

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 57-7552

Exam Date: 5/30/2012

1. Current Owner: MERRILAN M SIMPER

And/Or

HAROLD A SIMPER
24128 20 MILE RD
GRAND VIEW ID 83624-5042
(208)834-2498

2. Accompanied by:
- Harold Simper

Phone No: Same as aboveAddress: Same as aboveRelationship to Permit Holder: Permit holder3. **SOURCE**

TWENTYMILE GULCH CREEK

TRIBUTARY

SHOOFLY CREEK

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 57-7117
2. Other water rights with the same point of diversion: 57-4008

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

TWENTYMILE GULCH CREEK

SW1/4SE1/4

Sec. 33, Twp 05S, Rge 03E, B.M.

OWYHEE County

Method of Determination: GPS and visual inspection

2.

PLACE OF USE: STOCKWATER FROM STORAGE, IRRIGATION STORAGE, STOCKWATER STORAGE, STOCKWATER

Tw	Rge	Sec	NE				NW				SW				SE				Totals
05S	03E	33	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	
																	X		

PLACE OF USE: IRRIGATION AND IRRIGATION FROM STORAGE

Tw	Rge	Sec	NE				NW				SW				SE				Totals
05S	03E	33	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	
											40.0			39.0	40.0	40.0			159.0

Total Acres: 159

Method of Determination: Visual inspection and GIS

Method of Determination:

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
Site Tag # A0018526	Baldor Industrial	25	JPM2531T	Cornell Pump	59858

*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
none						

2. Measurements: Theoretical calculation was performed due to the system no longer being in use. No other measurement was possible

E. FLOW CALCULATIONS

See attached theoretical calculations sheet

 x Additional Computation Sheets Attached

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 159 \times 4.5 = 715.5$$

$$V_{D.R.} = [\text{Diversion Rate } 2.36 \text{ (cfs)}] \times 260 \text{ (Days in Irrigation season)} \times 1.9835 = 1217$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \underline{715.5} \quad 716$$

2. Volume Calculations for Other Uses:

The pond has a shallow section and a deep section. The deep section is 7 feet deep average with a surface area of 0.41 acres as determined using GIS. The shallow section has an average depth of 2 feet and a surface area of 1.65 acres as determined using GIS.

$$7 \text{ ft} \times 0.41 \text{ acres} = 2.87 \text{ acre feet}$$

$$\underline{2 \text{ ft} \times 1.65 \text{ acres} = 3.3 \text{ acre feet}}$$

$$\text{Total pond acre feet} = 6.2 \text{ acre feet}$$

Stockwater storage is limited by the permit to 5.4 acre feet
The stockwater volume limit equals the following:

$$(400 \text{ hd} \times 12 \text{ gpd/hd} \times 365 \text{ days}) / 325,850 = 5.4 \text{ Acre Feet Annual Volume}$$

Irrigation storage is allowed the full 6.2 acre feet

G. NARRATIVE/REMARKS/COMMENTS

The water is diverted from 20 Mile Gulch Creek shown in blue on the map into the pond. From the pond the water can be diverted in the southeasterly corner of the pond by a 25 horsepower pump into the mainline. The mainline from the pump travels due north to the northern most edge of the property and then turns west to the western edge of the property where it turns south, where it turns south it discharges into a gated pipe that irrigates three furrows west to east, along the western part of the property. Another ditch comes out of the pond on the northeastern corner of the pond and travels in a northwestern direction to irrigate the remainder of the property.

Water right 57-4088 could be diverted into the pond from the point of diversion listed on this water right in SWSE of Section 33 in Township 5 South, Range 3 East. From the pond the water is used to irrigate the lands in the SWSE of Section 33 in Township 5 South, Range 3 East approximately 34 acres. The irrigation of these 34 acres are run through the same system described above. Permit number 57-7552 originally allowed 34 acres in the SWSE of Section 33 in Township 5 South, Range 3 East. However, water right 57-4088 supplies a full inch per acre from the same source through the same point of diversion for the same 34 acres, therefore, I cannot recommend the 34 acres in the SWSE of Section 33 in Township 5 South, Range 3 East be included in the licensing of permit 57-7552.

Groundwater from water right 57-7117 is also used on some of these acres. Water right 57-7117 allows the irrigation of 20 acres in the NESW, 36 acres in the SESW, and 20 acres in Section 33 in Township 5 South, Range 3 East for a total of 76 acres of overlapping water. Whereas 57-7117 is a groundwater right and is considered supplemental it can directly overlap permit 57-7552. The water from the groundwater well is injected into 20 Mile Creek at Lot 4 (SEWNW) of Section 4, Township 6 South, Range 3 East and re-diverted in the SWSE of Section 33 in Township 5 South, Range 3 East at the point of diversion described in permit 57-7552. This leaves 83 acres without overlapping water rights for this place of use.

The owner has approximately 400 head of cattle that stay on the property during the winter months, approximately October 1 to April 1. During the summer months the cattle are put out on range. This varies depending on grazing leases and availability of grasses on the range. Therefore I am recommending that the stockwater be licensed for year around use.

Have conditions of permit approval been met? x Yes No

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
STOCKWATER FROM STORAGE	01/01 to 12/31		5.40 AF
IRRIGATION FROM STORAGE	03/15 to 11/15		6.20 AF
IRRIGATION STORAGE	01/01 to 12/31		6.20 AF
STOCKWATER STORAGE	01/01 to 12/31		5.40 AF
STOCKWATER	01/01 to 12/31	0.090 CFS	5.40 AF
DIVERSION TO STORAGE	01/01 to 12/31	1.600 CFS	
IRRIGATION	03/15 to 11/15	1.600 CFS	
		<u>Totals:</u>	1.690 CFS

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 Sandra Beer Thiel

Field Examiner's Name



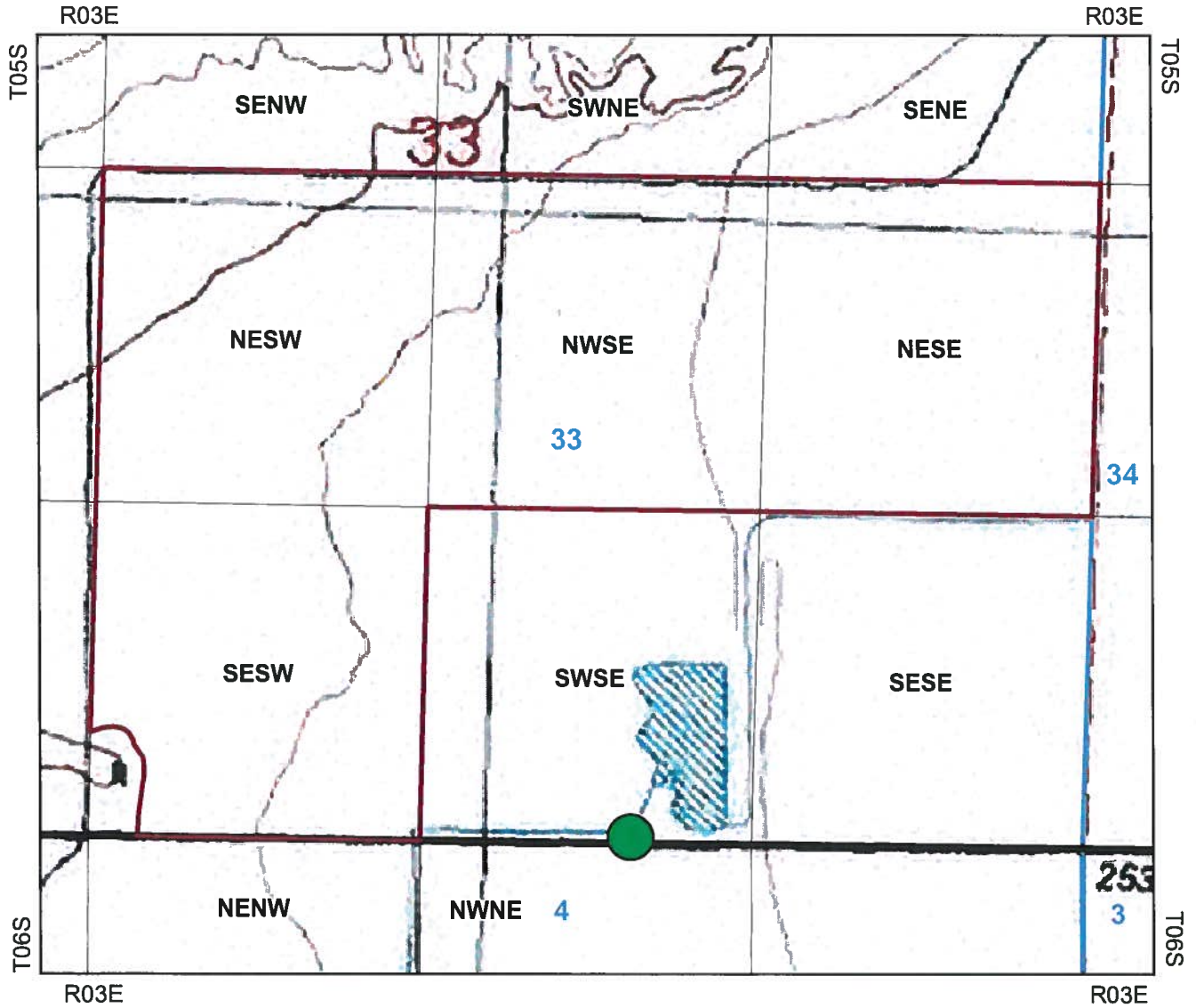
Date

June 11, 2012

Reviewer

Date

State of Idaho
Department of Water Resources
Permit to Appropriate Water
57-7552
Water Service Area Boundary for Merrilan M Simper

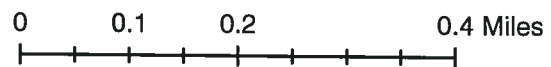
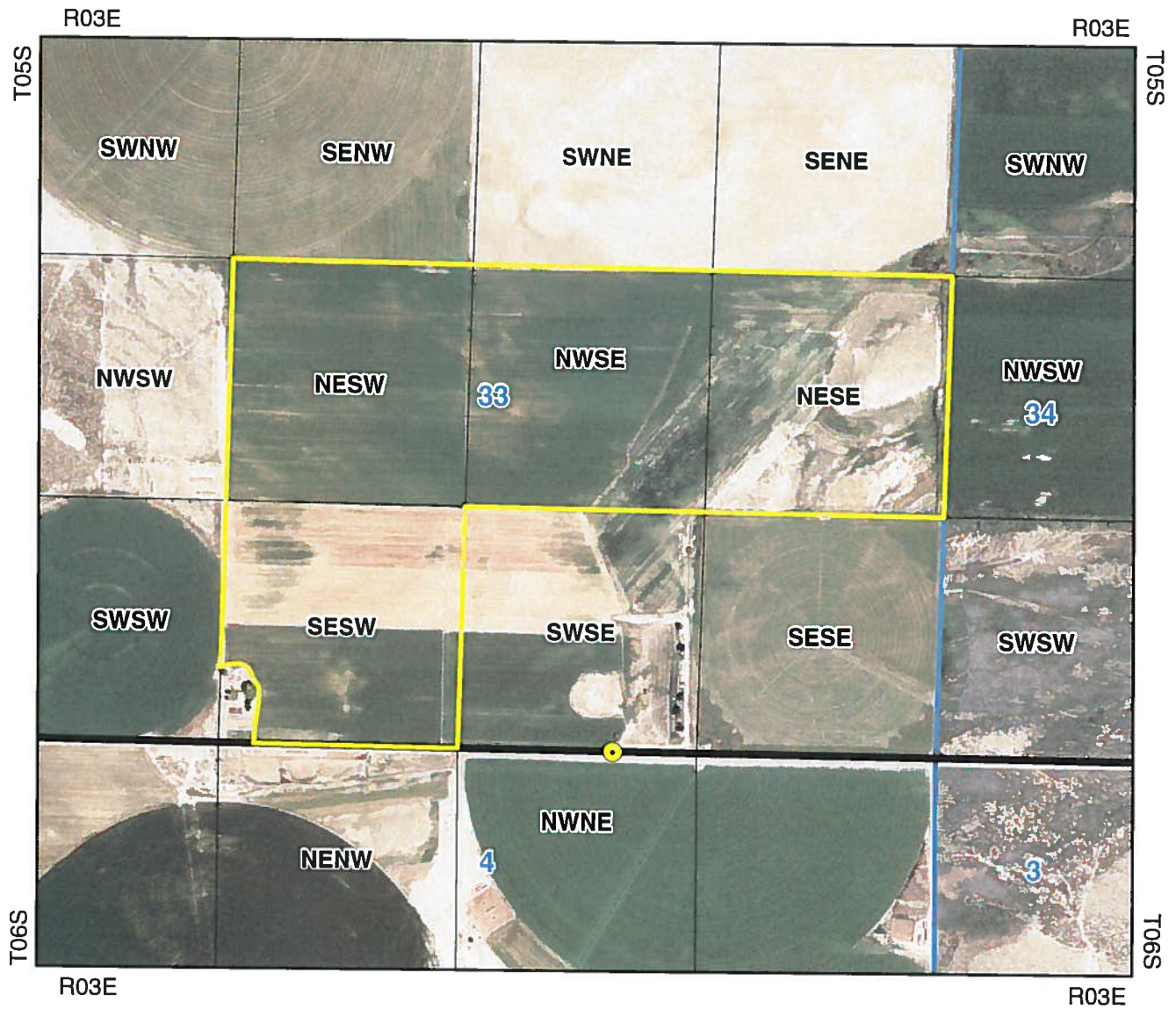


A horizontal number line representing distance in miles. The line starts at 0 on the left and ends at 0.3 Miles on the right. There are major tick marks labeled 0, 0.075, 0.15, and 0.3 Miles. Between each of these major tick marks, there are three smaller, unlabeled tick marks, dividing each 0.075-mile segment into four equal parts of 0.01875 miles each.

-  POD
 POU
 Townships
 PLS Sections
 Quarter Quarters



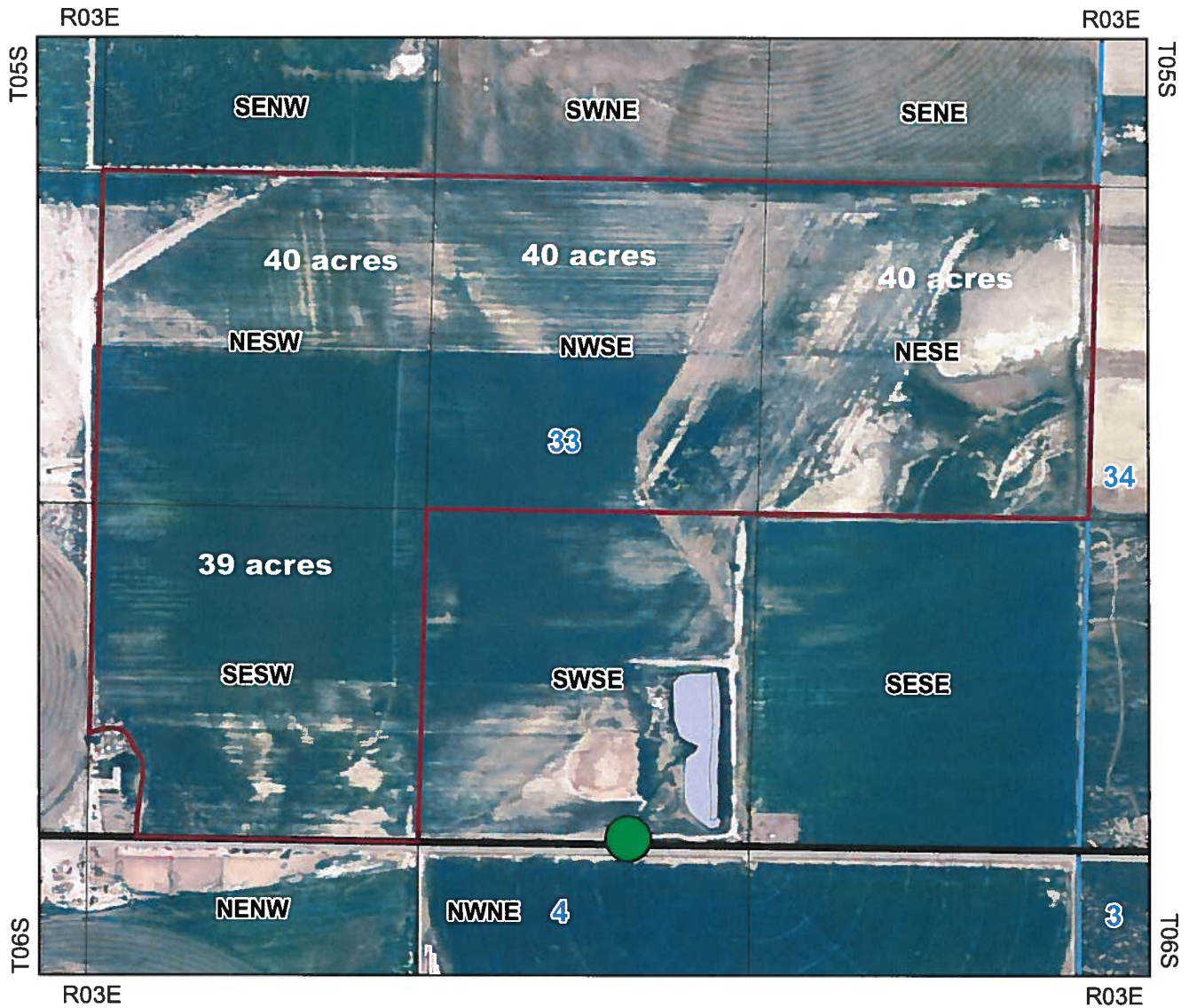
State of Idaho
Department of Water Resources
Permit to Appropriative Water
57-7552
Water Service Area Boundary for Merrilan M Simper



- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters



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0 0.075 0.15 0.3 Miles

- POD
- POU
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- Quarter Quarters



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GROUNDWATER THEORETICAL ANALYSIS

FILE: 57-7552

DATE: 6/4/2012

BY: Sandra Thiel

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

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])

$$(8.8) \times (25) \times (0.70) = 154$$

$$Q = \frac{154}{65.3} = 2.36 \text{ cfs or } 1059 \text{ gpm}$$

$$[(-4) + (30 \times 2.31)] = 65.3$$

LIFT FROM:

Measurement (☒)

Owner ()

Area estimate ()

Well Logs ()

Booster (Y) (N)

PSI FROM:

Measurement ()

Owner (☒)

Estimate ()

Owner Gage ()

NOTES ON PUMP:

Motor Make, Serial or ID

Pump Make, Serial or ID, rating

REMARKS: The actual pump is on the back of a trailer.
The pond didn't have enough water to supply the pump
and hasn't had enough water for years
A theoretical calculation is the only way to determine
flow rate on this system

PHOTOGRAPHER AND DATE OF PHOTOS Sandy Thiel, May 30, 2012

FILE NUMBER 57-7552



This is the pump the was used at

Cornell Pump Co.

Model: 4RB25-A

Serial: 59858

Horsepower: 25

Volt 230/450

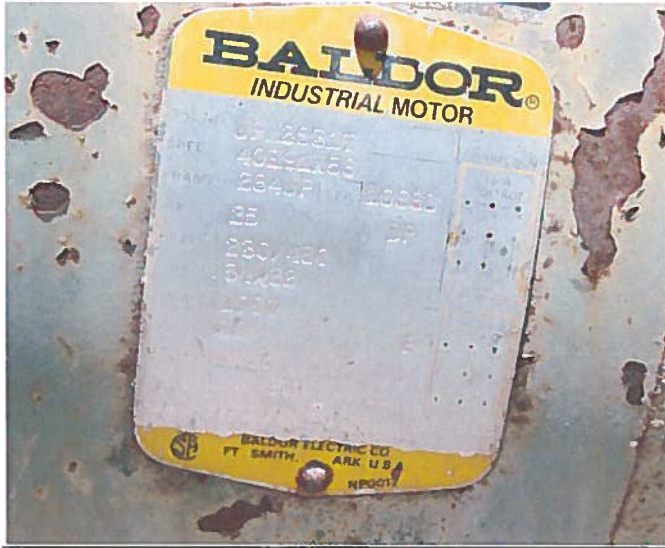
Amps 64/32

RPM: 1750

Tag: A0018526



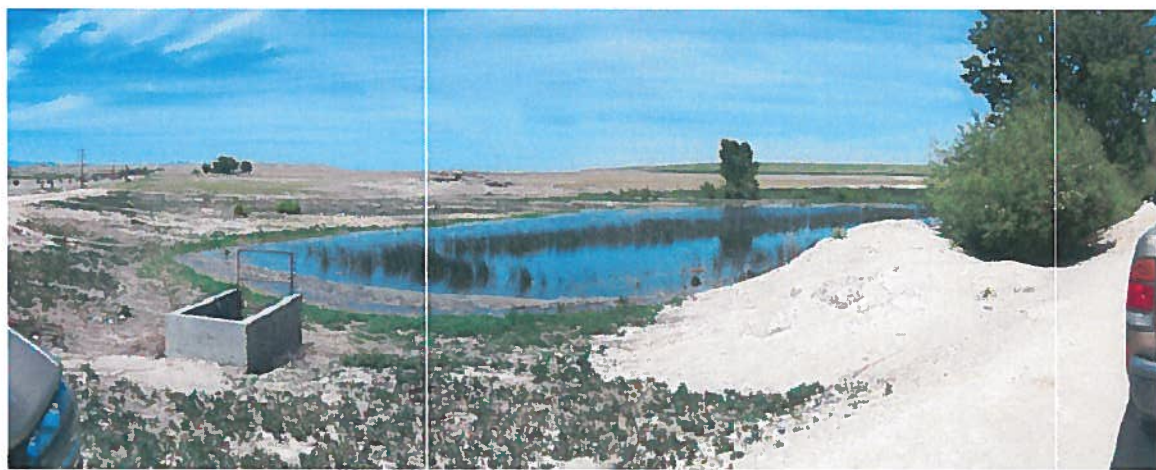
This is where the pump was located and the piping from the pond is sticking up. This is on the south east corner of the pond



Motor name plate



Pump name plate



This is the pond and the field is in the distance. The cement structure is the diversion from the pond feeding the intake pipeline to the pump that is no longer there. The pump station is on the other side of the berm where the vehicles are parked. Behind the photographer



These two pictures show the diversion from 20 Mile Gulch Creek. The orange tarp is blocking off the ditch going to the pond.

At the time of the exam no water was going to the pond.



This is the diversion point from the ditch from 20 Mile Gulch Creek, to the pond. The square portion below the feet is where the pipe exits the diversion and enters the pond