Form 219
6/86

RECEIVED
SEP 29 2005
STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

SEE 1995 assignment - DON McFarland e By Stay 208-734-0004 - 9/13/02

BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No. 63-08067

1. Owner: The Travelers Ins. Co. and Robert C. & Marlene D. Rhead Phone No. 888-4153 (Rhead)
   Current Address: 700 E. McMillan Meridian ID 83642 (Rhead)
2. Accompanied by: Daryl Rhead, Agent EXAM. DATE: 8/27/91
   Address: HC 85 Box 20 Mtn Home, ID. 83647 Phone No. 587-7325
   Relationship to Permit Holder: Son of R. & M. Rhead
3. Source: groundwater tributary to

B. OVERLAP REVIEW

1. Other water rights with same place of use: 63-10272 (See Exam)
   ☐ Copies Attached N/A
2. Other water rights with same point of diversion: 63-11513 63-11514
   ☐ Copies Attached ☐ Copies of Field Exam's Attached N/A

C. SYSTEM DESCRIPTION

1. **Diversion System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe i.d. as applicable. ☑ Alternative diagram attached

SEE ASCS photo & orthoplot for System layout.

Review this exam with exam of 63-10272 (Little Camas Creek, Rhead Reservoir).

For 63-11513 & 63-11514 - intent is to drill another well before proof due date in 1993. CAN use exam info in 63-08067 & 63-10272 to complete or augment exams of the newer permits once proof is filed.

Scale: 1" = _____.

2. ☑ Copy of U.S.G.S. Quadrangle Attached
   Showing location(s) of point(s) of diversion and place(s) of use (required).
   ☑ Aerial Photo Attached
   (required for irrigation of 10 acres or more).
   ☑ Photo of Diversion and System Attached
   (required for all but single household domestic groundwater, and stockwater.

WELLS } 63-08067 - Licensing
63-11513 & 11514 - Pump Ones in 1993 } Combined, covers 2,461 acres
RESERVOIR 63-10272 - Licensing

System Description (continued)

3. **Narrative:** Description (As operating at time of measurement. Indicate pressure, number of sprinklers, etc.)

Four wells and a pumping plant at Rhead Reservoir form a common system. Wells 1,2,3 are linked by a portable line. Wells 3 & 4 are joined by a buried main line. 12" & 14" mains are found, and 6"-10" portable hand-lines are employed. A 100 hp. booster pump is found SE of well #1. Water from the wells can be diverted into the Rhead Reservoir. Surface & ground water are commingled and applied to the entire p/u as needed. Numerous rock outcroppings are found within the p/u boundary (see ASCS photo). Observed a variety of sprinklers including: 3, 3½, 4 gpm flow-control nozzles; RB30" with 1/8" nozzle & 50 psi at the head; Nelson equivalents to RB30", also with 1/8" nozzles. No recent pump data is available according to Daryl Rhead. ☐ See Remarks on page 4 for continuation

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
1	GE	75	EMJ512416	Layne & Bowler	8" Ser. # 45817
2	US Electric	150	C2688-01-498	NO TAG	14" Looks similar to #1 pump
3	US Electric	100	R9983-04-122	Layne & Bowler	8" 11BH, T81103, 8 stage
4	US Electric	150	R6375-04-882	Layne & Bowler	8" 11BH, T81102, 8 stage

*Code to correspond with No. on map and aerial photo (all are Layne & Bowler well/line pumps)

5. **Point(s) of Diversion:**

Ident. No.	Gov't. Lot	¼	¼	¼	Sec.	Twp.	Rge.	County	Method of Determination/Remarks
1	~~One~~		remainder		five #	1	E/more	7½' orthophoto & ASCS photo
2			SW	SW	33	1N	9E	Elmore	4 pld since all are joined in
3			SE	NW	33	1N	9E	Elmore	a common system. Same pld
4			NE	NW	33	1N	9E	Elmore	as in 63-11513 & 63-11514.

6. **Place(s) of Use:** Indicate Method of Determination as in pld

Twp.	Rge.	Sec.	NE¼				NW¼				SW¼				SE¼				Totals
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
1N	9E	33	19	40	40	39	34			30	33					~~30~~ 25			260
		34						26	34										60
SEE Attachment A (Land List) for complete 2,461 acres at Farm																			320

Do not use this space

Do not use this space

D. FLOW MEASUREMENTS

☑ Additional Data Sheets Attached

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Polysonic Flowmeter				150231		

2. **Measurements:**

PSI gauge on well #4 manifold read 75 psi during polysonic reading. Able to conduct polysonic reading on favorable location on pipeline. Measured 1.68 cfs on well #4. This was the only well that could measure during exam.

ATTACHMENT B

E. FLOW CALCULATIONS

☑ Additional Computation Sheets Attached

1. Measured Method:

Allow 5.49 cfs for 63-08067 (Recommendation is limited by system capacity of 5.49)

2. Alternate Method for Checking Purposes:

F. PUMP EFFICIENCY DATA (Optional)

Discharge Pressure: 75 psi x 2.31 = 173.25 ft (1); Dynamic pumping level: ? 386 ft (2)

Total Head: (1) + (2) = 559.25 (3) ; Flow rate: 1.68 cfs (4)

Water HP: (3) x (4) ÷ 8.8 = 106.77 (5)

Meter Input KW: 3.6 x 4.8 KH x — CTR or ? MULT x — PTR x 5 N/ 63 T = _____ (6)

Meter Input HP: (6) x 1.34 = _____ (7)

Panel Input KW: _____ Ave PF x _____ Ave Volts x _____ Ave Ampsx .001732 = _____ (6)

Panel Input HP: (6) x 1.34 = _____ (7) Efficiency: (5)/(7) x 100 = _____ %

METER # 68 090 675 power puk # 083303 TA 2.5 PK 5 KW reading 1.45

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$V_{I.R.}$ = (Acres Irrigated) x (Irrigation Requirement) = (320)(3.0) = 960 1280

$V_{D.R.}$ = [Diversion Rate (cfs)] x (Days in Irrigation Season) x 1.9835 = (5.49)(184)(1.9835) = 2003.7

V = Smaller of $V_{I.R.}$ and $V_{D.R.}$ = 960 1280

2. Volume Calculations for Other Uses:

H. REMARKS AND OVERLAP REVIEW ANALYSIS

on section line for V

P/O #1 is at section corner common to S. 4 & 5, T1S, R9E and S. 32, T1N, R9E (specifically: L. 4 (NWNW) S. 4 & L. 1 (NENE) S. 5; SESE S. 32).

NO measuring devices found on any of the 4 wells.

Overlap -

Although current water right records do not reflect this:

P/O - same wells as Permits 63-11513 & 11514 - to be licensed later.

NO overlap analysis needed at this time.

P/O - 63-10272 Little Camas Creek (Rheal Reservoir) for at least 570 ~~acres~~ Acres & possibly for all 2,461 acres in Rheal Farm. See exam 63-10272 for details.

I. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use From	Period of Use To	Rate of Diversion Q (cfs)	Annual Volume V (afa)
Irrigation	4/15	10/15	5.49	960
Totals:			5.49	960

2. Recommended Amendments

☑ Change P.D. as reflected above ☑ Add P.D. as reflected above ☐ None

☑ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

} NOTE $20 amendment fee paid with 3/14/91 amend. application, see attached.

J. AUTHENTICATION

Field Examiner's Name: Steve Lester

Signature: Steve Lester

Certification Date:

Field Report Preparation Date: 12/27/91

CONSULTANT SEAL

K. Licensing recommendation shall be prepared by an Idaho Department of Water Resources employee on a computer printout attached hereto.

LAND LIST ATTACHMENT

BOB Rhead Farms

Description and location of place of use:

TWP.	RANGE	SEC.	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
1S	9E	3	25	25	39.5	38	22	24	37	37	33	36	24	13	28	15			396.5
			L.1	L.2			L.3	L.4	← LOT # FOR ABOVE SECTION										
		4	25	25	35	32	8	11	25	18	26	34	33	12	3	2			294
			L.1	L.2			L.3	L.4											
		5	26	26	39.5	40	26	12	7	38	25			16	33	32.5	32.5	37	400.5
			L.1	L.2			L.3	L.4											
		8	38	34	2	4	3												81
		9						10	1										11
1N	9E	27									10	9	27	34	7	1	22.5	28	143.5
		28											4	3	2.5		6	26	41.5
		32											17	37			40	40	134
		33	19✓	48✓	40✓	39✓	34✓			30✓	33✓		32	19	35	38*✓	37	38	434
		34	38	28	30	31	36	26✓	34✓	34	35	36	40	39	31	28	26	33	525

320 ✓ = ACRES RECOMMENDED FOR 63-08067

* includes 25 of the 38 acres in NWSE 5.33

Total number of acres irrigated 2,461

63-08067
63-10272
63-11513
63-11514

AS OF 1991 SEASON

ATTACHMENT A

MEMORANDUM

TO: FILES 63-08067, 63-10272, 63-11513, 63-11514
FROM: STEVE LESTER
DATE: DECEMBER 27, 1991
RE: FLOW CALCULATIONS, VOLUME, ACRES

FLOW CALCULATIONS FOR WELLS

Four interconnected wells are used in 63-08067. Well #4 was measured at 1.68 cfs with the Polysonic meter. The other wells could not be measured. Suitable access into well casings was not found, thus static or dynamic levels could not be measured. Based on three well logs, attached, the average static level was computed as:

$\frac{344 + 456 + 327}{3} = 376$ added 10' for drawdown; z = 386

The legals on the logs are not accurate enough to definitely link a given log with a given well.

Using the HP equation, the following is provided:

	well 1	well 2	well 3	well 4	
pipe size	8	14	8	8	
hp	75	150	100	150	
eff (assume)	.7	.7	.7	.7	
psi (assume)	60	60	60	75	(measured)
z	386	386	386	386	

$Q = \frac{8.8 \times eff \times hp}{(2.31 \times psi)+z}$

Q from equation (cfs)	.88	1.76	1.17	1.65	

Note: use 1.68 cfs measured from well 4 instead of hp equation of 1.65; gives benefit of doubt to irrigator.

Total Q = .88 + 1.76 + 1.17 + 1.68 = 5.49 = system capacity from wells.

VOLUME

For 320 acres in 63-08067: system capacity limits cfs to be recommended. What value for irrigation requirement should be used? Chart used in licensing shows nearest fit is 3 or 4.5, and SRBA chart shows consumptive use value of 2.5 afa. Since consumptive use is approx. 70% of diversion volume:

2.5 / .7 = 3.57 or about 3.5 afa diversion volume requirement.

4.0 af standard

ATTACHMENT B
(pgs)

The farm is located on a praire at 5000' elevation and in this sense is similar to the McCall area. The McCall area has a 3.0 afa requirement. To be compatible with all of the above, I selected the 3.0 value for volume.

ACRES RECOMMENDED IN 63-10272

The permit allows 570 acres. Prior to the field exam, Daryl Rhead visited the regional office to apply for a new permit to place the same 380 a.f. from Rhead Reservoir on all of the farm acres. He wanted additional acres covered but not more storage or live-flow water from Little Camas Creek.

He was advised via the regional manager's advice to not file an application. Instead, the manager suggested that the storage permit be licensed for the expanded acres using the transfer concept allowed in Idaho Code 42-222. The department could issue a license for 380 afa for 570 acres and then solicit a transfer application to spread the same water onto 2,461 acres (would still be a beneficial use since storage water is supplemental to ground water for the farm). This seems like a reasonable idea and stays within the intent of the expanded acreage concept for storage water. It simply saves time and paperwork for the irrigator and the department.

Therefore, I am recommending that 380 afa of storage water be licensed to 2,461 acres identified in Attachment A. To comply with the required public notice intent of such a change, the license amendment must be advertised and processed similar to any other application for change prior to issuing the license. If this is not acceptable to the Water Mngt. Div. Administrator and/or Water Alloc. Bur. Chief, the license could be issued for 570 acres further outlined in Attachment A. The following condition could then be included with the license: This right can be expanded to the total acres verified in the licensing of Right Nos. 63-11513 and 63-11514 only after licenses are issued for the preceeding rights. Right no. 63-10272 will be limited to the storage capacity of 380 acre feet per annum.

FUTURE LICENSE INFORMATION FOR 63-11513 AND 63-11514

The proofs of beneficial use are due in 1993 for these permits. During the 1991 exams of 63-08067 and 63-10272, Mr. Rhead indicated that another well might be drilled. If so, new information can be added to the above flow calculations during licensing. Perhaps more detailed information will be obtained to document the overall system capacity.

If no changes in P/D and/or P/U occur, the exam information in 63-08067 can be used to prepare field reports for the two newer permits.

As of this moment, the following appears to apply for the well system:

* 5.49 cfs for 2461 acres
* V i.r. = 2461 x ~~3~~ = ~~7383~~ afa
* V d.r. = 5.49 x ~~184~~ x 1.9835 = ~~2003.7~~ afa (can add 380 afa from storage)
* cfs and afa limitations are found.

MODE SELECT
DATA SET

DATA SET MODE
? FACTOR

SCALE FACTOR
100.00 %

MODE SELECT
INPUT

OUTER DIAMETER
8.21200 IN

PIPE MATERIAL
? CS,SS

WALL THICKNESS
0.1200 IN

INNER LINING
? NO LING.

KIND OF FLUID
? WATER

SENSOR MOUNTING
? V

TYPE OF SENSOR
? SMALL

DATA CHANGE
? NO

SPACING
6.000 IN V

MODE SELECT
INPUT

OUTER DIAMETER
8.2118 IN

PIPE MATERIAL
? CS,SS

WALL THICKNESS
0.1201 IN

INNER LINING
? NO LING.

KIND OF FLUID
? WATER

SENSOR MOUNTING
? V

TYPE OF SENSOR
? SMALL

DATA CHANGE
? NO

SPACING
6.000 IN V

ZERO MODE
CLEAR

ZERO MODE
ZERO OPR

08-27 15:2100 *R
+449.620E 2GPH

MODE SELECT
T0 CHECK

08-27 15:2600 *R
+752.097E 0GPM

MODE SELECT
T0 CHECK

0300.4 MMSEC
100.84 % T0

08-27 15:2800 *R

63-08067 Polysonic Measurement Flowrate

752 gpm = 1.68 cfs for well # 4

MORANDUM

DATE 12/31/91

FILE 63-08067
63-11513
63-11514

Ray Wight - Layne & Bowler Dist. office (Twin Falls) 733-3284
e Lester

P INFO FOR EXAM

- curve on pg. 208
5 HP, model 10RKHC 12 stg., serial # 45817
all diam. imp.
oal: 460 gpm @ 568' TDH (with 65 psi)

- curve on pg. 213 *
0 HP, model 11BHC, serial # T81103, 8 stg.
.67" diam. imp.
oal: 700 gpm @ 494' TDH (with 65 psi)
pump set at 360'

- curve on pg. 220 *
0 HP, model 11BEH, serial # T81102, 8 stg.
61" diam. imp.
oal: 900 gpm @ 488' TDH (with 65 psi)
pump set at 360'

well #2

odel #'s may be shown as 11BH on tags

CONVERSATION MEMORANDUM

DATE 12/31/91

FILE 63-08067
63-11513
63-11514

NAME OF PARTY Ray Wight - Layne & Bowler Dist. Office (Twin Falls) 733-3284

EMPLOYEE Steve Lester

RE: PUMP INFO FOR EXAM

Well #1 - curve on pg. 208
75 HP, model 10RKHC 12 stg., serial # 45817
full diam. imp.
goal: 460 gpm @ 568' TDH (with 65 psi)

Well #3 - curve on pg. 213 *
100 HP, model 11BHC, serial # T81103, 8 stg.
8.67" diam. imp.
goal: 700 gpm @ 494' TDH (with 65 psi)
pump set at 360'

well #4 - curve on pg. 220 *
150 HP, model 11BEH, serial # T81102, 8 stg.
8.61" diam. imp.
goal: 900 gpm @ 488' TDH (with 65 psi)
pump set at 360'

NO info well #2

* these model #'s may be shown as 11BH on tags

The farm is located on a praire at 5000' elevation and in this sense is similar to the McCall area. The McCall area has a 3.0 afa requirement. To be compatible with all of the above, I selected the 3.0 value for volume.

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* V d.r. = 5.49 x ~~184~~ x 1.9835 = ~~2003.7~~ afa (can add 380 afa from storage)
* cfs and afa limitations are found.

MODEL #

CURVE NO.	No. Stages	Eff. Change	MATERIAL	Eff. Change
18-071	1	−3	IMP.—C.I.	−2
6-1-77	2	−2	IMP.—NI-RI	−1
	3	−1	BOWL—BRZ.	−1
	4	0	BOWL—NI-R.	−1

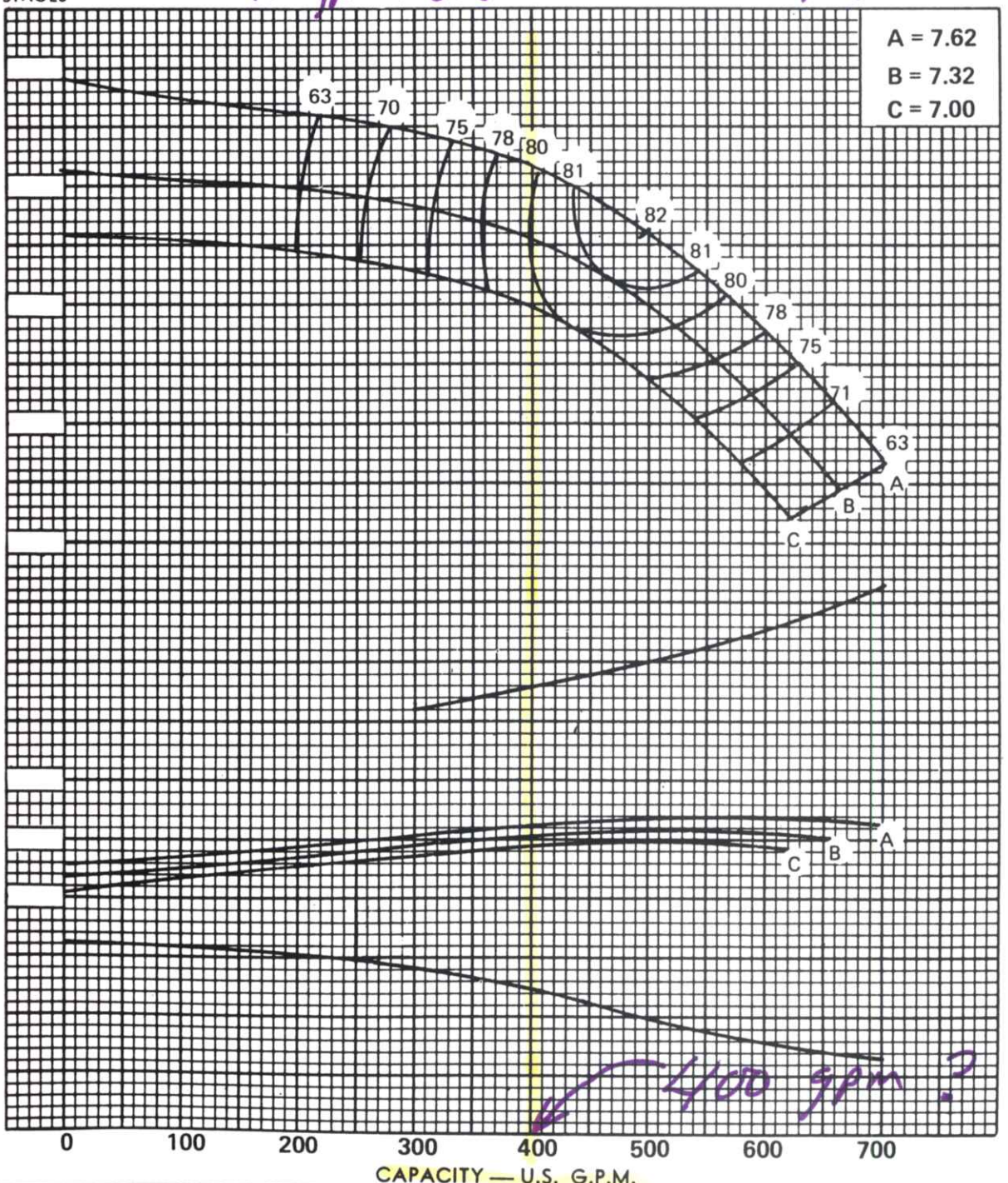
10 RKHC 1760 R.P.M.

SINGLE STAGE LAB PERFORMANCE WITH STANDARD MATERIALS. EFFICIENCY SHOWN FOR 4 OR MORE STAGES. HORSE POWER SHOWN FOR ONE STAGE BASED ON 4 STAGE EFFICIENCY. CORRECTIONS SHOULD BE MADE FOR STAGES AND MATERIAL.

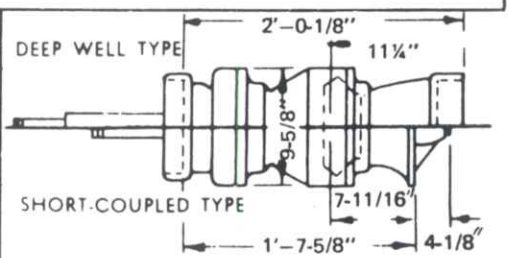
12 stage, full diameter imp., 75 HP, aiming for 400 gpm @ 568' TDH (with 65 psi)

ONE STAGE ( ) STAGES

A = 7.62
B = 7.32
C = 7.00



EYE AREA — SQ. IN.	=	11.63	IMPELLER WT.-LBS.	=	9.8
WR^2 PER IMPELLER	=	0.432 LB.-FT.^{2}	ONE STAGE WT.-LBS.	=	185
MAX. SPHERE SIZE	=	0.625 in.	ADD'L STAGE WT.-LBS.	=	67
MAX. NO. STD. STAGES	=	29	IMPELLER NUMBER	=	5RK171
MAX. OPERATING P.S.I.	=	700	DISCH. SIZES	=	6,8
STD. LATERAL	=	0.86 in.	SUCTION SIZES	=	6
STD. SHAFT DIA.	=	1.500 in.	MAX. LATERAL	=	---- in.
MAX. SHAFT DIA.	=	1.687 in.	BOWL CONN.		THREADED-COLLET
MIN. SUBMERGENCE	=	18 in.	ADD 7-7/16 " PER ADDITIONAL STAGE.		



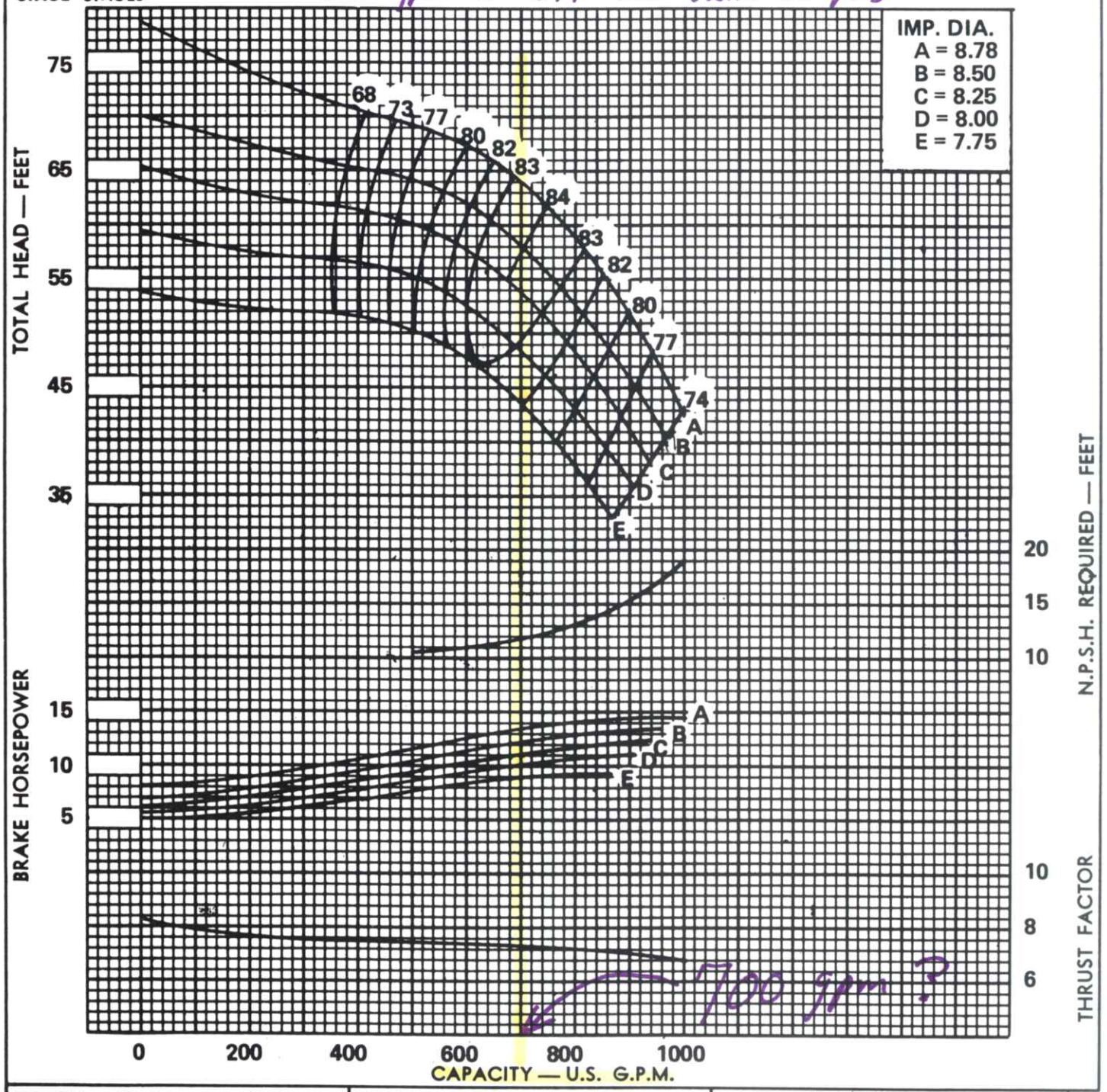
well #1

CURVE NO.	No. Stages	Eff. Change	MATERIAL	Eff. Change
18-083	1	−4	IMP.—C.I.	−2
5-1-79	2	−2	IMP.—NI-RI	−1
	3	−1	BOWL—BRZ.	−1
	4	0	BOWL—NI-R.	−1

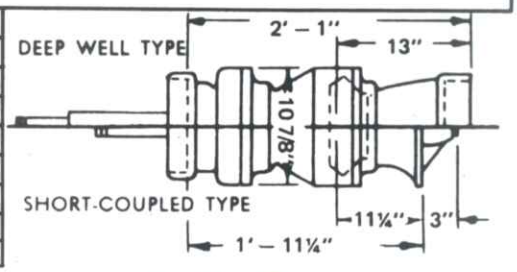
11 BHC — **1770** R.P.M.

SINGLE STAGE LAB PERFORMANCE WITH STANDARD MATERIALS. EFFICIENCY SHOWN FOR 4 OR MORE STAGES. HORSE POWER SHOWN FOR ONE STAGE BASED ON 4 STAGE EFFICIENCY. CORRECTIONS SHOULD BE MADE FOR STAGES AND MATERIAL.

8 stage, 8.67" imp., 100 HP, aiming for 700 gpm @ 494' TDH (with 65 psi)



EYE AREA — SQ. IN.	=	14.71	IMPELLER WT.-LBS.	=	12.7
WR^2 PER IMPELLER	=	0.74 LB.-FT^2	ONE STAGE WT.-LBS.	=	186
MAX. SPHERE SIZE	=	0.62 in.	ADD'L STAGE WT.-LBS.	=	74
MAX. NO. STD. STAGES	=	13	IMPELLER NUMBER	=	55B17
MAX. OPERATING P.S.I.	=	430	DISCH. SIZES	=	8, 6
STD. LATERAL	=	0.62 in.	SUCTION SIZES	=	8
STD. SHAFT DIA.	=	1.500 in.	MAX. LATERAL	=	--- in.
MAX. SHAFT DIA.	=	1.687 in.	BOWL CONN.		FLANGED—COLLET
MIN. SUBMERGENCE	=	22 in.	ADD 9¾		" PER ADDITIONAL STAGE.



Well #3

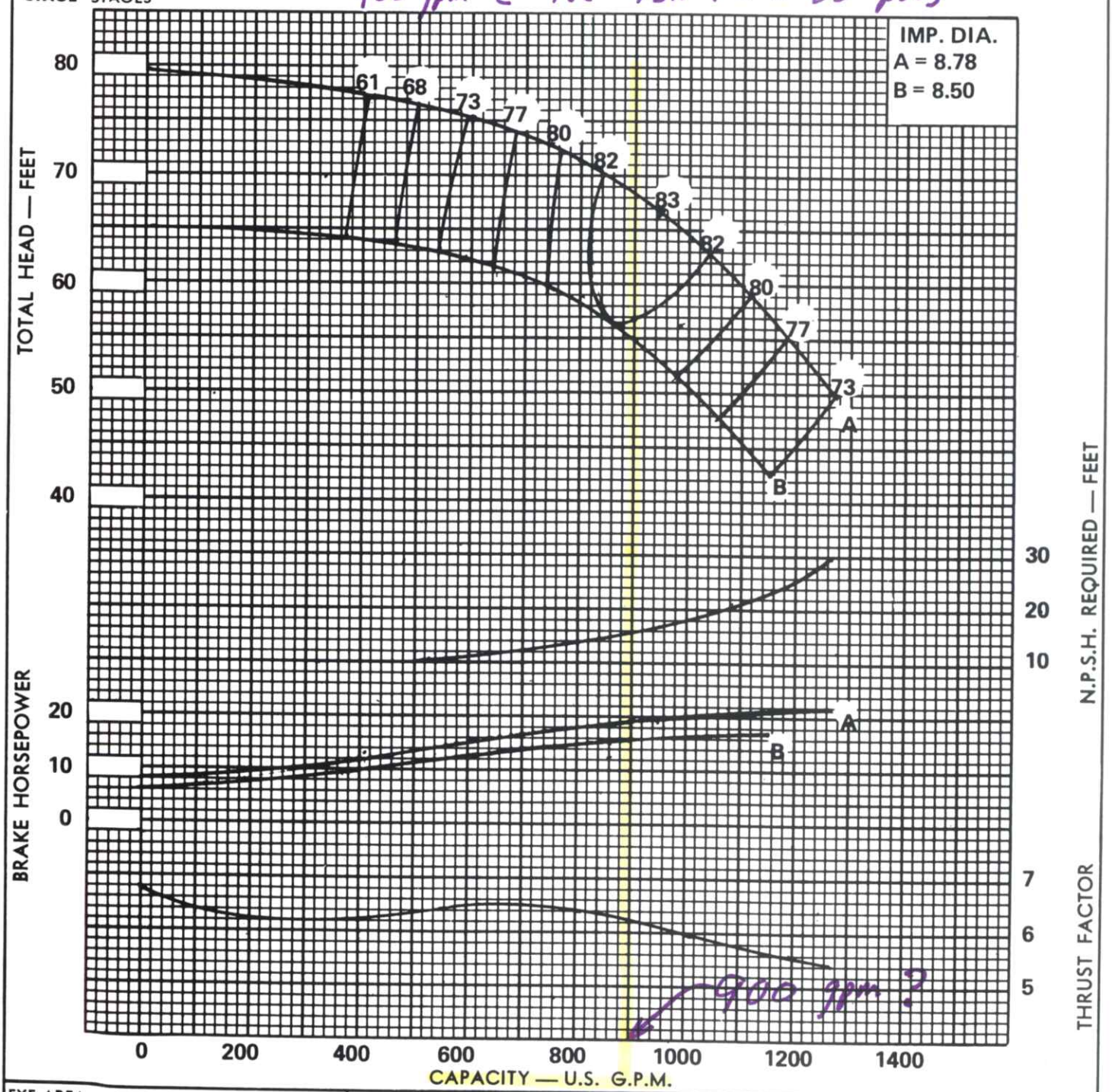
CURVE NO. 18-105 3-15-78	No. Stages	E Change	MATERIAL	Eff. Change
	1	–4	IMP.—C.I.	–2
	2	–2	IMP.—NI-RI	–1
	3	–1	BOWL—BRZ.	–1
	4	0	BOWL—NI-R.	–1

11 BEH 1770 R.P.M.

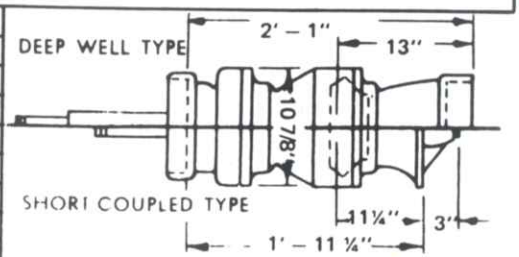
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8 stg., 8.61" imp., 150 HP, aiming for 900 gpm @ 488' TDH (with 65 psi)

ONE ( ) STAGE STAGES



EYE AREA — SQ. IN.	=	15.11	IMPELLER WT.-LBS.	=	12.7
WR^2 PER IMPELLER	=	0.74 LB.-FT^2	ONE STAGE WT.-LBS.	=	186
MAX. SPHERE SIZE	=	0.62 in.	ADD'L STAGE WT.-LBS.	=	74
MAX. NO. STD. STAGES	=	10	IMPELLER NUMBER	=	55B19
MAX. OPERATING P.S.I.	=	430	DISCH. SIZES	=	8
STD. LATERAL	=	0.56 in.	SUCTION SIZES	=	8
STD. SHAFT DIA.	=	1.500 in.	MAX. LATERAL	=	——— in.
MAX. SHAFT DIA.	=	1.687 in.	BOWL CONN.		FLANGED–COLLET
MIN. SUBMERGENCE	=	25 in.	ADD 9¾		" PER ADDITIONAL STAGE



WELL # 4

Well #1 ?

Form 238-7
1/78

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

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

1. WELL OWNER

Name Bob Rhead

Address Little Camas

Owner's Permit No. _____

2. NATURE OF WORK

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

3. PROPOSED USE

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

4. METHOD DRILLED

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

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	12 inches	1 feet	18 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

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

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

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

6. LOCATION OF WELL

Sketch map location must agree with written location.

N
W E
S

Subdivision Name _____
Lot No. _____ Block No. _____
County ELMORE
SE ¼ SE ¼ Sec. 32 T. 1 N/S R. 8 E/W

7. WATER LEVEL

Static water level 344' 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
200		1
1637	400	

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
14	0	12	Clay		
12	12	45	Gray Lava		
12	45	60	Brown Lava		
	60	85	Gray Lava		
	85	95	Broken (No Return)		
	95	105	Gray Lava		
	105	120	Brown Lava		
	120	143	Gray Lava		
	143	155	Brown Lava		
	155	175	Broken (No Return)		
	175	356	Soft (No Return)		
	356	355	Gray Lava & Black Lava	X	
	355	403	Black Cinders	X	
	403	420	Brown Cinders	X	
12	420	508	Broken Lava & Cinders	X	

RECEIVED
SEP 4 1980
Department of Water Resources
Western Regional Office

RECEIVED
SEP 2 1980
Department of Water Resources

RECEIVED
SEP 8 1980
Department of Water Resources

10. Work started 7/2/80 finished 7/10/80

11. DRILLERS CERTIFICATION

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

Firm Name Holdiston Drilling Firm No. 39
Address Mtn. Home Date 7/11/80
Signed by (Firm Official) _____
and
(Operator) Mike Holdiston

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

QE?

Well #2 ?

Form 238 1/78 TYPE

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

RECEIVED OCT 21 1980 Department of Water Resources Western Regional Office

USE TYPEWRITER OR BALLPOINT PEN

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 ROBERT C. RHEAD
STAR RT. B, BOX 20
Address MOUNTAIN HOME, IDAHO 83647
Owner's Permit No.

2. NATURE OF WORK

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

3. PROPOSED USE

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

4. METHOD DRILLED

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

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other

Thickness	Diameter	From	To
0.250 inches	16 inches	+ 1.4 feet	30.73 feet
* 0.219 inches	14 inches	2.0 feet	483.7 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 1/8 inches by 3 inches

Number		From	To
2184	perforations	403 feet	483 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 1/2 MINUS BASALT BACKFILLED/WASHED, UNSCREENED
Placed from ~617 feet to ~607 feet
Surface seal depth 29.3 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 1" PIPE @ 3' INSTALLED AFTER PUMP TEST.

* 14" PIPE IS HANGING IN TENSION OFF BOTTOM.

6. LOCATION OF WELL

Sketch map location must agree with written location.

N / W / E / S

Subdivision Name
Lot No. Block No.
County ELMORE
SE ¼ NE ¼ Sec. 4 T. 1S N/S, R. 9E E/W.

7. WATER LEVEL

TOP OF 16"
Static water level 456 feet below ~~land surface~~.
Flowing? ☐ Yes ☒ No G.P.M. flow
Artesian closed in pressure p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature °F. Quality GOOD

8. WELL TEST DATA

☒ Pump ☐ Bailer ☐ Air ☐ Other

Discharge G.P.M.	Pumping Level	Hours Pumped

9. LITHOLOGIC LOG --REFERENCED TO TOP OF 16"

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
16"	0	492			
14"	492	617			
	0	3	SOIL AND SUBSOIL		x
	3	31	GREY BOULDERS, CLAY SEAMS		
	31	35	GREY BASALT, BROKEN		
	35	43	GREY BASALT, HARD		
	43	70	GREY BASALT, FRACTURED		
	70	75	GREY BASALT, HARD		
	75	87	GREY BASALT, FRACTURED		
	87	112	GREY BASALT BOULDERS, VERY LARGE, CLAY SEAMS		
	112	114	RUBBLE, GREY, GRAVEL		
	114	138	GREY BASALT, HARD		
	138	141	BROWN CLAY		
	141	146	GREY BASALT, OPEN FISSURES		
	146	151	GREY BASALT		
	151	159	CINDERS, GRAVEL, RUBBLE		
	159	163	GREY BASALT		
	163	165	BLACK GRAVEL		
	165	182	BOULDERS, BUBBLE		
	182	190	BLACK BASALT		
	190	227	BROWN BASALT, VERY HARD		
	227	229	BLACK BASALT, FRACTURED		
	229	247	GREY BASALT		
	247	267	CINDERS, BOULDERS, BROWN CLAY, CINDERS		
	267	300	GREY BASALT, SOFT, BROKEN		
	300	312	XXXXXXXXXXXX		
	312	314	GREY BASALT, HARD		
	314	449	RHYOLITE		
			CINDERS & GRAVEL		
			BOULDERS AT 348--352		
			415--417		
			427--431		
			445--449		
	449	466	BLACK SAND, POORLY SORTED	x	
	466	511	BLACK BASALT	x	

10. DO NOT CUT LOOSE!
Work started finished

11. DRILLERS CERTIFICATION

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

Firm Name Hugh Howden Firm No.
Address Date 1980
Signed by (Firm Official)
and
(Operator)

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

PS 1

PS 1 & 2

Have different legals

Well #2
pg 2

Form 238-2
1/78

STATE OF ID. 10
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

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

RECEIVED
OCT 21 1980
Department of Water Resources

1. WELL OWNER

Name ROBERT C. RYCAD — PAGE 2

Address

Owner's Permit No.

7. WATER LEVEL

Static water level Depth at which water first found

Flowing? ☐ Yes ☐ No Estimated flow rate

Artesian closed-in pressure p.s.i.

Controlled by: ☐ Valve ☐ Cap ☐ Plug

Temperature °F. Quality

2. NATURE OF WORK

☐ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Air ☐ Other

Discharge G.P.M.	Pumping Level	Hours Pumped

3. PROPOSED USE

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

9. LITHOLOGIC LOG REFERENCED TO TOP OF 16"

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
16"	511	512	RUBBLE, GRAVEL	X	
	512	557	BLACK BASALT, ALTERNATING		
			LAYERS OF HARD AND SOFT	X	
	557	563	BLACK BASALT, VERY HARD	?	
	563	566	CINDERS IN CREVICE	X	
	566	582	BLACK BASALT	?	
	582	583	GRAVEL IN CREVICE	X	
	583	590	BLACK BASALT	?	
	590	604	BLUE-GREY BASALT		?
	604	605	BROWN SILT	SATURATED	
	605	612	TAN CLAY, VERY STICKY	SATURATED	
	612	614	YELLOW SAND, POORLY SORTED		
			WITH MOSTLY FINES	X	
	614	617	YELLOW GRANITE		?

4. METHOD DRILLED

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

5. WELL CONSTRUCTION

Casing schedule: ☐ Steel ☐ Concrete ☐ Other

Thickness	Diameter	From	To
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was casing drive shoe used? ☐ Yes ☐ No
Was a packer or seal used? ☐ Yes ☐ No
Perforated? ☐ Yes ☐ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
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

10.

Work started JANUARY 15 finished SEPTEMBER 23, 1980

6. LOCATION OF WELL

Sketch map location must agree with written location.

N / W / E / S

Subdivision Name

Lot No. Block No.

County ELMORE

¼ ¼ Sec. 33 T. 3S N/S R. 9E 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 ARTESIAN CO. Firm No. 319

Address 742 E. 36TH S. MOUNTAIN HOME, IDAHO Date OCT. 8, 1980

Signed by (Firm Official) Hugh Harden

and

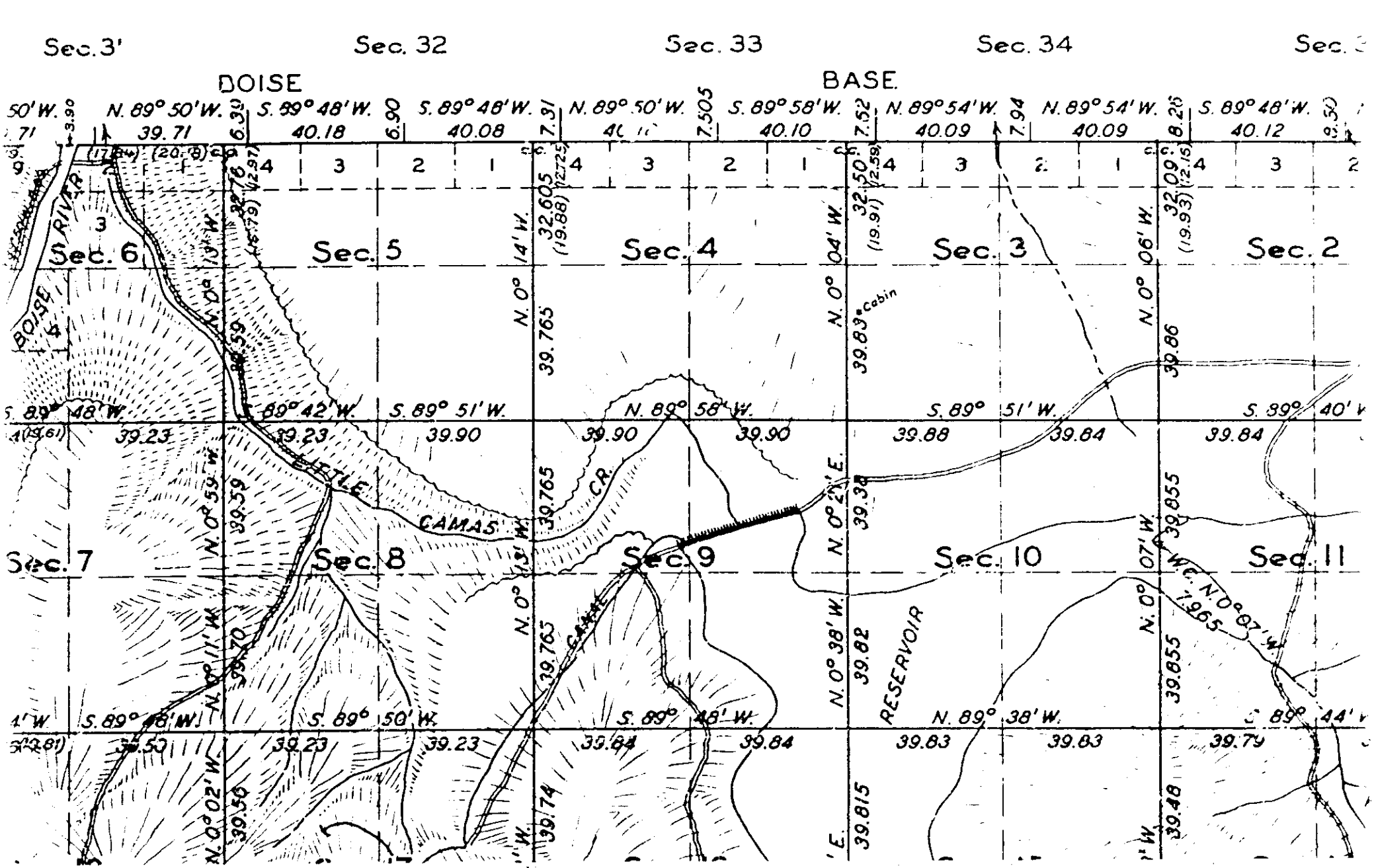
(Operator) Hugh Harden

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

1941 Survey

I SOUTH, RANGE No. 9 EAST OF THE

DEPENDENT RESURVEY



well #3 ?
about last testing test to use

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Resources

WELL DRILLER'S REPORT

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

DEC 1974
Department of Water Resources

1. WELL OWNER

Name Robert C. Rhead

Address Star Rt B, B ox 20 , Mtn Home 83647

Owner's Permit No. Owner applying

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 20 inches Total depth 440 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
0.375 inches	26 inches	+1.0 feet	33 feet
0.250 inches	16 inches	plus1.1 feet	440 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 3/16 inches by 3 inches

Number		From	To
117 torch	perforations	433 feet	420 feet
6,400	perforations	420 feet	320 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 ____

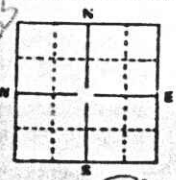
Placed from ____ feet to ____ feet

Surface seal depth 33 Material used in seal ☐ Cement grout ☒ Puddling clay ☐ Well cuttings

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

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name ____

Lot No. ____ Block No. ____

County Elmore

SW ¼ SW ¼ Sec. 33 , T. 1N N/S, R. 9E E/W

7. WATER LEVEL

Static water level 327 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow ____

Temperature 54 °F. Quality Good

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

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
30"	0	33			
24"	33	185			
20"	185	440			
	0	20	Soil, Subsoil		x
	20	30	Boulders, Lost mud		x
	30	40	Pinhole Lava		x
	40	60	Cinders, Boulders		x
	60	80	Lava, Broken Black		x
	80	95	Pinhole Lava		x
	95	115	Grey Lava		x
	115	165	Big Block Lava Boulders		x
	165	185	Hard Lava		x
	185	415	Sand, Gravel, & Clay	x	
			(Water at 332)	x	
	415	441	Layers pinhole Lava	x	

10.

Work started Sept 17, 1974 finished Nov 29, 1974

11. DRILLER'S CERTIFICATION

Firm Name Mountain Home Well Drilling Firm No. 89

Address PO B ox 112 , Harmett, 83625 Date Dec 1, 1974

Signed by (Firm Official) W. H. Bradbury

and

(Operator) Clifford R. Schultz

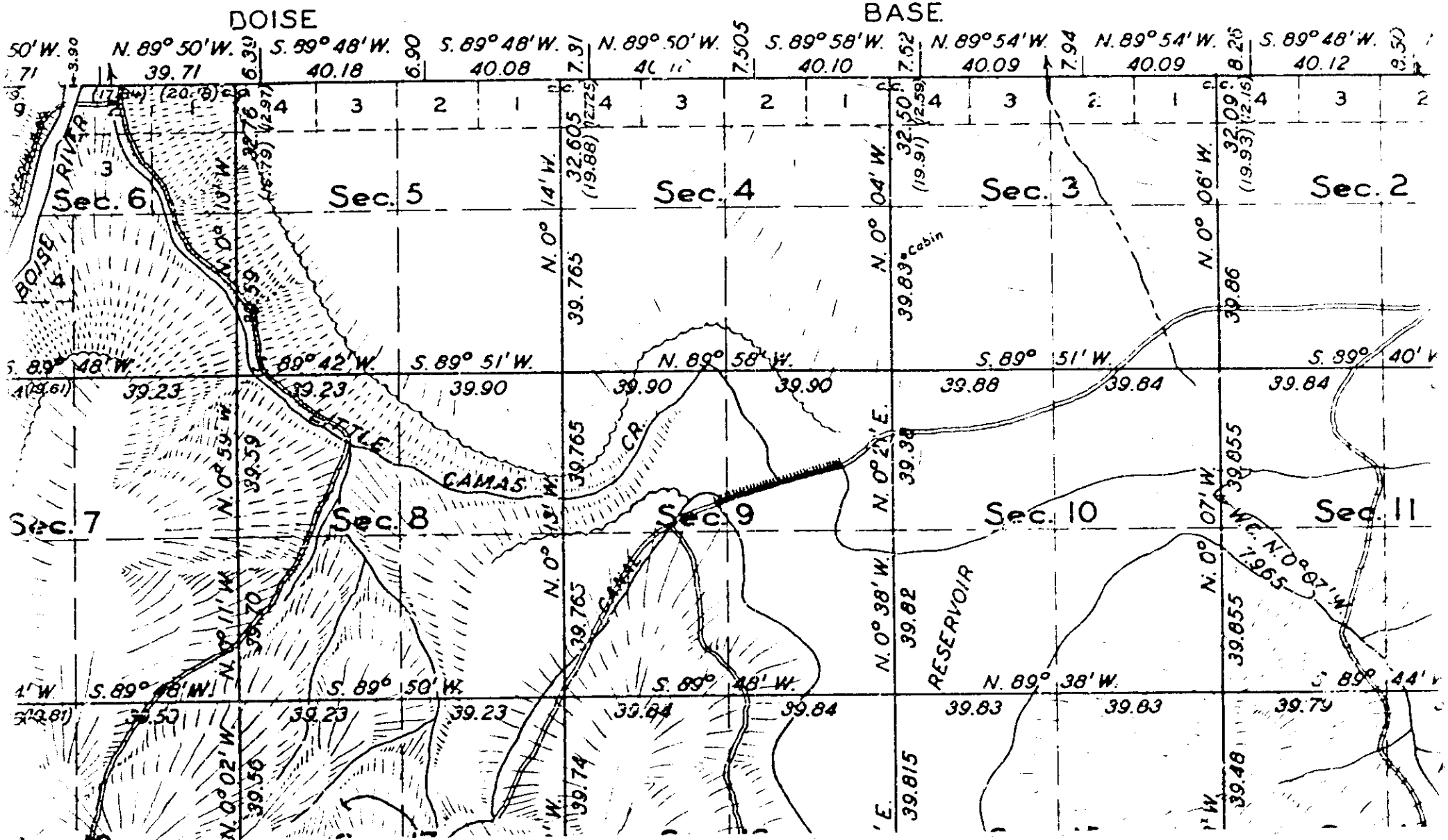
Hugh Harden

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

1941 Survey

I SOUTH, RANGE No. 9 EAST OF THE

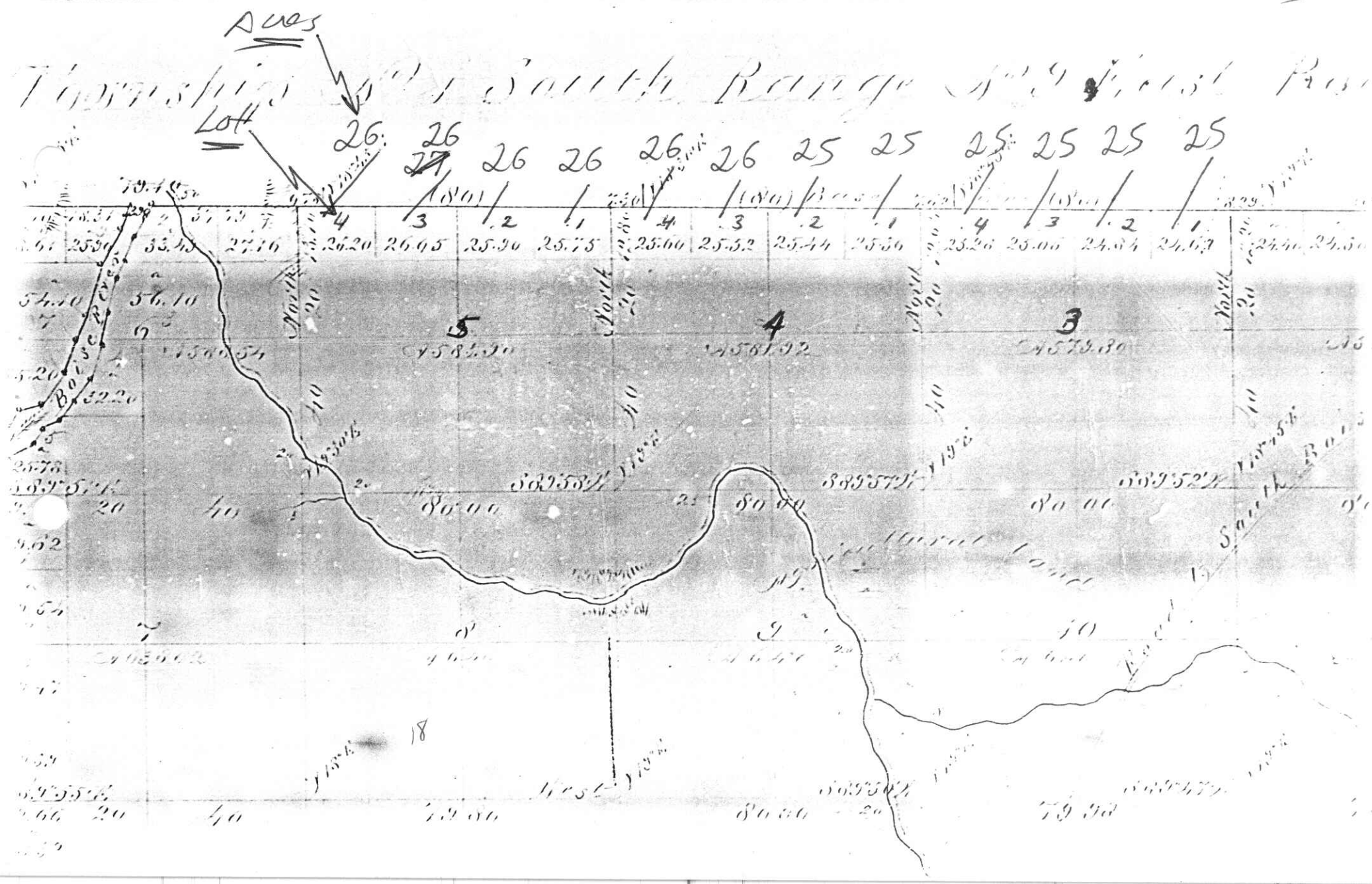
DEPENDENT RESURVEY



T15 R9E S. 3-5

1871 Survey

Trans acres/lot (rounded to nearest whole acre)





Site is North of Little Camas Reservoir. Farm is on the Camas Prairie.

PHOTO ONE- Looking North at dam (P/O 63-10272) on Rhead Reservoir. Pumping plant seen on platform in water. 12" mainline also shown. Part of Plu appears in background



PHOTO TWO- Looking west at well #1 (63-08067, 63-11513, 63-11514). Part of Plu shown in background.



PHOTO THREE- well #2 looking W/SW. well #1 shown in background. part of plu shown.



PHOTO FOUR- Looking East at well #3; part of plu also seen. Note NON-irrigated areas within plu. These are examples of rock outcroppings etc. that are shown on ASCS photos.

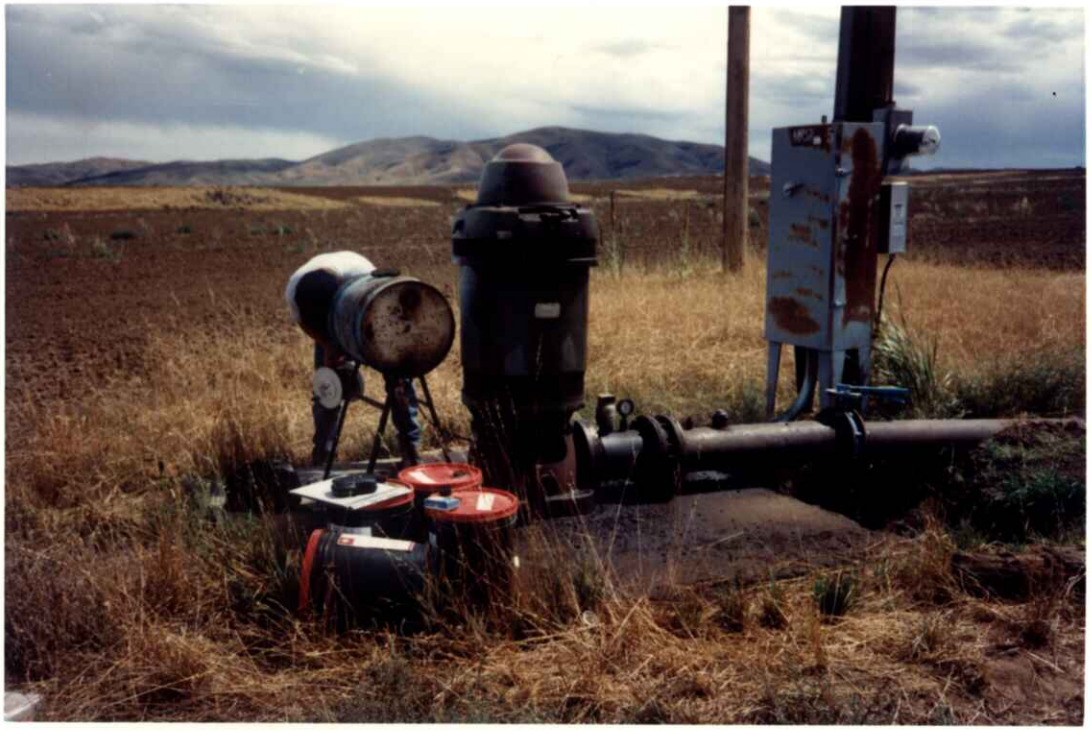


PHOTO FIVE- Looking East at well #4 (measuring with polysonic just out of view to right). Pictured is John Westra.



PHOTO SIX- P/u looking N/NW in S. 5 just north of Rhead Reservoir.



PHOTO SEVEN P/a looking NE from well #4.



PHOTO EIGHT P/a looking E from well #4. This shows a closer view of the typical non-irrigated spots within the entire p/a boundary.

MAY ADD ANOTHER WELL IN NORTH part of P/U PER 1991 INFORMATION

Rockpiles &/or other non-irrigated areas

TOTAL ACRES = 2,461 FARMED 1991

SEE ASCS plats for more exact acres/tract

320 Acres

* 63-08067 } Licensing Recommendations in 1991
63-10272 }
63-11513 } Brief one in 1993
63-11514 }

* Includes 25 of 38 acres in NWSE S. 33

BOB Rhea Farms

well #4

12" main

well #3

LITTLE CAMAS PRAIRIE

well #2

Portable connecting lines between mainlines

BASE LINE

14" main

well #1 for S. Line

100 HP BOOSTER

12" main

T's for portable lines from main

RESERVOIR H2O co-mingles with well H2O; Well H2O can go to Reservoir

12" main

Rhea Reservoir

Dam (PIO)

Pumping plant

Little Camas Creek

CAMAS RESERVOIR ELEVATION 4924

T7N

T1S

R9E

RESERVOIR

BOISE RIVER

RANCH

SOUTH FORK

Spring

Springs

Borrow Pit

Spillway

Gaging Station

Creek

Dollar Creek

Prospects

Borrow Pits

JEEP TRAIL

PACK TRAIL

AQUEDUCT

FOREST ROAD

T432
317

28 27

1 NHEL 10.5

Rockpiles and/or other non-irrigated

27

Proposed well #5 will be in this area?

33 34 34

4 NHEL 152.4

3 NHEL 13.1

12" MAIN

5 NHEL 152.1

25 of 38 acres in 63-08067

8 NHEL 118.5

6 NHEL 61.1

33 34

5 NHEL 43.1

34 35 T14N

10 NHEL 40.6

L.2 L.1

12" MAIN

4 3

L.4 L.3 L.2 L.1

2 NHEL 136.7

14 NHEL 101.0

1 NHEL

23 NHEL 109.8

Rhead Reservoir

4 3 2 1

9 10

Section #'s

63-08067 } Leasing 1991
63-10222 }
63-11513 } Buried Line 1993
63-11514 }

BOB Rhead Farms

R9E

Scale: 1" ≈ 1020'

Some distortion due to splicing & photocopying etc.

= 320 ACRES RECOMMENDED IN 63-08067

29 28

T 41 N

31 32 33

5 4

8 9

1432
317

Proposed well #5 will be in this area?

well #4

5 NHEL 38.7

3 NHEL 19.4

1 NHEL 89.8

1 NHEL 15.6

4 NHEL 15.4

3.5 NHEL

7 NHEL 15.3

10 NHEL 11.7

8 NHEL 9.8

9 NHEL 135.6

well #3

42" MAIN

P/U BOUNDARY

12 NHEL 111.9

11 NHEL 64.7

13 NHEL 16.8

Portable line connects mains

6 NHEL 234.5

25 of 38 acres in 63-08067

well #2

well #1

L4 L3 14" MAIN L2 L1

100 HP Booster

10 NHEL 40.6

L2 L1

12" main

9 NHEL 309.6

11 NHEL 59.5

Rockpiles, not irrigated

12" main

18 NHEL 31.2

19 NHEL 200.2

RESERVOIR WATER CAN co-mingle with well water; well water CAN go to RESERVOIR in 5.9

20 NHEL 625

Road, Reservoir

24 NHEL 146.2

DAM

Pump Station in Reservoir

Little Cimas Creek

NOTE NUMEROUS Rockpiles in fields =

TOTAL ACRES FOUND = 2,461 in 1991

Portable sprinkler lines used from 12" & 14" MAINLINES

R9E

p/u overlap 5.32 ...

Note: "well" "spring" Reservoir

6/28/00

Steve Lester

Attached are the 2 copies of the Big Sky property you requested. If you have any questions, please call us at 587-3305, extension 2.

Donald Smith

DONALD SMITH
PROGRAM TECHNICIAN
USDA, FARM SERVICE AGENCY.

R9E

NAPP-5016

129 R

CC-11

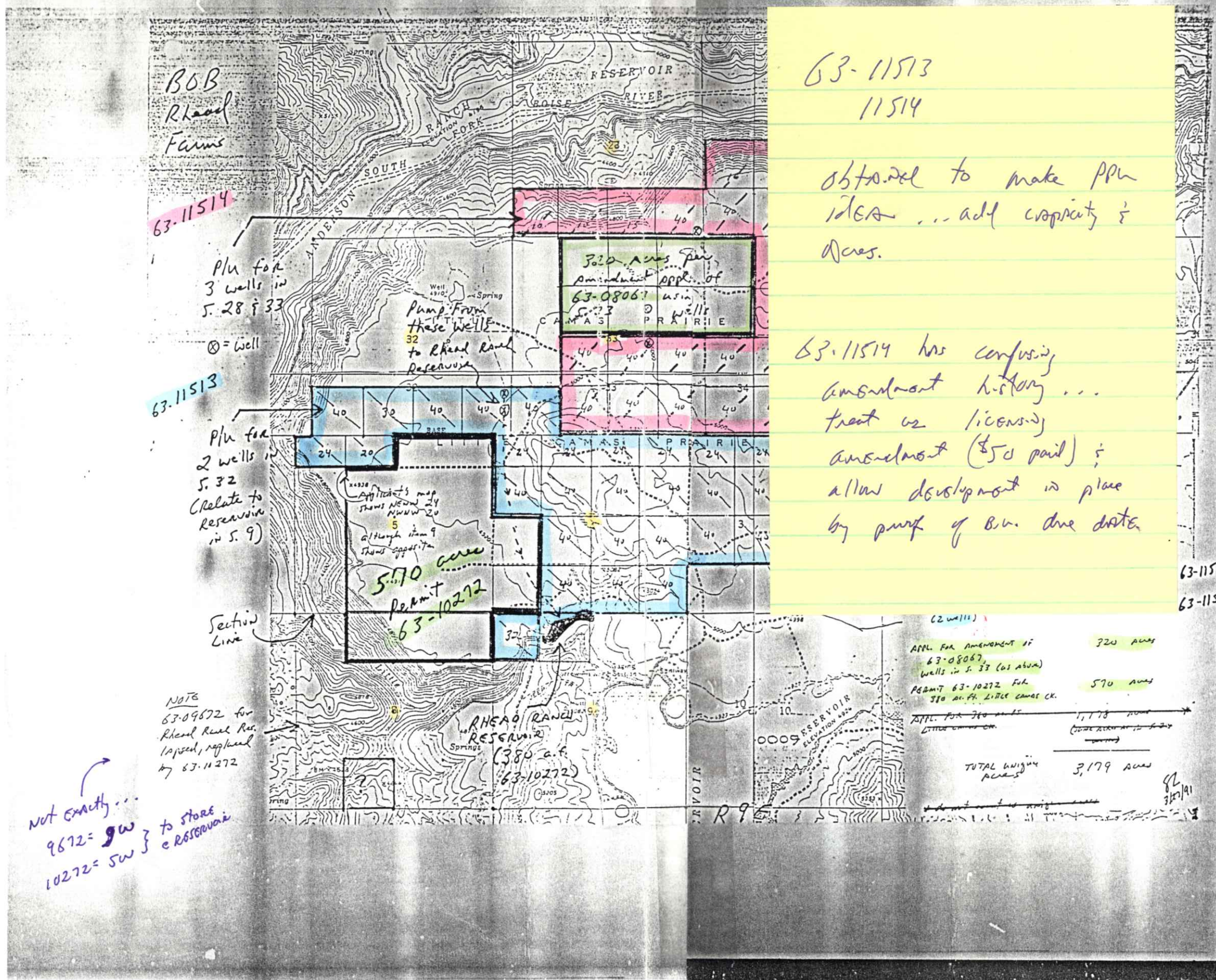
2400.2

T905
858

T905
858

OUT

Permit MAP from
63-11513
63-11514



63-11513
11514

obtained to make PPL idea ... add capacity & acres.

63-11514 has confusing amendment history ... treat as licensing amendment ($50 paid) & allow development in place by proof of B.U. due date.

Not exactly ...
9672 = SW
10272 = SW } to store @ RESERVOIR

Permit MAP from
63-11513
63-11514

