

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

RECEIVED
JAN 10 2003
DEPARTMENT OF WATER RESOURCES

A. GENERAL INFORMATION

Permit No. 63-11275

1. Owner: NIMAN MC CONNELL LLC Phone No. (208) 459-1113

Current Address: 16821 PURPLE SAGE ROAD, CALDWELL, ID 83607

2. Accompanied by: ROB STOKES EXAM DATE : 1/3/2002

Address: SAME AS ABOVE Phone No. SAME AS ABOVE

Relationship to Permit Holder: FEEDLOT MANAGER

3. Source: GROUNDWATER tributary to N/A

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 63-22368, 63-20388, 63-8702A & BLACK CANYON IRRIGATION DISTRICT RIGHTS

2. Other water rights with the same point of diversion: 63-22368, 63-20388, & 63-8702A

C. DIVERSION AND DELIVERY SYSTEM

1. Point(s) of Diversion:

Ident No.	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.	County	Method of Determination/Remarks
DOMESTIC WELL			NW	NW	32	5N	3W	CANYON	VISUAL INSPECTION AND USE OF 2000 AERIAL PHOTOS
STOCK WELL			NE	NW	32	5N	3W	CANYON	VISUAL INSPECTION AND USE OF 2000 AERIAL PHOTOS
RELIFT PUMP			NE	NW	32	5N	3W	CANYON	VISUAL INSPECTION AND USE OF 2000 AERIAL PHOTOS

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2. Place(s) of Use:

Indicate Method of Determination SAME AS POINT OF DIVERSION

TWP	RGE	SEC	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
5N	3W	32					25.4 S/C	S/C											25.4

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

SEE ATTACHED SHEET.

YES Copy of USGS Quadrangle Attached Showing location(s) of point(s) of diversion and place(s) of use (required).

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
DOMESTIC WELL	FRANKLIN ELECTRIC	2 Hp	2823018110	FRANKLIN ELECTRIC	2823018110
STOCK WELL	GUNDERFOS	15 Hp	1353150	GUNDERFOS	1353150
RELIFT PUMP	CENTURY	50 Hp	6-331269-01	BERKLEY	6967274

*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
N/A						

2. Measurements:

Measurements at the time of the exam were not possible since the system was not operating continually. Therefore, a theoretical calculation was performed to determine the maximum capacity of the wells and the re-lift pump.

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E. NARRATIVE/REMARKS/COMMENTS:

The water for this permit comes from 2 wells referred to the Domestic Well (2Hp pump) and the Stock Well (15 Hp pump). The Domestic Well is located in a pump house in-between the house/office and the feed mill in the NWNW and the Stock Well is located in a pump house at the southeastern corner of the sewage lagoon in the NENW. The entire place of use and the wells are located in the N $\frac{1}{2}$ of the NW $\frac{1}{4}$ of S32 T5N R3W.

The water from the Domestic Well travels through 3 water lines from the well. The first line travels northeast to the house/office and continues under the driveway to a single spigot. The office is located under the house or the basement area of the house. The office is basically separate from the house even though they are contained in the same building. The second water line from the Domestic Well travels northwest to a single residence, which is basically a hired hands home. The third line from the Domestic Well or the main water line, travels due south to the feed mill and then turns east to supply water to the shop. From the shop the main water line travels due south and supplies water the stock pens on the west $\frac{1}{2}$ of the feedlot. Once the line has gone through all of the pens on the west $\frac{1}{2}$ of the feedlot it turns east to the middle of the set of pens on the east $\frac{1}{2}$ of the feedlot. At this point a spur takes off from the main water line and travels due north through the middle of the pens on the east $\frac{1}{2}$ of the feedlot to supply water troughs in these pens. The main water line continues on east and connects to the Stock Well's piping. At the Stock Well a spur from the main water line empties directly into the waste lagoon for the feedlot.

The water in the main waste lagoon is used to irrigate the 25.4-acre field in the NENW and to supply dust abatement for the corrals. A water line from Black Canyon Irrigation District empties into the waste pond with the ground water and any wastewater from corrals. The well water and the canal water are used to dilute the lagoon water to allow it to be pumped through the sprinkling system. A 50 Hp pump pulls water from the lagoon and delivers it to a mainline that runs due north along the western edge of the irrigated field. At approximately the midway point of the northern most corral a line takes off from the mainline to deliver the water to 30 dust abatement sprinklers. These sprinklers are rated at 104 gpm and only 3 sprinklers are operated at any one time. Therefore, the dust abatement system only runs 312 gpm or 0.70 cfs. The main irrigation line continues north until it reaches Purple Sage Road and then turns east and runs parallel to the road to supply water to the wheel line and hand line used to irrigate the field. The wheel line and the hand line each have 32 sprinklers with 1/8" nozzles that are rated at 3.62 gpm for a total of 115.8 gpm or .26 cfs. The maximum diversion rate used from the relift pump is 0.96 cfs. The groundwater used for irrigation is supplemental to the canal water. So the main use of the groundwater would be used for dust abatement since the maximum diversion rate available from the wells is 0.75 cfs. This would only leave 0.05 cfs for irrigation. The only way that the groundwater could be used for irrigation is if the dust abatement was not in operation.

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The pond associated with this right is an existing drainage pond historically used to collect wastewater from the surrounding fields. This pond is shown on all the maps I have found. The main use of the pond has always been to collect wastewater and to serve as a waste lagoon for the feedlot. The wastewater is no longer available, so the only water supplying the pond comes from the canal, corrals, and groundwater. Therefore, no storage right should be needed for this existing pond. The industrial uses listed on this permit should actually be described as commercial use. The commercial use includes water used in the office (not including the home use), feed mill, shop, and equipment washing. The stockwater use is for 4,500 range cattle. The owner supplied affidavits from the former manager of the feedlot stating that 4500 head were in the lot prior to proof of beneficial use being filed. The irrigation and dust abatement use is listed above.

OVERLAP

Snake River Basin Adjudication (SRBA) decree 63-22368, SRBA claim 63-20388, and license 63-8702A overlap the place of use for this permit. Water right 63-22368 is diverted from the domestic well and is used for the home above the office, but does not include the water used by the feedlot office. Claim 63-20388 supplies water to the hired hand's home and supplies a commercial stockwater right for 3,000 head of livestock. An SRBA agent has not yet reviewed this claim, so it is impossible to tell if it is a valid claim or not. This permit has applied for 5,000 head of cattle, and the owner has supplied affidavits showing that at the time proof of beneficial use was filed that 4,500 cattle were held in the facility. Therefore, when this permit and claim 63-22368 are combined, stockwater should be limited to the consumption of water that 4,500 cattle would use. This combined amount would be needed to prevent expanding the use to more than the 4,500 animals capacity, if 63-22368 is recommended as claimed or if 63-22368 was disallowed this permit would still be able to cover the full amount of stockwater used in the facility.

63-8702A is a license for dust abatement and irrigation. The dust abatement has increased since 63-8702A was licensed, therefore, this application will cover only the amount of water used above what was licensed under 63-8702A. The irrigation component of 63-8702A allowed irrigation of 66 acres at approximately ½ of an inch per acre. However, only 25.4 acres of 63-8702A's place of use are still being irrigated by the wells. Therefore, we can allow the remaining diversion rate as long as the irrigation does not exceed 0.02 cfs per acre. There is also Black Canyon Irrigation District water used on these acres. Therefore, this permit is a supplemental right and all surface water should be used first before any groundwater is used.

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RECOMMENDATIONS:

IRRIGATION:

I recommend that this permit be licensed for 0.25 cfs and 114.3 afa for irrigation. When the irrigation component of this right is combined with 63-8702A, Black Canyon Irrigation District water, and all other rights the owner should be limited a maximum diversion rate of 0.02 cfs/acre and annual volume of 4.5 afa/afa. This is a supplemental right, so the full allocation of surface water should be used prior to using these wells for irrigation. .

COMMERCIAL:

I recommend that this permit be licensed for 0.75 cfs and 29.4 afa for commercial use. When combined with water right 63-8702A and all other rights, the commercial use should be limited to a combined volume of 56.7 afa and a diversion rate of 0.75 cfs (the system capacity).

STOCKWATER:

I recommend that this permit be licensed for 0.75 cfs and 60.5 afa for stockwater. When combined with water right 63-20388 and all other rights should be limited to a maximum diversion rate of 0.75 cfs and 60.5 afa for stockwater.

GENERAL:

When combined with all the uses for all the overlapping rights these wells should be limited to the maximum capacity of 0.75 cfs diversion rate. The total annual volume for the feedlot and the current irrigation use for the 25.4 acres being irrigated should be limited to a total combined annual volume of 231.5 afa.

Groundwater should not be allowed to be diverted into the sewage lagoon unless an equal amount of the water is being diverted from the lagoon for irrigation or dust abatement. If the owner wishes to store water they will need to file another application for permit.

Have conditions of permit approval been met? ☒ yes ☐ no

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F. FLOW CALCULATIONSYES Additional Computation Sheets Attached

Measured Method:

IRRIGATION => 0.25 CFS**COMMERCIAL => 0.75 CFS****STOCKWATER => 0.75 CFS****TOTAL => 0.75 CFS****SEE ATTACHED SHEETS FOR CALCULATIONS.****G. VOLUME CALCULATIONS**

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 25.4 \times 4.5 = 114.3 \text{ AFA}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = 0.25 \times 260 \times 1.9835 = 128.9 \text{ AFA}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 114.3 \text{ AFA}$$

B

2. Volume Calculations for Other Uses:

COMMERCIAL => 29.4 AFA**STOCKWATER => 60.5 AFA****H. RECOMMENDATIONS****1. Recommended Amounts**

Beneficial use	Period Of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
IRRIGATION	3/1	11/15	0.25 CFS	114.3 AFA
COMMERCIAL	1/1	12/31	0.75 CFS	29.4 AFA
STOCKWATER	1/1	12/31	0.75 CFS	60.5 AFA
TOTAL			0.75 CFS	204.2 AFA

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 (Change use from industrial to commercial)

I. AUTHENTICATION

DANIEL A. NELSON – SENIOR AGENT

Field Examiner's Name Daniel A. Nelson Date 12-31-02

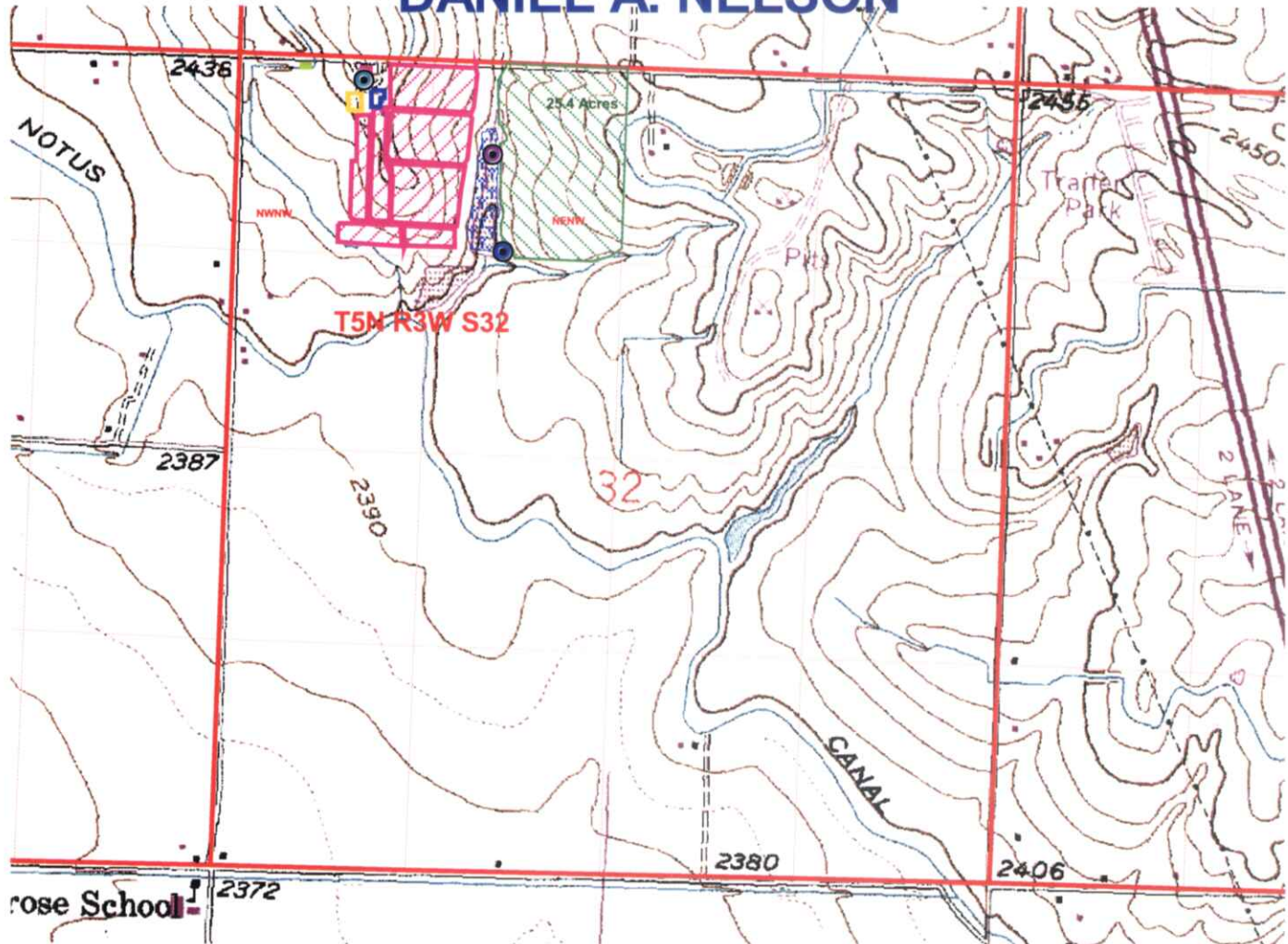
Reviewer _____ Date _____

SEAL

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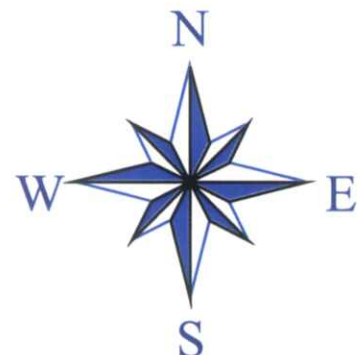
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63-11275
POINT OF DIVERSION AND PLACE FO USE
USGS QUADRANGLE MAP X5
PREPARED BY
DANIEL A. NELSON

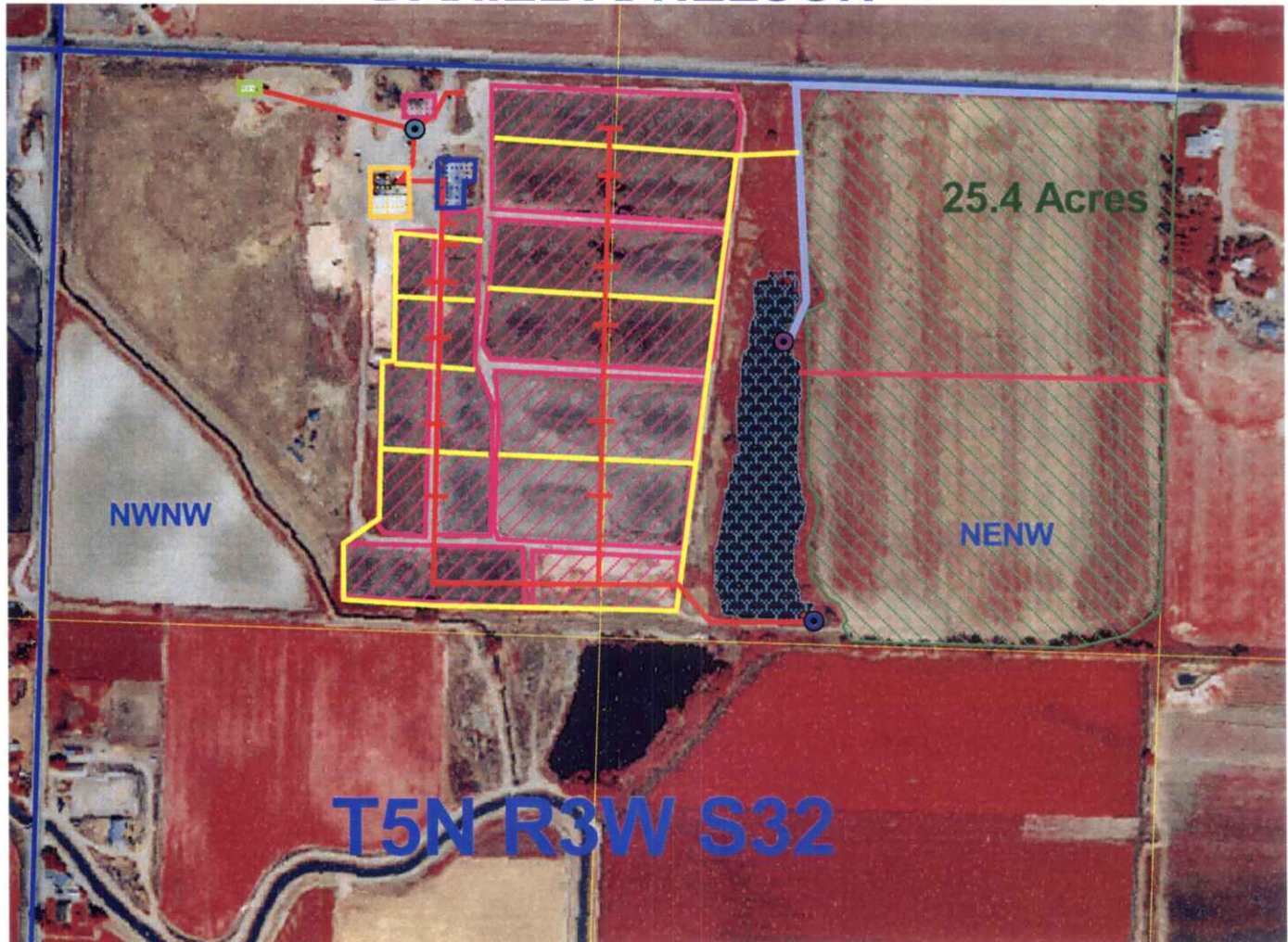


- DOMESTIC WELL
- STOCK WELL
- RE-LIFT PUMP
- HOUSE
- FEED MILL
- OFFICE/HOME
- SHOP
- SETTLING POND
- IRRIGATED FIELD
- CORRALS
- SECTION LINES
- 1/4 1/4 LINES

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63-11275
SYSTEM DIAGRAM
2000 AERIAL PHOTO
PREPARED BY
DANIEL A. NELSON



0.1 0 0.1 0.2 Miles

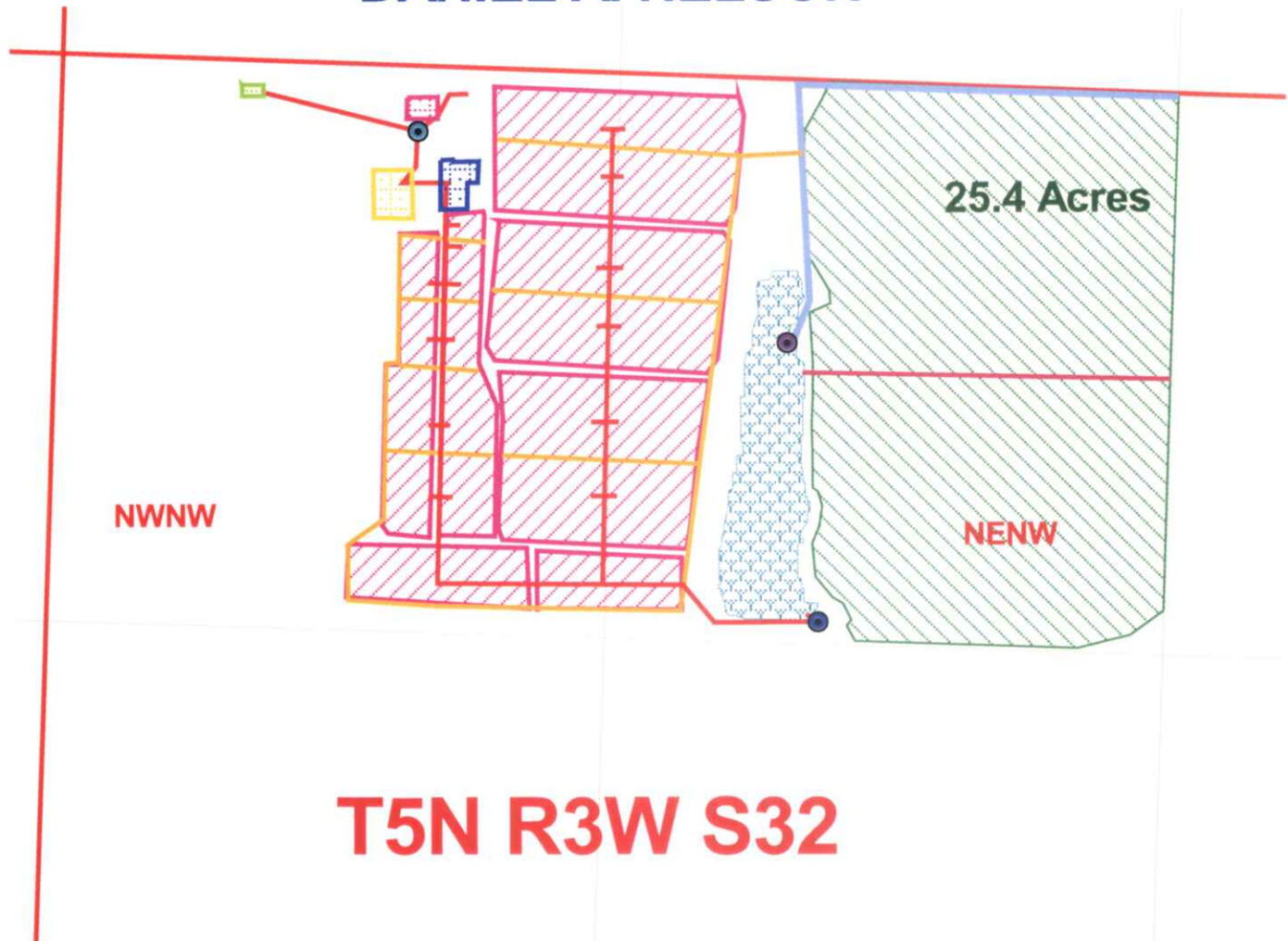
- DOMESTIC WELL
- STOCK WELL
- RE-LIFT PUMP
- HOUSE
- FEED MILL
- OFFICE/HOME
- SHOP
- WELL'S MAINLINE
- DUST ABATEMENT LINES
- PIPELINE FROM CANAL
- IRRIGATION MAINLINE
- SETTLING POND
- IRRIGATED FIELD
- CORRALS
- SECTION LINES
- 1/4 1/4 LINES



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63-11275
SYSTEM DIAGRAM
PREPARED BY
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0.1 0 0.1 0.2 Miles

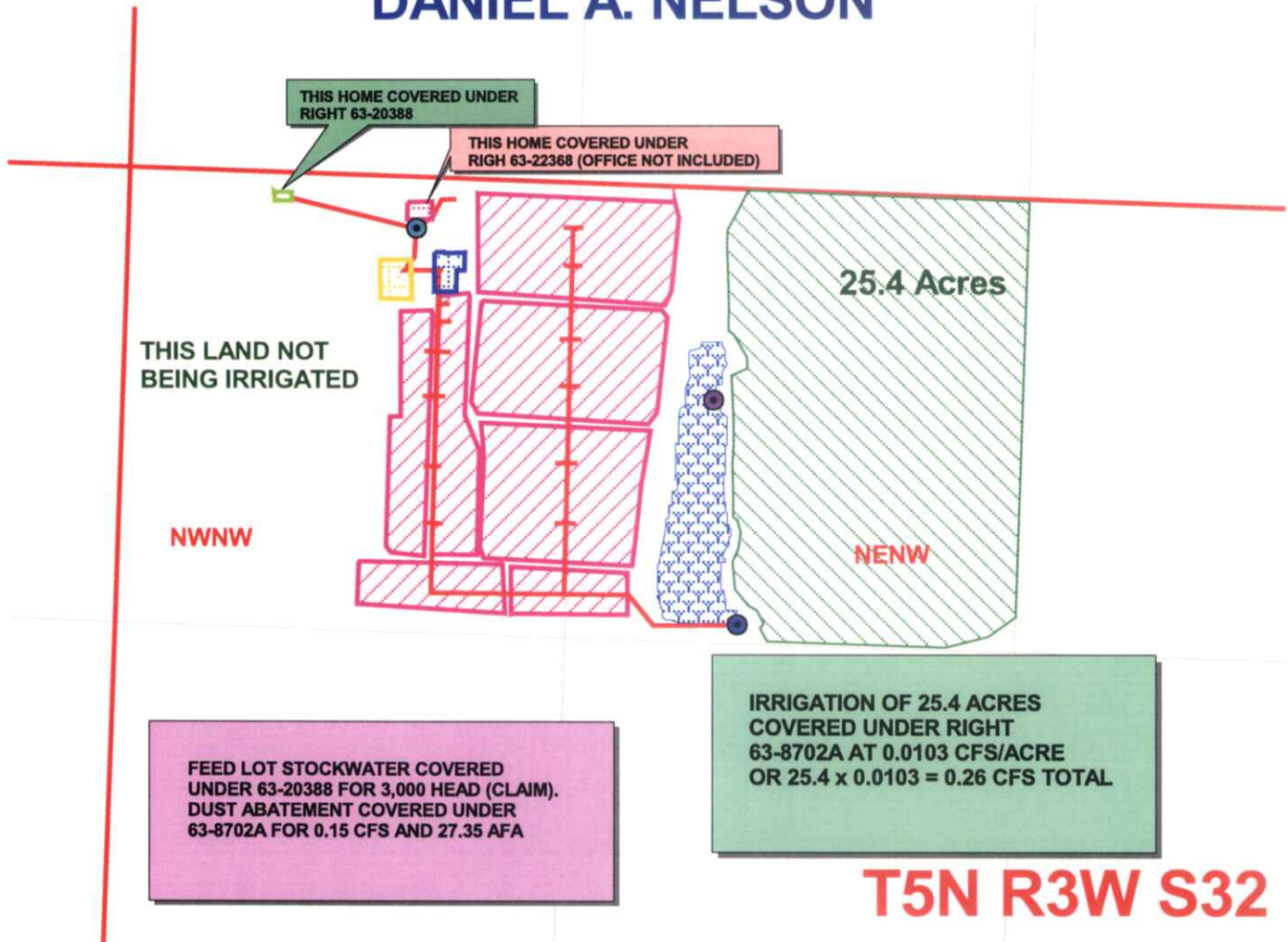
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- PIPELINE FROM CANAL
- IRRIGATION MAINLINE
- SETTLING POND
- IRRIGATED FIELD
- CORRALS
- SECTION LINES
- 1/4 1/4 LINES



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63-11275
OVERLAPPING RIGHTS
PREPARED BY
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0.1 0 0.1 0.2 Miles

- DOMESTIC WELL
- STOCK WELL
- RE-LIFT PUMP
- HOUSE
- FEED MILL
- OFFICE/HOME
- SHOP
- SETTLING POND
- IRRIGATED FIELD
- CORRALS
- SECTION LINES
- 1/4 1/4 LINES



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OVERLAPPING RIGHTS FOR 63-11275 BY USE

DOMESTIC:

63-22368 – SRBA DECREE - FOR ONE HOME IN NWNW S32

63-20388 – SRBA CLAIM – FOR ONE HOME IN NWNW S32

63-11275 – PERMIT – NO DOMESTIC USE REQUESTED

NO DOMESTIC USE IS REQUESTED AND NONE SHOULD BE ALLOWED.

COMMERCIAL:

63-20388 – SRBA CLAIM – FOR 3,000 HEAD FEEDLOT

63-8702A – SRBA CLAIM AND LICENSE – FOR DUST ABATEMENT OF FEEDLOT FOR 0.15 CFS AND 27.3 AFA. NO STOCKWATER INCLUDED WITH THIS RIGHT.

63-11275 - PERMIT- COMMERCIAL USE FOR DUST ABATEMENT, OFFICE AND TRUCK WASHING (LISTED AS INDUSTRIAL).

WE CAN ALLOW COMMERCIAL USE FOR ANYTHING ABOVE THE ALREADY LICENSED COMMERCIAL USE OF 0.15 CFS AND 27.35 AFA CURRENTLY LICENSED UNDER 63-8702A. THE COMMERCIAL STOCKWATER USE UNDER 63-20388 WILL BE ADDRESSED UNDER STOCKWATER.

IRRIGATION:

63-8702A - SRBA CLAIM AND LICENSE – 66 ACRES AT ½ INCH PER ACRE (.68 CFS TOTAL), VOLUME IS AT FULL VOLUME PER ACRE

63-11275 - PERMIT – FOR SAME 66 ACRES AT 0.015 CFS PER ACRE (1.00 CFS TOTAL)

WE CAN ALLOW 0.68 CFS FOR 63-11275 WITH THE CONDITION THAT WHEN COMBINED WITH 63-8702A THAT THE DIVERSION RATE IS 1.32 CFS AND AN ANNUAL VOLUME OF 4.5 AFA PER ACRE OR 287 AFA WHEN BOTH RIGHTS A COMBINED. THE ACTUAL DIVERSION RATE WILL BE LIMITED TO THE CAPACITY OF THE PUMPS.

MICHAEL J. LEE

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STOCKWATER:

63- 20388 - SRBA CLAIM - 3,000 HEAD RECORDED AS A COMMERCIAL USE. THIS SHOULD BE CORRECTED TO BE STOCKWATER IN ADJUDICATION.

63-11275 - PERMIT – STOCKWATER FOR 5,000 HEAD OF LIVESTOCK.

AFFIDAFITS SUPPLIED BY APPLICANT SHOW TOTAL ANIMALS IN FEEDLOT AT TIME PROOF OF BENEFICIAL USE WAS FILED TO BE 4,500 HEAD.

WE CAN ALLOW UP TO 4,500 HEAD OF LIVESTOCK FOR THIS PERMIT SINCE 63-20388 IS ONLY A CLAIM. HOWEVER, THIS PERMIT SHOULD BE CONDITIONED THAT WHEN 63-11275 AND 63-20388 ARE COMBINED THEY ARE LIMITED TO THE 4,500 HEAD OF LIVESTOCK RECOMMENDED UNDER THIS PERMIT, WHICH WILL BE THE MAXIMUM NUMBER OF ANIMALS THAT HAVE BEEN HOUSED IN THE FEEDLOT.

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GROUNDWATER THEORETICAL ANALYSIS

STOCK WATER
Well

FILE: 63-11275

DATE: 1-11-2002

BY: Daniel A. Nelson

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])

$Q = \frac{(8.8) \times (15 \text{ Hp}) \times (0.70)}{139.95} = 0.66 \text{ CFS}$

$[(36) + (45 \times 2.31)] = 139.95$

LIFT FROM:

Measurement ()

Owner ()

Area estimate ()

Well Logs (X)

Booster (Y) (N)

PSI FROM:

Measurement ()

Owner ()

Estimate ()

Owner Gage (X)

NOTES ON PUMP:

Motor Make, Serial or ID

Pump Make, Serial or ID, rating

REMARKS: LIFT was calculated by adding
10 FT onto the static water level
of 26 FT. This is such a small
well and should not cause much
drawdown.

System capacity for both wells
is 0.75 CFS.

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GROUNDWATER THEORETICAL ANNALYSIS

FILE: 103-11275

Domestic
well

DATE: 1-11-2002

BY: Daniel A. Nelson

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 puijping water level

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

Q = $(8.8) \times (2) \times (0.70) = 12.32$ = .09 CFS

$[(26) + (45 \times 2.31)] = 139.95$

LIFT FROM:

Measurement ()

Owner ()

Area estimate ()

Well Logs (X)

Booster (Y) (N)

PSI FROM:

Measurement ()

Owner ()

Estimate ()

Owner Gage (X)

NOTES ON PUMP:

Motor Make, Serial or ID

Pump Make, Serial or ID, rating

REMARKS: LIFT was calculated by adding
10 FT onto the static water level of
26 FT. This is a small well and
should not cause much draw down.
The well log for the HARRY STOCK well
since no log was available for this
well.

System Capacity from both wells
is 0.75 CFS.

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GROUNDWATER THEORETICAL ANALYSIS

Relift
Pump

FILE: 63-11275

DATE: 1-11-2002

BY: Daniel A. Nelson

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])

$$Q = \frac{(8.8) \times (50 HP) \times (0.70)}{147.6} = 2.09 CFS$$

$$[(9 FT) + (60 \times 2.31)] = 147.6$$

LIFT FROM:

Measurement (X)

Owner (X)

Area estimate ()

Well Logs ()

PSI FROM:

Measurement ()

Owner (X)

Estimate ()

Owner Gage ()

Booster (Y) (N)

NOTES ON PUMP:

Motor Make, Serial or ID

Pump Make, Serial or ID, rating

REMARKS: The BOOSTER DELIVERS THE WATER FOR THE DUST ADJUTMENT and IRRIGATION. The owner told me there was 9 FT LIFT FROM THE POND. I LOOKED AT THE PUMP and agreed THAT 9 FT WOULD BE THE MAXIMUM LIFT.

The PREVIOUS Field Exams DESCRIBES THE IRRIGATION SYSTEM AT 1 wheel line WITH 1/2" NOZZLES and 32 SPRINKLERS and an IDENTICAL HAND LINE. 1/2" NOZZLES @ 60 PSI = 3.62 gpm / NOZZLE THEREFORE 3.62 gpm X 64 NOZZLES = 232.64 = 0.52 CFS

.02 CFS X 26 ACRES = 0.52 CFS. These MATCH.

The DUST ADJUTMENT NOZZLES USED ARE 0.7" NOZZLES THAT RUN 103-104 gpm. These ADJUTMENT RUNS 3 AT A TIME OR 312 gpm OR .70 CFS THEREFORE, THE ENTIRE SYSTEM IS RUNS 1.22 CFS CAPACITY FROM THE BOOSTER PUMP.

FLOW RATE ESTIMATIONS FOR IRRIGATION AND DUST ABATEMENT BASED ON SPRINKLERS

SPRINKLER SYSTEM	NUMBER OF SPRINKLERS	ESTIMATED RATE PER SPINKLER	TOTAL FLOW IN GPM	TOTAL FLOW IN CFS
WHEEL LINES	32.00	3.62	115.84	0.26
HAND LINES	32.00	3.62	115.84	0.26
DUST ABATEMENT (30 SPRINKLERS TOTAL ONLY 3 SPRINKLERS RUN AT ANY ONE TIME	3.00	104.00	312.00	0.70
TOTAL	67.00		543.68	1.21

The owner informed me that the average pressure used on the irrigation and dust abatement system was 60 psi. The sprinklers were rated using the field examiners handbook for 1/8" nozzles for the hand lines and wheel lines and .70" nozzle faxed to me by an irrigation company for the dust abatement sprinklers.

The theoretical calculation for the re-lift pump for the irrigation system was 2.09 cfs. However, it does not seem that this calculation is reasonable and that the sprinkler calculations should be used, since the sprinkler calculations equal 1" per acre or .52 cfs for 25.4 acres.

THEORETICAL CALCULATION

$$\frac{(8.8) \times (50 \text{ Hp}) \times (0.70)}{[9\text{FT} + (60 \text{ PSI} \times 2.31)]} \Rightarrow 308 = 2.09 \text{ CFS OR } 938 \text{ GPM}$$

The controlling factor for this permit is the capacity of the 2 groundwater wells. The domestic well produces 0.09 cfs and the stockwater well produces 0.66 for a total 0.75 cfs. The 0.75 cfs can be used for any of the uses at any time. Therefore, each use should be granted up to the limiting factor for each use.

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F202 / SR2003 Full / Part Circle Series
50 mm - NPT / BSP

Reverse Rain Gun Sprinkler (SR2003)
Reverse for reduced vibration and greater

Circle Rain Gun Sprinkler (F2002)
Full-size plastic taper bore nozzle sets
BNK-2T (6 sizes) shipped with Rain Gun for
out-of-the-box operational convenience
BNK-2T kit with 0.9" and 1.0" nozzles and
aluminum spoon (order separately)



SR2003

Applications:
SR2003: travellers, pivots end guns, permanent
F2002: portable, permanent, industrial applications

Specifications:
23° trajectory angle
2 in / 50 mm NPT / BSP threaded inlet
Taper bore nozzle sets: GNS-2T (6 sizes)
BNK-2T (2 sizes)

Materials:
Body: Cast Aluminum
Arm: Cast Aluminum
Bearing Sleeve: Cast Iron
All Springs and Hardware: Stainless Steel
Disk brake: Delrin™
Standard spoon: Delrin
BNK-2T: Aluminium Spoon

How to Order: Specify
Model number - SR2003 NPT / BSP or F2002 NPT/BSP

EXAMPLE: SR2003

SR2003/F2002 23° GNS-2T TAPER NOZZLES

U.S. UNITS						
PSI @ Elbow	Nozzle .5" Dia. GPM	Nozzle .6" Dia. GPM	Nozzle .65" Dia. GPM	Nozzle .7" Dia. GPM	Nozzle .75" Dia. GPM	Nozzle .8" Dia. GPM
30	—	—	—	177 73	181 85	186 97
40	175 45	192 64	198 74	203 85	210 98	217 111
50	196 49	210 70	216 82	221 94	228 109	236 124
60	211 54	223 78	230 90	236 103	244 120	253 137
70	225 58	238 84	248 97	249 111	258 130	268 148
80	235 62	247 89	258 105	259 120	270 139	281 158
90	241 66	255 93	260 110	268 127	281 147	296 167
100	247 68	260 100	269 117	277 134	291 155	304 176
110	254 71	266 103	279 120	283 138	298 161	314 184

METRIC UNITS									
B r v	Nozzle 0.5"=12.7 mm			Nozzle 0.6"=15.2 mm			Nozzle 0.65"=16.5 mm		
	Rad. M	Flow M³/h	Flow L/s	Rad. M	Flow M³/h	Flow L/s	Rad. M	Flow M³/h	Flow L/s
2.0	—	—	—	—	—	—	—	—	—
2.5	25.4	9.9	2.8	27.0	13.8	3.8	27.7	16.2	4.7
3.0	27.9	10.6	2.9	29.7	15.0	4.2	30.6	17.6	4.9
3.5	30.1	11.4	3.1	32.0	16.2	4.5	33.0	18.9	5.2
4.0	32.0	12.1	3.3	34.0	17.2	4.8	35.1	20.1	5.6
4.5	33.5	12.7	3.5	35.6	18.1	5.0	36.8	21.3	5.9
5.0	34.8	13.4	3.7	37.0	19.1	5.3	38.2	22.4	6.2
5.5	35.7	14.0	3.9	38.0	20.0	5.5	39.3	23.5	6.5
6.0	36.6	14.5	4.1	38.9	20.8	5.8	40.2	24.5	6.8
6.5	37.1	15.2	4.2	39.5	21.7	6.0	40.9	25.5	7.1
7.0	37.5	15.7	4.4	39.9	22.5	6.2	41.3	26.5	7.4
7.5	37.8	16.2	4.6	40.1	23.3	6.5	42.8	27.5	7.6

B r v	Nozzle 0.7"=17.8 mm			Nozzle 0.75"=19.0 mm			Nozzle 0.8"=20.3 mm		
	Rad. M	Flow M³/h	Flow L/s	Rad. M	Flow M³/h	Flow L/s	Rad. M	Flow M³/h	Flow L/s
2.0	23.0	16.7	4.7	25.6	19.2	5.3	26.1	21.8	6.1
2.5	28.3	18.5	5.1	29.3	21.3	5.9	30.0	24.1	6.7
3.0	31.4	20.1	5.6	32.4	23.2	6.5	33.3	26.3	7.3
3.5	34.0	21.7	6.0	35.1	24.9	6.9	36.1	28.2	7.9
4.0	36.2	23.1	6.5	37.4	26.6	7.4	38.6	30.1	8.4
4.5	37.9	24.5	6.8	39.2	28.2	7.8	40.6	31.8	8.8
5.0	39.4	25.7	7.1	40.8	29.6	8.2	42.2	33.5	9.3
5.5	40.6	27.0	7.5	42.0	31.1	8.6	43.5	35.2	9.8
6.0	41.5	28.2	7.9	43.0	32.5	9.1	44.6	36.8	10.2
6.5	42.2	29.4	8.2	43.7	33.9	9.4	45.3	38.4	10.6
7.0	42.7	30.5	8.5	44.2	35.2	9.8	45.8	39.9	11.1
7.5	42.8	31.6	8.8	44.5	36.5	10.2	46.1	41.4	11.5

SR2003/F2002 23° BNK-2T TAPER NOZZLES

U.S. UNITS			METRIC UNITS						
PSI @ Elbow	Nozzle .9" Dia. GPM	Nozzle 1.0" Dia. GPM	B r v	Nozzle 0.9"=22.9 mm			Nozzle 1.0"=25.4 mm		
				Rad. M	Flow M³/h	Flow L/s	Rad. M	Flow M³/h	Flow L/s
30	196 122	205 154	2.0	27.5	27.6	7.7	28.8	34.6	9.6
40	226 140	239 173	2.5	31.7	30.6	8.5	33.5	38.2	10.6
50	250 157	266 191	3.0	35.3	33.3	9.3	37.6	41.4	11.5
60	270 168	290 214	3.5	36.8	35.8	10.0	41.2	44.5	12.4
70	289 186	310 232	4.0	41.2	38.1	10.5	44.3	47.3	13.1
80	306 195	329 247	4.5	43.5	40.4	11.2	46.9	50.1	13.9
90	319 204	341 262	5.0	45.4	42.6	11.8	49.1	52.7	14.6
100	333 214	353 276	5.5	46.9	44.7	12.4	50.9	55.3	15.4
110	340 224	363 291	6.0	48.1	46.0	12.9	52.2	57.8	16.1
			6.5	49.0	48.5	13.5	53.4	60.2	16.7
			7.0	50.1	50.5	14.1	54.2	62.6	17.4
			7.5	50.9	52.4	14.5	54.7	65.0	18.1

MICRO

MAR 17 2003

GUNS

DIVERSION RATE AND VOLUME CALCULATIONS

DIVERSION RATE CALCUALTION SHEET

IRRIGATION:

Permit allows	=> 1.00 cfs
System capacity (see theoretical calculation sheets)	=> 0.75 cfs
Amount available above currently licensed rate from 63-8702A rate	=> 0.25 cfs
[(25.4 acres X 0.02 cfs/acre) –	
(25.4 acres X 0.0103 cfs/acre from 8702A) = 0.25 cfs]	

PLEASE NOTE: Maximum allowable rate is 0.02 cfs per acre and 63-8702A has already licensed 0.0103 cfs per acre, therefore, I can only recommend the difference between the maximum allowable and what has already been licensed per acre.

Maximum allowable irrigation rate is 0.25 cfs

COMMERCIAL USE:

Permit allows	=> 1.00 cfs
System capacity (see theoretical calculation sheets)	=> 0.75 cfs
Amount currently in use	=> 0.80 cfs
(0.55 cfs + 0.04 cfs + 0.11 cfs + 0.04 cfs + 0.06 cfs = 0.80 cfs)	

Maximum allowable commercial use is 0.75 cfs

Please Note: Dust abatement was calculated at 3-104 gpm sprinklers / 448.8 = 0.70 cfs – 0.15 cfs from 63-8702A = 0.55 cfs. Office use was calculated as standard domestic use of 0.04 cfs. Equipment washing was calculated using 50 gpm/ 448.8 = 0.11 cfs. Shop was calculated at standard domestic use of 0.04 cfs. Feed mill was calculated at 25 gpm or 0.06 cfs.

MICRO

MAR 17 2003

STOCKWATER USE:

Permit allows $\Rightarrow 1.00$ cfs
System capacity (see theoretical calculation sheets) $\Rightarrow 0.75$ cfs
Amount currently in use $\Rightarrow 0.99$ cfs
(4,500 cattle X 0.00022 = 0.99 cfs (per table 1 field examiners handbook))

Maximum allowable stockwater is 0.75 cfs

PLEASE NOTE: Full capacity of the well can be recommended for stockwater since 63-20388 is only an adjudication claim and has not been verified, and any overlapping use can be handled with conditions. Therefore, when this right is combined with 63-20388 it should be limited to a total diversion rate of 0.75 cfs.

VOLUME CALCUALTION SHEET

IRRIGATION: $\Rightarrow 114.3$ afa

$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 25.4 \times 4.5 = 114.3$
 $V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = 0.25 \text{ cfs} \times 260 \times 1.9835 = 128.9 \text{ afa}$
 $V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 114.3 \text{ afa}$

PLEASE NOTE: Maximum allowable volume is 4.5 afa per acre, and 63-8702A has already licensed the full volume per acre. Therefore, I am recommending the full volume amount with the condition "When combined with all other rights including 63-8702A the maximum volume per acre should not exceed 4.5 afa per acre."

COMMERCIAL:

DUST ABATEMENT $\Rightarrow 25.3$ afa

$[(104 \text{ gpm/sprinkler} \times 3 \text{ sprinklers/set} \times 10 \text{ sets} \times 30 \text{ min sets} \times 183 \text{ days}) / 325850 = 52.6 \text{ afa}$
 $52.6 \text{ afa} - 27.3 \text{ afa from 63-8702A} = 25.3 \text{ afa}]$

PLEASE NOTE: There are 30 sprinklers total, but only 3 sprinklers are used per set. Each sprinkler delivers 104 gpm. Each set is run for approximately 30 minutes. The dust abatement is only used from May 1 to Oct. 31 or 183 days. 63-8702A has already licensed 27.3 afa for dust abatement, therefore, 27.3 afa needs to be subtracted from the total amount of water used for dust abatement to determine the amount used under this permit.

MICAC

MAR 17 2003

FEED MILL**=> 1.1 afa**

$[(200 \text{ tons of feed/wk} \times 30 \text{ gallons per ton} \times 52 \text{ wks}) + (25 \text{ gpm cleanup} \times 30 \text{ min/wk} \times 52 \text{ wks}) / 325850 = 1.1 \text{ afa}]$

PLEASE NOTE: Owner stated that they use approximately 30 gallons of water per ton of feed run through the mill and they process approximately 200 tons of feed per week. The owner also cleans the mill each day, which equals approximately 30 minutes per week at about 25 gpm.

OFFICE**=> 0.5 afa**

$[(9 \text{ people} \times 50 \text{ gal/worker/day} \times 365 \text{ days}) / 325850 = 0.5 \text{ afa}]$

PLEASE NOTE: 50 gallons per day per worker was taken from the field examiners handbook for construction workers. Showers and wash basins are available to the workers in the office, so this amount seems reasonable.

SHOP/EQUIPMENT WASHING**=> 2.5 afa**

$[(10 \text{ pieces of equipment} \times 50 \text{ gpm} \times 30 \text{ min/wash} \times 52 \text{ wks}) + (9 \text{ workers} \times 10 \text{ gallons/day cleanup} \times 365 \text{ days}) / 325850 = 2.5 \text{ afa}]$

PLEASE NOTE: Each of the 9 workers use water to clean their work area and hands if needed. 10 gallons should be a reasonable volume of use per worker per day.

TOTAL COMMERCIAL VOLUME IS 29.4 AFA**STOCKWATER:**

$4,500 \text{ Head of range cattle} \times 12 \text{ gpd} \times 365 \text{ days} / 325850 = 60.5 \text{ afa}$ for stockwater (per table 1 field examiners handbook)

MAXIMUM ALLOWABLE FOR STOCKWATER IS 60.5 AFA

PLEASE NOTE: Full capacity of the well can be recommended for stockwater since 63-20388 is only an adjudication claim and has not been verified. Therefore, when this right is combined with 63-20388 it should be limited to a total volume of 65 afa.

FINAL RESULTS

Beneficial use	Period Of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
IRRIGATION	3/1	11/15	0.25 CFS	114.3 AFA
COMMERCIAL	1/1	12/31	0.75 CFS	29.4 AFA
STOCKWATER	1/1	12/31	0.75 CFS	60.5 AFA
TOTAL			0.75 CFS	204.2 AFA

MICROFILM

MAR 17 2003

AFFIDAVIT OF KIRK G. SMITH

STATE OF IDAHO)
) S.S.
Canyon County)

The undersigned being duly sworn upon his oath, hereby states and avers as follows:

1. My name is Kirk G. Smith, and I reside in Baker City, Oregon.
2. My current mailing address is 42874 Old Wingville Road, Baker City, OR 97814.
3. I am the President of SSI Land and Cattle Co., an Idaho corporation ("SSI L&C"), and also held the office of President in 1990. In 1990 SSI L&C owned the cattle feedlot and farming operation located in the N½SW¼ of Section 32 T.5N R.3W, B.M. Canyon County, Idaho ("Notus Feedlot").
4. As President of SSI, I visited the Notus Feedlot on a weekly basis throughout 1990 to check on the progress of cattle fed. During the summer of 1990 this feedlot contained approximately 4,500 head of cattle. The feedlot varied from a low of 3,500 head of cattle on feed during the winter months to a high of 4,500 head during the summer months.
5. At that time, the source of the water used for watering livestock contained in the Notus Feedlot was a well located in the SW¼NE¼NW¼ of Section 32 T.5N R.3W, B.M. This well was situated near the southerly end of a pond located between the feedlot and the irrigated farm land owned by SSI L&C at that time.

Further the affiant sayeth not.

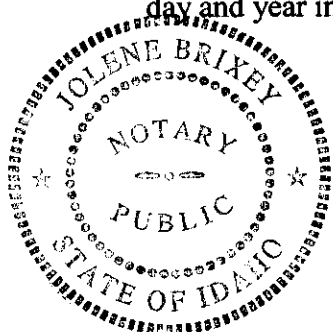
AFFIANT:

Kirk G. Smith
Kirk G. Smith

STATE OF IDAHO)
) S.S.
COUNTY OF CANYON)

On this 21st day of November, 2002, before me, a Notary Public in and for said State, personally appeared **Kirk G. Smith**, known to me to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.



Jolene Brixey
Notary Public for Idaho
Residing at: Paine, ID 83660
My Commission Expires: 4/1/2003

MAY 1 2 2003

AFFIDAVIT OF K. LEMAR MCGEE

STATE OF IDAHO)
) S.S.
Canyon County)

The undersigned being duly sworn upon his oath, hereby states and avers as follows:

1. My name is K. Lemar McGee, and I reside in Meridian, Idaho.
2. My current business mailing address is 22303 Highway 95 Wilder, ID 83676.
3. In 1990 I was the Controller for SSI Land and Cattle Co., an Idaho corporation, which at that time owned a cattle feeding and farming operation located in the N½SW¼ of Section 32 T.5N R.3W, B.M. Canyon County, Idaho ("Notus Feedlot").
4. In my capacity as Controller, I was responsible for approving the payments and receipts relating to the day-to-day business transactions for the Notus Feedlot. These responsibilities included record keeping for the daily livestock inventory contained in the Notus Feedlot.
5. In 1990 the cattle inventory for the Notus Feedlot varied seasonally from 3,500 head to 4,500 head. The feedlot was stocked with more cattle during the summer months than during the winter months.

Further the affiant sayeth not.

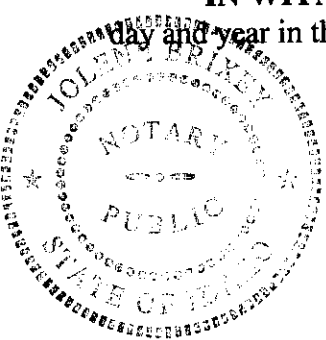
AFFIANT:

K. Lemar McGee
K. Lemar McGee

STATE OF IDAHO)
) S.S.
COUNTY OF CANYON)

On this 21st day of November, 2002, before me, a Notary Public in and for said State, personally appeared **K. Lemar McGee**, known to me to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.



Julie Bing
Notary Public for Idaho
Residing at: Payson ID 83660
My Commission Expires: 4/1/2003

MICHAEL

MAR 17 2003

IDAHO DEPARTMENT OF WATER RESOURCES

WELL INSPECTION FORM

1. DRILLING PERMIT NO: existing OTHER APPLICABLE NO: WR#63-11275
Vic Conrad/Simplot
2. OWNER: SSI Land & Cattle Co. Inc. Phone: (208) 389-7359
Address: PO Box 27 Boise, Id. 83707
3. WELL LOCATION: Twp 5N, Rge. 3W, Sec. 32, NE 1/4 NW 1/4
County Canyon (Provide sketch map and photo on reverse.)
4. DRILLER: unknown/existing well Lic. No. —
When Drilled? prior '77
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/existing well
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 — 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 26 ft. (assume from wells in 1/4 1/4) Water Temperature cold °F
Flowing Artesian ☐ Yes ☒ No Pressure: 48-75 (psi) (system runs at this)
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: dust abatement/commercial

MAR 17 2003

WR # 63-08702

8.

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: The casing was not $\geq 12"$ above the ground, no water tight cap, & no annular seal. It was just open & level with the ground.

IN Second Field Exam on 1-3-2002 I Found
The casing was located outside The Building and was
approx. 2 FT above ground with water tight casing

DAN 8-16-2002

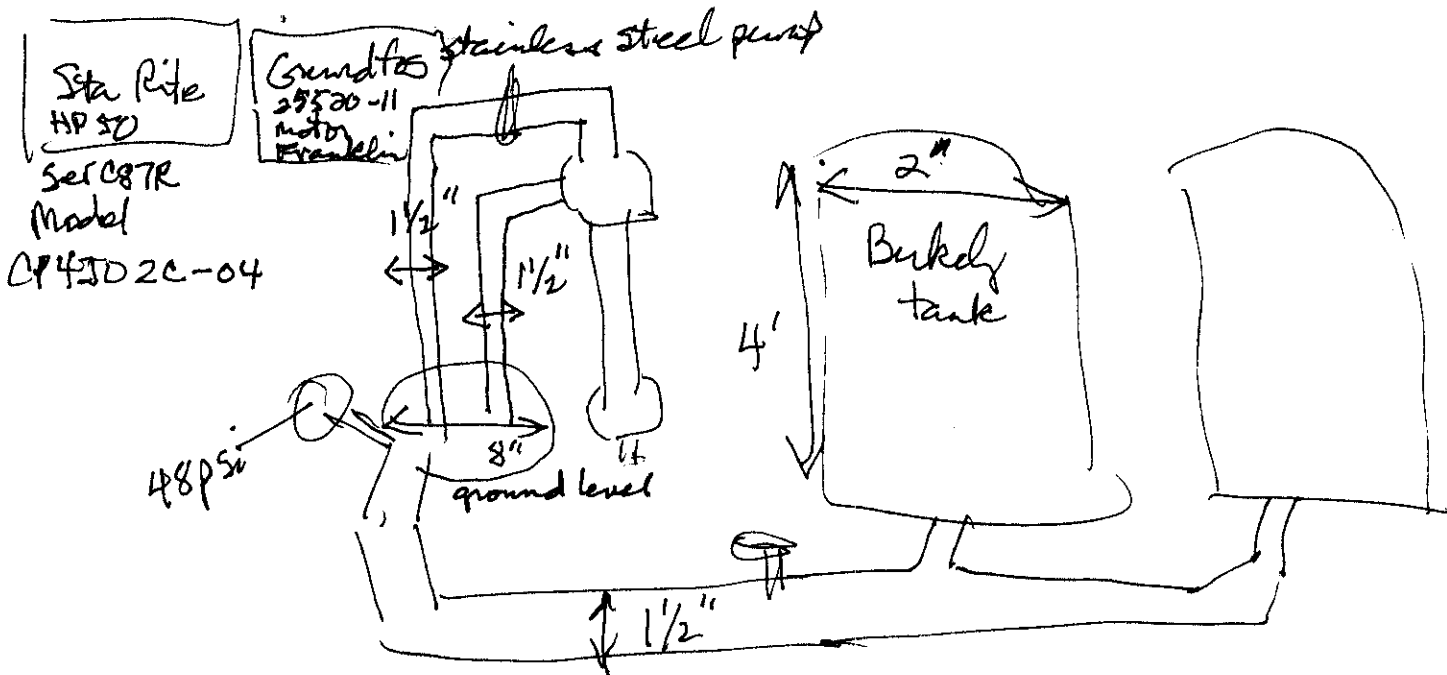
Janet Homenick, WR Agent
Signature of Dept. Representative & Title

Signature of Dept. Representative & Title

5/17/95

Inspection Date

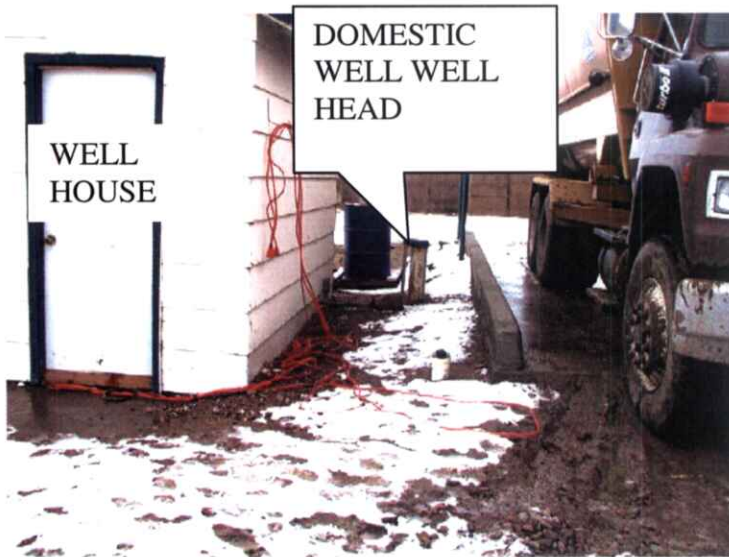
PHOTOS, DRAWINGS, OTHER ATTACHMENTS:



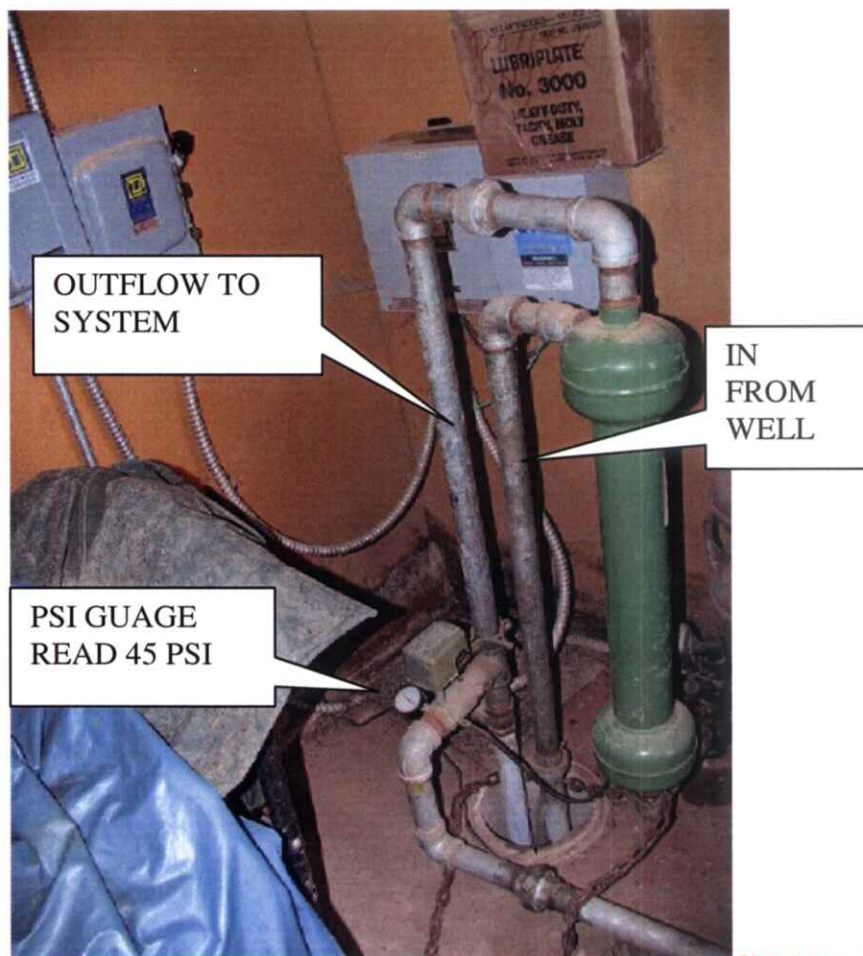
MICROFILMED
MAR 17 2003

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 1/16/2002

FILE NUMBER 63-11275



These are photos of the Domestic well



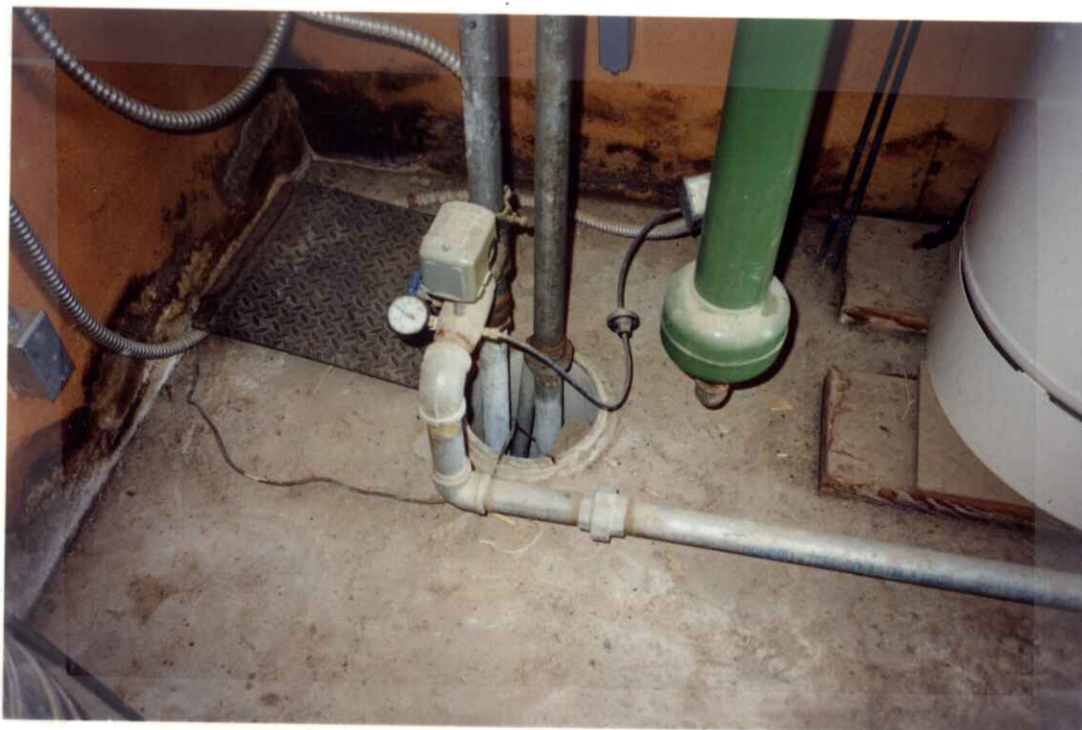
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MAR 17 2003



PHOTOGRAPHER AND DATE OF PHOTOS Sandy Hemenway 4-21-95

FILE NO. 63-11275



MICROFILM

MAR 17 2003



PHOTOGRAPHER AND DATE OF PHOTOS _____

FILE NO. _____



MICROFILMED

MAR 17 2003

IDAHO DEPARTMENT OF WATER RESOURCES

WELL INSPECTION FORM

- #2
- DRILLING PERMIT NO: no # on well report OTHER APPLICABLE NO: WR# 63-11275
 - OWNER: SSI Land & Cattle Co. Inc. Phone: Vic Conrad/Simplot (208) 389-7359
Address: PO Box 27 Boise, Id 83707
 - WELL LOCATION: Twp 5N, Rge. 3W, Sec. 32, NE 1/4 NE 1/4
County Canyon (Provide sketch map and photo on reverse.)
 - DRIILLER: Doug Cushman Drilling Co. Lic. No. 72
When Drilled? 5/20/77
 - WELL CONSTRUCTION
Casing Diameter 12 inches Water tight cap? ☐ Yes ☒ No Access Port: ☒ Yes ☐ No
Casing $\geq$ 12 inches above ground? ☐ Yes ☒ No - Describe _____
Depth of Casing 131 ft. Method Drilled rotary
Condition of Well Casing: ☐ Good ☒ Fair ☐ Poor Describe _____
Control Valve? ☒ Yes ☐ No Pressure Gauge: ☒ Yes ☐ No
Condition of Piping and Valving fair
Auger to a depth of _____ ft. Evidence of Annular Seal ☐ Yes ☒ No
Are there obvious constuction problems that may be a source for contamination or waste of water?
☒ Yes ☐ No (Describe in Remarks and Attach Photo - On Reverse)
 - HYDROLOGIC INFORMATION
Depth to Static Water 26 ft. Water Temperature cold °F
Flowing Artesian ☐ Yes ☒ No Pressure: _____ (psi)
Water Sample Taken? ☐ Yes ☒ No If yes, describe purpose _____
Water Quality Measurements/Observations (Describe) _____
 - WELL USE:
☐ Domestic ☒ Irrigation ☐ Stock
☐ Test ☐ Municipal ☐ Industrial
☐ Abandoned ☐ Waste Disposal/Injection ☐ Not Used
☐ Other: _____

MICRO

MAR 1 / 2003

REMARKS:

No evidence of Chemigation. No possible source of contamination nearby. The casing was only 5 1/2" above the ground, & did not appear to be air tight or have an annular seal

And Hernandez, WC Agent
Signature of Dept. Representative & Title

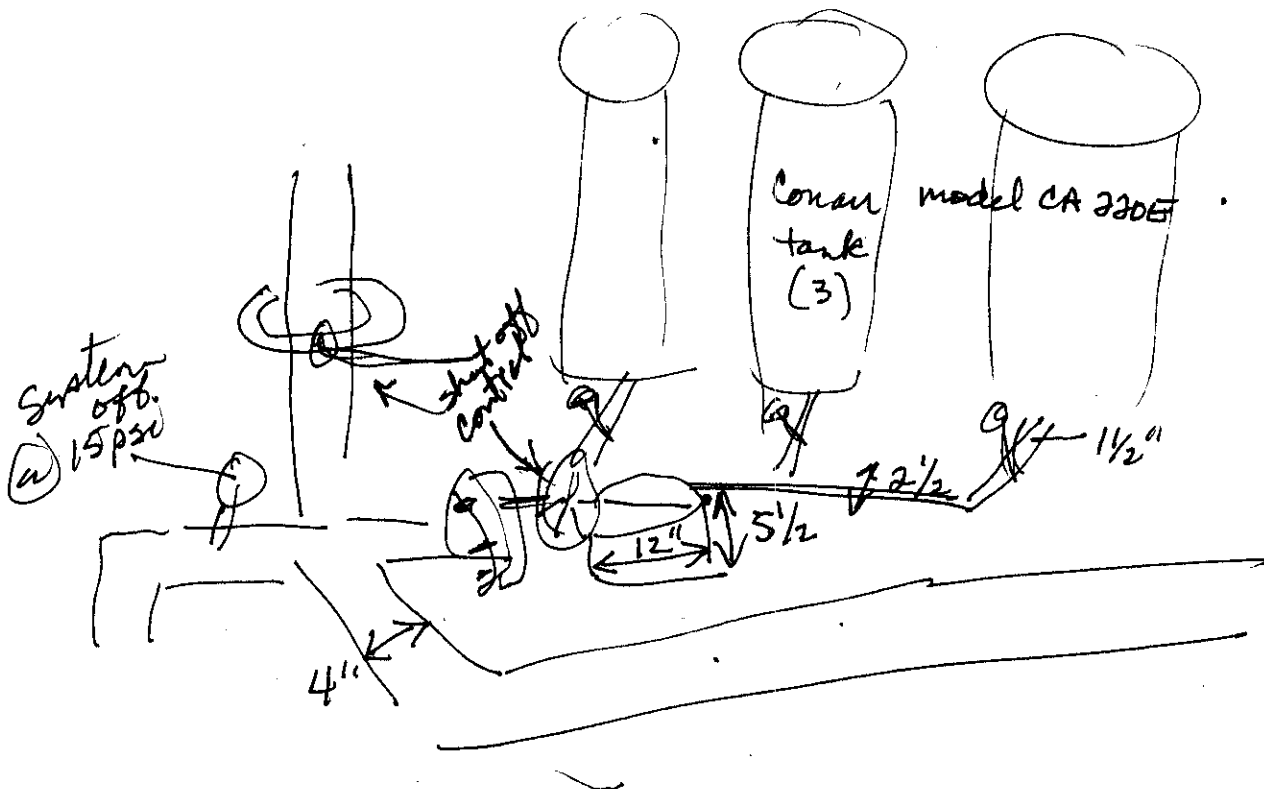
Signature of Dept. Representative & Title

5/17/95

Inspection Date

PHOTOS, DRAWINGS, OTHER ATTACHMENTS:

WR# 63-08702 shows:
15HP lenislope motor frame 254TP
USElectric Motor
Johnston Pump

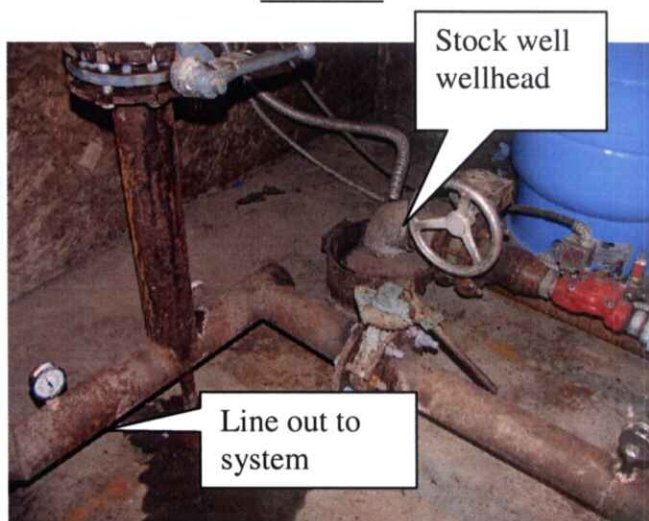


MICROFILMED
MAR 17 1987

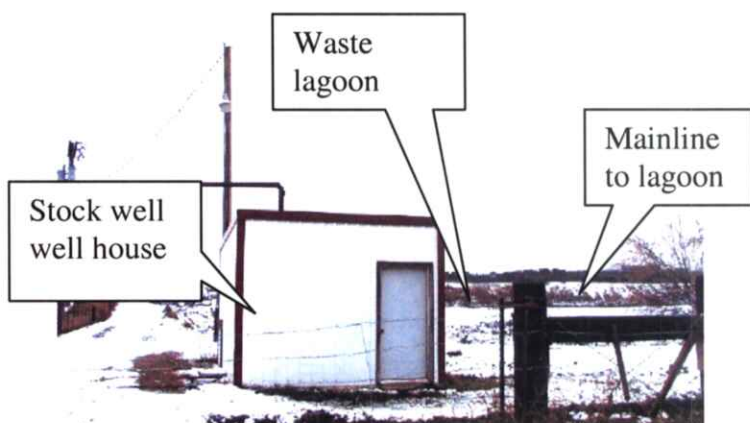
823

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 1/16/2002

FILE NUMBER 63-11275



These are photos of the Stock Well. There is a line from this well that empties into the lagoon.



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MAR 17 2003



PHOTOGRAPHER AND DATE OF PHOTOS Sandy Hemenway 4-21-95

FILE NO. 63-11275



MAR 17 2003



PHOTOGRAPHER AND DATE OF PHOTOS Sandy Hemenway 4-21-95

FILE NO. 63-11275



STOCK well
PHOTOS



MICROFILM

MAR 17 2003



PHOTOGRAPHER AND DATE OF PHOTOS sandy Hemenway 4-21-1995

FILE NO. 63-11275



PHOTO
OF
DOMESTIC
WELL
PUMP
HOUSE +



THIS IS
A PHOTO
OF THE
LAGOON
AND
PUMP
HOUSE
FOR
STOCKWELL

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MAR 17 2003

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 1/15/2002

FILE NUMBER 63-11275



This is a
photo of the
relift pump.

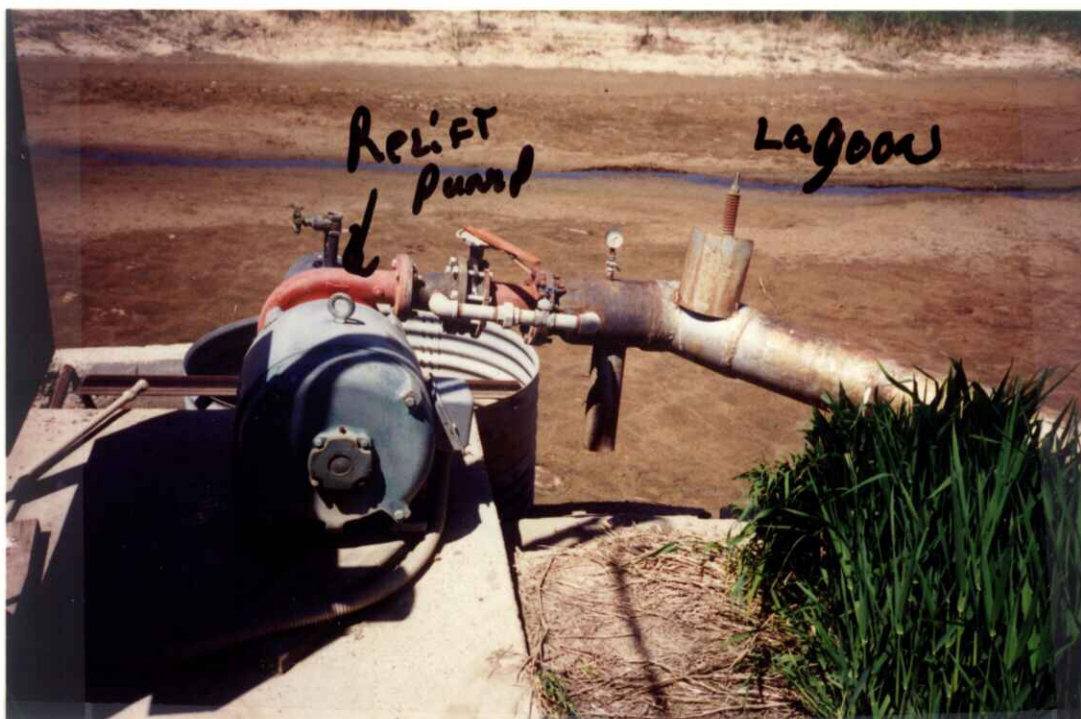
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MAR 1 2003

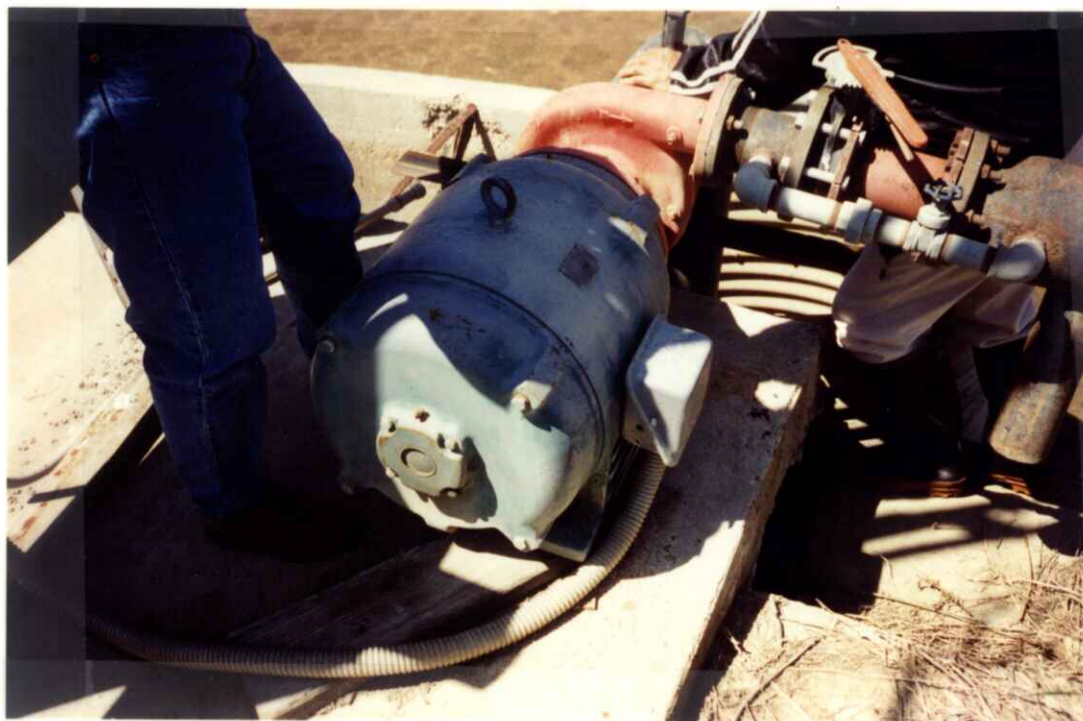


PHOTOGRAPHER AND DATE OF PHOTOS Sandy Hemenway 4-21-1995

FILE NO. 63-11275



PHOTOS
OF
THE
RELIFT
PUMP
50 HP.



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MAR 17 2003

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 1/15/2002

FILE NUMBER 63-11275

SHOP



These are
photos of the
shop and
feed mill.

FEED
MILL



MICRO

MAR 1 2003



PHOTOGRAPHER AND DATE OF PHOTOS Sandy Hemenway 4-21-1995

FILE NO. 63-11275



↑
The above
photo is
of the
Feedlot,
Lagoon, and
Irrigated
Field.

The Bottom
photo is of
the mainline
from the
Relift Pumps

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MAR 17 2003



PHOTOGRAPHER AND DATE OF PHOTOS Sandy Hemenway 4-21-1995

FILE NO. 63-11275



These are
photos
of the
irrigated
field and
the wheel
line.



The hand
line is
not
visible

MICROFILMED

MAR 17 2003



PHOTOGRAPHER AND DATE OF PHOTOS Sandy Hemenway 4-21-1995

FILE NO. 63-11275



DUST
ABATEMENT
SPRINKLER



CORRALS

NOT FOR RELEASE

MAR 17 2003



PHOTOGRAPHER AND DATE OF PHOTOS Sandy Hemenway 4-21-1995

FILE NO. 63-11275



STOCK
WATER
TANKS
FOR
FEED LOT
2-TYPES



MICROFILMED
MAR 17 2003

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 1/15/2002

FILE NUMBER 63-11275

MICROFILMED
MAR 17 2003



These are photos of the irrigated field.