

Big Sky Partnership Beneficial Use Exam

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*Not needed so
not included.
S. Keen*

SEP 26 2005

WATER RESOURCES
WESTERN REGION

**BENEFICIAL USE FIELD REPORT NARRATIVE
PERMIT NOS. 63-8067, 9672, 10272, 11513, 11514
– BIG SKY PARTNERSHIP**

C. E. Brockway, P.E., Certified Water Rights Examiner
Brockway Engineering, PLLC
September 23, 2005

Permit Nos. 63-8067, 9672, 10272, 11513 and 11514 were granted to Robert Rhead for irrigation beginning in 1975. The permits are appurtenant to the Little Camas Ranch in Elmore County, above Anderson Ranch Reservoir located in T. 1 S., R. 9 E., Sections 3, 4, 5, 8 & 9 and T. 1 N., R. 9 E., Sections 27, 28, 32, 33 & 34 (see the attached vicinity map).

An initial exam was performed by Steve Lester of IDWR, accompanied by Daryl Rhead. Mr. Rhead was the agent for the property at the time. The farm has been cultivated to the extent that water was available via 4 wells during the 1991 exam, and during a flurry of activity during 1996 5 additional wells were constructed. Throughout the development of the ground water supply system, stable dependable water supply has been a continuing challenge due to the low hydraulic conductivity apparent on much of the property.

System description

Irrigation water is supplied primarily through the ground water supply, however some surface water is diverted into the storage reservoir and subsequently pumped into the irrigation distribution system which can also be fed by each of the 9 wells. At the time of this review, well #'s 2, 8 & 9 are unused due to decreasing aquifer water levels, however they were utilized at the time proof was filed. Crops are irrigated through handline and wheelline sprinklers, and more recently, center pivot systems.

Rhead Ranch Reservoir is currently estimated to contain 380 acre-ft of water at maximum water level.

Capacity of the ground water irrigation system

Proof of beneficial use was submitted for permits 63-11513 and 63-11514 during the fall of 1996, and since that time some wells have become unproductive. This examination will seek to determine system capacity at the time proof was filed primarily based on well pump and motor specifications. In general, total system diversion capacity appears undersized for the project irrigated acreage, however rotation of irrigated acreage appears to have been and will likely continue to be characteristic for the farm.

Exact well development is uncertain due to difficulty in proper identification of drilling logs and the apparent unavailability of the drilling log for Well #4. Exhaustive analysis of the available logs with field examination has hopefully provided a reasonably accurate correlation between the actual wells and their associated drilling logs. It is helpful that several of the recorded logs show permit #63-11514 specifically.

Permit conditions

These permits require that a suitable measuring device be installed (or that the power-consumption method be pursued with IDWR).

Other rights

Permits 63-8067, 9672, 10272, 11513 and 11514 are all appurtenant to the property and are used in combination to provide irrigation water throughout the farm.

Recommended licensing amendments

1. The entire distribution system (wells, reservoir & surface water) is interconnected and serves the entire property. All applicable water rights should be appurtenant to the entire property.
2. Irrigation season for all water rights should be adjusted to reflect the standard season for this area (April 1st – October 31st)

Total ground water diversion recommendation

1. Total ground water diversion capacity has been estimated from system characteristics and is not a determination of historical beneficial use.

Total annual volume recommendation

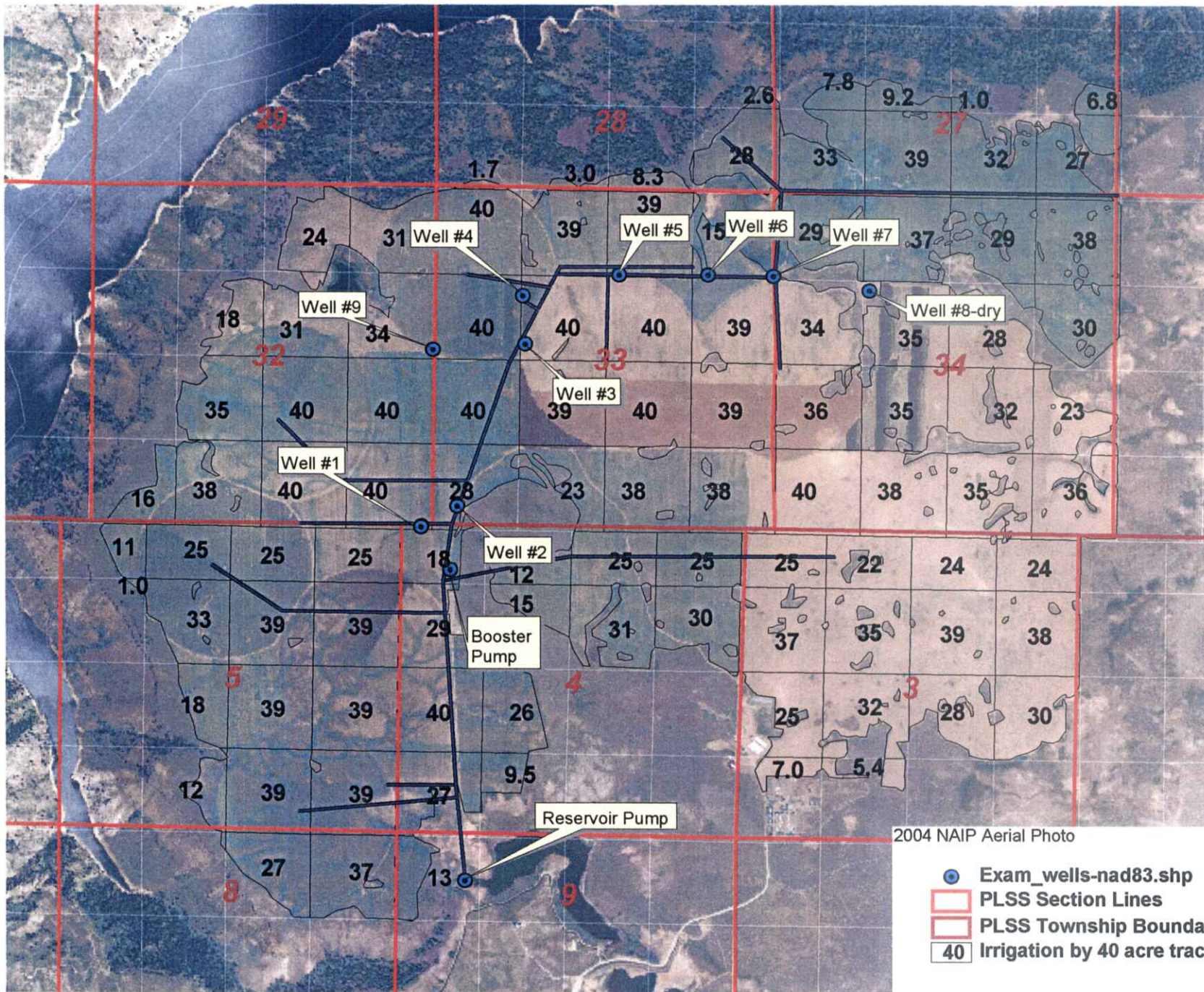
1. Total authorized diversion volume was calculated based on continuous diversion at system capacity throughout the irrigation season of 213 days with the addition of the 380 acre-ft of storage water impounded in Rhead Ranch Reservoir.

Total acreage recommendation

1. Total cultivated acreage has been determined from site visits and review of aerial photo information.

Township	Range	Sec	QQ	LOT #	IRR Acres	
01N	09E	27	NESW	0	9.2	
01N	09E	27	NWSW	0	7.8	
01N	09E	27	SWSW	0	33	
01N	09E	27	SESW	0	39	
01N	09E	27	NESE	0	6.8	
01N	09E	27	NWSE	0	0.8	
01N	09E	27	SWSE	0	32	
01N	09E	27	SESE	0	27	
						155.6
01N	09E	28	SWSW	0	1.7	
01N	09E	28	SESW	0	3	
01N	09E	28	NESE	0	2.6	
01N	09E	28	SWSE	0	8.3	
01N	09E	28	SESE	0	28	
						43.6
01N	09E	32	NENE	0	31	
01N	09E	32	NWNE	0	24	
01N	09E	32	SWNE	0	31	
01N	09E	32	SENE	0	34	
01N	09E	32	SENE	0	18	
01N	09E	32	NESW	0	35	
01N	09E	32	SWSW	0	16	
01N	09E	32	SESW	0	38	
01N	09E	32	NESE	0	40	
01N	09E	32	NWSE	0	40	
01N	09E	32	SWSE	0	40	
01N	09E	32	SESE	0	40	
						387
01N	09E	33	NENE	0	15	
01N	09E	33	NWNE	0	39	
01N	09E	33	SWNE	0	40	
01N	09E	33	SENE	0	39	
01N	09E	33	NENW	0	37	
01N	09E	33	NWNW	0	40	
01N	09E	33	SWNW	0	40	
01N	09E	33	SENE	0	40	
01N	09E	33	NESW	0	39	
01N	09E	33	NWSW	0	40	
01N	09E	33	SWSW	0	28	
01N	09E	33	SESW	0	23	
01N	09E	33	NESE	0	39	
01N	09E	33	NWSE	0	40	
01N	09E	33	SWSE	0	38	
01N	09E	33	SESE	0	38	
						575
01N	09E	34	NENE	0	38	
01N	09E	34	NWNE	0	29	
01N	09E	34	SWNE	0	28	
01N	09E	34	SENE	0	30	
01N	09E	34	NENW	0	37	
01N	09E	34	NWNW	0	29	
01N	09E	34	SWNW	0	34	
01N	09E	34	SENE	0	35	
01N	09E	34	NESW	0	35	
01N	09E	34	NWSW	0	36	
01N	09E	34	SWSW	0	40	
01N	09E	34	SESW	0	38	

01N	09E	34	NESE	0	23	
01N	09E	34	NWSE	0	32	
01N	09E	34	SWSE	0	35	
01N	09E	34	SESE	0	36	
						535
01S	09E	3	NENE	1	24	
01S	09E	3	NWNE	2	24	
01S	09E	3	SWNE	0	39	
01S	09E	3	SENE	0	38	
01S	09E	3	NENW	3	22	
01S	09E	3	NWNW	4	25	
01S	09E	3	SWNW	0	37	
01S	09E	3	SENW	0	35	
01S	09E	3	NESW	0	32	
01S	09E	3	NWSW	0	25	
01S	09E	3	SWSW	0	7	
01S	09E	3	SESW	0	5.4	
01S	09E	3	NESE	0	30	
01S	09E	3	NWSE	0	28	
						371.4
01S	09E	4	NENE	1	25	
01S	09E	4	NWNE	2	25	
01S	09E	4	SWNE	0	31	
01S	09E	4	SENE	0	30	
01S	09E	4	NENW	3	12	
01S	09E	4	NWNW	4	18	
01S	09E	4	SWNW	0	29	
01S	09E	4	SENW	0	15	
01S	09E	4	NESW	0	26	
01S	09E	4	NWSW	0	40	
01S	09E	4	SWSW	0	27	
01S	09E	4	SESW	0	9.5	
01S	09E	4	NESE	0	0.1	
						287.6
01S	09E	5	NENE	1	25	
01S	09E	5	NWNE	2	25	
01S	09E	5	SWNE	0	39	
01S	09E	5	SENE	0	39	
01S	09E	5	NENW	3	25	
01S	09E	5	NWNW	4	11	
01S	09E	5	SWNW	0	1	
01S	09E	5	SENW	0	33	
01S	09E	5	NESW	0	18	
01S	09E	5	SESW	0	12	
01S	09E	5	NESE	0	39	
01S	09E	5	NWSE	0	39	
01S	09E	5	SWSE	0	39	
01S	09E	5	SESE	0	39	
						384
01S	09E	8	NENE	0	37	
01S	09E	8	NWNE	0	27	
01S	09E	8	NENW	0	0.4	
						64.4
01S	09E	9	NWNW	0	13	
01S	09E	9	SWNW	0	0	
						13
						2816.6



0.25 0 0.25 0.5 0.75 1 Miles

**Big Sky Partnership
 Little Camas Ranch
 (T. 1N, R. 9E & T. 1S, R. 9E)**

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

1. Owner: BIG SKY PARTNERSHIP C/O D MC FARLAND & T BULLERS Permit No.: 63-10272
 Current Address: PO BOX 268 EDEN, ID 83325-0268 Phone No.: (208)825-5258
 2. Accompanied by: _____ Exam Date: 6/23/2005
 Address: _____ Phone No.: _____
 Relationship to Permit Holder: _____
 3. Source: Little Camas Creek tributary to South Fork Boise River

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 63-8067, 63-9672, 63-11513, 63-11514
 2. Other water rights with the same point of diversion: 63-8067, 63-9672, 63-11513, 63-11514

C. DIVERSION AND DELIVERY SYSTEM

1. Point(s) of Diversion:

Ident No	Gov't Lot	¼	¼	¼	Sec.	Twp.	Rge.	County	Method of Determination / Remarks
SW1			NW	NW	9	01S	09E	Elmore	Headgate
RE1		SE	NW	NW	9	01S	09E	Elmore	RE-Diversion from Reservoir
RE2		SE	NW	NW	4	01S	09E	Elmore	Booster pump

2. Place(s) of Use: _____ Indicate Method of Determination: _____

TWP	RNG	SEC	NE				NW				SW				SE				TOTALS
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
1N	9E	27									9.2	7.8	33	39	6.8	0.8	32	27	155.6
		28											1.7	3	2.6		8.3	28	43.6
		32	31	24	31	34				18	35		16	38	40	40	40	40	387
		33	15	39	40	39	37	40	40	40	39	40	28	23	39	40	38	38	575
		34	38	29	28	30	37	29	34	35	35	36	40	38	23	32	35	36	535
1S	9E	3	Lot 1 24	Lot 2 24	39	38	Lot 3 22	Lot 4 25	37	35	32	25	7	5.4	30	28			371.4
		4	Lot 1 25	Lot 2 25	31	30	Lot 3 12	Lot 4 18	29	15	26	40	27	9.5	0.1				287.6
		5	Lot 1 25	Lot 2 25	39	39	Lot 3 25	Lot 4 11	1	33	18			12	39	39	39	39	384
		8	37	27			0.4												64.4
		9							13										13

Total number of acres irrigated: 2,816.6

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ ditch size/ pipe i.d. as applicable.

See Attached Grid sheet

- ☐ Copy of USGS 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)*.
☐ Photo of diversion and system attached.

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
SW1					Headgate
Re1		150			Re-Diversion from reservoir
Re2		100			Booster pump into northern main

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calibration

Measurements: 1) Measured flowrate into Rhead Reservoir on 12" buried pipe ~1/2 mile upstream of reservoir discharge

E. NARRATIVE / REMARKS / COMMENTS

- 1) Maximum measured flow rate through 12" mainline into reservoir = 10.18 cfs (4,780 gpm observed at full-open reservoir valve)
2) This right used to fill Rhead Ranch Reservoir in conjunction with right 63-9672.
3) Total annual volume limited to reservoir capacity of 380 acre-ft.

Have conditions of permit approval been met? ☒ Yes ☐ No

F. FLOW CALCULATIONS

☐ Additional Computation Sheets Attached

Measured Method: _____

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$ _____

$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 =$ _____

$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$ _____

2. Volume Calculations for Other Uses:

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
<u>Irrigation Storage</u>	<u>1/1</u>	<u>10/31</u>	_____	<u>380</u>
<u>Irrigation from Storage</u>	<u>4/1</u>	<u>10/31</u>	_____	<u>380</u>
_____	_____	_____	_____	_____
TOTALS:			_____	<u>380</u>

2. Recommended Amendments

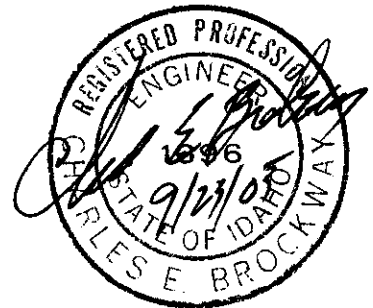
- | | | |
|--|---|--------------------------------|
| ☐ Change P.D. as reflected above | ☒ Add P.D. as reflected above | ☐ None |
| ☒ Change P.U. as reflected above | ☒ Add P.U. as reflected above | ☐ Other |

I. AUTHENTICATION

Field Examiner's Name: Charles E. Brockway Date: 9/29/05

Reviewer: _____ Date: _____

SEAL



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

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 <u>Bob Rhead</u> Address <u>Little Camas</u> Owner's Permit No. _____	2. WATER LEVEL Static water level <u>344</u> feet below land surface. Flowing? ☐ Yes ☒ No GP V. flow _____ Artesian closed-in pressure _____ p.s.i. Controlled by: ☐ Valve ☐ Cap ☐ Plug Temperature _____ OF Quality _____																																																																																																																																																																																																																							
3. NATURE OF WORK ☒ New well ☐ Deepened ☐ Replacement ☐ Abandoned (Describe method of abandoning) _____	4. WELL TEST DATA ☒ Pump ☐ Bailor ☐ Air ☐ Other _____ <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Discharge G.P.M.</th> <th>Pumping Level</th> <th>Hours Pumped</th> </tr> <tr> <td><u>200</u></td> <td></td> <td></td> </tr> <tr> <td><u>637</u></td> <td><u>400</u></td> <td></td> </tr> </table>	Discharge G.P.M.	Pumping Level	Hours Pumped	<u>200</u>			<u>637</u>	<u>400</u>																																																																																																																																																																																																															
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5. PROPOSED USE ☐ Domestic ☒ Irrigation ☐ Test ☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection ☐ Other _____ (specify type)	6. LITHOLOGIC LOG <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Hole Diam.</th> <th>Depth From</th> <th>To</th> <th>Material</th> <th>Water Yes No</th> </tr> </thead> <tbody> <tr><td>14</td><td>0</td><td>12</td><td>CLAY</td><td></td></tr> <tr><td>12</td><td>12</td><td>25</td><td>GRAY LAVA</td><td></td></tr> <tr><td>12</td><td>25</td><td>40</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>40</td><td>55</td><td>GRAY LAVA</td><td></td></tr> <tr><td>12</td><td>55</td><td>75</td><td>BROWN LAVA (1st - 2nd)</td><td></td></tr> <tr><td>12</td><td>75</td><td>100</td><td>GRAY LAVA</td><td></td></tr> <tr><td>12</td><td>100</td><td>125</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>125</td><td>150</td><td>GRAY LAVA</td><td></td></tr> <tr><td>12</td><td>150</td><td>175</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>175</td><td>200</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>200</td><td>225</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>225</td><td>250</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>250</td><td>275</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>275</td><td>300</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>300</td><td>325</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>325</td><td>350</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>350</td><td>375</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>375</td><td>400</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>400</td><td>425</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>425</td><td>450</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>450</td><td>475</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>475</td><td>500</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>500</td><td>525</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>525</td><td>550</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>550</td><td>575</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>575</td><td>600</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>600</td><td>625</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>625</td><td>650</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>650</td><td>675</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>675</td><td>700</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>700</td><td>725</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>725</td><td>750</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>750</td><td>775</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>775</td><td>800</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>800</td><td>825</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>825</td><td>850</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>850</td><td>875</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>875</td><td>900</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>900</td><td>925</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>925</td><td>950</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>950</td><td>975</td><td>BROWN LAVA</td><td></td></tr> <tr><td>12</td><td>975</td><td>1000</td><td>BROWN LAVA</td><td></td></tr> </tbody> </table>	Hole Diam.	Depth From	To	Material	Water Yes No	14	0	12	CLAY		12	12	25	GRAY LAVA		12	25	40	BROWN LAVA		12	40	55	GRAY LAVA		12	55	75	BROWN LAVA (1st - 2nd)		12	75	100	GRAY LAVA		12	100	125	BROWN LAVA		12	125	150	GRAY LAVA		12	150	175	BROWN LAVA		12	175	200	BROWN LAVA		12	200	225	BROWN LAVA		12	225	250	BROWN LAVA		12	250	275	BROWN LAVA		12	275	300	BROWN LAVA		12	300	325	BROWN LAVA		12	325	350	BROWN LAVA		12	350	375	BROWN LAVA		12	375	400	BROWN LAVA		12	400	425	BROWN LAVA		12	425	450	BROWN LAVA		12	450	475	BROWN LAVA		12	475	500	BROWN LAVA		12	500	525	BROWN LAVA		12	525	550	BROWN LAVA		12	550	575	BROWN LAVA		12	575	600	BROWN LAVA		12	600	625	BROWN LAVA		12	625	650	BROWN LAVA		12	650	675	BROWN LAVA		12	675	700	BROWN LAVA		12	700	725	BROWN LAVA		12	725	750	BROWN LAVA		12	750	775	BROWN LAVA		12	775	800	BROWN LAVA		12	800	825	BROWN LAVA		12	825	850	BROWN LAVA		12	850	875	BROWN LAVA		12	875	900	BROWN LAVA		12	900	925	BROWN LAVA		12	925	950	BROWN LAVA		12	950	975	BROWN LAVA		12	975	1000	BROWN LAVA	
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RECEIVED
SEP 4 1980

Department of Water Resources
Water Resources Div. 2

SEP 8 1980 SEP 2 1980

Department of Water Resources

USE TYPEWRITER OR
BALL POINT PEN

State of Idaho
Department of Water Resources

WELL DRILLER'S REPORT

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

1. WELL OWNER

Name Robert C. Head
Address Star Rt B, Box 20, Mtn Home 83607
Owner's Permit No. never applying

2. 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

3. NATURE OF WORK

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

4. WELL TEST DATA

☐ Pump ☐ Bailor ☐ Other
Discharge G.P.M. Draw Down Hours Pumped

5. PROPOSED USE

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

6. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

7. WELL CONSTRUCTION

Diameter of hole 20 inches Total depth 440 feet
Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
0.375 inches	26 inches	0 feet	33 feet
0.250 inches	16 inches	33 feet	440 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Wire 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

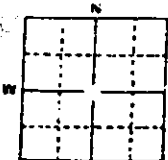
Gravel packed? ☐ Yes ☒ No Size of gravel _____
Packed from _____ feet to _____ feet

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

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

8. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____

Lot No. _____ Block No. _____

County Elmore
SW 1/4 Sec 33, T. 1N, R. 9E, E-W

9.

Work started Sept 17, 1974 finished Nov 29, 1974

10. DRILLER'S CERTIFICATION

Firm Name Mountain Home Well Drilling Co. Inc.

Address PO Box 112, Harzett 83636 Date 12/1/74

Signed by (Firm Official) Tim B. Bredberg

and

(Operator) Clifford Schultz

Hugh Handley

USE ADDITIONAL SHEETS IF NECESSARY

FORWARD THE WHITE COPY TO THE DEPARTMENT

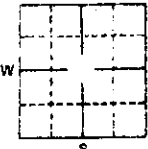
FD-238-7

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

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.

Department of Water Resources

1. WELL OWNER Name <u>ROBERT C. RHEAD</u> STAR RT. 8, BOX 20 Address <u>MOUNTAIN HOME, IDAHO 83647</u> Owner's Permit No. _____		7. WATER LEVEL Western Regional Office TOP OF 16" Static water level <u>456</u> feet below <u>land surface</u> . Flowing? ☐ Yes ☒ No G.P.M. flow _____ Artesian closed-in pressure _____ p.s.i. Controlled by: ☐ Valve ☐ Cap ☐ Plug Temperature _____ °F. Quality <u>GOOD</u>																																																																																																																																																																																										
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5. WELL CONSTRUCTION Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____ <table border="1"> <thead> <tr> <th>Thickness</th> <th>Diameter</th> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td>0.250 inches</td> <td>16 inches</td> <td>1.4 feet</td> <td>30.73 feet</td> </tr> <tr> <td>0.219 inches</td> <td>14 inches</td> <td>2.0 feet</td> <td>43.7 feet</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> 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 <table border="1"> <thead> <tr> <th>Number</th> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td>2784</td> <td>perforations 403 feet</td> <td>402 feet</td> </tr> <tr> <td> </td> <td>perforations</td> <td> </td> </tr> <tr> <td> </td> <td>perforations</td> <td> </td> </tr> </tbody> </table> Well screen installed? ☐ Yes ☒ No Manufacturer's name _____ Model No. _____ Type _____ Diameter _____ Slot size _____ Set from _____ feet to _____ feet Diameter _____ Slot size _____ Set from _____ feet to _____ feet Gravel packed? ☒ Yes ☐ No Size of gravel 1/2 MINUS BACKFILLED/WASHED, UNSCREENED 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 <u>1" PIPE @ 30" INSTALLED AFTER PUMP TEST.</u> <u>16" PIPE IS HANGING IN TENSION OFF BOTTOM.</u>		Thickness	Diameter	From	To	0.250 inches	16 inches	1.4 feet	30.73 feet	0.219 inches	14 inches	2.0 feet	43.7 feet									Number	From	To	2784	perforations 403 feet	402 feet		perforations			perforations		10. DO NOT CUT LOOSE! Work started: _____ finished: _____																																																																																																																																																										
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6. LOCATION OF WELL Sketch map location must agree with written location.  Subdivision Name _____ Lot No. _____ Block No. _____ County _____ ELMORE SE 1/4 NE 1/4 Sec. 4, T. 18, N. 36, E. 10		11. DRILLERS CERTIFICATION (We certify that all minimum well construction standards were complied with at the time this rig was removed.) Firm Name _____ Firm No. _____ Address _____ Date _____ Signed by (Firm Official) _____ and (Operator) _____																																																																																																																																																																																										

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

FEWATER ON
POINT PEN

RECEIVED

Rhead
cont

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

FORWARD WHITE COPY TO WATER RESOURCES

Use Typewriter or Ballpoint Pen

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

FORWARD WHITE COPY TO WATER RESOURCES

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only

Inspected by _____

Twp _____ Rge _____ Sec _____

Lat: _____ Long: _____

N

I.t. _____ Bk. _____ Sub. Name _____

Arterial Pressure _____ lb
Describe access port or control

[illegible]

Supervisor or Operator _____
(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

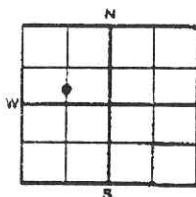
Lat: _____ Long: _____

1. DRILLING PERMIT NO. 63-96-W-0540-000Other IDWR No. 63-11514

2. OWNER:

Name Don M^{rs} FarlandAddress 350 FALLS AVECity TWIN FALLS State ID Zip 83301

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.
 Twp. 1 North ☒ or South ☐
 Rge. 9 East ☒ or West ☐
 Sec. 34 1/4 NE 1/4 SW 1/4 SE 1/4 NW
 Gov't Lot _____ County ELMORE
 Lat: _____ Long: _____

Address of Well Site _____

City CAMAS

(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	0	19	8	sack	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	Uter	Welded	Threaded
12	1	19	250	steel	☒	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS

☐ Perforations Method _____
☐ Screens Screen Type _____

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

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

234 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
150	435	440	842

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	N
15	0	10	soil & brown clay			
15	10	45	gray lava			
12	45	54	red & brown lava			
12	54	157	gray lava			
12	157	228	brown & gray lava			
			some clay & binder broken		X	
12	228	326	gray lava			
12	326	355	black lava some tan clay			
12	355	410	black lava			
12	410	455	black lava & gray clay			
12	455	460	granite		X	

This well is currently not in use and has been abandoned. The well was drilled to a depth of 460 feet and was found to be dry. The well was sealed with bentonite and the casing was removed. The well is now a dry hole and should not be used for any purpose.

RECEIVED

AUG 28 1996

WATER RESOURCES
WESTERN REGIONCompleted Depth 460' (Measurable)Date: Started 8-20-96 Completed 8-28-96

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 HIDDLESTON & SON, INC. Firm No. 35

Firm Official _____ Date _____

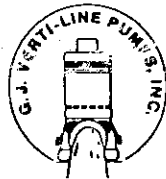
and _____

Supervisor or Operator Ken Koch Date 8-28-96

(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO: WATER RESOURCES

FORWARD WHITE COPY TO WATER RESOURCES



G.J. VERTI-LINE PUMPS, INC.

1970 Highland Ave. East - P.O. Box 892

Twin Falls, Idaho 83303

Fax (208) 733-5009

Phone (208) 733-4278

RECEIVED

SEP 26 2005

WATER RESOURCES
WESTERN REGION

09/25/2002

9/29/04

Don McFarland
731-6530

The following is the information on your pumps at Little Camas:

#7
200 HP Layne
Plate under head - no access to well
Design: 1100 GPM at 522 ft. head 10/10/2003 10' Extension
Setting: 410 ft. of 8 x 2 1/2 x 1 11/16 420' setting
Bowls: 9 stage 12 RM
Static water level: 328 ft. - 1998
Well Depth: 443 ft.

#6
200 HP Verti-line # 97-74192
Pumping Level? 382 ft. steady reading
Amp Load 150-220 surging
Design: 1350 GPM at 515 ft. head 10/4/03 20' Extension
Setting: 400 ft. of 8 x 2 1/2 x 1 11/16 420' setting
Bowls: 9 stage 12 RH-M
Static water level: 247 ft. - 2000
Well Depth: 527 ft.

#5
100 HP Aurora #97-74200
Static water level: 337 ft. - 9-2002 10/4/03 20' Extension
Design: 600 GPM at 500 ft. head 420' setting
Setting: 400 ft. of 8 x 2 1/2 x 1 1/2
Bowls: 12 stages 10 RM-L
Static water level: 279 ft. - 1997
Well Depth: 472 ft.



G.J. VERTI-LINE PUMPS, INC.

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Little Camas Pumps

Page 2

150 HP Layne #T81102

Unable to get sounder past 272 ft.

Design: 900 GPM at 488 ft. head

Setting: 340 ft. 8 x 2 1/2 x 1 1/2

Bowls: 11 BEH 8 stage

Static water level: 300 ft. in 1981

Well Depth: 460 ft. ~

100 HP Layne #T81103

Pump is surging

Design: 700 GPM at 494 ft. head

Setting: 360 ft. 8 x 2 1/2 x 1 1/2

Bowls: 11 BH 8 stage

Static water level: 210 ft. in 1981

Well Depth: 480 ft.

Abandoned well East of house and pond

Static water level: 316 ft. - 12" hole

75 HP Layne #45817

Pulling 90 amps then dropping off to 70.

Its not surging as badly as the other two pumps

Design: 400 GPM at 568 ft. head

Setting: 300 ft. of 8 x 2 1/2 x 1 1/2

Bowls: 10 BKH 12 stage

Static water level: 252 ft. - 1976

Well Depth: 440 ft.

CURVE NO.
18-071
6-1-77

No. Stages	Eff. Change	MATERIAL	Eff. Change
1	-3	IMP.—C.I.	-2
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.

ONE (12)
STAGE STAGES

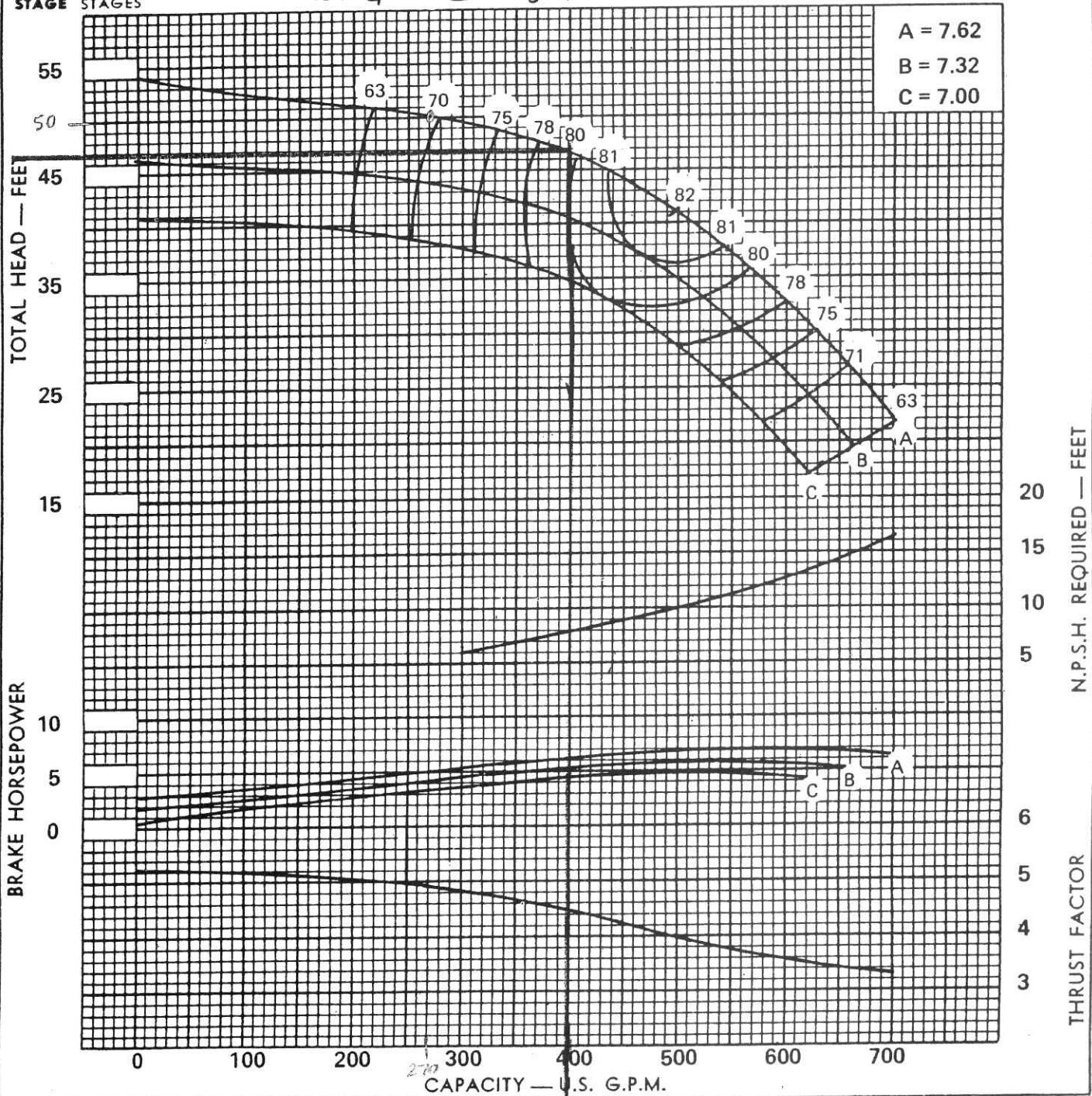
75 H.P. Layne #45817

400 G.P.M. @ 56' HEAD

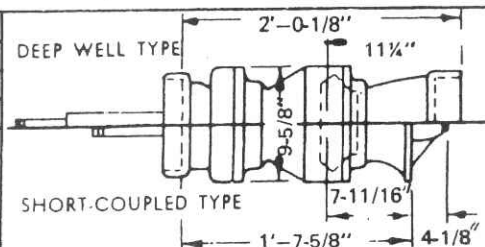
596/12 = 50' / stage

270 GPM @ 596'

TDH



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.



CURVE NO.
18-083
5-1-79

No. Stages	Eff. 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 BHC

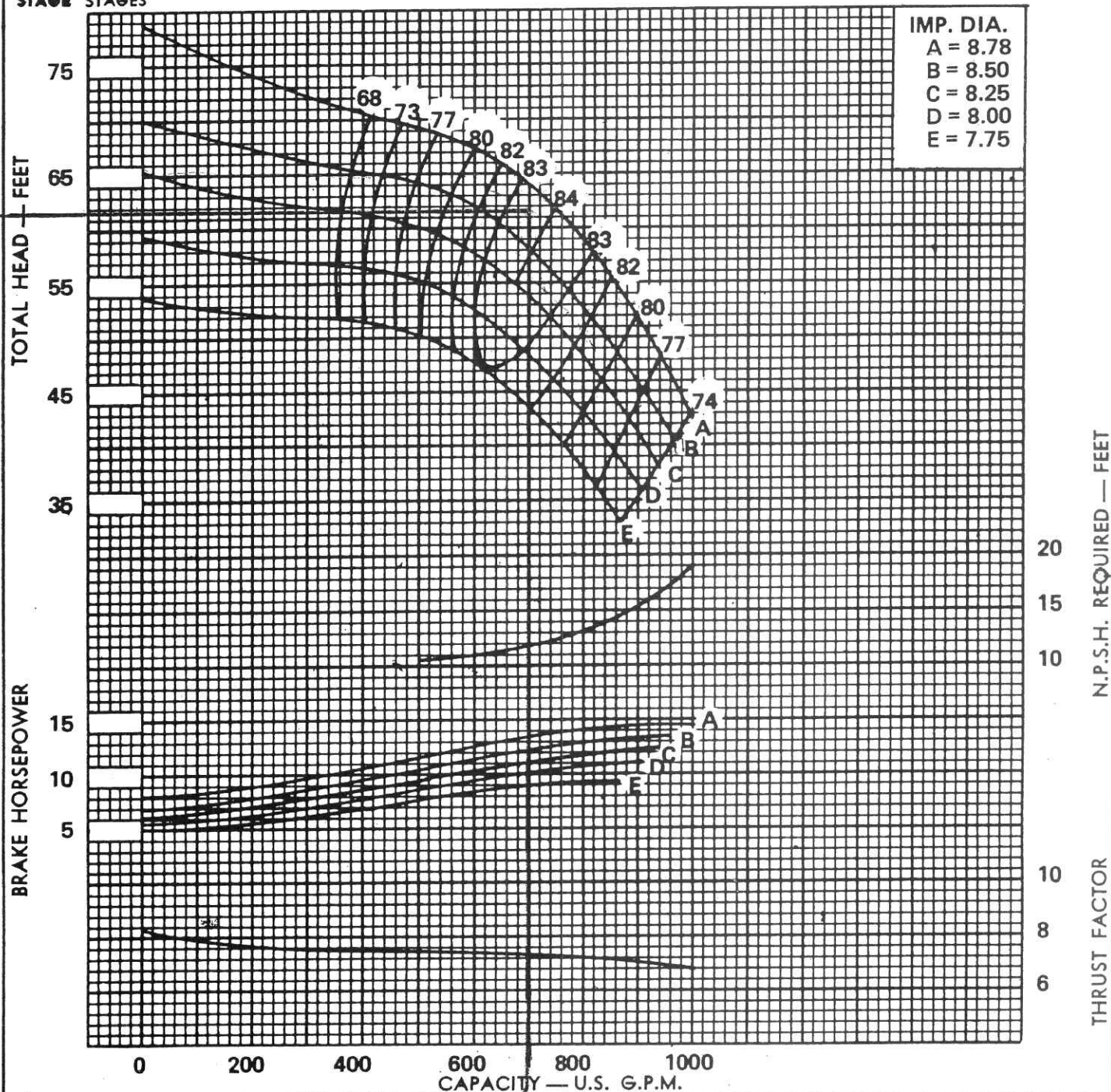
1770 R.P.M.

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.

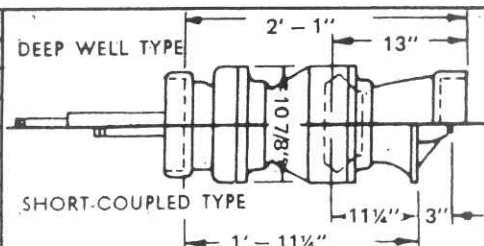
ONE (8)
STAGE STAGES

100 H.P. LAYNE T81103
700 G.P.M. @ 494' Head / 8 = 61.8

522' / 8 = 65.3' / stage
600 G.P.M. @ 522' TDH



EYE AREA — SQ. IN.	= 14.71	IMPELLER WT.-LBS.	= 12.7
WR ² PER IMPELLER	= 0.74 LB.-FT ²	ONE STAGE WT.-LBS.	= 188
MAX. SPHERE SIZE	= 0.82 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 9% " PER ADDITIONAL STAGE.	



CURVE NO.
18-105
3-15-78

No. Stages	Eff. 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

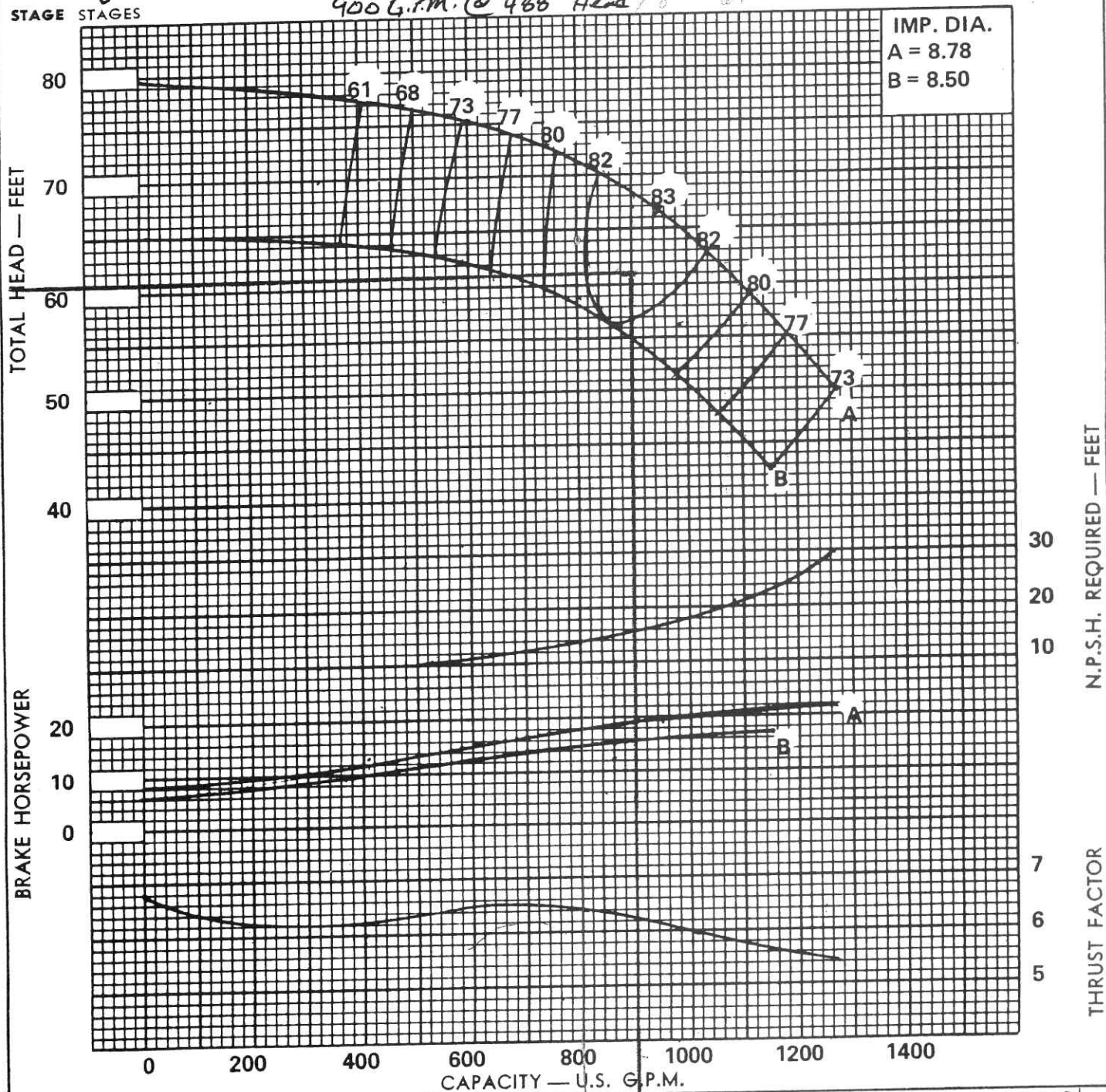
1770 R.P.M.

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.

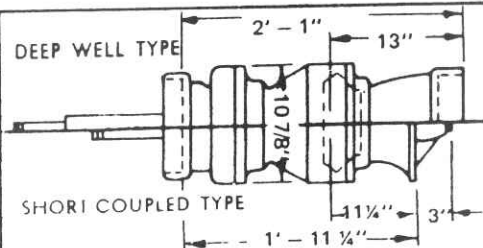
ONE (8)
STAGE STAGES

150 H.P. LAYNE #T81102
900 G.P.M. @ 468' Head / 8 = 61'

516' / 8 = 64.5'
800 G.P.M. @ 516' TDH



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 9% " PER ADDITIONAL STAGE



10RM SERIES 1110

Verli-Line PUMP

100 H.P. AURORA # 97-74200 600 G.P.M. @ 500

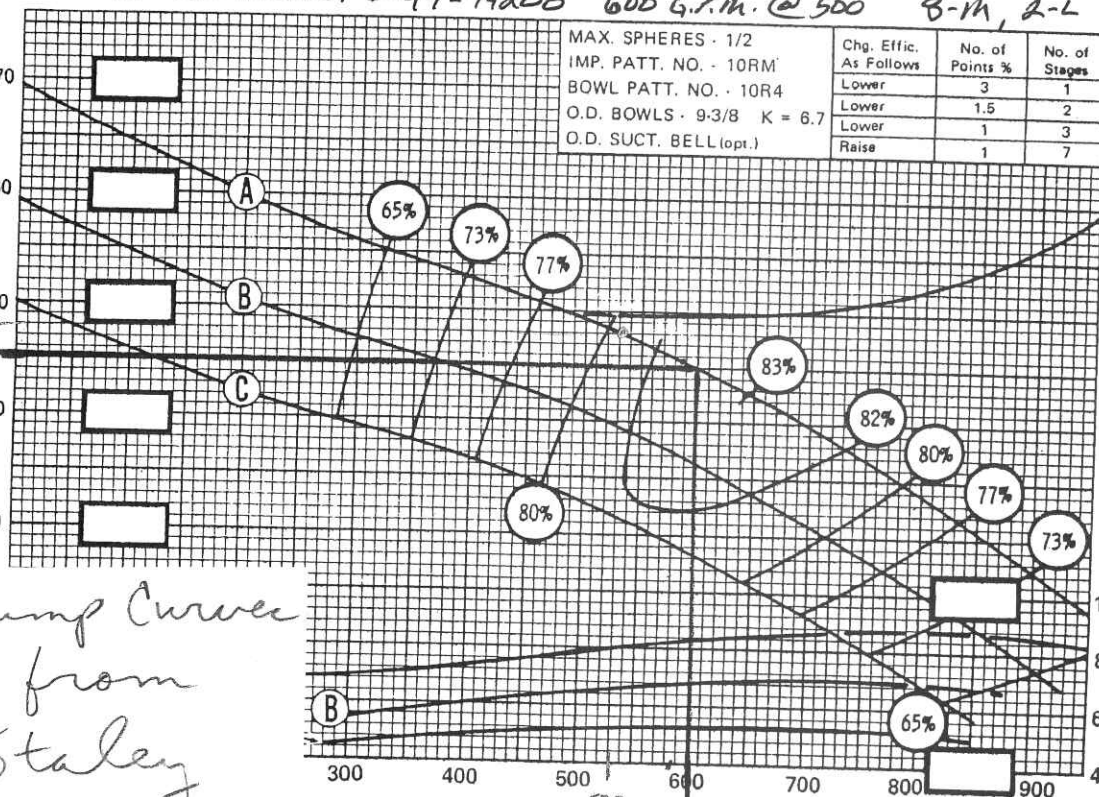
528'

8-M, 2-L Full Diameter

8-RM

1770 R.P.M.

TOTAL DYNAMIC HEAD-Feet



N.P.S.H.

H.P.

10RL SERIES 1110

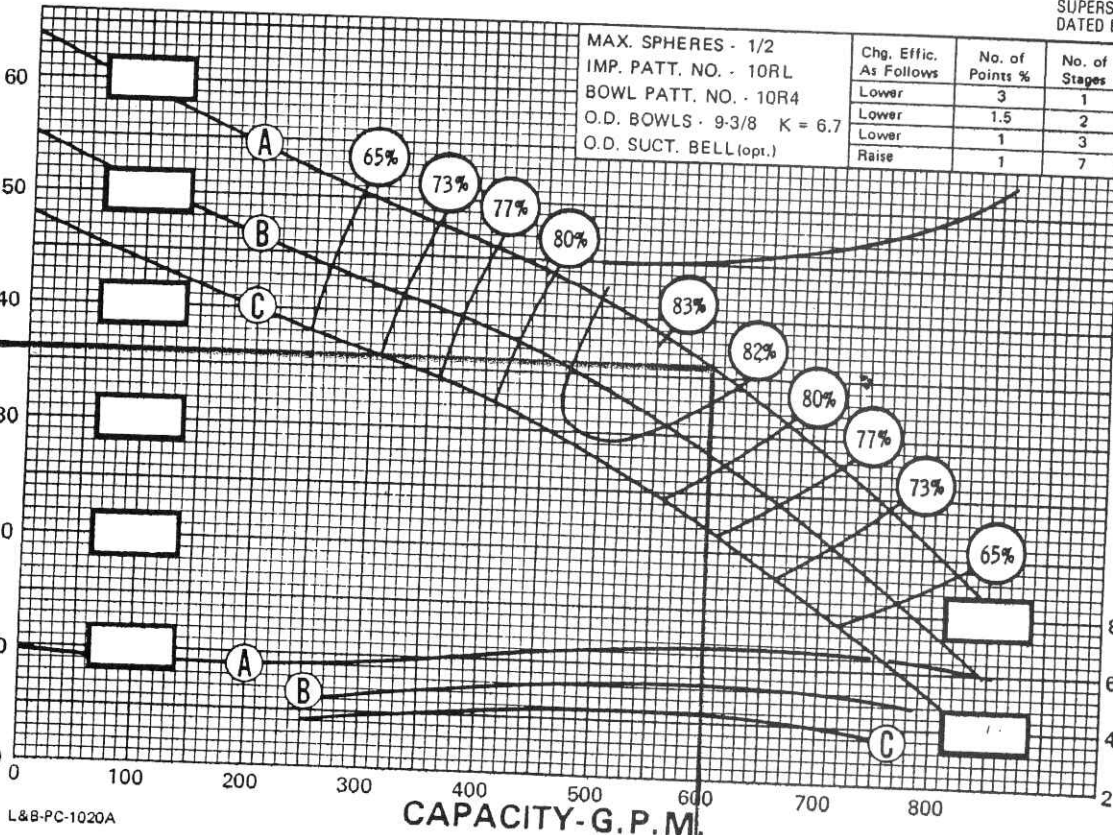
Verli-Line PUMP

SUPERSEDES PAGE 533
 DATED DECEMBER 1981

4 @ 37 = 148
 4 @ 35 = 140

4-RL

TOTAL DYNAMIC HEAD-Feet



N.P.S.H.

H.P.

1770 R.P.M.

L&B-PC-1020A

CAPACITY-G.P.M.

9PC-119364



Staley: 380 + 148 = 528
 B. J. VERTI-LINE PUMPS, INC.

(A) = 7.750

DATED MARCH 1988

SUPERSEDES PAGE 564
DATED DECEMBER 1981

12RH SERIES 1110

Verli-Line PUMP

200 H.P. L&B # 97-74192

1350 GPM @ 515'

7 @ 65' = 456

10 @ 52' = 520

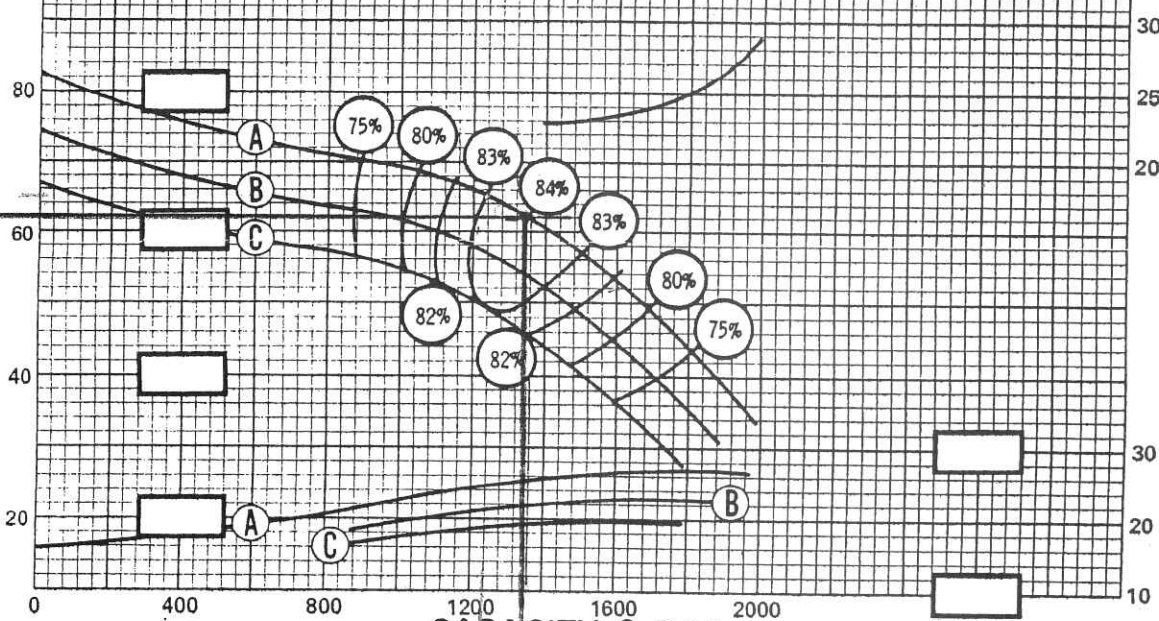
1250 GPM @ 543'

7-4

MAX. SPHERES - 3/4
IMP. PATT. NO. - 12RH
BOWL PATT. NO. - 12R4
O.D. BOWLS - 11-3/8 K = 9.4
O.D. SUCT. BELL (opt.)

Chg. Effic. As Follows	No. of Points %	No. of Stages
Lower	3	1
Lower	1	2
Raise	0	4
Raise	1	6

TOTAL DYNAMIC HEAD-Feet



N.P.S.H.

H.P.

1770
R.P.M.

2 @ 435 = 87

2 @ 405 = 81

12RM SERIES 1110

Verli-Line PUMP

DATED MARCH 1988

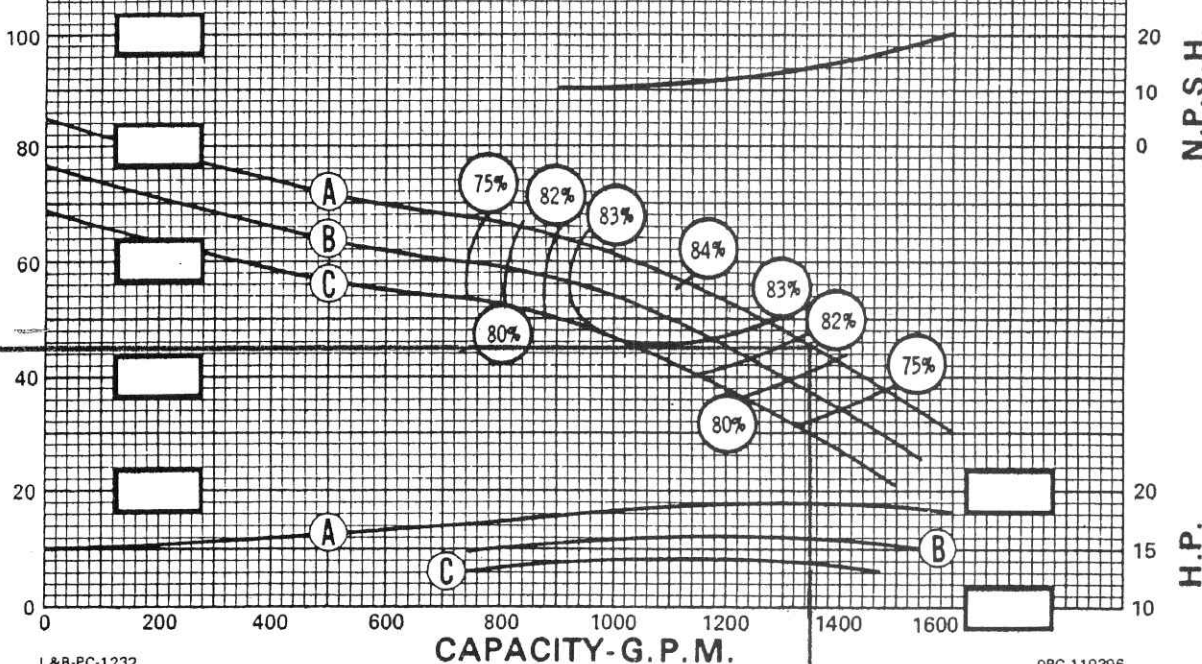
SUPERSEDES PAGE 563
DATED DECEMBER 1981

2-M

MAX. SPHERES - 3/4
IMP. PATT. NO. - 12RM
BOWL PATT. NO. - 12R4
O.D. BOWLS - 11-3/8 K = 9.4
O.D. SUCT. BELL (opt.)

Chg. Effic. As Follows	No. of Points %	No. of Stages
Lower	3	1
Lower	1	2
Raise	0	4
Raise	1	6

TOTAL DYNAMIC HEAD-Feet



N.P.S.H.

H.P.

1770
R.P.M.

L&B-PC-1232

CAPACITY-G.P.M.

9PC-119396

456 + 87 = 543

(A) = 0.192

200 H.P. LAYNE No 7

ZOO H.P. LAYNE No #

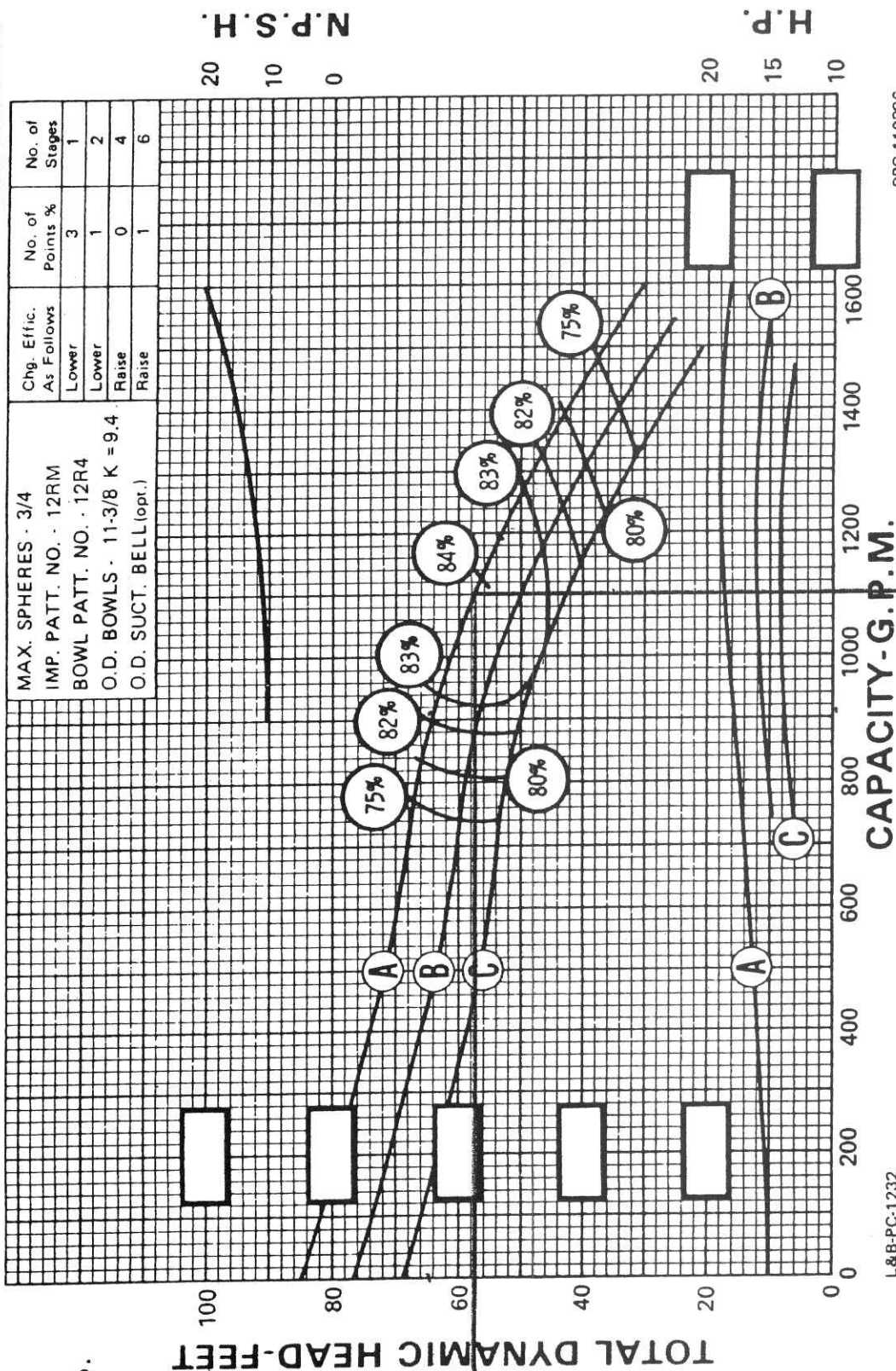
1100 G.P.M @ 522' Head / 9 58

SECTION 1110 PAGE 445

MARCH 1988

SUPERSEDES PAGE 563
DATED DECEMBER 1981

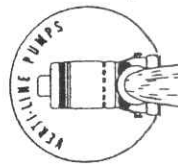
9 strs.



L&B-PC-1232

9PC-119396

34525



ON THE MOUNTAIN

1970 HIGHLAND AVE E.

P.O. BOX 892

TWIN FALLS, ID 83301

(A) = 9.188
(B) = 8.750
(C) = 8.375

1770
R.P.M.

Don McFarlane Sites for wells.

PUMPS

DISCRIPTION	GPS COORDINATE	ELEVATION	
EAST SIDE PIVOT #2 BY ROAD TO LAGOON	N 43° 21.796' W 115° 23.976'	$X = 387068.440$ $Y = 251743.463$ 4924	DRY
BOOSTER	N 43° 22.119' W 115° 23.981'	387078.4349 252389.1696 4971	
<i>being used</i> - PUMP #1 <i>old well</i>	N 43° 22.230' W 115° 24.080'	386948.6716 252596.1214 4993	JULY 15, 1980 ON PAD
SOUTH OF PUMP #1 30' ~~POLE~~ POLE 01N 09E 32 20	N 43° 22.225' W 115° 24.081'	386947.1712 252596.9226 4946	DRY 
HINES ~~POLE~~ DRY (I DRILLED) POLE 01N 09E 32 10 <i>#2</i> <i>1976</i>	N 43° 22.685' W 115° 24.055'	387063.6646 253433.5768 4946	NOW DRY 
HINES DOMESTIC	N 43° 22.875' W 115° 24.258'	386729.2115 253789.7133 4901	NOT USED PUMP PULLED 
- PUMP #3 SMALLER (SOUTH) POLE 01N 09E 33 40 <i>old</i>	N 43° 22.700' W 115° 23.732'	387431.3859 253455.0862 4994	
- PUMP #4 LARGER (NORTH) POLE 01N 09E 33 41 <i>old</i>	N 43° 22.825' W 115° 23.745'	387417.7555 253685.9147 4992	
- PUMP #5 POOR PRODUCER POLE 01N 09E 33 12 <i>1996</i>	N 43° 22.885' W 115° 23.409'	387871.5929 253789.0230 4991	POOR PRODUCER
- PUMP #6 POLE 01N 09E 33 11 <i>1996</i>	N 43° 22.883' W 115° 23.095'	388293.9229 253778.3512 4970	
- PUMP #7 <i>1996</i> POLE 01N 09E 33 10	N 43° 22.884' W 115° 22.868'	388599.3129 253775.0877 4960	
NORTH HOUSE DOMESTIC	N 43° 23.039' W 115° 22.908'	388550.2414 254061.8435 4961	

EAST OF #7 ⁸
~~DEEP~~---I DRILLED) 1996

N 43° 22.878' 388583.9531 4984
W 115° 22.581' 254314.0072

DRY

ON TOP OF HILL
"HOLLER" WELL

N 43° 22.182' 387470.2790
W 115° 23.500' 253043.2406 5128
23.390

DRY ?

EAST (IN HOLE)

N 43° 22.234' 388669.5968 4995
W 115° 22.503' 253119.6410

DRY ?

No log

DOMESTIC
(HEADQUARTERS)

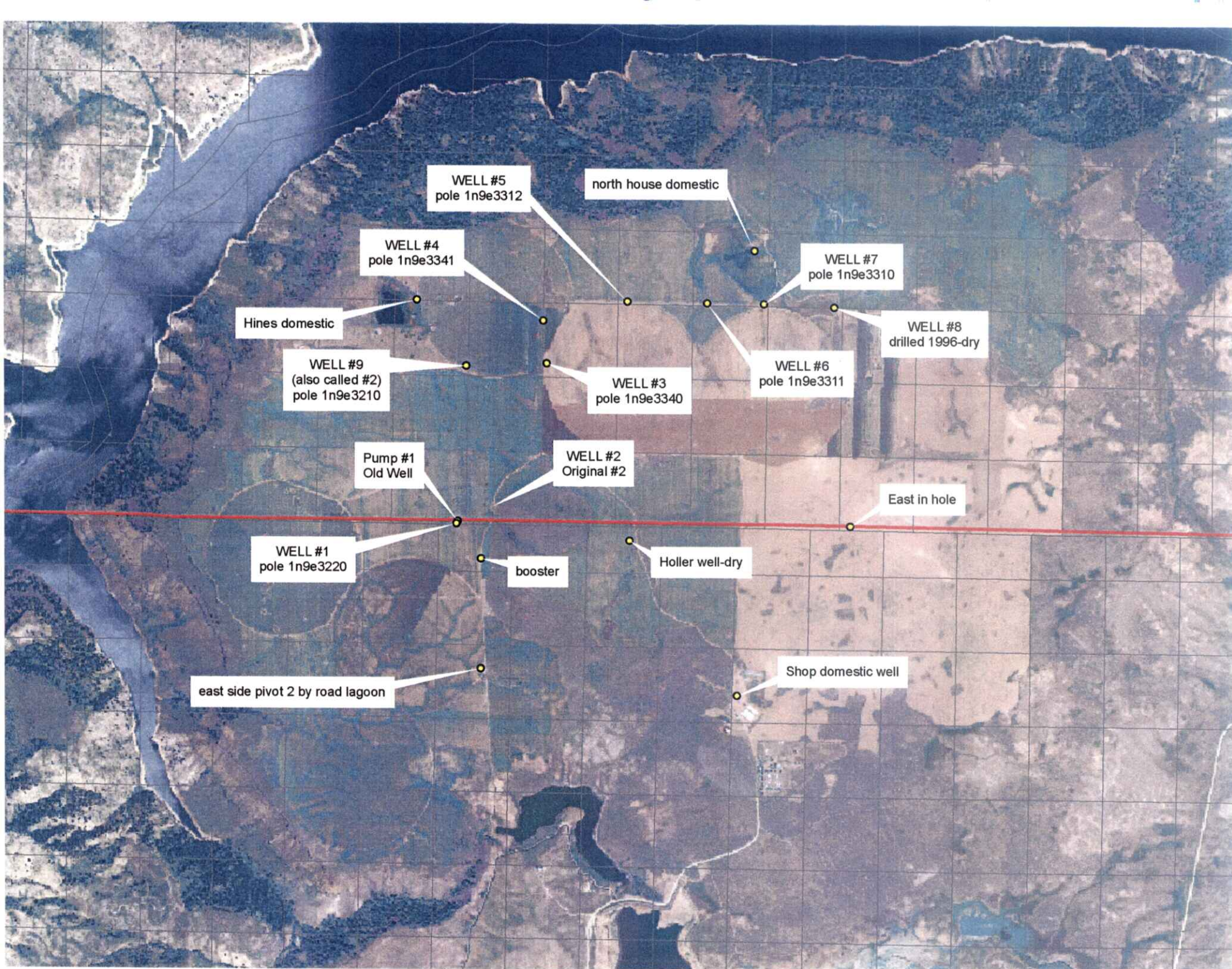
N 43° 21.733 388217.9452 5046
W 115° 22.952 252202.3310

FORT RUNNUNG BEAR

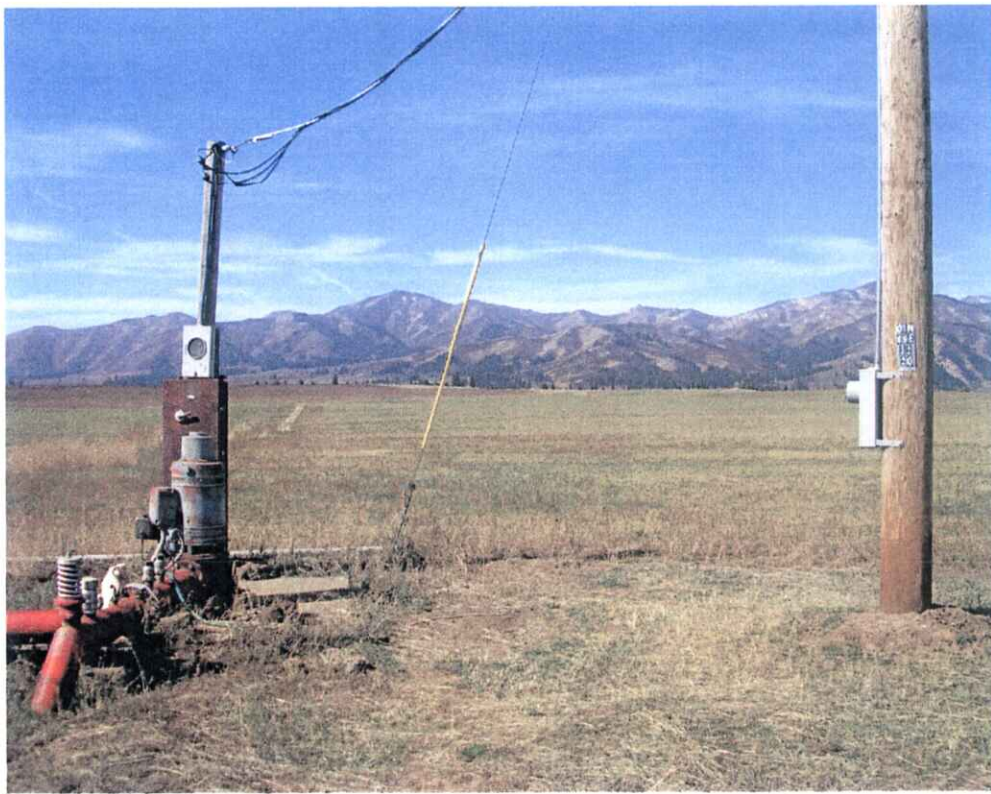
N 43°
W 115°

?

Haul 2
Logs



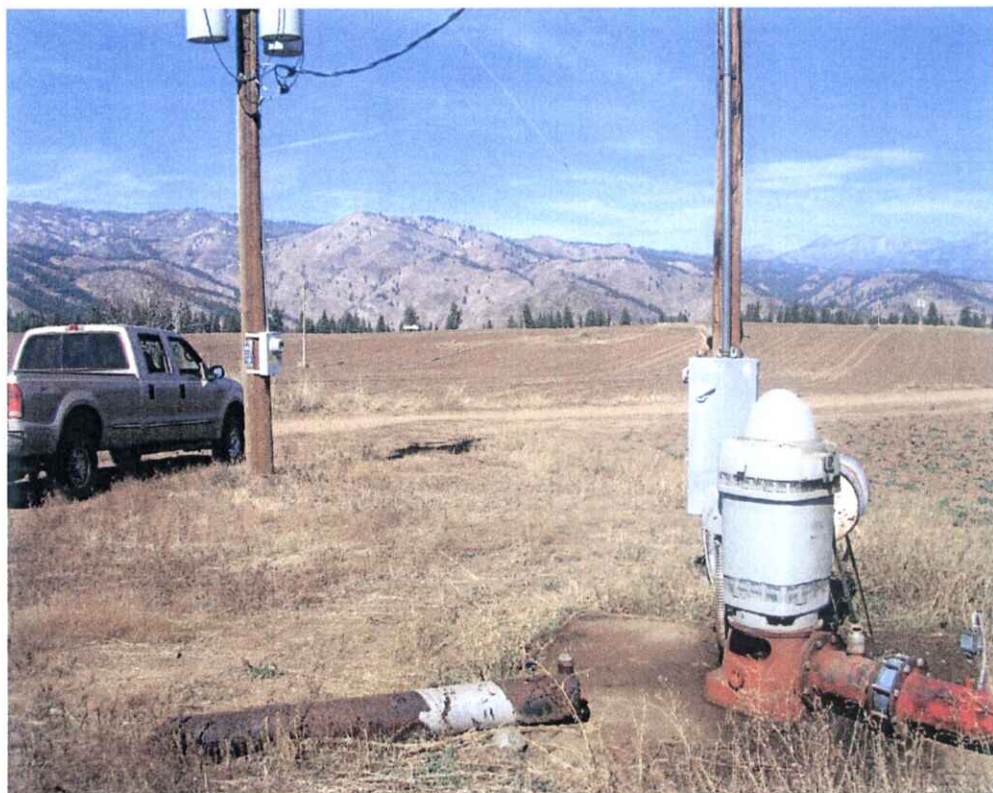
Well #1 – Pole 01N, 09E, 32-20 (Looking W / NW)



Well #2 – Pole 01N, 09E, 32-10 (Looking NW - Pump removed at time of photo)



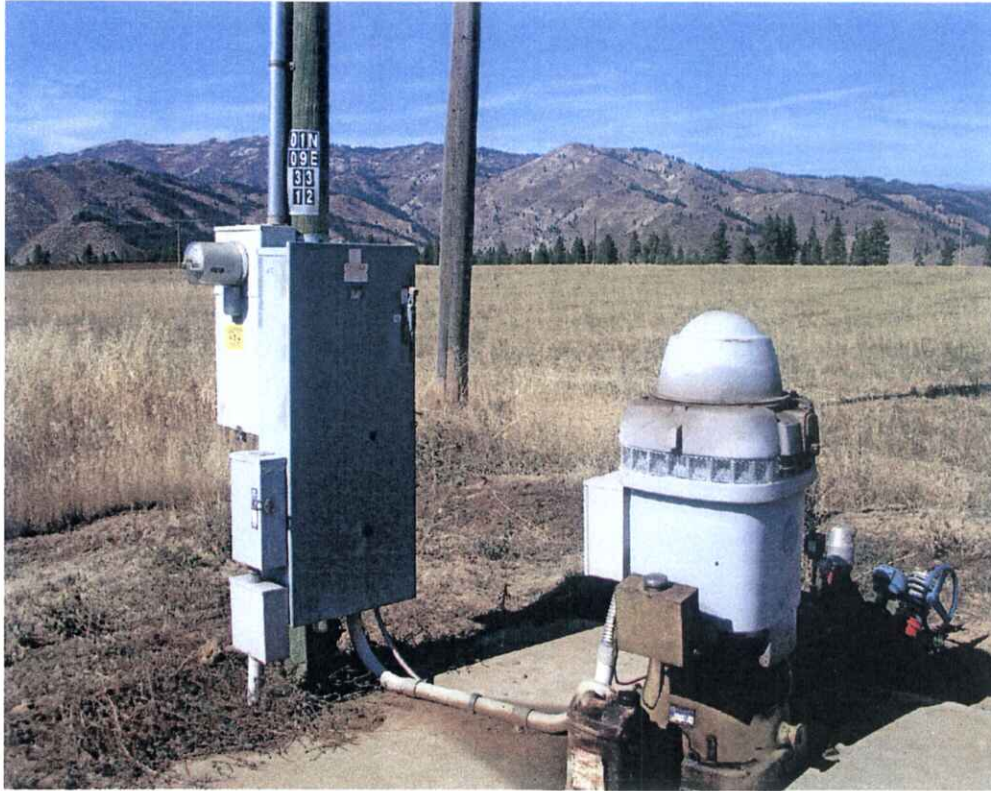
Well #3 – Pole 01N, 09E, 33-40 (Looking NW. Well #4 shown background right)



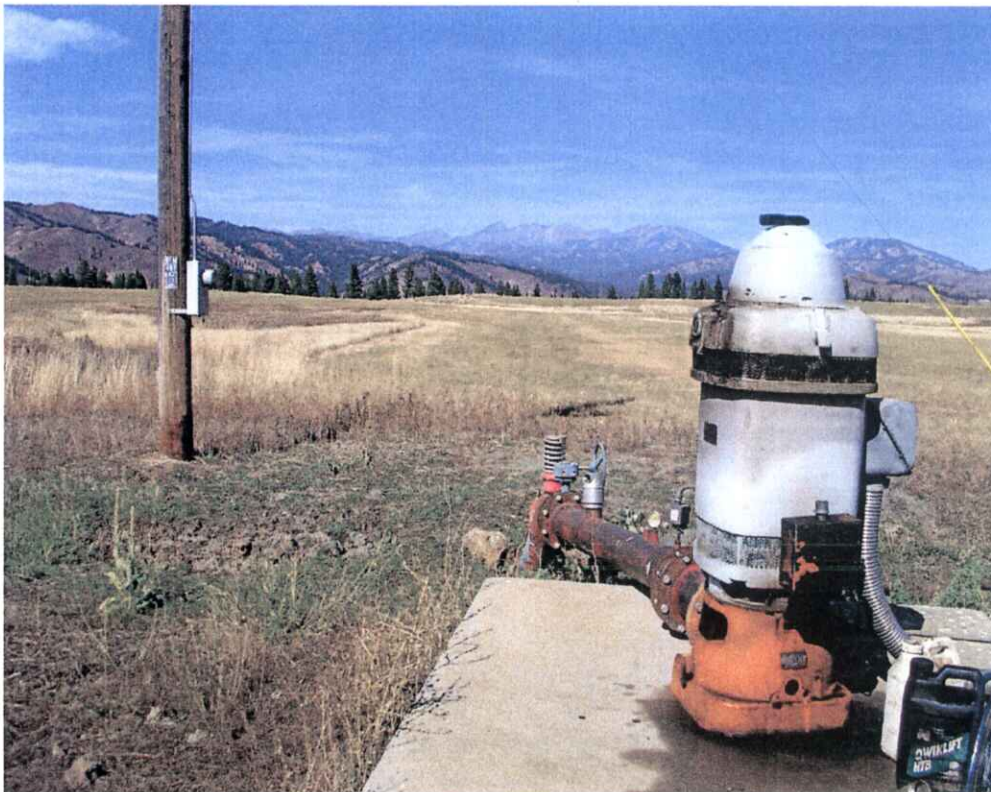
Well #4 – Pole 01N, 09E, 33-41 (Looking NW)



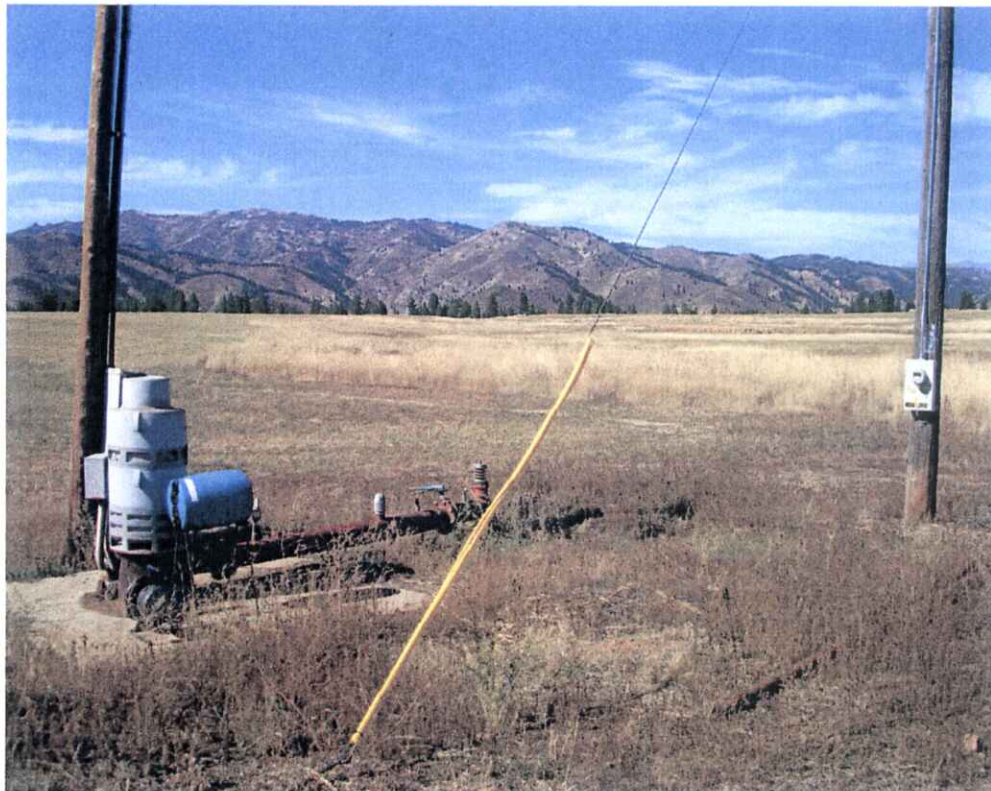
Well #5 – Pole 01N, 09E, 33-12 (Looking NW)



Well #6 – Pole 01N, 09E, 33-11 (Looking NW)



Well #7 – Pole 01N, 09E, 33-10 (Looking NW)



Rhead Reservoir Pumping Plant (Looking N / NE)



Booster Pump – Pole 01S, 09E, 04-40 (Looking East)

