

MEMORANDUM

TO: Water Right File 61-7619

FROM: Daniel Nelson – Analyst 3

DATE: November 7, 2019

SUBJECT: Licensing Review of Water Right 61-7619

The field exam for this right was performed by Certified Field Examiner Terry Scanlan of SPF Water Engineering (SPF).

History and Overlap:

The application for permit for this water right was filed in 1989 for a carwash and home for 0.10 cfs for commercial use and 0.04 cfs for domestic use. In the application for permit, the applicant stated that the well was drilled on July 5, 1985, and put to use in the carwash at that time. The well driller's report confirms that the well was drilled in 1985. The permit was held, because it was within the borders of the Mountain Home Ground Water Manage Area. Several communications went back and forth between the owner and the Department until November of 2009, when the Department received an amendment of application from Lori Graves of SPF on behalf of the permit holder.

The amendment reduced the water use of the commercial use to 0.04 cfs and 2,500 gpd and the domestic use to 0.04 cfs and 13,000 gpd to comply with Processing Administrative Memorandum #47. By reducing the water use in the application, the application could be processed. The carwash continued to be in place during this time operating under the domestic exemption criteria authorized by Idaho Codes § 42-227 and 42-111. The permit was subsequently approved on February 4, 2010, and given until 5 years to develop the permit.

On August 11, 2011, a water right transfer was approved that changed the nature of use of water rights 61-12267 and 61-12265 that authorized an additional 0.02 cfs and 6.0 af for commercial use for the carwash. These rights were held in the Water Supply Bank until December 7, 2011, when they were released for use in the carwash.

On February 1, 2015, an extension of time to provide proof of beneficial use was approved for this permit. The extension request stated that commercial use had been completed, and additional pump capacity and infrastructure had been added to the commercial system, but the domestic use hadn't been completed.

On October 28, 2019, the Department received a proof of beneficial use and field report for this permit.

Field Report:

The field report submitted by Mr. Scanlan was very well done. Mr. Scanlan showed that the car wash generally used an average of 5,039 gpd from January 2019 to September 2019. I agree that this average would be representative of what was diverted in 2010. These averages also suggest that the maximum volume that has been diverted for this commercial use would be approximately 5.6 af per year ($[5,039 \text{ ave gpd} \times 365 \text{ days}] / 325850 = 5.644 \text{ af/yr}$).

Mr. Scanlan also showed that the pump diverts a maximum of 0.05 cfs through a reading of the owner's flow meter and the pump curve for this system. This information suggests that the capacity of the system is 0.05 cfs and 5.6 af per year.

This permit authorizes 0.04 cfs and 2500 gpd and the two water rights transferred into this system are limited to 0.02 cfs and 6.0 af. Based on the system, this permit should be limited to 0.05 cfs and 6.0 af when this permit is combined with water rights 61-12265 and 61-12267. We cannot license this permit beyond the existing water rights or the capacity of the system. Therefore, a condition will need to be included on the license to limit the diversion rate to the maximum capacity of the pump of 0.05 cfs. The maximum annual use is less than the volume authorized by water rights 61-12265 and 61-12267, and we cannot reduce to combined annual volume without reducing or forfeiting a portion of water rights 61-12265 and 61-12267. Therefore, I am recommending the combined limit of 6.0 af when all three rights are combined.

I agree with Mr. Scanlan's report that the domestic use for the home should be removed at licensing.

Conditions:

Conditions 26A, X01, 187, and 121 should be removed at licensing. Condition 121 should be replaced with condition 103 as is standard. An X35 condition should be added that limits the use of 61-7619, 61-12265, and 61-12267 when combined to 0.05 cfs and 6.0 af. Water rights 61-12265 and 61-12267 alone place this diversion and water use in water district 161. The owner of this right has been notified of the water district requirements, and has already installed a flow meter on this system. Therefore, this permit should be licensed with water district conditions R05.



SPF WATER
ENGINEERING

RECEIVED

OCT 28 2019

DEPARTMENT OF
WATER RESOURCES

October 25, 2019

Dan Nelson
Idaho Department of Water Resources
PO Box 83720
Boise, ID 83720-0098-7371

Subject: 61-7619 – Proof of Beneficial Use and Beneficial Use Field Report

Dear Dan:

Enclosed on behalf of William Van Handel is the Statement of Completion for Submitting Proof of Beneficial Use and Beneficial Use Field Report for permit 61-7619.

Please contact me with any questions.

Sincerely,

Terry M. Scanlan, P.E., P.G.
Principal Engineer/Hydrogeologist

Cc: Bill Van Handel

Enclosures

SPF file number: 829.0010

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

RECEIVED

OCT 28 2019

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. 61-76191. Owner William Van HandelPhone No. 916-768-7311Current address PO Box 231, Mountain Home, ID 836472. Examiner's name Terry Scanlan, P.E., P.G., CWRE 129EXAM DATE October 22 20193. Accompanied by William Van HandelEmail willyvanh@hotmail.comAddress PO Box 231, Mountain Home, ID 83647Relationship to permit holder permit holderPhone No. 916-768-73114. Source Ground Water

tributary to _____

B. OVERLAP REVIEW1. Other water rights with the same place of use 61-12265 and 61-122672. Other water rights with the same source and point of diversion 61-12265 and 61-12267**C. DIVERSION AND DELIVERY SYSTEM**

1. Point(s) of Diversion:

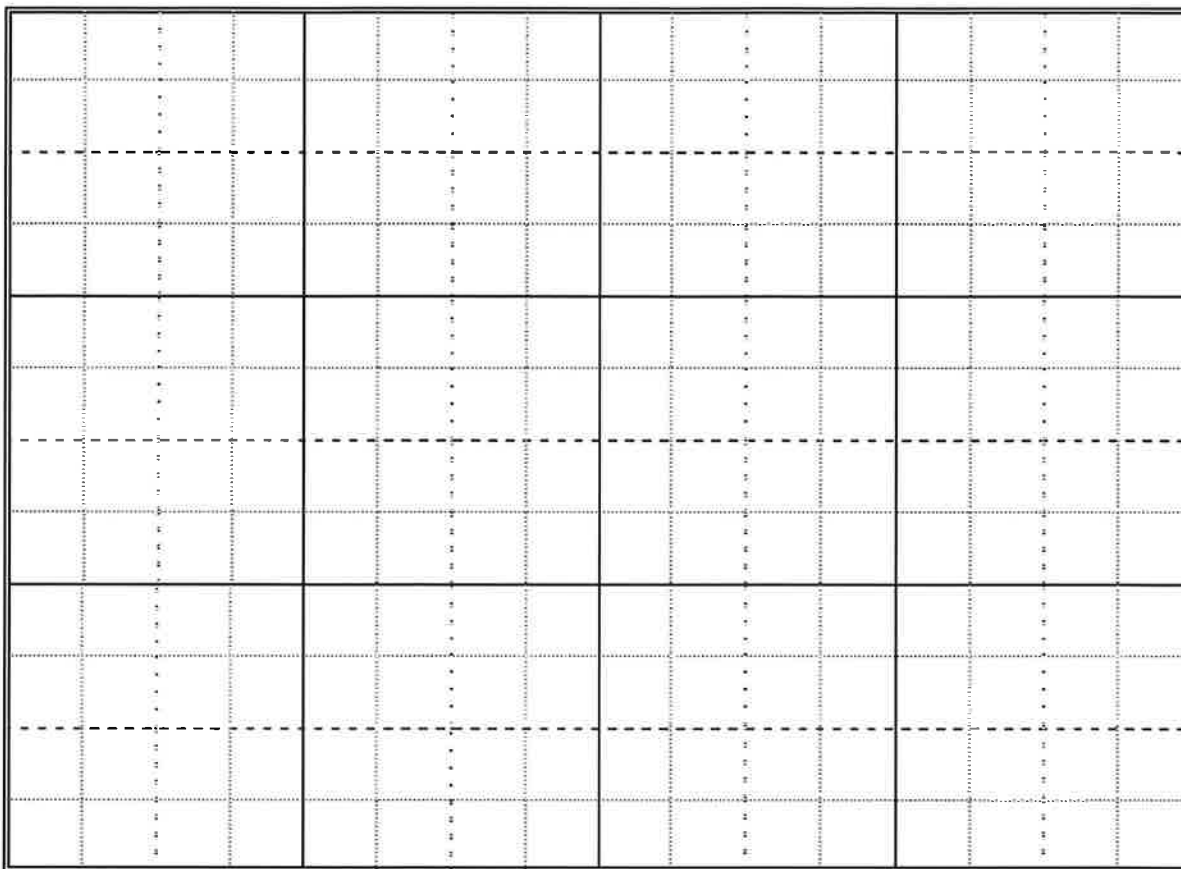
Ident. No.	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County	Method of Determination/Remarks
			SW	SW	26	3S	6E	Elmore	2017 aerial photo, BUFE

2. Place(s) of Use:

Method of determination 2017 aerial photo, BUFE

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
3S	6E	26											C						

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
Bill Van Handle Well	Franklin Electric	5	18A14-25-00096C	Franklin	1.25-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	ultrasonic	Netafim	Octave	172086983	2-inch	August 23, 2017
						installed in 2018

2. **Measurements:** _____

The pump was operated at full capacity for approximately 20 minutes with a stabilized pumping rate of 22 gpm (261 gallons in 12 minutes) at a discharge pressure of 30 psi.

E. NARRATIVE/REMARKS/COMMENTS

Permit 61-7619 authorizes diversion of 0.04 cfs for commercial use at a car wash and domestic use at one home (including up 1/2 acre of irrigation). The car wash was established in the 1980s, with water supply from a well drilled in 1985 for that purpose. The owner applied for water right permit 61-7619 in 1989 seeking 0.10 cfs commercial and 0.04 cfs domestic. The application was not processed due to ground water management area restrictions. The application was amended in 2009 to 0.04 cfs domestic and commercial with a 2500 gpd limit. The permit was approved for these amounts on February 4, 2010. At the time of permit approval, the car wash facility was fully developed, but no domestic uses had been developed. The permit holder purchased an additional 0.02 cfs and 6.0 af (61-12265 and 61-12267) and transferred the rights to the car wash facility for commercial use. The transfer was approved on August 26, 2011 and the transferred water rights were released from the Idaho Water Supply Bank on December 2, 2011. During the 22 month period from permit approval until the transferred water rights were released from the bank, permit 61-7619 was the only authorized water right for the car wash facility. An extension request was requested in 2015 because the domestic and landscape uses for the facility had not been developed. After 2015, the only additional uses developed was drip-irrigated landscaping in 2018. The proposed home was not developed. Landscape drip irrigation is included as a commercial use component under 61-12265 and 61-12267 rate and volume.

Monitoring of diversions beginning in 2019 (Attachment E) shows an average use of 5039 gpd between January and September 2019. Since the car wash was fully developed prior to permit approval in 2010 (Attachment F), it is likely that the use has not increased significantly since 2010 (except for summer drip irrigation). Thus, at least 2500 gpd was being diverted in 2010-2011. Pump records (Attachment D) indicate that the previous pump (installed in 2006 and replaced in 2014) was a 25 gpm model. Therefore, the full 0.04 cfs (18 gpm) authorized under the permit was being diverted in 2010-2011. Thus, the permit commercial use was fully developed in the first year of the permit, prior to transfer of additional water to the facility.

System consists of a well (6"x550) feet with a 5-hp 230v 3-phase variable speed submersible pump set on 483 feet of 1.5-inch galvanized pipe. The pump discharges through a pitless adapter to a pump house with hydropneumatic tank, flow meter, backflow preventer, and manifold to irrigation or car wash use. Buried pipe extends to mechanical room of car wash where the water is heated, treated (softening and RO), and boosted for car washing.

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?

Attachment A: Permit Record and Proof of Beneficial Use

Attachment B: Topographical Map and 2017 aerial photo map

Attachment C: Exam photos

Attachment D: Well, Pump, and Flow Meter Information

Attachment E: Flow Monitoring Records

Attachment F: Historical Aerial Imagery

F. FLOW CALCULATIONS☐ Additional computation sheets attached

Measured Method:

Flow Meter - instantaneous and totalized measurements of 22 gpm (0.05 cfs)

Pump Curve - 23 gpm (0.05 cfs) @ 567 ft TDH

TDH based on static water level (468 ft) + drawdown (10 ft est) + discharge pressure (30 psi, 69 ft) + headloss in 483 ft drop pipe, 50 feet buried pipe to well house, check valves and pitless adapter (20 feet) = 567 ft

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

 $V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$ _____ $V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 =$ _____ $V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$ _____

2. Volume Calculations for Other Uses:

Given that the car wash facility was fully developed in 2010, and the City of Mountain Home has not had significant growth since that time, it is reasonable to assume that 2010 daily diversions were only slightly less than 2019 (5000 gpd) daily diversions. As a result, the full daily volume allowed under the permit was being diverted during the 22 month period prior to the transferred water right being available for diversion. Therefore, the annual volume authorized under the permit (2500 gpd x 365 days = 2.8 afa) was developed during the 2010-2011 period.

H. RECOMMENDATIONS**1. Recommended Amounts**

Beneficial Use	Period of Use		Rate of Diversion	Annual Volume
	From	To	Q (cfs)	V (afa)
Commercial	1/1	12/31	0.04 cfs	2.8 afa
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
Totals:			0.04 cfs	2.8 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

Terry M. Scanlan

Date

10/24/19

Reviewer _____

Date _____



Attachment A
Permit Record, Proof of Beneficial Use



[Home](#) / [Water Rights](#) / [Research](#) / [Search Water Rights](#)

WATER RIGHT REPORT

10/22/2019

IDAHO DEPARTMENT OF WATER RESOURCES

Water Permit Report

WATER RIGHT NO. 61-7619

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	WILLIAM VAN HANDEL PO BOX 231 MOUNTAIN HOME, ID 83647 2083662540
Representative	SPF WATER ENGINEERING LLC C/O LORI GRAVES 300 E MALLARD DR STE 350 BOISE, ID 83706-6660 ~~2083834140~~ 208-631-2694

Priority Date: 12/06/1989

Status: Active

<u>Source</u>	<u>Tributary</u>
GROUND WATER	

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
COMMERCIAL	01/01	12/31	0.04 CFS	
DOMESTIC	01/01	12/31	0.04 CFS	
Total Diversion			0.04 CFS	

Location of Point(s) of Diversion:

GROUND WATER|SWSW|Sec. 26|Township 03S|Range 06E|ELMORE County

Place(s) of use:

Place of Use Legal Description: COMMERCIAL ELMORE County

<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>
03S	06E	26		SWSW										

Place of Use Legal Description: DOMESTIC ELMORE County

<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>
03S	06E	26		SWSW										

Conditions of Approval:

1. 26A 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.
2. X01 Domestic use is for 1 home.
3. 187 The irrigation occurring under this domestic use shall not exceed 1/2 acre.
4. Commercial use is for a car wash facility.
5. X03 The daily diversion volume for all uses authorized under this right shall not exceed 2,500 gallons per day.
6. 121 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.

Dates:

Proof Due Date: 02/01/2020

Proof Made Date:

Approved Date: 02/04/2010

Moratorium Expiration Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Application Received Date: 12/06/1989

Protest Deadline Date: 01/25/2010

Number of Protests: 0

Field Exam Date:.

Date Sent to State Off:

Date Received at State Off:

Other Information:

State or Federal:

Owner Name Connector:

Water District Number: TBD

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

DLE Act Number:

Cary Act Number:

Mitigation Plan: False

State of Idaho
Department of Water Resources
Permit To Appropriate Water
61-7619

COMMERCIAL

The map depicts the place of use for the water use listed above and point(s) of diversion of this right as currently derived from interpretations of the paper records and is used solely for illustrative purposes. Discrepancies between the computer representation and the permanent document file will be resolved in favor of the actual water right documents in the water right file.

06E



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

0 0.035 0.07 0.14 Miles



State of Idaho
Department of Water Resources

Permit To Appropriate Water
61-7619

DOMESTIC

The map depicts the place of use for the water use listed above and point(s) of diversion of this right as currently derived from interpretations of the paper records and is used solely for illustrative purposes. Discrepancies between the computer representation and the permanent document file will be resolved in favor of the actual water right documents in the water right file.

06E

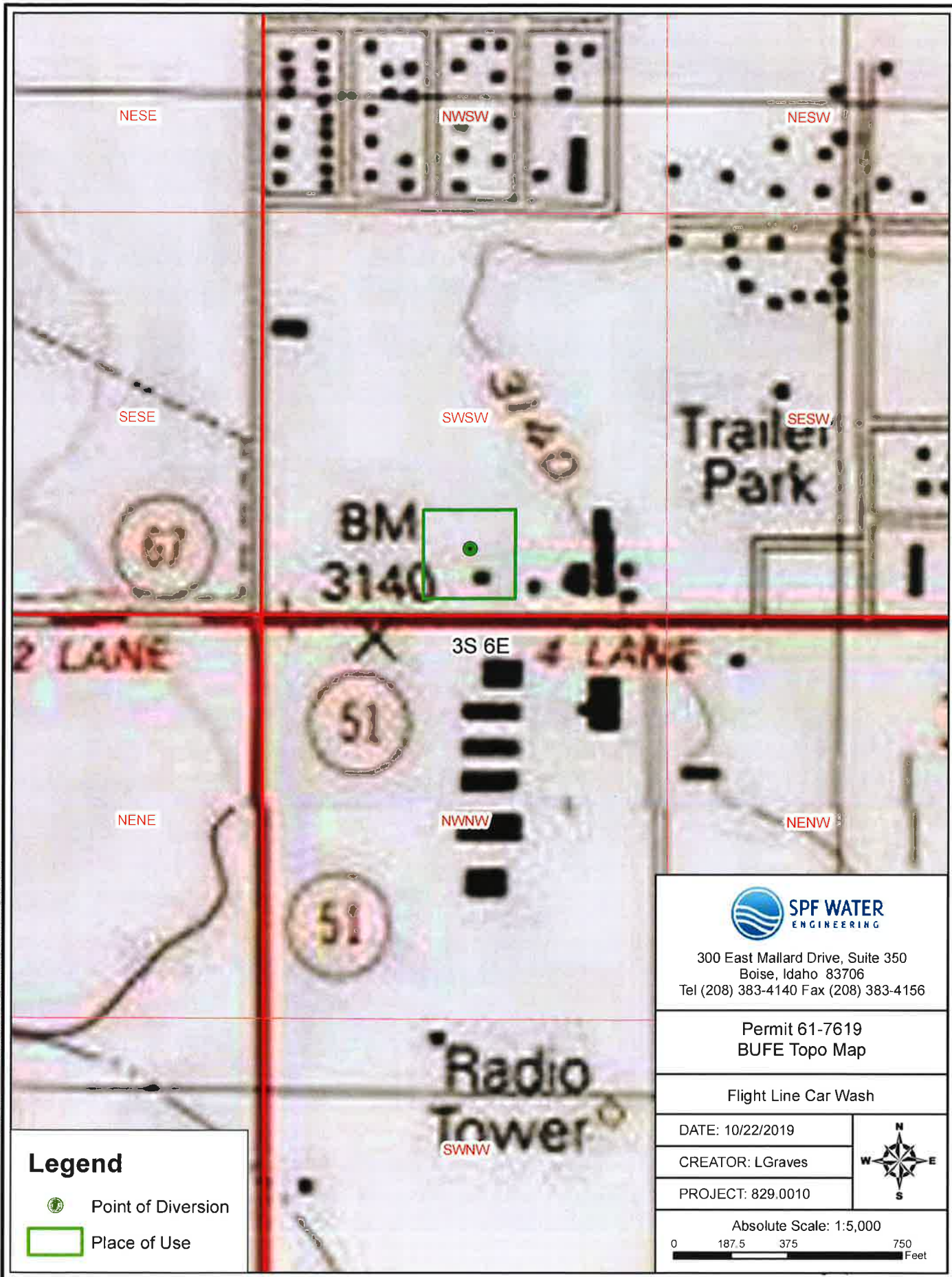


-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters

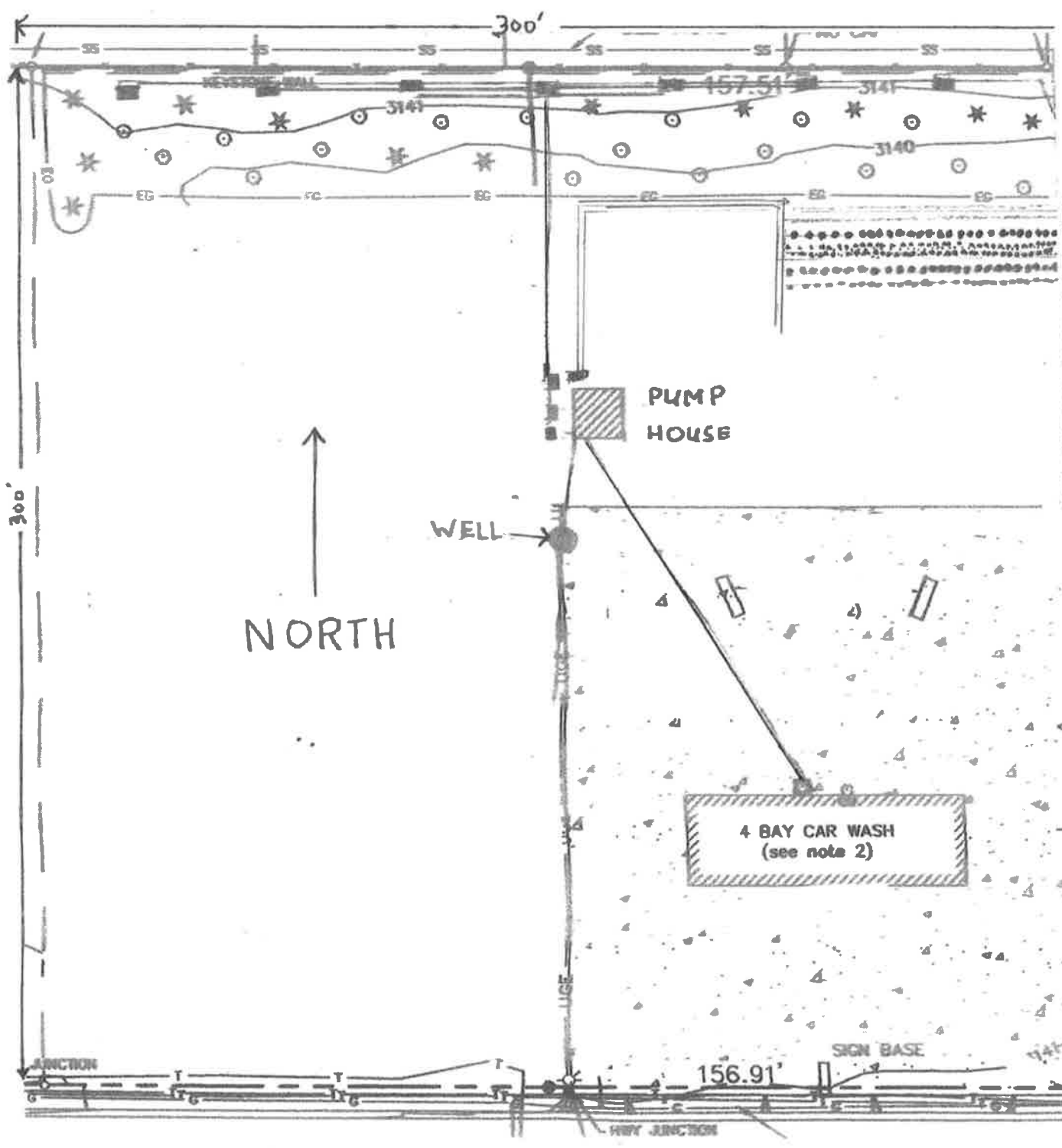
0 0.035 0.07 0.14 Miles



Attachment B
Topographical Map and 2017 Aerial Photo Map







HELP ELMORE COUNTY, IDAHO PARCEL INFORMATION SYSTEM

Map navigation tools: Measure, Print, Identify, Salvage, Refresh Parcel, Refresh All, Save View

Buttons: Catalog, Favorites, Visible, Super Tab

End Drawing

Identify Results

2 3

Details Improvements Assess Info Photo

Print Page

Parcel Details

PIN: 0003506266350

Homeowner: VAN MANDEL, WILLIAM
In Care of: S
Homeowner Address: P O BOX 231
Homeowner Address:
Homeowner City: MTN HOME
Homeowner State: ID
Site Address: 1430 AGR BASE RD
Site City: 83617
Tax Code Area: 520000
Deed(s): 35120820, QCD 130001, QCD 121208, GO 35666, GO 31590, QCD 181301
Legal Description(s): TAX 121, SEC 26, T3S 16E, S
Category(s): (12)23
Total Acres: 2

3-2-2-for Idaho

HELP DOC IS LOCATED AT TOP RIGHT. DID YOU KNOW THAT YOU CAN EXPORT THE MAP DATA FOR AND IMPORT INTO

X,Y - 12861352.5, 5331282.3 USNG 11T PH 0451 7569 Lat/Lon 43.127, -115.715

Elmore County Tax Parcel information

Attachment C
Exam Photos

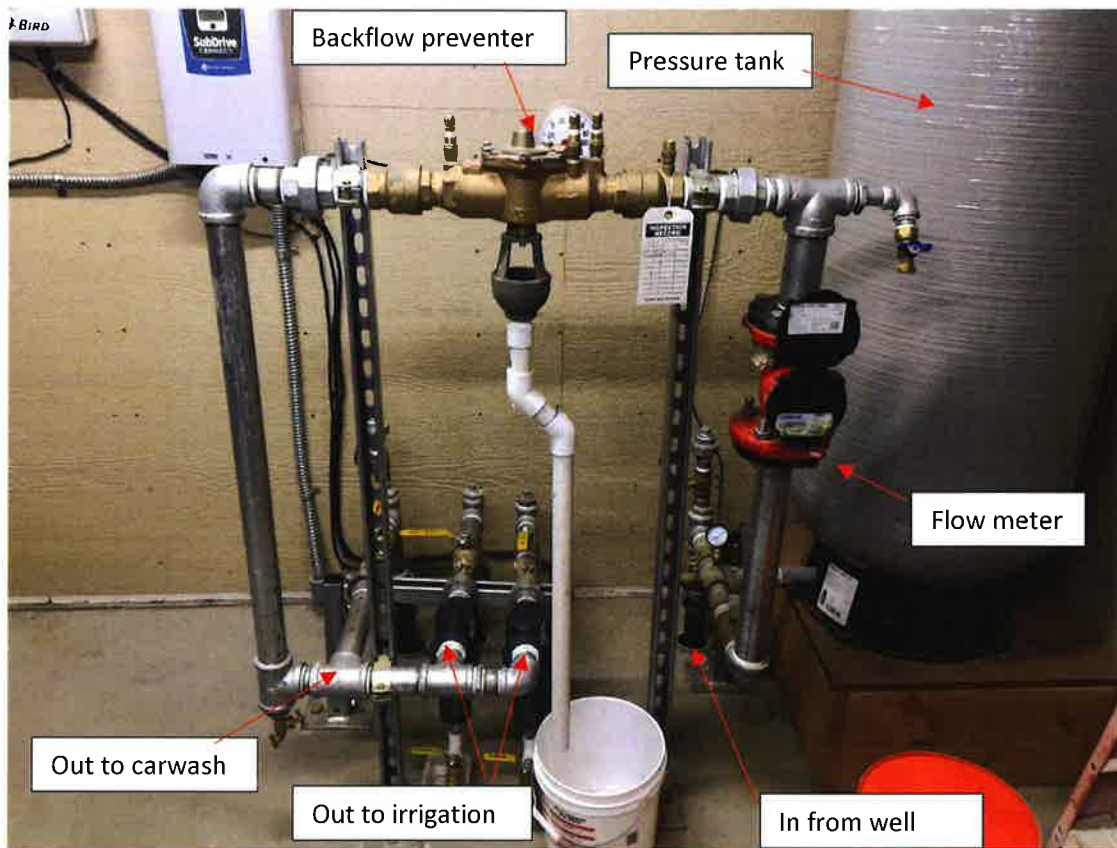




Well, with pump house in background. Dotted line shows approximate location of buried water line from well to pump house, and buried water lines from pump house to car wash and drip irrigation.



Well with car wash in background



Mechanical piping in pump house





Hydropneumatic tank



Variable frequency drive



Flow meter cover



Flow meter display



Car wash mechanical room – water softener



Car wash mechanical room – water heater



Car wash mechanical room – reverse osmosis for spot free rinse water



Car wash mechanical room – toilet and utility sink



Car wash mechanical room – soap injection systems



Car wash mechanical room – high-pressure pumps



Car wash bay (typical of 4)





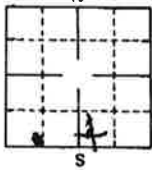
Landscape trees and shrubs on drip irrigation



Attachment D
Well, Pump, and Flow Meter Information

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources
within 30 days after the completion or abandonment of the well.

1. WELL OWNER Name <u>Bill Van Handle</u> Address <u>Mt Home</u> Owner's Permit No. _____		7. WATER LEVEL Static water level <u>410</u> feet above land surface Flowing? ☐ Yes ☒ No G.P.M. flow _____ Artesian closed-in pressure _____ p.s.i. Controlled by: ☐ Valve ☐ Cap ☐ Plug Temperature _____ °F. Quality _____ Describe artesian or temperature zones below.																																																																																																																																																																																																																							
2. NATURE OF WORK ☒ New well ☐ Deepened ☐ Replacement ☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)		8. WELL TEST DATA ☐ Pump ☐ Bailer ☒ Air ☐ Other _____ Discharge G.P.M. <u>25</u> Pumping time _____ Hours Pumped _____ RECEIVED JUL 25 1985																																																																																																																																																																																																																							
3. PROPOSED USE ☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection ☐ Other _____ (specify type)		9. LITHOLOGIC LOG Department of Water Resources Western Regional Office <u>080769</u>																																																																																																																																																																																																																							
4. METHOD DRILLED ☒ Rotary ☒ Air ☐ Hydraulic ☐ Reverse rotary ☐ Cable ☐ Dug ☐ Other _____		<table border="1"><thead><tr><th rowspan="2">Bore Diam.</th><th colspan="2">Depth</th><th rowspan="2">Material</th><th colspan="2">Water</th></tr><tr><th>From</th><th>To</th><th>Yes</th><th>No</th></tr></thead><tbody><tr><td>6"</td><td>0</td><td>13</td><td>Top soil</td><td></td><td></td></tr><tr><td></td><td>13</td><td>16</td><td>gray lava</td><td></td><td></td></tr><tr><td></td><td>16</td><td>30</td><td>Brown clay</td><td></td><td></td></tr><tr><td></td><td>30</td><td>47</td><td>Brown clay & gravel</td><td></td><td></td></tr><tr><td>8"</td><td>47</td><td>65</td><td>gray lava</td><td></td><td></td></tr><tr><td></td><td>65</td><td>66</td><td>Brown clay</td><td></td><td></td></tr><tr><td></td><td>66</td><td>88</td><td>Gray lava</td><td></td><td></td></tr><tr><td></td><td>88</td><td>92</td><td>Brown lava</td><td></td><td></td></tr><tr><td></td><td>92</td><td>94</td><td>Brown clay</td><td></td><td></td></tr><tr><td></td><td>94</td><td>97</td><td>Brown lava</td><td></td><td></td></tr><tr><td></td><td>97</td><td>100</td><td>gray lava</td><td></td><td></td></tr><tr><td></td><td>100</td><td>101</td><td>Brown clay</td><td></td><td></td></tr><tr><td></td><td>101</td><td>103</td><td>Brown lava</td><td></td><td></td></tr><tr><td></td><td>103</td><td>108</td><td>Brown lava - cinder</td><td></td><td></td></tr><tr><td></td><td>108</td><td></td><td>Loss of return</td><td></td><td></td></tr><tr><td></td><td>322</td><td></td><td>Return recovered</td><td></td><td></td></tr><tr><td></td><td>322</td><td>334</td><td>gray lava</td><td></td><td></td></tr><tr><td></td><td>334</td><td>339</td><td>Black cinders</td><td></td><td></td></tr><tr><td></td><td>339</td><td>341</td><td>Brown lava</td><td></td><td></td></tr><tr><td></td><td>341</td><td>350</td><td>gray lava & cinder</td><td></td><td></td></tr><tr><td></td><td>350</td><td></td><td>Loss of return</td><td></td><td></td></tr><tr><td></td><td>402</td><td></td><td>Return recovered</td><td></td><td></td></tr><tr><td></td><td>402</td><td>443</td><td>Brown lava</td><td></td><td></td></tr><tr><td></td><td>443</td><td>446</td><td>gray lava</td><td></td><td></td></tr><tr><td></td><td>446</td><td>447</td><td>Brown gray lava</td><td></td><td></td></tr><tr><td></td><td>447</td><td>475</td><td>gray lava</td><td></td><td></td></tr><tr><td></td><td>475</td><td>477</td><td>gray lava & cinder</td><td></td><td></td></tr><tr><td></td><td>477</td><td>479</td><td>gray lava</td><td></td><td></td></tr><tr><td></td><td>479</td><td>481</td><td>Black cinders</td><td></td><td></td></tr><tr><td></td><td>481</td><td>486</td><td>gray lava</td><td></td><td></td></tr><tr><td></td><td>486</td><td>487</td><td>gray lava & cinder</td><td></td><td></td></tr><tr><td></td><td>487</td><td>500</td><td>gray lava</td><td></td><td></td></tr><tr><td></td><td>500</td><td>523</td><td>gray lava & cinder</td><td></td><td></td></tr><tr><td></td><td>523</td><td></td><td></td><td></td><td></td></tr></tbody></table>		Bore Diam.	Depth		Material	Water		From	To	Yes	No	6"	0	13	Top soil				13	16	gray lava				16	30	Brown clay				30	47	Brown clay & gravel			8"	47	65	gray lava				65	66	Brown clay				66	88	Gray lava				88	92	Brown lava				92	94	Brown clay				94	97	Brown lava				97	100	gray lava				100	101	Brown clay				101	103	Brown lava				103	108	Brown lava - cinder				108		Loss of return				322		Return recovered				322	334	gray lava				334	339	Black cinders				339	341	Brown lava				341	350	gray lava & cinder				350		Loss of return				402		Return recovered				402	443	Brown lava				443	446	gray lava				446	447	Brown gray lava				447	475	gray lava				475	477	gray lava & cinder				477	479	gray lava				479	481	Black cinders				481	486	gray lava				486	487	gray lava & cinder				487	500	gray lava				500	523	gray lava & cinder				523				
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WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources
within 30 days after the completion or abandonment of the well.

1. WELL OWNER Name <u>Bill Van Handel</u> Address <u>Butt Mt Home</u> Owner's Permit No. _____	7. WATER LEVEL Static water level <u>410</u> feet below land surface. Flowing? ☐ Yes ☐ No G.P.M. flow _____ Artesian closed-in pressure _____ p.s.i. Controlled by: ☐ Valve ☐ Cap ☐ Plug Temperature _____ °F. Quality _____ Describe artesian or temperature zones below.																																		
2. NATURE OF WORK ☐ New well ☐ Deepened ☐ Replacement ☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)	8. WELL TEST DATA ☐ Pump ☐ Bailer ☐ Air ☐ Other _____ <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th>Discharge G.P.M.</th><th>Pumping Level</th><th>Hours Pumped</th></tr></thead><tbody><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></tbody></table>	Discharge G.P.M.	Pumping Level	Hours Pumped																															
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3. PROPOSED USE ☐ Domestic ☐ Irrigation ☐ Test ☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection ☐ Other _____ (specify type)	9. LITHOLOGIC LOG 080770 <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th rowspan="2">Bore Diam.</th><th colspan="2">Depth</th><th rowspan="2">Material</th><th colspan="2">Water</th></tr><tr><th>From</th><th>To</th><th>Yes</th><th>No</th></tr></thead><tbody><tr><td>6</td><td>323</td><td>324</td><td>Grey lava</td><td> </td><td> </td></tr><tr><td>1</td><td>324</td><td>325</td><td>Black cinders</td><td>✓</td><td> </td></tr><tr><td>1</td><td>325</td><td>348</td><td>Brown cinders</td><td>✓</td><td> </td></tr><tr><td>1</td><td>348</td><td>350</td><td>Grey lava</td><td> </td><td> </td></tr></tbody></table>	Bore Diam.	Depth		Material	Water		From	To	Yes	No	6	323	324	Grey lava			1	324	325	Black cinders	✓		1	325	348	Brown cinders	✓		1	348	350	Grey lava		
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4. METHOD DRILLED ☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary ☐ Cable ☐ Dug ☐ Other _____	RECEIVED JUL 25 1985 Department of Water Resources Western Regional Office RECEIVED JUL 24 1985 Department of Water Resources MICROFILMED																																		
5. WELL CONSTRUCTION Casing schedule: ☐ Steel ☐ Concrete ☐ Other _____ <table style="width: 100%;"><thead><tr><th>Thickness</th><th>Diameter</th><th>From</th><th>To</th></tr></thead><tbody><tr><td>_____ inches</td><td>_____ inches + _____ feet</td><td>_____ feet</td><td>_____ feet</td></tr><tr><td>_____ inches</td><td>_____ inches</td><td>_____ feet</td><td>_____ feet</td></tr><tr><td>_____ inches</td><td>_____ inches</td><td>_____ feet</td><td>_____ feet</td></tr><tr><td>_____ inches</td><td>_____ inches</td><td>_____ feet</td><td>_____ feet</td></tr></tbody></table> Was casing drive shoe used? ☐ Yes ☐ No Was a packer or seal used? ☐ Yes ☐ No Perforated? ☐ Yes ☐ No How perforated? ☐ Factory ☐ Knife ☐ Torch Size of perforation _____ inches by _____ inches <table style="width: 100%;"><thead><tr><th>Number</th><th>From</th><th>To</th></tr></thead><tbody><tr><td>_____ perforations</td><td>_____ feet</td><td>_____ feet</td></tr><tr><td>_____ perforations</td><td>_____ feet</td><td>_____ feet</td></tr><tr><td>_____ perforations</td><td>_____ feet</td><td>_____ feet</td></tr></tbody></table> Well screen installed? ☐ Yes ☐ No Manufacturer's name _____ Type _____ Model No. _____ Diameter _____ Slot size _____ Set from _____ feet to _____ feet Diameter _____ Slot size _____ Set from _____ feet to _____ feet Gravel packed? ☐ Yes ☐ No Size of gravel _____ Placed from _____ feet to _____ feet Surface seal depth _____ Material used in seal: ☐ Cement grout ☐ Bentonite ☐ Puddling clay ☐ _____ Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☐ Overbore to seal depth Method of joining casing: ☐ Threaded ☐ Welded ☐ Solvent Weld ☐ Cemented between strata Describe access port _____	Thickness	Diameter	From	To	_____ inches	_____ inches + _____ feet	_____ feet	_____ feet	_____ inches	_____ inches	_____ feet	_____ feet	_____ inches	_____ inches	_____ feet	_____ feet	_____ inches	_____ inches	_____ feet	_____ feet	Number	From	To	_____ perforations	_____ feet	_____ feet	_____ perforations	_____ feet	_____ feet	_____ perforations	_____ feet	_____ feet	10. Work started <u>7/5/85</u> finished <u>7/9/85</u>		
Thickness	Diameter	From	To																																
_____ inches	_____ inches + _____ feet	_____ feet	_____ feet																																
_____ inches	_____ inches	_____ feet	_____ feet																																
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HIDDLESTON
PUMP COMPANY

S/N

9382 2035
20-0475
M-25-000966

Name Flight Line Corwin Date Installed 8/14/06

Address Airbase Rd (P.O. Box 231) 7-11-14

Warranty 5

Pump Model F4P25X27 20 FA554PE 06F22

Motor Franklin HP 5 RPM 3450 Phase 3 Volts 230 Date 18A14 Code 06618

Static 458 462 468 Setting 483

Depth 553 Pipe 1 1/2 gal

Well NO TAG Wire No. 10/4

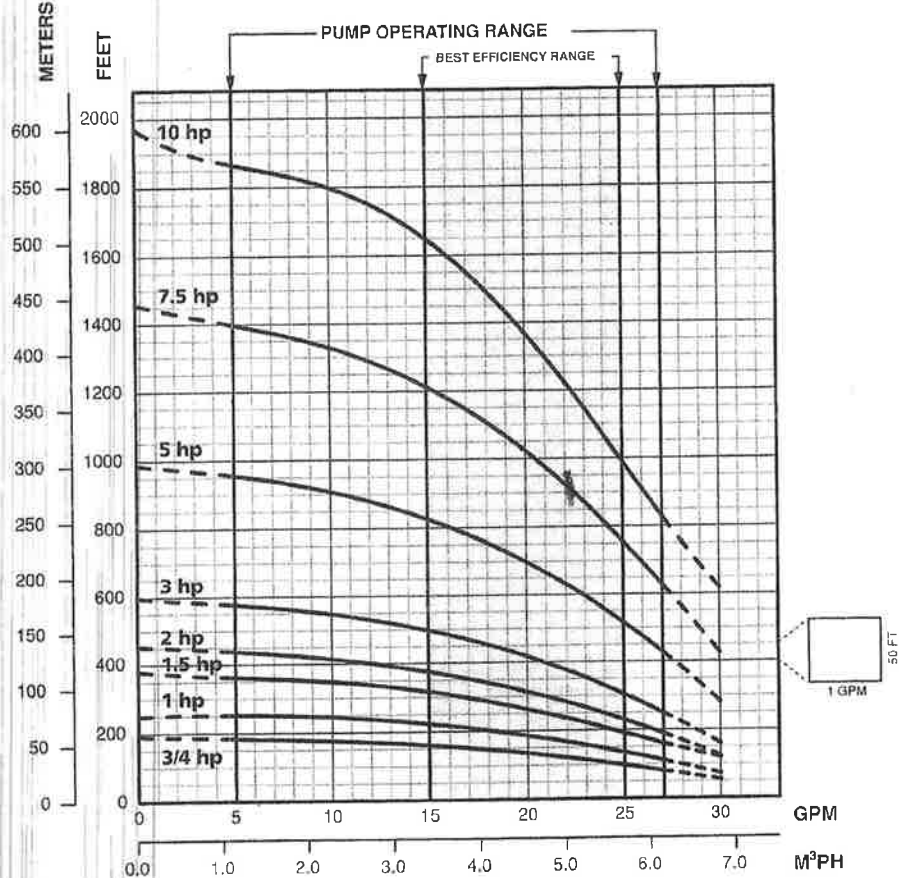
SUB DRIVE

SERVICE AND REPAIRS RECORD

Date	Invoice #	Description
10-31-13		Installed 2 H2PL82 tanks
" "		#8210118 & #8210318 (18896)
7/11/14	FL1101	INSTALLED NEW PUMP END 9382-2035
		REPLACED 84' OF 1 1/2 GAL
8/3/17		FLOW TEST
8/20/18		INSTALLED MANIFOLD, TANK TO TANK
		1 1/2 POLY SUB DRIVE, TOWNSHIP, TANK
		FLOW METER, TANK UNDER WARRANTY,
		H2PL82 (18896)
2/10/18		REPLACED MOTOR + 494' OF 2 1/2 SUB
		WIRE

Submersible Pumps

4" Tri-Seal Pumps - 20 GPM



Capacities in U.S. Gallons per Minute

HP	PSI	Depth to Pumping Water Level, or Lift, in Feet. Shaded Areas Indicate Most Efficient Performance																	
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500
5	0																	24	23
	20																	24	21
	30																	24	23
	40																	24	22
	50																	24	22
	60																	24	23
	70																	24	22
	80																	24	23
Shut-off PSI		416	408	399	390	382	373	364	356	347	339	331	313	295	269	252	235	217	209
7.5	0																		
	20					27	26	24	22	20	18	15	11	5					
	30					27	25	23	22	19	17	14	9						
	40					26	25	23	21	19	16	13	7						
	50					26	24	23	21	18	16	12	6						
	60					27	26	24	22	20	18	15	11						
	70					27	26	24	22	20	17	14	9						
	80					27	26	24	22	20	17	14	9						
Shut-off PSI		440	423	414	371	327	284	241	197	154	111	68	24						
10	0									26	25	23	22	21	20	19	17	15	12
	20									27	25	24	23	21	20	19	17	14	11
	30									27	25	24	23	21	20	19	17	14	11
	40									26	25	23	22	21	20	18	16	14	10
	50									27	26	24	23	22	21	20	18	16	13
	60									27	26	24	23	22	21	19	18	15	12
	70									26	25	24	22	21	20	19	17	14	10
	80									26	25	24	22	21	20	19	17	14	10
Shut-off PSI		662	644	638	592	549	505	462	419	376	333	289	246	203	159	116	73		

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

4" SUBMERSIBLE MOTOR

SAND FIGHTER HIGH THRUST

HP **5**
KW **3.7**

V **230**

Installed 2-19-2018

PH **3** HZ **60**

DATE **18A14**
CODE

25 00096 C
QTY **1**



234 3178 802G



30°C MAX. AMBIENT

S/N 18A14-25-00096C



Franklin Electric
www.franklin-electric.com

Made in Mexico

WATER METERS



OCTAVE® ULTRASONIC WATER METER

**PRECISE MEASUREMENT
OF FLOW RATE**

HIGHLY ACCURATE ULTRASONIC WATER METER WITH NO MOVING PARTS

PRODUCT ADVANTAGES

- Double-beam ultrasonic sensors provide highly accurate flow data and reliable operation.
- No impeller or moving parts in the flow path provides for unrestricted, low pressure loss flows.
- Reduced maintenance of wear-prone parts commonly found in other meters.
- Flow ranges from < 1 GPM to 5,500 GPM.
- Multi-line readout screen provides complete flow and volume information along with:
 - Leak detection
 - Flow direction
 - Output mode
 - Battery level
 - Alarms and errors
 - Active communication mode
- Vacuum sealed and tamper proof IP68 register provides durability and long-term performance.
- Lithium batteries provide a 10 year life expectancy.
- Each meter has a unique, unalterable bar-coded serial number for identification.
- Standard registers are programmed to log and display both forward and reverse flow. Physically reversing the meter will not decrease the forward flow totalizer.
- Each meter ships with a certificate verifying flow accuracy with a $\pm 1.5\%$ accuracy for nominal flow rates.



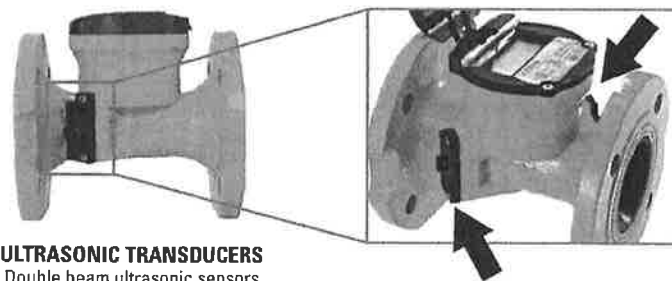
SPECIFICATIONS

- Sizes: 2", 3", 4", 6", 8", 10" and 12"
- Body: Epoxy-coated cast iron with flange inlet and outlet
- Maximum Working pressure: 230 psi
- Fluid Temperature Range: 32° to 122° F (0.1° to 50° C)
- Connection: Flanges ANSI ISO for AWWA connection standard
- Power Source: 2 'D' Size non-replaceable Lithium batteries
- Environmental Protection: IP-68, Ambient operation temperature for display: -13 to 131° F (-25° to 55° C)
- Display Units: Multi-line, programmable 9 digit LCD display
- Output (optional): Programmable single/dual open collector pulse output or externally powered 4-20 mA loop

OCTAVE® WATER METER

HOW OCTAVE WORKS

The Octave's measurement method is based on an ultrasonic, transit-time, dual-beam sensors that determines the length of time it takes an ultrasonic wave to travel the distance between the two sensors located in the meter's body. The sensors function as both sender and receiver, each one alternating these functions so that the ultrasonic wave travels both with and against the direction of the flow. Because the ultrasonic wave travels slower against the flow than with the flow, the time difference of the two waves allows the meter to determine the flow rate.



ULTRASONIC TRANSDUCERS
Double beam ultrasonic sensors

OCTAVE PROGRAMMING AND DIGITAL DISPLAY

Multi-line digital LCD readout display provides immediate reporting and visual indicators for critical conditions. The 9 digit display is easy to read at a glance.

Each Octave Meter will be pre-programmed before shipment for an instantaneous flow rate in Gallons per Minute (GPM) and the specified user's requirements for:

- Volume Totalizer Units (Gallons or Acre Feet)
- Output Resolution for Optional Pulsed Output

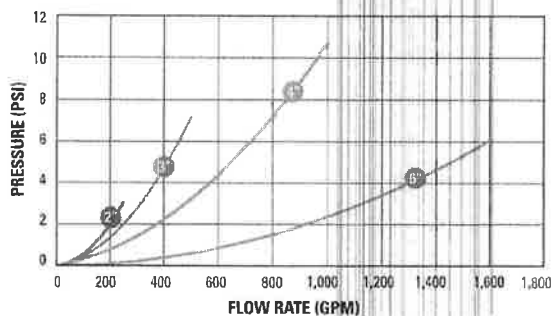
NOTE: Programming software is not available to the end user. Once the meter is programmed by Netafim prior to shipment, it can only be reset by Netafim.

When changing between totalizer options (US Gallons to Acre Feet), the totalizer memory can not be reset so vital data will not be lost.

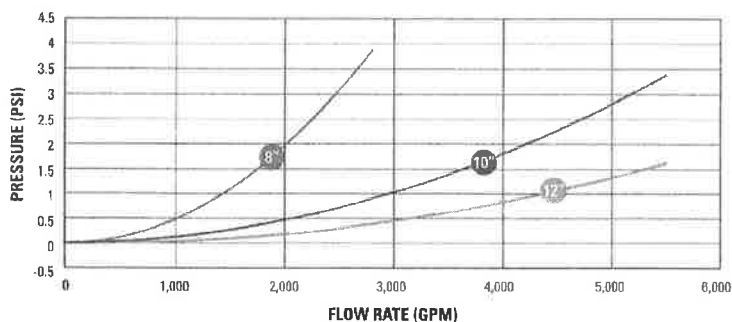


- | | | | |
|-----|-----------------|-----|----------------|
| GAL | VOLUME UNITS | ↑ ↓ | FLOW DIRECTION |
| GPM | FLOW RATE UNITS | ⚠ | ALARM/ERROR |
| 🔊 | LEAK DETECTOR | 🔌 | OUTPUT MODE |
| 🔋 | BATTERY LEVEL | | |

HEADLOSS CURVE - 2", 3", 4" AND 6"



HEADLOSS CURVE - 8", 10" AND 12"



OCTAVE® WATER METER

PERFORMANCE DATA

SIZE	EXTENDED LOW FLOW @ ± 5% (GPM)	NOMINAL FLOW RANGE @ ± 1.5% (GPM)	SAFE MAX. FLOW RATE (GPM)	HEADLOSS @ MAX. FLOW RATE (PSI)
2"	0.25	1 - 250	250	3.1
3"	0.50	1 - 400	400	6.9
4"	0.75	1 - 650	650	10.25
6"	2.00	3 - 1,500	1,500	6.05
8"	3.50	4.5 - 3,000	3,000	3.95
10"	8.80	14 - 5,500	5,500	1.75
12"	8.80	14 - 5,500	5,500	3.4



OCTAVE'S UNRESTRICTED FLOW PATH

OCTAVE ORDERING GUIDELINES

Standard Features:

- Flow Rate Units: Gallons per Minute (G.P.M.)
- Flow Display: Forward and Reverse Volumes

Options for all Octave Water Meters:

- Pulsed Output Module - Specify the output resolution in U.S. Gallons or Acre Feet
- 4-20 mA Output Module (requires an externally powered loop)

The following Programming Options are available by special order only:

- Volume Units: m³ and ft³
- Flow Rate Units: m³/h and L/s
- Flow Display Totalizer: Forward Flow Only and Net Flow (forward flow minus reverse flow)
- Acre Feet per Pulse Output: 1, 10, 100 and 1,000

ORDERING INFORMATION

360CT

SIZE	REGISTER	OUTPUT
2" = 02	GALLONS = GAL	NO OUTPUT (METER DISPLAY ONLY) = NO
3" = 03		0.1 GALLONS PER PULSE = 0.1
4" = 04		1.0 GALLONS PER PULSE = 1.0
6" = 06		10 GALLONS PER PULSE = 10
8" = 08		100 GALLONS PER PULSE = 100
10" = 10		1000 GALLONS PER PULSE = 1000
12" = 12		ANALOG OUTPUT 420mA = 420
	ACRE FEET = AF	NO OUTPUT (METER DISPLAY ONLY) = NO
		0.0001 AF PER PULSE (OR 32.6 GAL PER PULSE) = 0.0001
		0.001 AF PER PULSE (OR 326 GAL PER PULSE) = 0.001
		0.01 AF PER PULSE (OR 3,259 GAL PER PULSE) = 0.01
		0.1 AF PER PULSE (OR 32,585 GAL PER PULSE) = 0.1
		ANALOG OUTPUT 420mA = 420

ORDERING EXAMPLE - GALLONS:

360CT04GAL0.1

4" Octave Water Meter, Volume in Gallons, Flow Rate in Gallons per Minute, Pulse Output 0.1 Gallons per Pulse

ORDERING EXAMPLE - ACRE FEET:

360CT10AF0001

10" Octave Water Meter, Volume in Acre Feet, Flow Rate in Gallons per Minute, Pulse Output 0.0001 Acre Feet per Pulse (32.6 Gallons per Pulse)

NOTE: 1 AF = 325,851 Gallons



OCTAVE WITH OPTIONAL PULSED OUTPUT

OCTAVE® WATER METER

INSTALLATION GUIDELINES

The following examples are recommendations for achieving top performance.

- Two (2) diameters of straight pipe are required when installing a 90° elbow before or after the meter. (See Figure 1)
- Two (2) diameters of straight pipe are required when installing the meter upstream or downstream of a valve, tee connection or other source of significant turbulence. (See Figures 2 and 3)

NOTE: The installation of the meter upstream of a pump or large valve is not recommended due to potential cavitation issues.

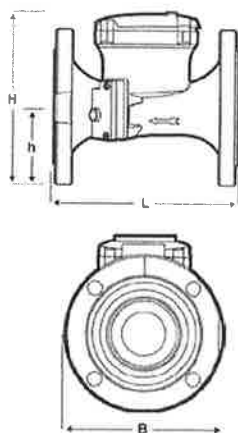
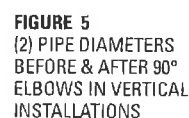
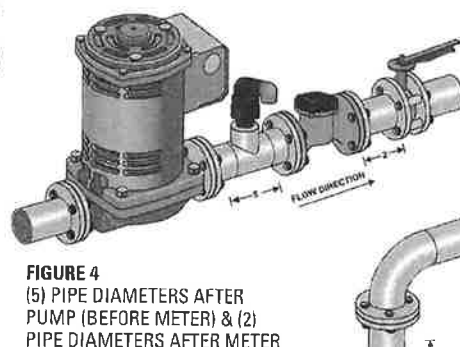
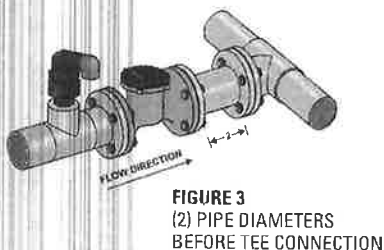
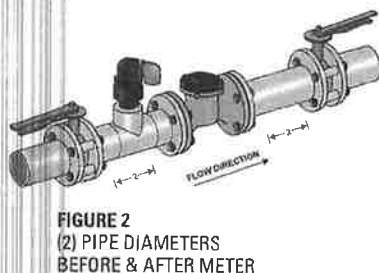
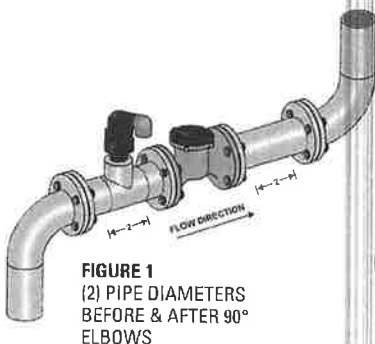
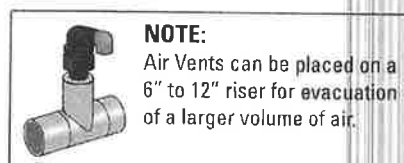
- Five (5) diameters of straight pipe downstream of a pump (before the meter) and Two (2) diameters of straight pipe downstream of the meter are required. (See Figure 4)

NOTE: When the meter is downstream of the pump, Netafim recommends additional straight pipe to ensure accurate measurements.

- Meter can be installed horizontally or vertically with the water flowing up. It is not recommended for installation where the direction of flow is below the horizontal plane. (See Figure 5)
- To eliminate air in the pipeline and maintain accuracy, use of and proper placement of Air Vents is required. We recommend a Combination Air/Vacuum Release Air Vent or the Pro Air Vent.
- Recommended Air Vent placement: 3" and 4" meters place air vent 12" to 18" before the meter; 6" and 8" meters place the air vent 18" to 24" before the meter; 10" and 12" meters place the air vent 30" to 36" before the meter.
- Installing a Check Valve downstream of the meter creates back pressure to aid in the meter filling with water.

INSTALLATION EXAMPLES

The following illustrations are meter installation examples with Air Vent placement.



DIMENSIONS & WEIGHT

SIZE	LENGTH (L)	WIDTH (B)	HEIGHT (H)	HEIGHT (h)	WEIGHT
2"	7.9"	6.5"	7.5"	1.6"	19.8 LBS.
3"	8.9"	7.9"	8.3"	3.5"	28.7 LBS.
4"	9.8"	8.7"	8.8"	4.1"	33.1 LBS.
6"	11.8"	11.2"	11.1"	5.5"	70.5 LBS.
8"	13.8"	13.4"	13.1"	6.5"	99 LBS.
10"	17.7"	15.9"	15.9"	8.0"	150 LBS.
12"	19.7"	19.2"	19.3"	9.6"	216 LBS.



NETAFIM USA
5470 E. HOME AVE.
FRESNO, CA 93727
CS 888 638 2346
www.netafimusa.com



CERTIFICATE OF CALIBRATION 172086983

Certificate Date 23/08/17/01:04
Calibration Date 23/08/17/01:04
Product Name OCTAVE 2 ANSI USG NETAFIM
Product Cat No 13912209V4
Water Meter Serial No 172086983
Customer's Name and Address:

This is to certify that the subject water meter was calibrated at Arad Ltd
According to internal procedures based on AWWA Requirements standard

Calibration Results:

Parameter	Relative Error, %	Permitted Error %
Normal Flow 2	0.10	± 1.5%
Normal Flow 1	-0.20	± 1.5%
Extended Low Flow	-0.40	± 5%

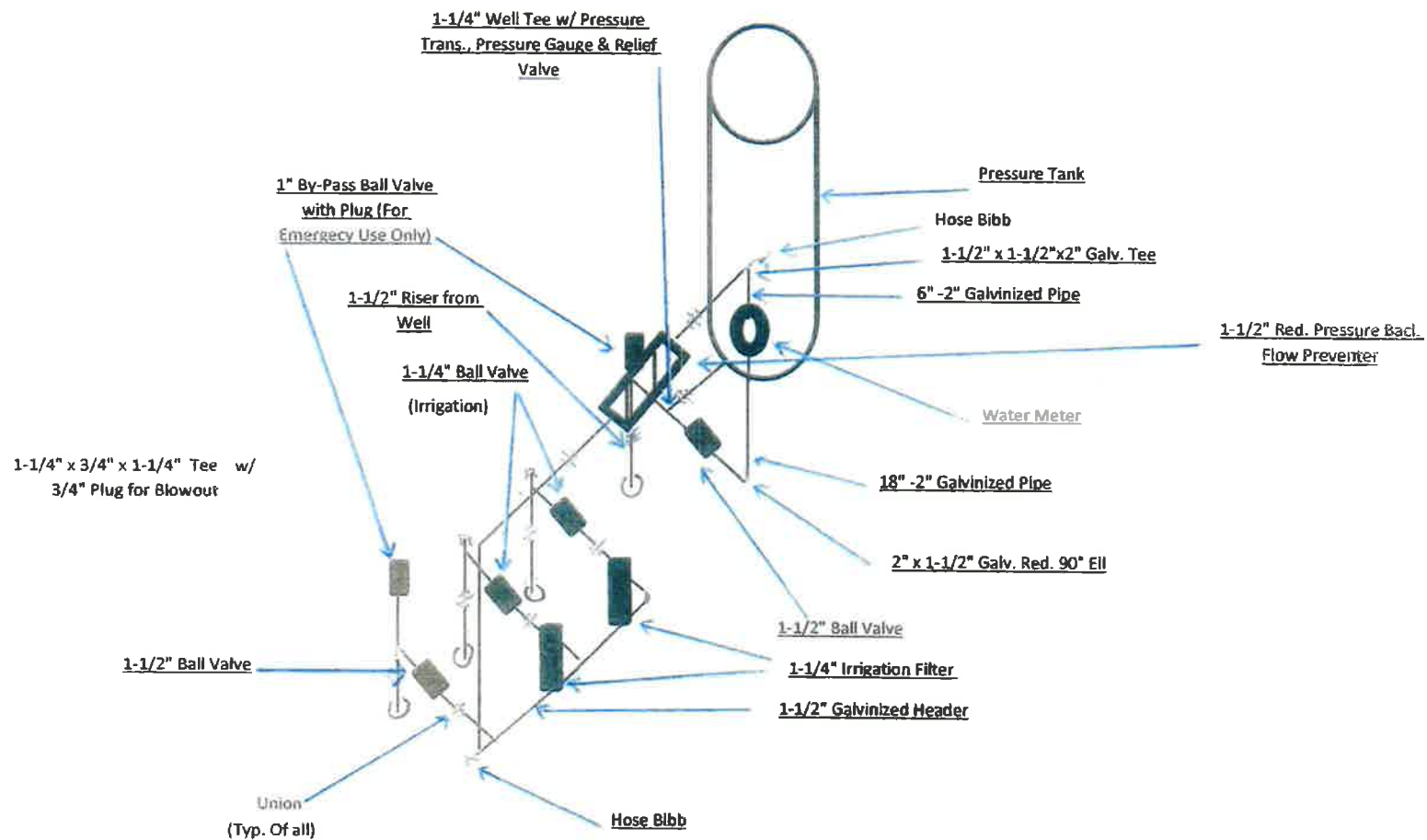
Q_{min} = minimum flowrate, Q_t=transitional flowrate, Q_n=nominal flowrate
Relative Error, % = $(V_i - V_a) / V_a \times 100$, V_i is the indicated volume, V_a is the actual volume

Measurement performed by : 39596

Certificate Approved by : Michaela Avraham , Technical Manager

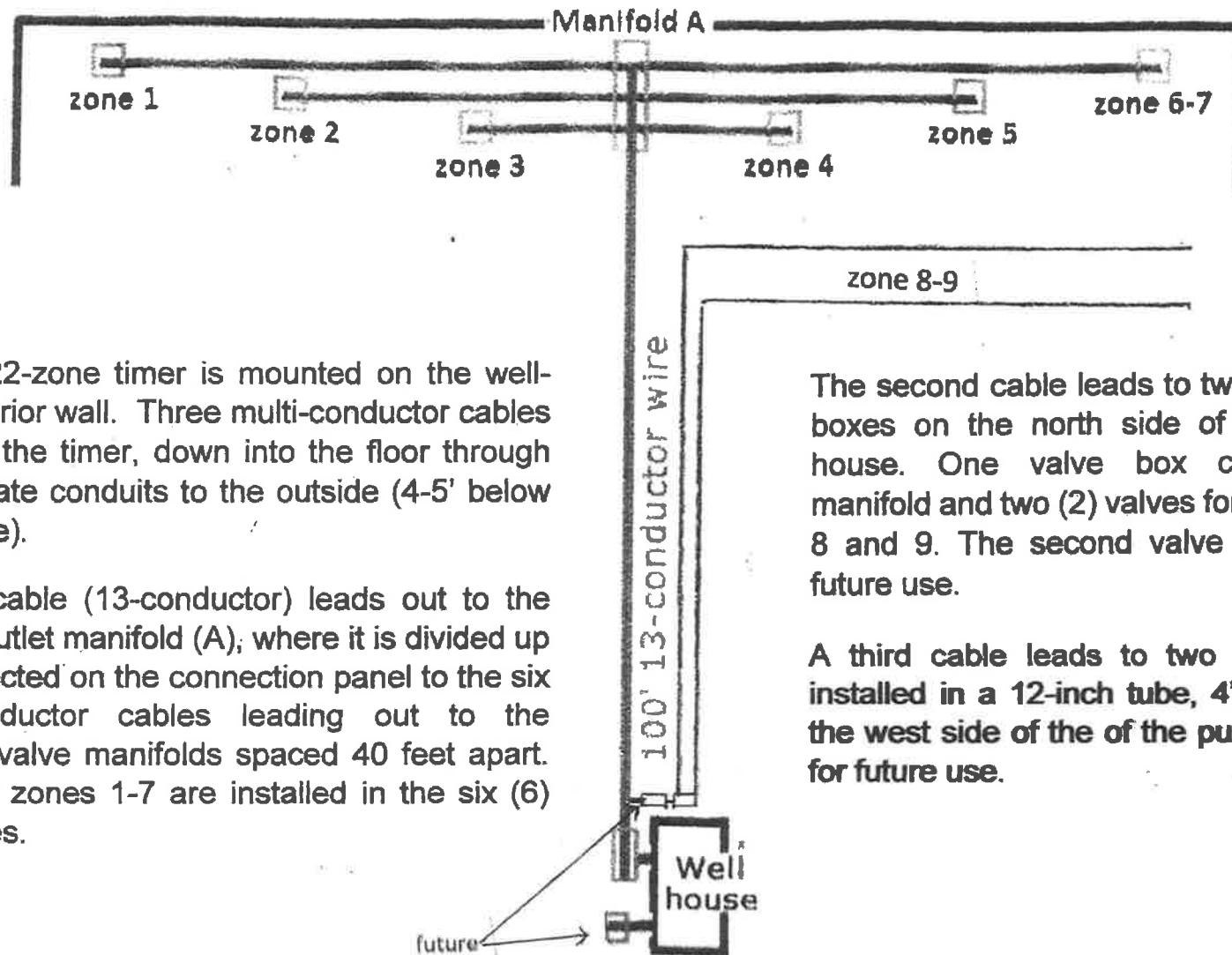


Dalla - Ramot Menashe *19239
Dalla, Israel. Tel. (972) 4-9897911
Fax: (972) 4-9897985
E-mail: arad@arad.co.il
<http://www.arad.co.il>



Bowman's Inc.
Flightline Car Wash
Air Base Road
Mountain Home, ID
Pump House Piping Diagram:
2/22/2018

Flight Line Car Wash Irrigation Layout



Rainbird 22-zone timer is mounted on the well-house interior wall. Three multi-conductor cables lead from the timer, down into the floor through two separate conduits to the outside (4-5' below the surface).

The first cable (13-conductor) leads out to the eight (8) outlet manifold (A); where it is divided up and connected on the connection panel to the six (6) 5-conductor cables leading out to the individual valve manifolds spaced 40 feet apart. Valves for zones 1-7 are installed in the six (6) valve boxes.

The second cable leads to two (2) valve boxes on the north side of the pump house. One valve box contains a manifold and two (2) valves for the zones 8 and 9. The second valve box is for future use.

A third cable leads to two (2) valves installed in a 12-inch tube, 4' down, on the west side of the of the pump house, for future use.

Attachment E
Flow Monitoring Records

Month	Gallons/day
Jan-19	4151
Feb-19	5647
Mar-19	5423
Apr-19	4461
May-19	3153
Jun-19	4865
Jul-19	5687
Aug-19	6730
Sep-19	5233
average	5039

		FLCW Monthly Totals JAN 2019		
Date	Day	TIME	METER READ	WEEP Y/N
1	TUE			
2	WED	6 P.M.	584 711	
3	THU			
4	FRI			
5	SAT	5:00 PM	597 812	
6	SUN	5:00 PM	601 043	
7	MON			
8	TUE			
9	WED			
10	THU	7:00 PM	614 691	
11	FRI			
12	SAT	6:30 PM	624 015	
13	SUN	7:30 PM	628 270	
14	MON			
15	TUE	9:30 PM	636 517	
16	WED	7:00 PM	640 187	
17	THU			
18	FRI			
19	SAT	7:00 PM	654 368	
20	SUN	7:00 PM	660 554	
21	MON			
22	TUE			
23	WED	7:00 PM	672 554	
24	THU	6:30 PM	676 350	
25	FRI	5:30 PM	680 091	
26	SAT	6:30 PM	687 925	
27	SUN	6:30 PM	693 415	
28	MON			
29	TUE			
30	WED	5:30 PM	704 944	
31	THU	6:00 PM	709 240	
		DAILY AVG	4.151 gal	

709,240 gal Jan 31, 19

584,711 gal Jan 1, 19

124,529 gal / 30 days = 4151 gal/day

FLCW Monthly Totals FEB 2019				
Date	Day	TIME	METER READ	WEEP Y/N
1	FRI	5:30 PM	715 181	
2	SAT			
3	SUN			
4	MON	6:00 PM	723 202	
5	TUE	6:00 PM	725 223	
6	WED	6:00 PM	734 366	
7	THU			
8	FRI	8:30 PM	746 742	
9	SAT			
10	SUN			
11	MON			
12	TUE			
13	WED	3:30 PM	754 330	
14	THU			
15	FRI			
16	SAT			
17	SUN	6:00 PM	788 852	
18	MON			
19	TUE			
20	WED	5:30 PM	816 100	
21	THU			
22	FRI	4:30 PM	827 444	
23	SAT			
24	SUN			
25	MON			
26	TUE			
27	WED	7:00 PM	863 221	
28	THU	7:00 PM	867,640	
DAILY AVG			5647 gal	

867,640 Feb 28

715,181 Feb 1

152 459 gal / 27 days = 5647 gal/day AVERAGE

FLCW Monthly Totals MARCH 2019				
Date	Day	TIME	METER READ	WEEP Y/N
1	FRI	2:30 PM	872 059	
2	SAT			
3	SUN	6:30 PM	825 727	
4	MON			
5	TUE	6:30 PM	847 073	
6	WED			
7	THU			
8	FRI	6:00 PM	909 325	
9	SAT			
10	SUN	6:00 PM	924 460	
11	MON			
12	TUE	6:30 PM	936 824	
13	WED			
14	THU			
15	FRI			
16	SAT			
17	SUN	6:00 PM	974 044	
18	MON			
19	TUE			
20	WED	5:30 PM	985 034	
21	THU			
22	FRI			
23	SAT			
24	SUN	5:00 PM	1,001,080	
25	MON			
26	TUE			
27	WED	5:00 PM	1,015,448	
28	THU			
29	FRI			
30	SAT	6:00 PM	1,025,987	
31	SUN	6:30 PM	1,034,758	
DAILY AVG			5423 gal	

1,034,758 MARCH 31, 2019

- 872,059 MARCH 1, 2019

162,699 gal/30 days = 5423 gal/day average

			FLCW Monthly Totals APRIL 2019	
Date	Day	TIME	METER READ	WEEP YIN
1	MON	6:00 PM	1,040,108	
2	TUE			
3	WED			
4	THU	6:30 PM	1,051,619	
5	FRI			
6	SAT	8:00 PM	1,060,207	
7	SUN			
8	MON			
9	TUE			
10	WED	11:00 PM	1,075,728	
11	THU			
12	FRI			
13	SAT	2:00 PM	1,086,470	
14	SUN			
15	MON			
16	TUE			
17	WED			
18	THU	6:30 PM	1,111,224	
19	FRI			
20	SAT			
21	SUN			
22	MON			
23	TUE			
24	WED	3:30 PM	1,144,602	
25	THU			
26	FRI			
27	SAT	2:1 PM	1,156,403	
28	SUN			
29	MON			
30	TUE	6:00 PM	1,169,478	
DAILY AVG			4461 gal	

1,169,478 APRIL 30, 2019
 - 1,040,108 APRIL 1, 2019
 129,370 gal / 29 days = 4461 gal/day

FLCW			
Monthly Totals			
MAY 2019			
Date	Day	TIME	METER READ
1	WED	7:00 PM	1,174,897
2	THU		
3	FRI		
4	SAT	8:30 PM	1,190,461
5	SUN		
6	MON		
7	TUE	6:00 PM	1,203,450
8	WED		
9	THU	5:50 PM	1,210,258
10	FRI		
11	SAT	5:30 PM	1,218,650
12	SUN		
13	MON		
14	TUE		
15	WED	7:30 PM	1,231,104
16	THU		
17	FRI		
18	SAT	8:30 PM	1,235,157
19	SUN		
20	MON		
21	TUE		
22	WED		
23	THU		
24	FRI		
25	SAT		
26	SUN		
27	MON		
28	TUE	4:00 PM	1,252,565
29	WED		
30	THU		
31	FRI	7:50 PM	1,269,485
DAILY AVG			3153 gal

1,269,485
 - 1,174,897
 94,588

MAY 31, 2019

MAY 1, 2019

gal./30 days = 3153 gal/day

			FLCW Monthly Totals JUNE 2019	
Date	Day	TIME	METER READ	Gal./day
1	SAT	8:00 PM	1,281,420	11,935
2	SUN			3,052.
3	MON			3,052.
4	TUE			3,052.
5	WED	8:00 PM	1,293,626	3,052.
6	THU	7:00 PM	1,299,025	5,399.
7	FRI			2,306.
8	SAT	8:00 PM	1,303,638	2,306.
9	SUN			4,850.
10	MON			4,850.
11	TUE			4,850.
12	WED	8:00 PM	1,323,037	4,850.
13	THU			3,302.
14	FRI			3,302.
15	SAT	6:30 PM	1,332,938	3,302.
16	SUN			10,558
17	MON			10,558
18	TUE			10,558
19	WED	6:30 PM	1,315,168	10,558
20	THU			3,503
21	FRI			3,503.
22	SAT	7:00 PM	1,385,618	3,503
23	SUN			4,446
24	MON			4,446
25	TUE			4,446
26	WED	9:30 PM	1,403,462	4,446
27	THU			3,593
28	FRI			3,593
29	SAT	6:00 PM	1,414,240	3,593
30	SUN	9:00 PM	1,420,312	6,072
DAILY AVG				4,865

1,420,312 June 30, 2019
 1,269,485 May 31, 2019

 150,827 gal / 31 days
 4,865 gal / day

FLCW
Monthly Totals
JULY 2019

Date	Day	TIME	METER READ	Gal./day
1	MON			4,012.
2	TUE			4,012.
3	WED	6:00 PM	1,432,376	4,012.
4	THU			4,148.
5	FRI			4,148.
6	SAT	6:00 PM	1,444,820	4,148.
7	SUN			6,917.
8	MON			6,917.
9	TUE			6,917.
10	WED	7:00 PM	1,472,486	6,917.
11	THU			8,778.
12	FRI			8,778.
13	SAT	6:00 PM	1,498,821	8,778.
14	SUN			3,537.
15	MON			3,537.
16	TUE			3,537.
17	WED	6:00 PM	1,512,967	3,537.
18	THU			5,480.
19	FRI			5,480.
20	SAT			5,480.
21	SUN	6:00 PM	1,534,887	5,480.
22	MON			4,994.
23	TUE			4,994.
24	WED	6:00 PM	1,549,868	4,994.
25	THU	6:00 PM	1,552,891	3,023.
26	FRI			8,303.
27	SAT	5:15 PM	1,569,497	8,303.
28	SUN	6:30 PM	1,578,003	8,506.
29	MON	6:00 PM	1,589,131	11,128.
30	TUE			3,738.
31	WED	4:00 PM	1,596,607	3,738.
DAILY AVG				5,687.

1,596,607.

July 31, 2019

1,420,312.

JUNE 30, 2019

176,295.

gal / 31 days = 5687 gal/day

FLCW Monthly Totals AUGUST 2019				
Date	Day	TIME	METER READ	gal/dm
1	THU			7,080
2	FRI	6:30 PM	1,610,767	7,080
3	SAT			9,960
4	SUN	6:00 PM	1,630,683	9,960
5	MON	5:30 PM	1,639,410	8,722
6	TUE			3,612
7	WED	7:00 PM	1,646,652	3,612
8	THU			5,585
9	FRI			5,585
10	SAT	8:00 PM	1,663,406	5,585
11	SUN			10,899
12	MON	5:00 PM	1,685,203	10,899
13	TUE			4,435
14	WED	7:30 PM	1,694,072	4,435
15	THU			5,030
16	FRI	6:00 PM	1,704,131	5,030
17	SAT	6:00 PM	1,711,844	7,713
18	SUN	7:00 PM	1,719,453	7,609
19	MON	6:30 PM	1,730,610	11,157
20	TUE	6:00 PM	1,735,645	5,035
21	WED	5:40 PM	1,739,303	3,658
22	THU			5,712
23	FRI	7:00 PM	1,750,727	5,712
24	SAT			8,901
25	SUN	6:00 PM	1,768,529	8,901
26	MON			5,240
27	TUE			5,240
28	WED	12:30 PM	1,784,250	5,240
29	THU	6:30 PM	1,788,540	4,290
30	FRI	6:30 PM	1,796,886	8,346
31	SAT	7:00 PM	1,805,266	8,380
DAILY AVG				6,730

1,805,266 August 31, 2019

1,596,607 July 31, 2019

208,659 gal./31 days =

6,730 gal/day

FLCW Monthly Totals SEPT 2019				
Date	Day	TIME	METER READ	WEEP Y/N
1	SUN	5:00 PM	1,814,804	9,538.
2	MON	6:30 PM	1,826,227	11,423
3	TUE	6:00 PM	1,830,144	3,917.
4	WED	5:30 PM	1,835,288	5,144.
5	THU	7:00 PM	1,842,636	7,348.
6	FRI	6:30 PM	1,849,550	6,894.
7	SAT			9,154.
8	SUN	7:30 PM	1,867,238	9,154.
9	MON			3,930
10	TUE			3,930.
11	WED			3,930
12	THU	7:00 PM	1,883,554	3,930
13	FRI	5:30 PM	1,892,466	8,907.
14	SAT			9,258.
15	SUN	8:00 PM	1,910,983	9,258.
16	MON			3,093
17	TUE			3,093.
18	WED			3,093
19	THU	7:00 PM	1,923,353	3,093.
20	FRI			4,278.
21	SAT	7:00 PM	1,931,909	4,278.
22	SUN	7:00 PM	1,937,430	5,521.
23	MON			3,472.
24	TUE	6:30 PM	1,944,373	3,472.
25	WED			3,754.
26	THU			3,754.
27	FRI			3,754
28	SAT	8:00 PM	1,959,392	3,754
29	SUN			1,432
30	MON	6:30 PM	1,962,256	1,432
DAILY AVG				5233.

1,962,256. Sept 30, 2019

1,805,266. August 31, 2019

156,990. gal/30 days =

5233 gal/day

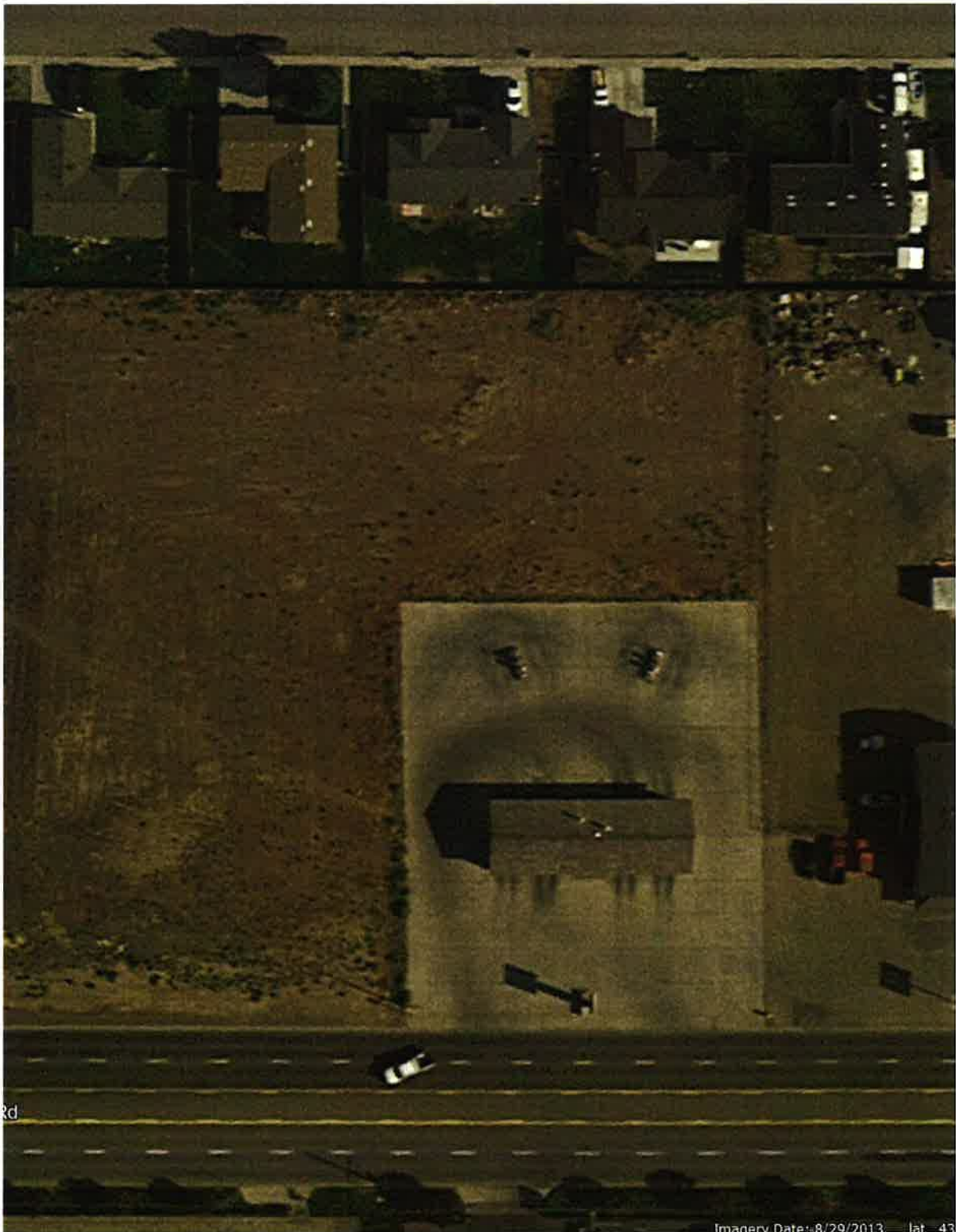
Attachment F
Historical Aerial Imagery



2018 Google Earth Image



2015 Google Earth Image



2013 Google Earth Image

Imagery Date: 8/29/2013 lat: 43



2011 Google Earth Image



2010 Google Earth Image



2007 Google Earth Image