

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 87-11956
Exam Date: 08/08/2024

1. Current Owner:
COCKING PIG RANCH LLC 901 SR 272 COLFAX WA 99111-8738
2. Accompanied by: Tom Cocking & Scott Cocking
Phone No: 509-595-8417
Address: Same as above
Relationship to permit Holder: Governor of LLC – Permit Holder & Scott is Tom's brother.

3. SOURCE:
GROUND WATER

Method of Determination: ArcMap and DRG layer.

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
87-11840	GROUND WATER	STOCKWATER	DECREED

Comments: Decreed Right 87-11840 uses the same GW source and infrastructure for stockwater use and is authorized a diversion rate of 0.07 cfs, quantity of water shall not exceed 13,000 gpd, for stock use up to 850 hogs. 87-11840 was decreed in the Palouse River Basin Adjudication (PRBA) process for the historic use at the hog farm but didn't authorize recent expanded operational use developed by the Permit Holder; this necessitated the applicant file for this Permit.

Based on direct overflow I was unable to recommend combined volumetric usage as 87-11840 has no annual volume by decree, but I did assign condition X35 which designates: Rights 87-11840 and 87-11956 when combined shall not exceed a total diversion rate of 0.11 cfs and stockwater use for 4,500 head stock at a production pig farm. I updated AdHoc to reflect combined use for a total of 0.11 cfs between the two rights.

2. Other water rights with the same point-of-diversion: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
87-11059	GROUND WATER	DOMESTIC	DECREED
87-11839	GROUND WATER	DOMESTIC	DECREED
87-11840	GROUND WATER	STOCKWATER	DECREED

Comments: The three (3) WRs listed above, and this Permit all use the same groundwater well source; I've added condition F06 during licensing review to annotate the same POD shared between the four (4) Rights. Of the 4 rights, only 87-11840 and this Permit share direct overlap by diversion rate, and condition X35 as described above under POU overlap explains the combined use limits between 87-11840 and 87-11956.

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

GROUND WATER SE¼ NE¼, Sec. 36, Twp 43N, Rge 06W, B.M. LATAH County

Method of Determination: GPS. POD is a 1960s cased well located at -117°1.4157, 47°1.6704.

PLACE OF USE: STOCKWATER and INDUSTRIAL

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
43N	06W	36				X													

Method of Determination: Beneficial use field examination and ArcMap aerial imagery.

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.

☒ Indicate weir size/pipe as applicable.

Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be

☒ 1:24,000 or greater.☒ Aerial Photo Attached (required for irrigation of 10+ acres).☒ Photo of Diversion and System Attached

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Model No.	Pump Make	Pump Serial No. or Discharge Size
1960s 6-INCH CASED WELL	PENTEK	5	45S50-12-BP	FRANKLIN ELECTRIC	UNKOWN

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
NONE						

2. Measurements: I was unable to perform flow measurements due to inadequate pipe requirements. The main service line from the well routes directly to a pressure tank prior to a water distribution pipe manifold and I was unable to bypass the pressure tank; attempted 5-gal bucket measurements filled in less than 5 seconds which disqualified the measurement. I developed a theoretical pump equation based on pump installation data which derived a pump capacity of 0.11 cfs considering department rounding standards.

E. FLOW CALCULATIONS☒ Additional Computation Sheets Attached

Measured Method: Theoretic pump equation for the 5 hp pump, recently replaced, installed at a depth of 185 feet with 61 psi operating pressure equals 48.5 gpm or 0.11 cfs considering department rounding standards. The applicant's pump company asserted the well was drilled to a depth of 200 ft, and the pump was hung at 185 feet when the last Franklin Electric pump was replaced.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

2. Volume Calculations for Other Uses:

- Stockwater annual volume = 4,500 pigs x 4 gpd x 365 days = 6,570,000 gal / 325,850 gal per af = 20.16 af or **20.2 af** considering department rounding standards.
- Industrial annual volume = annual volume broken down by different sub-sets of the hog farm operation as follows:
 - Open front cleaning – pump run time 1.5 hrs per day and [1.5hr x 60 min per hr] x 50 gpm x 365 days = 1,642,500 gal annually / 325,850 gal per af = 5.04 af annually.
 - Hot nursery – pump run time 1 hr per day and [1.0 hr x 60 min per hr] x 50 gpm x 365 days = 1,095,000 gal annually / 325,850 gal per af = 3.36 af
 - Pressure washer use – 2ea units operating at 3 gpm for 6 hrs per day and [3gpm x 60 min per hr] x 6 hrs x 2 units x 365 days = 7,884,000 gal annually / 325,850 gal per af = 24.2 af
 - Farrowing house = 1 hr pump run time per week and 50 gpm x 60 min per hr x 52 weeks per year = 156,000 gal annually / 325,850 gal per af = 0.48 af
 - Industrial Total annual volume = 5.04 af + 3.36 af + 24.2 af + 0.48 af = 33.08 af or **33.1 af** considering department rounding standards.
- Maximum diversion volume = 20.2 af (stockwater) + 33.1 af (industrial) = **53.3 af**.
 - Validation of pump capacity for maximum diversion rate = 0.11 cfs x 365 x 1.9835 = 79.6 af – YES, pump is capable of supplying source water for beneficial uses as developed.

G. NARRATIVE/REMARKS/COMMENTS

I conducted a beneficial use field examination on 8/8/2024 with the Permit Holder, Mr. Tom Cocking (Tom), which showed water being diverted from a groundwater well for industrial and stockwater uses related to a production hog facility. At the POD, an old 1960's cased 6-inch well is located within a small pump shed that houses the diverting work components. There isn't a well log on record in IDWR's database and review of other WR(s) sharing the POD provides inconclusive information regarding the cased well.

During the exam I spoke with Scott Cocking, Tom's brother & owner of the parcel the POD is located on, asserts the existing 5.0 HP pump was recently replaced and hung at a depth of 185 ft with the total well depth being determined by the pump company to be 200 ft. The recently replaced Franklin Electric brand 5.0 HP pump was sitting just outside the pump shed, and I confirmed by declaration from Scott Cocking the same make/model 5.0 HP pump replaced the old well pump. From the well a main water line runs within the pump shed in metal pipe segments to a flexible pipe and distribution manifold with 9-way pipe splitter with individual manual shutoff valves. I collected images added to the backfile for reference.

The system is under pressure with a pressure tank holding statically at 61 PSI. A 5 HP Pentek variable frequency drive pump motor relay control panel is located within the pump shed. I attempted to take a 5-gal bucket measurement, but they ranged from 4 seconds to 5.5 seconds in time to fill, resulting in measurements I wasn't able to apply based on beneficial use field exam measurement guidelines. The 5-gal measurements equated to approximately 50 gpm but are influenced by an in-line pressure tank.

I used well construction information and pump information to calculate a theoretical pump equation based on the 5 hp pump, 185 ft hanging depth, and 61 psi system operating pressure; the resulting flow rate equals 48.5 gpm or 0.11 cfs considering department rounding standards. Scott Cocking estimated the pump flow rate at 40 gpm, and based on 5-gal bucket measurements, theoretical pump equation values, and estimates from water users on site I'm recommending the 0.11 cfs theoretical pump equation value for licensing purposes. This rate results in a reduction in diversion rate for both stockwater & industrial beneficial uses as the Permit Holder is limited to pump performance found at time of field exam for licensing evaluation. The maximum diversion rate is recommended at **0.11 cfs** for licensing purposes.

The permit authorized irrigation for beneficial use for up to 380 acres planned to rotate seasonally using wastewater from the industrial water repurposed as land application. During the exam Tom Cocking asserted semi-solids from the two wastewater settling ponds are spread as fertilizer on fields co-located on the farm rotating each season. The farmland is all dry agriculture land that isn't irrigated. During licensing review, I reviewed Administrator Memo – AP-No.61 and determined the land application of wastewater as fertilizer doesn't satisfy the definition of irrigation for land application processes. Instead, the entirety of the wastewater is first used for industrial purposes and no additional groundwater is added aside from wastewater collection in two settling ponds prior to land application as fertilizer.

I've evaluated the fertilizing practices that don't qualify as beneficial use of water; the industrial water use isn't considered 100% consumptive and AP-No.61 isn't applicable to this industrial water system. Waste water from hog feces and associated wash water that collects in the two settling ponds undergoes evaporative processes and the unlined ponds seep throughout the year prior to fall fertilizing. With no added groundwater to dilute the solids a scatter pump is required to evacuate wastewater fertilizer and is solid enough that it doesn't flow in an unpressurized pipeline. Based on this analysis I've removed the irrigation beneficial use from the Permit during licensing review. The Department doesn't regulate this land application with wastewater used as semi-solids to fertilize dry agricultural lands.

During the exam Tom Cocking provided an in-depth tour of the facilities as we traced water usage from the POD to each structure used in the production swine facility. I used ArcMap aerial imagery to trace out the Stockwater POU & Industrial POU which are the same for licensing purposes. Water is conveyed to each structure via buried poly-pipe to riser pipes with banjo fittings for industrial cleaning purposes and stockwater consumption uses. Pipelines route along the trusses of each building with lateral pipelines to drip style watering points for the hogs located in each pen of the respective barn structure. Cleaning wash water occurs daily in each structure as pens and 3-ft x 3-ft grate covered concrete drains are flushed to evacuate wastewater to the industrial use settling ponds. Two pressure washers that have 3-gpm spray nozzles are used in the cleaning process along with direct hose & nozzle used to clean pens.

The wastewater drains all connect to a common drain line that flows into the upper, or first in series wastewater 'solids' collection pond with overflow fluids filling the second wastewater pond. The ponds hold 1.2 Mg (solids) pond and 1.3 Mg (liquid) pond. The liquid pond is recirculated to the solids pond periodically as solid waste is churned to make semi-solid fertilizer out of the industrial wastewater. The two storage ponds themselves don't necessitate a water right, as they are only filled with wastewater that is first used as the industrial water use accounted for under this Permit.

I calculated the annual volume for the stockwater beneficial use using Department guidance the Department's Field Examiner Handbook – 1982 Annual Stockwater Use Table.pdf (attached to beneficial use report) retrieved from:

wenet - /wrpermits/FIELD EXAMINERS HANDBOOK/Peer Reviewed/Reference Library/Elements
of a Water Right/5-Water Use/Beneficial Uses/Stockwater/

During the development period the maximum number of hogs equaled 4,500; although the total number is cyclic as hogs are sold in batches throughout the season, there is a continuous cycle in process and I'm recommending licensing with 4,500 head of hogs. Based on recommended diversion rates for stockwater the annual rate allowance would be 0.33 cfs, but as discussed above the Permit Holder is limited by pump capacity found at time of field exam or 0.11 cfs for licensing purposes. The annual volume equals 4,500 hogs x 4 gal per head x 365 days per year = **20.2 af** considering department rounding standards.

Evaluating the industrial water use volume associated with the indirect cleaning water use at the hog facility is more difficult. The site includes structure(s) for gestation barn, farrowing barn, hot nursery barn, growing barn, and finishing barn. Mr. Cocking and I spoke at length regarding the cleaning schedule for the facility, which is an ongoing daily requirement for the operation. After working in the swine production industry for many years, Mr. Cocking has a intimate working knowledge of how long it takes to clean each part of the total facility. I used time as the primary factor to establish annual volume along with diversion rate with the 5 HP well pump turned on and/or pressure washer nozzle flow rates to calculate annual volume as broken down above on PG 2 of this report. The total industrial annual volume recommended for licensing equals **33.1 af** considering department rounding standards. The maximum diversion volume recommended for licensing is the sum of two beneficial uses or **53.3 af**.

During licensing review I made the following recommendations for conditions of approval:

- I removed conditions 26A and 046 based on compliance by the Permit Holder.
- I added condition F06 describing the POD as a shared well between multiple water rights (ref PG1 of report).
- I removed a text condition related to DEQ compliance; DEQ doesn't regulate this well and production hog facility and the condition isn't applicable for licensing purposes.
- I removed condition 01M that was associated with diversion rates > 0.24 cfs or for irrigation use > 5 acres; neither scenario is applicable to the water system as developed.

- I removed condition X02 based on condition guidance to delete at licensing.
- I replaced condition WD8 which described wastewater use associated with irrigation purposes for water quality requirements. DEQ doesn't regulate this wastewater use and the irrigation use has been removed from the Permit. I have replaced the condition with a text version that describes the wastewater use for fertilizer land application must first be beneficially used as industrial water use authorized by the WR; this text condition serves to notify the Right Holder that only wastewater may be used from the settling ponds and the WR doesn't authorize additional groundwater pumped directly to the ponds for use.
- I've added condition X35 to mitigate overlapping water right concerns between Rights 87-11840 & 87-11956; the condition includes combined use total diversion rate of 0.11 cfs and stockwater use for 4,500 head of stock at a production pig farm. I updated combined use between the two WRs in AdHoc based on the diversion rate of 0.11 cfs.
- All other conditions on the Permit shall be carried forward to licensing.

Overlapping water right review has been discussed in detail and applicable overlap captured by use of condition X35 during licensing review. Although the shared well authorizes two WRs for domestic uses from the well (ref PG1 overlapping WRs), I don't recommend direct overlap between the WRs based on diversion rate. Each use is separate and a different beneficial use than this WR. There are no additional overlapping water right concerns toward licensing 87-11956.

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

H. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual Volume</u>
STOCKWATER	01/01 to 12/31	0.11 CFS	20.2 AF
INDUSTRIAL	01/01 to 12/31	0.11 CFS	33.1 AF

Totals: 0.11 CFS 53.3 AF

2. Recommended Amendments

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

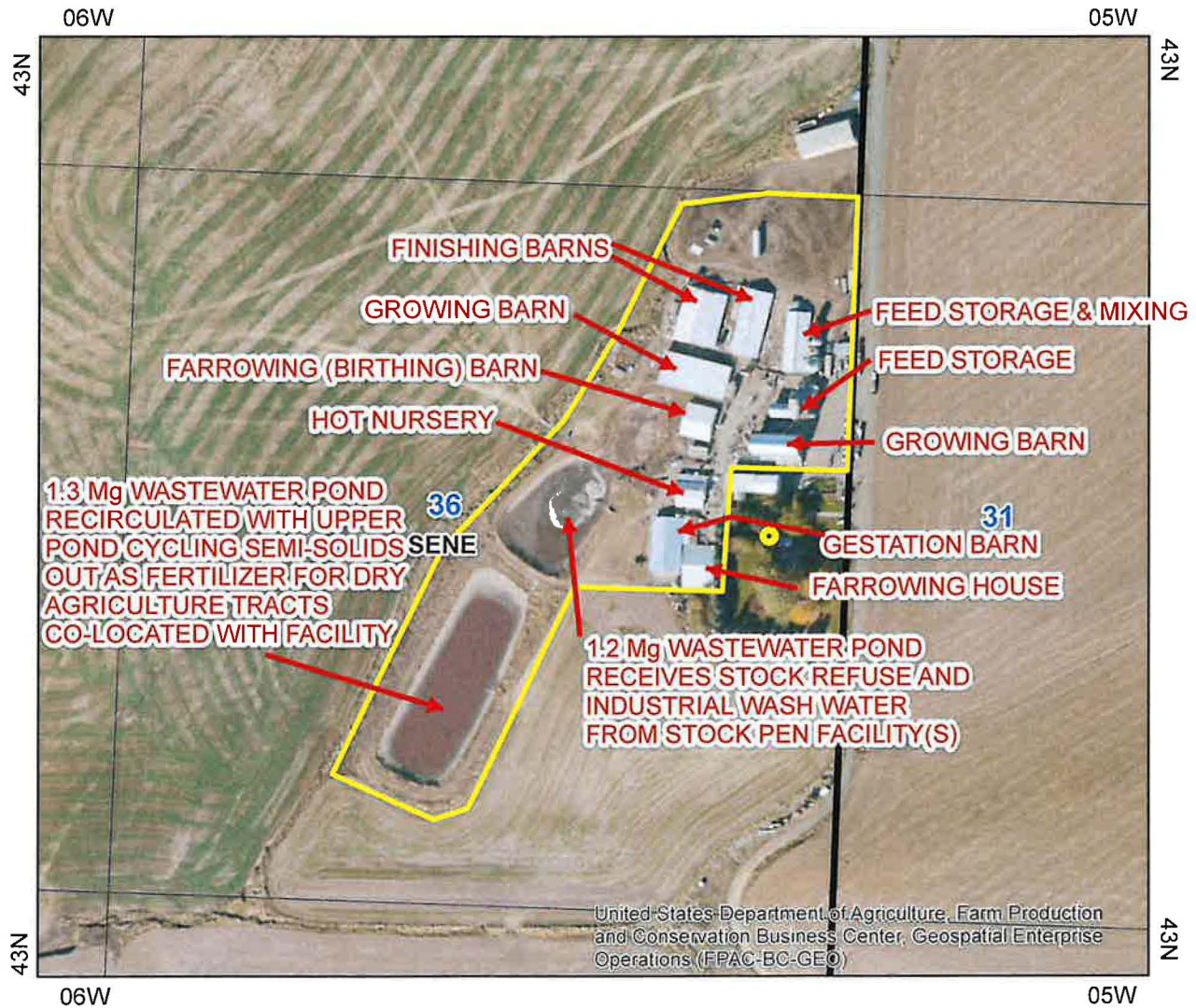
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☒ None

I. AUTHENTICATION Luke Bates – Sr Water Resource Agent

Field Examiner's Name *LSB* Date *11/6/2024*
 Reviewer *Chen B. W.* Date *4/9/2025*

State of Idaho
Department of Water Resources
Attachment to Field Exam
87-11956

This map depicts the STOCKWATER & INDUSTRIAL facility identification



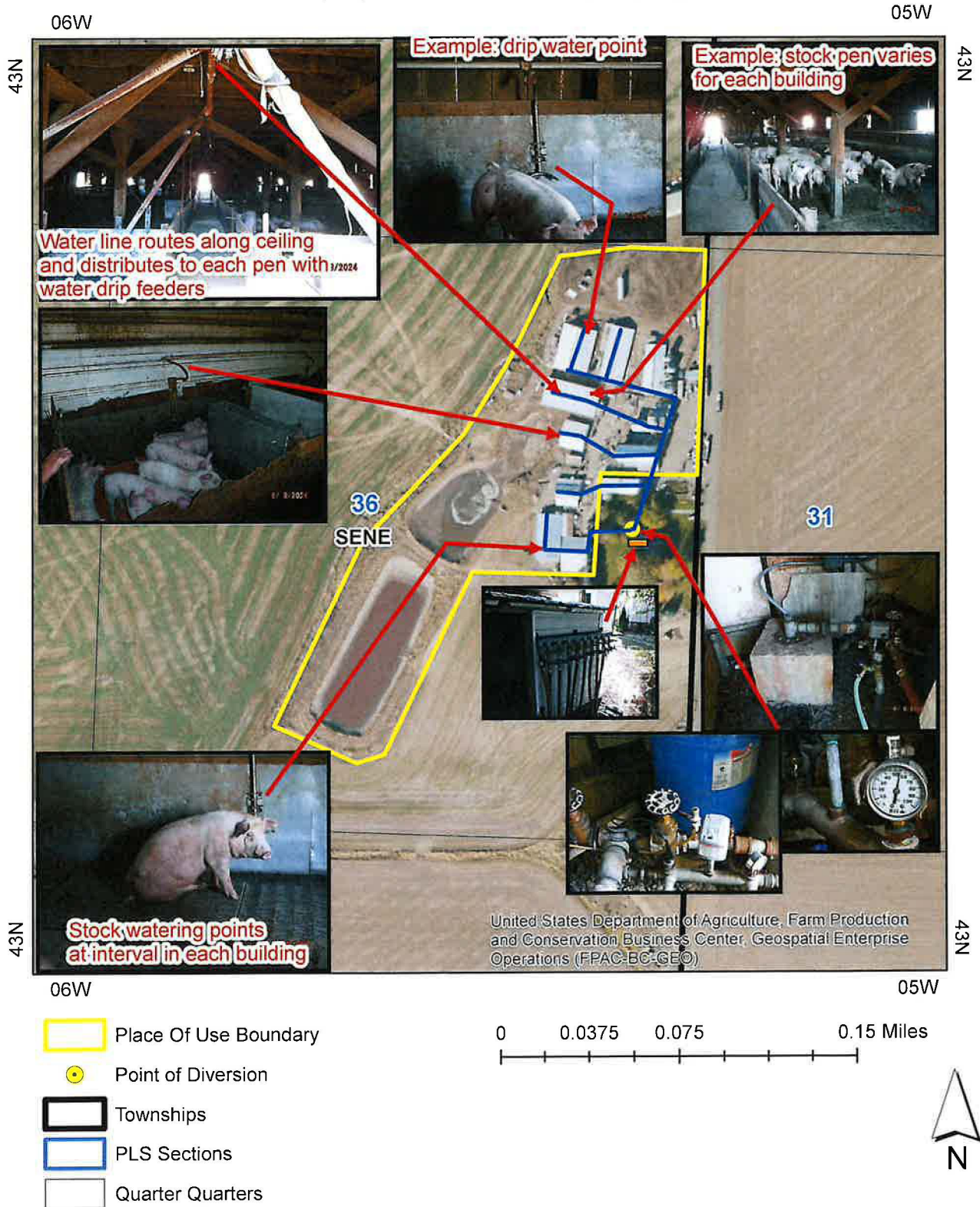
0 0.0375 0.075 0.15 Miles

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



State of Idaho
Department of Water Resources
Attachment to Field Exam
87-11956

This map depicts the STOCKWATER system diagram.



State of Idaho
Department of Water Resources
Attachment to Field Exam
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This map depicts the INDUSTRIAL system diagram.



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

0 0.0375 0.075 0.15 Miles



THEORETICAL PUMPING EQUATION(S) FOR WR# 87-11956

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 185 ft, and running at 61 psi.

PUMP EQUATION

WATER RIGHT No. 87-11956

1960s 6" WELL	HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q = $HP \cdot 8.8 \cdot \text{Eff} / H$	5	326.0884	0.8	185	61
Q = 0.108 cfs 48.5 gpm					

TABLE 1, RECOMMENDED DIVERSION RATES FOR STOCKWATER

In cubic feet per second (cfs)

<u>No. of head</u>	<u>Dairy cows</u>	<u>Other cattle, horses & mules</u>	<u>Hogs</u>	<u>Sheep & goats</u>
0 - 25	0.02	0.02	0.02	0.02
26 - 50	0.04	0.02	0.02	0.02
51 - 100	0.07	0.03	0.02	0.02
101 - 200	0.13	0.05	0.02	0.02
201 - 300	0.20	0.07	0.02	0.02
301 - 400	0.26	0.09	0.03	0.02
401 - 500	0.33	0.12	0.04	0.02
501 - 600	0.39	0.14	0.05	0.03
601 - 700	0.46	0.16	0.05	0.03
701 - 800	0.52	0.19	0.06	0.03
801 - 900	0.58	0.20	0.07	0.04
901 - 1000	0.65	0.23	0.08	0.04

For chickens, round to the next highest 100 and multiply this number by 0.0000018.

For turkeys, round to the next highest 100 and multiply this number by 0.0000033.

If you have more than 1000 head of stock (other than poultry), round the number of head to the next highest 100, and multiply this number by one of the following factors:

For dairy cows, multiply by 0.00065

For other cattle, horses, or mules, multiply by 0.00022

For hogs, multiply by 0.000074

For sheep or goats, multiply by 0.000037

4,500 hogs $\times 0.000074 =$
 0.33 cfs , But Permit
 Holder limited by Pump Performance
 to Diversion Rate = 0.11 cfs
 JBates
 8/14/2024

Round the amount you calculate to the nearest 0.01 cfs and enter this amount in the appropriate space on your claim. You may claim 0.01 cfs even if your calculated amount is less than 0.01 cfs.

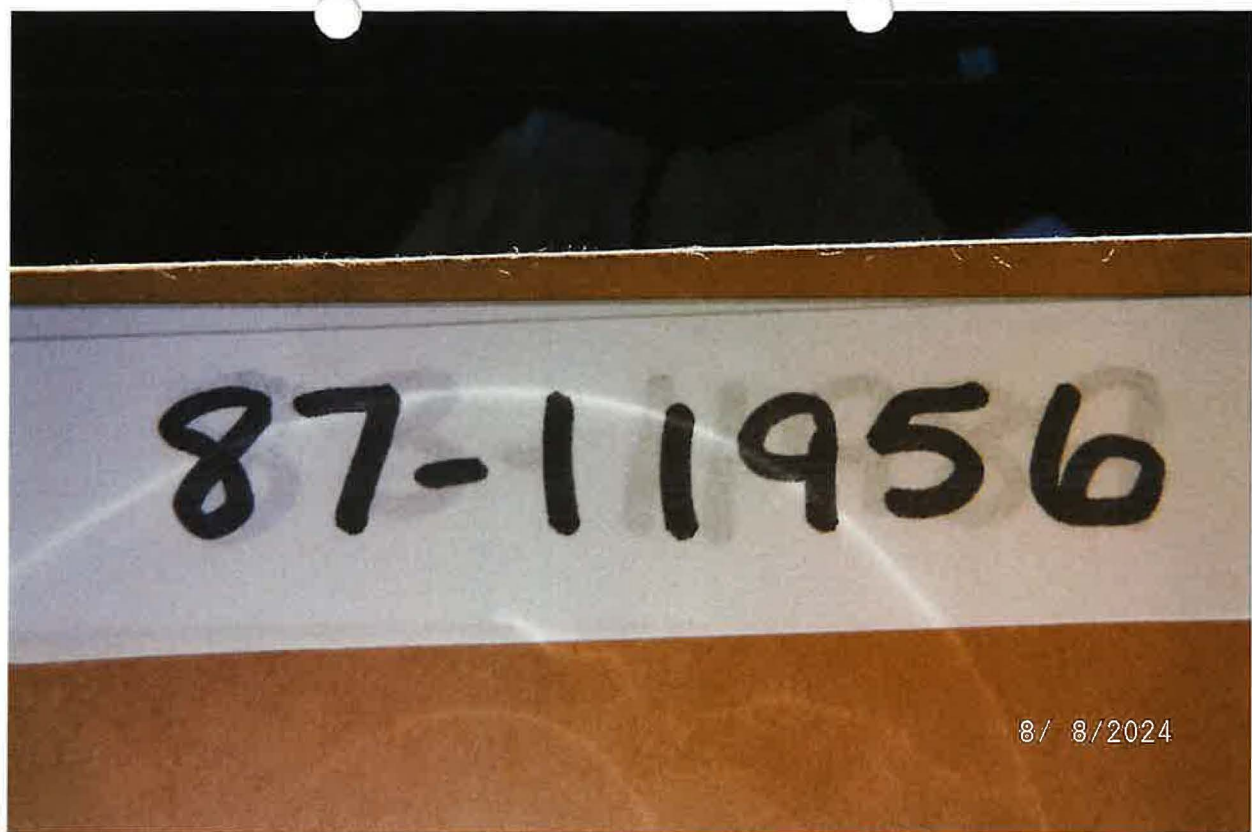
VOLUME FACTORS

<u>STOCK</u>	<u>GPD/HEAD</u>
dairy cattle	35
range cattle	12
horses	12
mules	12
hogs	4
goats & sheep	2

Annual Volume = $4,500 \text{ hogs} \times 4 \text{ gpd} \times 365 \text{ Day} =$

$$\frac{6,570,000.00 \text{ gal}}{325,850 \text{ gal per af}} = 20.2 \text{ af}$$

Sources of information for this page include SRBA Claim Instructions, revised 6/89, and Field Examiners Handbook, 1986, currently under revision.



BENEFICIAL USE FIELD EXAM DATE 8/8/2024



GW WELL – 1960s CASED WELL DRILLED TO 200 FT



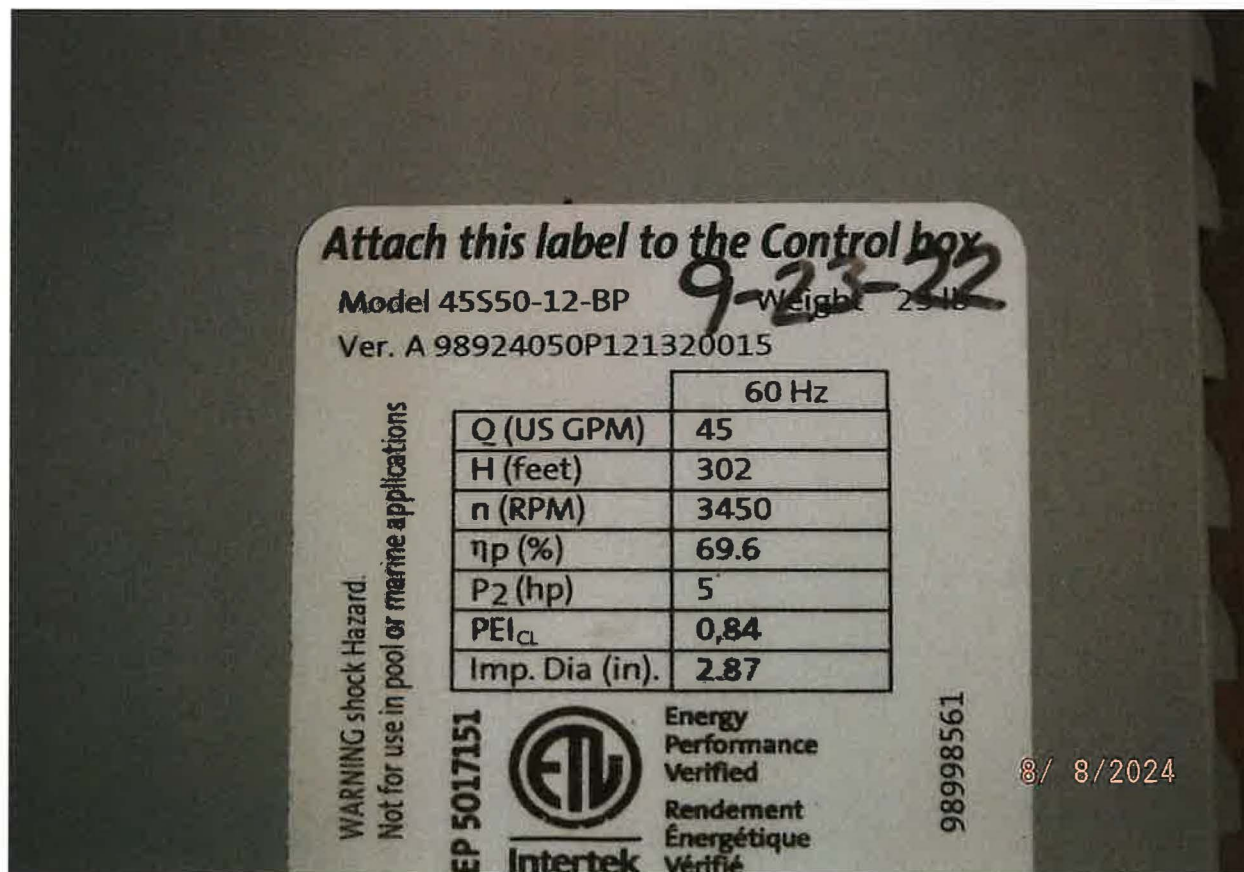
GW WELL AND DIVERTING WORKS HOUSED IN SMALL PUMP STATION



61 PSI OPERATING PRESSURE



PENTEK 5 HP PUMP MOTOR INSTALLED IN WELL





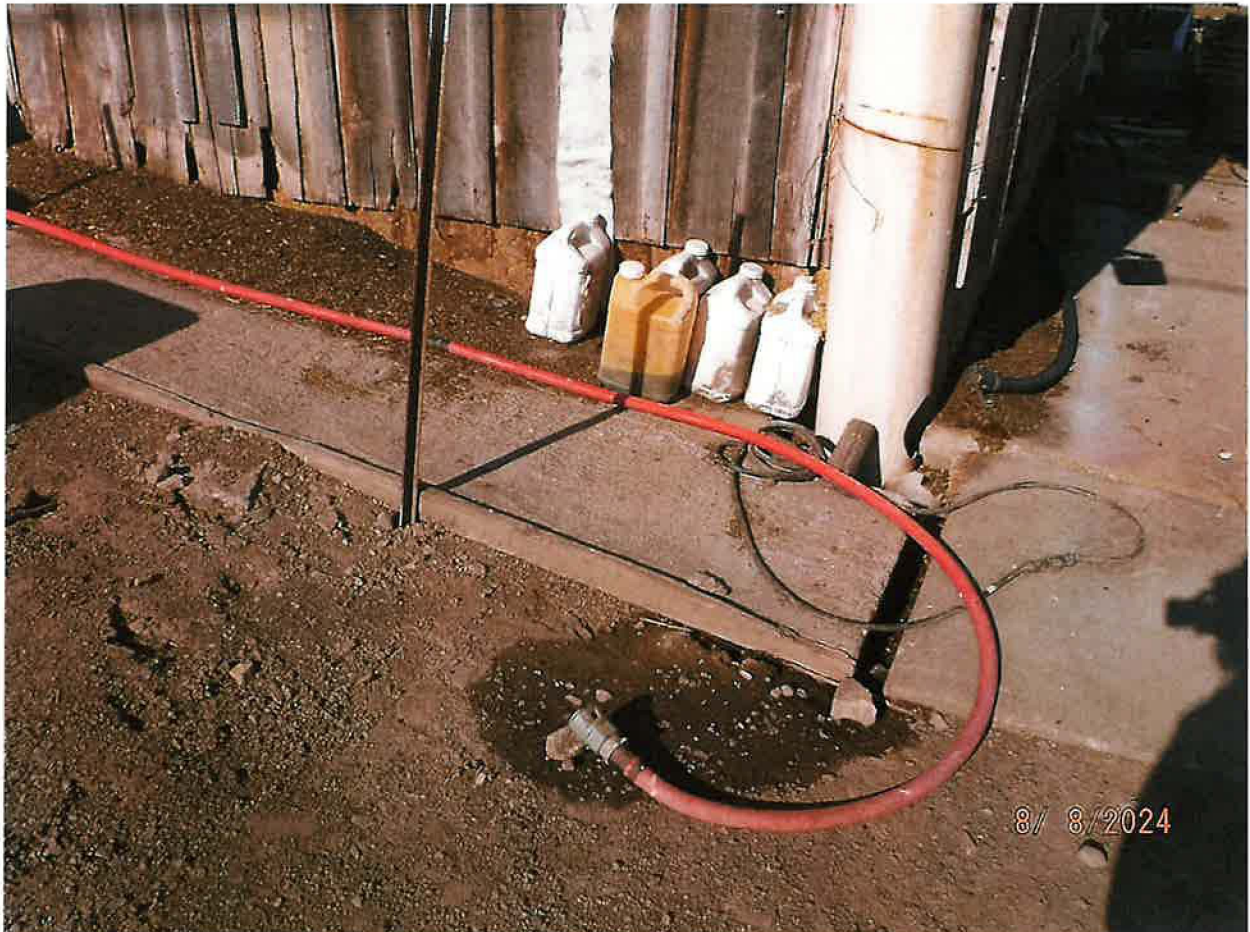
EXAMPLE WELL PUMP END – FRANKLIN ELECTRIC 5 HP, THIS PUMP WAS RECENTLY REPLACED WITH THE SAME MAKE/MODEL AS FOUND AT TIME OF FIELD EXAM



WELL PUMP STATION AND WATER CONVEYANCE DISTRIBUTION MANIFOLD FOR MAIN SERVICE PIPELINES TO WATER USES



EXAMPLE WATER RISER PIPE ROUTED FROM MAIN MANIFOLD WITH QC CONNECTION TO PRESSURE SPRAY HOSE





STOCKWATER POU – NUMEROUS BUILDINGS ASSOCIATED WITH PIG FARM INCLUDING FARROWING HOUSES, HOT NURSURY HOUSES, GROWING BARNs, GESTATION HOUSES (EXAMPLE STOCK PEN IN PHOTO)



STOCKWATER POU – WATER FEEDERS DISTRIBUTED BY PIPELINE IN EACH PEN THROUGHOUT THE POU



INDUSTRIAL POU – WASH WATER USED REGULARLY TO CLEAN STOCK PENS AND REFUSE CHANNELS – 3-FT X 3-FT DRAIN CHANNELS IN EACH BUILDING



3-FT X 3-FT DRAIN CHANNEL



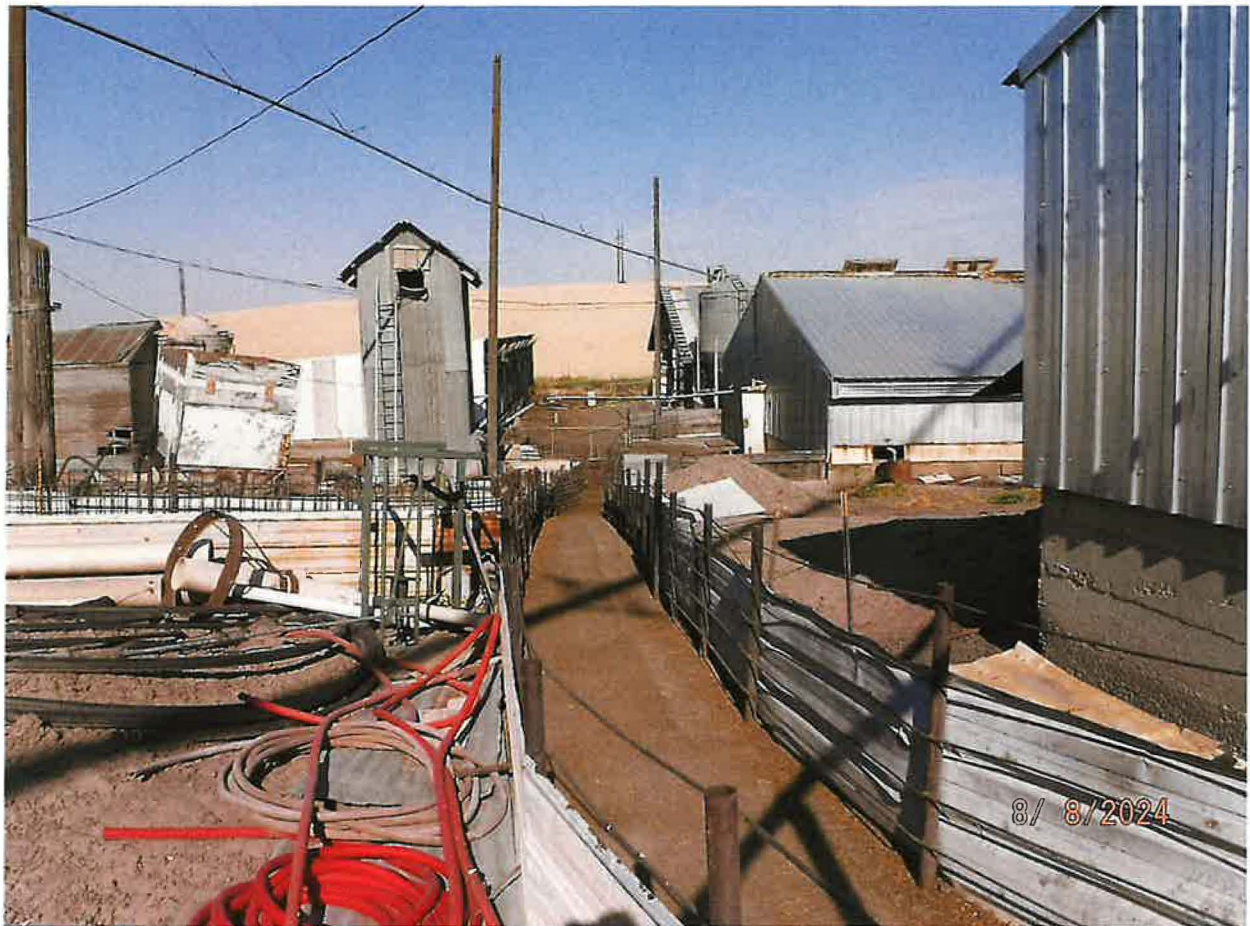
STOCKWATER & INDUSTRIAL POU





STOCKWATER & INDUSTRIAL POU



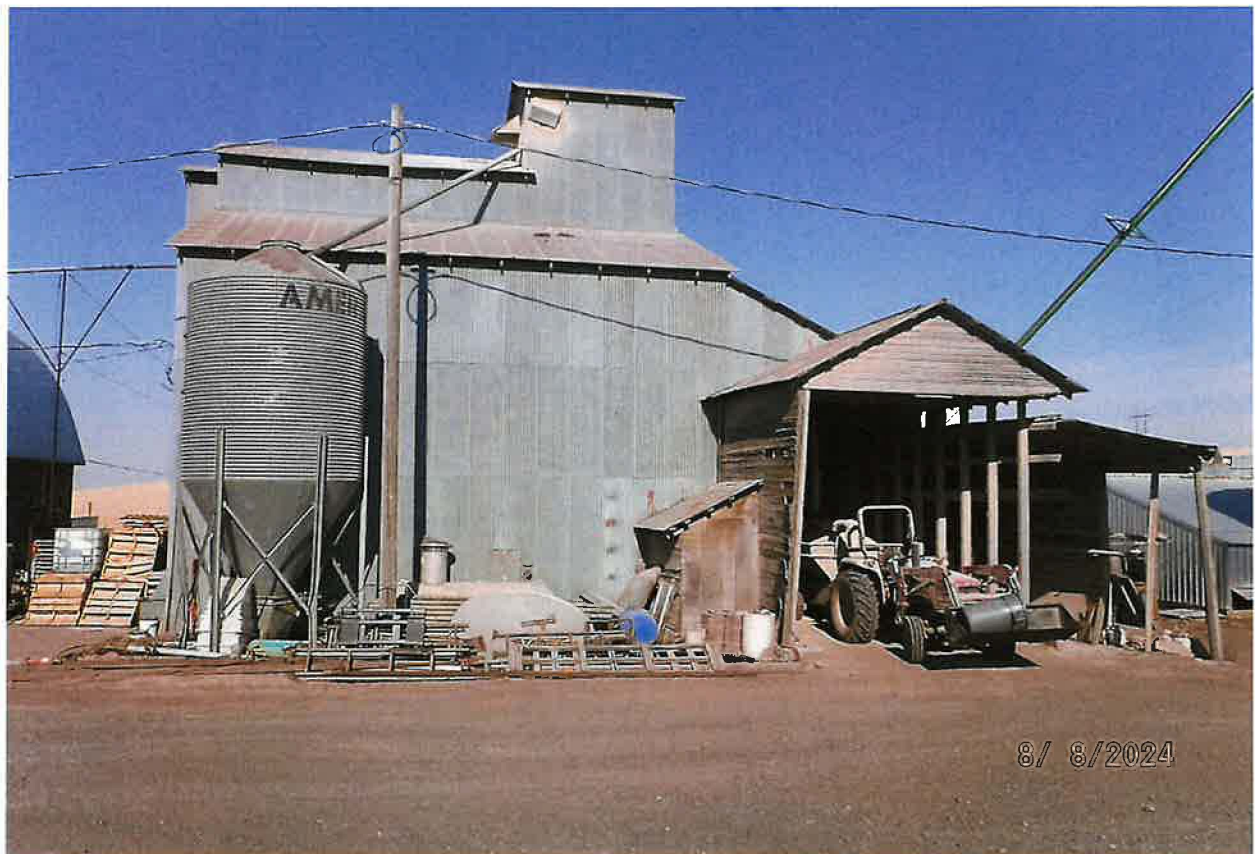


STOCKWATER & INDUSTRIAL POU





STOCKWATER & INDUSTRIAL POU (GROWING BARN)



FEED DISTRIBUTION POINT FOR HOG FARM



EXAMPLE WATER POINT FROM RISER PIPELINE; SPRAY HOSES CONNECTED FOR INDUSTRIAL CLEANING USES



UPPER (SOLIDS) STORAGE POND RECEIVES WASTEWATER FROM STOCKWATER & INDUSTRIAL USES



LOWER WASTEWATER STORAGE POND – RECYCLED PUMPING TO SOLIDS POND
USED DURING FERTILIZER SPRAYING PRACTICES. REPURPOSING OF WASTE
WATER