting

Elevation: 4,000 to 4,600 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 48 degrees F
Frost-free period: About 100 days

Characteristics of the Starbuck Soil

Position on landscape: Ridgetops on basalt plains
Typical profile:
0 to 3 inches—brown silt loam
3 to 14 inches—light yellowish brown silt loam
14 inches—basalt
Depth class: Shallow
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Very low
Potential rooting depth: 10 to 20 inches
Runoff: Slow to very rapid
Hazard of water erosion: Slight to very severe

Characteristics of the McPan Soil

Position on landscape: Convex side slopes of basalt plains
Slope: 2 to 10 percent
Typical profile:
0 to 5 inches—brown silt loam
5 to 15 inches—yellowish brown silt loam
15 to 23 inches—light yellowish brown silt loam
23 to 28 inches—very pale brown silt loam
28 to 29 inches—white, lime- and silica-cemented hardpan
29 inches—basalt
Depth class: Moderately deep to a hardpan
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: Low
Potential rooting depth: 20 to 39 inches
Restriction to rooting depth: Lime- and silica-cemented hardpan at a depth of 28 inches
Runoff: Slow to very rapid
Hazard of water erosion: Slight to severe

Characteristics of the Rock Outcrop

Kind of material: Basalt
Position on landscape: Pressure ridges on basalt plains

Contrasting Inclusions

- Paulville loam in drainageways (5 percent)
- Chijer silt loam on mounds and toeslopes (5 percent)

Use and Management

Major use: Rangeland
Major management factors: Hazard of water erosion, depth to bedrock, very low and low available water capacity, and Rock outcrop

Rangeland

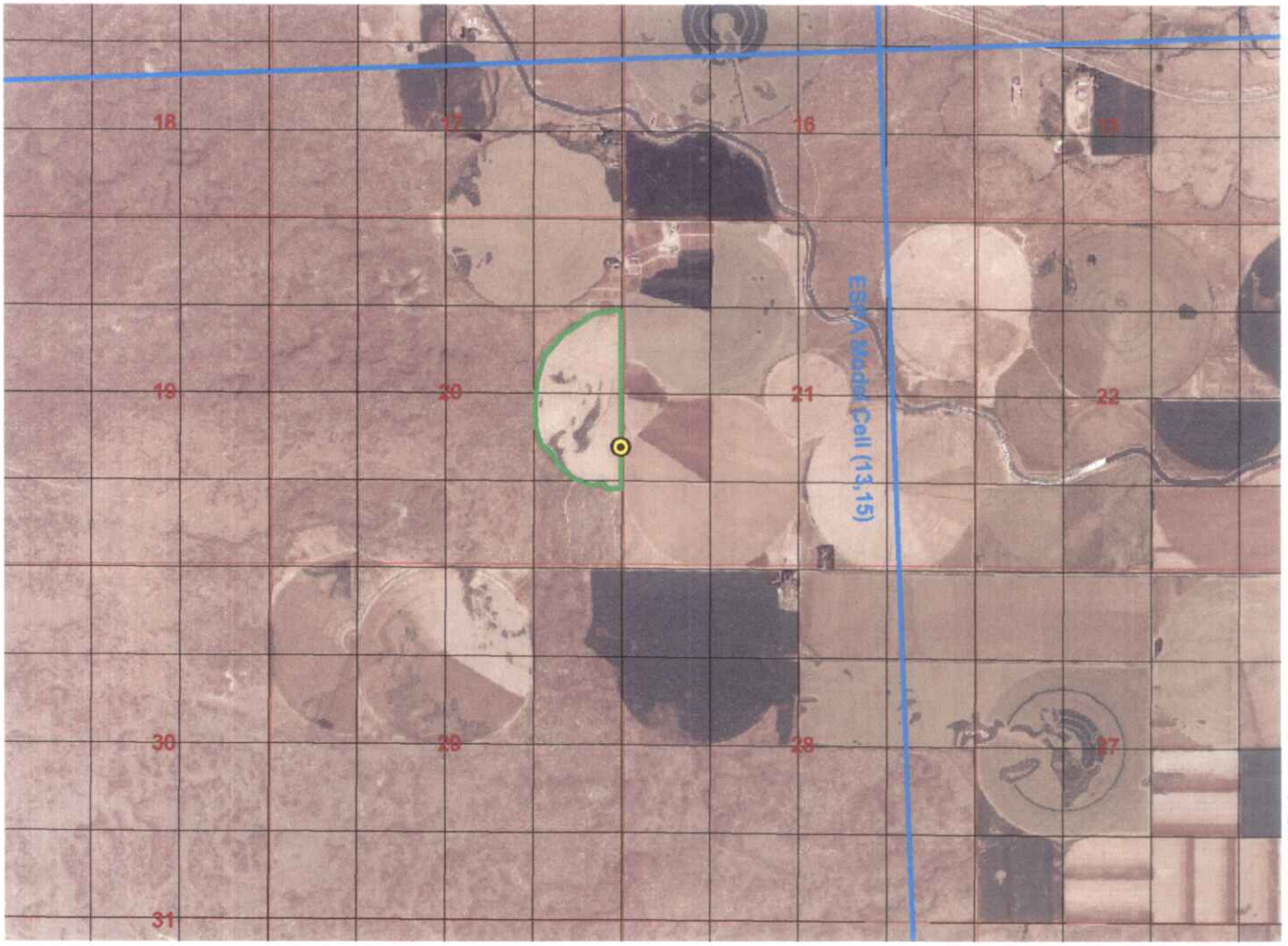
Dominant vegetation in potential natural plant community: Starbuck soil—basin big sagebrush and bluebunch wheatgrass; McPan soil—Wyoming big sagebrush and bluebunch wheatgrass
Major management considerations:
- Planned grazing systems that encourage the growth of ground cover help to minimize the risk of water erosion.
- The very low and low available water capacity limit the selection of species suitable for seeding.
- Seeding and mechanical treatment are limited by the areas of Rock outcrop.
- Construction of fences and distribution of livestock are limited by the shallow depth to bedrock in the Starbuck soil and the areas of Rock outcrop.

Interpretive Groups

Capability classification: VIe, nonirrigated
Range site: Starbuck soil—011AY003ID Shallow Fractured 8-12 ARTRT/PSSP6; McPan soil—011AY004ID Loamy 8-12 ARTRW8/PSSP6

EXHIBIT 16

4 Brothers Transfer #71607
Existing Irrigation Water Right 37-20613
(TWP. 6S, RNG. 18E - Section 20)



0.5 0 0.5 1 1.5 2 Miles

(Scale: 2" = 1 mile)

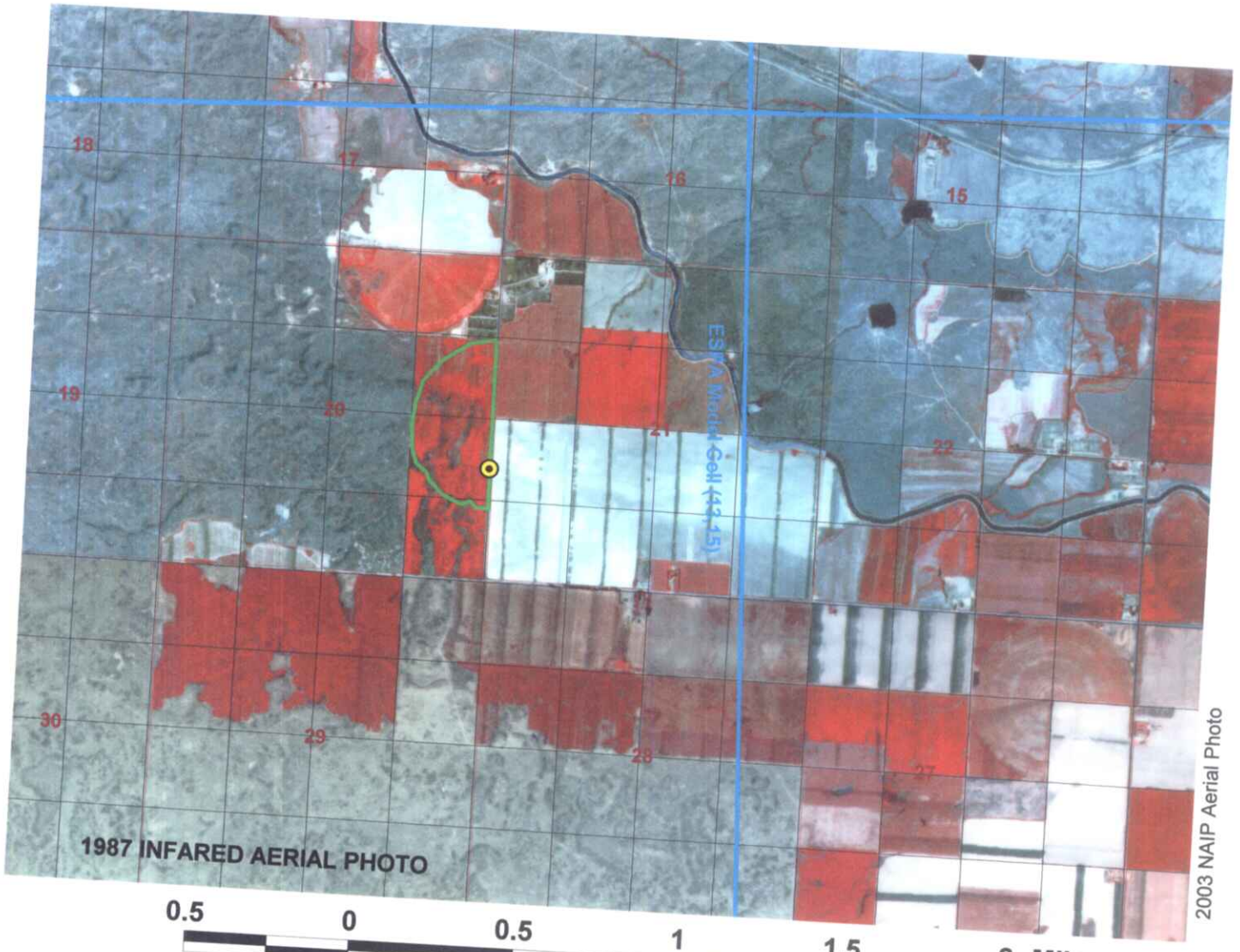
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- ESPA Model Grid
- Existing POD (37-20613)
- Current WR POU
- PLSS Township Boundaries
- PLSS Section Lines
- 40s

Brockway Engineering, PLLC
JCH - July 12, 2005

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4 Brothers Transfer #71607
Existing Irrigation Water Right 37-20613
(TWP. 6S, RNG. 18E - Section 20)



0.5 0 0.5 1 1.5 2 Miles

(Scale: 2" = 1 mile)

N
W E
S

- ESPA Model Grid
- Existing POD (37-20613)
- Current WR POU
- PLSS Township Boundaries
- PLSS Section Lines
- 40s

tway Engineering, PLLC
July 21, 2005

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EXHIBIT 17

Transfer Mitigation Through Reduced Pumping

Proposed Pumping Schedule and Mitigation with Reduced Volume

Applicar 4 Brothers Dairy Ground Water Pumping Noc (16, 13) Prepared 1/13/05 - JCH

Transfer from McCowan (S7c. 13,15) - 100% AS SUBMITTED

Years			Consumptive Volume (on 77.4 Acres)			Calculated Impact (+) is depletion							
						[Af/Year]	[Net %]	[Af/Year]	[Net %]	[Af/Year]	[Net %]	[Af/Year]	[Net %]
Begin	End	Number	Actual	Transferred	Percent	Heise/Ashton to Lewisville		Shelley to Neeley		Neeley to Minidoka		Milner to King Hill	
			Af/yr	Af/Year	pumped volun								
2004	2005	1	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2005	2006	1	77.1	231.8	33%	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-0.9
2006	2007	1	231.4	231.8	100%	0.0	0.0	0.0	0.0	-0.3	-1.1	-21.2	-13.4
2007	2008	1	231.4	231.8	100%	0.0	0.0	0.0	-0.2	-1.1	-4.4	-45.6	-28.7
2008	2009	1	231.4	231.8	100%	0.0	0.0	-0.1	-0.8	-2.2	-9.0	-60.1	-37.7
2009	2010	1	231.4	231.8	100%	0.0	-0.2	-0.3	-1.8	-3.4	-13.7	-66.3	-41.3
2010	2011	1	231.4	231.8	100%	0.0	-0.5	-0.7	-3.4	-4.5	-18.1	-67.3	-41.8
2011	2012	1	231.4	231.8	100%	0.0	-1.0	-1.0	-5.3	-5.5	-21.8	-65.6	-40.7
2012	2013	1	231.4	231.8	100%	0.0	-1.8	-1.5	-7.5	-6.4	-25.1	-62.5	-38.6
2013	2014	1	231.4	231.8	100%	0.0	-2.8	-2.0	-9.9	-7.1	-27.9	-58.6	-36.1
2014	2015	1	231.4	231.8	100%	0.0	-4.1	-2.5	-12.3	-7.8	-30.2	-54.5	-33.5
2015	2016	1	231.4	231.8	100%	-0.1	-5.6	-3.0	-14.6	-8.4	-32.2	-50.3	-30.8
2016	2017	1	231.4	231.8	100%	-0.1	-7.2	-3.6	-16.9	-8.9	-33.9	-46.2	-28.2
2017	2018	1	231.4	231.8	100%	-0.1	-9.0	-4.1	-19.1	-9.3	-35.3	-42.2	-25.7
2018	2019	1	231.4	231.8	100%	-0.1	-10.7	-4.6	-21.1	-9.6	-36.4	-38.4	-23.3
2019	2020	1	231.4	231.8	100%	-0.2	-12.5	-5.0	-22.9	-10.0	-37.4	-34.8	-21.1
2020	2021	1	231.4	231.8	100%	-0.2	-14.3	-5.4	-24.7	-10.2	-38.2	-31.4	-19.0
2021	2022	1	231.4	231.8	100%	-0.2	-16.0	-5.9	-26.2	-10.4	-38.9	-28.1	-17.0
2022	2023	1	231.4	231.8	100%	-0.2	-17.6	-6.2	-27.6	-10.6	-39.4	-25.1	-15.1
2023	2024	1	231.4	231.8	100%	-0.3	-19.2	-6.6	-28.9	-10.8	-39.8	-22.3	-13.4
2024	2025	1	231.4	231.8	100%	-0.3	-20.7	-6.9	-30.0	-10.9	-40.1	-19.6	-11.8
2025	2026	1	231.4	231.8	100%	-0.3	-22.1	-7.2	-31.1	-11.0	-40.3	-17.1	-10.2
2026	2027	1	231.4	231.8	100%	-0.3	-23.3	-7.5	-31.9	-11.1	-40.5	-14.7	-8.8
2027	2028	1	231.4	231.8	100%	-0.4	-24.5	-7.7	-32.7	-11.2	-40.5	-12.5	-7.5
2028	2029	1	231.4	231.8	100%	-0.4	-25.6	-7.9	-33.4	-11.2	-40.6	-10.5	-6.3
2029	2030	1	231.4	231.8	100%	-0.4	-26.6	-8.1	-34.0	-11.2	-40.6	-8.6	-5.1
2030	2031	1	231.4	231.8	100%	-0.4	-27.5	-8.3	-34.5	-11.3	-40.5	-6.8	-4.0
2031	2032	1	231.4	231.8	100%	-0.4	-28.3	-8.4	-35.0	-11.3	-40.4	-5.1	-3.0
2032	2033	1	231.4	231.8	100%	-0.4	-29.1	-8.6	-35.3	-11.3	-40.3	-3.5	-2.1
2033	2034	1	231.4	231.8	100%	-0.5	-29.8	-8.7	-35.6	-11.3	-40.2	-2.1	-1.2
2034	2035	1	231.4	231.8	100%	-0.5	-30.4	-8.8	-35.9	-11.2	-40.0	-0.7	-0.4
2035	2036	1	231.4	231.8	100%	-0.5	-30.9	-8.9	-36.1	-11.2	-39.8	0.6	0.3
2036	2037	1	231.4	231.8	100%	-0.5	-31.4	-9.0	-36.3	-11.2	-39.6	1.7	1.0
2037	2038	1	231.4	231.8	100%	-0.5	-31.8	-9.1	-36.4	-11.2	-39.4	2.8	1.7
2038	2039	1	231.4	231.8	100%	-0.5	-32.2	-9.1	-36.5	-11.1	-39.2	3.9	2.3
2039	2040	1	231.4	231.8	100%	-0.5	-32.5	-9.2	-36.5	-11.1	-39.0	4.8	2.9
2040	2041	1	231.4	231.8	100%	-0.5	-32.8	-9.2	-36.5	-11.0	-38.8	5.8	3.4
2041	2042	1	231.4	231.8	100%	-0.6	-33.1	-9.3	-36.5	-11.0	-38.6	6.6	3.9
2042	2043	1	231.4	231.8	100%	-0.6	-33.3	-9.3	-36.5	-11.0	-38.4	7.4	4.4
2043	2044	1	231.4	231.8	100%	-0.6	-33.5	-9.3	-36.5	-10.9	-38.2	8.1	4.8
2044	2045	1	231.4	231.8	100%	-0.6	-33.6	-9.4	-36.5	-10.9	-38.0	8.8	5.2
2045	2046	1	231.4	231.8	100%	-0.6	-33.7	-9.4	-36.4	-10.8	-37.8	9.4	5.6
2046	2047	1	219.8	231.8	95%	-0.6	-33.9	-9.4	-36.3	-10.8	-37.6	10.0	5.9
2047	2048	1	219.8	231.8	95%	-0.6	-33.9	-9.4	-36.2	-10.7	-37.4	10.4	6.1
2048	2049	1	219.8	231.8	95%	-0.6	-34.0	-9.4	-36.1	-10.7	-37.2	10.6	6.3
2049	2050	1	219.8	231.8	95%	-0.6	-34.1	-9.4	-36.0	-10.7	-37.0	10.7	6.3
2050	2051	1	219.8	231.8	95%	-0.6	-34.1	-9.4	-35.9	-10.6	-36.9	10.7	6.3
2051	2052	1	219.8	231.8	95%	-0.6	-34.1	-9.4	-35.8	-10.6	-36.8	10.7	6.3
2052	2053	1	219.8	231.8	95%	-0.6	-34.2	-9.4	-35.7	-10.6	-36.6	10.6	6.2
2053	2054	1	219.8	231.8	95%	-0.6	-34.2	-9.4	-35.7	-10.6	-36.6	10.5	6.2
2054	2055	1	219.8	231.8	95%	-0.6	-34.2	-9.4	-35.6	-10.6	-36.5	10.4	6.1
2055	2056	1	219.8	231.8	95%	-0.6	-34.2	-9.4	-35.5	-10.6	-36.4	10.4	6.1
2056	2057	1	219.8	231.8	95%	-0.6	-34.2	-9.4	-35.4	-10.5	-36.3	10.3	6.0
2057	2058	1	219.8	231.8	95%	-0.6	-34.2	-9.4	-35.3	-10.5	-36.3	10.2	6.0
2058	2059	1	219.8	231.8	95%	-0.6	-34.1	-9.4	-35.3	-10.5	-36.2	10.2	6.0
2059	2060	1	219.8	231.8	95%	-0.6	-34.1	-9.4	-35.2	-10.5	-36.2	10.1	5.9
2060	2061	1	219.8	231.8	95%	-0.6	-34.1	-9.4	-35.2	-10.5	-36.1	10.0	5.9
2061	2062	1	219.8	231.8	95%	-0.6	-34.1	-9.4	-35.1	-10.5	-36.1	10.0	5.8
2062	2063	1	219.8	231.8	95%	-0.6	-34.1	-9.4	-35.1	-10.5	-36.1	9.9	5.8
2063	2064	1	219.8	231.8	95%	-0.6	-34.1	-9.4	-35.0	-10.5	-36.0	9.9	5.8
2064	2065	1	219.8	231.8	95%	-0.6	-34.1	-9.4	-35.0	-10.5	-36.0	9.8	5.8
2065	2066	1	219.8	231.8	95%	-0.6	-34.1	-9.4	-34.9	-10.5	-36.0	9.8	5.7
2066	2067	1	219.8	231.8	95%	-0.6	-34.1	-9.4	-34.9	-10.5	-36.0	9.7	5.7
2067	2068	1	219.8	231.8	95%	-0.7	-34.1	-9.4	-34.9	-10.5	-36.0	9.7	5.7
2068	2069	1	219.8	231.8	95%	-0.7	-34.1	-9.4	-34.9	-10.5	-35.9	9.7	5.7
2069	2070	1	219.8	231.8	95%	-0.7	-34.1	-9.5	-34.8	-10.5	-35.9	9.6	5.6
2070	2071	1	219.8	231.8	95%	-0.7	-34.1	-9.5	-34.8	-10.5	-35.9	9.6	5.6
2071	2072	1	219.8	231.8	95%	-0.7	-34.1	-9.5	-34.8	-10.5	-35.9	9.6	5.6
LONG TERM			219.8	231.8	95%	-0.7	-34	-10	-35	-11	-36	9.2	5.3

Applicant must reduce annual pumping to mitigate increased depletion in Milner-King Hill Reach

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Transfer Mitigation Through Reduced Pumping

Proposed Pumping Schedule and Mitigation with Reduced Volume

Applicar 4 Brothers Dairy Ground Water Pumping Noc (16, 13) Prepared 1/13/05 - JCH

Transfer from McCowan (S7c. 13,15) - 100% RECOMMENDED SCHEDULE

Years			Consumptive Volume (on 77.4 Acres)			Calculated Impact (+) is depletion							
						[Af/Year]	[Net %]	[Af/Year]	[Net %]	[Af/Year]	[Net %]	[Af/Year]	[Net %]
Begin	End	Number	Actual	Transferred	Percent	Heise/Ashton to Lewisville		Shelley to Neeley		Neeley to Minidoka		Milner to King Hill	
			Af/yr	Af/Year	pumped volun								
2004	2005	1	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2005	2006	1	77.1	231.8	33%	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-0.9
2006	2007	1	231.4	231.8	100%	0.0	0.0	0.0	0.0	-0.3	-1.1	-21.2	-13.4
2007	2008	1	231.4	231.8	100%	0.0	0.0	0.0	-0.2	-1.1	-4.4	-45.6	-28.7
2008	2009	1	231.4	231.8	100%	0.0	0.0	-0.1	-0.8	-2.2	-9.0	-60.1	-37.7
2009	2010	1	231.4	231.8	100%	0.0	-0.2	-0.3	-1.8	-3.4	-13.7	-66.3	-41.3
2010	2011	1	231.4	231.8	100%	0.0	-0.5	-0.7	-3.4	-4.5	-18.1	-67.3	-41.8
2011	2012	1	231.4	231.8	100%	0.0	-1.0	-1.0	-5.3	-5.5	-21.8	-65.6	-40.7
2012	2013	1	231.4	231.8	100%	0.0	-1.8	-1.5	-7.5	-6.4	-25.1	-62.5	-38.6
2013	2014	1	231.4	231.8	100%	0.0	-2.8	-2.0	-9.9	-7.1	-27.9	-58.6	-36.1
2014	2015	1	231.4	231.8	100%	0.0	-4.1	-2.5	-12.3	-7.8	-30.2	-54.5	-33.5
2015	2016	1	231.4	231.8	100%	-0.1	-5.6	-3.0	-14.6	-8.4	-32.2	-50.3	-30.8
2016	2017	1	231.4	231.8	100%	-0.1	-7.2	-3.6	-16.9	-8.9	-33.9	-46.2	-28.2
2017	2018	1	231.4	231.8	100%	-0.1	-9.0	-4.1	-19.1	-9.3	-35.3	-42.2	-25.7
2018	2019	1	231.4	231.8	100%	-0.1	-10.7	-4.6	-21.1	-9.6	-36.4	-38.4	-23.3
2019	2020	1	231.4	231.8	100%	-0.2	-12.5	-5.0	-22.9	-10.0	-37.4	-34.8	-21.1
2020	2021	1	231.4	231.8	100%	-0.2	-14.3	-5.4	-24.7	-10.2	-38.2	-31.4	-19.0
2021	2022	1	231.4	231.8	100%	-0.2	-16.0	-5.9	-26.2	-10.4	-38.9	-28.1	-17.0
2022	2023	1	231.4	231.8	100%	-0.2	-17.6	-6.2	-27.6	-10.6	-39.4	-25.1	-15.1
2023	2024	1	231.4	231.8	100%	-0.3	-19.2	-6.6	-28.9	-10.8	-39.8	-22.3	-13.4
2024	2025	1	231.4	231.8	100%	-0.3	-20.7	-6.9	-30.0	-10.9	-40.1	-19.6	-11.8
2025	2026	1	231.4	231.8	100%	-0.3	-22.1	-7.2	-31.1	-11.0	-40.3	-17.1	-10.2
2026	2027	1	231.4	231.8	100%	-0.3	-23.3	-7.5	-31.9	-11.1	-40.5	-14.7	-8.8
2027	2028	1	231.4	231.8	100%	-0.4	-24.5	-7.7	-32.7	-11.2	-40.5	-12.5	-7.5
2028	2029	1	231.4	231.8	100%	-0.4	-25.6	-7.9	-33.4	-11.2	-40.6	-10.5	-6.3
2029	2030	1	231.4	231.8	100%	-0.4	-26.6	-8.1	-34.0	-11.2	-40.6	-8.6	-5.1
2030	2031	1	231.4	231.8	100%	-0.4	-27.5	-8.3	-34.5	-11.3	-40.5	-6.8	-4.0
2031	2032	1	231.4	231.8	100%	-0.4	-28.3	-8.4	-35.0	-11.3	-40.4	-5.1	-3.0
2032	2033	1	231.4	231.8	100%	-0.4	-29.1	-8.6	-35.3	-11.3	-40.3	-3.5	-2.1
2033	2034	1	231.4	231.8	100%	-0.5	-29.8	-8.7	-35.6	-11.3	-40.2	-2.1	-1.2
2034	2035	1	231.4	231.8	100%	-0.5	-30.4	-8.8	-35.9	-11.2	-40.0	-0.7	-0.4
2035	2036	1	231.4	231.8	100%	-0.5	-30.9	-8.9	-36.1	-11.2	-39.8	0.6	0.3
2036	2037	1	231.4	231.8	100%	-0.5	-31.4	-9.0	-36.3	-11.2	-39.6	1.7	1.0
2037	2038	1	231.4	231.8	100%	-0.5	-31.8	-9.1	-36.4	-11.2	-39.4	2.8	1.7
2038	2039	1	231.4	231.8	100%	-0.5	-32.2	-9.1	-36.5	-11.1	-39.2	3.9	2.3
2039	2040	1	231.4	231.8	100%	-0.5	-32.5	-9.2	-36.5	-11.1	-39.0	4.8	2.9
2040	2041	1	231.4	231.8	100%	-0.5	-32.8	-9.2	-36.5	-11.0	-38.8	5.8	3.4
2041	2042	1	219.0	231.8	94%	-0.6	-33.1	-9.3	-36.5	-11.0	-38.6	6.6	3.9
2042	2043	1	219.0	231.8	94%	-0.6	-33.3	-9.3	-36.5	-11.0	-38.4	7.2	4.2
2043	2044	1	219.0	231.8	94%	-0.6	-33.5	-9.3	-36.5	-10.9	-38.2	7.6	4.5
2044	2045	1	219.0	231.8	94%	-0.6	-33.6	-9.4	-36.5	-10.9	-38.0	7.9	4.6
2045	2046	1	219.0	231.8	94%	-0.6	-33.7	-9.4	-36.4	-10.9	-37.9	8.0	4.7
2046	2047	1	219.0	231.8	94%	-0.6	-33.9	-9.4	-36.3	-10.8	-37.7	8.1	4.8
2047	2048	1	219.0	231.8	94%	-0.6	-34.0	-9.4	-36.3	-10.8	-37.6	8.2	4.8
2048	2049	1	219.0	231.8	94%	-0.6	-34.0	-9.4	-36.2	-10.8	-37.5	8.2	4.8
2049	2050	1	219.0	231.8	94%	-0.6	-34.1	-9.4	-36.1	-10.8	-37.4	8.2	4.8
2050	2051	1	219.0	231.8	94%	-0.6	-34.1	-9.4	-36.1	-10.8	-37.3	8.3	4.9
2051	2052	1	219.0	231.8	94%	-0.6	-34.2	-9.4	-36.0	-10.7	-37.2	8.3	4.9
2052	2053	1	219.0	231.8	94%	-0.6	-34.2	-9.5	-35.9	-10.7	-37.1	8.3	4.9
2053	2054	1	219.0	231.8	94%	-0.6	-34.2	-9.5	-35.9	-10.7	-37.0	8.3	4.9
2054	2055	1	219.0	231.8	94%	-0.6	-34.3	-9.5	-35.8	-10.7	-37.0	8.3	4.9
2055	2056	1	219.0	231.8	94%	-0.6	-34.3	-9.5	-35.8	-10.7	-36.9	8.4	4.9
2056	2057	1	219.0	231.8	94%	-0.6	-34.3	-9.5	-35.7	-10.7	-36.9	8.4	4.9
2057	2058	1	219.0	231.8	94%	-0.6	-34.3	-9.5	-35.7	-10.7	-36.8	8.4	4.9
2058	2059	1	219.0	231.8	94%	-0.6	-34.3	-9.5	-35.6	-10.7	-36.8	8.4	4.9
2059	2060	1	219.0	231.8	94%	-0.6	-34.3	-9.5	-35.6	-10.7	-36.7	8.4	4.9
2060	2061	1	219.0	231.8	94%	-0.6	-34.4	-9.5	-35.5	-10.7	-36.7	8.4	4.9
2061	2062	1	219.0	231.8	94%	-0.6	-34.4	-9.5	-35.5	-10.7	-36.6	8.4	4.9
2062	2063	1	219.0	231.8	94%	-0.6	-34.4	-9.5	-35.5	-10.7	-36.6	8.4	4.9
2063	2064	1	219.0	231.8	94%	-0.6	-34.4	-9.5	-35.4	-10.7	-36.6	8.4	4.9
2064	2065	1	219.0	231.8	94%	-0.7	-34.4	-9.5	-35.4	-10.7	-36.5	8.4	4.9
2065	2066	1	219.0	231.8	94%	-0.7	-34.4	-9.5	-35.4	-10.7	-36.5	8.4	4.9
2066	2067	1	219.0	231.8	94%	-0.7	-34.4	-9.6	-35.4	-10.7	-36.5	8.4	4.9
2067	2068	1	219.0	231.8	94%	-0.7	-34.4	-9.6	-35.3	-10.7	-36.5	8.4	4.9
2068	2069	1	219.0	231.8	94%	-0.7	-34.4	-9.6	-35.3	-10.7	-36.4	8.4	4.9
2069	2070	1	219.0	231.8	94%	-0.7	-34.4	-9.6	-35.3	-10.7	-36.4	8.4	4.9
2070	2071	1	219.0	231.8	94%	-0.7	-34.4	-9.6	-35.3	-10.7	-36.4	8.4	4.9
2071	2072	1	219.0	231.8	94%	-0.7	-34.5	-9.6	-35.2	-10.7	-36.4	8.5	4.9
LONG TERM			219.0	231.8	94%	-0.7	-35	-10	-35	-11	-36	8.4	4.9

Applicant must reduce annual pumping to mitigate increased depletion in Milner-King Hill Reach

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EXHIBIT 18

LINCOLN COUNTY PLANNING AND ZONING
WENDELL JOHNSON ADMINISTRATOR

111 WEST B STREET, SUITE A
SHOSHONE, ID 83352

(208) 886-2161
FAX (208) 886-2707

4 BROS DAIRY INC
425 NORTH 250 WEST
SHOSHONE ID 83352

MAY 4, 2005

DEAR 4 BROS DAIRY

THIS LETTER IS TO CERTIFY THAT AS OF THIS DAY YOU ARE IN COMPLIANCE WITH THE ANIMAL UNITS REGISTERED ON YOUR CAFO, REGISTRATION #2002001.

IF THERE ARE ANY QUESTIONS REGUARDING THIS SITING PLEASE FEEL FREE TO CONTACT ME AT MY OFFICE.

THANK YOU,

WENDELL JOHNSON
ADMINISTATOR

EXHIBIT
Hooker
18

LINCOLN COUNTY SITING REGISTRATION

4 Bros. Dairy Inc.

HAS BEEN REGISTERED FOR 7258 ANIMAL UNITS. YOU MAY INCREASE YOUR ANIMAL UNITS TO A TOTAL OF 10,887. BEYOND THIS NUMBER WILL REQUIRE A SITING PERMIT.

LOCATED AT THE FOLLOWING LEGAL DESCRIPTION:

E ½ E ½ & NW NE

Sec 8, T5S, R 17 EBM

May 4, 2005
DATE

Wendell Johnson
WENDELL JOHNSON
P&Z ADMINISTRATOR

REGISTRATION # 2002001

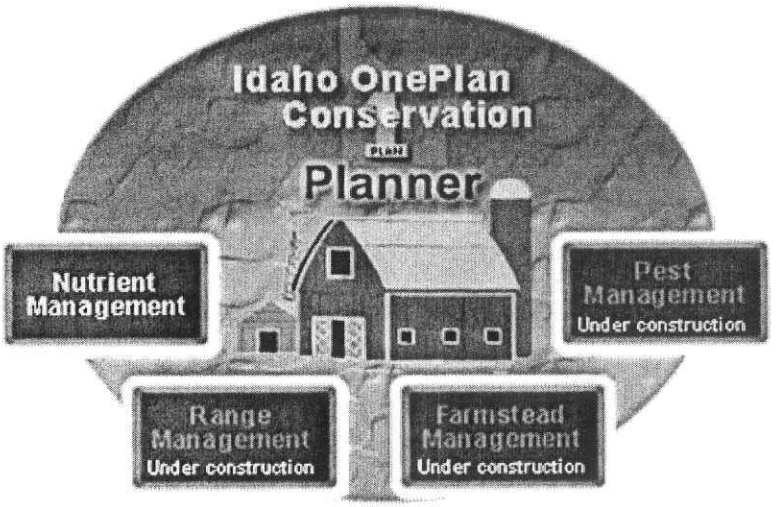
EXHIBIT 19

Four Brothers Dairy

Nutrient Management Plan

Agriculture . . .

Launching into the Future



Nutrient Management Plan Prepared For:

Jerome, Andy, Clem Fitzgerald
(1208) 886-7716
Four Brothers Dairy

Certified Planner:

Dustin Olsen
Nutrient Management Specialist, ISDA
(208) 736-2175

Producer Signature: _____ Certificated Planner Signature: _____

Date Completed: 7-15-05

The information provided by those using the "Idaho OnePlan" shall be deemed to be trade secrets, production records, or other proprietary information and shall be kept confidential and shall be exempt from enclosure pursuant to section 9-340D, Idaho Code. (Title 22 Chapter 27.17D6)

EXHIBIT
19

PRODUCER SUMMARY

Facility Summary

Four Brothers Dairy, is an existing facility that is located at 427 N 250 W Shoshone, ID 83352. It is owned and operated by Jerome, Andrew, Lawrence, and Clem Fitzgerald. The dairy currently milks approximately 4500 Holstein and Holstein-Jersey cross cows. The Fitzgeralds anticipate expanding over the next several years to the following numbers for which the nutrient management plan has been written. 6,800 milk cows, 1200 dry cows, 200 mature bulls, 200 young bulls, 2000 calves and 4000 heifers. Dairy cow weight is approximately 1350 lbs. The mature bulls average 1600 lbs, the young bulls 650 lbs, the calves 275 lbs and heifers 800 lbs. The milking cows, dry cows, bulls and heifers are all housed in open lots, the calves are in hutches or under sheds. The cows will be milked in four different barns. Due to the OnePlan program limitations, the manure from all four herds and the water usage from the four barns has been grouped together and will be treated as if it came from one dairy.

Resource Concerns

The facility is located in the Big Wood Hydrologic Unit # 17040219, approximately one mile from the Big Wood River. This stream segment is water quality limited for Bacteria, Dissolved Oxygen, Flow Alteration, Nitrates, Nutrients and Sediment. This facility is located at GPS coordinates 43° 0.65 N and 114° 26.93 W and legal address Township 5 S, Range 17 E, Section 9.

The primary resource concern on the facility is groundwater. The dairy's fields have been bermed to prevent runoff from leaving the property. The fields at the Gooding farm, are not bermed and will be treated as a surface water concern. Refer to ISDA Regulations and the Idaho Nutrient Management Standard section in the OnePlan Nutrient Management Plan (OnePlan NMP) printout for Threshold standards and Threshold for individual fields. Threshold for individual fields may also be found in the Nutrient Risk Analysis section of OnePlan NMP.

Storage and Handling Plan Requirements

Wastewater applications should begin and end with the irrigation season. Depending on weather and soil conditions, applications outside of this window may be allowed. Lagoons must be emptied in the fall. Fall application of effluent must be completed prior to November 15th. No application will be allowed to frozen or snow covered ground. Spring applications prior to the start of the irrigation season may be allowed if moisture or nutrients are needed to enhance crop production. You must contact the Department of Agriculture, Dairy Bureau (208) 332-8550 prior to any wastewater application outside of the irrigation season. The need for wastewater application outside of the irrigation season will be evaluated on a case by case basis. Factors considered in granting approval will be but are not limited to the following; date, existing and forecasted weather conditions, moisture content of the soil, water holding capacity of the soil, frost

layers in the soil, and crop needs.

This facility has 14 storage ponds that together provide an estimated 14,508,225 cubic feet of storage. There will also be two lagoons constructed to contain wastewater from the new barn #4. Together these lagoons will need to contain approximately 1,700,000 cubic feet of liquid. In order to contain all of the wastewater produced on the dairy the producer will need approximately 7 million cubic feet of liquid storage. The current lagoon system is adequate to meet the 180-day storage requirement. In order to minimize the nutrients entering the lagoon system, the feed alleys on the barn 2 corrals will no longer be flushed and additional pipelines installed to provide just over 500 acres for liquid manure application. By eliminating the flush system on barn 2 and increasing the acreage available for liquid manure application, the producers should have adequate ground to apply all of the liquid manure produced on the dairy at an agronomic rate. In addition to the ground owned and by dairy that is used for manure application, the facility will need approximately 5721 acres of third party ground for waste application. The dairy currently has agreements to apply manure on approximately 6500 acres of third party ground. A list of third party recipients is included in the plan. Refer to the Containment Of Milk Center Waste And Corral Runoff section of the OnePlan NMP.

Nutrient Management Plan Requirements

The producer will maintain field level records for a minimum of five years. As applicable, records include.

Records must be kept on the following items;

- Soil tests. If nutrients are applied on an annual basis, annual soil tests are required. If nutrients are not applied to a crop for example 2nd, 3rd or 4th year alfalfa, soil tests are required prior to any nutrient application.
- Quantities, analyses and sources of nutrients applied.
- Approximate dates and methods nutrients were applied.
- Crops planted, planting and harvest dates, yields, and crop residues removed.
- Dates of annual review and person performing the review and recommendations that resulted from the review.

Refer to the Application Rate Table shown in your nutrient management plan to find the amounts of nutrients that should be applied.

Facility Testing Requirements

Regulatory soil phosphorus samples are required from each Field every 3-5 years. Samples will be taken from the 0-12" soil depth for surface water concerns, and the 18-24" depth for groundwater concerns. The samples will be reviewed for phosphorus level and compared with previous test data. These

tests will indicate compliance with the nutrient management plan. The producer is not responsible to take or analyze these samples. Refer to the Field Phosphorus Threshold table in Resource Concern section of the OnePlan NMP printout for individual field's resource concerns and phosphorus threshold.

Recommendations

During extreme weather events that produce large amounts of runoff the heifer lagoons should be monitored closely. If they are becoming full, they should be pumped into another lagoon to ensure that all liquid runoff can be contained.

2) Assess resource concerns which exist on the property.

3) Budget nutrient sources to optimize crop water and nutrient needs. Nutrient sources include commercial fertilizers, animal manure, mineralization of previous crop soil organic matter, accounting of residues, and irrigation water.

4) When applicable, assess irrigation water management to minimize movement of nutrients beyond the root zone or with runoff.

If animal manure and/or commercial fertilizers are not properly managed, contaminants may negatively impact surface and/or groundwater. Some water resource contaminants associated with poorly managed animal manure and fertilizers are:

Phosphorus in the soil readily adsorbs to soil particles; thus, erosion of soil by surface runoff is the general mode of phosphorus transport. Even at very low concentrations, phosphorus can result in plant and algae blooms in surface water bodies. Alga blooms are a nuisance to boaters, irrigators, and others. Toxins released by certain algae can be lethal to livestock or other animals that drink the water. Dissolved oxygen in the water is depleted as algae die and decompose, sometimes causing fish kills.

Nitrogen in the form of nitrate (NO_3^-) is highly water-soluble and will move with water, particularly down the soil profile past the root zone if not utilized by plants (thus becoming a groundwater contamination issue).Nitrates are toxic to infants under 6 months, and to livestock at high concentrations. In surface water, excess nitrogen, like phosphorus, can result in nuisance plant and algae growth.

Organic matter in high load decreases dissolved oxygen in a surface water body when it decomposes. Low levels of dissolved oxygen is harmful or even fatal to fish and other aquatic life.

Bacteria and microorganism illnesses (pathogens) potentially transmitted through water by animal manure include Giardia, Typhoid Fever, Cryptosporidium, and Cholera. Pathogens from animal waste can negatively impact surface and groundwater quality.

FACILITY DESCRIPTION

Owner Information

Owner (1): Jerome, Andy, Clem Fitzgerald
Address: 427 N 250 W, Shoshone, ID
Phone: (1208) 886-7716 Office

Location
Site Map: Facility site plan illustrated in Figure 1

Soil Conservation District: Wood River
County: Lincoln
Watershed Basin: Big Wood (USGS Hydrologic Unit Code # 17040219)

ANALYSIS OF RESOURCE CONCERNS

Farm Resource Concerns

Four Brothers Dairy is located in a watershed containing water quality limited stream segments listed according to the Clean Water Act. Stream segments are listed because a water quality parameter prevents the attainment of the "Fishable/Swimmable" goal of the Clean Water Act.

WATERBODY	BOUNDARIES	BACT	CHAN STAB	DO	FLOW ALT	HAB ALT	MET HG	MET	NH3	NUTR	O_G	ORG	PEST	PH	SAL	SED	TDG	TEMP	UNKN	*
Baker Creek	Headwaters to Norton Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	☐
Big Wood River	Glendale Diversion to T1NR18ES35	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	☐
Big Wood River	Highway 75 to Little Wood River	1	0	1	1	0	0	0	1	1	0	0	0	0	0	1	0	0	0	☐
Big Wood River	Little Wood River to Interstate	1	0	1	1	0	0	0	1	1	0	0	0	0	0	1	0	0	0	☑
Big Wood River	Magic Reservoir to Highway 75	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	☐
Big Wood River	Trail Creek to Glendale Diversion	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	☐
Cove Creek	Headwaters to East Fk Wood River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	☐
Croy Creek	Elk Creek to Big Wood River	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	☐
Eagle Creek	Headwaters to Big Wood River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	☐
East Fork Rock	Headwaters to Rock Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	☐
East Fork Wood	Headwaters to Blind Canyon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	☐
Greenhorn Cree	Headwaters to Big Wood River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	☐
Horse Creek	Headwaters to Big Wood River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	☐
Lake Creek	Headwaters to Big Wood River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	☐
Owl Creek	Headwaters to Big Wood River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	☐
Placer Creek	Headwaters to Warm Springs Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	☐
Quigley Creek	Headwaters to mouth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	☐
Rock Creek	Headwaters to Magic Reservoir	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	☐
Seamans Creek	Headwaters to Big Wood River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	☐

Thorn Creek	Thorn Reservoir to Schooler Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	☐

WATERBODY	BOUNDARIES	BACT	CHAN STAB	DO	FLOW ALT	HAB ALT	MET HG	MET	NH3	NUTR	O_G	ORG	PEST	PH	SAL	SED	TDG	TEMP	UNKN	*
Dry Creek	Headwaters to Little Wood River	1	0	1	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	☐
Fish Creek	Fish Creek Reservoir to Carey Lake	1	0	1	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	☐
Fish Creek	Headwaters to Fish Creek Reservoir	1	0	1	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	☐
Fish Creek Res	N/A	1	0	1	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	☐
Little Wood Ri	N/A	1	0	1	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	☐
Little Wood Ri	East Canal Diversion to Silver Cr	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	☐
Little Wood Ri	East Canal Diversion to Silver Cr	1	0	1	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	☐
Little Wood Ri	Richfield (town) to Big Wood River	1	0	1	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	☑
Little Wood Ri	Silver Creek to Richfield (town)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	☐
Loving Creek	Headwaters to Silver Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	☐
Muldoon Creek	South Fk Muldoon Creek to Little Wood River	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	☐

Four Brothers Dairy is located in a critical Nitrate-Nitrogen management area **Wood River, Priority 2.** Nitrate Management Areas are designated based upon ground water quality sampling results. Two priority groups exist as follows:

Priority 1 is designated because at least 25% of the ground water sampling locations within the area exceed 5-milligrams/liter nitrate. This is one-half of the maximum contaminant level of 10-milligrams/liter nitrate. This nitrate concentration is considered evidence of significant degradation. Public drinking water systems are required to increase monitoring frequency when this level is reached.

Priority 2 is designated because at least 50% of the ground water sampling locations within the area exceed 2-milligrams/liter nitrate. This concentration threshold provides an indication of human-caused (anthropogenic) impacts. The upper limit for naturally occurring (background) concentrations of nitrate is considered to be about 2 mg/l.

Four Brothers Dairy is located in a sole source aquifer area - Eastern Snake River Plain Aquifer.

Field Resource Concerns

- **No Resource Concerns -**

Depth Limiting Subsurface Features

Field Name	Subsurface Feature	Depth from Surface (in)
Buckwald	Hard Pan	40
	Fractured Bedrock	25
	Water Table	>72
Field 26	Hard Pan	40
	Fractured Bedrock	25
	Water Table	>72
Hubbs	Hard Pan	20
	Fractured Bedrock	21
	Water Table	>72
Kelly	Hard Pan	40
	Fractured Bedrock	25
	Water Table	>72
Mini Pivot	Hard Pan	20
	Fractured Bedrock	13
	Water Table	>72
Pantone	Hard Pan	40
	Fractured Bedrock	25
	Water Table	>72
Pierce	Hard Pan	40
	Fractured Bedrock	25
	Water Table	>72
Sandy North	Hard Pan	40
	Fractured Bedrock	25
	Water Table	>72
Sandy South	Cobbles	23
	Fractured Bedrock	25
	Water Table	>72
Sherman	Hard Pan	40
	Fractured Bedrock	25
	Water Table	>72
Silva #1	Hard Pan	40
	Fractured Bedrock	25
	Water Table	>72
Silva #2	Fractured Bedrock	10
	Water Table	>72
Silva #3	Hard Pan	40

	Fractured Bedrock	25
	Water Table	>72
Zimmatic	Hard Pan	20
	Fractured Bedrock	13
	Water Table	>72
Dietrich 1/2 Pivot	Fractured Bedrock	12
	Water Table	>72
Dietrich 3/4 Pivot	Fractured Bedrock	21
	Water Table	>72
Dietrich Big Pivot	Fractured Bedrock	12
	Water Table	>72
Guthrie	Hard Pan	40
	Fractured Bedrock	25
	Water Table	>72
Sant	Hard Pan	20
	Fractured Bedrock	21
	Water Table	>72
Adams Pivot	Hard Pan	20
	Fractured Bedrock	40
	Water Table	>72
Fields 6&7	Hard Pan	20
	Fractured Bedrock	25
	Water Table	>72
North Ranch 1/2 Pivot	Cobbles	23
	Hard Pan	20
	Fractured Bedrock	10
	Water Table	>72
North Ranch Big Pivot	Hard Pan	20
	Fractured Bedrock	25
	Water Table	>72
North Ranch Mini	Hard Pan	20
	Fractured Bedrock	10
	Water Table	>72
North Ranch Swing	Hard Pan	20
	Fractured Bedrock	40
	Water Table	>72

Well Testing Results (See back of page):

Well	Date	Hardness	EC	PH	K	Nitrates	Nitrites	NH3	Na	Carbonate	Bicarbonate
No	No	No Data	No	No	No	No	No	No	No	No Data	No Data

PRODUCER SUMMARY

Manure Application Rate Requirement By Year

FIELD: Buckwald 70 acres

Name	Man App		Separated Solid(s)	Solid Stack(s)	Mineralization		Total	
Oats, Irrigated(2004)	Y		0 T/ac	0 T/ac				
		N	0	0	N	0	N	0
		P	0	0			P	0
		K	0	0			K	0
Alfalfa Hay, Irrigated South ID-Cut Immature(2005)	Y		0 T/ac	42 T/ac				
		N	0	89	N	-38	N	51
		P	0	143			P	143
		K	0	313			K	313
Alfalfa Hay, Irrigated South ID-Cut Immature(2006)	N							
		N	N	50	N	50		
		P			P	0		
		K			K	0		
Alfalfa Hay, Irrigated South ID-Cut Immature(2007)	N							
		N	N	0	N	0		
		P			P	0		
		K			K	0		
Oats, Irrigated(2008)	Y		0 T/ac	42 T/ac				
		N	0	89	N	0	N	89
		P	0	143			P	143
		K	0	313			K	313
Corn-Field Silage, Irrigated South ID(2009)	Y		0 T/ac	42 T/ac				
		N	0	89	N	50	N	139
		P	0	143			P	143
		K	0	313			K	313
Oats, Irrigated(2010)	Y		0 T/ac	42 T/ac				
		N	0	89	N	50	N	139
		P	0	143			P	143
		K	0	313			K	313

FIELD: Field 26 16 acres

Name	Man App		Separated Solid(s)	Solid Stack(s)	Waste Storage Pond(s)	Mineralization		Total	
Alfalfa Hay, Irrigated South ID-Cut Immature(2004)	Y		0 T/ac	0 T/ac	0 %				
		N	0	0	0	N	0	N	0
		P	0	0	0			P	0
		K	0	0	0			K	0

Alfalfa Hay, Irrigated South ID-Cut Immature(2005)	Y		0 T/ac	25 T/ac	0 %					
		N	0	54	0	N	0	N	54	
		P	0	86	0			P	86	
		K	0	189	0			K	189	
Oats, Irrigated(2006)	Y		0 T/ac	25 T/ac	0 %					
		N	0	54	0	N	64	N	118	
		P	0	86	0			P	86	
		K	0	189	0			K	189	
Oats, Irrigated(2007)	Y		0 T/ac	25 T/ac	0 %					
		N	0	54	0	N	30	N	84	
		P	0	86	0			P	86	
		K	0	189	0			K	189	
Oats, Irrigated(2008)	Y		0 T/ac	25 T/ac	0 %					
		N	0	54	0	N	30	N	84	
		P	0	86	0			P	86	
		K	0	189	0			K	189	
Alfalfa Hay, Irrigated South ID-Cut Immature(2009)	Y		0 T/ac	25 T/ac	0 %					
		N	0	54	0	N	30	N	84	
		P	0	86	0			P	86	
		K	0	189	0			K	189	
Alfalfa Hay, Irrigated South ID-Cut Immature(2010)	Y		0 T/ac	25 T/ac	0 %					
		N	0	54	0	N	30	N	84	
		P	0	86	0			P	86	
		K	0	189	0			K	189	

FIELD: Hubbs 45 acres

Name	Man App		Separated Solid(s)	Solid Stack(s)	Waste Storage Pond(s)	Mineralization		Total	
Corn-Field Silage, Irrigated South ID(2004)	Y		0 T/ac	0 T/ac	0 %				
		N	0	0	0	N	0	N	0
		P	0	0	0			P	0
		K	0	0	0			K	0
Oats, Irrigated(2005)	Y		0 T/ac	6 T/ac	9 %				
		N	0	12	25	N	-10	N	27
		P	0	20	76			P	96
		K	0	43	148			K	191
Alfalfa Hay, Irrigated South ID-Cut Immature(2006)	Y		0 T/ac	6 T/ac	9 %				
		N	0	12	25	N	-17	N	20
		P	0	20	76			P	96
		K	0	43	148			K	191
Alfalfa Hay, Irrigated South ID-Cut Immature(2007)	Y		0 T/ac	12 T/ac	6 %				
		N	0	27	17	N	21	N	65
		P	0	43	52			P	95
		K	0	94	102			K	196

Alfalfa Hay, Irrigated South ID-Cut Immature(2008)	Y		0 T/ac	6 T/ac	9 %				
		N	0	12	25	N	25	N	62
		P	0	20	76			P	96
		K	0	43	148			K	191
Oats, Irrigated(2009)	Y		0 T/ac	12 T/ac	6 %				
		N	0	27	17	N	21	N	65
		P	0	43	52			P	95
		K	0	94	102			K	196
Corn-Field Silage, Irrigated South ID(2010)	Y		0 T/ac	6 T/ac	9 %				
		N	0	13	25	N	24	N	62
		P	0	21	75			P	96
		K	0	45	146			K	191

FIELD: Kelly 64 acres

Name	Man App		Separated Solid(s)	Solid Stack(s)	Waste Storage Pond(s)	Mineralization		Total	
Alfalfa Hay, Irrigated South ID-Cut Immature(2004)	Y		0 T/ac	0 T/ac	0 %				
		N	0	0	0	N	0	N	0
		P	0	0	0			P	0
		K	0	0	0			K	0
N/A - No Second Crop(2004)	N								
		N	N	0	N	0			
		P			P	0			
		K			K	0			
Alfalfa Hay, Irrigated South ID-Cut Immature(2005)	Y		0 T/ac	13 T/ac	7 %				
		N	0	12	6	N	0	N	18
		P	0	46	43			P	89
		K	0	101	84			K	185
Triticale-Winter, Irrigated South ID(2005)	Y		0 T/ac	13 T/ac	7 %				
		N	0	17	8	N	125	N	150
		P	0	46	43			P	89
		K	0	101	84			K	185
Corn-Field Silage, Irrigated South ID(2006)	Y		0 T/ac	5 T/ac	11 %				
		N	0	5	9	N	27	N	41
		P	0	18	71			P	89
		K	0	40	138			K	178
N/A - No Second Crop(2006)	N								
		N	N	50	N	50			
		P			P	0			
		K			K	0			
Corn-Field Silage, Irrigated South ID(2007)	Y		0 T/ac	13 T/ac	7 %				
		N	0	12	6	N	17	N	35
		P	0	46	43			P	89
		K	0	101	84			K	185

Triticale-Winter, Irrigated South ID(2007)	Y		0 T/ac	13 T/ac	7 %				
		N	0	17	8	N	82	N	107
		P	0	46	43			P	89
		K	0	101	84			K	185
Corn-Field Silage, Irrigated South ID(2008)	Y		0 T/ac	5 T/ac	11 %				
		N	0	4	9	N	27	N	40
		P	0	18	71			P	89
		K	0	39	138			K	177
N/A - No Second Crop(2008)	N								
		N	N	49	N	49			
		P			P	0			
		K			K	0			
Alfalfa Hay, Irrigated South ID-Cut Immature(2009)	Y		0 T/ac	5 T/ac	11 %				
		N	0	4	9	N	17	N	30
		P	0	18	71			P	89
		K	0	39	139			K	178
N/A - No Second Crop(2009)	N								
		N	N	32	N	32			
		P			P	0			
		K			K	0			
Alfalfa Hay, Irrigated South ID-Cut Immature(2010)	Y		0 T/ac	5 T/ac	11 %				
		N	0	4	9	N	8	N	21
		P	0	18	71			P	89
		K	0	39	138			K	177
N/A - No Second Crop(2010)	N								
		N	N	32	N	32			
		P			P	0			
		K			K	0			

FIELD: Mini Pivot 36 acres

Name	Man App		Separated Solid(s)	Solid Stack(s)	Waste Storage Pond(s)	Mineralization		Total	
Corn-Field Silage, Irrigated South ID(2004)	Y		0 T/ac	0 T/ac	0 %				
		N	0	0	0	N	0	N	0
		P	0	0	0			P	0
		K	0	0	0			K	0
Oats, Irrigated(2005)	Y		0 T/ac	15 T/ac	4 %				
		N	0	32	14	N	-10	N	36
		P	0	52	43			P	95
		K	0	113	84			K	197
Alfalfa Hay, Irrigated South ID-Cut Immature(2006)	Y		0 T/ac	7 T/ac	6 %				
		N	0	15	24	N	-12	N	27
		P	0	24	71			P	95
		K	0	53	138			K	191

Alfalfa Hay, Irrigated South ID-Cut Immature(2007)	Y		0 T/ac	15 T/ac	4 %				
		N	0	32	14	N	21	N	67
		P	0	52	43			P	95
		K	0	113	84			K	197
Alfalfa Hay, Irrigated South ID-Cut Immature(2008)	Y		0 T/ac	7 T/ac	6 %				
		N	0	15	24	N	26	N	65
		P	0	24	71			P	95
		K	0	53	138			K	191
Oats, Irrigated(2009)	Y		0 T/ac	7 T/ac	6 %				
		N	0	15	24	N	21	N	60
		P	0	24	71			P	95
		K	0	53	139			K	192
Corn-Field Silage, Irrigated South ID(2010)	Y		0 T/ac	7 T/ac	6 %				
		N	0	15	24	N	21	N	60
		P	0	24	71			P	95
		K	0	53	138			K	191

FIELD: Pantone 85 acres

Name	Man App		Separated Solid(s)	Solid Stack(s)	Waste Storage Pond(s)	Mineralization		Total	
Alfalfa Hay, Irrigated South ID-Cut Immature(2004)	Y		0 T/ac	0 T/ac	0 %				
		N	0	0	0	N	0	N	0
		P	0	0	0			P	0
		K	0	0	0			K	0
Alfalfa Hay, Irrigated South ID-Cut Immature(2005)	Y		0 T/ac	10 T/ac	13 %				
		N	0	23	20	N	0	N	43
		P	0	36	59			P	95
		K	0	79	115			K	194
Alfalfa Hay, Irrigated South ID-Cut Immature(2006)	Y		0 T/ac	2 T/ac	19 %				
		N	0	5	29	N	23	N	57
		P	0	8	87			P	95
		K	0	17	171			K	188
Oats, Irrigated(2007)	Y		0 T/ac	2 T/ac	19 %				
		N	0	5	29	N	19	N	53
		P	0	8	87			P	95
		K	0	17	171			K	188
Corn-Field Silage, Irrigated South ID(2008)	Y		0 T/ac	2 T/ac	19 %				
		N	0	5	29	N	19	N	53
		P	0	8	87			P	95
		K	0	17	171			K	188
Oats, Irrigated(2009)	Y		0 T/ac	10 T/ac	13 %				
		N	0	23	20	N	19	N	62
		P	0	36	59			P	95
		K	0	79	116			K	195

Alfalfa Hay, Irrigated South ID-Cut Immature(2010)	Y		0 T/ac	2 T/ac	19 %					
		N	0	5	29		N	23	N	57
		P	0	8	87				P	95
		K	0	17	171				K	188

FIELD: Pierce 58 acres

Name	Man App		Separated Solid(s)	Solid Stack(s)	Mineralization		Total	
Alfalfa Hay, Irrigated South ID-Cut Immature(2004)	N							
		N	N	0	N	0		
		P			P	0		
		K			K	0		
Alfalfa Hay, Irrigated South ID-Cut Immature(2005)	N							
		N	N	0	N	0		
		P			P	0		
		K			K	0		
Oats, Irrigated(2006)	Y		0 T/ac	42 T/ac				
		N	0	89	N	34	N	123
		P	0	143			P	143
		K	0	313			K	313
Corn-Field Silage, Irrigated South ID(2007)	Y		0 T/ac	42 T/ac				
		N	0	89	N	50	N	139
		P	0	143			P	143
		K	0	313			K	313
Oats, Irrigated(2008)	Y		0 T/ac	42 T/ac				
		N	0	89	N	50	N	139
		P	0	143			P	143
		K	0	313			K	313
Alfalfa Hay, Irrigated South ID-Cut Immature(2009)	Y		0 T/ac	42 T/ac				
		N	0	89	N	50	N	139
		P	0	143			P	143
		K	0	313			K	313
Alfalfa Hay, Irrigated South ID-Cut Immature(2010)	N							
		N	N	50	N	50		
		P			P	0		
		K			K	0		

FIELD: Sandy North 77 acres

Name	Man App		Separated Solid(s)	Solid Stack(s)	Waste Storage Pond(s)	Mineralization		Total	
Corn-Field Silage, Irrigated South ID(2004)	Y		0 T/ac	0 T/ac	0 %				
		N	0	0	0	N	0	N	0
		P	0	0	0			P	0

		K	0	0	0			K	0	
N/A - No Second Crop(2004)	N									
		N	N	-10	N	-10				
		P			P	0				
		K			K	0				
Corn-Field Silage, Irrigated South ID(2005)	Y		0 T/ac	9 T/ac	11 %					
		N	0	8	8	N	0	N	16	
		P	0	30	59			P	89	
		K	0	66	115			K	181	
Triticale-Winter, Irrigated South ID(2005)	Y		0 T/ac	9 T/ac	11 %					
		N	0	11	12	N	53	N	76	
		P	0	30	59			P	89	
		K	0	66	115			K	181	
Corn-Field Silage, Irrigated South ID(2006)	Y		0 T/ac	0 T/ac	17 %					
		N	0	0	12	N	24	N	36	
		P	0	2	87			P	89	
		K	0	4	171			K	175	
N/A - No Second Crop(2006)	N									
		N	N	44	N	44				
		P			P	0				
		K			K	0				
Alfalfa Hay, Irrigated South ID-Cut Immature(2007)	Y		0 T/ac	0 T/ac	17 %					
		N	0	0	12	N	15	N	27	
		P	0	2	87			P	89	
		K	0	4	171			K	175	
N/A - No Second Crop(2007)	N									
		N	N	28	N	28				
		P			P	0				
		K			K	0				
Alfalfa Hay, Irrigated South ID-Cut Immature(2008)	Y		0 T/ac	0 T/ac	17 %					
		N	0	0	12	N	7	N	19	
		P	0	2	87			P	89	
		K	0	4	171			K	175	
N/A - No Second Crop(2008)	N									
		N	N	28	N	28				
		P			P	0				
		K			K	0				
Alfalfa Hay, Irrigated South ID-Cut Immature(2009)	Y		0 T/ac	9 T/ac	11 %					
		N	0	8	8	N	7	N	23	
		P	0	30	59			P	89	
		K	0	66	115			K	181	
Triticale-Winter, Irrigated South ID(2009)	Y		0 T/ac	9 T/ac	12 %					
		N	0	11	12	N	78	N	101	
		P	0	30	59			P	89	

		K	0	66	116			K	182
Corn-Field Silage, Irrigated South ID(2010)	Y		0 T/ac	0 T/ac	17 %				
		N	0	0	12	N	24	N	36
		P	0	2	87			P	89
		K	0	4	171			K	175
N/A - No Second Crop(2010)	N								
		N	N	44	N	44			
		P			P	0			
		K			K	0			

FIELD: Sandy South 60 acres

Name	Man App		Separated Solid(s)	Solid Stack(s)	Mineralization		Total	
Alfalfa Hay, Irrigated South ID-Cut Immature(2004)	Y		0 T/ac	0 T/ac				
		N	0	0	N	0	N	0
		P	0	0			P	0
		K	0	0			K	0
N/A - No Second Crop(2004)	N							
		N	N	0	N	0		
		P			P	0		
		K			K	0		
Alfalfa Hay, Irrigated South ID-Cut Immature(2005)	N							
		N	N	0	N	0		
		P			P	0		
		K			K	0		
N/A - No Second Crop(2005)	N							
		N	N	0	N	0		
		P			P	0		
		K			K	0		
Alfalfa Hay, Irrigated South ID-Cut Immature(2006)	N							
		N	N	0	N	0		
		P			P	0		
		K			K	0		
Triticale-Winter, Irrigated South ID(2006)	Y		0 T/ac	34 T/ac				
		N	0	44	N	45	N	89
		P	0	118			P	118
		K	0	259			K	259
Corn-Field Silage, Irrigated South ID(2007)	Y		0 T/ac	34 T/ac				
		N	0	30	N	29	N	59
		P	0	118			P	118
		K	0	259			K	259
N/A - No Second Crop(2007)	N							
		N	N	69	N	69		
		P			P	0		

		K			K	0		
Corn-Field Silage, Irrigated South ID(2008)	Y		0 T/ac	34 T/ac				
		N	0	30	N	33	N	63
		P	0	118			P	118
		K	0	259			K	259
Triticale-Winter, Irrigated South ID(2008)	Y		0 T/ac	34 T/ac				
		N	0	44	N	114	N	158
		P	0	118			P	118
		K	0	259			K	259
Corn-Field Silage, Irrigated South ID(2009)	Y		0 T/ac	34 T/ac				
		N	0	30	N	46	N	76
		P	0	118			P	118
		K	0	259			K	259
N/A - No Second Crop(2009)	N							
		N	N	93	N	93		
		P			P	0		
		K			K	0		
Alfalfa Hay, Irrigated South ID-Cut Immature(2010)	Y		0 T/ac	34 T/ac				
		N	0	30	N	33	N	63
		P	0	118			P	118
		K	0	259			K	259
N/A - No Second Crop(2010)	N							
		N	N	69	N	69		
		P			P	0		
		K			K	0		

FIELD: Sherman 88 acres

Name	Man App		Separated Solid(s)	Solid Stack(s)	Mineralization		Total	
Corn-Field Silage, Irrigated South ID(2004)	Y		0 T/ac	0 T/ac				
		N	0	0	N	0	N	0
		P	0	0			P	0
		K	0	0			K	0
N/A - No Second Crop(2004)	N							
		N	N	-10	N	-10		
		P			P	0		
		K			K	0		
Corn-Field Silage, Irrigated South ID(2005)	Y		0 T/ac	34 T/ac				
		N	0	30	N	0	N	30
		P	0	118			P	118
		K	0	259			K	259
Triticale-Winter, Irrigated South ID(2005)	Y		0 T/ac	34 T/ac				
		N	0	44	N	74	N	118
		P	0	118			P	118

		K	0	259			K	259	
Corn-Field Silage, Irrigated South ID(2006)	Y		0 T/ac	34 T/ac					
		N	0	30	N	46	N	76	
		P	0	118			P	118	
		K	0	259			K	259	
N/A - No Second Crop(2006)	N								
		N	N	93	N	93			
		P			P	0			
		K			K	0			
Alfalfa Hay, Irrigated South ID-Cut Immature(2007)	Y		0 T/ac	34 T/ac					
		N	0	30	N	33	N	63	
		P	0	118			P	118	
		K	0	259			K	259	
N/A - No Second Crop(2007)	N								
		N	N	69	N	69			
		P			P	0			
		K			K	0			
Alfalfa Hay, Irrigated South ID-Cut Immature(2008)	N								
		N	N	16	N	16			
		P			P	0			
		K			K	0			
N/A - No Second Crop(2008)	N								
		N	N	25	N	25			
		P			P	0			
		K			K	0			
Alfalfa Hay, Irrigated South ID-Cut Immature(2009)	N								
		N	N	0	N	0			
		P			P	0			
		K			K	0			
Triticale-Winter, Irrigated South ID(2009)	Y		0 T/ac	34 T/ac					
		N	0	44	N	45	N	89	
		P	0	118			P	118	
		K	0	259			K	259	
Corn-Field Silage, Irrigated South ID(2010)	Y		0 T/ac	34 T/ac					
		N	0	30	N	29	N	59	
		P	0	118			P	118	
		K	0	259			K	259	
N/A - No Second Crop(2010)	N								
		N	N	69	N	69			
		P			P	0			
		K			K	0			

FIELD: Silva #1 36 acres

Name	Man App		Separated Solid(s)	Solid Stack(s)	Waste Storage Pond(s)	Mineralization		Total	
			0 T/ac	0 T/ac	0 %				
Corn-Field Silage, Irrigated South ID(2004)	Y	N	0	0	0	N	0	N	0
		P	0	0	0			P	0
		K	0	0	0			K	0
N/A - No Second Crop(2004)	N								
		N	N	-10	N	-10			
		P			P	0			
		K			K	0			
			0 T/ac	4 T/ac	7 %				
Alfalfa Hay, Irrigated South ID-Cut Immature(2005)	Y	N	0	3	10	N	0	N	13
		P	0	14	76			P	90
		K	0	30	148			K	178
N/A - No Second Crop(2005)	N								
		N	N	20	N	20			
		P			P	0			
		K			K	0			
			0 T/ac	4 T/ac	7 %				
Alfalfa Hay, Irrigated South ID-Cut Immature(2006)	Y	N	0	3	10	N	7	N	20
		P	0	14	76			P	90
		K	0	30	148			K	178
N/A - No Second Crop(2006)	N								
		N	N	31	N	31			
		P			P	0			
		K			K	0			
			0 T/ac	11 T/ac	5 %				
Alfalfa Hay, Irrigated South ID-Cut Immature(2007)	Y	N	0	9	7	N	7	N	23
		P	0	37	52			P	89
		K	0	82	102			K	184
			0 T/ac	11 T/ac	5 %				
Triticale-Winter, Irrigated South ID(2007)	Y	N	0	14	10	N	81	N	105
		P	0	37	52			P	89
		K	0	82	102			K	184
			0 T/ac	4 T/ac	7 %				
Corn-Field Silage, Irrigated South ID(2008)	Y	N	0	3	10	N	25	N	38
		P	0	14	76			P	90
		K	0	30	148			K	178
N/A - No Second Crop(2008)	N								
		N	N	47	N	47			
		P			P	0			
		K			K	0			
			0 T/ac	11 T/ac	5 %				
Corn-Field Silage, Irrigated South ID(2009)	Y	N	0	9	7	N	16	N	32
		P	0	37	52			P	89

		K	0	81	102			K	183
Triticale-Winter, Irrigated South ID(2009)	Y		0 T/ac	11 T/ac	5 %				
		N	0	14	10	N	80	N	104
		P	0	37	52			P	89
		K	0	81	102			K	183
Corn-Field Silage, Irrigated South ID(2010)	Y		0 T/ac	4 T/ac	7 %				
		N	0	3	10	N	25	N	38
		P	0	14	76			P	90
		K	0	30	148			K	178
N/A - No Second Crop(2010)	N								
		N	N	47	N	47			
		P			P	0			
		K			K	0			

FIELD: Silva #2 34 acres

Name	Man App		Separated Solid(s)	Solid Stack(s)	Waste Storage Pond(s)	Mineralization		Total	
Corn-Field Silage, Irrigated South ID(2004)	Y		0 T/ac	0 T/ac	0 %				
		N	0	0	0	N	0	N	0
		P	0	0	0			P	0
		K	0	0	0			K	0
N/A - No Second Crop(2004)	N								
		N	N	-10	N	-10			
		P			P	0			
		K			K	0			
Alfalfa Hay, Irrigated South ID-Cut Immature(2005)	Y		0 T/ac	4 T/ac	6 %				
		N	0	3	10	N	0	N	13
		P	0	14	76			P	90
		K	0	30	148			K	178
N/A - No Second Crop(2005)	N								
		N	N	20	N	20			
		P			P	0			
		K			K	0			
Alfalfa Hay, Irrigated South ID-Cut Immature(2006)	Y		0 T/ac	4 T/ac	6 %				
		N	0	3	10	N	7	N	20
		P	0	14	76			P	90
		K	0	30	148			K	178
N/A - No Second Crop(2006)	N								
		N	N	31	N	31			
		P			P	0			
		K			K	0			
Alfalfa Hay, Irrigated South ID-Cut Immature(2007)	Y		0 T/ac	11 T/ac	4 %				
		N	0	9	7	N	7	N	23
		P	0	37	52			P	89

		K	0	82	102			K	184
Triticale-Winter, Irrigated South ID(2007)	Y		0 T/ac	11 T/ac	4 %				
		N	0	14	10	N	81	N	105
		P	0	37	52			P	89
		K	0	82	102			K	184
Corn-Field Silage, Irrigated South ID(2008)	Y		0 T/ac	4 T/ac	6 %				
		N	0	3	10	N	25	N	38
		P	0	14	76			P	90
		K	0	30	148			K	178
N/A - No Second Crop(2008)	N								
		N	N	47	N	47			
		P			P	0			
		K			K	0			
Corn-Field Silage, Irrigated South ID(2009)	Y		0 T/ac	11 T/ac	4 %				
		N	0	9	7	N	16	N	32
		P	0	37	52			P	89
		K	0	81	102			K	183
Triticale-Winter, Irrigated South ID(2009)	Y		0 T/ac	11 T/ac	4 %				
		N	0	14	10	N	80	N	104
		P	0	37	52			P	89
		K	0	81	102			K	183
Corn-Field Silage, Irrigated South ID(2010)	Y		0 T/ac	4 T/ac	6 %				
		N	0	3	10	N	25	N	38
		P	0	14	76			P	90
		K	0	30	148			K	178
N/A - No Second Crop(2010)	N								
		N	N	47	N	47			
		P			P	0			
		K			K	0			

FIELD: Silva #3 38 acres

Name	Man App		Separated Solid(s)	Solid Stack(s)	Waste Storage Pond(s)	Mineralization		Total	
Corn-Field Silage, Irrigated South ID(2004)	Y		0 T/ac	0 T/ac	0 %				
		N	0	0	0	N	0	N	0
		P	0	0	0			P	0
		K	0	0	0			K	0
N/A - No Second Crop(2004)	N								
		N	N	-10	N	-10			
		P			P	0			
		K			K	0			
Alfalfa Hay, Irrigated South ID-Cut Immature(2005)	Y		0 T/ac	4 T/ac	7 %				
		N	0	3	10	N	0	N	13
		P	0	14	76			P	90

		K	0	30	148			K	178
N/A - No Second Crop(2005)	N								
		N	N	20	N	20			
		P			P	0			
		K			K	0			
Alfalfa Hay, Irrigated South ID-Cut Immature(2006)	Y		0 T/ac	4 T/ac	7 %				
		N	0	3	10	N	8	N	21
		P	0	14	76			P	90
		K	0	30	148			K	178
N/A - No Second Crop(2006)	N								
		N	N	31	N	31			
		P			P	0			
		K			K	0			
Alfalfa Hay, Irrigated South ID-Cut Immature(2007)	Y		0 T/ac	11 T/ac	5 %				
		N	0	9	7	N	7	N	23
		P	0	37	52			P	89
		K	0	82	102			K	184
Triticale-Winter, Irrigated South ID(2007)	Y		0 T/ac	11 T/ac	5 %				
		N	0	14	10	N	81	N	105
		P	0	37	52			P	89
		K	0	82	102			K	184
Corn-Field Silage, Irrigated South ID(2008)	Y		0 T/ac	4 T/ac	7 %				
		N	0	3	10	N	25	N	38
		P	0	14	76			P	90
		K	0	30	148			K	178
N/A - No Second Crop(2008)	N								
		N	N	47	N	47			
		P			P	0			
		K			K	0			
Corn-Field Silage, Irrigated South ID(2009)	Y		0 T/ac	11 T/ac	5 %				
		N	0	9	7	N	16	N	32
		P	0	37	52			P	89
		K	0	81	102			K	183
Triticale-Winter, Irrigated South ID(2009)	Y		0 T/ac	11 T/ac	5 %				
		N	0	14	10	N	80	N	104
		P	0	37	52			P	89
		K	0	81	102			K	183
Corn-Field Silage, Irrigated South ID(2010)	Y		0 T/ac	4 T/ac	7 %				
		N	0	3	10	N	25	N	38
		P	0	14	76			P	90
		K	0	30	148			K	178
N/A - No Second Crop(2010)	N								
		N	N	47	N	47			
		P			P	0			

		K			K	0	

FIELD: Zimmatic 91 acres

Name	Man App		Separated Solid(s)	Solid Stack(s)	Waste Storage Pond(s)	Mineralization		Total	
Alfalfa Hay, Irrigated South ID-Cut Immature(2004)	Y		0 T/ac	0 T/ac	0 %				
		N	0	0	0	N	0	N	0
		P	0	0	0			P	0
		K	0	0	0			K	0
Alfalfa Hay, Irrigated South ID-Cut Immature(2005)	Y		0 T/ac	6 T/ac	17 %				
		N	0	12	25	N	0	N	37
		P	0	20	76			P	96
		K	0	43	148			K	191
Oats, Irrigated(2006)	Y		0 T/ac	6 T/ac	17 %				
		N	0	13	25	N	55	N	93
		P	0	21	74			P	95
		K	0	45	145			K	190
Corn-Field Silage, Irrigated South ID(2007)	Y		0 T/ac	12 T/ac	12 %				
		N	0	27	17	N	21	N	65
		P	0	43	52			P	95
		K	0	94	102			K	196
Oats, Irrigated(2008)	Y		0 T/ac	6 T/ac	17 %				
		N	0	13	25	N	25	N	63
		P	0	21	74			P	95
		K	0	45	145			K	190
Alfalfa Hay, Irrigated South ID-Cut Immature(2009)	Y		0 T/ac	12 T/ac	12 %				
		N	0	27	17	N	21	N	65
		P	0	43	52			P	95
		K	0	94	102			K	196
Alfalfa Hay, Irrigated South ID-Cut Immature(2010)	Y		0 T/ac	6 T/ac	17 %				
		N	0	13	25	N	24	N	62
		P	0	21	75			P	96
		K	0	45	146			K	191

FIELD: Dietrich 1/2 Pivot 59 acres

Name	Man App		Solid Stack	Mineralization		Total	
Corn-Field Silage, Irrigated South ID(2004)	Y		30 T/ac				
		N	25	N	0	N	25
		P	102			P	102
		K	223			K	223
N/A - No Second Crop(2004)	N						

		N	N	28	N	28		
		P			P	0		
		K			K	0		
Alfalfa Hay, Irrigated South ID-Cut Early Bloom(2005)	Y		30 T/ac					
		N	25	N	14	N	39	
		P	102			P	102	
		K	223			K	223	
N/A - No Second Crop(2005)	N							
		N	N	59	N	59		
		P			P	0		
		K			K	0		
Alfalfa Hay, Irrigated South ID-Cut Early Bloom(2006)	N							
		N	N	14	N	14		
		P			P	0		
		K			K	0		
N/A - No Second Crop(2006)	N							
		N	N	21	N	21		
		P			P	0		
		K			K	0		
Alfalfa Hay, Irrigated South ID-Cut Early Bloom(2007)	N							
		N	N	0	N	0		
		P			P	0		
		K			K	0		
Triticale-Winter, Irrigated South ID(2007)	Y		30 T/ac					
		N	38	N	45	N	83	
		P	102			P	102	
		K	223			K	223	
Corn-Field Silage, Irrigated South ID(2008)	Y		30 T/ac					
		N	25	N	25	N	50	
		P	102			P	102	
		K	223			K	223	
N/A - No Second Crop(2008)	N							
		N	N	59	N	59		
		P			P	0		
		K			K	0		
Corn-Field Silage, Irrigated South ID(2009)	Y		30 T/ac					
		N	25	N	28	N	53	
		P	102			P	102	
		K	223			K	223	
Triticale-Winter, Irrigated South ID(2009)	Y		30 T/ac					
		N	38	N	104	N	142	
		P	102			P	102	
		K	223			K	223	
Corn-Field Silage, Irrigated South ID(2010)	Y		30 T/ac					

		N	25	N	39	N	64
		P	102			P	102
		K	223			K	223
N/A - No Second Crop(2010)	N						
		N	N	80	N	80	
		P			P	0	
		K			K	0	

FIELD: Dietrich 3/4 Pivot 67 acres

Name	Man App		Solid Stack	Mineralization		Total	
Alfalfa Hay, Irrigated South ID-Cut Early Bloom(2004)	N						
		N	N	0	N	0	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2004)	N						
		N	N	0	N	0	
		P			P	0	
		K			K	0	
Alfalfa Hay, Irrigated South ID-Cut Early Bloom(2005)	N						
		N	N	0	N	0	
		P			P	0	
		K			K	0	
Triticale-Winter, Irrigated South ID(2005)	Y		30 T/ac				
		N	38	N	99	N	137
		P	102			P	102
		K	223			K	223
Corn-Field Silage, Irrigated South ID(2006)	Y		30 T/ac				
		N	25	N	25	N	50
		P	102			P	102
		K	223			K	223
N/A - No Second Crop(2006)	N						
		N	N	59	N	59	
		P			P	0	
		K			K	0	
Corn-Field Silage, Irrigated South ID(2007)	Y		30 T/ac				
		N	25	N	28	N	53
		P	102			P	102
		K	223			K	223
Triticale-Winter, Irrigated South ID(2007)	Y		30 T/ac				
		N	38	N	104	N	142
		P	102			P	102
		K	223			K	223
Corn-Field Silage, Irrigated South ID(2008)	Y		30 T/ac				

		N	25	N	39	N	64
		P	102			P	102
		K	223			K	223
N/A - No Second Crop(2008)	N						
		N	N	80	N	80	
		P			P	0	
		K			K	0	
Alfalfa Hay, Irrigated South ID-Cut Early Bloom(2009)	Y		30 T/ac				
		N	25	N	28	N	53
		P	102			P	102
		K	223			K	223
N/A - No Second Crop(2009)	N						
		N	N	59	N	59	
		P			P	0	
		K			K	0	
Alfalfa Hay, Irrigated South ID-Cut Early Bloom(2010)	N						
		N	N	14	N	14	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2010)	N						
		N	N	21	N	21	
		P			P	0	
		K			K	0	

FIELD: Dietrich Big Pivot 121 acres

Name	Man App		Solid Stack	Mineralization		Total	
Corn-Field Silage, Irrigated South ID(2004)	Y		30 T/ac				
		N	25	N	0	N	25
		P	102			P	102
		K	223			K	223
N/A - No Second Crop(2004)	N						
		N	N	28	N	28	
		P			P	0	
		K			K	0	
Corn-Field Silage, Irrigated South ID(2005)	Y		30 T/ac				
		N	25	N	14	N	39
		P	102			P	102
		K	223			K	223
Triticale-Winter, Irrigated South ID(2005)	Y		30 T/ac				
		N	38	N	89	N	127
		P	102			P	102
		K	223			K	223
Corn-Field Silage, Irrigated South ID(2006)	Y		30 T/ac				

		N	25	N	39	N	64
		P	102			P	102
		K	223			K	223
N/A - No Second Crop(2006)	N						
		N	N	80	N	80	
		P			P	0	
		K			K	0	
Alfalfa Hay, Irrigated South ID-Cut Early Bloom(2007)	Y		30 T/ac				
		N	25	N	28	N	53
		P	102			P	102
		K	223			K	223
N/A - No Second Crop(2007)	N						
		N	N	59	N	59	
		P			P	0	
		K			K	0	
Alfalfa Hay, Irrigated South ID-Cut Early Bloom(2008)	N						
		N	N	14	N	14	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2008)	N						
		N	N	21	N	21	
		P			P	0	
		K			K	0	
Alfalfa Hay, Irrigated South ID-Cut Early Bloom(2009)	N						
		N	N	0	N	0	
		P			P	0	
		K			K	0	
Triticale-Winter, Irrigated South ID(2009)	Y		30 T/ac				
		N	38	N	45	N	83
		P	102			P	102
		K	223			K	223
Corn-Field Silage, Irrigated South ID(2010)	Y		30 T/ac				
		N	25	N	25	N	50
		P	102			P	102
		K	223			K	223
N/A - No Second Crop(2010)	N						
		N	N	59	N	59	
		P			P	0	
		K			K	0	

FIELD: Guthrie 128 acres

Name	Man App		Solid Stack	Mineralization		Total	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2004)	Y		38 T/ac				

		N	79	N	0	N	79
		P	127			P	127
		K	279			K	279
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2005)	N						
		N	N	44	N	44	
		P			P	0	
		K			K	0	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2006)	N						
		N	N	0	N	0	
		P			P	0	
		K			K	0	
Oats, S. ID, Irrigated(2007)	Y		38 T/ac				
		N	79	N	0	N	79
		P	127			P	127
		K	279			K	279
Corn-Field, Silage, S. ID, Irrigated(2008)	Y		38 T/ac				
		N	79	N	44	N	123
		P	127			P	127
		K	279			K	279
Oats, S. ID, Irrigated(2009)	Y		38 T/ac				
		N	79	N	44	N	123
		P	127			P	127
		K	279			K	279
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2010)	Y		38 T/ac				
		N	79	N	44	N	123
		P	127			P	127
		K	279			K	279

FIELD: Sant 99 acres

Name	Man App		Solid Stack	Mineralization		Total	
Corn-Field, Silage, S. ID, Irrigated(2004)	N						
		N	N	0	N	0	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2004)	N						
		N	N	-10	N	-10	
		P			P	0	
		K			K	0	
Corn-Field, Silage, S. ID, Irrigated(2005)	Y		33 T/ac				
		N	28	N	0	N	28
		P	110			P	110
		K	243			K	243
Triticale Haylage, Winter, Double Cropped, S. ID, Irrigated(2005)	Y		33 T/ac				

		N	41	N	71	N	112
		P	110			P	110
		K	243			K	243
Corn-Field, Silage, S. ID, Irrigated(2006)	Y		33 T/ac				
		N	28	N	43	N	71
		P	110			P	110
		K	243			K	243
N/A - No Second Crop(2006)	N						
		N	N	87	N	87	
		P			P	0	
		K			K	0	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2007)	Y		33 T/ac				
		N	28	N	31	N	59
		P	110			P	110
		K	243			K	243
N/A - No Second Crop(2007)	N						
		N	N	64	N	64	
		P			P	0	
		K			K	0	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2008)	N						
		N	N	15	N	15	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2008)	N						
		N	N	23	N	23	
		P			P	0	
		K			K	0	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2009)	N						
		N	N	0	N	0	
		P			P	0	
		K			K	0	
Triticale Haylage, Winter, Double Cropped, S. ID, Irrigated(2009)	Y		33 T/ac				
		N	41	N	45	N	86
		P	110			P	110
		K	243			K	243
Corn-Field, Silage, S. ID, Irrigated(2010)	Y		33 T/ac				
		N	28	N	28	N	56
		P	110			P	110
		K	243			K	243
N/A - No Second Crop(2010)	N						
		N	N	64	N	64	
		P			P	0	
		K			K	0	

FIELD: Adams Pivot 66 acres

Name	Man App		Solid Stack	Mineralization		Total	
Corn-Field, Silage, S. ID, Irrigated(2004)	N	N	N	0	N	0	
		P			P	0	
		K			K	0	
Triticale Haylage, Winter, Double Cropped, S. ID, Irrigated(2004)	Y		33 T/ac				
		N	41	N	30	N	71
		P	110			P	110
		K	242			K	242
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2005)	Y		33 T/ac				
		N	28	N	28	N	56
		P	110			P	110
		K	242			K	242
N/A - No Second Crop(2005)	N	N	N	64	N	64	
		P			P	0	
		K			K	0	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2006)	N	N	N	31	N	31	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2006)	N	N	N	23	N	23	
		P			P	0	
		K			K	0	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2007)	N	N	N	0	N	0	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2007)	N	N	N	0	N	0	
		P			P	0	
		K			K	0	
Corn-Field, Silage, S. ID, Irrigated(2008)	Y		33 T/ac				
		N	28	N	0	N	28
		P	110			P	110
		K	242			K	242
Triticale Haylage, Winter, Double Cropped, S. ID, Irrigated(2008)	Y		33 T/ac				
		N	41	N	86	N	127
		P	110			P	110
		K	242			K	242

Corn-Field, Silage, S. ID, Irrigated(2009)	Y		33 T/ac					
		N	28	N	43	N	71	
		P	110			P	110	
		K	242			K	242	
N/A - No Second Crop(2009)	N							
		N	N	87	N	87		
		P			P	0		
		K			K	0		
Corn-Field, Silage, S. ID, Irrigated(2010)	Y		33 T/ac					
		N	28	N	31	N	59	
		P	110			P	110	
		K	242			K	242	
Triticale Haylage, Winter, Double Cropped, S. ID, Irrigated(2010)	Y		33 T/ac					
		N	41	N	109	N	150	
		P	110			P	110	
		K	242			K	242	

FIELD: Fields 6&7 30 acres

Name	Man App		Solid Stack	Mineralization		Total	
Oats, S. ID, Irrigated(2004)	Y		38 T/ac				
		N	81	N	0	N	81
		P	130			P	130
		K	284			K	284
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2005)	Y		38 T/ac				
		N	81	N	7	N	88
		P	130			P	130
		K	284			K	284
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2006)	N						
		N	N	45	N	45	
		P			P	0	
		K			K	0	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2007)	N						
		N	N	0	N	0	
		P			P	0	
		K			K	0	
Oats, S. ID, Irrigated(2008)	Y		38 T/ac				
		N	81	N	0	N	81
		P	130			P	130
		K	284			K	284
Oats, S. ID, Irrigated(2009)	Y		38 T/ac				
		N	81	N	45	N	126
		P	130			P	130
		K	284			K	284

Oats, S. ID, Irrigated(2010)	Y		38 T/ac				
		N	81	N	45	N	126
		P	130			P	130
		K	284			K	284

FIELD: North Ranch 1/2 Pivot 63 acres

Name	Man App		Solid Stack	Mineralization		Total	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2004)	N	N	N	0	N	0	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2004)	N	N	N	0	N	0	
		P			P	0	
		K			K	0	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2005)	N	N	N	0	N	0	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2005)	N	N	N	65	N	65	
		P			P	0	
		K			K	0	
Corn-Field, Silage, S. ID, Irrigated(2006)	Y		33 T/ac				
		N	28	N	0	N	28
		P	110			P	110
		K	242			K	242
Triticale Haylage, Winter, Double Cropped, S. ID, Irrigated(2006)	Y		33 T/ac				
		N	41	N	86	N	127
		P	110			P	110
		K	242			K	242
Corn-Field, Silage, S. ID, Irrigated(2007)	Y		33 T/ac				
		N	28	N	43	N	71
		P	110			P	110
		K	242			K	242
N/A - No Second Crop(2007)	N	N	N	87	N	87	
		P			P	0	
		K			K	0	
Corn-Field, Silage, S. ID, Irrigated(2008)	Y		33 T/ac				
		N	28	N	31	N	59
		P	110			P	110
		K	242			K	242

Triticale Haylage, Winter, Double Cropped, S. ID, Irrigated(2008)	Y		33 T/ac				
		N	41	N	109	N	150
		P	110			P	110
		K	242			K	242
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2009)	Y		33 T/ac				
		N	28	N	43	N	71
		P	110			P	110
		K	242			K	242
N/A - No Second Crop(2009)	N						
		N	N	87	N	87	
		P			P	0	
		K			K	0	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2010)	N						
		N	N	31	N	31	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2010)	N						
		N	N	23	N	23	
		P			P	0	
		K			K	0	

FIELD: North Ranch Big Pivot 140 acres

Name	Man App		Solid Stack	Mineralization		Total	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2004)	N						
		N	N	0	N	0	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2004)	N						
		N	N	65	N	65	
		P			P	0	
		K			K	0	
Corn-Field, Silage, S. ID, Irrigated(2005)	Y		33 T/ac				
		N	28	N	0	N	28
		P	110			P	110
		K	242			K	242
Triticale Haylage, Winter, Double Cropped, S. ID, Irrigated(2005)	Y		33 T/ac				
		N	41	N	71	N	112
		P	110			P	110
		K	242			K	242
Corn-Field, Silage, S. ID, Irrigated(2006)	Y		33 T/ac				
		N	28	N	43	N	71
		P	110			P	110
		K	242			K	242

N/A - No Second Crop(2006)	N	N	N	87	N	87	
		P			P	0	
		K			K	0	
Corn-Field, Silage, S. ID, Irrigated(2007)	Y		33 T/ac				
		N	28	N	31	N	59
		P	110			P	110
		K	242			K	242
Triticale Haylage, Winter, Double Cropped, S. ID, Irrigated(2007)	Y		33 T/ac				
		N	41	N	109	N	150
		P	110			P	110
		K	242			K	242
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2008)	Y		33 T/ac				
		N	28	N	43	N	71
		P	110			P	110
		K	242			K	242
N/A - No Second Crop(2008)	N	N	N	87	N	87	
		P			P	0	
		K			K	0	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2009)	N	N	N	31	N	31	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2009)	N	N	N	23	N	23	
		P			P	0	
		K			K	0	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2010)	N	N	N	0	N	0	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2010)	N	N	N	0	N	0	
		P			P	0	
		K			K	0	

FIELD: North Ranch Mini 30 acres

Name	Man App		Solid Stack	Mineralization		Total	
Corn-Field, Silage, S. ID, Irrigated(2004)	N						
		N	N	0	N	0	
		P			P	0	

		K			K	0	
Triticale Haylage, Winter, Double Cropped, S. ID, Irrigated(2004)	Y		4 T/ac				
		N	5	N	30	N	35
		P	13			P	13
		K	28			K	28
Corn-Field, Silage, S. ID, Irrigated(2005)	Y		33 T/ac				
		N	28	N	3	N	31
		P	110			P	110
		K	242			K	242
N/A - No Second Crop(2005)	N						
		N	N	34	N	34	
		P			P	0	
		K			K	0	
Corn-Field, Silage, S. ID, Irrigated(2006)	Y		4 T/ac				
		N	3	N	17	N	20
		P	13			P	13
		K	28			K	28
Triticale Haylage, Winter, Double Cropped, S. ID, Irrigated(2006)	Y		4 T/ac				
		N	5	N	73	N	78
		P	13			P	13
		K	28			K	28
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2007)	Y		4 T/ac				
		N	3	N	5	N	8
		P	13			P	13
		K	28			K	28
N/A - No Second Crop(2007)	N						
		N	N	10	N	10	
		P			P	0	
		K			K	0	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2008)	N						
		N	N	4	N	4	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2008)	N						
		N	N	3	N	3	
		P			P	0	
		K			K	0	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2009)	N						
		N	N	0	N	0	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2009)	N						
		N	N	0	N	0	
		P			P	0	

		K			K	0	
Corn-Field, Silage, S. ID, Irrigated(2010)	Y		4 T/ac				
		N	3	N	0	N	3
		P	13			P	13
		K	28			K	28
Triticale Haylage, Winter, Double Cropped, S. ID, Irrigated(2010)	Y		4 T/ac				
		N	5	N	50	N	55
		P	13			P	13
		K	28			K	28

FIELD: North Ranch Swing 50 acres

Name	Man App		Solid Stack	Mineralization		Total	
Corn-Field, Silage, S. ID, Irrigated(2004)	N						
		N	N	0	N	0	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2004)	N						
		N	N	-10	N	-10	
		P			P	0	
		K			K	0	
Corn-Field, Silage, S. ID, Irrigated(2005)	Y		33 T/ac				
		N	28	N	0	N	28
		P	110			P	110
		K	242			K	242
Triticale Haylage, Winter, Double Cropped, S. ID, Irrigated(2005)	Y		33 T/ac				
		N	41	N	71	N	112
		P	110			P	110
		K	242			K	242
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2006)	Y		33 T/ac				
		N	28	N	43	N	71
		P	110			P	110
		K	242			K	242
N/A - No Second Crop(2006)	N						
		N	N	87	N	87	
		P			P	0	
		K			K	0	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2007)	N						
		N	N	31	N	31	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2007)	N						
		N	N	23	N	23	
		P			P	0	

		K			K	0	
Alfalfa Hay, Cut Immature, S. ID, Irrigated(2008)	N						
		N	N	0	N	0	
		P			P	0	
		K			K	0	
N/A - No Second Crop(2008)	N						
		N	N	0	N	0	
		P			P	0	
		K			K	0	
Corn-Field, Silage, S. ID, Irrigated(2009)	Y		33 T/ac				
		N	28	N	0	N	28
		P	110			P	110
		K	242			K	242
Triticale Haylage, Winter, Double Cropped, S. ID, Irrigated(2009)	Y		33 T/ac				
		N	41	N	86	N	127
		P	110			P	110
		K	242			K	242
Corn-Field, Silage, S. ID, Irrigated(2010)	Y		33 T/ac				
		N	28	N	43	N	71
		P	110			P	110
		K	242			K	242
N/A - No Second Crop(2010)	N						
		N	N	87	N	87	
		P			P	0	
		K			K	0	

Minimum Acres Required for Manure Application

Manure Group	Acres
Separated Solid(s)	409
Solid Stack(s)	6829
Waste Storage Pond(s)	396

The acreage in the table is based on an average crop uptake of 100 lbs P_2O_5 per acre. These acreage numbers are for estimating export acreage needed.

Hydraulic Balance

Wastewater applications should begin and end with the irrigation season. Depending on weather and soil conditions, applications outside of this window may be allowed. Lagoons must be emptied in the fall. Fall application of effluent must be completed prior to November 15th. No application will be allowed to frozen or snow covered ground. Spring applications prior to the start of the irrigation season may be allowed if moisture

or nutrients are needed to enhance crop production. You must contact the Department of Agriculture, Dairy Bureau (208) 332-8550 prior to any wastewater application outside of the irrigation season. The need for wastewater application outside of the irrigation season will be evaluated on a case by case basis. Factors considered in granting approval will be but are not limited to the following; date, existing and forecasted weather conditions, moisture content of the soil, water holding capacity of the soil, frost layers in the soil, and crop needs.

Annual Soil Test

Annual soils tests must be taken every year from every field to determine a commercial fertilization rate. If commercial fertilizer isn't applied (for a perennial crop), annual soil samples are not required. If you do not apply commercial fertilizer, a complete soil analysis will need to be conducted initially to determine the nutrient baseline.

Record Keeping

For each field keep a record of annual manure and chemical fertilizer applications. Include nutrient source, date, time, rate and application method. Records must also be kept on exported manure. These records should include the name of the person receiving the manure, source, and quantity of the manure, and the export date.

Facility Testing Requirements

Regulatory soil samples will be required from each field every three to five years. These samples must be taken from 18-24" for fields listed as a groundwater concern and from 0-12" for fields listed as surface water concern.

Recommendations for Best Management Practices

No Data

Four Brothers Dairy
ANALYSIS OF RESOURCE CONCERNS

INTRODUCTION

The purpose of this nutrient management plan is to meet agricultural production goals and to certify that manure and nutrients are properly managed to minimize adverse impact to surface or groundwater. Plans are written in cooperation with the producer to:

1) Assure proper containment of animal manure and process waste water.

Data	Data		Data	Data	Data	Data	Data	Data	Data		

ISDA REGULATIONS AND THE IDAHO NUTRIENT MANAGEMENT STANDARD

Nutrient management plans for animal agricultural operations regulated by the Idaho State Department of Agriculture (ISDA) must be approved by the Idaho State Department of Agriculture and must follow the Natural Resource Conservation Service (NRCS) Agriculture Waste Management Field Handbook and the Idaho Nutrient Management Standard. ISDA regulation and the Standard use soil test phosphorus as the indicator for environmental impact from agricultural production practices. The Idaho Nutrient Management Standard is based on a threshold soil test phosphorus level (TH), above which there is no agronomic advantage to application of phosphorus.

The Idaho Nutrient Management Standard categorizes fields as a surface water concern or a groundwater concern. A surface water concern indicates that runoff leaves the contiguous operating unit from normal storm events, rain on snow, frozen ground, or irrigation. The soil phosphorus threshold for a field with a surface water concern is 40 ppm phosphorus for basic soils (pH > 7) tested with the Olsen method; 60 ppm phosphorus for acidic soils (pH < 7) tested with the Bray method; and 6 ppm phosphorus for acidic soils tested with the Morgan method (0-12"Soil Sample Depth).

A groundwater resource concern indicates that runoff does not leave the contiguous operating unit from normal storm events, rain on snow, frozen ground, or irrigation. There are two sub-categories for fields identified as having a groundwater concern. The first category applies to fields with a resource concern within the first five feet of the soil profile. A resource concern could be shallow soils, gravel, cobble, bedrock, high groundwater table, or a drained field. These fields are indicated as a groundwater concern <5'. The soil phosphorus threshold for a field with a groundwater concern <5' is 20 ppm phosphorus for soils tested with the Olsen method; 25 ppm phosphorus for soils tested with the Bray method and 2.5ppm phosphorus for soils tested with the Morgan method (18-24" Soil Sample Depth).

If a field is not classified as having a surface water concern or a groundwater <5' concern, by default it is classified as having a groundwater concern >5'. The soil phosphorus threshold for a field with a groundwater concern >5' is 30 ppm phosphorus for soils tested with the Olsen method; 45 ppm phosphorus for soils tested with the Bray method; and 4.5 ppm phosphorus for soils tested with the Morgan method (18-24" Soil Sample Depth).

Field Phosphorus Threshold

Field	Resource Concern	P Threshold (ppm)	P Threshold Soil Test Depth
Buckwald	Groundwater < 5'	20	18 - 24"

Field 26	Groundwater < 5'	20	18 - 24"
Hubbs	Groundwater < 5'	20	18 - 24"
Kelly	Groundwater < 5'	20	18 - 24"
Mini Pivot	Groundwater < 5'	20	18 - 24"
Pantone	Groundwater < 5'	20	18 - 24"
Pierce	Groundwater < 5'	20	18 - 24"
Sandy North	Groundwater < 5'	20	18 - 24"
Sandy South	Groundwater < 5'	20	18 - 24"
Sherman	Groundwater < 5'	20	18 - 24"
Silva #1	Groundwater < 5	20	18 – 24"
Silva #2	Groundwater <5	20	18 – 24"
Silva #3	Groundwater < 5	20	18 – 24"
Zimmatic	Groundwater < 5'	20	18 – 24"
Dietrich 1/2 Pivot	Groundwater < 5'	20	18 – 24"
Dietrich 3/4 Pivot	Groundwater < 5'	20	18 – 24"
Dietrich Big Pivot	Groundwater < 5'	20	18 – 24"
Guthrie	Groundwater < 5'	20	18 – 24"
Sant	Groundwater < 5	20	18 - 24"
Adams Pivot	Surface Water	40	0 - 12"
Fields 6&7	Surface Water	40	0 - 12"
North Ranch 1/2 Pivot	Surface Water	40	0 - 12"
North Ranch Big Pivot	Surface Water	40	0 - 12"
North Ranch Mini	Surface Water	40	0 - 12"
North Ranch Swing	Surface Water	40	0 - 12"

Farm Location

Idaho Transverse Mercator

Coordinates of the farm center (meters): X = 462570.266205793, Y = 211780.874282834

Map Scale: 1 : 376

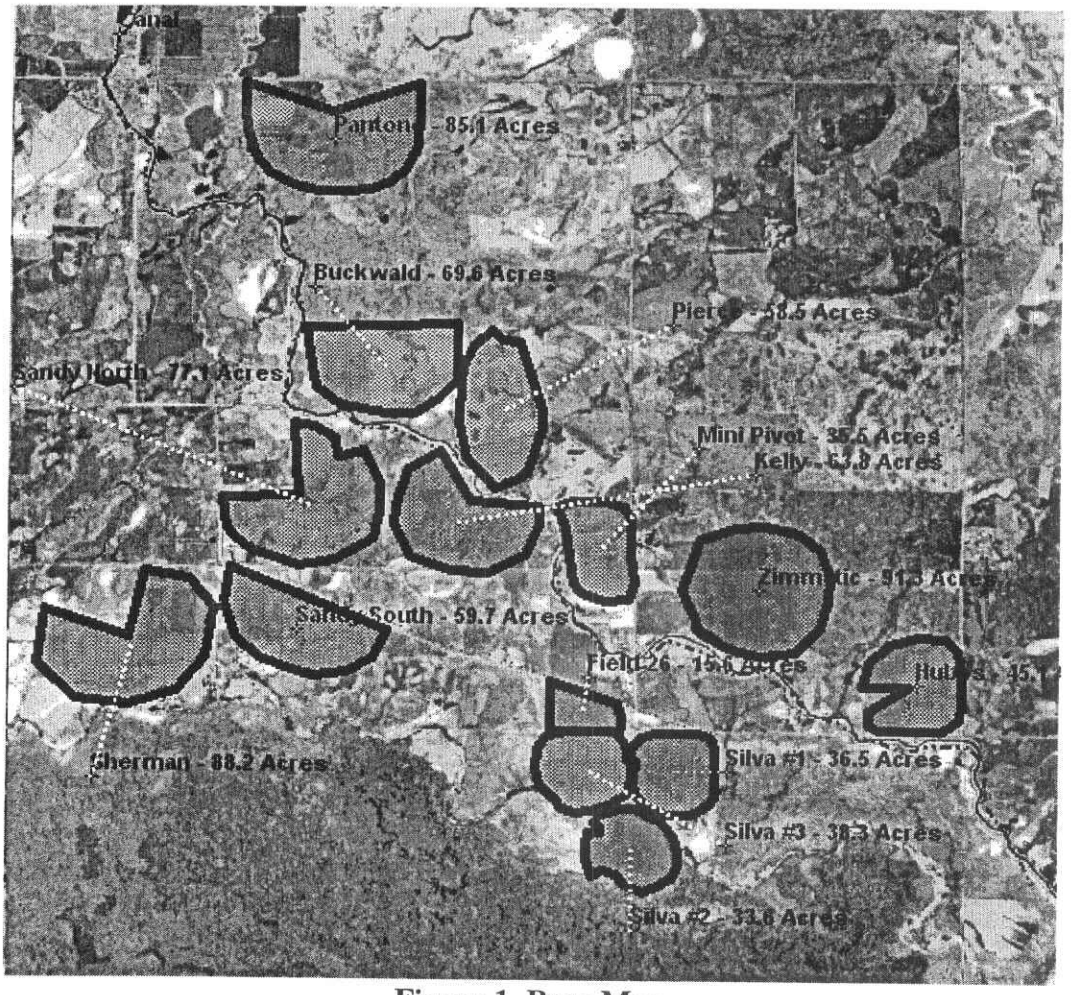


Figure 1. Base Map

Farm Location

Idaho Transverse Mercator

Coordinates of the farm center (meters): X = 462570.266205793, Y = 211780.874282834

Map Scale: 1 : 380

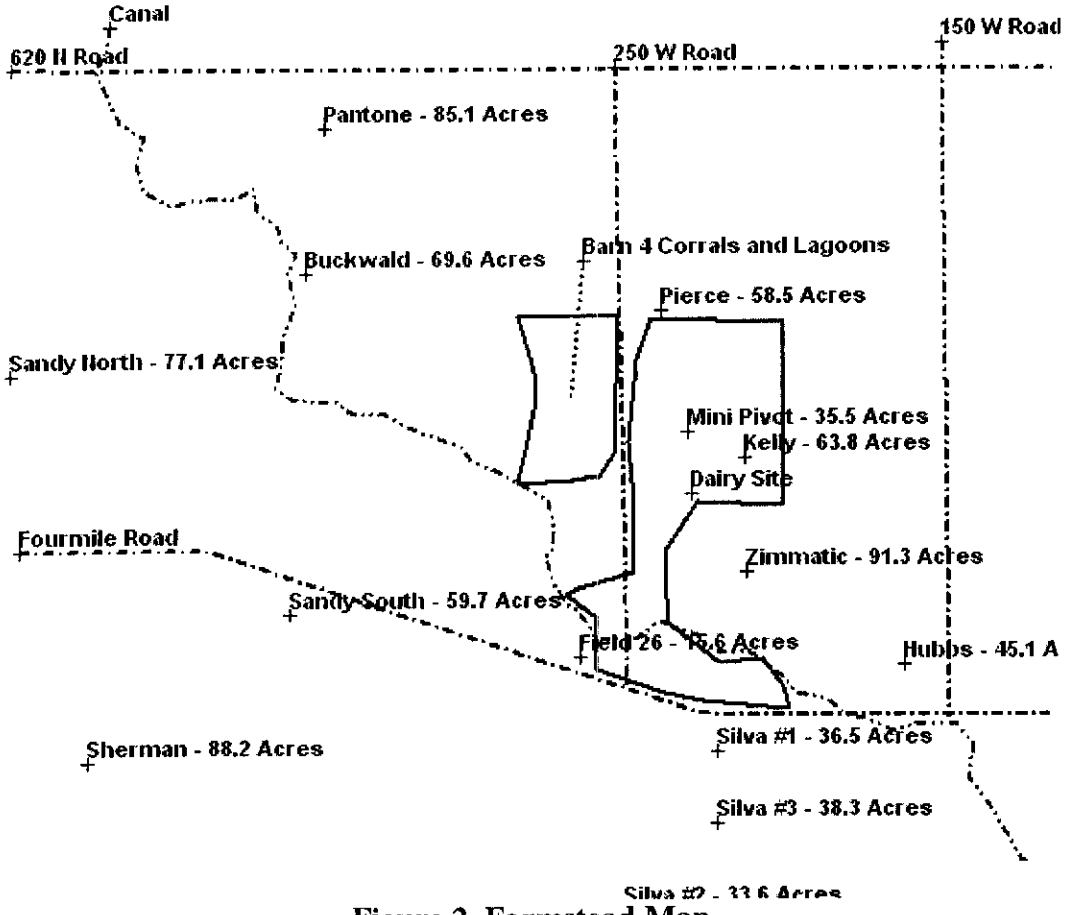


Figure 2. Farmstead Map

Farm Location

Idaho Transverse Mercator

Coordinates of the farm center (meters): X = 472175.680377905, Y = 197792.899442827

Map Scale: 1 : 160

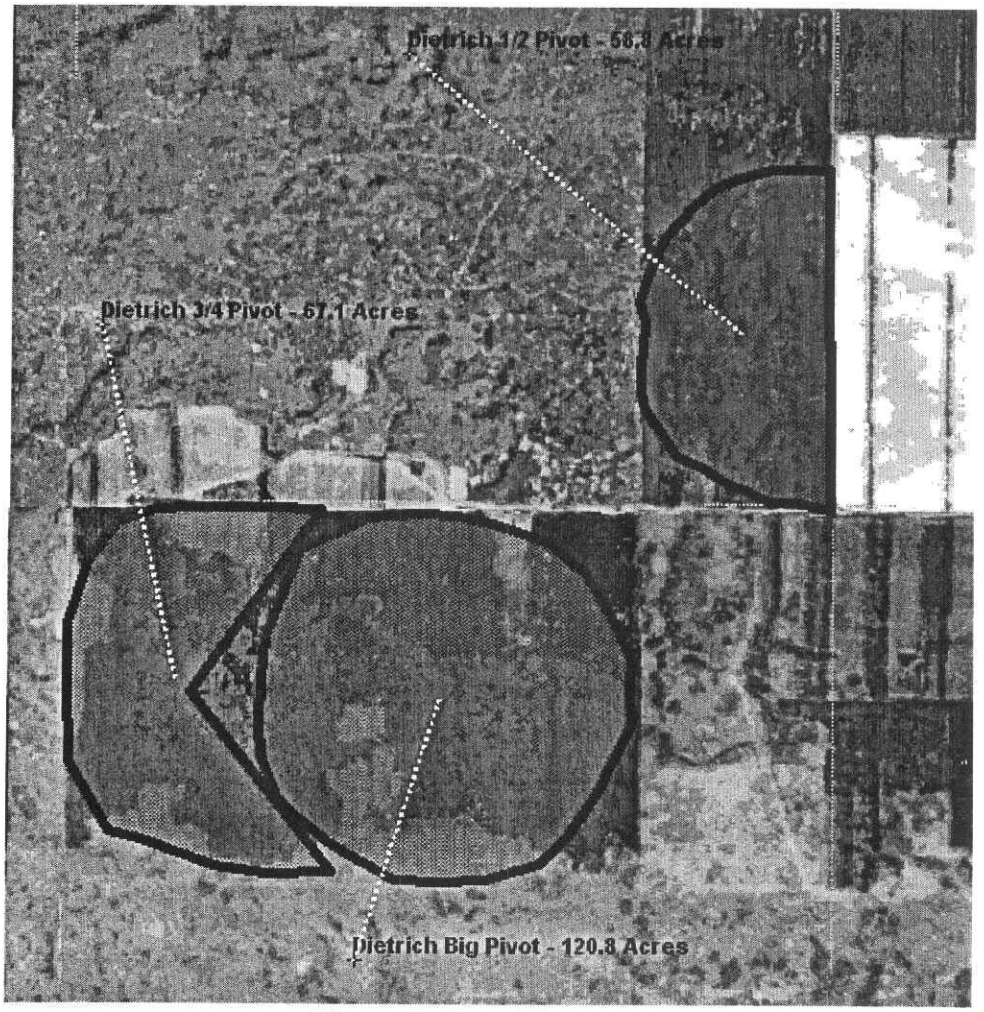


Figure 1. Base Map

Farm Location

Idaho Transverse Mercator

Coordinates of the farm center (meters): X = 472175.680377905, Y = 197792.899442827

Map Scale: 1 : 165

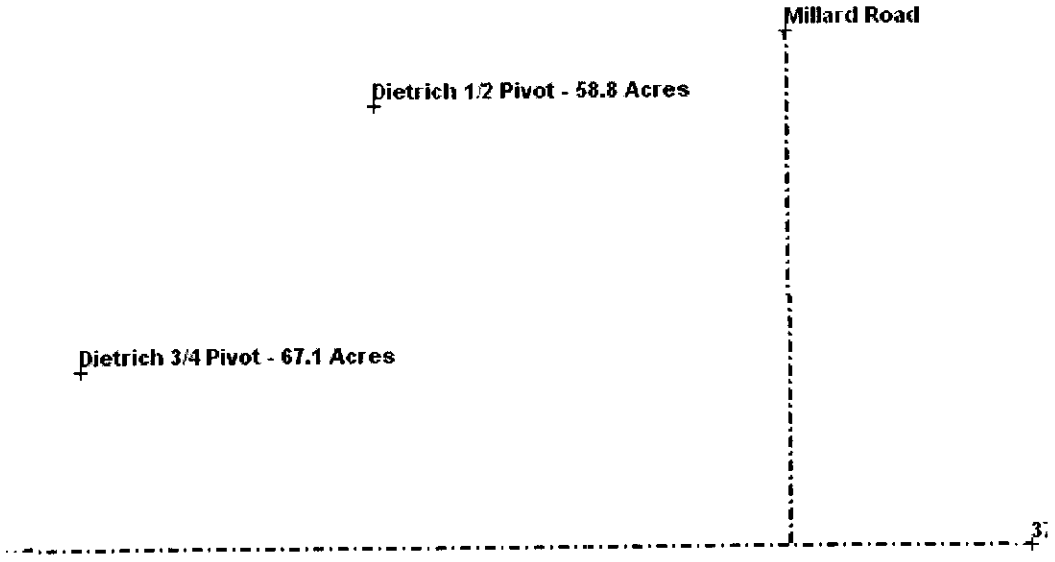


Figure 2. Farmstead Map

Farm Location

Idaho Transverse Mercator

Coordinates of the farm center (meters): X = 2459985.17671622, Y = 1314447.25055841

Map Scale: 1 : 93



Figure 1. Base Map

Farm Location

Idaho Transverse Mercator

Coordinates of the farm center (meters): X = 2459985.17671622, Y = 1314447.25055841

Map Scale: 1 : 95

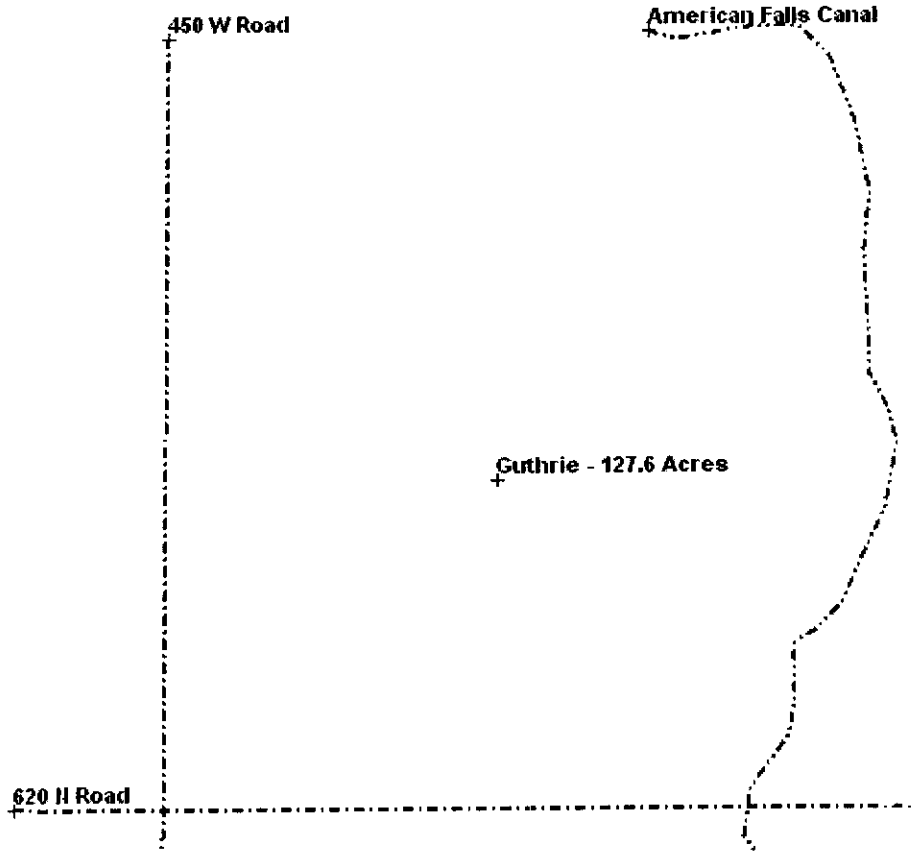


Figure 2. Farmstead Map

Farm Location

Idaho Transverse Mercator

Coordinates of the farm center (meters): X = 2458676.02094215, Y = 1311966.65745795

Map Scale: 1 : 76

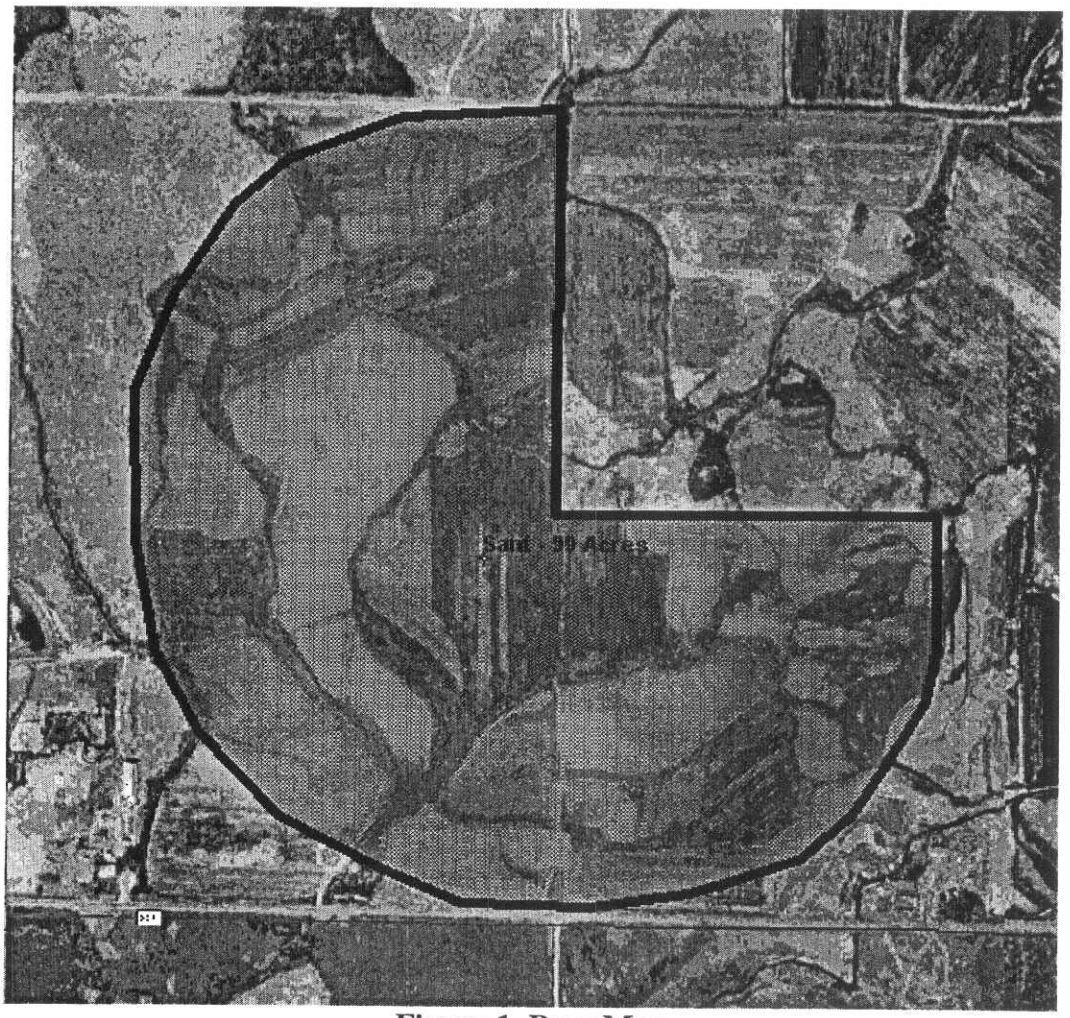


Figure 1. Base Map

Farm Location

Idaho Transverse Mercator

Coordinates of the farm center (meters): X = 2458676.02094215, Y = 1311966.65745795

Map Scale: 1 : 132

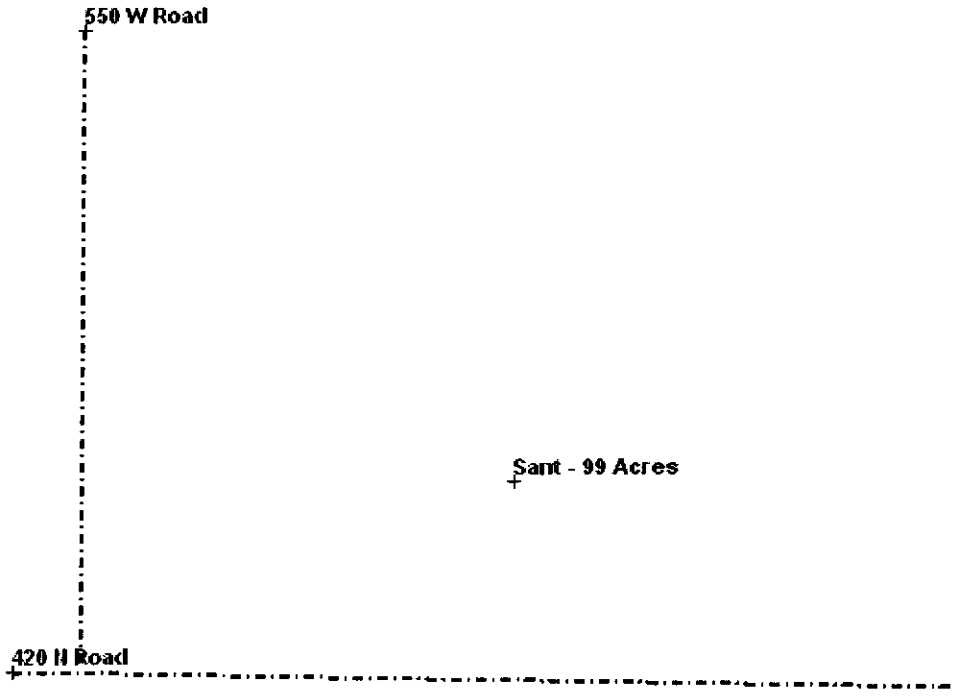


Figure 2. Farmstead Map

Farm Location

Idaho Transverse Mercator

Coordinates of the farm center (meters): X = 2446959.1277035, Y = 1311331.76758583

Map Scale: 1 : 187

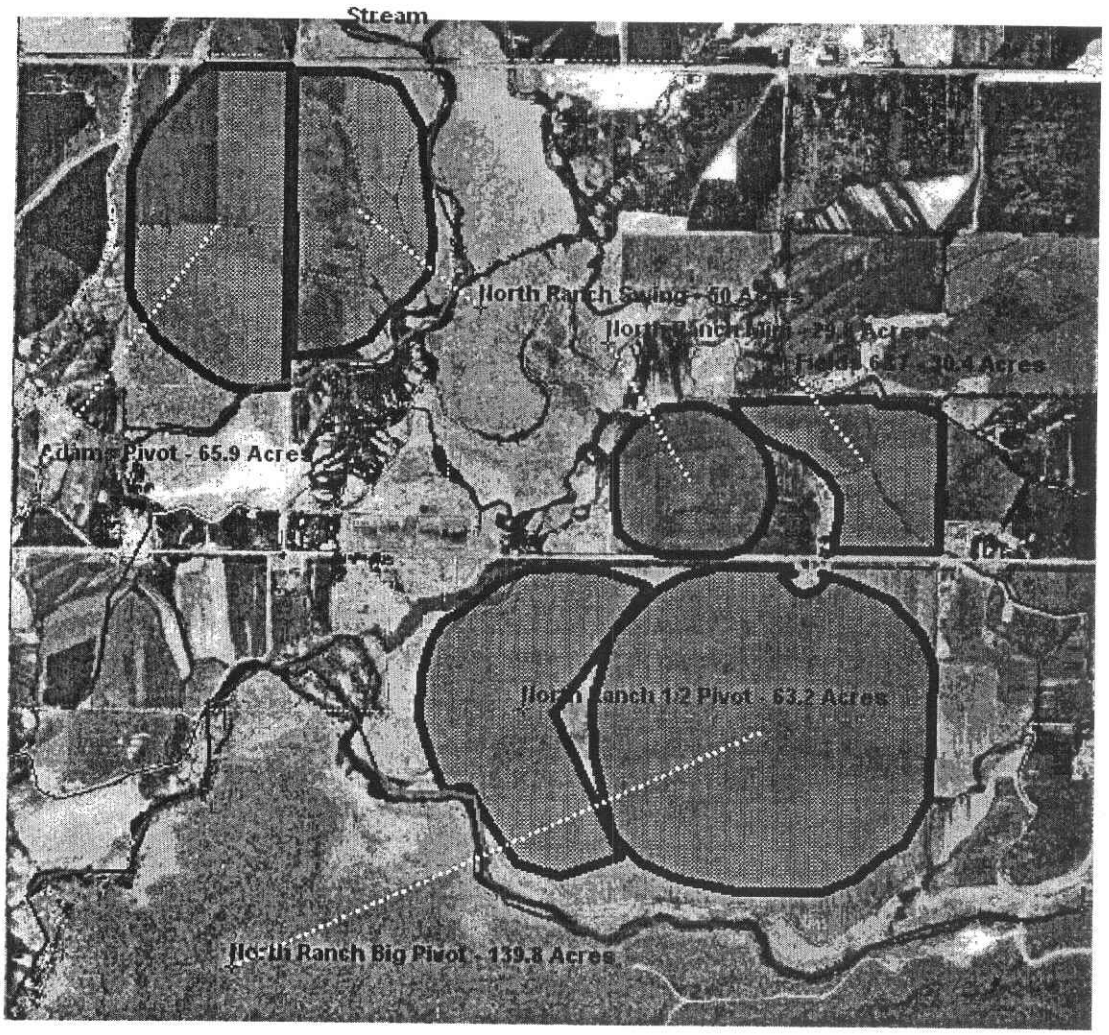


Figure 1. Base Map

Farm Location

Idaho Transverse Mercator

Coordinates of the farm center (meters): X = 2446959.1277035, Y = 1311331.76758583

Map Scale: 1 : 194

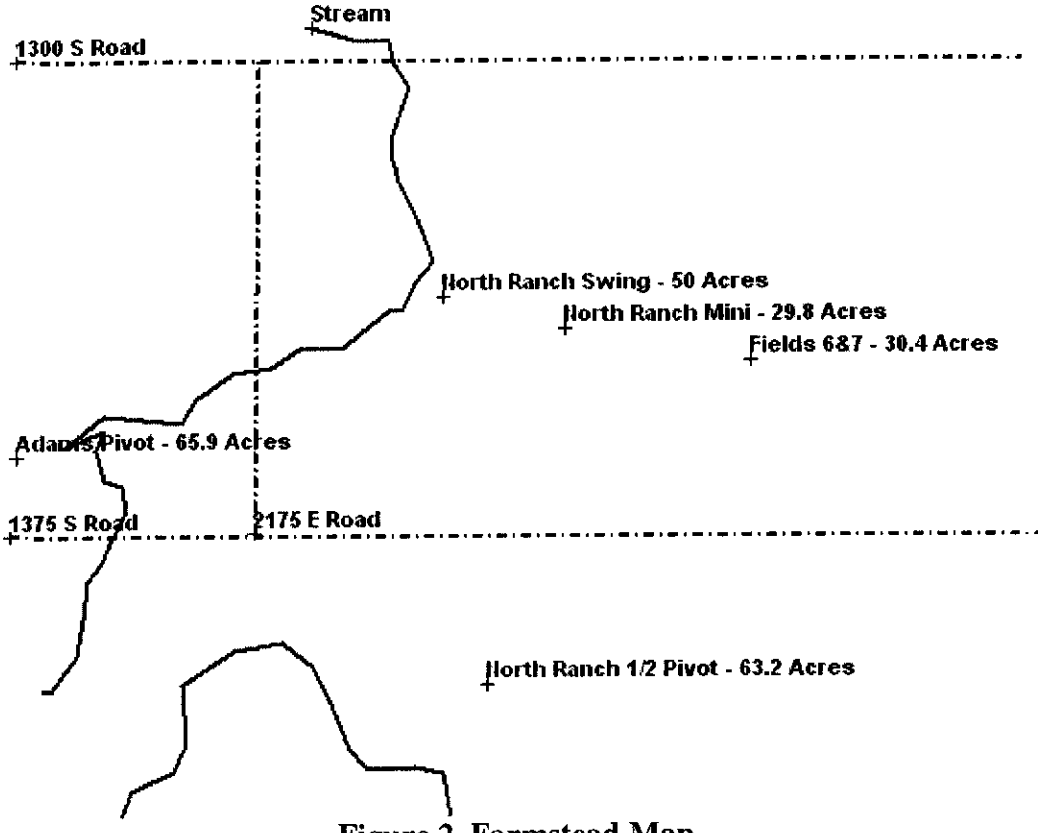


Figure 2. Farmstead Map

ANNUAL NUTRIENT BUDGET

The following crop nutrient budget is based on soil test data and cropping information. It is for one year for the following field and specified crop information:

Nutrient Budget Summary

Field: Buckwald **Crop:** Alfalfa Hay, Irrigated South ID-Cut Immature **Yield:** 6

	N	P205	K20
Crop Nutrient Requirement	461	107	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	-38		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	498.8	107.2	0
Separated Solid(s)	0	0	0
Solid Stack(s)	89	143	313
Estimated Remaining Nutrients Required *	410	-36	-313
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	410	-36	-313

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Field 26 **Crop:** Alfalfa Hay, Irrigated South ID-Cut Immature **Yield:** 5.5

	N	P205	K20
Crop Nutrient Requirement	422	98	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	422.4	98.2	0
Separated Solid(s)	0	0	0
Solid Stack(s)	54	86	189
Waste Storage Pond(s)	0	0	0
Estimated Remaining Nutrients Required *	368	12	-189
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	368	12	-189

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Hubbs **Crop:** Oats, Irrigated **Yield:** 300

	N	P205	K20

Crop Nutrient Requirement	180	75	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	-10		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	190	74.7	0
Separated Solid(s)	0	0	0
Solid Stack(s)	12	20	43
Waste Storage Pond(s)	25	76	148
Estimated Remaining Nutrients Required *	153	-20	-191
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	153	-20	-191

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Kelly **Crop:** Alfalfa Hay, Irrigated South ID-Cut Immature **Yield:** 6

	N	P205	K20
Crop Nutrient Requirement	461	107	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	460.8	107.2	0
Separated Solid(s)	0	0	0
Solid Stack(s)	12	46	101
Waste Storage Pond(s)	6	43	84
Estimated Remaining Nutrients Required *	444	18	-185
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	444	18	-185

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Kelly **Crop:** Triticale-Winter, Irrigated South ID **Yield:** 100

	N	P205	K20
Crop Nutrient Requirement	200	44	0
Nutrients From Soil	?		
from Mineralized Nitrogen	45		

from Prior Crops	54		
from Prior Bio-Nutrients	26		
from Irrigation Water	0		0
Nutrient Balance from above *	75.2	44	0
Separated Solid(s)	0	0	0
Solid Stack(s)	17	46	101
Waste Storage Pond(s)	8	43	84
Estimated Remaining Nutrients Required *	50	-45	-185
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	50	-45	-185

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Rate may result in crop nutrient deficit or a potential resource concern.
Acceptable: Sustainable agronomic rate.

Field: Mini Pivot **Crop:** Oats, Irrigated **Yield:** 300

	N	P205	K20
Crop Nutrient Requirement	180	75	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	-10		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	190	74.7	0
Separated Solid(s)	0	0	0
Solid Stack(s)	32	52	113
Waste Storage Pond(s)	14	43	84
Estimated Remaining Nutrients Required *	144	-20	-197
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	144	-20	-197

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Pantone **Crop:** Alfalfa Hay, Irrigated South ID-Cut Immature **Yield:** 6

	N	P205	K20
Crop Nutrient Requirement	461	107	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		

from Irrigation Water	0		0
Nutrient Balance from above *	460.8	107.2	0
Separated Solid(s)	0	0	0
Solid Stack(s)	23	36	79
Waste Storage Pond(s)	20	59	115
Estimated Remaining Nutrients Required *	418	12	-194
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	418	12	-194

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Pierce **Crop:** Alfalfa Hay, Irrigated South ID-Cut Immature **Yield:** 6

	N	P205	K20
Crop Nutrient Requirement	0	107	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	0	107.2	0
N/A	N/A	N/A	N/A
Estimated Remaining Nutrients Required *	0	107	0
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	0	107	0

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Sandy North **Crop:** Corn-Field Silage, Irrigated South ID **Yield:** 25

	N	P205	K20
Crop Nutrient Requirement	230	100	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	230	100.2	0
Separated Solid(s)	0	0	0
Solid Stack(s)	8	30	66
Waste Storage Pond(s)	8	59	115

Estimated Remaining Nutrients Required *	214	11	-181
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	214	11	-181

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Sandy North **Crop:** Triticale-Winter, Irrigated South ID **Yield:** 100

	N	P205	K20
Crop Nutrient Requirement	200	44	0
Nutrients From Soil	?		
from Mineralized Nitrogen	45		
from Prior Crops	-15		
from Prior Bio-Nutrients	23		
from Irrigation Water	0		0
Nutrient Balance from above *	146.9	44	0
Separated Solid(s)	0	0	0
Solid Stack(s)	11	30	66
Waste Storage Pond(s)	12	59	115
Estimated Remaining Nutrients Required *	124	-45	-181
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	124	-45	-181

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Rate may result in crop nutrient deficit or a potential resource concern.
Acceptable: Sustainable agronomic rate.

Field: Sandy South **Crop:** Alfalfa Hay, Irrigated South ID-Cut Immature **Yield:** 6

	N	P205	K20
Crop Nutrient Requirement	0	107	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	0	107.2	0
N/A	N/A	N/A	N/A
Estimated Remaining Nutrients Required *	0	107	0
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	0	107	0

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Sandy South **Crop:** N/A - No Second Crop **Yield:** 0

	N	P205	K20
Crop Nutrient Requirement	0	0	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	0	0	0
N/A	N/A	N/A	N/A
Estimated Remaining Nutrients Required *	0	0	0
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	0	0	0

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Sherman **Crop:** Corn-Field Silage, Irrigated South ID **Yield:** 25

	N	P205	K20
Crop Nutrient Requirement	230	100	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	230	100.2	0
Separated Solid(s)	0	0	0
Solid Stack(s)	30	118	259
Estimated Remaining Nutrients Required *	200	-18	-259
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	200	-18	-259

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Sherman **Crop:** Triticale-Winter, Irrigated South ID **Yield:** 100

	N	P205	K20

Crop Nutrient Requirement	200	44	0
Nutrients From Soil	?		
from Mineralized Nitrogen	45		
from Prior Crops	-15		
from Prior Bio-Nutrients	44		
from Irrigation Water	0		0
Nutrient Balance from above *	125.8	44	0
Separated Solid(s)	0	0	0
Solid Stack(s)	44	118	259
Estimated Remaining Nutrients Required *	82	-74	-259
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	82	-74	-259

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Rate may result in crop nutrient deficit or a potential resource concern.
Acceptable: Sustainable agronomic rate.

Field: Silva #1 **Crop:** Alfalfa Hay, Irrigated South ID-Cut Immature **Yield:** 6

	N	P205	K20
Crop Nutrient Requirement	461	107	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	460.8	107.2	0
Separated Solid(s)	0	0	0
Solid Stack(s)	3	14	30
Waste Storage Pond(s)	10	76	148
Estimated Remaining Nutrients Required *	448	18	-178
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	448	18	-178

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Silva #1 **Crop:** N/A - No Second Crop **Yield:** 0

	N	P205	K20
Crop Nutrient Requirement	0	0	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		

from Prior Crops	0		
from Prior Bio-Nutrients	20		
from Irrigation Water	0		0
Nutrient Balance from above *	-20.2	0	0
N/A	N/A	N/A	N/A
Estimated Remaining Nutrients Required *	-20	0	0
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	-20	0	0

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Rate may result in crop nutrient deficit or a potential resource concern.
Acceptable: Sustainable agronomic rate.

Field: Silva #2 **Crop:** Alfalfa Hay, Irrigated South ID-Cut Immature **Yield:** 6

	N	P205	K20
Crop Nutrient Requirement	461	107	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	460.8	107.2	0
Separated Solid(s)	0	0	0
Solid Stack(s)	3	14	30
Waste Storage Pond(s)	10	76	148
Estimated Remaining Nutrients Required *	448	17	-178
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	448	17	-178

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Silva #2 **Crop:** N/A - No Second Crop **Yield:** 0

	N	P205	K20
Crop Nutrient Requirement	0	0	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	20		
from Irrigation Water	0		0
Nutrient Balance from above *	-20.2	0	0

N/A	N/A	N/A	N/A
Estimated Remaining Nutrients Required *	-20	0	0
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	-20	0	0

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Rate may result in crop nutrient deficit or a potential resource concern.
Acceptable: Sustainable agronomic rate.

Field: Silva #3 **Crop:** Alfalfa Hay, Irrigated South ID-Cut Immature **Yield:** 6

	N	P205	K20
Crop Nutrient Requirement	461	107	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	460.8	107.2	0
Separated Solid(s)	0	0	0
Solid Stack(s)	3	14	30
Waste Storage Pond(s)	10	76	148
Estimated Remaining Nutrients Required *	448	17	-178
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	448	17	-178

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Silva #3 **Crop:** N/A - No Second Crop **Yield:** 0

	N	P205	K20
Crop Nutrient Requirement	0	0	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	20		
from Irrigation Water	0		0
Nutrient Balance from above *	-20.3	0	0
N/A	N/A	N/A	N/A
Estimated Remaining Nutrients Required *	-20	0	0
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	-20	0	0

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Rate may result in crop nutrient deficit or a potential resource concern.
Acceptable: Sustainable agronomic rate.

Field: Zimmatic **Crop:** Alfalfa Hay, Irrigated South ID-Cut Immature **Yield:** 6

	N	P205	K20
Crop Nutrient Requirement	461	107	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	460.8	107.2	0
Separated Solid(s)	0	0	0
Solid Stack(s)	12	20	43
Waste Storage Pond(s)	25	76	148
Estimated Remaining Nutrients Required *	424	12	-191
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	424	12	-191

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Dietrich 1/2 Pivot **Crop:** Alfalfa Hay, Irrigated South ID-Cut Early Bloom **Yield:** 5.5

	N	P205	K20
Crop Nutrient Requirement	293	68	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	292.6	68	0
Solid Stack	25	100	220
Estimated Remaining Nutrients Required *	268	-32	-220
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	268	-32	-220

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Dietrich 1/2 Pivot **Crop:** N/A - No Second Crop **Yield:** 0

	N	P205	K20
Crop Nutrient Requirement	0	0	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	37		
from Irrigation Water	0		0
Nutrient Balance from above *	-37.4	0	0
N/A	N/A	N/A	N/A
Estimated Remaining Nutrients Required *	-37	0	0
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	-37	0	0

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Rate may result in crop nutrient deficit or a potential resource concern.
Acceptable: Sustainable agronomic rate.

Field: Dietrich 3/4 Pivot **Crop:** Alfalfa Hay, Irrigated South ID-Cut Early Bloom **Yield:** 5.5

	N	P205	K20
Crop Nutrient Requirement	0	68	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	0	68	0
N/A	N/A	N/A	N/A
Estimated Remaining Nutrients Required *	0	68	0
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	0	68	0

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Dietrich 3/4 Pivot **Crop:** Triticale-Winter, Irrigated South ID **Yield:** 60

	N	P205	K20
Crop Nutrient Requirement	160	33	0
Nutrients From Soil	?		
from Mineralized Nitrogen	45		

from Prior Crops	54		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	61	33	0
Solid Stack	37	100	220
Estimated Remaining Nutrients Required *	24	-67	-220
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	24	-67	-220

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Rate may result in crop nutrient deficit or a potential resource concern.
Acceptable: Sustainable agronomic rate.

Field: Dietrich Big Pivot **Crop:** Corn-Field Silage, Irrigated South ID **Yield:** 25

	N	P205	K20
Crop Nutrient Requirement	230	100	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	230	100.2	0
Solid Stack	25	100	220
Estimated Remaining Nutrients Required *	205	0	-220
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	205	0	-220

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Dietrich Big Pivot **Crop:** Triticale-Winter, Irrigated South ID **Yield:** 60

	N	P205	K20
Crop Nutrient Requirement	160	33	0
Nutrients From Soil	?		
from Mineralized Nitrogen	45		
from Prior Crops	-15		
from Prior Bio-Nutrients	37		
from Irrigation Water	0		0
Nutrient Balance from above *	92.6	33	0
Solid Stack	37	100	220
Estimated Remaining Nutrients Required *	56	-67	-220

Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	56	-67	-220

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Rate may result in crop nutrient deficit or a potential resource concern.
Acceptable: Sustainable agronomic rate.

Field: Guthrie **Crop:** Alfalfa Hay, Cut Immature, S. ID, Irrigated **Yield:** 4.8

	N	P205	K20
Crop Nutrient Requirement	0	86	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	44		
from Irrigation Water	0		0
Nutrient Balance from above *	-43.9	85.7	0
N/A	N/A	N/A	N/A
Estimated Remaining Nutrients Required *	-44	86	0
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	-44	86	0

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Rate may result in crop nutrient deficit or a potential resource concern.
Acceptable: Sustainable agronomic rate.

Field: Sant **Crop:** Corn-Field, Silage, S. ID, Irrigated **Yield:** 25

	N	P205	K20
Crop Nutrient Requirement	230	100	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	230	100.2	0
Solid Stack	28	110	243
Estimated Remaining Nutrients Required *	202	-10	-243
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	202	-10	-243

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Sant **Crop:** Triticale Haylage, Winter, Double Cropped, S. ID, Irrigated **Yield:** 4.5

	N	P205	K20
Crop Nutrient Requirement	160	20	0
Nutrients From Soil	?		
from Mineralized Nitrogen	45		
from Prior Crops	-15		
from Prior Bio-Nutrients	41		
from Irrigation Water	0		0
Nutrient Balance from above *	88.6	20.4	0
Solid Stack	41	110	243
Estimated Remaining Nutrients Required *	48	-90	-243
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	48	-90	-243

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Rate may result in crop nutrient deficit or a potential resource concern.
Acceptable: Sustainable agronomic rate.

Field: Adams Pivot **Crop:** Alfalfa Hay, Cut Immature, S. ID, Irrigated **Yield:** 6

	N	P205	K20
Crop Nutrient Requirement	461	107	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	28		
from Irrigation Water	0		0
Nutrient Balance from above *	433.3	107.2	0
Solid Stack	28	110	242
Estimated Remaining Nutrients Required *	406	-4	-242
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	406	-4	-242

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: Adams Pivot **Crop:** N/A - No Second Crop **Yield:** 0

	N	P205	K20
Crop Nutrient Requirement	0	0	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		

from Prior Crops	0		
from Prior Bio-Nutrients	64		
from Irrigation Water	0		0
Nutrient Balance from above *	-64.2	0	0
N/A	N/A	N/A	N/A
Estimated Remaining Nutrients Required *	-64	0	0
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	-64	0	0

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Rate may result in crop nutrient deficit or a potential resource concern.
Acceptable: Sustainable agronomic rate.

Field: Fields 6&7 **Crop:** Alfalfa Hay, Cut Immature, S. ID, Irrigated **Yield:** 5.5

	N	P205	K20
Crop Nutrient Requirement	422	98	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	-38		
from Prior Bio-Nutrients	45		
from Irrigation Water	0		0
Nutrient Balance from above *	415.5	98.2	0
Solid Stack	81	130	284
Estimated Remaining Nutrients Required *	335	-32	-284
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	335	-32	-284

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: North Ranch 1/2 Pivot **Crop:** Alfalfa Hay, Cut Immature, S. ID, Irrigated **Yield:** 6

	N	P205	K20
Crop Nutrient Requirement	0	107	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	0	107.2	0
N/A	N/A	N/A	N/A

Estimated Remaining Nutrients Required *	0	107	0
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	0	107	0

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: North Ranch 1/2 Pivot **Crop:** N/A - No Second Crop **Yield:** 0

	N	P205	K20
Crop Nutrient Requirement	0	0	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	65		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	-65	0	0
N/A	N/A	N/A	N/A
Estimated Remaining Nutrients Required *	-65	0	0
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	-65	0	0

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Rate may result in crop nutrient deficit or a potential resource concern.
Acceptable: Sustainable agronomic rate.

Field: North Ranch Big Pivot **Crop:** Corn-Field, Silage, S. ID, Irrigated **Yield:** 25

	N	P205	K20
Crop Nutrient Requirement	230	100	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	230	100.2	0
Solid Stack	28	110	242
Estimated Remaining Nutrients Required *	202	-10	-242
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	202	-10	-242

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: North Ranch Big Pivot **Crop:** Triticale Haylage, Winter, Double Cropped, S. ID, Irrigated **Yield:** 4.5

	N	P205	K20
Crop Nutrient Requirement	160	20	0
Nutrients From Soil	?		
from Mineralized Nitrogen	45		
from Prior Crops	-15		
from Prior Bio-Nutrients	41		
from Irrigation Water	0		0
Nutrient Balance from above *	88.7	20.4	0
Solid Stack	41	110	242
Estimated Remaining Nutrients Required *	48	-90	-242
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	48	-90	-242

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Rate may result in crop nutrient deficit or a potential resource concern.
Acceptable: Sustainable agronomic rate.

Field: North Ranch Mini **Crop:** Corn-Field, Silage, S. ID, Irrigated **Yield:** 25

	N	P205	K20
Crop Nutrient Requirement	230	100	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	3		
from Irrigation Water	0		0
Nutrient Balance from above *	226.8	100.2	0
Solid Stack	28	110	242
Estimated Remaining Nutrients Required *	200	-10	-242
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	200	-10	-242

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: North Ranch Mini **Crop:** N/A - No Second Crop **Yield:** 0

	N	P205	K20
Crop Nutrient Requirement	0	0	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		

from Prior Crops	-10		
from Prior Bio-Nutrients	44		
from Irrigation Water	0		0
Nutrient Balance from above *	-33.9	0	0
N/A	N/A	N/A	N/A
Estimated Remaining Nutrients Required *	-34	0	0
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	-34	0	0

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Rate may result in crop nutrient deficit or a potential resource concern.
Acceptable: Sustainable agronomic rate.

Field: North Ranch Swing **Crop:** Corn-Field, Silage, S. ID, Irrigated **Yield:** 25

	N	P205	K20
Crop Nutrient Requirement	230	100	0
Nutrients From Soil	?		
from Mineralized Nitrogen	0		
from Prior Crops	0		
from Prior Bio-Nutrients	0		
from Irrigation Water	0		0
Nutrient Balance from above *	230	100.2	0
Solid Stack	28	110	242
Estimated Remaining Nutrients Required *	202	-10	-242
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	202	-10	-242

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus
Acceptable: Sustainable agronomic rate.

Field: North Ranch Swing **Crop:** Triticale Haylage, Winter, Double Cropped, S. ID, Irrigated **Yield:** 4.5

	N	P205	K20
Crop Nutrient Requirement	160	20	0
Nutrients From Soil	?		
from Mineralized Nitrogen	45		
from Prior Crops	-15		
from Prior Bio-Nutrients	41		
from Irrigation Water	0		0
Nutrient Balance from above *	88.7	20.4	0
Solid Stack	41	110	242

Estimated Remaining Nutrients Required *	48	-90	-242
Commercial Fertilizer Application	0	0	0
Final Nutrient Balance *	48	-90	-242

* Positive values indicate additional nutrients are required; negative values indicate a nutrient surplus

Rate may result in crop nutrient deficit or a potential resource concern.

Acceptable: Sustainable agronomic rate.

ANALYSIS OF ANIMAL SYSTEM

WASTE STORAGE AND HANDLING

Livestock Unit Waste Characteristics

Description	Animal	Number	Average Animal Weight	Days Collected	Housing	Bedding Type	Bedding (tons)	Waste (tons)
Barn 1 Milkers	Lactating Cow	1,275	1,350	365	Open Lot	Long Straw	2,921	25,319
Barn 3 Milkers	Lactating Cow	425	1,350	365	Open Lot	Long Straw	974	8,440
Dries	Dry Cow	1,200	1,350	365	Open Lot	Long Straw	2,750	24,252
Bulls	Beef - High energy diet	200	1,600	365	Open Lot	Long Straw	543	2,915
Young Bulls	Beef - High energy diet	200	650	365	Open Lot	Long Straw	221	1,184
Calves	Dairy Calf	2,000	275	365	Covered Pens	Long Straw	502	8,534
Heifers	Dairy Heifer	4,000	800	365	Open Lot	Long Straw	5,431	49,652
Barn 2 Feed Alley Flush Milkers	Lactating Cow	2,275	1,350	365	Open Lot	Long Straw	5,213	45,177
Barn 2 Milkers	Lactating Cow	275	1,350	365	Open Lot	Long Straw	630	5,461
Barn 4 Milkers	Lactating Cow	2,550	1,350	365	Open Lot	Long Straw	5,843	50,637

Manure/Biosolid Groups

Manure Group	Storage Type	Application Method	Days to Incorporation	Nitrogen Retention(%)	Annual Volume (ft3)	Annual Weight (tons)
Separated Solid(s)	Manure Stored in	Broadcast, Incorporated	4-7 days	48	332,139	10,296

	Open Lot, Arid Region	less than 3 inches				
Solid Stack(s)	Manure Stored in Open Lot, Arid Region	Broadcast, Incorporated less than 3 inches	4-7 days	48	6,381,988	197,842
Waste Storage Pond(s)	Waste Storage Pond, Diluted > 50%	Irrigation	N/A	26	321,249	9,959

* in Nitrogen Retention % Column means "Overridden Nitrogen Values"
Assisted Mode has been turned off.

Manure Group		Barn 1 Milkers	Barn 2 Feed Alley Flush Milkers	Barn 2 Milkers	Barn 3 Milkers	Barn 4 Milkers	Bulls	Calves	Dries	Heifers	Young Bulls
Waste Storage Pond(s)	**% To Group**	7	8	8	7	7					
Solid Stack(s)	**% To Group**	85	85	85	85	85	100	100	100	100	100
Separated Solid(s)	**% To Group**	8	7	7	8	8					

Annual Production of Nutrients

The nutrient values were calculated based on animal weight and nitrogen loss estimates as described in the NRCS Agricultural Waste Management Field Handbook guidelines (1996). The calculations are estimates, and manure testing is recommended for more accuracy, as manure nutrient content varies widely among operations.

	Nutrient Distribution on Facility			
	Pounds N	**Pounds P_2O_5**	**Pounds K_2O**	**% of Total**
Total Nutrients Produced	1029063	763383	1651059	
Separated Solid(s)	55186	40919	80045	5

Solid Stack(s)	944687	682886	1493593	91
Waste Storage Pond(s)	29190	39578	77421	4
Nutrients Exported	828398	614525	1329106	80
Nutrients Onsite	200665	148858	321953	20

Comments on Bionutrients
No Comments

Dairy Water Values

Dairy Water Values			
Dairy Process Water:	10025	**Milk Parlor Cleaning Water:**	6500
Dairy Parlor Water:	2025	Hose Volume:	6500
Bulk Tank Water:	8000	Flush Volume:	0
Cow Prep Water:	4080	Deck Flush Volume:	0
Automatic Backflush:	0	Other Volume:	0
Sprinkler Volume:	0	**Holding Pen Cleaning Water:**	5000
Manual Cow Prep:	4080	Hose Volume:	5000
Dairy Equipment Water:	110698	Flush Volume:	0
Compressor Water:	0	Other Volume:	0
Vacuum Pump Water:	0	**Freestall/Alley Flush:**	0
Pre-Cooler Water:	110698	**Excess Water**	
Glycol Chiller Water:	0	Cow Water:	204000
Miscellaneous Equipment Water:	1750	Group 1:	-93302
Washing Machine Water:	500	Group 2:	11500
Miscellaneous Water:	1000		
Milkhouse Water	250	**Total Dairy Water:**	**27355**

Bulk Tank(s)		
Bulk Tank ID	Size	Volume
1	8000	1000
2	8000	1000
3	8000	1000
4	7000	1000

Comments

Misc Equip Comments:
Water used to wash boots, bottles etc.

MANURE STORAGE SUMMARY

Total Annual Liquid Capacity Required				
Bio-Nutrient Group	Recommended Capacity Cubic Feet	% Contained	Storage Days	Storage Vol. Cubic Feet
Waste Storage Pond(s)	466,339	100%	180	
Heifer Feedlot	447,684	100%	180	
Calf Sheds, hutches, Clem's corral	549,430	100%	180	
Barn 2 Corrals	1,373,576	100%	180	
Barn 1 North Corrals	92,589	100%	180	
Barn 3 Corrals	549,430	100%	180	
Barn 4 Corrals	844,495	100%	180	
Process Water	1,331,277	100%	180	

Total Annual Solid Capacity		
Bio-Nutrient Group	Recommended Capacity Cubic Feet	% Contained
Solid Stack(s)	5,898,034	100%
Separated Solid(s)	478,831	100%
Barn 1 Milkers	659,581	100%
Barn 3 Milkers	219,935	100%
Dries	620,968	100%
Bulls	122,613	100%
Young Bulls	49,903	100%
Calves	120,480	100%
Heifers	1,226,355	100%
Barn 2 Feed Alley Flush Milkers	1,177,129	100%
Barn 2 Milkers	142,258	100%

Barn 4 Milkers	1,319,387	100%

Existing Storage Containers

Storage Unit Name	Days Stored	Waste Storage Pond(s)	Solid Stack(s)	Separated Solid(s)	Heifer Feedlot	Calf Sheds, hutches, Clem's corral	Barn 2 Corrals	Barn 1 North Corrals	Barn 3 Corrals	Barn 4 Corrals	Process Water	Barn 1 Milkers - Bedding	Barn 3 Milkers - Bedding	Dries - Bedding	Bulls - Bedding	Young Bulls - Bedding	Calves - Bedding	Heifers - Bedding	Barn 2 Feed Alley Flush Milkers - Bedding	Barn 2 Milkers - Bedding	Barn 4 Milkers - Bedding
Heifer Lagoon #2	180	0%	0%	0%	16%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Barn 1 Lagoon # 2	180	10%	0%	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Barn 3 Lagoon #1	180	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Barn 3 Lagoon #2	180	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba	18	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

rn 3 La go on #3	0																				
Ba rn 2 La go on #1	180	0%	0%	0%	0%	0%	60%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba rn 2 La go on #2	180	58%	0%	0%	82%	100%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba rn 3 La go on #32	180	0%	0%	0%	0%	0%	21%	0%	95%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba rn 2 La go on #4	180	0%	0%	0%	0%	0%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba rn 2 La go on #5	180	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba rn 2 La	180	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

goon #6																				
Barn 2 Lagoon #7	180	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Solid Stack	180	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%	100%	100%	0%	0%	0%
Hiefer Lagoon # 1	180	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Barn #1 Lagoon #1	180	0%	0%	0%	0%	0%	0%	100%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

New Storage Containers Required																				
Storage Unit Name	Days Stored	Waste Storage Pond (s)	Solid Stack(s)	Separated Solid(s)	Heifer Feedlot	Calf Shes, hutches, Clem's corral	Barn 2 Corrals	Barn 1 North Corrals	Barn 3 Corrals	Barn 4 Corrals	Process Water	Barn 1 Milkers - Bedding	Barn 3 Milkers - Bedding	Dries - Bedding	Bulls - Bedding	Young Bulls - Bedding	Calves - Bedding	Heifers - Bedding	Barn 2 Fed Alley Flush Milkers -	Barn 2 Milkers - Bedding	Barn 4 Milkers - Bedding

																		Bedding		
Proposed Barn 4 Lagoon #1	180	15%	0%	0%	0%	0%	0%	0%	0%	50%	19%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Proposed Barn 4 Lagoon #2	180	15%	0%	0%	0%	0%	0%	0%	0%	50%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Container Name	Volume (ft3)	Storage Period (Days)	Length	Width	Depth	Slope	Diameter	Existing	Proposed
Barn #1 Lagoon #1	831,744.0	180	400.0	300.0	8.0	3.0	0.0	Yes	
Barn 1 Lagoon # 2	4,525,333.0	180	800.0	600.0	10.0	2.0	0.0	Yes	
Barn 2 Lagoon #1	1,327,531.0	180	600.0	300.0	8.0	2.0	0.0	Yes	
Barn 2 Lagoon #2	1,247,616.0	180	400.0	300.0	12.0	2.0	0.0	Yes	
Barn 2 Lagoon #4	670,752.0	180	400.0	300.0	6.0	2.0	0.0	Yes	
Barn 2 Lagoon #5	3,983,616.0	180	600.0	600.0	12.0	2.0	0.0	Yes	
Barn 2 Lagoon #6	873,131.0	180	400.0	300.0	8.0	2.0	0.0	Yes	
Barn 2 Lagoon #7	3,312.0	180	40.0	30.0	6.0	2.0	0.0	Yes	

Barn 3 Lagoon #1	17,333.0	180	60.0	60.0	10.0	2.0	0.0	Yes	
Barn 3 Lagoon #2	43,691.0	180	100.0	80.0	8.0	2.0	0.0	Yes	
Barn 3 Lagoon #3	16,811.0	180	100.0	40.0	8.0	2.0	0.0	Yes	
Barn 3 Lagoon #32	873,131.0	180	400.0	300.0	8.0	2.0	0.0	Yes	
Heifer Lagoon #2	79,333.0	180	150.0	80.0	10.0	2.0	0.0	Yes	
Hiefer Lagoon # 1	14,891.0	180	90.0	40.0	8.0	2.0	0.0	Yes	
Proposed Barn 4 Lagoon #1	851,744.0	180	350.0	350.0	8.0	3.0	0.0	No	Yes
Proposed Barn 4 Lagoon #2	851,744.0	180	350.0	350.0	8.0	3.0	0.0	No	Yes
Solid Stack	4,000,000.0	180	1,000.0	500.0	8.0	0.0	0.0	Yes	

Containment of Housing Facility Waste and Corral Runoff
It is important that water from housing facilities and contaminated runoff from corrals be contained and/or diverted to the lagoon storage system. As stated in the Idaho State Department of Agriculture (ISDA) regulation, a discharge is allowed only under large precipitation events (>25yr, 24hr storm event). Lagoon structures must be properly designed, operated, and maintained to contain all barn wastewater and contaminated runoff from a 25-year, 24-hour rainfall event for the site location and maintained to contain all runoff from accumulation of winter precipitation from a one in five-year winter. Animals confined in the CAFO may not have direct contact with canals, streams, lakes, or other surface waters.

Comments
No Comments

BIO-NUTRIENT EXPORT INFO

Exported Bio-Nutrient Summary					
Bio-Nutrient Group Name	**Amount**	**Consumer**	**Consumer's Address**	**Telephone**	**Acres**
Separated Solids	3927	Fred Stechlin	141 W 620 N,Shoshone,ID,83352	886-2485	156
Separated Solids	2769	Gary Jerome	874 4 Mile Rd,Shoshone,ID,83352	886-7128	110
Separated Solids	1510	K.W. Hall	520 N 34 W,Shoshone,ID,83352	886-7066	60
Separated Solids	2090	Craig Hansen	212 E 620 N,Shoshone,ID,83352	886-2289	100
Solid Stack	5899	Silent T Ranch	420 N 700 W,Shoshone,ID,83352	886-2793	200
Solid Stack	2360	Fidel Villalobos	547 N 450 W,Shoshone,ID,83352	886-2943	80
Solid Stack	10325	Ted Lennon	770 N 150 W,Shoshone,ID,83352	886-2204	350
Solid Stack	2655	V and C Ranch LLC	455 4 Mile Rd,Shoshone,ID,83352	886-7914	90
Solid Stack	15487	Carl Pendelton	50 W 620 N,Shoshone,ID,83352	886-2204	525
Solid Stack	2154	Ed Hack	471 N 650 W,Shoshone,ID,83352	886-2914	73
Solid Stack	16225	Alex Bilbao	893 4 Mile Rd,Shoshone,ID,83352	539-1039	550
Solid Stack	1770	Bob Short	551 N 250 E,Shoshone,ID,83352	886-2980	60
Solid Stack	4720	Paul Jerome	34 W 420 N,Shoshone,ID,83352	886-7573	160
Solid Stack	2360	Paul Sluder	796 W 520 N,Shoshone,ID,83352	544-7086	80
Solid Stack	18880	Desert's Edge Angus	558 N 200 W,Shoshone,ID,83352	886-7564	640

Solid Stack	13275	Eden Farms	414 N 800 W,Gooding,ID,83330	886-2180	450
Solid Stack	27435	Sabala Farms	1819 E 1550 S,Gooding,ID,83330	934-4360	930
Solid Stack	8850	Craig Olsen	215 Montana St.,Gooding,ID,83330	934-5651	300
Solid Stack	12006	Tunupa Ranch	2490 E 1700 S,Gooding,ID,83330	934-9259	407
Solid Stack	4258	Scott Simmons	830 W 420 N,Gooding,ID,83330	886-7117	160
Solid Stack	0	Big Wood Farms	P.O. Box 741,Shoshone,ID,83352	886-2777	1000
Solid Stack	0		,,,		0

ANALYSIS OF CROPPING SYSTEM

Farming Operation

Total Acres: 1650.3

Crop Production History

THIS IS NOT A FERTILIZER RECOMMENDATION

Crop Rotation Name: Big Wood

Crop	Yield	Yield Units	N Requirement	P_2O_5 uptake	K_2O Requirement
Alfalfa Hay, Irrigated South ID-Cut Immature	6	tons/acre	0	107.2	240
Alfalfa Hay, Irrigated South ID-Cut Immature	6	tons/acre	0	107.2	240
Alfalfa Hay, Irrigated South ID-Cut Immature	6	tons/acre	0	107.2	240
Oats, Irrigated	300	bu/acre	180	74.7	240
Corn-Field Silage, Irrigated South ID	25	tons/acre	230	100.2	240
Oats, Irrigated	300	bu/acre	180	74.7	240
Average				143	

* Nitrogen and Potassium Requirements assume zero credits.

THIS IS NOT A FERTILIZER RECOMMENDATION

Crop Rotation Name: Handline

Crop	Yield	Yield Units	N Requirement	P_2O_5 uptake	K_2O Requirement
Alfalfa Hay, Irrigated South ID-Cut Immature	5.5	tons/acre	0	98.2	240
Oats, Irrigated	300	bu/acre	180	74.7	240
Oats, Irrigated	300	bu/acre	180	74.7	240
Oats, Irrigated	300	bu/acre	180	74.7	240
Alfalfa Hay, Irrigated South ID-Cut Immature	5.5	tons/acre	0	98.2	240
Alfalfa Hay, Irrigated South ID-Cut Immature	5.5	tons/acre	0	98.2	240
Average				86	

* Nitrogen and Potassium Requirements assume zero credits.

THIS IS NOT A FERTILIZER RECOMMENDATION

Crop Rotation Name: Big Wood Liquid

Crop	Yield	Yield Units	N Requirement	P_2O_5 uptake	K_2O Requirement
Oats, Irrigated	300	bu/acre	180	74.7	240
Alfalfa Hay, Irrigated South ID-Cut Immature	6	tons/acre	0	107.2	240
Alfalfa Hay, Irrigated South ID-Cut Immature	6	tons/acre	0	107.2	240
Alfalfa Hay, Irrigated South ID-Cut Immature	6	tons/acre	0	107.2	240
Oats, Irrigated	300	bu/acre	180	74.7	240
Corn-Field Silage, Irrigated South ID	25	tons/acre	230	100.2	240
Average				95	

* Nitrogen and Potassium Requirements assume zero credits.

THIS IS NOT A FERTILIZER RECOMMENDATION

Crop Rotation Name: Alfalfa/Corn/Triticale Liquid

Crop	Yield	Yield Units	N Requirement	P_2O_5 uptake	K_2O Requirement
Alfalfa Hay, Irrigated South ID-Cut Immature	6	tons/acre	0	107.2	240
Triticale-Winter, Irrigated South ID	100	bu/acre	200	44	240
Corn-Field Silage, Irrigated South ID	25	tons/acre	230	100.2	240
N/A - No Second Crop	0	0	0	0	0
Corn-Field Silage, Irrigated South ID	25	tons/acre	230	100.2	240
Triticale-Winter, Irrigated South ID	100	bu/acre	200	44	240
Corn-Field Silage, Irrigated South ID	25	tons/acre	230	100.2	240
N/A - No Second Crop	0	0	0	0	0
Alfalfa Hay, Irrigated South ID-Cut Immature	6	tons/acre	0	107.2	240
N/A - No Second Crop	0	0	0	0	0
Alfalfa Hay, Irrigated South ID-Cut Immature	6	tons/acre	0	107.2	240
N/A - No Second Crop	0	0	0	0	0
Average				89	

* Nitrogen and Potassium Requirements assume zero credits.

THIS IS NOT A FERTILIZER RECOMMENDATION

Crop Rotation Name: Alfalfa/Corn/Triticale

Crop	Yield	Yield Units	N Requirement	P_2O_5 uptake	K_2O Requirement
Alfalfa Hay, Irrigated South ID-Cut Immature	6	tons/acre	0	107.2	240
N/A - No Second Crop	0	0	0	0	0
Alfalfa Hay, Irrigated South ID-Cut Immature	6	tons/acre	0	107.2	240
Triticale-Winter, Irrigated South ID	100	bu/acre	200	44	240
Corn-Field Silage, Irrigated South ID	25	tons/acre	230	100.2	240
N/A - No Second Crop	0	0	0	0	0
Corn-Field Silage, Irrigated	25	tons/acre	230	100.2	240

South ID					
Triticale-Winter, Irrigated South ID	100	bu/acre	200	44	240
Corn-Field Silage, Irrigated South ID	25	tons/acre	230	100.2	240
N/A - No Second Crop	0	0	0	0	0
Alfalfa Hay, Irrigated South ID-Cut Immature	6	tons/acre	0	107.2	240
N/A - No Second Crop	0	0	0	0	0
Average				118	

* Nitrogen and Potassium Requirements assume zero credits.

Mapped Resource Concern(s)

Field Name	Acres	Resource Concern(s)
No Data	No Data	No Data

Appendix A: ANALYSIS OF SOIL CHARACTERISTICS

Soil Survey (USDA NRCS) information was used to describe the soil variations across each field. **This is not absolute** and may vary for each specific situation. The soil map has broad areas that have distinctive pattern of soils, relief, and drainage. Each map unit on the soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. Because the minor soils are not described in the following summary, the combined acreage for all major soils will be less than the acreage for each field.

Table 1. Soil type across each field

Field Name	Soil Type	Percentage	Approximate Acreage	Surface Texture[1]
Buckwald	CATCHELL	100	28.79	SIL
	CATCHELL	50	20.42	STV-SIL
	GOODING	30	12.25	SIL
Field 26	POWER	100	13.65	SIL
	CATCHELL	50	0.96	STV-SIL
	GOODING	30	0.57	SIL
Hubbs	POWER	100	35.47	SIL
	ELIJAH	50	4.79	SIL

	MCPAN	35	3.36	SIL
Kelly	CATCHELL	50	20.6	STV-SIL
	POWER	100	22.56	SIL
	GOODING	30	12.36	SIL
Mini Pivot	CATCHELL	50	0.35	STV-SIL
	GOODING	30	0.21	SIL
	ELIJAH	55	8.02	SIL
	BRUNCAN	25	3.64	SIL
	ELIJAH	50	4.61	SIL
	CATCHELL	100	3.95	SIL
	POWER	100	7.06	SIL
	MCPAN	35	3.23	SIL
Pantone	CATCHELL	30	9.18	STV-SIL
	GOODING	55	16.83	SIL
	GOODING	30	10.05	SIL
	CATCHELL	50	16.76	STV-SIL
	CATCHELL	100	21.02	SIL
Pierce	CATCHELL	100	53.48	SIL
	GOODING	30	1.51	SIL
	CATCHELL	50	2.52	STV-SIL
Sandy North	GOODING	30	6.75	SIL
	CATCHELL	100	54.63	SIL
	CATCHELL	50	11.26	STV-SIL
Sandy South	POWER	100	24.38	SIL
	DRYCK	15	1.53	VFSL
	QUENCHEROO	30	3.06	L
	BURCH	45	4.59	L
	CATCHELL	100	25.12	SIL
Sherman	CATCHELL	50	13.3	STV-SIL
	CATCHELL	100	0.2	SIL
	GOODING	30	7.98	SIL
	DRYCK	55	0.63	VFSL
	LOUPENCE	35	0.4	SIL

	GOODING	55	16.89	SIL
	POWER	30	9.21	SIL
	POWER	100	29.5	SIL
Silva #1	GOODING	30	0.63	SIL
	DRYCK	15	0.46	VFSL
	QUENCHEROO	30	0.93	L
	POWER	100	31.34	SIL
	BURCH	45	1.39	L
	CATCHELL	50	1.05	STV-SIL
Silva #2	DRYCK	15	4.41	VFSL
	HAPLOXEROLLS	50	1.34	L
	BURCH	45	13.22	L
	QUENCHEROO	30	8.81	L
	ROCK OUTCROP	15	0.4	
	LITHIC TORRIORTHENTS	20	0.31	CBV-SIL
	CAMBORTHIDS	20	0.54	LS
Silva #3	CATCHELL	50	6.49	STV-SIL
	GOODING	30	3.89	SIL
	QUENCHEROO	30	1.36	L
	BURCH	45	2.03	L
	POWER	100	20.84	SIL
	DRYCK	15	0.68	VFSL
Zimmatic	BRUNCAN	25	24.6	SIL
	POWER	100	742.4	SIL
	CATCHELL	50	860.63	STV-SIL
	ELIJAH	55	54.11	SIL
	GOODING	30	516.38	SIL
Dietrich 1/2 Pivot	MCPAN	20	0.47	SIL
	KECKO	15	2.81	LFS
	PAULVILLE	100	6.46	L
	ACKELTON	65	12.18	LFS
	MCPAN	15	4.69	SIL
	STARBUCK	45	14.06	SIL

	POWER	65	1.53	SIL
	ROCK OUTCROP	25	7.81	
Dietrich 3/4 Pivot	PAULVILLE	100	21.06	L
	POWER	65	21.95	SIL
	ROCK OUTCROP	20	2.45	
	MCPAN	20	6.75	SIL
	HOOSEGOW	35	4.29	L
	MCPAN	30	3.68	SIL
Dietrich Big Pivot	STARBUCK	45	0.91	SIL
	MCPAN	55	12.78	SIL
	POWER	25	5.81	SIL
	PAULVILLE	100	38.89	L
	MCPAN	20	4.38	SIL
	ROCK OUTCROP	25	0.5	
	MCPAN	15	0.3	SIL
	HOOSEGOW	35	12.15	L
	MCPAN	30	10.41	SIL
	ROCK OUTCROP	20	6.94	
	POWER	65	14.24	SIL
Guthrie	CATCHELL	30	26.07	STV-SIL
	GOODING	55	47.8	SIL
	GOODING	30	5.3	SIL
	CATCHELL	50	8.83	STV-SIL
	CATCHELL	100	23.05	SIL
Sant	MCPAN	35	16.39	SIL
	ELIJAH	50	23.41	SIL
	CATCHELL	100	52.17	SIL
Adams Pivot	POWER	30	0.4	SIL
	GOODING	55	0.74	SIL
	GOODING	100	63.68	SIL
	GOODING	30	0.27	SIL
	ELIJAH	50	0.46	SIL
Fields 6&7	GOODING	30	4.94	SIL

	ELIJAH	50	8.23	SIL
	GOODING	30	2.66	SIL
	CATCHELL	50	4.43	STV-SIL
	GOODING	100	5.03	SIL
North Ranch 1/2 Pivot	ELIJAH	50	19.34	SIL
	POWER	100	11.64	SIL
	BURCH	45	5.47	L
	DRYCK	15	1.82	VFSL
	GOODING	30	11.6	SIL
	HAPLOXEROLLS	50	0.35	L
	CAMBORTHIDS	20	0.14	LS
	ROCK OUTCROP	15	0.1	
	QUENCHEROO	30	3.65	L
North Ranch Big Pivot	CATCHELL	50	15.77	STV-SIL
	GOODING	30	30	SIL
	ELIJAH	50	50	SIL
	GOODING	30	9.46	SIL
	POWER	100	8.23	SIL
North Ranch Mini	HAPLOXEROLLS	50	0.15	L
	GOODING	100	1.11	SIL
	GOODING	30	7.56	SIL
	ELIJAH	50	12.6	SIL
	GOODING	30	0.96	SIL
	CATCHELL	50	1.6	STV-SIL
	CAMBORTHIDS	20	0.06	LS
	ROCK OUTCROP	15	0.04	
North Ranch Swing	POWER	30	10.7	SIL
	ELIJAH	50	1.65	SIL
	GOODING	30	0.99	SIL
	GOODING	55	19.63	SIL
	GOODING	100	10.97	SIL

Note: 1- See Appendix A.

Note: 1- See Appendix A.

Table 2 contains important soil characteristics for each of the fields identified in this plan. Each soil characteristic listed is representative for the entire field based on a weighted average. *(**Caution:** USDA NRCS Soil Survey information was used to estimate the values reported in Table 2. **These are not absolute values** and may vary for each specific situation. They are estimated values representative for each field.)* The following includes a brief description of each of those factors:

Dominant Surface Texture -- The predominant texture of the surface layer. Soil texture is the relative proportion, by weight, of the particle separate classes (sand, silt, and clay) finer than 2 mm in equivalent diameter. Soil texture influences engineering works and plant growth and is used as an indicator of how soils formed. (See Appendix A)

Available Water Capacity (AWC) -- The volume of water that should be available to plants if the soil, inclusive of fragments, were at field capacity. It is commonly defined as the difference between the amount of soil moisture at field capacity and the amount at permanent wilting point. Typical Available Water Capacities are 0.6 inches/foot for a Sand and 2.0 inches/foot for a Silt Loam. Available Water Capacity is an important soil property in developing water budgets, predicting droughtiness, designing and operating irrigation systems, designing drainage systems, protecting water resources, and predicting yields.

Surface Soil Erodibility Factor (K) -- A factor which quantifies the susceptibility of soil detachment by water. Factors vary from a low of 0.02 to a high of 0.64.

Soil Loss Tolerance (T) -- The maximum amount of erosion at which the quality of a soil as a medium for plant growth can be maintained.

Slope -- The difference in elevation between two points expressed as a percentage of the distance between those points.

Permeability -- The quality of the soil that enables water or air to move through it.

Permeability Class -- Permeability expressed by classes ranging from very rapid to impermeable. (See Appendix A)

Runoff Class - An index of the likelihood for runoff to occur based on inherent soil and slope characteristic. Runoff classes range from Negligible to Very High. (See Appendix A)

Surface pH -- A numerical expression of the relative acidity or alkalinity of the surface soil layer.

Surface pH Classification -- A general descriptive term for soil pH, acid or alkaline.

Table 3 contains additional important soil characteristics for each of the fields identified in this plan. Each soil characteristic listed represents a potential limiting condition within the soil profile (< 5 feet) across the field. *(**Caution:** USDA NRCS Soil Survey information was used to estimate the values reported in Table 2. **These are not absolute values** and may vary for each specific situation. They are estimated values representative for each field.)* The following includes a brief description of each of those factors:

Soil Layer with > 50 % Gravel, Cobble or Stone -- A layer comprised of more than 50 % gravel, cobbles or stones.

Pan - A compact, dense layer in the soil that impedes the movement of water and the growth of roots. Examples include: *hardpan, claypan, plowpan*, and *fragipan*. (See Appendix A)

Rock -- A layer of rock in the soil that impedes the movement of water and the growth of roots.

Seasonal High Water Table -- A seasonal water table that exist near the surface.

Drainage Class - Drainage class identifies the natural drainage condition of the soil. It refers to the frequency and duration of wet periods. Alteration of the water regime by humans, either through drainage or irrigation, is not a consideration unless the alterations have significantly changed the morphology of the soil. (See Appendix A)

Hydrologic Group -- A group of soils having similar runoff potential under similar storm and cover conditions.

Table 2. Soil characteristics representative for each field

Field Name	Representative For Entire Field (Weighted Average)											
	Dominant Surface Texture & (Acreage)[1]	Total Available Water Capacity to 5 feet (in)	Surface Soil Erodibility Factor - K	Soil Loss Tolerance - T (tons/acre)	Calculated Sheet and Rill Erosion Rate[1] (tons/acre)	Calculated Irrigation Induced Erosion Rate[1] (tons/acre)	Slope (%)	Permeability (in/hour)	Permeability Class[1,2]	Runoff Class[1,3]	Surface pH	Surface pH Classification
Buckwald	SIL(44.11)	5.72	0.46	2	-1	-1	4.21	0.03	Very Slow	H	7.29	Alkaline
Field 26	SIL(14.37)	10.35	0.43	5	-1	-1	1.8	0.34	Moderately Slow	L	7.23	Alkaline
Hubbs	SIL(45.06)	9.75	0.43	4	-1	-1	2.03	0.39	Moderately Slow	L	7.23	Alkaline
Kelly	SIL(38.01)	7.95	0.44	3	-1	-1	3.11	0.15	Slow	M	7.24	Alkaline
Mini Pivot	SIL(35.06)	6.34	0.43	2	-1	-1	2.94	0.34	Moderately Slow	L	7.34	Alkaline
Pantone	SIL(53.39)	6.5	0.44	2	-1	-1	3.4	0.02	Very Slow	H	7.27	Alkaline
Pierce	SIL(55.37)	5	0.49	2	-1	-1	4.46	0.02	Very Slow	H	7.35	Alkaline
Sandy North	SIL(63.07)	5.29	0.48	2	-1	-1	4.36	0.03	Very Slow	H	7.33	Alkaline
Sandy South	SIL(49.5)	7.91	0.45	4	-1	-1	2.68	0.39	Moderately Slow	L	7.31	Alkaline
Sherman	SIL(70.84)	9.2	0.42	4	-1	-1	2.07	0.22	Moderately Slow	L	7.25	Alkaline
Silva #1	SIL(31.84)	10.49	0.43	5	-1	-1	1.62	0.43	Moderately Slow	L	7.25	Alkaline
Silva #2	L(25.12)	7.25	0.37	4	-1	-1	1.41	1.56	Moderate	L	7.12	Alkaline
Silva #3	SIL(25.7)	9.04	0.43	4	-1	-1	2.29	0.38	Moderately Slow	L	7.25	Alkaline
Zimmatic	SIL(1486.26)	213.78	12.33	87	-1	-1	90.3	4.06	Moderately Rapid	M	203.38	Alkaline
Dietrich 1/2 Pivot	SIL(33.61)	4.79	0.26	2	-1	-1	3.14	1.14	Moderate	L	6.17	Acid
Dietrich 3/4 Pivot	SIL(39.43)	9.25	0.4	4	-1	-1	2.22	0.48	Moderately Slow	L	7.25	Alkaline
Dietrich Big Pivot	SIL(63.18)	8.37	0.39	4	-1	-1	2.55	0.54	Moderately Slow	L	7.16	Alkaline
Guthrie	SIL(88.04)	7.08	0.43	2	-1	-1	2.73	0.03	Very Slow	H	7.26	Alkaline
Sant	SIL(109.65)	5.11	0.46	2	-1	-1	4.27	0.19	Slow	M	7.29	Alkaline
Adams Pivot	SIL(65.94)	9.67	0.37	3	-1	-1	1.49	0.03	Very Slow	H	7.25	Alkaline
Fields 6&7	SIL(24.82)	7.45	0.41	2	-1	-1	2.23	0.15	Slow	M	7.29	Alkaline
North Ranch 1/2 Pivot	SIL(41.12)	7.83	0.41	3	-1	-1	1.41	0.46	Moderately Slow	L	7.32	Alkaline
North Ranch Big Pivot	SIL(122.13)	7.37	0.42	3	-1	-1	2.06	0.21	Moderately Slow	L	7.3	Alkaline
North Ranch Mini	SIL(22.75)	7.32	0.41	2	-1	-1	1.64	0.24	Moderately Slow	L	7.32	Alkaline
North Ranch Swing	SIL(48.6)	9.88	0.39	3	-1	-1	1.14	0.13	Slow	M	7.28	Alkaline

NOTES:

1 - See Appendix A.

2 - PERMEABILITY CLASSES: VR = Very Rapid, R = Rapid, MR = Moderately Rapid, M = Moderate, MS = Moderately Slow, S = Slow, VS = Very Slow, I = Impermeable.

3 - RUNOFF CLASS: N = Negligible, LV = Very Low, L = Low, M = Medium, H = High, HV = Very High.

Table 3. Soil characteristics that represent a potential limiting condition within the soil profile (< 5 feet) across the entire field.

Field Name	Depth to Limiting Layer < 5 feet - Soil Layer with > 50 % Gravel, Cobble or Stone					Depth to Limiting Layer < 5 feet - Pan[1]				
	Dominant Condition		Most Limiting Condition			Dominant Condition		Most Limiting Condition		
	Layer Description[1,2]	Acres	Layer Description[1,2]	Acres	Minimum Depth (in)	Layer Description	Acres	Layer Description	Acres	Minimum Depth (in)
Buckwald	None Present	44.11	STV	25.52	0	Pan Present	54.32	Pan Present	15.31	40
Field 26	None Present	14.37	STV	1.2	0	Pan Present	14.85	Pan Present	0.72	40
Hubbs	None Present	45.06		45.06	0	Pan Present	39.42	Pan Present	5.64	20
Kelly	None Present	38.01	STV	25.75	0	Pan Present	48.31	Pan Present	15.45	40
Mini Pivot	None Present	30.51	STV	0.44	0	Pan Present	19.8	Pan Present	15.44	20
Pantone	None Present	53.39	STV	31.75	0	Pan Present	52.77	Pan Present	32.37	40
Pierce	None Present	55.37	STV	3.15	0	Pan Present	56.63	Pan Present	1.89	40
Sandy North	None Present	63.07	STV	14.07	0	No Pan Present	68.7	Pan Present	8.44	40
Sandy South	None Present	58	GRX	1.7	23	Pan Present	59.7	Pan Present	59.7	0
Sherman	None Present	70.84	STV	16.62	0	Pan Present	58.32	Pan Present	29.84	40
Silva #1	None Present	33.79	STV	1.31	0	Pan Present	34.7	Pan Present	0.79	40
Silva #2	None Present	25.58	CBV	3.02	0	Pan Present	33.39	Pan Present	33.39	0
Silva #3	None Present	29.47	STV	8.11	0	Pan Present	33.47	Pan Present	4.87	40
Zimmatic	None Present	1455.51	STV	1075.79	0	No Pan Present	1848.93	No Pan Present	67.64	20
Dietrich 1/2 Pivot	None Present	50.99		50.99	0	Pan Present	58.8	Pan Present	58.8	0
Dietrich 3/4 Pivot	None Present	67.08		67.08	0	No Pan Present	67.08	No Pan Present	67.08	0
Dietrich Big Pivot	None Present	120.26		120.26	0	No Pan Present	120.76	No Pan Present	120.76	0
Guthrie	None Present	88.04	STV	44.14	0	No Pan Present	66.69	No Pan Present	65.48	40
Sant	None Present	109.65		109.65	0	No Pan Present	80.61	Pan Present	28.92	20
Adams Pivot	None Present	65.94		65.94	0	No Pan Present	65.46	Pan Present	0.57	20
Fields 6&7	None Present	24.82	STV	5.54	0	Pan Present	24.82	Pan Present	10.29	20
North Ranch 1/2 Pivot	None Present	48.89	GRX	1.55	23	Pan Present	36.4	Pan Present	22.75	20
North Ranch Big Pivot	None Present	122.13	STV	19.71	0	No Pan Present	112.75	No Pan Present	63.08	20
North Ranch Mini	None Present	22.76	STV	0.8	0	Pan Present	22.75	Pan Present	13.86	20
North Ranch Swing	None Present	48.6		48.6	0	Pan Present	36.16	Pan Present	1.64	20

Field Name	Depth to Limiting Layer < 5 feet - Rock					Depth to Limiting Layer < 5 feet - Seasonal High Water Table				
	Dominant Condition		Most Limiting Condition			Dominant Condition		Most Limiting Condition		
	Layer Description	Acres	Layer Description	Acres	Minimum Depth (in)	Layer Description	Acres	Layer Description	Acres	Minimum Depth (in)
Buckwald	Rock Layer Present	69.63	Rock Layer Present	54.32	25	No Water Table Present	69.63	No Water Table Present	69.63	6
Field 26	No Rock Layer Present	13.65	No Rock Layer Present	1.2	N/A	Water Table Present	15.56	Water Table Present	15.56	6
Hubbs	No Rock Layer Present	35.47	No Rock Layer Present	3.95	N/A	Water Table Present	45.06	Water Table Present	45.06	6
Kelly	Rock Layer Present	41.2	Rock Layer Present	25.75	25	No Water Table Present	63.76	No Water Table Present	63.76	6
Mini Pivot	Rock Layer Present	28.44	Rock Layer Present	4.55	13	Water Table Present	35.51	Water Table Present	35.51	6
Pantone	Rock Layer Present	85.14	Rock Layer Present	52.77	25	No Water Table Present	85.14	No Water Table Present	85.14	6
Pierce	Rock Layer Present	58.52	Rock Layer Present	56.63	25	Water Table Present	58.52	Water Table Present	58.52	6
Sandy North	Rock Layer Present	77.14	Rock Layer Present	68.7	25	No Water Table Present	77.14	No Water Table Present	77.14	6
Sandy South	No Rock Layer Present	31.18	No Rock Layer Present	25.12	N/A	Water Table Present	59.7	Water Table Present	59.7	6
Sherman	Rock Layer Present	46.67	Rock Layer Present	16.83	25	No Water Table Present	88.16	No Water Table Present	88.16	6
Silva #1	No Rock Layer Present	32.61	No Rock Layer Present	1.31	N/A	Water Table Present	35.49	Water Table Present	35.49	6
Silva #2	No Rock Layer Present	20.33	No Rock Layer Present	0.45	N/A	Water Table Present	33.39	Water Table Present	33.39	6
Silva #3	No Rock Layer Present	23.85	No Rock Layer Present	8.11	N/A	Water Table Present	38.33	Water Table Present	38.33	6
Zimmatic	Rock Layer Present	1819.64	Rock Layer Present	30.75	13	No Water Table Present	2562.04	No Water Table Present	2562.04	6

Dietrich 1/2 Pivot	Rock Layer Present	31.8	Rock Layer Present	23.44	12	Water Table Present	58.8	Water Table Present	58.8	6
Dietrich 3/4 Pivot	No Rock Layer Present	53.48	No Rock Layer Present	13.6	N/A	No Water Table Present	67.08	No Water Table Present	67.08	6
Dietrich Big Pivot	No Rock Layer Present	81.59	No Rock Layer Present	1.51	N/A	No Water Table Present	120.76	No Water Table Present	120.76	6
Guthrie	Rock Layer Present	132.17	Rock Layer Present	66.69	25	No Water Table Present	132.17	No Water Table Present	132.17	6
Sant	Rock Layer Present	109.58	Rock Layer Present	20.24	21	No Water Table Present	109.65	No Water Table Present	109.65	6
Adams Pivot	Rock Layer Present	65.46	Rock Layer Present	0.57	40	No Water Table Present	65.94	No Water Table Present	65.94	6
Fields 6&7	Rock Layer Present	30.36	Rock Layer Present	5.54	25	Water Table Present	30.36	Water Table Present	30.36	6
North Ranch 1/2 Pivot	Rock Layer Present	39.51	No Rock Layer Present	0	N/A	Water Table Present	50.45	Water Table Present	50.45	6
North Ranch Big Pivot	Rock Layer Present	132.47	Rock Layer Present	19.71	25	No Water Table Present	141.84	No Water Table Present	141.84	6
North Ranch Mini	Rock Layer Present	23.55	No Rock Layer Present	0	N/A	Water Table Present	23.56	Water Table Present	23.56	6
North Ranch Swing	Rock Layer Present	36.16	Rock Layer Present	1.64	40	Water Table Present	48.6	Water Table Present	48.6	6

Field Name	Drainage Class[1,3]		Hydrologic Group[1]	
	Dominant Drainage Class	Acres	Dominant Hydrologic Group	Acres
Buckwald	Well drained	69.63	D	69.63
Field 26	Well drained	15.56	B	13.65
Hubbs	Well drained	45.06	B	35.47
Kelly	Well drained	63.76	D	41.2
Mini Pivot	Well drained	35.51	C	23.79
Pantone	Well drained	85.14	D	85.14
Pierce	Well drained	58.52	D	58.52
Sandy North	Well drained	77.14	D	77.14
Sandy South	Well drained	59.7	B	34.58
Sherman	Well drained	88.16	D	57.51
Silva #1	Well drained	35.49	B	33.39
Silva #2	Well drained	30.37	B	30.37
Silva #3	Well drained	38.33	B	25.36
Zimmatic	Well drained	2562.04	D	1721.26
Dietrich 1/2 Pivot	Well drained	58.8	D	31.25
Dietrich 3/4 Pivot	Well drained	67.08	B	67.08
Dietrich Big Pivot	Well drained	120.76	B	95.51
Guthrie	Well drained	132.17	D	132.17
Sant	Well drained	109.65	D	60.49
Adams Pivot	Well drained	65.94	D	65.02
Fields 6&7	Well drained	30.36	C	16.46
North Ranch 1/2 Pivot	Well drained	50.45	C	36.4
North Ranch Big Pivot	Well drained	141.84	C	100.93
North Ranch Mini	Well drained	23.56	C	22.17
North Ranch Swing	Well drained	48.6	D	45.97

NOTES:

1 - See Appendix A.

2 - GRAVEL, COBBLE, or STONE: GRV = Very Gravelly, GRX = Extremely Gravelly, CBV = Very Cobbly, CBX = Extremely Cobbly, STV = Very Stony, STX = Extremely Stony, WB = Weathered Bedrock, and UWB = Unweathered Bedrock.

3 - DRAINAGE CLASS: E = Excessively drained, SE = Somewhat Excessively drained, W = Well drained, MW = Moderately Well drained, SP = Somewhat Poorly drained, P = Poorly drained, VP = Very Poorly drained.

ANALYSIS OF SOIL CHARACTERISTICS Legend

Soil Pan

Hardpan – A hardened or cemented layer soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Claypan – A slowly permeable soil horizon that contains much more clay than the horizon above it. A claypan is commonly hard when dry and plastic or stiff when wet.

Plowpan – A compacted layer formed in the soil directly below the plow layer.

Fragipan – A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restrict roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than deform slowly.

Soil Drainage Class

Excessively drained (E). Water is removed very rapidly. The occurrence of internal free water commonly is very rare or very deep. The soils are commonly coarse-textured and have very high hydraulic conductivity or are very shallow. They are not suited to crop production unless irrigated.

Somewhat excessively drained (SE). Water is removed from the soil rapidly. Internal free water occurrence commonly is very rare or very deep. The soils are commonly coarse-textured and have high saturated hydraulic conductivity or are very shallow. Without irrigation, only a narrow range of crops can be grown and yields are low.

Well drained (W). Water is removed from the soil readily but not rapidly. Internal free water occurrence commonly is deep or very deep; annual duration is not specified. Water is available to plants throughout most of the growing season in humid regions. Wetness does not inhibit growth of roots for significant periods during most growing seasons.

Moderately well drained (MW). Water is removed from the soil somewhat slowly during some periods of the year. Internal free water occurrence commonly is moderately deep and transitory through permanent. The soils are wet for only a short time within the rooting depth during the growing season, but long enough that most mesophytic crops are affected. They commonly have a moderately low or lower saturated hydraulic conductivity in a layer within the upper 1 m, periodically receive high rainfall, or both.

Somewhat poorly drained (SP). Water is removed slowly so that the soil is wet at a shallow depth for significant periods during the growing season. The occurrence of internal free water commonly is shallow to moderately deep and transitory to permanent. Wetness markedly restricts the growth of mesophytic crops, unless artificial drainage is provided. The soils commonly have one or more of the following characteristics: low or very low saturated hydraulic conductivity, a high water table, additional water from seepage, or nearly continuous rainfall.

Poorly drained (P). Water is removed so slowly that the soil is wet at shallow depths periodically during the growing season or remains wet for long periods. The occurrence of internal free water is shallow or very shallow and common or persistent. Free water is commonly at or near the surface long enough during

the growing season so that most mesophytic crops cannot be grown, unless the soil is artificially drained. The soil, however, is not continuously wet directly below plow-depth. Free water at shallow depth is usually present. This water table is commonly the result of low or very low saturated hydraulic conductivity of nearly continuous rainfall, or of a combination of these.

Very poorly drained (VP). Water is removed from the soil so slowly that free water remains at or very near the ground surface during much of the growing season. The occurrence of internal free water is very shallow and persistent or permanent. Unless the soil is artificially drained, most mesophytic crops cannot be grown. The soils are commonly level or depressed and frequently ponded. If rainfall is high or nearly continuous, slope gradients may be greater.

Soil Hydrologic Group

Group A – Soils that have low runoff potential and high infiltration rates even when thoroughly wetted. They consist chiefly of deep, well to excessively drained sands and gravels. These soils have a high rate of water transmission (greater than 0.30 in/hr).

Group B – Soils that have moderate infiltration rates when thoroughly wetted. They consist chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission (greater than 0.15 – 0.30 in/hr).

Group C – Soils that have low infiltration rates when thoroughly wetted. They consist chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine to fine texture. These soils have a low rate of water transmission (greater than 0.05 - 0.15 in/hr).

Group D – Soils that have high runoff potential. They have very low infiltration rates when thoroughly wetted. They consist chiefly of clay soils with high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface, and shallow soils over impervious material. These soils have a very low rate of water transmission (greater than 0.0 - 0.05 in/hr).

Soil Permeability Class

Very Rapid:	20.0 to 100.0 inches/hour
Rapid:	6.0 to 20.0 inches/hour
Moderately Rapid:	2.0 to 6.0 inches/hour
Moderate:	0.6 to 2.0 inches/hour
Moderately Slow:	0.2 to 0.6 inches/hour
Slow:	0.06 to 0.20 inches
Very Slow:	0.0015 to 0.06 inches/hour
Impermeable:	0.0000 to 0.0015 inches/hour

Soil Texture Modifiers, Texture Class and Terms Used in Lieu of Texture.

Texture Modifiers

ASHY	Ashy
BY	Bouldery
BYV	Very bouldery
BYX	Extremely bouldery
CB	Cobbly
CBV	Very cobbly
CBX	Extremely cobbly
CN	Channery
CNV	Very channery
CNX	Extremely channery
COP	Coprogenous
DIA	Diatomaceous
FL	Flaggy
FLV	Very flaggy
FLX	Extremely flaggy
GR	Gravelly
GRC	Coarse gravelly
GRF	Fine gravelly
GRM	Medium gravelly
GRV	Very gravelly
GRX	Extremely gravelly
GS	Grassy
GYP	Gypsiferous
HB	Herbaceous
HYDR	Hydrous
MEDL	Medial
MK	Mucky
MR	Marly
MS	Mossy
PBY	Paraboulderly
PBYV	Very Paraboulderly
PBYX	Extremely Paraboulderly
PCB	Paracobbly
PCBV	Very Paracobbly
PCBX	Extremely Paracobbly
PCN	Parachannery
PCNV	Very Parachannery
PCNX	Extremely Parachannery
PF	Permanently frozen
PFL	Paraflaggy
PFLV	Very Paraflaggy
PFLX	Extremely Paraflaggy
PGR	Paragravelly
PGRV	Very Paragravelly

Texture Class

C	Clay
CL	Clay loam
COS	Coarse sand
COSL	Coarse sandy loam
FS	Fine sand
FSL	Fine sandy loam
L	Loam
LCOS	Loamy coarse sand
LFS	Loamy fine sand
LS	Loamy sand
LVFS	Loamy very fine sand
S	Sand
SC	Sandy clay
SCL	Sandy clay loam
SI	Silt
SIC	Silty clay
SICL	Silty clay loam
SIL	Silt loam
SL	Sandy loam
VFS	Very fine sand
VFSL	Very fine sandy loam

Terms used in lieu of texture

BR	Bedrock
BY	Boulders
CB	Cobbles
CN	Channers
DUR	Duripan
FL	Flagstones
G	Gravel
HPM	Highly Decomposed plant mater
MAT	Material
MPM	Moderately Decomposed plant n
MPT	Mucky peat
MUCK	Muck
OR	Ortstein
PBY	Paraboulders
PC	Petrocalcic
PCB	Paracobbles
PCN	Parachanners
PEAT	Peat
PF	Petroferric
PFL	Paraflagstones
PG	Paragravel
PGP	Petrogypsic
PL	Placic
PST	Parastones
SPM	Slightly Decomposed plant mate
ST	Stones
W	Water

PGRX Extremely Paragravelly
PST Parastony
PSTV Very Parastony
PSTX Extremely Parastony
PT Peaty
ST Stony
STV Very stony
STX Extremely stony
WD Woody

IDAHO SOIL CONSERVATION COMMISSION

IDAHO STATE DEPARTMENT OF AGRICULTURE

ENGINEERING SERVICES

July 20, 2005

Jerome, Andy & Clem Fitzgerald
427 N 250 W
Shoshone, ID 83352

Dear Sirs:

The Nutrient Management Plan for Four Brother Dairy, written by Dustin Olsen, has been approved by Steve Thomas, ISDA Resource Technician on 7/20/2005.

Please take time to review and understand the plan and its contents. It is important that you follow your plan as it has been written. Pay special attention to your hydraulic balance date for the application of waste pond effluent. Liquid effluent application is to begin and end with irrigation season. In the fall, liquid effluent accumulated in waste pond(s) after the irrigation season may be applied to a growing crop or crop stubble prior to November 5th. Before applying effluent outside of the irrigation season you must contact the Idaho Department of Agriculture, Dairy Bureau at (208) 332-8550. Application of effluent outside of your application window will result in a non-compliance of your nutrient management plan. If your plan does not show a hydraulic balance date then application of effluent may not begin until April 1st of each year.

Pond management is a key component to your ability to appropriately implement your nutrient management plan. Proper maintenance will ensure the integrity of your pond. It is important to remove accumulated solids and wastewater upon entering into the wet season.

Please review Storage and Handling Plan Requirements located in your producer Summary.

If you have any questions or concerns please contact me at (208) 465-8428.

Sincerely,

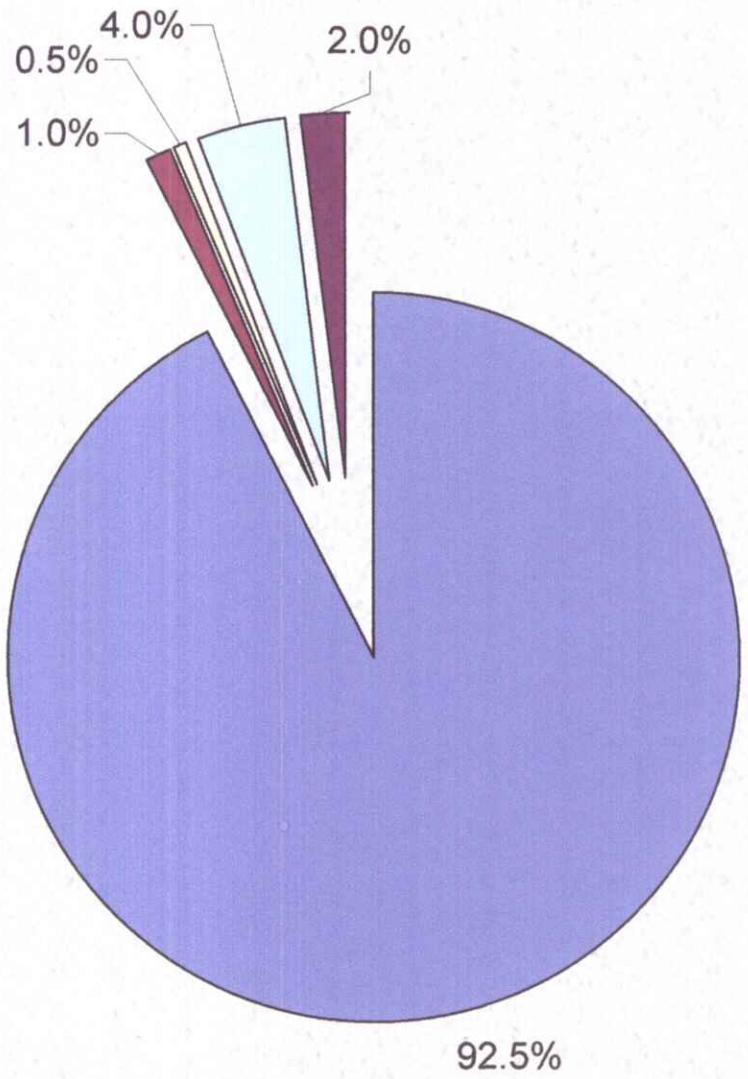
Steve Thomas

Steve Thomas
Resource Technician

Cc: Mary Patten, Chief, Bureau of Dairying
Dustin Olsen, Nutrient Management Specialist

EXHIBIT 20

Summary of Consumptive Use Components - ESRPA



Consumptive use of 1 center pivot is equivalent to approximately 256 houses

IDAHO WATER RESOURCES RESEARCH INSTITUTE

Source: IWRRI - Bryce Contor, Estimating Fraction of Consumptive Use by Priority for Forward-looking Analyses

EXHIBIT
tabbies
20

BROCKWAY ENGINEERING

EXHIBIT 21

Water Well Consultants 2004 District NS

MEASUREMENT FIELD FORM

POINT OF DIVERSION #700069

GPS Site ID Tag: A0004995 Legal Description: 06S 18E 20 SENESE

Diversion Name:

Tag Location: Meter Pole

Owner: 4-Brothers Dairy Inc.

Operator:

PCC DATA

KWH Meter		Standard Meter (fuji)		Qualifier (circle one)
Utility:	IPCO	Pipe Material:	steel	A - single condition
Pole Number:	06S 18E 20 20	Outside Diameter:	8.67 inches	B - multiple conditions
Service Number:		Wall Thickness:	.349 inches	C - Flowmeter & PCC
Meter Manufacturer:	ABB	Upstream Straight:	feet	D - complex system/ timeclock or flowmeter would be more accurate
Serial Number:	01 884 442	Downstream Straight:	feet	
Disk Constant:	21.6	Meter Type:	ultrasonic	
Multiplier:	1	Rate Units:	gallons	Z - zero pumpage

PCC Calculations

Cond.#1 Date: 6-15-04 Examiner: BAK Fuji #: 2

No.of Disk Revolutions 1900 (N) Time (sec.): 22.50 + 22.32 + 22.51 = 22.44 Avg.

3.6 x 21.6 (kh) x 1 (mult.) x 19 (N) / 22.44 Time = 66 KW

(66 kw) (5431) / 528 gpm = 679 PCC Check: 66

Demand 66.37 CTR Bars 4 Power 4 x PSI:

Description: 1 Pivot

(crops) Corn

Cond.#2 Date: Examiner: Fuji #:

No.of Disk Revolutions (N) Time (sec.): + + = Avg.

3.6 x (kh) x (mult.) x (N) / Time = KW

(kw) (5431) / gpm = PCC Check:

Demand CTR Bars Power x PSI:

Description:

(crops)

Cond.#3 Date: Examiner: Fuji #:

No.of Disk Revolutions (N) Time (sec.): + + = Avg.

3.6 x (kh) x (mult.) x (N) / Time = KW

(kw) (5431) / gpm = PCC Check:

Demand CTR Bars Power x PSI:

Description:

(crops)

Water Well Consultants

2004

District NS

MEASUREMENT FIELD FORM

WELL		BOOSTER	
Pump Manufacturer:	Aurora	Pump Manufacturer:	
Pump Serial Number:		Pump Serial Number:	
Head:		Head:	
GPM:		GPM:	
Motor Manufacturer:	GE	Motor Manufacturer:	
Motor Serial Number:	MK5120457B	Motor Serial Number:	
Horsepower:	75	Horsepower:	
Volts	230/460	Volts	
Amps:	180/90	Amps:	

FLOWMETER DATA

Date: _____ Examiner: _____ Fuji #: _____

Meter Reading	Time	Total	Installed Meter	Standard Meter	Percentage

Comments: _____

Date: _____ Examiner: _____ Fuji #: _____

Meter Reading	Time	Total	Installed Meter	Standard Meter	Percentage

Comments: _____

Installed Meter (inline)

Meter Type: _____ Rate Units: gpm _____ cfs _____

Manufacturer: _____ Rate Mult.: _____

Model: _____ Volume Units: gal _____ af _____ cf _____

Serial Number: _____ Volume Mult.: _____

Location: Poor _____ Satisfactory _____ Good _____ Very Good _____ Excellent _____

Other Wells: _____ Other Meters: _____

Comments: _____

DIAGRAM ON BACK

40004995

04-06-15 21:10:51
+3.395E+0 ft/s
+5.267E+2 gal/min
0000091 gal +TOTAL
0000000 gal -TOTAL
NORMAL

04-06-15 21:15:50
+3.379E+0 ft/s
+5.257E+2 gal/min
0002745 gal +TOTAL
0000000 gal -TOTAL
NORMAL

528gpm

04-06-15 21:20:50
+3.391E+0 ft/s
+5.276E+2 gal/min
0005360 gal +TOTAL
0000000 gal -TOTAL
NORMAL

06S18E 20 SENESE

P.2 Water Conservation Inc 208-342-0338 Jul 22 03 08:26

2 Large
Maps go
here.
(scanned seperately)