

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATIONPermit No: 63-11540Exam Date: 6/19/2007

1. Current Owner: JOAN PRIGGE
10712 CRUSER DR
BOISE ID 83709
(208)375-1853

2. Accompanied by: Terry Scanlan – Steve Reynolds

Phone No: Scanlan – (208) 383-4140, Reynolds – (208) 587-2947

Address: Scanlan – 600 E Park Lane, Suite 105, Boise ID 83708, Reynolds – 1115 W 24th S Mountain Home ID 83647

Relationship to Permit Holder: Scanlan – Owner's Consultant, Reynolds – Farming Lease-holder

3. SOURCE**TRIBUTARY**

GROUND WATER

N/A

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 63-32535
2. Other water rights with the same point of diversion: 63-32535

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER L4 SE1/4NW1/4NW1/4 Sec. 4, Twp 01N, Rge 03E, B.M.
ADA County

Method of Determination: Visual Inspection and use of 2006 aerial photography and GIS

2.

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
01N	03E	3							30.0	31.0									61.0
01N	03E	4	36.0	37.0	31.0	32.0	33.0		24.0	33.0									226.0
			L 1	L 2			L 3												

Total Acres: 287

Method of Determination: Visual Inspection and use of 2006 aerial photography and GIS

3. YES Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
- YES Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
- YES Aerial Photo Attached (required for irrigation of 10+ acres).
- YES 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
WELL	US MOTORS	400 Hp	K03-CA90-M	VERTILINE	106977 7-06
BOOSTER PUMP	MARATHON	75 Hp	MODEL # 326TTD R8957ERL	BERKLEY	M14215

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
POLYSONICS	POLYSONIC METER	TYME FLYTE	TFP	N8J4626	N/A	3/2005

2. Measurements:

I measured the well using a the Tyme Flyte flow meter. I checked these measurements with estimates from the farm manager, a theoretical on the well, and a pump curve supplied by the owner's consultant. All three of these flow calculations were within +/- 10%, so I am very confident with the measurement that was made. I am recommending the measured flow.

E. FLOW CALCULATIONS

YES Additional Computation Sheets Attached

Measured Method:

Thyme Flyte Measurement → 3.10 cfs

Theoretical Calculation → 3.28 cfs

Pump Curve → 3.23 cfs

Farm Manager's estimate → 2.90 cfs

PLEASE NOTE: The farm manager's estimate is the lowest flow rate, but it did not account for leaks and head loss in the system. Therefore, I am recommending the actual measured flow for this system of 3.10 cfs.

Permit No: 63-11540

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 287 \times 4.5 = 1291.5 \text{ afa}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 3.10 \text{ cfs} \times 246 \text{ days} \times 1.9835 = 1512.6 \text{ afa}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 1291.5 \text{ afa}$$

2. Volume Calculations for Other Uses:

The only use found was irrigation; therefore, there are no other uses.

G. NARRATIVE/REMARKS/COMMENTS

This permit has gone through a long and complex past with several amendments, extensions of time to avoid forfeiture, and litigation. The last amendment of permit was filed on 4/7/2006, and has been held pending the licensing exam. It was decided that this amendment would be better administered as a licensing amendment, since the time to provide proof of beneficial use was due about the same time the amendment was filed. Therefore, we treat the findings of this exam as what will be allowed for licensing, and will use the licensing amendment process to finalize this process.

During my exam I discovered that there is one well still in operation. There was a second well, but it is no longer in use and has been abandoned. The second well was mainly used to supply water for the drilling of the main well. The existing well is located in the SWNW S4 T1N R3E. The water in the well is diverted out of the well by a 400 Hp pump into a 10 ft tall regulation tank. The water from the regulation tank is diverted to the irrigation system by a 75 Hp booster pump. Both of these pumps are variable speed pumps. The regulation tank has various sensors in the tank that allows the system to self regulate itself depending either on the well pump's capacity to divert water or the capacity of the sprinkler system. This is done because the pumping water level in the pump can vary throughout the season, and to allow the sprinkler systems to change without changing the settings on the pumps.

I asked Steve Reynolds, who is farming the property, how the system generally operates. Mr. Reynolds told me that they generally run 2 wheel lines at 150 gpm and 2 pivots at 500 gpm at one time. I measured the system and found the system was operating at 1392 gpm, which is very close to what Mr. Reynolds stated the system operates at. I then performed a theoretical calculation based on the well pump, and came up with a theoretical calculation of 1470 gpm. The pump curve supplied by the owner's consultant, Terry Scanlan, showed the pump capacity of 1450 gpm. Taking all this information into account, all of the flows estimated and measured were within +/- 10%. Therefore, I am recommending the amount actual measured amount, since it is in all likelihood the most accurate.

The original permit was for commercial, domestic and irrigation uses. No commercial or domestic use had been developed under this permit, and the only actual use for irrigation. Therefore, the commercial will not be recommended for licensing. The irrigation use is a little sparse. The system only allows irrigation at approximately 1/2 of an inch or 0.01 cfs per acre. However, it is obvious that Mr. Reynolds is irrigating all of the land north of the road, and two pivots worth of ground on the south side of the road. The gray area on this system is the third pivot. The middle pivot is actually moved from time to time over to the west pivot position to provide minimal watering capability. The pivot pad is in place for the west pivot, but all the ground under this pivot is extremely dry. It appears as though the middle pivot was moved over to this location to start the grain crop, but the practice hasn't been maintained throughout the season. Mr. Reynolds stated that he was going to plant alfalfa under this pivot when the grain crop was harvested in the next few months. I decided to recommend this pivot based on a similar permit (41-7081) in which we allowed the acreage using this same practice.

I could find no current overlapping water rights for this property. However, there is an application for permit that has been filed for municipal use for this land that has yet to be approved by the department. The permit number is 63-32535. This application will probably incorporate this well into its system. The well has been constructed to public drinking water standards, and Mr. Scanlan informed me they are using this well and irrigation use to test the aquifer in this area to see if it is reliable enough to supply the large housing development described in 63-32535. Whereas, 63-32535 is still in application form, I can find nothing hinder the licensing of this permit from overlapping water right concerns.

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

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	03/15 to 11/15	3.100 CFS	1,291.50 AF
<u>Totals:</u>		3.100 CFS	1,291.50 AF

2. Recommended Amendments

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

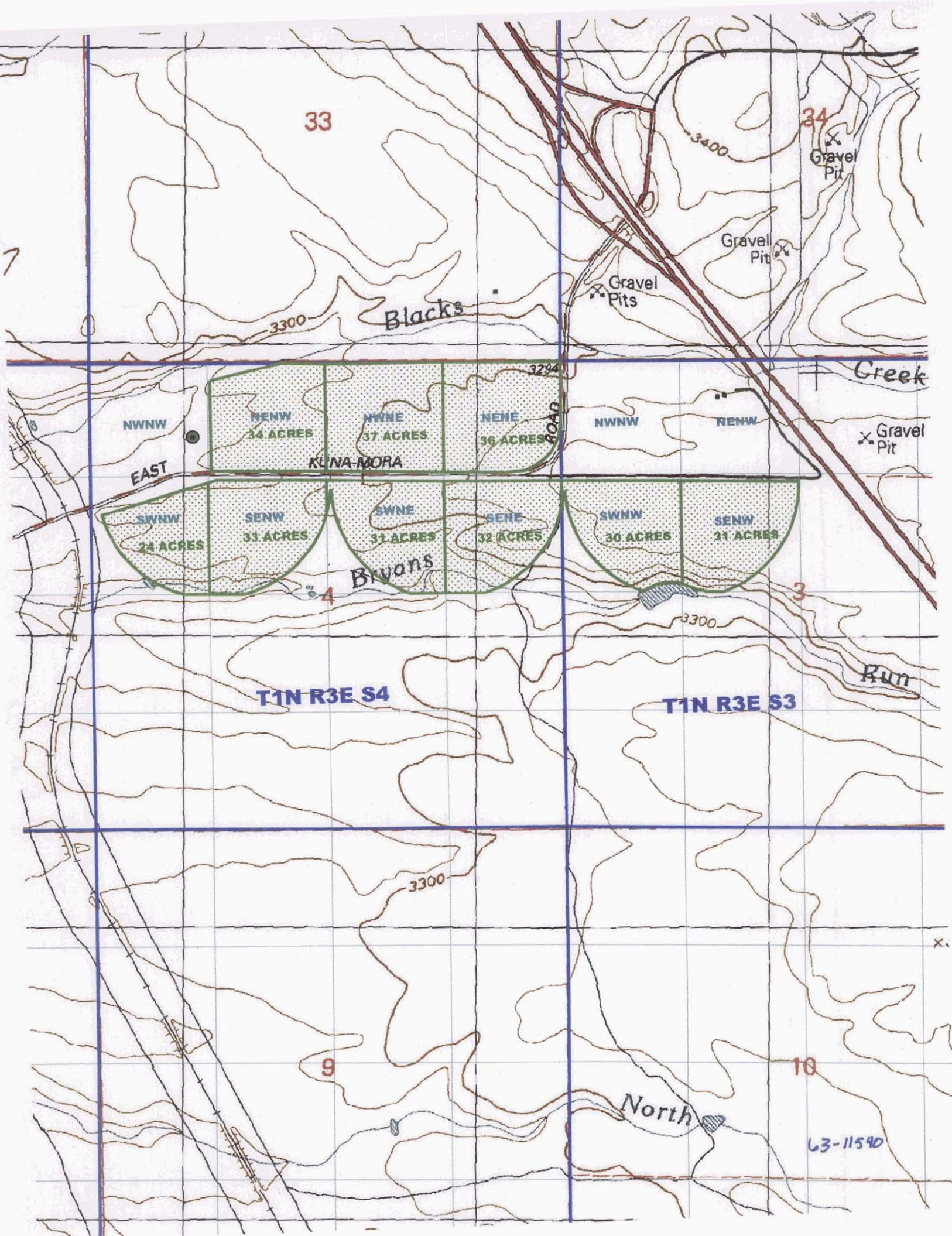
☒ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. AUTHENTICATION

DANIEL A. NELSON – SENIOR AGENT

Field Examiner's Name Daniel A. Nelson Date 6-28-2007

Reviewer _____ Date _____



SWNW

SENW
34 ACRES

NWNE
37 ACRES

SENE
36 ACRES

NWNE

SENW

SWNW
34 ACRES

SENW
34 ACRES

SWNE
34 ACRES

SENE
32 ACRES

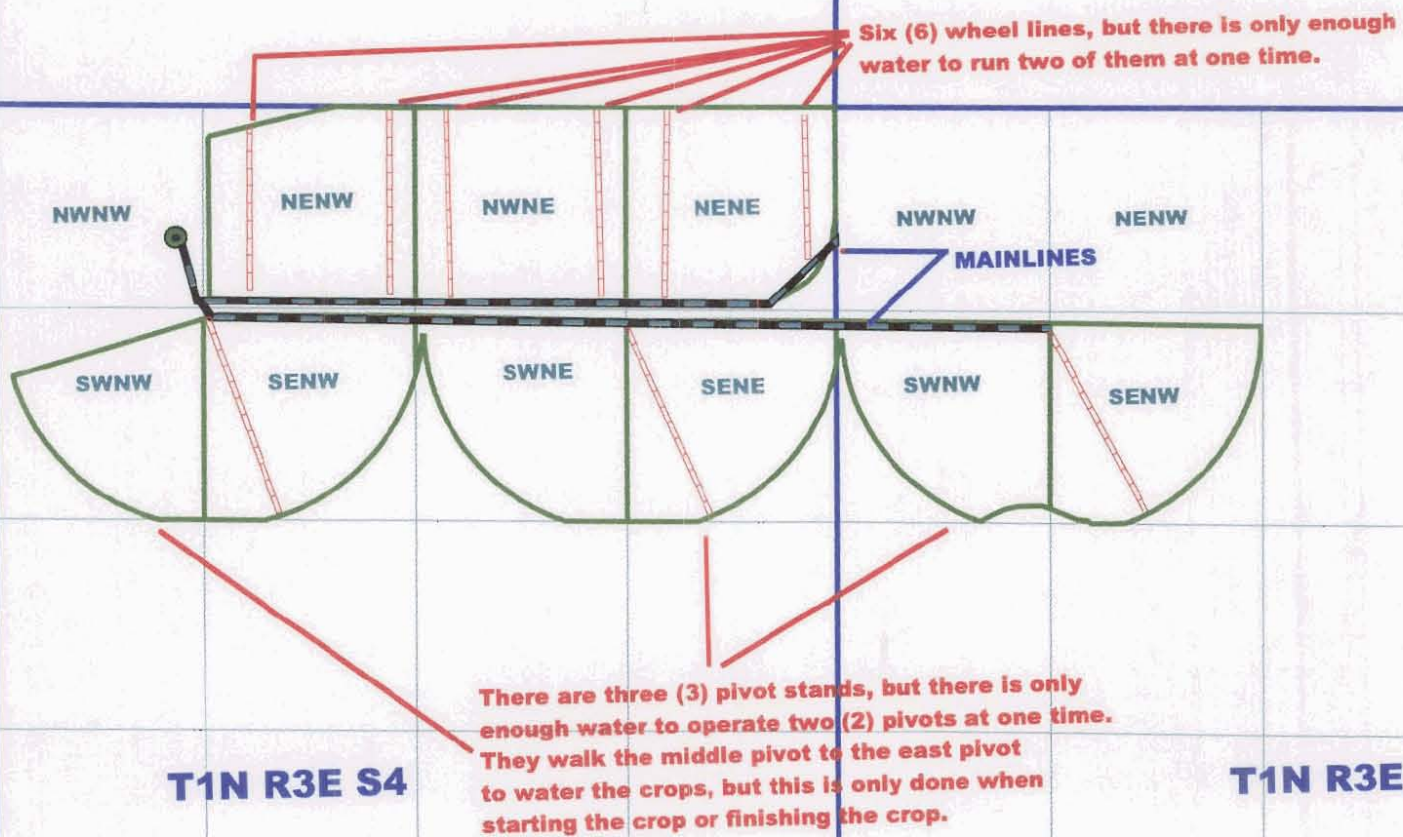
SWNW
36 ACRES

SENE
31 ACRES

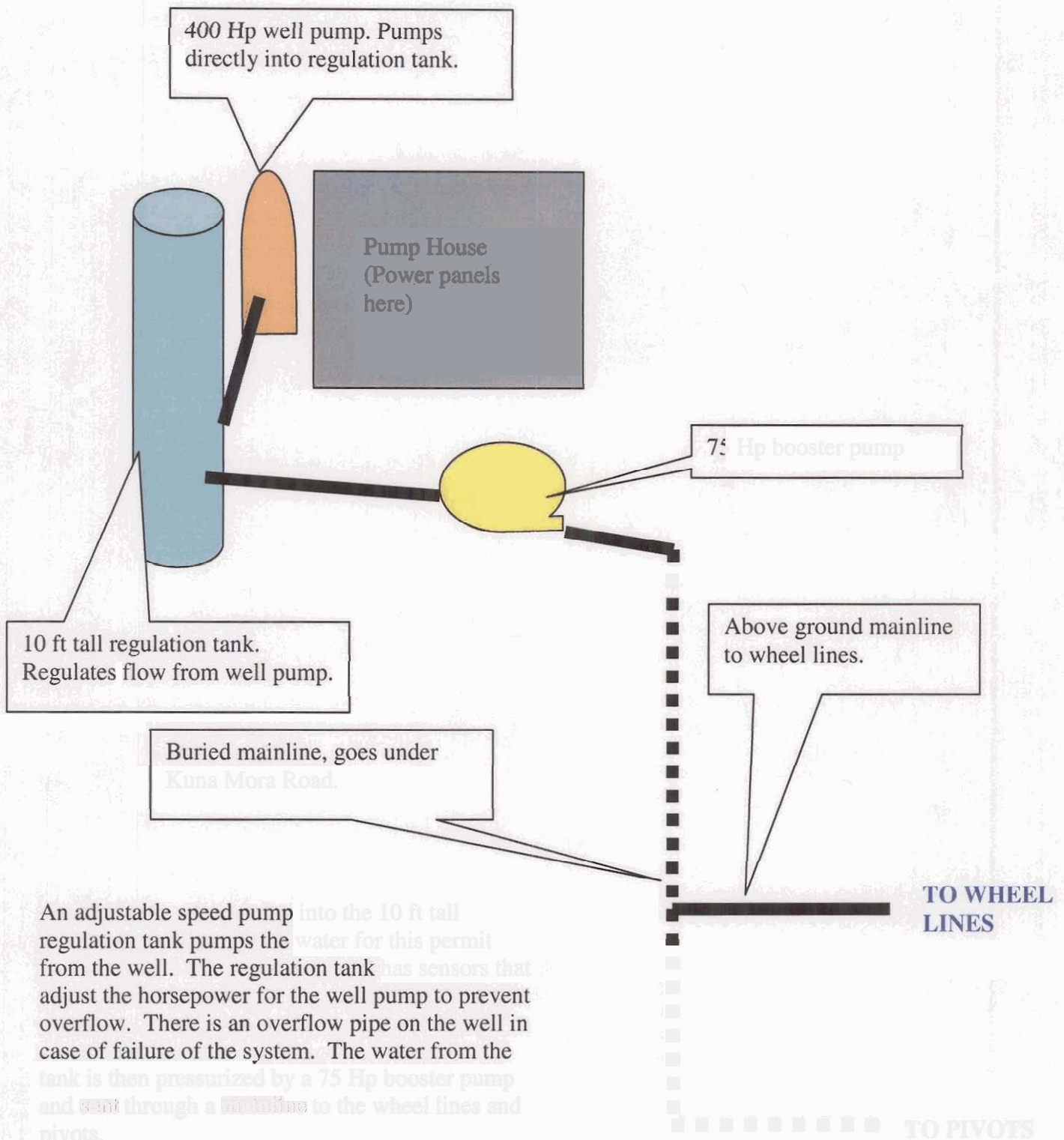
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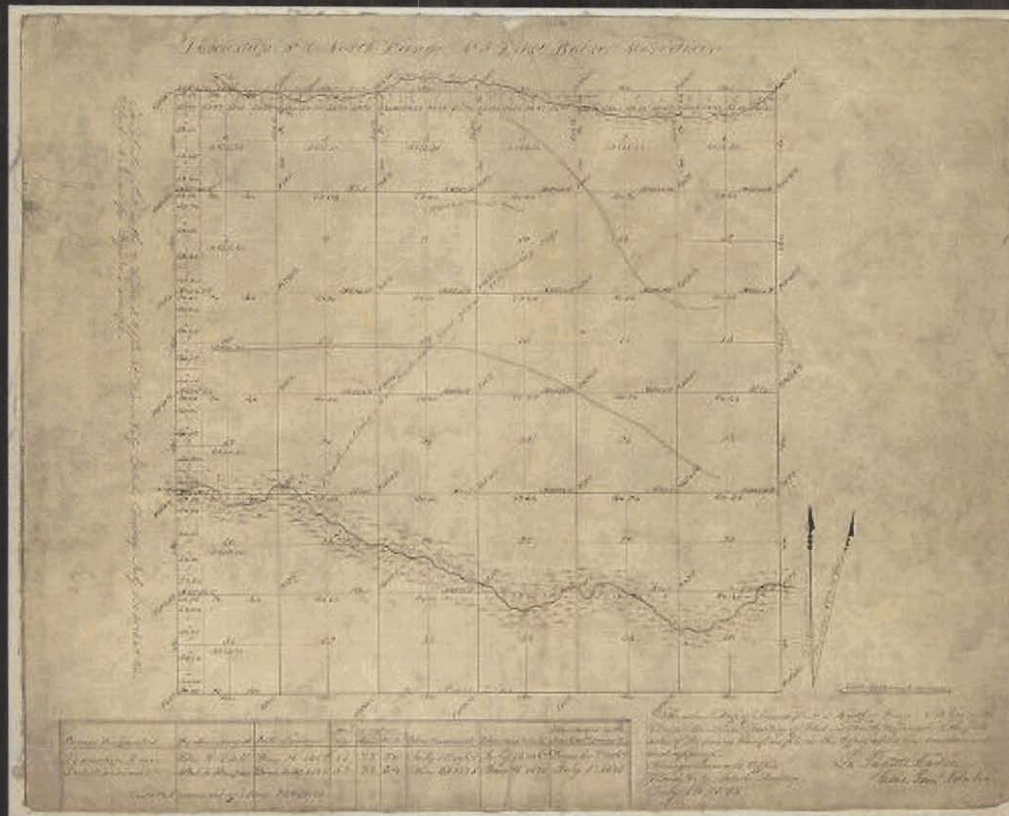
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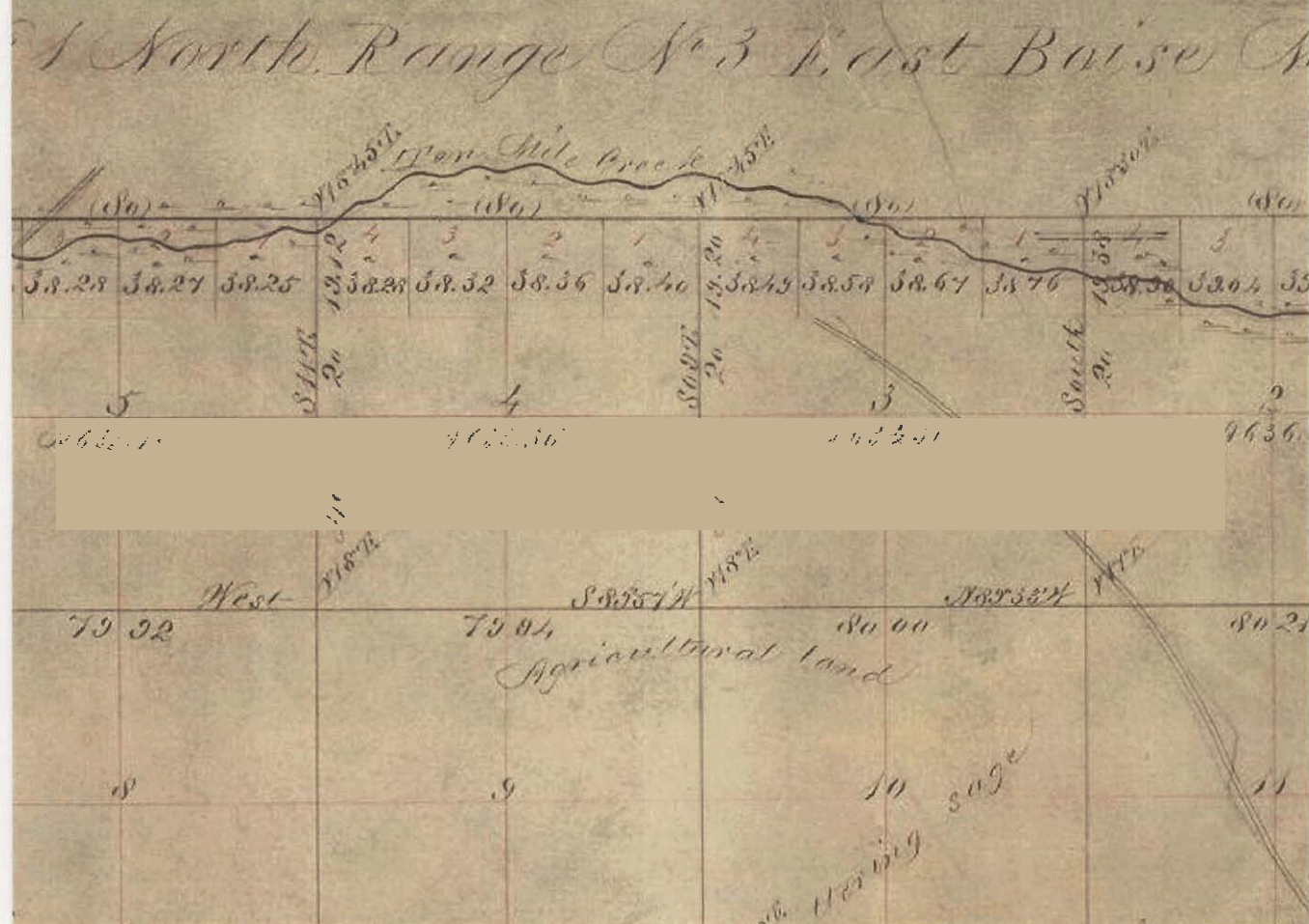
63-4840



SYSTEM DIAGRAM 63-11540







POLYSONIC READINGS

PERMIT #: 63-11540

POINT OF DIVERSION

MAIN WELL

FIRST SET OF INFORMATION:

SET-UP IMPUTE DATA USED DURING
PREPARATION FOR FLOW MEASUREMENTS.

SECOND SET OF INFORMATION:

THESE ARE THE READINGS TAKEN FOR
THIS PUMP. THE TOTAL FLOW WAS
AVERAGED OVER A 10 MINUTE READING.

FLOWS IN GALLONS PER MINUTE (GPM)

1393 GPM FLOW RATE

FLOWS IN CUBIC FEET PER SECOND (CFS)

1392 GPM / 448.8 = 3.10 CFS FLOW RATE

MODE SELECT
INPUT

OUTER DIAMETER
12.7500 IN

PIPE MATERIAL
? CS,SS

WALL THICKNESS
@ 2260 IN

INNER LINING
? NO LING.

KIND OF FLUID
? WATER

SENSOR MOUNTING
? U

TYPE OF SENSORER
? SMALL

SPACING
10.075 IN U

05-19 10:1400 *R
+002.90 % AI2

MODE SELECT
T0 CHECK

0-54.4 MMSEC
008.89 % T0

10:23+ 1.461E 3GPM 00R
+ 3.946E 0FPS 00R
+00000 *10 G 00R
-00000 *10 G 00R

10:23+ 1.487E 3GPM 00R
+ 4.019E 0FPS 00R
+00138 *10 G 00R
-00000 *10 G 00R

10:24+ 1.408E 3GPM 00R
+ 3.805E 0FPS 00R
+00282 *10 G 00R
-00000 *10 G 00R

10:25+ 1.392E 3GPM 00R
+ 3.763E 0FPS 00R
+00424 *10 G 00R
-00000 *10 G 00R

10:26+ 1.411E 3GPM 00R
+ 3.812E 0FPS 00R
+00565 *10 G 00R
-00000 *10 G 00R

10:27+ 1.392E 3GPM 00R
+ 3.763E 0FPS 00R
+00705 *10 G 00R
-00000 *10 G 00R

10:28+ 1.440E 3GPM 00R
+ 3.891E 0FPS 00R
+00841 *10 G 00R
-00000 *10 G 00R

10:29+ 1.433E 3GPM 00R
+ 3.871E 0FPS 00R
+00986 *10 G 00R
-00000 *10 G 00R

10:30+ 1.418E 3GPM 00R
+ 3.832E 0FPS 00R
+01127 *10 G 00R
-00000 *10 G 00R

10:31+ 1.338E 3GPM 00R
+ 3.615E 0FPS 00R
+01259 *10 G 00R
-00000 *10 G 00R

10:32+ 1.343E 3GPM 00R
+ 3.628E 0FPS 00R
+01393 *10 G 00R
-00000 *10 G 00R

1393.2/4

GROUNDWATER THEORETICAL ANALYSIS

FILE: 63-11540

DATE: 6-19-2007

BY: _____

THEORETICAL RATE OF FLOW: $Q = \frac{(8.8 \times (HP) \times (EFF.))}{TDH}$

Q = CFS

HP = Total Brake Horsepower of pumping plant (including booster)

Eff. = Pumping plant efficiency (assume 70% or 0.70)

TDH = Total dynamic head = [(LIFT) + (PSI X 2.31)]

LIFT = Depth to water in FEET from land surface to pumping water level

PSI = Pumping pressure measured in PSI near pump (if open discharge assume [0])

$$Q = \frac{(8.8) \times (400 \text{ HP}) \times (0.70) = 2462}{\frac{10 \text{ FT TANK}}{[(742) + (\text{---} \times 2.31)] = 752}} = \frac{3.277 \text{ CFS}}{1470 \text{ gpm}}$$

LIFT FROM:

PSI FROM:

NOTES ON PUMP:

Measurement (✓)

Measurement (✓)

Motor Make, Serial or ID

Owner ()

Owner ()

Area estimate ()

Estimate ()

Pump Make, Serial or ID, rating

Well Logs ()

Owner Gage ()

Booster (Y) (N)

REMARKS: The well pumps into a 10 FT
Tall Regulation Tank. so the PSI against
The ~~For~~ pump would 10 FT of Pressure.

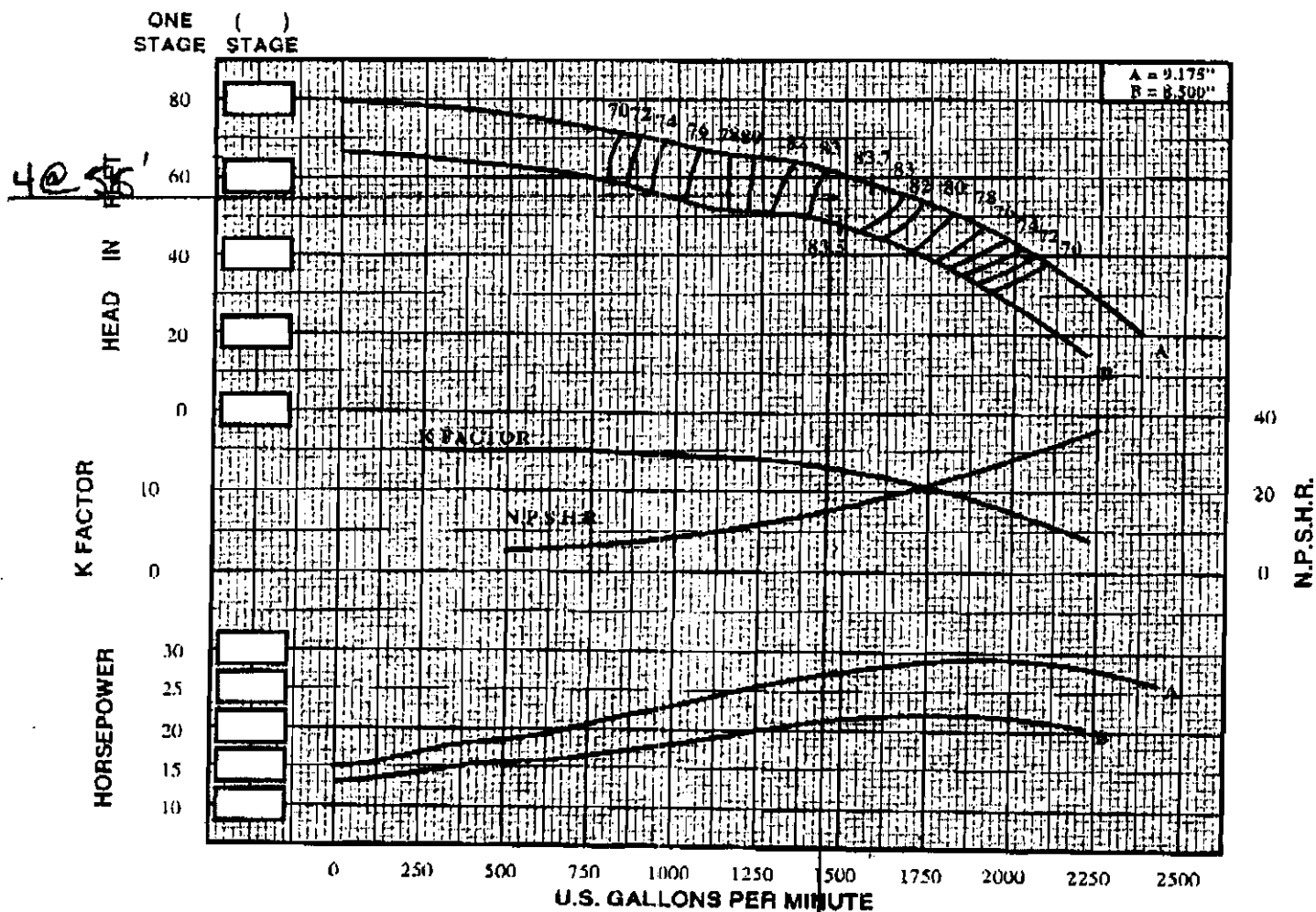


SIMFLO
PUMPS

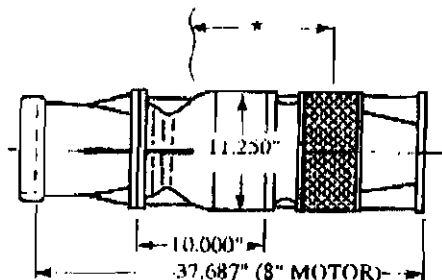
SV12C

1770 R.P.M.

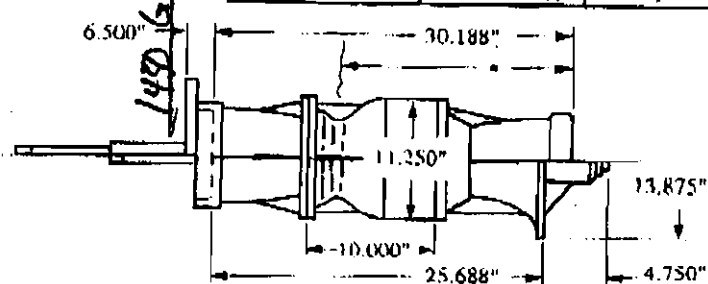
SECTION	202
PAGE	47
DATE	7/5/2000
SUPERCEDES	All Previous



IMPELLER TYPE = ENCLOSED	STD. SHAFT DIA. = 1.917"	NO. STAGES	EFF. CHANGE	MATERIAL	B.E.P. EFF. CHANGE
IMPELLER NO. = SM13H	MAX. SHAFT DIA. = 1.917"				
IMPELLER WT. - LBS. = 14.9	STD. LATERAL = .937"	1	-3	IMP. - C.I.	0
ONE STAGE WT. - LBS. = 290.0	DISCHARGE SIZES = 8", 10"	2	-2	IMP. - NI-RI	-2
ADD'L STAGE WT. - LBS. = 105.0	SUCTION SIZES = 8"	3	-1	IMP. - S.S.	-2
MAX. SPHERE SIZE = 1.187"	ONE STAGE WR ² = .78	4	0	BOWL - BRZ.	-1
MIN. SUBMERGENCE* = 18"		5	0	BOWL - NI-RI	-1
Δ CONSULT FACTORY				BOWL - S.S.	-2



SUBMERSIBLE TURBINE



LINESHAFT TURBINE

IDAHO DEPARTMENT OF WATER RESOURCES

WELL INSPECTION FORM

1. DRILLING PERMIT NO: D 0042457 OTHER APPLICABLE NO: 63-11540
2. OWNER: Joan Pribe / Vision Fire LLC Phone: (208) 375-1853
Address: 10712 CRUSER DR. Boise, ID 83709
3. WELL LOCATION: Twp 1N, Rge. 3E, Sec. 4, Gov't 2T. 4
County ADA (Provide sketch map and photo on reverse.)
4. DRILLER: Riverside Inc. Lic. No. 333
When Drilled? 1-13-06 TO 5-5-06.
5. WELL CONSTRUCTION: TURBINE PUMP
Casing Diameter 18 inches Water tight cap? ☐ Yes ☒ No Access Port: ☒ Yes ☐ No
Casing $\geq$ 12 inches above ground? ☐ Yes ☒ No - Describe TURBINE PUMP.
Depth of Casing 848 ft. Per well log. Method Drilled UNKNOWN (Reverse Per well log.)
Condition of Well Casing: ☒ Good ☐ Fair ☐ Poor Describe _____
Control Valve? ☒ Yes ☐ No Pressure Gauge: ☒ Yes ☐ No
Condition of Piping and Valving EXCELLENT
Auger to a depth of - 0 - ft. Evidence of Annular Seal ☐ Yes ☒ No Cement Pad
Are there obvious construction problems that may be a source for contamination or waste of water?
☐ Yes ☒ No (Describe in Remarks and Attach Photo - On Reverse)
6. HYDROLOGIC INFORMATION: Per well log. PUMPING LEVEL - 747 FT MEASURED.
Depth to Static Water 586 ft. Water Temperature UNKNOWN °F
Flowing Artesian ☐ Yes ☒ No Pressure: UNKNOWN (psi)
Water Sample Taken? ☐ Yes ☒ No If yes, describe purpose _____
Water Quality Measurements/Observations (Describe) _____
7. WELL USE:
☐ Domestic ☒ Irrigation ☐ Stock
☐ Test ☐ Municipal ☐ Industrial
☐ Abandoned ☐ Waste Disposal/Injection ☐ Not Used
☐ Other: _____

SCANNED

JUL 02 2007

8. POSSIBLE CONTAMINATION SOURCES:

Is there evidence of Chemigation? ☐ Yes ☒ No

If yes, is there a check-valve present? ☒ Yes ☐ No

Is there a possible source of contamination nearby? ☐ Yes ☒ No

If yes, what Type? _____

How far away from the well is this source? _____

9. REMARKS:

This is a very new well and
it appears to be properly constructed.

Donal A. Nelson SENIOR WATER RIGHT AGENT
Signature of Dept. Representative & Title

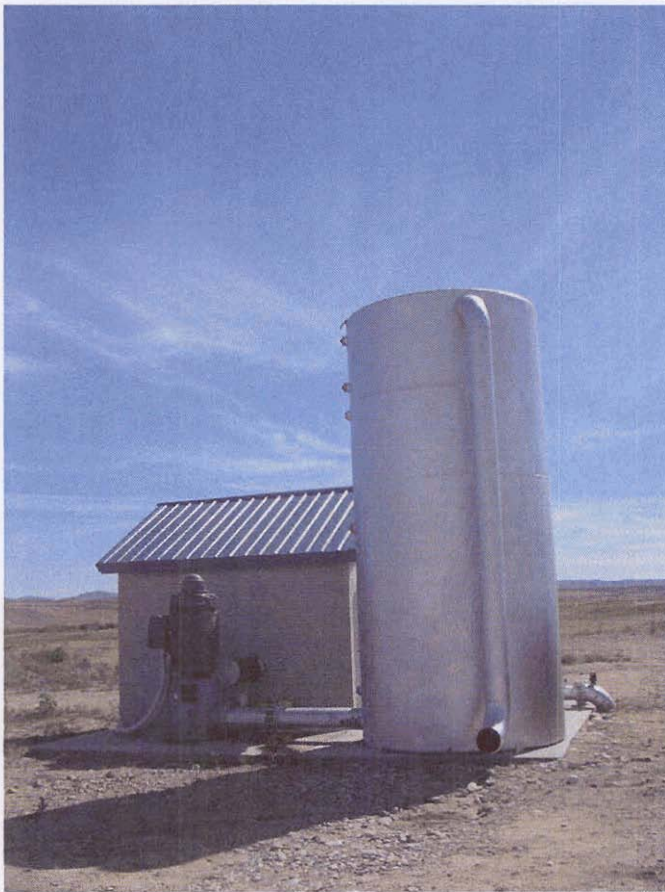
6-19-2007
Inspection Date

PHOTOS, DRAWINGS, OTHER ATTACHMENTS:

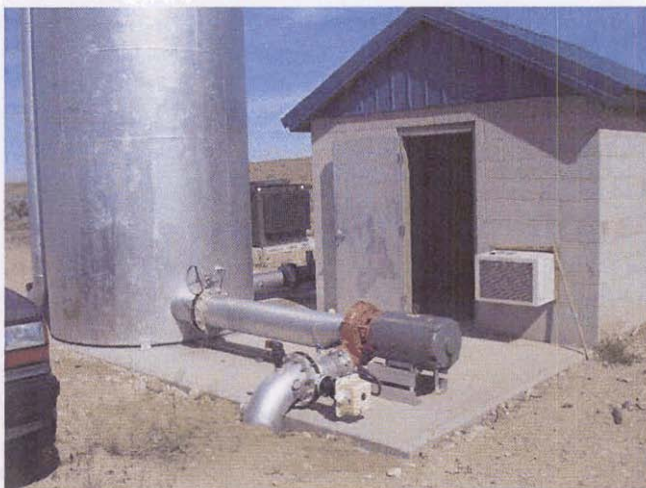
Please see Field Exam.

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 6/19/2007

FILE NUMBER 63-11540



This photo shows the well, pump house and regulation tank. A 400 Hp pump diverts water from the well into the 10 foot tall regulation tank. A 75 Hp booster pump then pressurizes the system. In this photo you can see an overflow pipe on the tank. Both the well pump and the booster pump are Variable Speed Pumps, so they can both be adjusted based on the maximum capacity of the well or the maximum capacity of the sprinklers. The tank supplies the needed regulation space to allow the two pumps to adjust themselves to the various flow rates needed.



This photo shows the pump house, booster and the regulation tank. The booster pump pressurizes the water from the regulation tank into the mainline that goes to the pivots and wheel lines. The pump house holds all of the electrical panels and such needed to operate the system.

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 6/19/2007

FILE NUMBER 63-11540



The photo above shows the field irrigated with wheel lines north of Kuna Mora road. The above picture was taken on the east side of the road.

The photo below shows the same field irrigated with the wheel lines. However, this photo was taken in the middle of the field from the road.



PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 6/19/2007

FILE NUMBER 63-11540



These are photos of the pivots, which are located on the south side of Kuna Mora Road. The top picture shows the west pivot pad. This is the location that didn't have an actual pivot on it. There are crops in this area, but they are very dry. They do walk the middle pivot back and forth, but it is enough of a hassle that probably only irrigated the west pivot enough to get the grain started at the first of this year. However, the farm manager was planning on planting alfalfa after the grain was harvested.

The middle pictures were taken between the east pivot and the middle pivot. The bottom picture was taken on the east side of the pivot fields.

