

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

RECEIVED

AUG 18 2015

DEPARTMENT OF
WATER RESOURCES

A Beneficial Use Field Report is prepared by a water right examiner as the result of an examination to clearly confirm and establish the extent of the beneficial use of water established in connection with a permit during the development period authorized by the permit and any extensions of time previously approved.

A. GENERAL INFORMATIONPermit No. 63-320491. Owner Boise Valley Feeders LLCPhone No. 208-722-8090Current address 2201 Ridgeway Rd, Parma, ID 836602. Examiner's name Peter Cooper, P.E. (Examiner 15-155)EXAM DATE 7/15/20153. Accompanied by Jess Painter/Rick ReesEmail jess.painter@agribeef.comAddress same as aboveRelationship to permit holder Operations Manager/Yard ManagerPhone No. same as above4. Source Ground Water

tributary to _____

B. OVERLAP REVIEW1. Other water rights with the same place of use Industrial use POU: 63-3359, 63-7874, 63-31262, 63-287502. Other water rights with the same source and point of diversion 63-3359, 63-7874, 63-31262**C. DIVERSION AND DELIVERY SYSTEM**

1. Point(s) of Diversion:

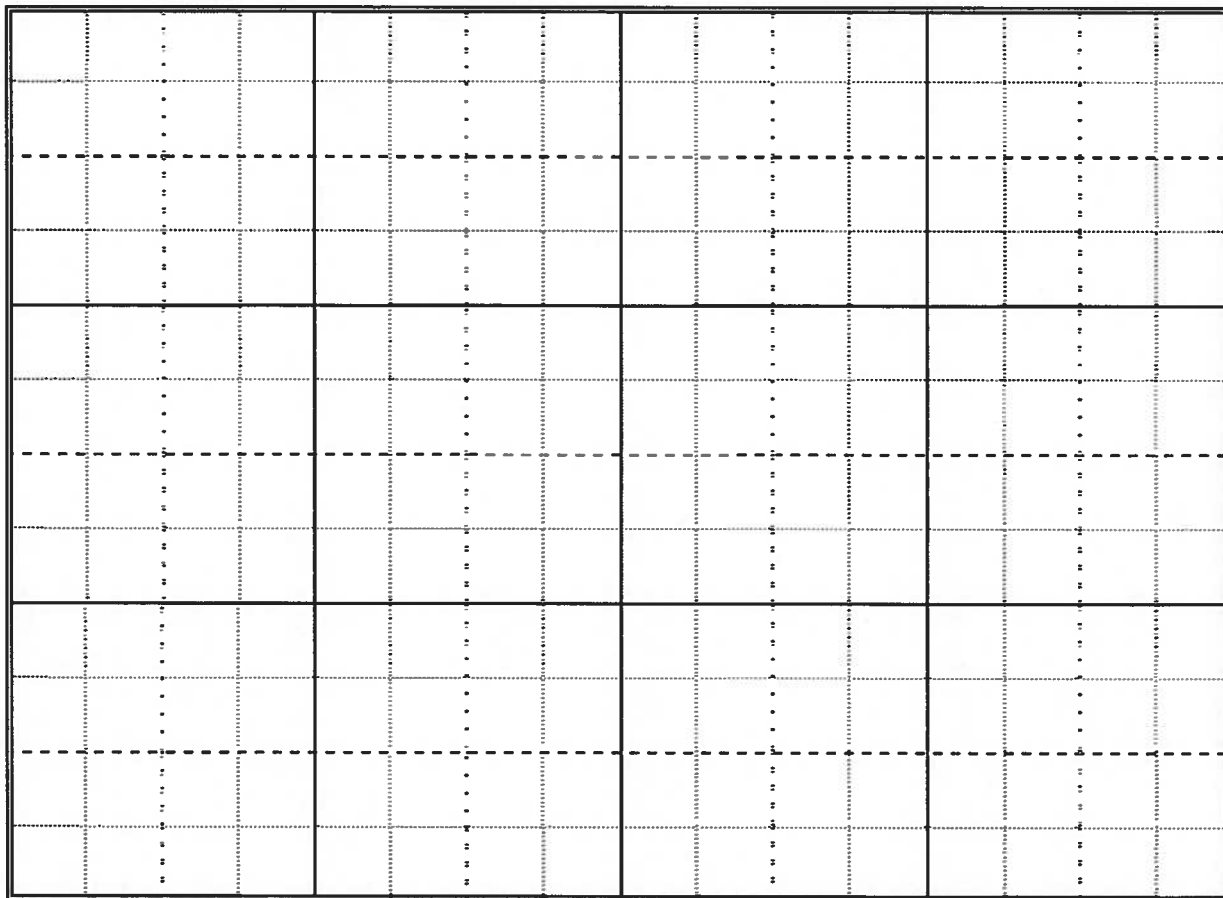
Ident. No.	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County	Method of Determination/Remarks
1			NW	SW	13	6N	5W	Canyon	2011 Licensing Exam, 2013 photo
2			NW	SE	14	6N	5W	Canyon	2011 Licensing Exam, 2013 photo
3			SE	SW	13	6N	5W	Canyon	Exam, 2013 photo

2. Place(s) of Use:

Method of determination Exam, 2013 photo, 2015 Google photo

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
6N	5W	13						I	I		I	I							
		14	I			I									I				
		24		33	35		33			33									134

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☒ see attached.



Scale: 1" = _____

- ☒ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (**required**)
☒ Aerial photo attached (required for irrigation of 10+ acres)
☒ 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 1 (14-inch)	GE	125	DKJ4101111	u/k	8-inch
Well 2 (16-inch)	Newman	300	D5057PY	u/k	10-inch
Well 3 (16-inch)	US Motors	300	U117577684-0003	Goulds	10-inch

*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
Portable Flowmeter - Well 3	Ultrasonic	GE	PT878	7140	various	March 30, 2015
Permanent Flowmeter - Well 3	Mag	Seametric	AG2000-1000	06125221	10-inch	2013 (estimated)

2. **Measurements:** _____

Examiner measured 3.82 cfs from Well 3 @ 63 psi with the portable flow meter. Simultaneously, the Well 3 permanent flow meter averaged 3.94 cfs.

Combined measured capacity for Wells 1 & 2 was previously determined during the BUFE for license 63-31262.

E. NARRATIVE/REMARKS/COMMENTS

Three wells, aka Wells 1, 2 & 3, supply water to an interconnected pressurized sprinkler system for irrigation of 134 acres and dust control for an existing feedlot. Wells 1 & 2 also provide stockwater and irrigation water to 139 separate acres under decrees 63-3359 and 63-7874 and 81 separate acres under license 63-31262. Detailed descriptions and documentation for Wells 1 & 2, along with their individual and combined pumping capacities are provided in the licensing field exam for water right 63-31262 included as Attachment D. As specified in the licensing exam narrative, Wells 1 & 2 have enough capacity to fully supply the decrees and license listed above.

Well 3, developed under this permit, is a 16-inch well equipped with a 300 hp pump with a measured capacity of 3.82 cfs. Irrigation ground water is provided to 134 new acres developed under this permit via 10-inch mainline supplying a pivot with end gun. Industrial water is provided to a feedlot area for dust control via 8-inch mainline and a pressurized sprinkler system consisting of approximately 100 sprinkler guns. The system is divided into many zones, typically consisting of 2 guns capable of 120 gpm each, and typically alternate on a 15 minute interval throughout a 15 hour period (6 am to 9 pm) each day. Operation of multiple zones is possible for a total of 4 or more guns running to supply 1.0 cfs.

Well 3 alone has sufficient capacity to meet the irrigation and industrial uses developed under permit 63-32049. This right, when combined with water rights 63-3359, 63-7874 and 63-31262, is limited to 7.08 cfs and 1,593 afa for the irrigation of 354 total acres.

Attachment A: permit and proof of beneficial use

Attachment B: Well 3 driller's report & pump curve

Attachment C: Well 3 system capacity flow calculation

Attachment D: license 63-31262 BUFE

Attachment E: topographical map, 2103 aerial photo with 2015 Google photo overlay for new pivot

Attachment F: photos of place of use and Well 3

Has the permit holder met all conditions of permit approval, including any mitigation requirements and/or measuring device installation requirements? ☒ Yes ☐ No If no, what must be done to meet the permit requirements?

Authorized water bearing zone for Well #3 is 300 to 600 feet. Developed bearing zone for Well #3 is 442 to 599 feet.

Developed water bearing zone: Well 1 - 350 to 507 feet

Well 2 - 420 to 520 feet

F. FLOW CALCULATIONS☒ Additional computation sheets attached

Measured Method:

See section D.2 referencing flow determinations

Examiner measured 3.82 cfs from Well #3.

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 134 \times 4.5 = 603$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = 2.68 \times 260 \times 1.9835 = 1,382.1$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 603$$

2. Volume Calculations for Other Uses:

Required: 240 gpm (2 guns @ 120 gpm/gun) x 900 minutes/day (15 hrs per day) x 153 days (May 1 to September 30) / 325,851 gallons/af = 101 afa

Potential: 1.0 cfs x 365 days x 1.9835 af/24hr-cfs = 724 afa

H. RECOMMENDATIONS

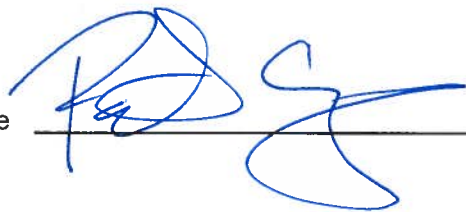
1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
Irrigation	3/1	11/15	2.68 cfs	603 afa
Industrial	1/1	12/31	1.00 cfs	101 afa
Totals:			3.68 cfs	704 afa

2. Recommended Amendments

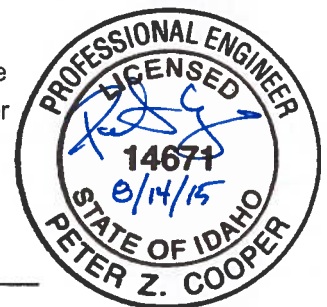
☐ Change P.D. as reflected on page 1☐ Add P.D. as reflected on page 1☒ None☐ Change P.U. as reflected on page 1☐ Add P.U. as reflected on page 1☐ Other**I. AUTHENTICATION**

Field Examiner's Signature



Date

8/14/2015



SEAL

Reviewer

Date

ATTACHMENT A

PERMIT RECORD AND PROOF OF BENEFICIAL USE

State of Idaho
Department of Water Resources
Permit to Appropriate Water

NO. 63-32049

Priority: November 08, 2004

Maximum Diversion Rate: 4.20 CFS

This is to certify, that **BOISE VALLEY FEEDERS LLC**
2201 RIDGEWAY RD
PARMA ID 83660

has applied for a permit to appropriate water from:

Source: GROUND WATER

and a permit is APPROVED for development of water as follows:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>RATE OF DIVERSION</u>
IRRIGATION	03/01 to 11/15	3.20 CFS
INDUSTRIAL	01/01 to 12/31	1.00 CFS

LOCATION OF POINTS OF DIVERSION:

GROUND WATER	NE $\frac{1}{4}$ SE $\frac{1}{4}$	Sec. 14, Twp 06N, Rge 05W, B.M., PAYETTE County
GROUND WATER	NW $\frac{1}{4}$ SE $\frac{1}{4}$	Sec. 14, Twp 06N, Rge 05W, B.M., PAYETTE County
GROUND WATER	SE $\frac{1}{4}$ SW $\frac{1}{4}$	Sec. 13, Twp 06N, Rge 05W, B.M., PAYETTE County
GROUND WATER	NW $\frac{1}{4}$ SW $\frac{1}{4}$	Sec. 13, Twp 06N, Rge 05W, B.M., PAYETTE County
GROUND WATER	NE $\frac{1}{4}$ NW $\frac{1}{4}$	Sec. 24, Twp 06N, Rge 05W, B.M., PAYETTE County

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	
06N 05W 13												20.0					20.0
06N 05W 24		40.0	30.0		40.0			30.0									140.0
Total Acres: 160																	

PLACE OF USE: INDUSTRIAL

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
06N 05W 13					X	X			X	X							
06N 05W 14	X			X									X				

CONDITIONS OF APPROVAL

1. Proof of application of water to beneficial use shall be submitted on or before **March 01, 2010**.
2. Subject to all prior water rights.
3. Project construction shall commence within one year from the date of permit issuance and shall proceed diligently to completion unless it can be shown to the satisfaction of the Director of the Department of Water Resources that delays were due to circumstances over which the permit holder had no control.

State of Idaho
Department of Water Resources
Permit to Appropriate Water
NO. 63-32049

4. Right holder shall comply with the drilling permit requirements of Section 42-235, Idaho Code and applicable Well Construction Rules of the Department.
5. Water bearing zone to be appropriated is from 300 to 600 feet.
6. Industrial use is for feedlot dust control system.
7. After specific notification by the Department, the right holder shall install a suitable measuring device or shall enter into an agreement with the Department to determine the amount of water diverted from power records and shall annually report the information to the Department.
8. This right when combined with all other rights shall provide no more than 0.02 cfs per acre nor more than 4.5 afa per acre at the field headgate for irrigation of the lands above.
9. Prior to the diversion and use of water under this approval, the right holder shall comply with applicable water quality standards of the Department of Environmental Quality.
10. The Director retains jurisdiction to require the right holder to provide purchased or leased natural flow or stored water to offset depletion of Lower Snake River flows if needed for salmon migration purposes. The amount of water required to be released into the Snake River or a tributary, if needed for this purpose, will be determined by the Director based upon the reduction in flow caused by the use of water pursuant to this permit.

This permit is issued pursuant to the provisions of Section 42-204, Idaho Code. Witness the signature of the Director, affixed at Boise, this 21st day of March, 2005.


FOR KARL J DREHER, Director

RECEIVED

JAN 09 2015

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
STATEMENT OF COMPLETION
FOR SUBMITTING PROOF OF BENEFICIAL USE

FOR OFFICE USE ONLY
Amt. of Fee \$: 200
Receipt No. C099800
Receipt By: JH
Date Received: 1-9-15

The Idaho Department of Water Resources considers this form a statement by the permit holder(s) that development of a water right has been **completed** and that water has been applied to beneficial use to the extent described below. **This form must be accompanied by an examination fee, when necessary, or by a completed Beneficial Use Field Report prepared by a certified water right examiner.** Please refer to the instructions and fee schedule for this form. If ownership of the permit has changed, please contact any Department office or visit the Department's website at: www.idwr.idaho.gov for an *Assignment of Permit* form. If you wish to relinquish your permit because you have not established the authorized use of the water and are not applying for an extension, please notify the Department in writing.

1. Permit No.: 63-32049 Telephone No.: 208-722-8090

2. Name of Permit Holder(s): Boise Valley Feeders LLC

3. Mailing Address: 2201 Ridgeway Road City: Parma

State: ID Zip: 83660 Email: jjohnson@johnsonresearchllc.com

4. Source of Water: ground water If **GROUND WATER** (well), Date Drilled: mo. June / yr. 2013

Well Driller: Riverside Drilling Permit Number: 962275-868334

5. Extent of use(s) completed (as authorized by the water right permit):

Domestic (No. of households): _____ Stockwater (No. and type of stock): _____

Irrigation (No. of acres): 160 Other: industrial - 1.0 cfs

6. Total rate of diversion or storage volume for which proof is submitted: 4.2 cfs OR _____ acre-feet.

7. Compliance with a measuring device requirement, lockable controlling device requirement, and/or other conditions of permit: **Refer to the approval conditions on your permit and respond accordingly. The Department will not issue a license if permit conditions are not met.**

Measuring Device: Is a measuring device required? Yes ☐ No ☒
If yes, has the measuring device been installed? Yes ☐ No ☐

Lockable Controlling Device: Is a lockable device required to control the diversion? Yes ☐ No ☒
If yes, has the lockable device been installed? Yes ☐ No ☐

Other Conditions of Permit: Do the approval conditions on your permit require you to submit additional information in connection with your proof of beneficial use? If yes, list the conditions below and attach documents with the required information.

NA Completed? Yes ☐ No ☐

8. Fee Enclosed: \$ 200.00 See fee schedule on back of the instructions for filing proof of beneficial use. Proofs filed without an appropriate fee, will be considered incomplete.

9. Person to contact to accompany the Department representative during field examination of the water system.

Name: Terry Scanlan - SPF Water Engineering Telephone Number: 208-383-4140

Mailing Address: 300 East Mallard Drive, Suite 350 City: Boise

State: ID Zip: 83706 Email: tscanlan@spfwater.com

The information given on this form is my true statement of the extent to which the above numbered permit has been developed and water has been diverted and applied to a beneficial use. I understand that any undeveloped portion of the permit is relinquished to the State of Idaho.

Signature of permit holder:  Date: 1-9-15
(Include your title, if on behalf of company or organization)

Mail to: Idaho Department of Water Resources, PO Box 83720, Boise, ID 83720-0098

ATTACHMENT B

WELL DRILLER'S REPORT & PUMP CURVE

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064416

Drilling Permit No. 962275-868334 ✓

Water right or injection well # 63-32049

2. OWNER: Boise Valley Feeders, LLC

Name _____

Address 2201 Ridge Way Rd.

City Parma State ID Zip 83660

3. WELL LOCATION:

Twp. 06 North ☒ or South ☐ Rge. 05 East ☐ or West ☒

Sec. 13 1/4 SE 1/4 SW 1/4

Gov't Lot _____ County Payette

Lat. 43 51.202 (Deg and Decimal minutes)

Long. 116 53.040 (Deg. and Decimal minutes)

Address of Well Site 2201 Ridge Way Rd.

City Parma

(Give at least name of road - Distance to Road or Landmark)

Lot. _____ Blk. _____ Sub. Name _____

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☒ Irrigation ☐ Thermal ☐ Injection

☒ Other Stock water

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well

☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☐ Air Rotary ☐ Mud Rotary ☐ Cable ☒ Other Reverse

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft ³)	Placement method/procedure
3/4" bentonite	0	187	27,000lbs	Pour
Neat Cement	187	417	810 ft ³	Trimmed and pumped

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/Schedule	Material	Casing Liner	Threaded	Welded
16"	+2	442	.375	Steel	☒	☐	☒
16"	452	485	.375	Steel	☒	☐	☒
16"	545	569	.375	Steel	☒	☐	☒
16"	599	604	.375	Steel	☒	☐	☒

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) _____

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method _____

Manufactured screen ☒ Y ☐ N Type Johnson

Method of installation One string set

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
442	452	.025		16"	S.S.	
485	545	.025		16"	S.S.	
569	599	.025		16"	S.S.	

Length of Headpipe _____ Length of Tailpipe 5'

Packer ☐ Y ☒ N Type _____

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft ³)	Placement method
#8-16	417	607	36,000 lbs	Pour

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 262 Static water level (ft) 262

Water temp. (°F) 71 Bottom hole temp. (°F) 73.2

Describe access port 2" pipe on side of casing

Well test:			Test method:			
Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
68	2200	468	☒	☐	☐	☐
			☐	☐	☐	☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water	
				Y	N
24"	0	3	Top soil		X
24"	3	32	Fine to coarse brown sand		X
24"	32	46	Brown sand and river cobbles		X
24"	46	55	Brown clay		X
24"	55	57	Brown sandstone		X
24"	57	59	Brown clay		X
24"	59	63	Med to fine brown sand		X
24"	63	70	Brown clay		X
24"	70	101	Fine to coarse brown sand		X
24"	101	103	Brown clay		X
24"	103	192	Fine to coarse brown sand		X
24"	192	194	Brown clay		X
24"	194	246	Med to fine brown sand		X
24"	246	249	Brown clay		X
24"	249	309	Fine to coarse brown sand	X	
24"	309	311	Brown clay		X
24"	311	317	Fine to coarse brown sand	X	
24"	317	319	Brown clay		X
24"	319	418	Fine to coarse brown sand	X	
24"	418	419	Brown clay		X
24"	419	434	Blue clay		X
24"	434	438	Fine blue sand	X	
24"	438	442	Blue clay		X
24"	442	453	Fine to coarse blue sand	X	
24"	453	455	Blue clay		X
24"	455	458	Med to fine blue sand	X	
24"	458	460	Blue clay		X
24"	460	462	Med to fine blue sand	X	
24"	462	464	Blue clay		X
24"	464	466	Fine blue sand	X	
24"	466	480	Blue clay		X
24"	480	510	Med to fine blue sand	X	

Completed Depth (Measurable): 604'

Date Started: May 6, 2013 Date Completed: June 27, 2013

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Riverside, Inc. Co. No. 333

*Principal Driller [Signature] Date 7-22-13

*Driller [Signature] Date 7-23-13

*Operator I _____ Date _____

Operator I _____ Date _____

*Signature of Principal Driller and rig operator required

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AUG 02 2013 JUL 26 2013

WATER RESOURCES WESTERN REGION WATER RESOURCES WESTERN REGION

Model: DWT-BAT**Size: 13CHC****60Hz****RPM: 1770****Stages: 8**

Job/Inq.No. :

End User :

Item/Equip.No. : ITEM 001

Order No. :

Purchaser :

Issued by : Steve Truesdell

Quotation No. : ST13-09-23 01

Certified By :

Service :

Date : 09/23/2013

Rev. : 0

Operating Conditions

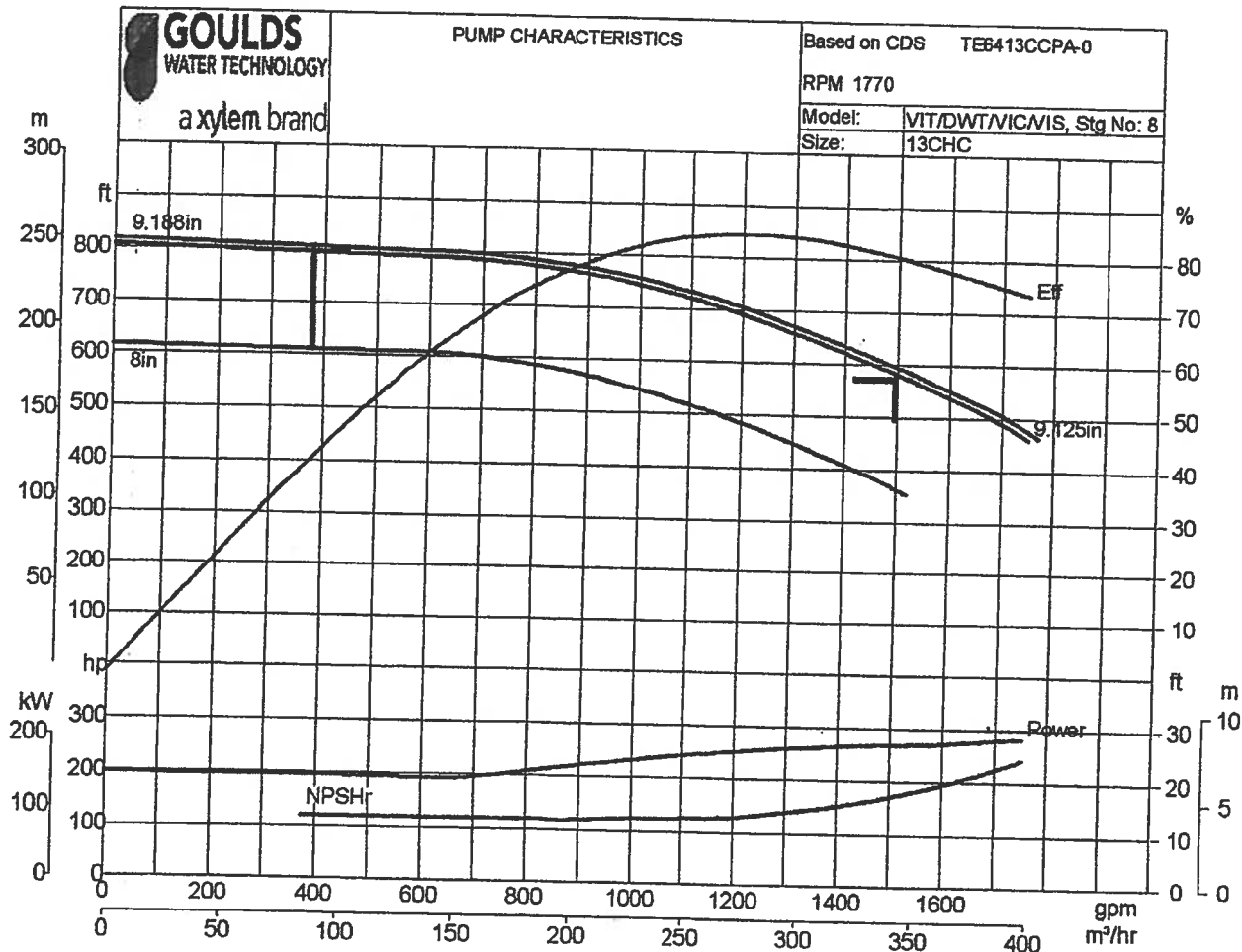
Temp.: 70.0 deg F
Design Flow: 1,500.0 gpm
Design TDH: 578.0 ft
Actual Flow:
Actual TDH: 581.6 ft
NPSHa:
Solid size:
Thrust K factor:
S.G./Visc.: 1.000/1.000 cp

Published Efficiency: 81.3 %
Rated Pump Efficiency: 81.9 %
Rated Total Power: 269.07 hp
Non-Overloading Power: 281.5 hp
Imp. Dia. First 1 Stg(s): 9.1250 in
NPSHr: 17.2 ft
Shut off Head: 806.4 ft
Liquid:
Impeller Material:

Pump Performance

Suction Specific Speed: 8,915 gpm(US) ft
Min. Hydraulic Flow: 378.3 gpm
Min. Thermal Flow: N/A
Vapor Press:
Max. Solids Size: 0.7500 in

Notes: 1. Bowl Performance Curve based on Pumping Clear, non-Aerated Water. Rated Point only is guaranteed.



ATTACHMENT C
FLOW CALCULATIONS

Permit: 63-32049
 Owner: Boise Valley Feeders, LLC.
 Site Name: SESW Well
 POD Location: T6N R5W Section 13 SESW
 Tag No: D0064416
 Meter: GE TransPort PT878
 Type: Portable Ultrasonic Time Flight Liquid Flow Meter
 Serial Number: 7140
 Calibration Date: 3/30/2015
 Operator: Peter Cooper, P.E.

Date/Time	Velocity (ft/s)	Volume (gal/1 (+)	Total (gal)	Error #
7/15/2015 7:16	7.43	1724.64	703737.11	0
7/15/2015 7:17	7.41	1720.26	705455.85	0
7/15/2015 7:18	7.44	1727.25	707197.22	0
7/15/2015 7:19	7.44	1727.85	708839.16	0
7/15/2015 7:20	7.42	1723.09	710591.43	0
7/15/2015 7:21	7.39	1715.09	712327.20	0
7/15/2015 7:22	7.37	1711.93	714023.85	0
7/15/2015 7:23	7.40	1717.68	715768.06	0
7/15/2015 7:24	7.40	1716.79	717490.10	0
7/15/2015 7:25	7.39	1715.83	719214.58	0
7/15/2015 7:26	7.42	1722.74	720870.24	0

Time: 10 minutes
 Total Volume 17133.1 gallons
 Average Flow Rate 1713.3 gpm
 Average Flow Rate 3.82 cfs

ATTACHMENT D

LICENSE 63-31262 BUFE

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

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AUG 12 2011

WATER RESOURCES
WESTERN REGION

A. GENERAL INFORMATION

Permit No. 63-31262

1. Owner Boise Valley Feeders LLC Phone No. 208-722-8090

Current address 2201 Ridgeway Rd, Parma, ID 83660

2. Examiner's name Terry Scanlan, P.E. (Examiner No. 11-129) EXAM DATE 6/27/11 and 8/10/11

3. Accompanied by Bill Nice Email bill.nice@aqrib Beef.com

Address 2201 Ridgeway Rd, Parma, ID 83660

Relationship to permit holder Operations Manager Phone No. 208-629-6912(cell)

4. Source Ground Water tributary to _____

B. OVERLAP REVIEW

1. Other water rights with the same place of use 63-3359, 63-7874

2. Other water rights with the same point of diversion 63-3359, 63-7874

C. DIVERSION AND DELIVERY SYSTEM

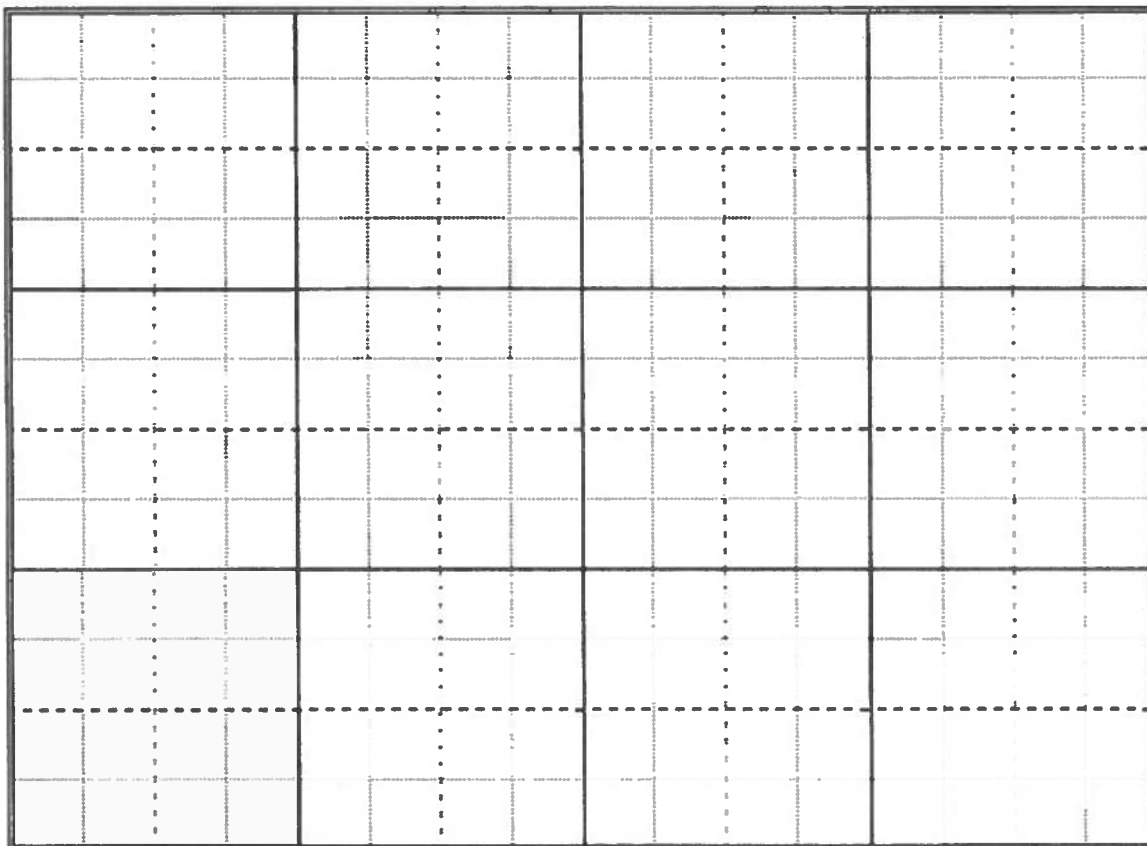
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2			NW	SE	14	6N	5W	Canyon	Exam, 2009 Photo

2. Place(s) of Use: Method of determination GIS

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
6N	5W	11															23		23.0
		13										8.6							8.6
		14	4.3	17	7.5						15				3.3	2.3			49.4

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☒ see attached.



Scale: 1" = _____

- ☒ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (required)
☒ Aerial photo attached (required for irrigation of 10+ acres)
☒ 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 1 (14 inch)	General Electric	125	DKJ4101111	Unknown	8-inch
Well 2 (16 inch)	Newman	300	D5057PY	Unknown	10-inch

*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
Flow Meter - Well 1	propeller	McCrometer	ML100	01-08300-8	8-inch	2000 (estimated)
Flow Meter - Well 2	propeller	McCrometer	ML100	01-09531-10	10-inch	2005 (estimated)

2. Measurements:

Well 1 - 950 gpm (2.12 cfs) @ 48 psi, 1100 gpm (2.45 cfs) @ 18 psi

Well 2 - 1600 gpm (3.56 cfs) @ 50 psi (pump was not at full speed), 2100 gpm (4.68 cfs) at 30 psi

E. NARRATIVE/REMARKS/COMMENTS

Two wells supply water to a pressurized sprinkler system for irrigation of 220 acres; 139 acres authorized under decrees 63-3359 and 63-7874 and 81 acres developed under this permit. Well 1, drilled in 1985, is constructed with a 14-inch casing to 507 feet and is currently equipped with a 125-hp pump. Well 2, drilled in 2005 as a replacement well, is constructed with a 16-inch casing to 398 feet, 10-inch casing from 399 to 426 feet, 10-inch screen from 426 to 531 feet and is currently equipped with a 300-hp pump. The wells are located at high points within the farm, and have a normal discharge pressure for irrigation of 50 psi. Both well pumps are variable speed, with speed modulated to maintain a set point pressure.

Theoretical capacity for both wells, when combined, is estimated at 6.47 cfs at 50 psi; 1.98 cfs for Well 1 and 4.49 cfs for Well 2. Measured diversion rate from Wells 1 and 2 of 5.68 cfs at 48-50 psi was less than theoretical because Well 2 was operating at less than full speed. Measured diversion rate with Well 2 operating at 30 psi and Well 1 operating at 48 psi was 7.13 cfs. Full permit diversion rate for this right (63-31262), combined with decreed rates for 63-3359 and 63-7874, is 5.60 cfs. Therefore, the two wells have excess capacity to supply the two decreed rights and this permit.

The diversion rate for decrees 63-3359 and 63-7874 is 3.98 cfs total for irrigation and stockwater, not to exceed 2.78 cfs and 625.5 afa for irrigation use. This right, when combined with 63-3359 and 63-7874, should be limited to diversion of 4.4 cfs and 990 afa for irrigation use.

Water-bearing zone permitted was 300 to 500 feet. Water bearing zone developed in Well 2 (replacement) is approximately 420 to 520 feet. Well 1 has a water-bearing zone of approximately 350 to 507 feet, and was developed prior to the permit and not subject to a restricted water-bearing zone.

Attachment A is a copy of the permit and proof of beneficial use

Attachment B is the well driller's reports

Attachment C is the theoretical flow calculations for the wells

Attachment D is a topographical map and aerial photo

Attachment E is photos of the place of use and wells.

Has the permit holder met all conditions of permit approval, including any mitigation requirements and/or measuring device installation requirements? ☐ Yes ☒ No If no, what must be done to meet the permit requirements?

The permit holder met all conditions of permit approval, except that the water-bearing zone appropriated is slightly deeper than the permitted water-bearing zone. The permit/license should be modified to show a water-bearing zone of 350 to 535 feet rather than 300 to 500 feet.

F. FLOW CALCULATIONS

Additional computation sheets attached

Measured Method:

6.47 cfs theoretical system capacity at 50 psi (See Attachment C)

7.13 cfs measured capacity

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 81 \times 4.5 = 364.5$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = 1.62 \times 260 \times 1.9835 = 835.5$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 364.5$$

2. Volume Calculations for Other Uses:

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	1.62	364.5
Totals:			1.62	364.5

2. Recommended Amendments

☐ Change P.D. as reflected on page 1 ☐ Add P.D. as reflected on page 1 ☐ None

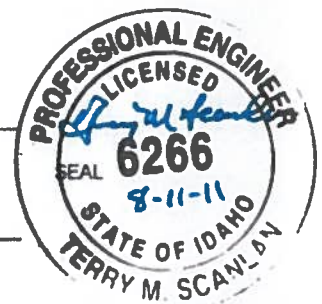
☐ Change P.U. as reflected on page 1 ☐ Add P.U. as reflected on page 1 ☒ Other

Change water-bearing zone to 350 to 535 feet.

I. AUTHENTICATION

Field Examiner's Signature Terry M. Scanlan Date August 11 2011

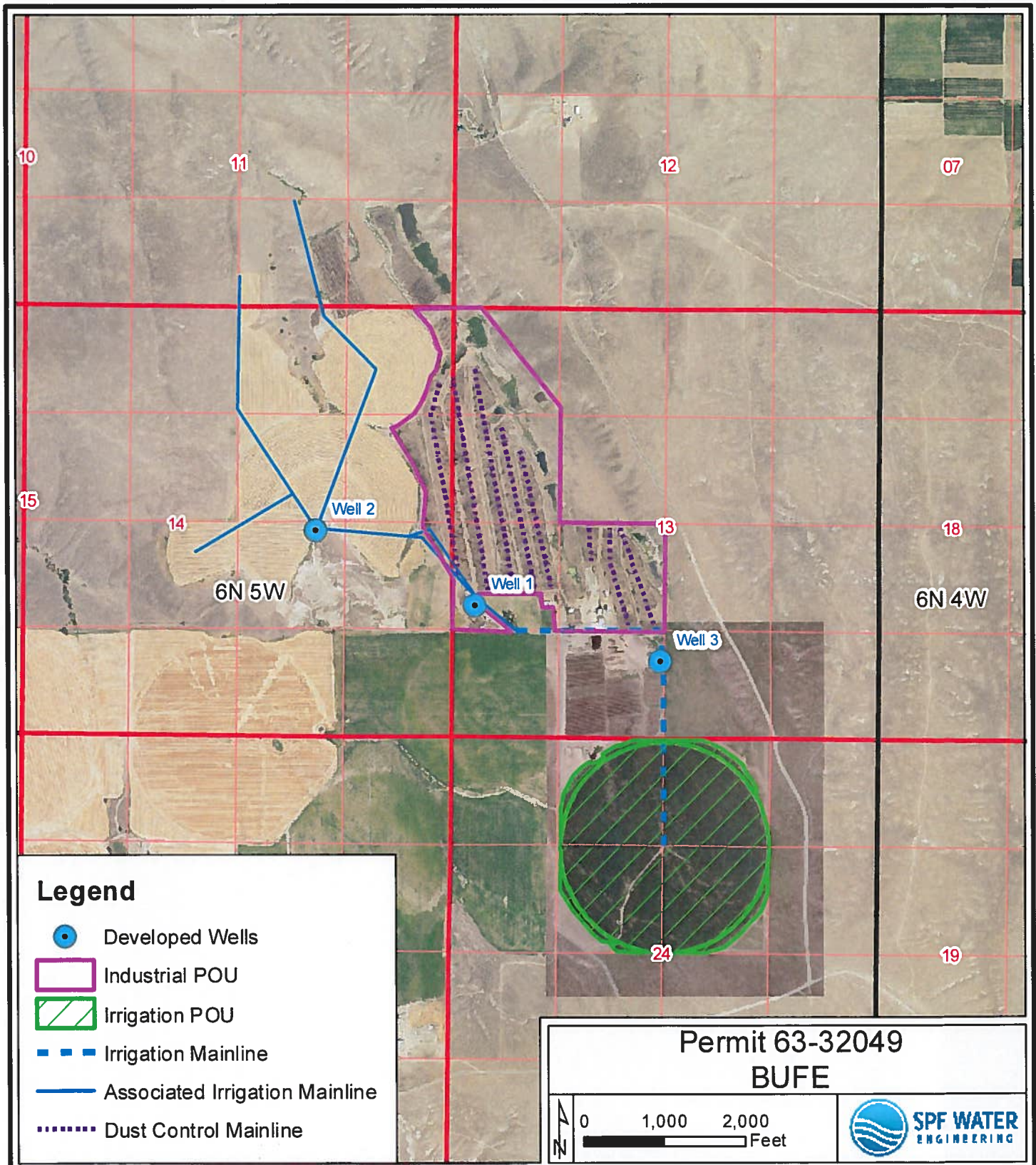
Reviewer _____ Date _____



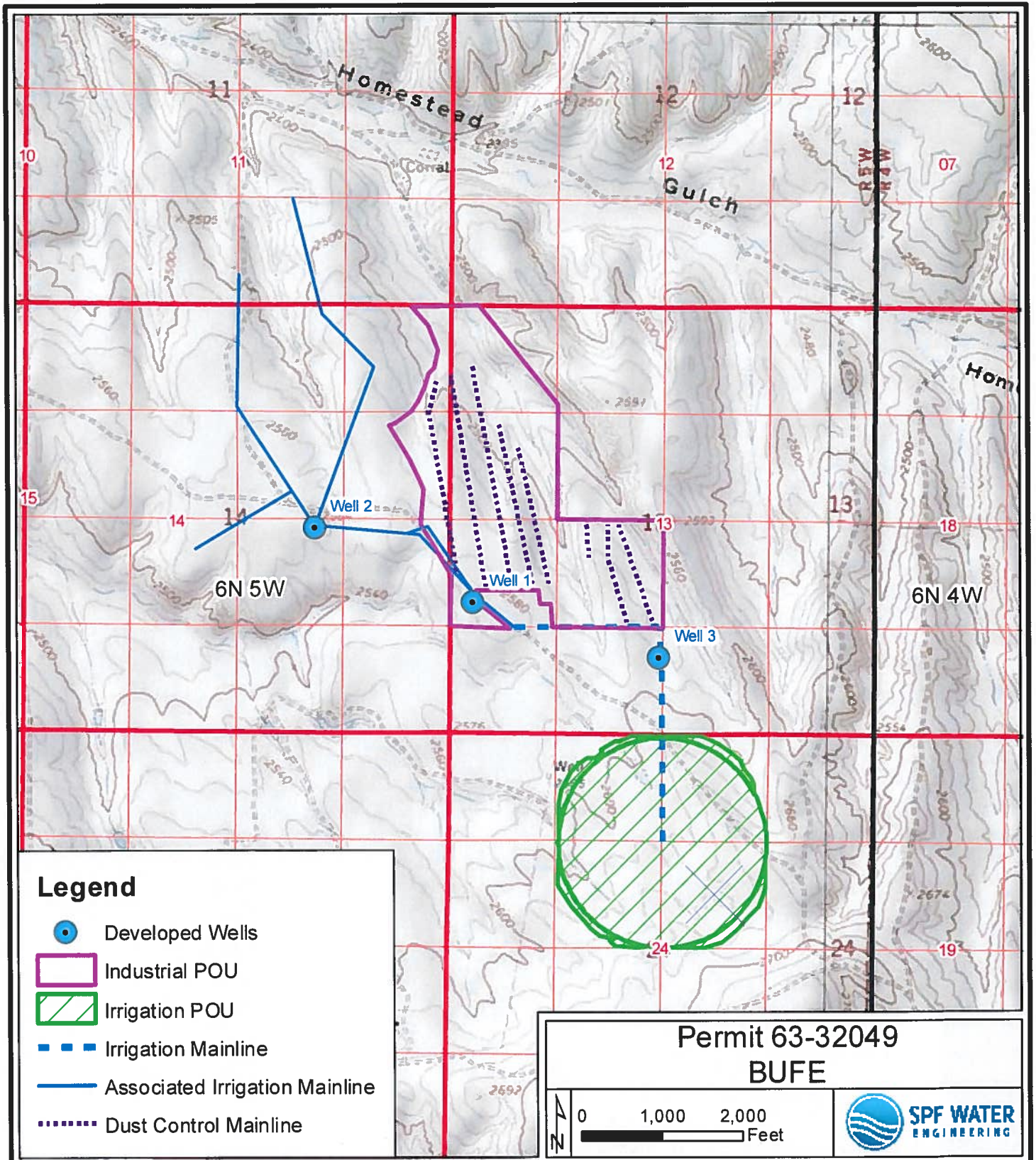
ATTACHMENT E

**TOPO MAP, 2013 AERIAL PHOTO WITH
2015 GOOGLE PHOTO OVERLAY**

Photo Map



Topo Map



ATTACHMENT F
PHOTOS

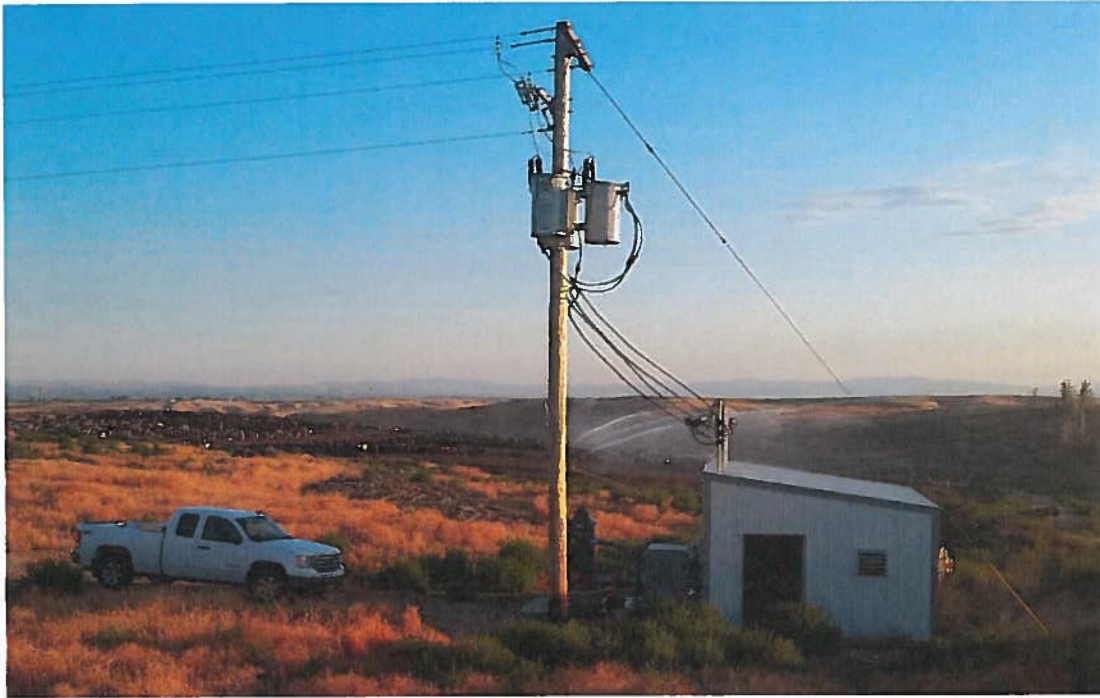


Photo 1: SESW well site facing northerly.



Photo 2: SESW well site facing northeasterly.

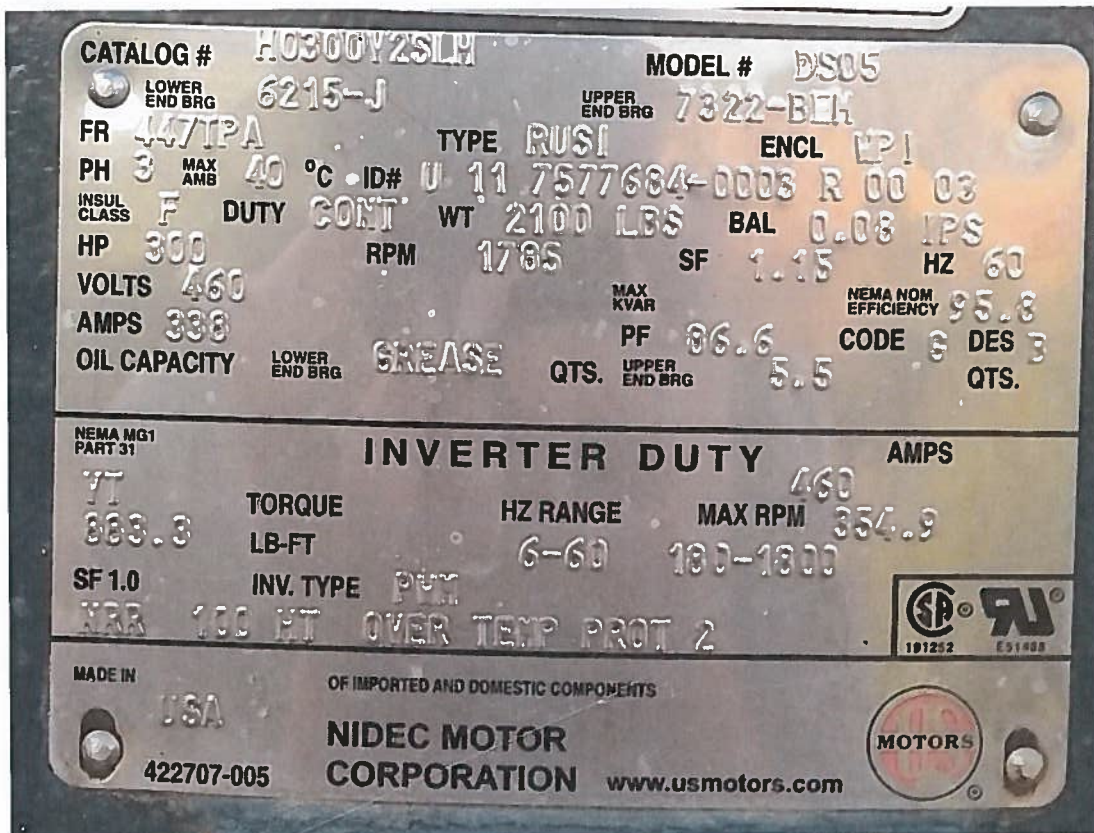


Photo 3: Motor plate showing 300HP motor installed.



Photo 4: Photo of the installed Seametrics AG2000-1000 10-inch flow meter on the well discharge pipeline.



Photo 5: Photo of the Seametrics readout screen. The Seametrics permanent flowmeter averaged 1,768 gpm over a 9 minute 13 second time period while the 10-minute averaged portable flow meter measurement computed to 1,713 gpm, a difference of slightly more than 3%.



Photo 6: IDWR Drilling Permit ID Tag. Well tag was very difficult to read but examiner was able to make out D0064???6 which coincides with the Drilling Permit number noted on the well driller report of D0064416



Photo 7: Photo of Pump Discharge Manifold. The south 10-inch branch (right) delivers water to the south pivot while the north 8-inch branch (left) delivers water for the industrial dust control and interconnects the well system.



Photo 8: Dust Control sprinklers in operation in stock pens.



Photo 9: Photo of South Pivot in operation