



TECHNICAL MEMORANDUM

TO: David Golkar
Legacy Highlands

FROM: Stetson Engineers Inc.

SUBJECT: Potential Groundwater Production
The Legacy Highlands Development

JOB NO.: 2763-001

DATE: May 21, 2020

Background

The Legacy Highlands Project (Project) plans to develop approximately 1,600 acres of land for multi-purpose uses in the City of Beaumont, CA. The Project is located south of Highway 60 and Highway 79. The Beaumont Cherry Valley Water District (BCVWD) issued a draft Water Supply Assessment (WSA) in April 2019, and based on the draft WSA analysis, the Project has a potential water demand of 1,450 acre-feet per year (AFY) of potable water and 178 AFY of non-potable water (combined potable and non-potable water demand of 1,628 AFY). It is anticipated that at full development with 3,218 equivalent development units, the Project will contribute a return flow of approximately 643.6 AFY into the underlying groundwater basin. If the non-potable demands of 178 AFY are met from groundwater produced from existing wells owned by the landowner of the Project, the return flows will result in the Project providing a net recharge to the groundwater basin of 465.6 AFY. The draft WSA concluded that the BCVWD will in the future have sufficient and adequate water supplies available to meet

the long-term needs of the Project, provided that current efforts to implement projects and agreements that will enhance BCVWD's imported and recycled water supplies continue to move forward. However, the landowner of the Project owns five (5) existing wells located within the Project area along Cooper Creek, and the potential use of groundwater extracted from the Project's existing wells may serve as a supplemental water supply to the Project until the BCVWD's imported and recycled water supply projects/agreements are implemented. The locations of the Project, the five (5) existing extraction wells, the BCVWD, and the Beaumont groundwater basin are shown on Figure 1.

Stetson Engineers, Inc. (Stetson) was retained by Legacy Highlands Development to evaluate the potential capacity of the existing wells owned by the landowner of the Project. The general hydrogeology of the Project and surrounding area, groundwater pump tests, and water quality as relating to the Project are reviewed and discussed in this technical memorandum.

Study Area Hydrogeological Setting

The Project is a multi-purpose development plan for new single family development and active adult residential, commercial, and industrial development in the City of Beaumont with a total land size of approximately 1,600 acres. The Project area is located in unincorporated areas east of the San Gorgonio Pass and adjacent to the City of Beaumont, as shown on Figure 1. Precipitation in the Project area occurs mostly during the winter and the spring, and an average annual precipitation of over 17 inches per year (in/yr) has been recorded at the nearby Beaumont weather station since 1901. Geologic structures around the Project area are within the San Andreas Fault system, which includes various geologic faults and folds that interact together as an integrated complex (USGS, 2006). A generalized geologic map of the Project and the surrounding area is shown on Figure 2 (USGS, 2006). Figure 2 indicates that sediments in the Project area are mostly unconsolidated younger deposits (Qy) and older deposits (Qo) and are fairly permeable.

The Project area is not located within the Beaumont groundwater basin. However, it is anticipated that underlying groundwater storage in the Project area is feasible for extraction due to the Project area's location immediately adjacent to the Beaumont groundwater basin, a productive storage unit within the San Gorgonio Pass groundwater basin (USGS, 2006). Additionally, according to the United States Geological Survey (USGS) 2018 fault map, there are a few northwest trending faults (the Beaumont Plain fault zone) located north of the Project area, as shown on Figure 3. The impacts of these fault zones to groundwater flow between the Beaumont Groundwater Basin and the Project area are not clearly understood. The Project area may receive groundwater recharge from various sources, including infiltration from storm runoff, underflow from the adjacent Beaumont groundwater basin, and return flow from nearby municipal, industrial, and agricultural water uses. Similarly, groundwater discharges may occur due to groundwater extraction, underflow to the adjacent Beaumont groundwater basin, and evapotranspiration.

The groundwater levels of wells with available and continuously measured data in close proximity to the Project area were reviewed to obtain information on the general trends in regional groundwater level fluctuations. As shown on Figure 4, groundwater surface elevations in relation to ground surface elevations at State Well No. 03S01W05Q001S, located less than 1 mile north of the Project area, have been measured continuously from 1990 to 2000, and from 2005 to 2008. During these periods, groundwater elevations at this well have been relatively stable with fluctuations that generally do not exceed 15 feet over the period of record. It can be reasonably anticipated that wells in proximity to this well may also experience similarly stable groundwater surface elevations with minimal fluctuation over time.

Groundwater Pump Tests

The Project landowner owns five (5) extraction wells. During the period between August 21, 2019 and September 5, 2019, three (3) 24-hour constant rate pump tests were performed at Wells No. 1, No. 2, and No. 3 to evaluate water level responses under controlled flow rates.

The pump test for Well No. 1 was performed using a 30 horsepower (hp) motor, and the groundwater intake was set at a depth of 190 feet below ground surface (bgs). The test setup for Well No. 2 was also performed using a 30 hp motor, and the groundwater intake was set at a depth of 190 feet bgs. The pump test for Well No. 3 was conducted using a 15 hp motor, and the groundwater intake was set at a depth of 180 feet bgs. Additionally, the controlled flow rates for the pump tests were 300 gallons per minute (gpm) (483.9 AFY), 275 gpm (443.6 AFY), and 80 gpm (129.0 AFY) for Wells No.1, No. 2, and No. 3, respectively. The controlled flow rates were verified by the use of a totalizer. The results of the pump tests are provided in Appendix A, and the plots of drawdown versus time for these three (3) pump tests are shown on Figures 5a through 5c. The results of the pump tests suggest that all three (3) wells were able to reach stable pumping levels of approximately 27 feet bgs for Well No. 1; approximately 142 feet bgs pumping rate for Well No. 2; and approximately 10 feet bgs Well No. 3.

An approximately 16-hour recovery period was also conducted, and water levels were then recorded after the end of the recovery period. Groundwater levels at Well No. 1 recovered to approximately 90% of the drawdown within the first hour of recovery and were fully recovered 16 hours after the test pump was stopped. Groundwater levels at Well No. 2 recovered to approximately 65% of the drawdown within the first hour of recovery and 99% of the drawdown after 16 hours of recovery. Groundwater levels at Well No. 3 recovered to approximately 40% of the drawdown within the first hour and 99% of the drawdown after 16 hours of recovery. In general, a recovery to 95% of the drawdown within a 24-hour period is considered acceptable for maintaining a suitable well yield.

Water Quality

Groundwater quality samples were collected at Wells No. 1, No. 2, and No. 3 on May 15, 2019 by Well Tec Water Well & Pump Service and were analyzed by Babcock Laboratories, Inc. The lab reports are provided in Appendix B, and Table 1 summarizes the results of the analyses. The Maximum Contaminant Levels (MCLs) for the analyzed

parameters that are regulated under the California drinking water standards are also provided in Table 1.

Table 1 shows that all analyzed parameters meet the California primary and secondary drinking water standards, except for Iron and Manganese. Although Iron and Manganese exceed the secondary drinking water standards of 300 micrograms per liter ($\mu\text{g/L}$) and 50 $\mu\text{g/L}$, respectively, these two (2) chemicals mainly cause aesthetic issues and are not direct health concerns. If groundwater extractions are applied for non-potable purposes only (i.e. irrigation), the water quality of these wells is considered acceptable. However, the presence of Iron can promote the growth of autotrophic iron bacteria in the irrigation distribution system, resulting in generation of iron oxide deposits that can potentially clog the irrigation distribution system. Depending on its chemical occurrence, Manganese can precipitate into manganese hydroxides that may also contribute to clogging of the irrigation distribution system, though likely at a slower rate. Removal of Iron and Manganese is recommended but not required for non-potable uses of the extracted groundwater.

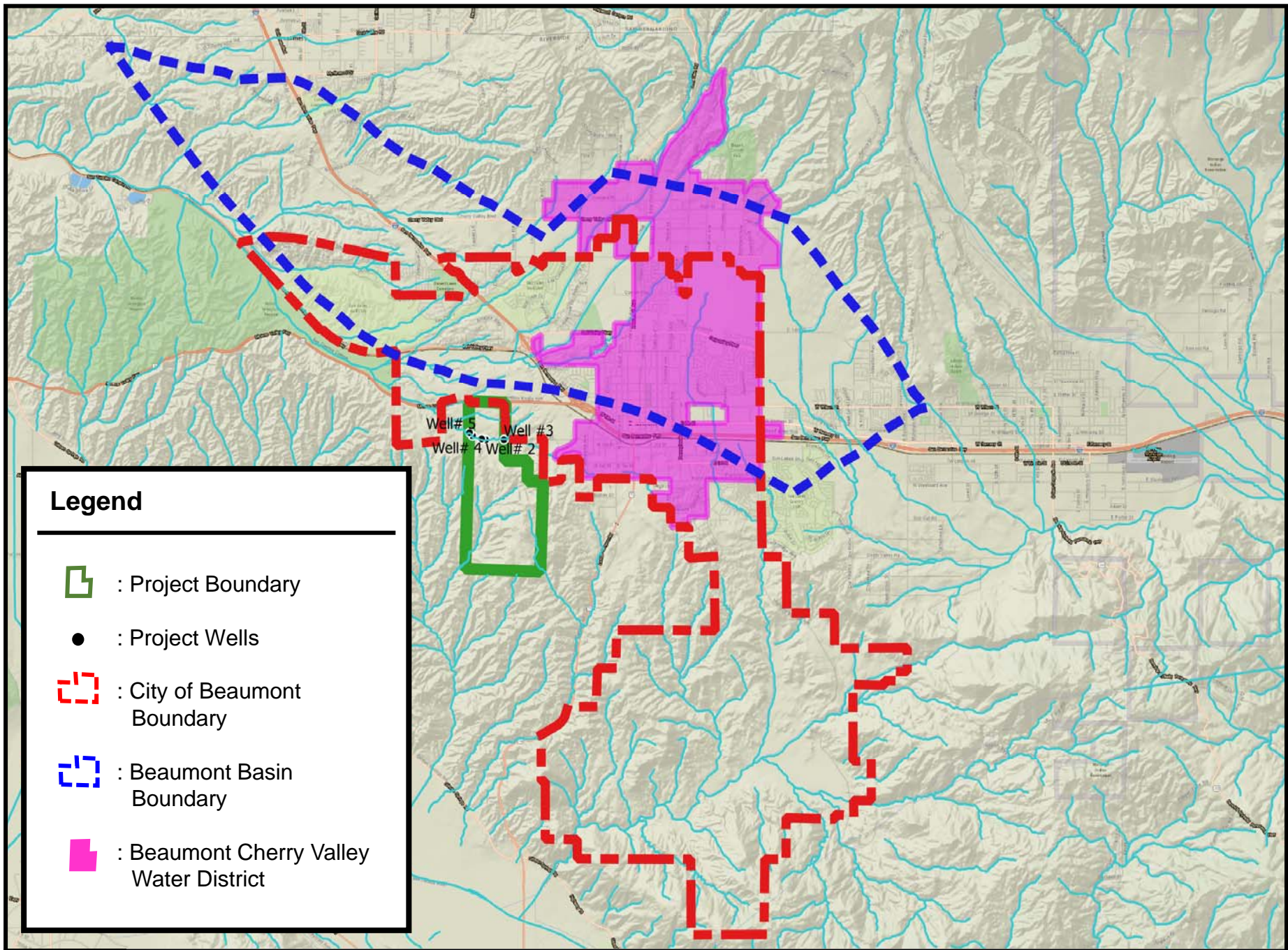
It should be noted that not all parameters regulated by drinking water standards were analyzed by Babcock Laboratories, Inc. If the extracted groundwater is considered for potable uses in the future, water quality analysis of all parameters regulated by the California primary and secondary drinking water standards is recommended.

Conclusions and Recommendations

Based on the water levels of nearby wells (State Well No. 03S01W05Q001S, located less than 1 mile north of the Project area), the results of the pump tests, and the water quality sampling, the Project's existing wells are suitable for sustained groundwater extraction. For non-potable groundwater uses such as irrigation, the water quality of the wells owned by the Project landowner is considered acceptable. Although Iron and Manganese exceed the California secondary drinking water standards, these two constituents cause primarily aesthetic issues such as potential clogging of the irrigation distribution system, and are not directly related to health concerns. Removal of Iron and

Manganese is recommended but not required for non-potable uses of the extracted groundwater. However, if extracted groundwater is considered for potable uses in the future, water quality analysis of all parameters regulated by the California primary and secondary drinking water standards is recommended.

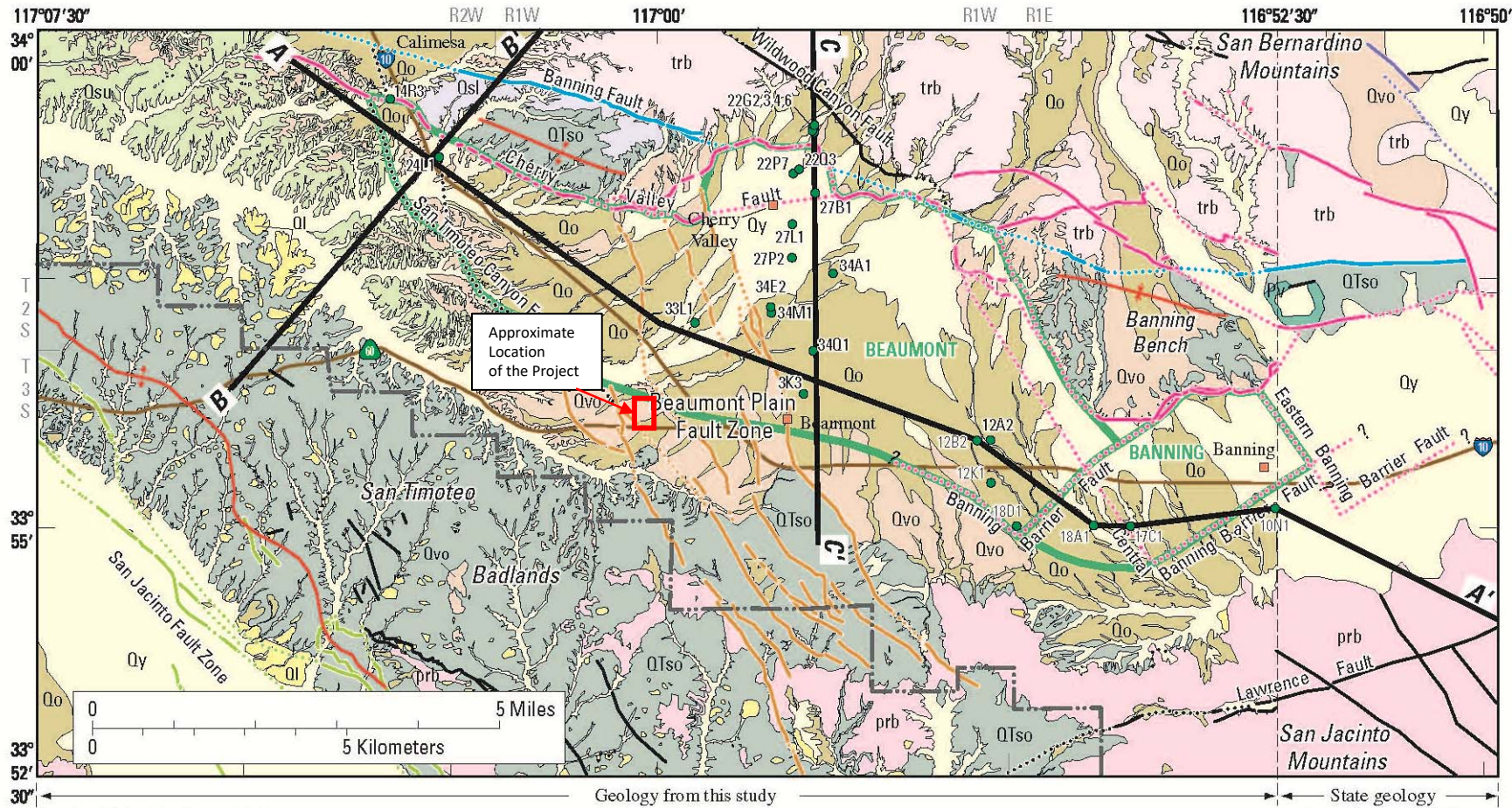
J:\2763\Draft GW Production Memo_clean-jmm3.docx



The Project and Surrounding Area Map



Figure 1



Base from U.S. Geological Survey digital data, 1:24,000, 1927 North American Datum; Universal Transverse Mercator Projection (NGVD 29), Zone 11.

EXPLANATION

Surficial deposits (Holocene to Pleistocene)

- Qy Younger deposits¹
- Ql Landslide deposits¹
- Qo Older deposits¹
- Qvo Very old deposits¹

Younger sedimentary deposits (Pleistocene)

- Qsu Sedimentary deposits¹ (upper)
- Qsl Sedimentary deposits² (lower)

Older sedimentary deposits (Pleistocene to Pliocene)

- QIso Older sedimentary deposits

Volcanic rocks (Pliocene)

- Pv Volcanic rocks

Crystalline basement rocks (Pre-Tertiary)

- prb Peninsular Ranges-type
- trb San Gabriel Mountains-type

A—A' Cross section

- San Gorgonio Pass Water Agency boundary

BANNING Storage unit boundary and identifier

- 12B2 Well and identifier
- + Anticlinal fold
- + Synclinal fold

Faults—Dotted where concealed. Queried where uncertain

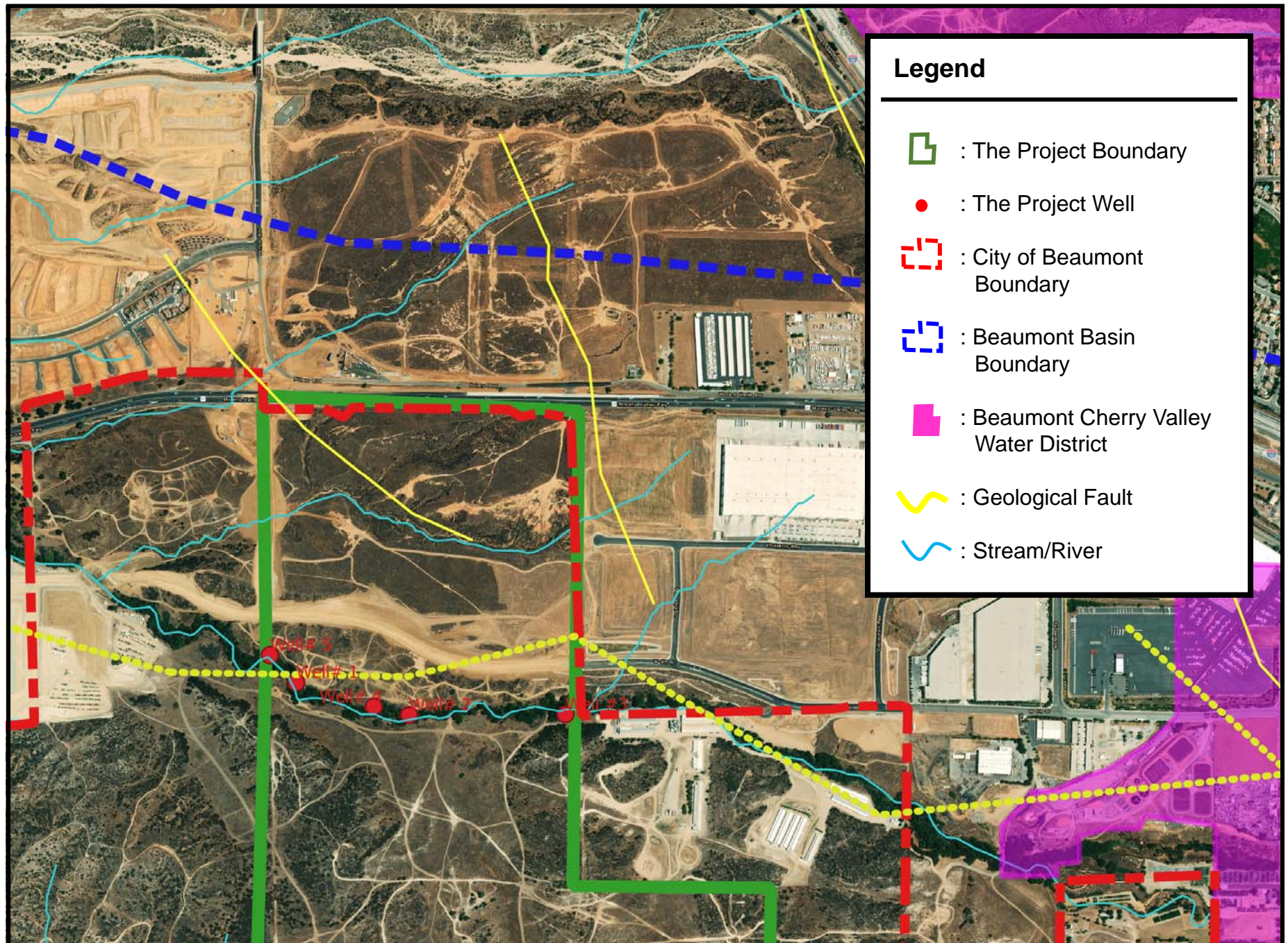
- San Andreas Fault Zone
- San Jacinto Fault Zone
- Banning Fault
- San Gorgonio Pass Fault Zone
- Beaumont Plain Fault Zone
- Other faults

¹ Upper aquifer in Beaumont and Banning storage units ² Lower aquifer in Beaumont and Banning storage units



Generalized Geology Map

Source: 2006 USGS Scientific Investigations Report 2006-5026, "Geology, Ground-Water Hydrology, Geochemistry and Ground-Water Simulation of The Beaumont and Banning Storage Units, San Gorgonio Pass Area, Riverside County, California."



Fault Zones Around The Project Area Map



Figure 3

Figure 4
Groundwater Levels for State Well No. 03S01W05Q001S

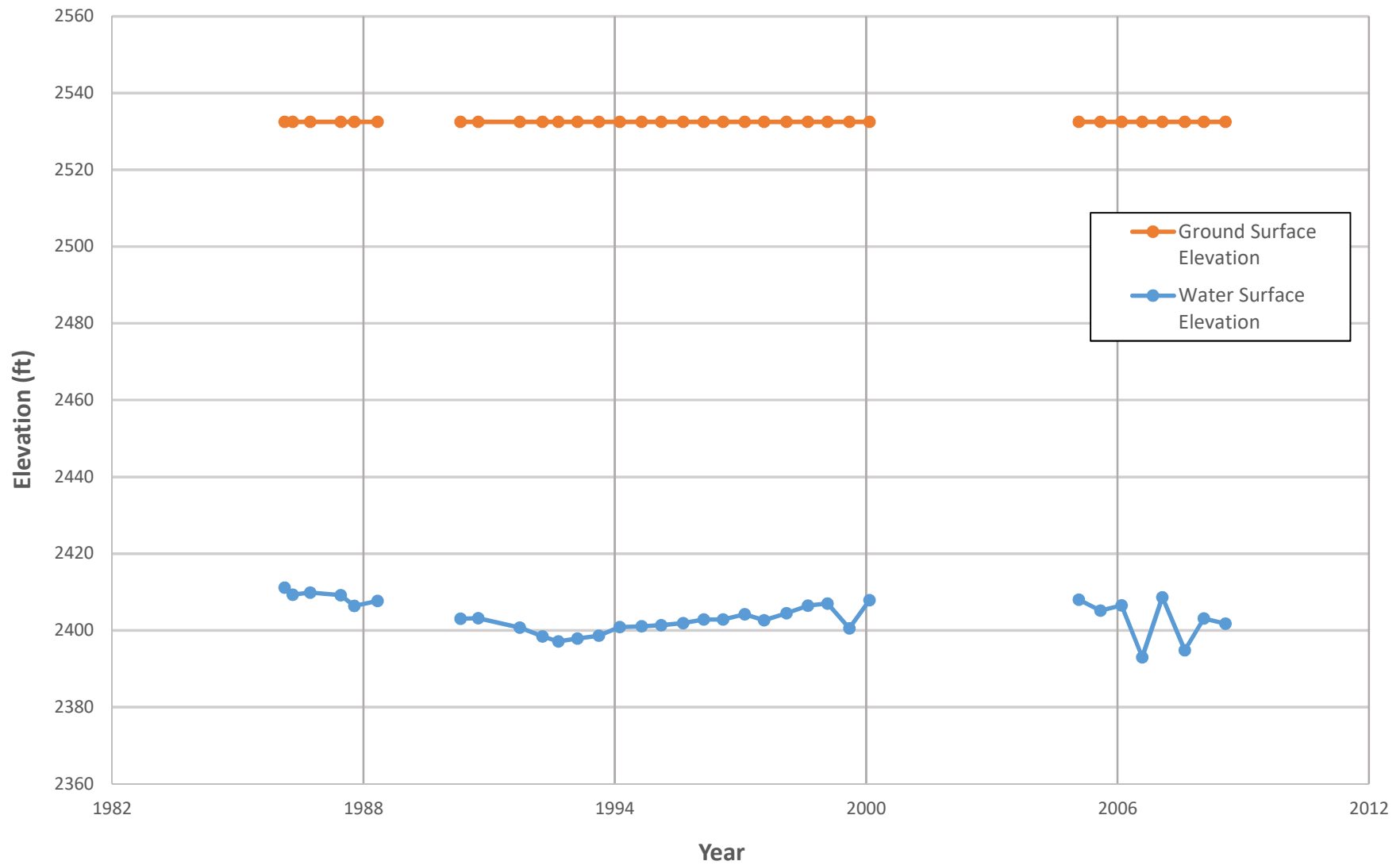


Figure 5a
 Pump Test Drawdown vs Time - Well No. 1

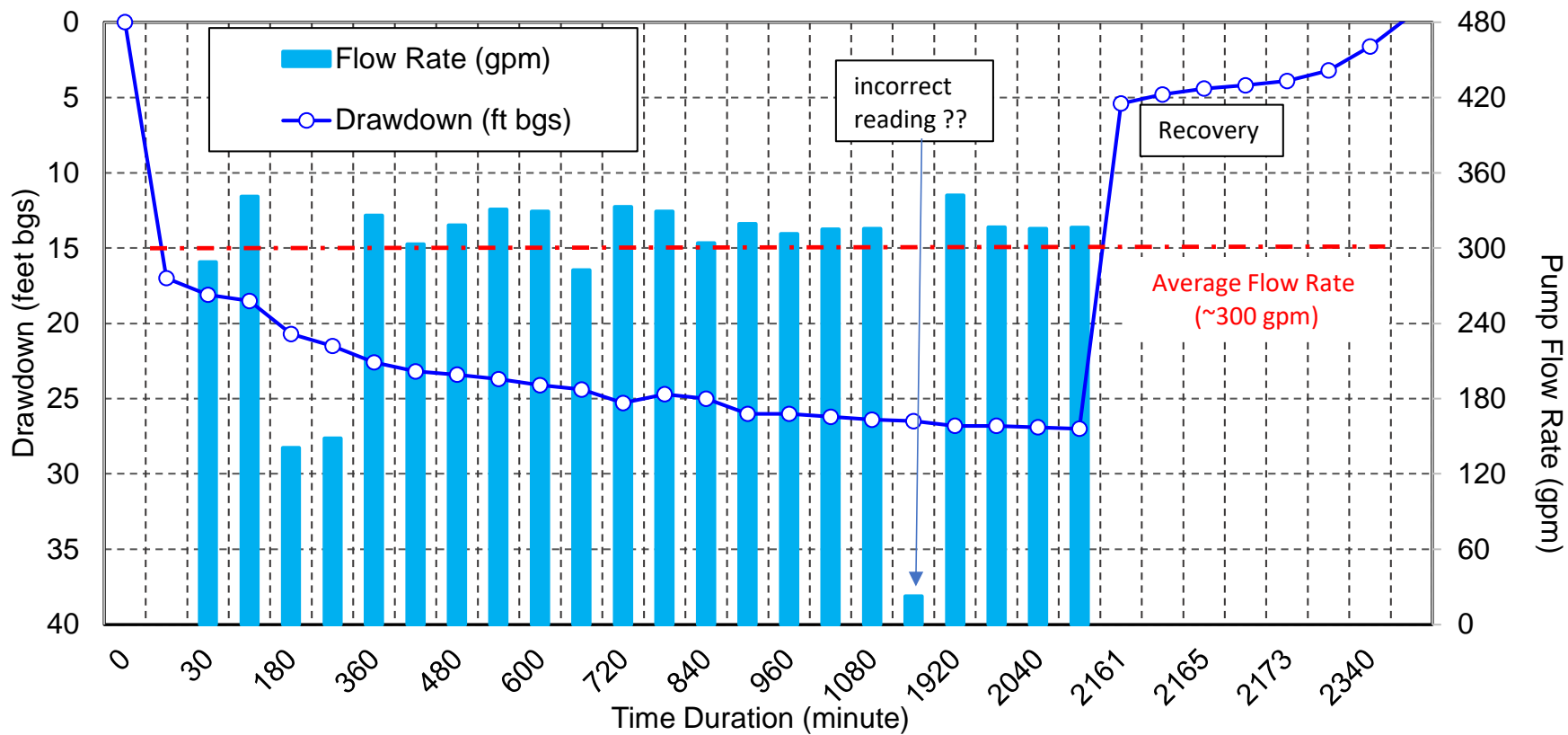


Figure 5b
 Pump Test Drawdown vs Time - Well No. 2

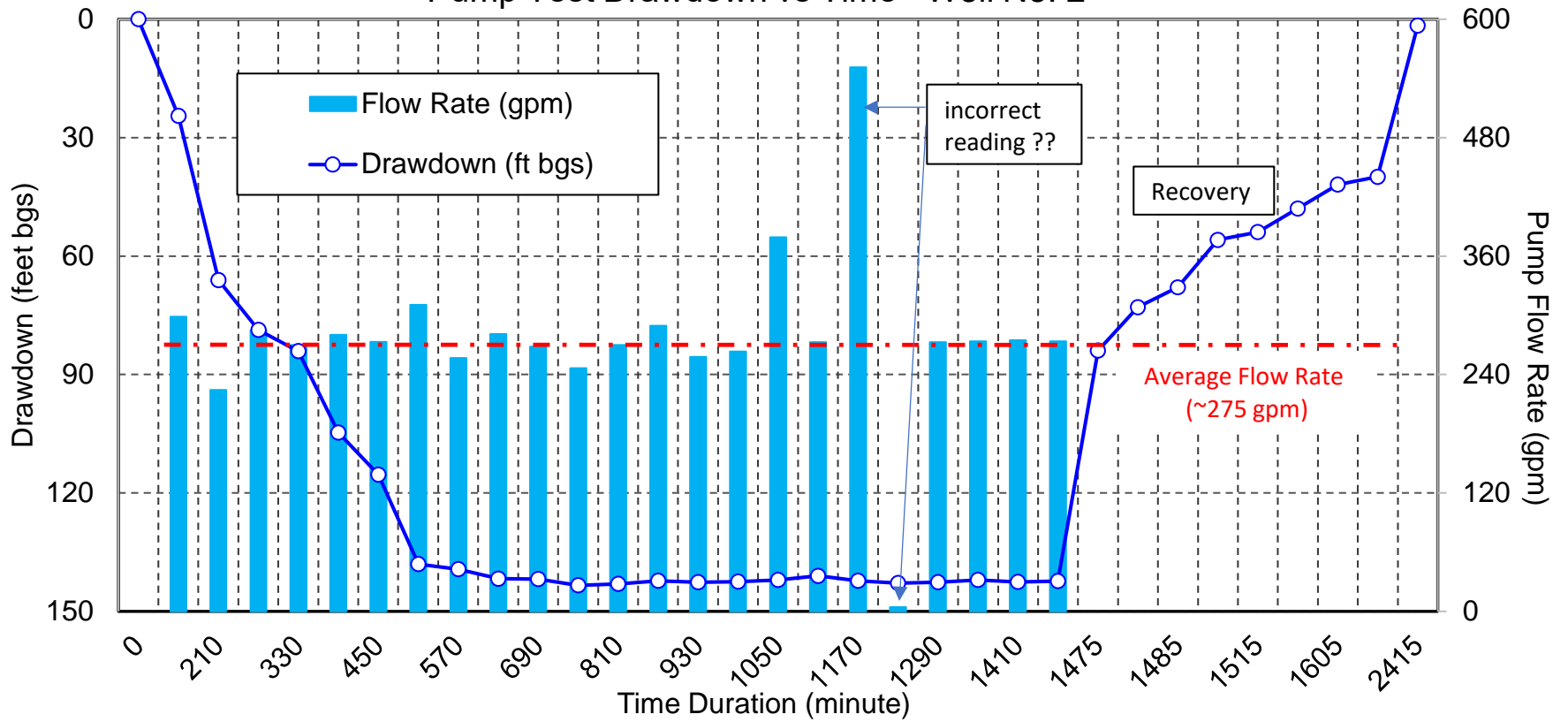


Figure 5c
 Pump Test Drawdown vs Time - Well No. 3

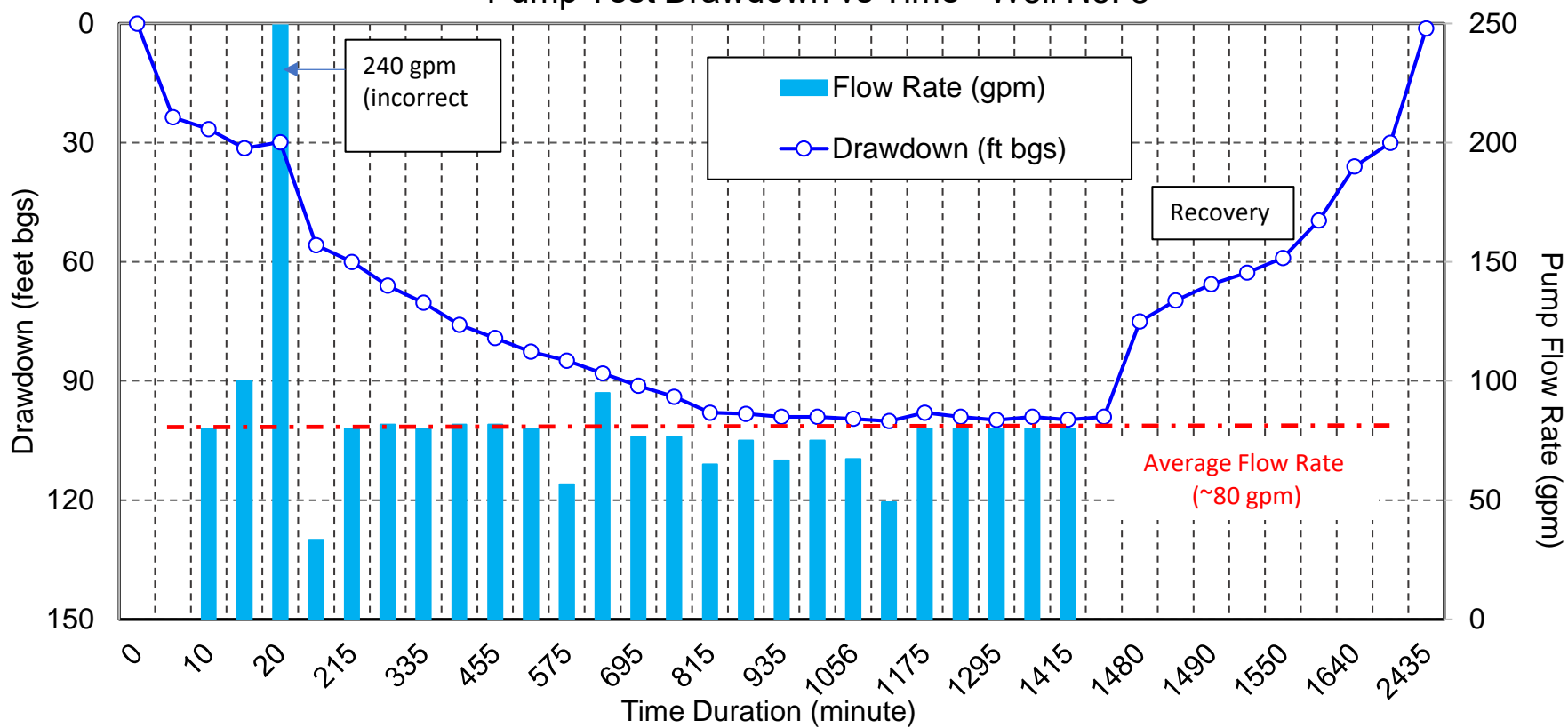


Table 1
Summary of Water Quality analysis

Parameter	Lab Results			RDL	Primary MCL	Secondary MCL	Unit	Method
	Well No. 1	Well No. 2	Well No. 3					
Total Hardness	290	270	330	1.5			mg/L	SM 2340B/EPA 200.7
Calcium	80	84	98	0.49			mg/L	EPA 200.7
Magnesium	21	14	22	0.49			mg/L	EPA 200.7
Sodium	60	81	91	0.49			mg/L	EPA 200.7
Potassium	3.1	1.8	1.4	0.49			mg/L	EPA 200.7
Total Alkalinity	250	260	300	5			mg/L	SM 2320B
Hydroxide	ND	ND	ND	5.0			mg/L	SM 2320B
Carbonate	ND	ND	ND	5.0			mg/L	SM 2320B
Bicarbonate	250	260	300	5.0			mg/L	SM 2320B
Chloride	84	81	100	1.0		250	mg/L	EPA 300.0
Sulfate	28	36	41	0.5		500	mg/L	EPA 300.0
Nitrate as N	1.1	0.59	4	0.2	10		mg/L	EPA 300.0
pH	8.0	7.9	8	1		6.5-8.5	pH Units	SM 4500H+ B
Specific Conductance	760	780	940	1		1600	umhos/cm	SM 2510 B
Total Dissolved Solids	430	460	560	10		1000	mg/L	SM 2540C
MBAS	ND	ND	ND	0.08	0.5		mg/L	SM 5540C
Copper	ND	ND	ND	24	1300	1000	ug/L	EPA 200.7
Iron	2400	2800	2900	49		300	ug/L	EPA 200.7
Manganese	54	120	370	9.7		50	ug/L	EPA 200.7
Zinc	100	96	50	24		5000	ug/L	EPA 200.7

Note:

ND: Analyte NOT DETECTED at or above the Method Detection Limit

NR: Not Reported

RDL: Reportable Detection Limit

MCL: Maximum Contaminant Level

APPENDIX A
pump Test Results
Well No. 1, No. 2, and No. 3

APPENDIX B

Water Quality Results

Well No. 1, No. 2, and No. 3



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Client Name: Well Tec Water Well & Pump Service
Contact: Mike Rentz
Address: P.O .Box 3375
Beaumont, CA 92223

Analytical Report: Page 1 of 4
Project Number: Well 1
Project Name: No Project

Report Date: 30-May-2019

Work Order Number: B9E2199

Received on Ice (Y/N): Yes Temp: 5°C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department.

Sample Identification

<u>Lab Sample #</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>By</u>	<u>Date Submitted</u>	<u>By</u>
B9E2199-01	Well 1	Water	05/15/19 11:30	Don Espinoza	05/15/19 13:30	Don Espinoza

The following samples were split from an unpreserved container at the laboratory after submittal and subsequently preserved. If the analyte is identified as 'Dissolved', then the sample was filtered at the lab prior to preservation. Federal guidelines (40CFR Parts 136 and 141) instruct preservation be performed on a separate container collected at site:

B9E2199-01 250 mL Poly HNO3-Split from Unpres



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Analytical Report: Page 2 of 4
 Project Number: Well 1
 Project Name: No Project

Report Date: 30-May-2019

Work Order Number: B9E2199

Received on Ice (Y/N): Yes Temp: 5°C

	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
B9E2199-01 <i>Sampled: 05/15/19 11:30</i>							
Well 1							
Total Hardness	290	1.5	mg/L	SM 2340B/EPA 200.7	05/24/19 22:41	KRV	
Calcium	80	0.49	mg/L	EPA 200.7	05/24/19 22:41	KRV	
Magnesium	21	0.49	mg/L	EPA 200.7	05/24/19 22:41	KRV	
Sodium	60	0.49	mg/L	EPA 200.7	05/24/19 22:41	KRV	
Potassium	3.1	0.49	mg/L	EPA 200.7	05/24/19 22:41	KRV	
Total Alkalinity	250	5.0	mg/L as CaCO3	SM 2320B	05/24/19 22:41	KL	
Hydroxide	ND	5.0	mg/L as CaCO3	SM 2320B	05/24/19 22:41	KL	
Carbonate	ND	5.0	mg/L as CaCO3	SM 2320B	05/24/19 22:41	KL	
Bicarbonate	250	5.0	mg/L as CaCO3	SM 2320B	05/24/19 22:41	KL	
Chloride	84	1.0	mg/L	EPA 300.0	05/16/19 05:12	RER	
Sulfate	28	0.50	mg/L	EPA 300.0	05/16/19 05:12	RER	
Nitrate as N	1.1	0.20	mg/L	EPA 300.0	05/16/19 05:12	RER	



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Client Name: Well Tec Water Well & Pump Service
 Contact: Mike Rentz
 Address: P.O .Box 3375
 Beaumont, CA 92223

Analytical Report: Page 3 of 4
 Project Number: Well 1
 Project Name: No Project

Report Date: 30-May-2019

Work Order Number: B9E2199

Received on Ice (Y/N): Yes Temp: 5°C

	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
B9E2199-01 <i>Sampled: 05/15/19 11:30</i>							
Well 1							
pH	8.0	1.0	pH Units	SM 4500H+ B	05/24/19 22:41	KL	
Specific Conductance	760	1.0	umhos/cm	SM 2510 B	05/24/19 22:41	KL	
Total Dissolved Solids	430	10	mg/L	SM 2540C	05/21/19 10:46	BBR	
MBAS	ND	0.08	mg/L	SM 5540C	05/16/19 17:59	MWM	
Copper	ND	24	ug/L	EPA 200.7	05/24/19 22:42	KRV	
Iron	2400	49	ug/L	EPA 200.7	05/24/19 22:42	KRV	
Manganese	54	9.7	ug/L	EPA 200.7	05/24/19 22:42	KRV	
Zinc	100	24	ug/L	EPA 200.7	05/24/19 22:42	KRV	



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Analytical Report: Page 4 of 4
Project Number: Well 1
Project Name: No Project

Report Date: 30-May-2019

Work Order Number: B9E2199

Received on Ice (Y/N): Yes Temp: 5°C

Notes and Definitions

pH: Regulatory 15 minute holding time exceeded B9E2199-01

ND: Analyte NOT DETECTED at or above the Method Detection Limit (if MDL is reported), otherwise at or above the Reportable Detection Limit (RDL)

NR: Not Reported

RDL: Reportable Detection Limit

MDL: Method Detection Limit

* / " : NELAP does not offer accreditation for this analyte/method/matrix combination

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted.

Angela E. Brown For KayeLani A. Marshall

cc:

e-Tab_Summary.rpt

This report applies only to the sample(s) analyzed. As a mutual protection to clients, the public, and Babcock Laboratories, Inc., this report is submitted and accepted for the exclusive use of the Client to whom it is addressed. Interpretation and use of the information contained within this report are the sole responsibility of the Client. Babcock Laboratories, Inc. is not responsible for any misinformation or consequences that may result from misinterpretation or improper use of this report. This report is not to be modified or abbreviated in any way. Additionally, this report is not to be used, in whole or in part, in any advertising or publicity matter without written authorization from Babcock Laboratories, Inc. The liability of Babcock Laboratories, Inc. is limited to the actual cost of the requested analyses, unless otherwise agreed upon in writing. There is no other warranty expressed or implied.

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CA ELAP No. 2698
EPA No. CA00102
NELAP No.OR4035
LACSD No., 10119



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Analytical Report: Page 1 of 1
Project Number: Well 1
Project Name: No Project

Report Date: 30-May-2019

Work Order Number: B9E2199

Received on Ice (Y/N): Yes Temp: 5°C



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6100 Quail Valley Court Riverside, CA 92507
(951) 653-3351 • FAX (951) 653-1662
www.babcocklabs.com

Chain of Custody & Sample Information Record

Client: Donato Well Tec		Contact:		Fax No.		Additional Reporting Requests	
Phone No.		email:				Include QC Data Package: <input type="checkbox"/> Yes <input type="checkbox"/> No FAX Results: <input type="checkbox"/> Yes <input type="checkbox"/> No Email Results: <input type="checkbox"/> Yes <input type="checkbox"/> No State EDT: <input type="checkbox"/> Yes <input type="checkbox"/> No (Include Source Number in Notes)	
Project Name:		Turn Around Time: Routine *72 Hour Rush *48 Hour Rush *24 Hour Rush					
Project Location:		*Lab TAT Approval:		By:		*Additional Charges Apply	
Sampler Information		# of Containers & Preservatives		Sample Type		Analysis Requested	
Name: <u>Don Larry</u> Employer: <u>well tec</u> Signature: <u>[Signature]</u>		Unpreserved other H ₂ SO ₄ HCl HNO ₃ Na ₂ S ₂ O ₃ NaOH NaOH/Zn Acetate NH ₄ Cl PDC Total # of Containers: <u>1</u>		Routine Resample Special <u>General Min.</u>		Matrix DW = Drinking Water WW = Waste Water GW = Ground Water S = Source SG = Sludge L = Liquid M = Miscellaneous	
Notes	<u>*OK to split per client 5/15/19</u>						
Sample ID	Date	Time					
<u>well 1</u>	<u>5/15</u>	<u>11:30</u>					
	<u>2019</u>	<u>[Signature]</u>					
Relinquished By (sign)	Print Name / Company	Date / Time	Received By (sign)	Print Name / Company			
<u>Don Espinoza</u>	<u>[Signature]</u>	<u>5/15/19 15:30</u>	<u>[Signature]</u>	<u>Alyssa ESB</u>			
		<u>13:30</u>	<u>[Signature]</u>				

By signing on behalf of your organization and relinquishing this chain of custody you agree to abide by the Babcock Laboratories, Inc. Terms and Conditions.

(For Lab Use Only) Sample Integrity Upon Receipt/Acceptance Criteria

Sample(s) Submitted on Ice? <u>Yes</u> No	Sample meets laboratory acceptance criteria? <u>Yes</u>
Custody Seal(s) Intact? Yes No <u>NA</u>	Permission to continue: Yes
Sample(s) Intact? <u>S</u> Yes No	Deviation/Notes: <u>/</u>
Temperature: <u>5</u> °C <input type="checkbox"/> Cooler Blank	Signature/Date: _____

B9E2199
5/15/2019 19:09
AJG

Rev. 6/16



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Client Name: Well Tec Water Well & Pump Service
Contact: Mike Rentz
Address: P.O .Box 3375
Beaumont, CA 92223

Analytical Report: Page 1 of 4
Project Number: Well 2
Project Name: No Project

Report Date: 30-May-2019

Work Order Number: B9E2200

Received on Ice (Y/N): Yes Temp: 5°C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department.

Sample Identification

<u>Lab Sample #</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>By</u>	<u>Date Submitted</u>	<u>By</u>
B9E2200-01	Well 2	Water	05/15/19 09:00	Don Espinoza	05/15/19 13:30	Don Espinoza

The following samples were split from an unpreserved container at the laboratory after submittal and subsequently preserved. If the analyte is identified as 'Dissolved', then the sample was filtered at the lab prior to preservation. Federal guidelines (40CFR Parts 136 and 141) instruct preservation be performed on a separate container collected at site:

B9E2200-01 250 mL Poly HNO3-Split from Unpres



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Client Name: Well Tec Water Well & Pump Service
 Contact: Mike Rentz
 Address: P.O .Box 3375
 Beaumont, CA 92223

Analytical Report: Page 2 of 4
 Project Number: Well 2
 Project Name: No Project

Report Date: 30-May-2019

Work Order Number: B9E2200

Received on Ice (Y/N): Yes Temp: 5°C

	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
B9E2200-01 <i>Sampled: 05/15/19 09:00</i>							
Well 2							
Total Hardness	270	1.5	mg/L	SM 2340B/EPA 200.7	05/24/19 22:46	KRV	
Calcium	84	0.49	mg/L	EPA 200.7	05/24/19 22:46	KRV	
Magnesium	14	0.49	mg/L	EPA 200.7	05/24/19 22:46	KRV	
Sodium	81	0.49	mg/L	EPA 200.7	05/24/19 22:46	KRV	
Potassium	1.8	0.49	mg/L	EPA 200.7	05/24/19 22:46	KRV	
Total Alkalinity	260	5.0	mg/L as CaCO3	SM 2320B	05/24/19 22:49	KL	
Hydroxide	ND	5.0	mg/L as CaCO3	SM 2320B	05/24/19 22:49	KL	
Carbonate	ND	5.0	mg/L as CaCO3	SM 2320B	05/24/19 22:49	KL	
Bicarbonate	260	5.0	mg/L as CaCO3	SM 2320B	05/24/19 22:49	KL	
Chloride	81	1.0	mg/L	EPA 300.0	05/16/19 05:47	RER	
Sulfate	36	0.50	mg/L	EPA 300.0	05/16/19 05:47	RER	
Nitrate as N	0.59	0.20	mg/L	EPA 300.0	05/16/19 05:47	RER	



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 Project Name: No Project

Report Date: 30-May-2019

Work Order Number: B9E2200

Received on Ice (Y/N): Yes Temp: 5°C

	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
B9E2200-01 <i>Sampled: 05/15/19 09:00</i>							
Well 2							
pH	7.9	1.0	pH Units	SM 4500H+ B	05/24/19 22:49	KL	
Specific Conductance	780	1.0	umhos/cm	SM 2510 B	05/24/19 22:49	KL	
Total Dissolved Solids	460	10	mg/L	SM 2540C	05/21/19 10:46	BBR	
MBAS	ND	0.08	mg/L	SM 5540C	05/16/19 17:59	MWM	
Copper	ND	24	ug/L	EPA 200.7	05/24/19 22:46	KRV	
Iron	2800	49	ug/L	EPA 200.7	05/24/19 22:46	KRV	
Manganese	120	9.7	ug/L	EPA 200.7	05/24/19 22:46	KRV	
Zinc	96	24	ug/L	EPA 200.7	05/24/19 22:47	KRV	



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Client Name: Well Tec Water Well & Pump Service
Contact: Mike Rentz
Address: P.O .Box 3375
Beaumont, CA 92223

Analytical Report: Page 4 of 4
Project Number: Well 2
Project Name: No Project

Report Date: 30-May-2019

Work Order Number: B9E2200

Received on Ice (Y/N): Yes Temp: 5°C

Notes and Definitions

pH: Regulatory 15 minute holding time exceeded B9E2200-01

ND: Analyte NOT DETECTED at or above the Method Detection Limit (**if MDL is reported**), otherwise at or above the Reportable Detection Limit (RDL)

NR: Not Reported

RDL: Reportable Detection Limit

MDL: Method Detection Limit

* / " : NELAP does not offer accreditation for this analyte/method/matrix combination

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted.

Angela E. Brown For KayeLani A. Marshall

cc:

e-Tab_Summary.rpt

This report applies only to the sample(s) analyzed. As a mutual protection to clients, the public, and Babcock Laboratories, Inc., this report is submitted and accepted for the exclusive use of the Client to whom it is addressed. Interpretation and use of the information contained within this report are the sole responsibility of the Client. Babcock Laboratories, Inc. is not responsible for any misinformation or consequences that may result from misinterpretation or improper use of this report. This report is not to be modified or abbreviated in any way. Additionally, this report is not to be used, in whole or in part, in any advertising or publicity matter without written authorization from Babcock Laboratories, Inc. The liability of Babcock Laboratories, Inc. is limited to the actual cost of the requested analyses, unless otherwise agreed upon in writing. There is no other warranty expressed or implied.

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CA ELAP No. 2698
EPA No. CA00102
NELAP No.OR4035
LACSD No., 10119



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Client Name: Well Tec Water Well & Pump Service
Contact: Mike Rentz
Address: P.O. Box 3375
Beaumont, CA 92223

Analytical Report: Page 1 of 1
Project Number: Well 2
Project Name: No Project

Report Date: 30-May-2019

Work Order Number: B9E2200

Received on Ice (Y/N): Yes Temp: 5°C



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6100 Quail Valley Court Riverside, CA 92507
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Chain of Custody & Sample Information Record

Client: Don Larry well tec		Contact:		Fax No.		Additional Reporting Requests	
Phone No.		email:				<input type="checkbox"/> Include QC Data Package: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> FAX Results: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Email Results: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> State EDT: <input type="checkbox"/> Yes <input type="checkbox"/> No (Include Source Number in Notes)	
Project Name:		Turn Around Time: Routine *72 Hour Rush *48 Hour Rush *24 Hour Rush					
Project Location:		*Lab TAT Approval: By:		*Additional Charges Apply			
Sampler Information		# of Containers & Preservatives		Sample Type		Analysis Requested	
Name: Don Larry		Unpreserved other		Routine		Matrix	
Employer: well tec		H ₂ SO ₄		Resample		DW = Drinking Water WW = Waste Water GW = Ground Water S = Source SG = Sludge L = Liquid M = Miscellaneous	
Signature: <i>[Signature]</i>		HCl		Special		Notes	
Sample ID		HNO ₃		Total # of Containers		*OK to SPIH percipient <i>[Signature]</i> 5/15/19	
Date		Na ₂ S ₂ O ₃		1			
Time		NaOH					
well #2		NaOH/Zn Acetate					
5/15		NH ₄ Cl					
9:00		PDC					
2019							
<i>[Signature]</i>							
Relinquished By (sign)		Print Name / Company		Date / Time		Received By (sign)	
<i>[Signature]</i>		Don Espinoza		5/15/19 13:30		<i>[Signature]</i>	
						Print Name / Company	
						Alyssa/ESB	
By signing on behalf of your organization and relinquishing this chain of custody you agree to abide by the Babcock Laboratories, Inc. Terms and Conditions.							
(For Lab Use Only) Sample Integrity Upon Receipt/Acceptance Criteria							
Sample(s) Submitted on Ice? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Sample meets laboratory acceptance criteria? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>					
Custody Seal(s) Intact? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>		Permission to continue: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>					
Sample(s) Intact? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Deviation/Notes:					
Temperature: 5°C <input checked="" type="checkbox"/> Cooler Blank <input type="checkbox"/>		Signature/Date:					

B9E2200
5/15/2019 13:30
AJG



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Client Name: Well Tec Water Well & Pump Service
 Contact: Mike Rentz
 Address: P.O .Box 3375
 Beaumont, CA 92223

Analytical Report: Page 1 of 4
 Project Number: Well 3
 Project Name: No Project

Work Order Number: B9E2201

Report Date: 30-May-2019

Received on Ice (Y/N): Yes Temp: 5°C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department.

Sample Identification

<u>Lab Sample #</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>By</u>	<u>Date Submitted</u>	<u>By</u>
B9E2201-01	Well 3	Water	05/15/19 10:30	Don Espinoza	05/15/19 13:30	Don Espinoza

The following samples were split from an unpreserved container at the laboratory after submittal and subsequently preserved. If the analyte is identified as 'Dissolved', then the sample was filtered at the lab prior to preservation. Federal guidelines (40CFR Parts 136 and 141) instruct preservation be performed on a separate container collected at site:

B9E2201-01 250 mL Poly HNO3-Split from Unpres



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Client Name: Well Tec Water Well & Pump Service
 Contact: Mike Rentz
 Address: P.O .Box 3375
 Beaumont, CA 92223

Analytical Report: Page 2 of 4
 Project Number: Well 3
 Project Name: No Project

Report Date: 30-May-2019

Work Order Number: B9E2201

Received on Ice (Y/N): Yes Temp: 5°C

	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
B9E2201-01 <i>Sampled: 05/15/19 10:30</i>							
Well 3							
Total Hardness	330	1.5	mg/L	SM 2340B/EPA 200.7	05/24/19 22:51	KRV	
Calcium	98	0.49	mg/L	EPA 200.7	05/24/19 22:51	KRV	
Magnesium	22	0.49	mg/L	EPA 200.7	05/24/19 22:51	KRV	
Sodium	91	0.49	mg/L	EPA 200.7	05/24/19 22:51	KRV	
Potassium	1.4	0.49	mg/L	EPA 200.7	05/24/19 22:51	KRV	
Total Alkalinity	300	5.0	mg/L as CaCO3	SM 2320B	05/24/19 22:57	KL	
Hydroxide	ND	5.0	mg/L as CaCO3	SM 2320B	05/24/19 22:57	KL	
Carbonate	ND	5.0	mg/L as CaCO3	SM 2320B	05/24/19 22:57	KL	
Bicarbonate	300	5.0	mg/L as CaCO3	SM 2320B	05/24/19 22:57	KL	
Chloride	100	1.0	mg/L	EPA 300.0	05/16/19 05:58	RER	
Sulfate	41	0.50	mg/L	EPA 300.0	05/16/19 05:58	RER	
Nitrate as N	3.7	0.20	mg/L	EPA 300.0	05/16/19 05:58	RER	



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Client Name: Well Tec Water Well & Pump Service
 Contact: Mike Rentz
 Address: P.O .Box 3375
 Beaumont, CA 92223

Analytical Report: Page 3 of 4
 Project Number: Well 3
 Project Name: No Project

Report Date: 30-May-2019

Work Order Number: B9E2201

Received on Ice (Y/N): Yes Temp: 5°C

	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
B9E2201-01 <i>Sampled: 05/15/19 10:30</i>							
Well 3							
pH	8.0	1.0	pH Units	SM 4500H+ B	05/24/19 22:57	KL	
Specific Conductance	940	1.0	umhos/cm	SM 2510 B	05/24/19 22:57	KL	
Total Dissolved Solids	560	10	mg/L	SM 2540C	05/21/19 10:46	BBR	
MBAS	ND	0.08	mg/L	SM 5540C	05/16/19 17:59	MWM	
Copper	ND	24	ug/L	EPA 200.7	05/24/19 22:51	KRV	
Iron	2900	49	ug/L	EPA 200.7	05/24/19 22:51	KRV	
Manganese	370	9.7	ug/L	EPA 200.7	05/24/19 22:51	KRV	
Zinc	50	24	ug/L	EPA 200.7	05/24/19 22:51	KRV	



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Client Name: Well Tec Water Well & Pump Service
Contact: Mike Rentz
Address: P.O .Box 3375
Beaumont, CA 92223

Analytical Report: Page 4 of 4
Project Number: Well 3
Project Name: No Project

Report Date: 30-May-2019

Work Order Number: B9E2201

Received on Ice (Y/N): Yes Temp: 5°C

Notes and Definitions

pH: Regulatory 15 minute holding time exceeded B9E2201-01

ND: Analyte NOT DETECTED at or above the Method Detection Limit (**if MDL is reported**), otherwise at or above the Reportable Detection Limit (RDL)

NR: Not Reported

RDL: Reportable Detection Limit

MDL: Method Detection Limit

* / " : NELAP does not offer accreditation for this analyte/method/matrix combination

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted.

Angela E. Brown For KayeLani A. Marshall

cc:

e-Tab_Summary.rpt

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NELAP No. OR4035
LACSD No., 10119



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Client Name: Well Tec Water Well & Pump Service
Contact: Mike Rentz
Address: P.O. Box 3375
Beaumont, CA 92223

Analytical Report: Page 1 of 1
Project Number: Well 3
Project Name: No Project

Report Date: 30-May-2019

Work Order Number: **B9E2201**

Received on Ice (Y/N): Yes Temp: 5°C



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Chain of Custody & Sample Information Record

Client: <u>Protero well tec</u>		Contact:		Fax No.		Additional Reporting Requests	
Phone No.		email:				Include QC Data Package: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Project Name:		Turn Around Time: Routine *72 Hour Rush *48 Hour Rush *24 Hour Rush				FAX Results: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Project Location:		*Lab TAT Approval: By: *Additional Charges Apply				Email Results: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sampler Information		# of Containers & Preservatives		Sample Type		Analysis Requested	
Name: <u>Don Larry</u>		Unpreserved Other		Routine		Matrix	
Employer: <u>well tec</u>		H ₂ SO ₄		Resample		DW = Drinking Water	
Signature: <u>[Signature]</u>		HCl		Special		WW = Waste Water	
Sample ID		HNO ₃		General		GW = Ground Water	
Date		Na ₂ S ₂ O ₃				S = Source	
Time		NaOH				SG = Sludge	
		NaOH/Zn Acetate				L = Liquid	
		NH ₄ Cl				M = Miscellaneous	
		PDC					
<u>well #3</u>		Total # of Containers					
<u>5/15</u>		1					
<u>10:30</u>							
<u>2019</u>							
<u>[Signature]</u>							
Retinquished By (sign)		Print Name / Company		Date / Time		Received By (sign)	
<u>[Signature]</u>		<u>Don Espinoza</u>		<u>5/15/19 13:30</u>		<u>[Signature]</u>	
						<u>[Signature]</u>	

By signing on behalf of your organization and relinquishing this chain of custody you agree to abide by the Babcock Laboratories, Inc. Terms and Conditions.

(For Lab Use Only) Sample Integrity Upon Receipt/Acceptance Criteria			
Sample(s) Submitted on Ice?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Sample meets laboratory acceptance criteria?	Yes <input checked="" type="radio"/> No <input type="radio"/>
Custody Seal(s) Intact?	Yes <input type="radio"/> No <input checked="" type="radio"/> NA	Permission to continue:	Yes <input checked="" type="radio"/> No <input type="radio"/>
Sample(s) Intact?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Deviation/Notes:	
Temperature: <u>5</u>	<input checked="" type="radio"/> Cooler Blank <input type="checkbox"/>	Signature/Date:	

B9E2201

5/15/2019 13:30
AJG

