

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 57-7595

Exam Date: 8/16/2002

1. Current Owner: LESTER J MONCRIEF
10152 AIRPARK LP
MELBA ID 83641-4202
(208)495-1101
2. Accompanied by: Lester J. Moncrief
Phone No: Same as Above
Address: Same as Above
Relationship to Permit Holder: Owner

3. SOURCETRIBUTARY

GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: Opaline Irrigation District
2. Other water rights with the same point of diversion: NONE

C. DIVERSION AND DELIVERY SYSTEM1. LOCATION OF POINT(S) OF DIVERSION:

GROUND WATER

NW1/4NW1/4

Sec. 21, Twp 01N, Rge 03W, B.M.

OWYHEE County

Method of Determination: Visual Inspection and Aerial Photography.

2.

PLACE OF USE: Domestic

Twp Rge Sec	NE				NW				SW				SE				Totals
01N 03W 21	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
						X											

Total Acres:

Method of Determination: Visual Inspection and Aerial Photography.

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	Grundfos	1.5 Hp	05394509	Grundfos	05394509

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

D. FLOW MEASUREMENTS

1.

<u>Measurement Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
N/A						

2. Measurements:

The well was not operating at the time of the exam. A theoretical calculation was done in combination with the pump curve supplied by the pump supply company.

E. FLOW CALCULATIONSYES Additional Computation Sheets Attached

Measured Method:

THEORETICAL CALCULATION → 0.07 CFS
 PUMP CURVE → 0.08 CFS
 PERMIT ALLOWS → 0.30 CFS
 MAXIMUM ALLOWABLE FOR 9 HOMES → 0.15 CFS

The limiting factor on all of these calculations is the theoretical calculation. The pump capacity is only 0.07 cfs, so that is what I am recommending for the application. There was no heating systems setup for this water right, so heating was not considered.

F. 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:

9 homes X 0.6 afa per home = 5.4 afa for domestic use

No heating use was developed at the time of the exam.

G. NARRATIVE/REMARKS/COMMENTS

The water for this application is diverted from a single well located in the NWNW S21 T1N R3W. The water is then diverted into an underground mainline that feeds 9 residential lots. The water use is for in-house use only. The irrigation is supplied by Opaline Irrigation District. The water is diverted from an artesian well with a diversion temperature of 72 degrees Fahrenheit. There is no well log available for this well. I estimated a maximum well draw down of the well at approximately 23 feet. The well was not operating at the time of the field exam, so I estimated the pressure at 50 psi.

The applicant originally filed this application for 20 homes and from three wells. The applicant down sized the operation due to Department of Environmental Quality (DEQ) regulations. The remainder of the subdivision will be responsible for drilling their own well and setting up their own water system.

There are several water rights that overlap this legal description, but this permit is the only right diverted from this well. The Opaline Irrigation District will supply the irrigation uses for this subdivision. The well will only supply the in-house use.

No heating use was found, because no homes had been constructed within the subdivision. There is a possibility for heating, but I didn't recommend the heating component, since it was not listed when proof of beneficial use was submitted. There was also no plan for heating supplied by the applicant during the field exam. It will be best for the applicant to file a second permit for heating once the lots are sold, and a better accounting of heating needs are compiled. In order to properly allow the heating component, we would need the types of heating units associated with each home and size of each home to determine the amount of heating use. Whereas none of the home had been built, and there are no Covenants and Restrictions discussing the heating units and home size, it is impossible to determine the amount of heating use at this time.

RECOMMENDATION:

I recommend that this application be approved for in-house use only for 9 homes listed as Lots 1, 4, 5, and 6 block 6 and lots 14 – 18 in Block 5 of Sunrise Sky Park Subdivision. The original application listed Block 9, but there is no Block 9 and it should have been listed as Block 5.

I also recommend that the heating use not be licensed, since there is no evidence of heating and no plans for heating of the proposed homes of the subdivision.

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

PLEASE NOTE: Condition 4 of the permit required a means of measurement for multiple wells. Only one well as developed under this permit, and there is adequate piping to measure the well if needed. A theoretical calculation was used, because the well was not operating at the time of the exam. The system has an adequate number of valves on the well to control the flow of the water coming from the well, and to measure the artesian pressure if necessary. There was not a pressure gauge on the valves at the time of the field exam, but one could easily be installed if necessary with the proper pipe connections.

H. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
DOMESTIC	01/01 to 12/31	0.070 CFS	5.40 AF
<u>Totals:</u>		0.070 CFS	5.40 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

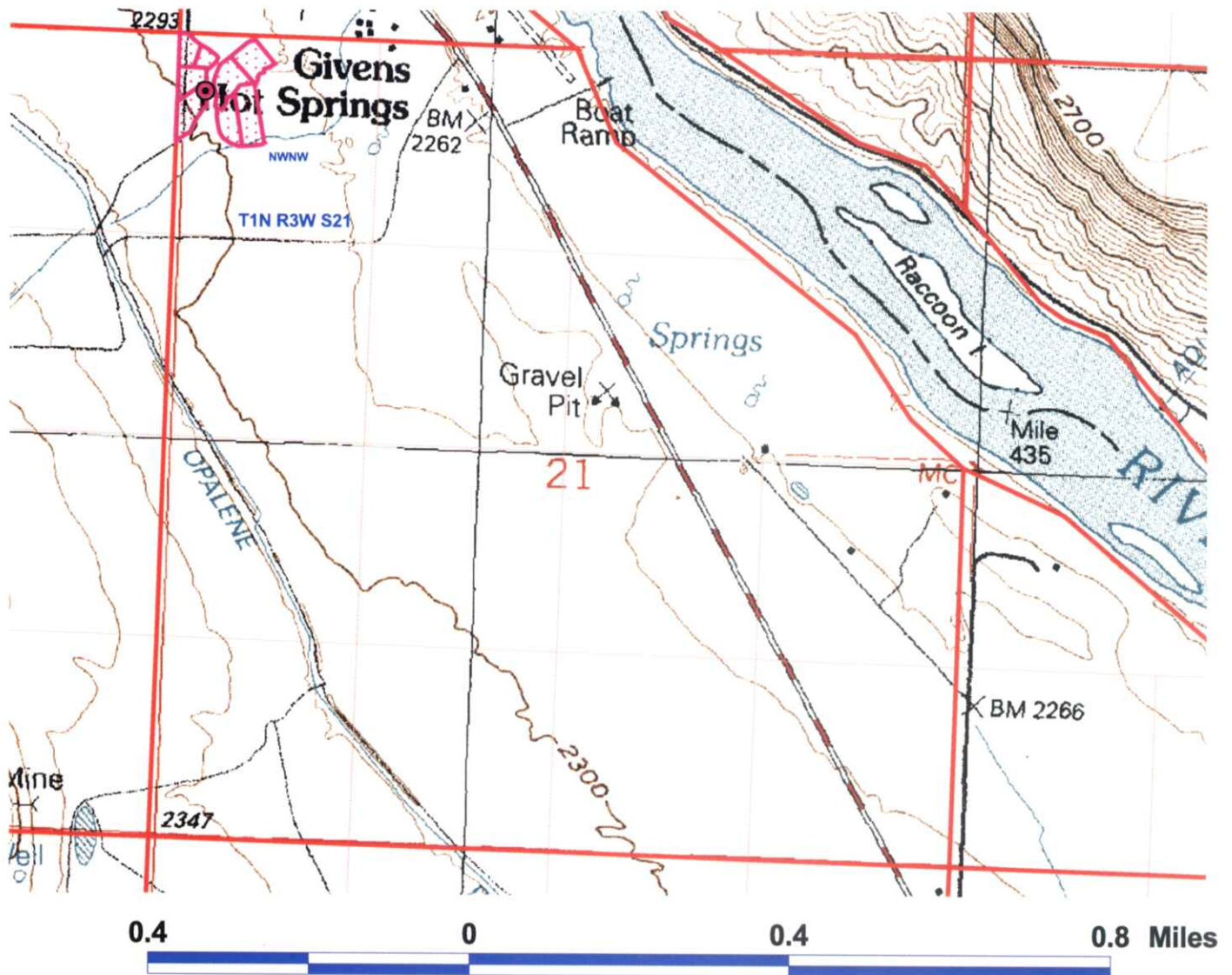
1-25-06

Reviewer

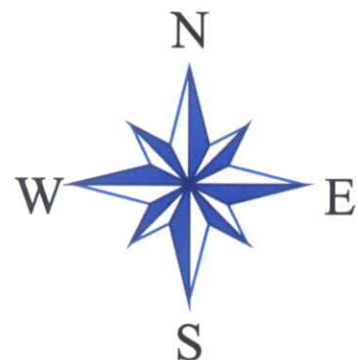
Date

SEAL

57-7595
SYSTEM DIAGRAM
BY DAN NELSON
2000 AERIAL PHOTO



- Well
- ▨ Place of Use
- ▭ Sections
- ▭ 1/4 1/4 Lines



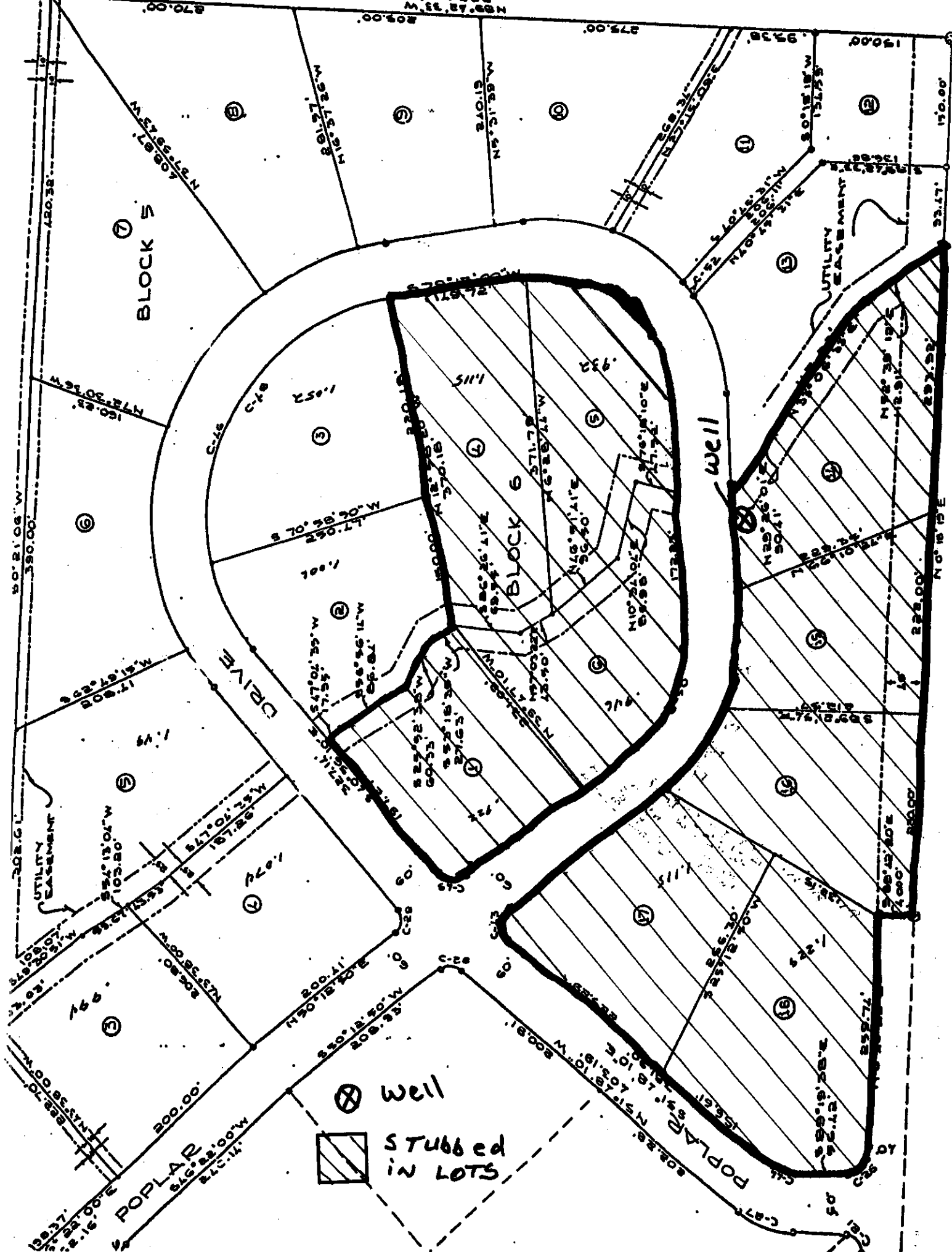
57-7595
SYSTEM DIAGRAM
BY DAN NELSON
2000 AERIAL PHOTO



0.1 0 0.1 0.2 Miles

-  Well
-  Place of Use
-  Mainline
-  Section Lines
-  1/4 1/4 Lines





Record ID
Water Right No. 57-7595
Name Les Monchief
pod NWNW S21 T1N R3W
year 2002
Flow Measurement: [REDACTED] gpm =

Date: [REDACTED]
Measured Flow: 0.08 cfs
HP/Eff Flow: 0.07 cfs
Sprinkler Flow:
Pivot/System Flow:

Max Flow from all sheets:
0.08 cfs

Curve/Pump Design: [REDACTED] gpm = 0.08 cfs

Horsepower / Efficiency Method
Horsepower [REDACTED] hp
PWL [REDACTED] ft
Disch Psi [REDACTED] psi
PUMP Eff Estimate 0.73 %
TDH 139 ft
OHP 1.095 hp
Flow 31 gpm = 0.07 cfs

System Method:
No Lines
Birds per line
Tti no nozzles 0
Nozzle size [REDACTED] in
Nozzle pressure [REDACTED] psi
Flow per nozzle 0.00 gpm
Sprinkler Flow 0 gpm
Percent Leaks [REDACTED] %
Total Flow 0 gpm =
Pivot / System rating [REDACTED] gpm =

Nozzle Equation: $Q=C \cdot A \cdot \sqrt{2 \cdot g \cdot h} / \sqrt{r(1-r^4)}$
C= 1.00 Nozzle coefficient; typical 0.97 to 1.00
r= 0.0000 ft Nozzle radius
A= 0.00000 ft^2 Nozzle area
h= 0 ft Head
g= 32.2 ft/sec^2 Gravitational constant
Q= 0.000 cfs Flow per nozzle
= 0.000 gpm Flow per nozzle

Comments / Data Supplied:
The pump curve showed a rate of diversion of 0.08 cs, and theoretical calculation showed a diversion rate of 0.07 cfs. I had to extend the pump curve to get a flow rate at the current TDH. Therefore, I am suspicious of the accuracy of the pump curve at this time. Therefore, I feel the theoretical calculation provides a better estimate of the flow rate of this system. The permit allows up to 0.30 cfs, but that amount of flow was not developed. I recommend that this permit be limited to 0.07 cfs diversion rate.

ASSUMPTIONS

- 1) 'Horsepower' is the motor shaft horsepower, equivalent to nameplate for a fully loaded motor
- 2) 'PUMP Eff Estimate' is the efficiency of the pump only; motor efficiency would be included to assess total pumping system efficiency. Over-ride this value if additional information (such as a pump curve) is available.
- .73 for <7.5 hp
 - .76 for 7.5 to <15 hp
 - .77 for 15 to <40 hp
 - .79 for 40 to <75 hp
 - .82 for 75 hp and larger

The sprinkler equations assumes new nozzles; increase "Percent Leaks" to account for wear.

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 - .82 for 75 hp and larger

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System Method:

No Lines
Birds per line
Ttl no nozzles

Nozzle size
Nozzle pressure
Flow per nozzle
Sprinkler Flow
Percent Leaks
Total Flow

Pivot / System rating

Nozzle Equation: $Q = C \cdot A \cdot \sqrt{2 \cdot g \cdot h} / \sqrt{\pi \cdot r^4}$

C= 1.00 Nozzle coefficient; typical 0.97 to 1.00
r= 0.0000 ft Nozzle radius
A= 0.00000 ft^2 Nozzle area
h= 0 ft Head
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Record ID		Date: 8/15/2002	Measured Flow:	0.08 cfs	<--Max
Water Right No. 57-7595			Designed Flow:	0.07 cfs	
Name Les Moncrief			HP/Eff Flow:		
pod NWNW S21 T1N R3W			Sprinkler Flow:		
year 2002			Pivot/System Flow:		
Flow Measurement:	gpm =				
Curve/Pump Design:	38 gpm =	0.08 cfs			
Horsepower / Efficiency Method					
Horsepower	1.5 hp				
PWL	23 ft				
Disch Psi	50 psi				
PUMP Eff Estimate	0.73 %				
TDH	139 ft				
OHP	1.095 hp				
Flow	31 gpm =	0.07 cfs			
System Method:					
No Lines			Nozzle Equation: $Q=C \cdot A \cdot \sqrt{2 \cdot g \cdot h} / \sqrt{1-r^4}$		
Birds per line			C=	1.00	Nozzle coefficient, typical 0.97 to 1.00
Ttl no nozzles	0		r=	0.0000	Nozzle radius
Nozzle size	in		A=	0.000000 ft ²	Nozzle area
Nozzle pressure	psi		h=	0 ft	Head
Flow per nozzle	0.00 gpm		g=	32.2 ft/sec ²	Gravitational constant
Sprinkler Flow	0 gpm		Q=	0.000 cfs	Flow per nozzle
Percent Leaks	%		=	0.000 gpm	Flow per nozzle
Total Flow	0 gpm =				
Pivot / System rating	gpm =				

Comments / Data Supplied:

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The sprinkler equations assumes new nozzles; increase "Percent Leaks" to account for wear.

Max Flow from all sheets:
0.08 cfs

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Water Right No.			Designed Flow:	0.07 cfs	
Name			HP/Eff Flow:		
pod			Sprinkler Flow:		
year:			Pivot/System Flow:		
Flow Measurement:	gpm	=			
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System Method:					
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Birds per line			C=	1.00	Nozzle coefficient, typical 0.97 to 1.00
Ttl no nozzles	0		r=	0.0000 ft	Nozzle radius
Nozzle size		in	A=	0.00000 ft ²	Nozzle area
Nozzle pressure		psi	h=	0 ft	Head
Flow per nozzle	0.00	gpm	g=	32.2 ft/sec ²	Gravitational constant
Sprinkler Flow	0	gpm	Q=	0.000 cfs	Flow per nozzle
Percent Leaks		%	=	0.000 gpm	Flow per nozzle
Total Flow	0	gpm			
Pivot / System rating		gpm			

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PERFORMANCE CURVES

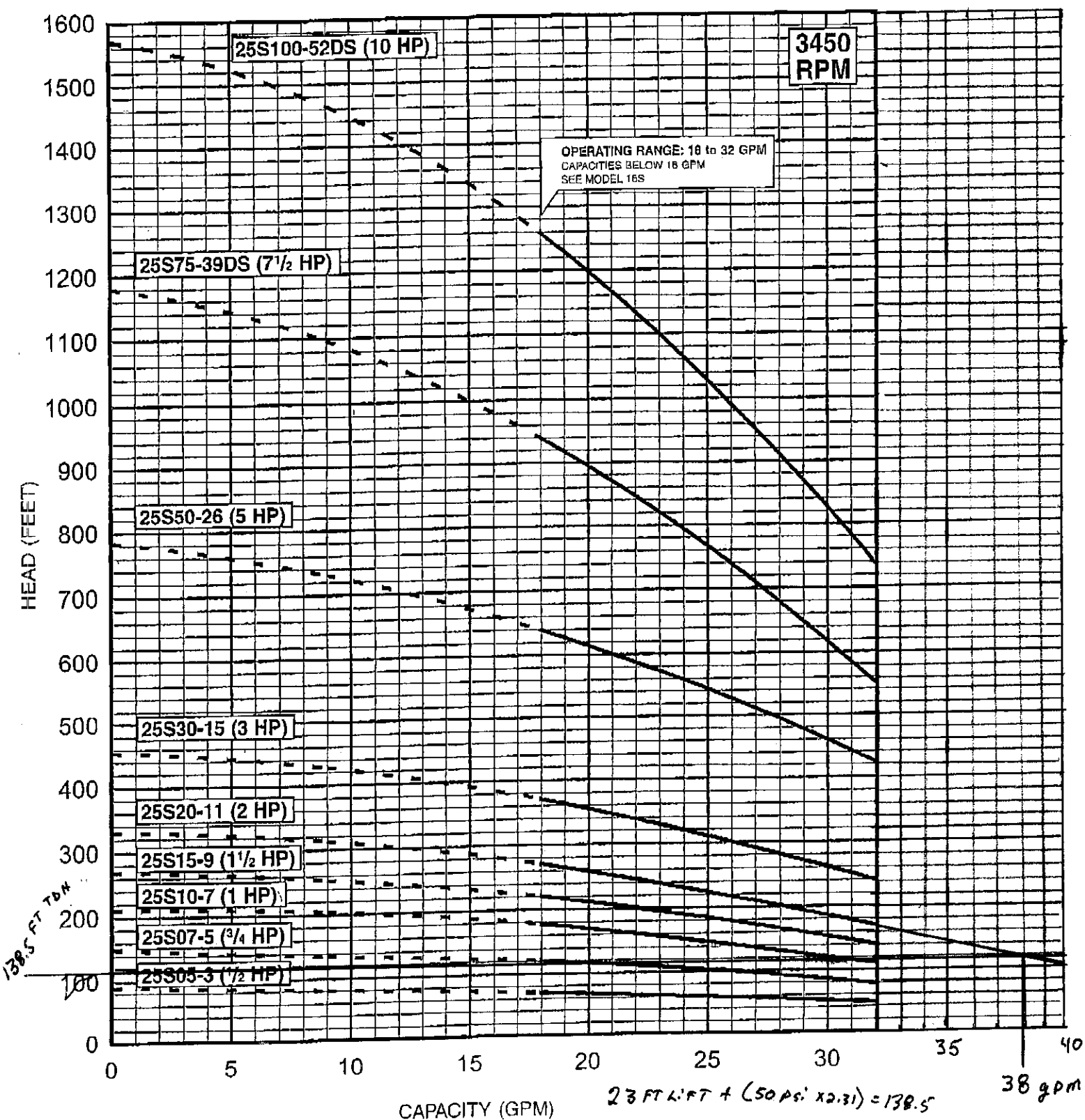
25 GPM

MODEL 25S

LOW RANGE: 18 -32 GPM

OUTLET SIZE: 1½" NPT

NOMINAL DIA. 4"



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.
MOTOR STANDARD, 5-5 HP/3450 RPM.
MOTOR STANDARD, 7.5-10 HP/3450 RPM.

Performance conforms to ISO 9906 Annex A
@ 2 ft. min. submergence.

IDAHO DEPARTMENT OF WATER RESOURCES

WELL INSPECTION FORM

1. DRILLING PERMIT NO: 000 15247 OTHER APPLICABLE NO: 57-7595

2. OWNER: Les Moncrief (Sunrise Development) Phone: 495-1101
Address: HC 79 Box 102A, Melba, ID 83641

3. WELL LOCATION: Twp 1N, Rge. 3W, Sec. 21, NW 1/4 NW 1/4
County Owyhee (Provide sketch map and photo on reverse.)

4. DRILLER: UNKNOWN Lic. No. UNKNOWN
When Drilled? UNKNOWN

5. WELL CONSTRUCTION:

Casing Diameter 8 inches Water tight cap? ☒ Yes ☐ No Access Port: ☒ Yes ☐ No

Casing $\geq$ 12 inches above ground? ☒ Yes ☐ No - Describe _____

Depth of Casing UNKNOWN ft. Method Drilled UNKNOWN

Condition of Well Casing: ☒ Good ☐ Fair ☐ Poor Describe _____

Control Valve? ☒ Yes ☐ No Pressure Gauge: ☐ Yes ☒ No

Condition of Piping and Valving GOOD

Auger to a depth of 0 - CEMENT FLOOR ft. Evidence of Annular Seal ☐ Yes ☒ No

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:

Depth to Static Water 0 ft. Water Temperature 72 °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: _____		

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: There is NO well LOG FOR
THIS well. AND IT IS FLOWING
ARTESIAN, Rob Whitey Has been
made aware OF The SITUATION.

Donald H. Weber

Signature of Dept. Representative & Title

Senior Water Right agent

8-15-2002

Inspection Date

PHOTOS, DRAWINGS, OTHER ATTACHMENTS:

See Field Exam FOR 57-7595

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 8/15/2002

FILE NUMBER 57-7595



The photos above are photos of the well house. The well head is located in the well house and is connected to 3 pressure tanks. The well has a 1 ½ Hp submersible pump.

The second picture down is of the power relay for the well house.



The bottom picture is a drain from the well. The well log suggests that this is not an artesian well, but the flow from this pipeline suggests otherwise. Apparently, this is an artesian well, that flows into a nearby drain ditch when no water is being pumped from the well. The flow was not significant at the time of the field exam, approximately 5 to 20 gpm.

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 8/15/2002

FILE NUMBER 57-7595



The above photo is of the lots for the subdivision. None of the lots had been filled, but they all were stubbed into the well.