

**Ione Wastewater Treatment Facility
Groundwater Monitoring Network Report
R5-2013-0022-REV1
Third Quarter 2023**

Prepared for

City of Ione

October 16, 2023

Prepared by



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Ione Wastewater Treatment Facility
Groundwater Monitoring Network Report
R5-2013-0022-REV1
Third Quarter 2023

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October 16, 2023

City of Ione
Amy Gedney, Acting City Manager
1 East Main Street
Ione, CA 95640

RE: City of Ione Wastewater Treatment Facility
Third Quarter 2023 Groundwater Monitoring Report
R5-2013-0022-REV1

Dear Ms. Gedney:

This report summarizes the 3rd Quarter 2023 groundwater monitoring and analytical sampling event associated with Monitoring and Reporting Program (MRP) R5-2013-0022-REV1.

AUTHORIZATION

The services provided by Dellavalle Laboratory, Inc. (DLI), Provost & Pritchard Consulting Group (P&P), and Del Tech Geotechnical Support Services (Del-Tech) were authorized by the City of Ione and Dellavalle Project Manager, Lisa Rubin.

CITY OF IONE WWTF GROUNDWATER MONITORING NETWORK

As of 14 August 2023, the City of Ione Wastewater Treatment Facility (WWTF) groundwater monitoring network consists of nine (9) onsite monitoring wells, four (4) piezometers, and six (6) offsite monitoring wells (**Table 1 - Network Site Descriptions**). Each quarter, samples are collected from the onsite monitoring wells and depth-to-water (DTW) measurements are collected from the onsite monitoring wells, the piezometers, and the offsite monitoring wells (MW-08 series).

As required by California Business and Professions Code Section 7835, groundwater monitoring site locations, potentiometric measurements, groundwater elevations, and analytical results summary discussions have been prepared by a Licensed California Geologist and are presented in **Attachment 1 - Groundwater Elevation and Analytical Results Discussion**. Groundwater elevations and depth to water measurements (DTW) with historical graph trends are presented in **Attachment 2 - Groundwater Monitoring Network Measurements and Graphs**.

Table 1. Network Site Descriptions

Location	Monument	Location	Monument
MW-1	Post	MW 08-1	Post
MW-1A	Post	MW 08-2A	Post
MW-2	Flush	MW 08-2B	Post
MW-2A	Flush	MW 08-3	Post
MW-3	Post	MW 08-4A	Post
MW-3A	Post	MW 08-4B	Post
MW-4	Post	P-1	Post
MW-4A	Post	P-2	Post
MW-5A	Post	P-3	Post
		P-5B	Post

GROUNDWATER MONITORING & SAMPLING

Prior to purging and sampling, Del-Tech measured DTW in all onsite monitoring wells from the north side and top edge of the well casing. DTW measurements (ft) are subtracted from the depth of well (ft) to determine standing water column (SWC) measurements (ft). The SWC is multiplied by the gallons per foot of depth (0.1632 for 2-inch diameter and 0.6528 for 4-inch diameter well casings) to determine calculated purge volume. All well casings are 2-inch polyvinyl chloride, except for MW-5A, which has a 4-inch diameter.

Dedicated Waterra tubing and check-ball systems were installed in MW-1, MW-1A, MW-2, MW-2A, MW-3, MW-3A, MW-4, and MW-4A and purged and sampled with an inertial pump. Dedicated tubing was installed in MW-5A, but due to the required purge volume of water, this onsite well was sampled and purged with an electronic centrifugal pump. Each onsite monitoring well was purged to remove standing water within the well casing that may not be representative of formation water. Purge water samples were monitored in the field for temperature, pH, electrical conductivity (EC), oxidation-reduction potential (ORP), turbidity, and dissolved oxygen (DO). All purged water was released to the ground.

Instrument calibration was carried out daily in the field prior to measuring purge parameters. Field records for water sampling events are included in Attachment 3 - **Field Records**.

Groundwater samples were collected for laboratory analysis after a minimum of three well casing volumes of water had been removed and the field parameters for purge water had stabilized. During sampling, DTW measurements were taken and recorded for draw-down after each purge. The following target criteria for three consecutive measurements were used to define stabilization:

- ◆ +/- 0.2 for pH
- ◆ +/- 10% for EC
- ◆ +/- 2.0 degrees Celsius
- ◆ +/- 20mv for ORP

Samples were collected in the appropriate laboratory prepared containers, labeled, and placed directly into an ice cooled chest and delivered under chain-of-custody protocols by the project manager to DLI's analytical laboratory. Samples for metals analysis were filtered prior to preservation and digestion using a 0.45-micron filter.

As requested, quarterly groundwater samples were analyzed at DLI for pH, electrical conductivity (EC), total dissolved solids (TDS), Nitrate-N ($\text{NO}_3\text{-N}$), ammonia as nitrogen ($\text{NH}_4\text{-N}$), dissolved iron (Fe), dissolved manganese (Mn), and total coliform organisms (TCO) were subcontracted to BSK Associates (BSK).

DLI's analytical laboratory is certified by the Environmental Laboratory Accreditation Program (Certificate No. 1595) for the analyses provided herein. BSK is certified by the Environmental Laboratory Accreditation Program (Certificate No. 1180) for TCO utilizing Standard Method 9221B.

Historical quarterly water quality data and trend graphs are presented in **Attachment 4 - Historical Quarterly Groundwater Quality Data and Graphs** and the annual standards minerals historical data is presented in **Attachment 5 - Historical Annual Standard Minerals Groundwater Quality Data**. Copies of the laboratory analytical reports for this quarter are included in **Attachment 6 - Reports of Water Analysis (Onsite Monitoring Wells)**.

LIMITATIONS STATEMENT

This report has been reviewed by a Professional Geologist in the State of California. DLI's professional services were performed consistent with generally accepted environmental principles and practices in California at the time the services were performed. Data in this report, prior to 28 November 2022, was based on data collected and provided by others. No guarantee or warranty, expressed or implied, is made.

October 16, 2023

This Report was prepared for the sole use of Dischargers regulated under R5-2013-0022, Provost & Pritchard Consulting Group, and involved regulatory agencies. It may not be used or relied upon by any other person(s) without the express written consent and authorization of the City of Ione and DLI. If any errors are found in the information used for this report, the inferences and conclusions shall not be considered valid unless the changes or errors are reviewed by the supervising Professional Geologist and re-approved in writing. Any questions regarding the content of this document should be directed to the DLI Project Manager or the City Manager for Ione.

If you have any questions concerning this report, please do not hesitate to call me at (408) 667-7661 or e-mail inquiries to l.rubin@dellavallelab.com.

Thank you,

A handwritten signature in cursive script that reads "Lisa Rubin".

Lisa A. Rubin, CCA

Attachments

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Attachment 1
Groundwater Elevation and Analytical
Results Discussion



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October 30, 2023

Lisa Rubin, CCA
Dellavalle Laboratory, Inc.
1910 W. McKinley Avenue #110
Fresno, CA 93728

RE: Lone WWTF, Groundwater Monitoring Report, Third Quarter 2023, Groundwater Elevation and Analytical Results Discussion

Dear Ms. Rubin:

This document was prepared by Provost & Pritchard Consulting Group (Provost & Pritchard) for Dellavalle Laboratory, Inc. (DLI) for the Lone Wastewater Treatment Facility (WWTF) in Lone, California, which is subject to Monitoring and Reporting Program (MRP) R5-2013-0022 (REV1). The following discussion is based on the information presented in the Lone Wastewater Treatment Facility, Groundwater Monitoring Network Report, R5-2013-0022-REV1, Third Quarter 2023 prepared by DLI.

GROUNDWATER ELEVATION

Well locations and depth to water measurements for the third quarter 2023 groundwater sampling event at the Lone WWTF site were provided in Attachment 2 of the DLI report. The top casing elevations were obtained from the previous consultant's work product, provided by the City of Lone. Groundwater elevations were calculated and are shown on the enclosed Groundwater Elevation Map, prepared by a Provost & Pritchard Professional Geologist. The calculated groundwater gradient across the WWTF site based on the contours for the sample date is approximately 0.003 feet per foot (ft/ft) to the west. According to the discussion by the previous consultant, groundwater gradient was to the west-southwest at approximately 0.005 ft/ft in the 4th quarter of 2021. Provost & Pritchard has calculated the gradient since 4th quarter 2022 between 0.004 and 0.005 ft/ft and between west and southwest. Thus, this quarter's gradient is slightly flatter but in a direction consistent with historical flow.

Based on hydrographs produced using historical groundwater elevations at the site, it appears that often the highest groundwater elevation occurs in the 1st quarter and the lowest in the 3rd quarter. This quarter (3rd) groundwater elevations decreased about 1.0 to 4.8 feet from the previous quarter, consistent with historical trends. Changes in groundwater elevation this quarter from the 3rd quarter of 2022 generally increased between 0.7 and 5.2 feet with a decrease in just one well (MW-2A) of 0.2 feet.

ANALYTICAL RESULTS

Based on the quarterly analytical results in Attachment 4 of the DLI report, this quarter's results were fairly consistent with historical temporal trends. Total coliform organism (TCO) and nitrate as nitrogen (NO₃-N) concentrations have no apparent increasing or decreasing trend but have had large variations over the years. This quarter TCO was reported lower than historic results in MW-1A and was not detected in the other wells. Ammonia concentrations over time appear to be trending slightly down in MW-2, MW-2A, and MW-3A, and relatively stable in the remainder of wells, but increased in most of the wells from last quarter. Field pH and total dissolved solids (TDS) concentrations appear to be fairly consistent over time and were within historic range this quarter. Dissolved iron concentrations have been trending downward since about 2016, however has been somewhat elevated in MW-2A recently. Manganese appears to be increasing over time in MW-4, which had a slight decrease this quarter, with no apparent trend in the other wells.

\\ppeng.com\pzd\data\clients\Dellavalle-1020\102022001-Lone WWTP & Castle Oak GW Consulting\600 Deliverables\Lone WWTF\2023 Q3\2023 Q3 Lone WWTF Discussion.docx

The historical quarterly analytical results do not illustrate strong spatial trends in the concentrations of TCO or NO3-N. Historical field pH measurements may have a weak spatial trend, however values across wells generally have a tight range and are not easily discernible. TDS concentration appears to have a spatial trend, with MW-1 (upgradient) historically having the lowest concentration and MW-3 (downgradient of ponds) often having the highest concentration. This quarter MW-1 did have the lowest TDS concentration but MW-1A (upgradient) was highest, as was true last quarter.

The wells nearest the ponds generally have elevated concentrations of ammonia, dissolved iron, and dissolved manganese relative to the other wells. Ammonia is historically highest in MW-3A, MW-2A, MW-2, and MW-3, from highest to lowest concentrations, and low or not detected in the other wells. Ammonia concentrations were within historical spatial trends this quarter, although MW-4 and -4A had their highest reported values. Dissolved iron is historically elevated in MW-2A, MW 3A, and MW-2, in descending order and low to not detected in the remaining wells, which was true this quarter. Dissolved manganese concentrations have a historical spatial trend of MW-3A, MW-3, MW-2, and MW-2A being elevated, in order of highest to lowest, and downgradient MW-4 slightly elevated. The dissolved manganese trend continued this quarter, except for an increase in concentration in MW-2A to above MW-3 concentration.

Groundwater limitations for the site are set at 2.2 MPN/100mL as a 7-day median for total coliform and at respective primary or secondary maximum concentration limits (MCLs) identified in Title 22 of the California Code of Regulations. Groundwater limitation values were exceeded for TCO in MW-1A; iron in MW-2, MW-2A and MW-3A; and manganese (secondary MCL) in MW-2, MW-2A, MW-3, MW-3A, MW-4, MW-4A, and MW-5A.

LIMITATIONS

This document has been prepared for the sole use of DLI, the City of Ione, and involved regulatory agencies. Any other person or entity without the express written consent of Provost & Pritchard Consulting Group may not rely upon this document.

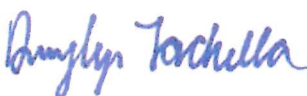
Provost & Pritchard's professional services were performed consistent with generally accepted environmental principles and practices in California at the time the services were performed.

No assessment can eliminate uncertainty regarding the potential for recognized environmental conditions. This document is intended to reduce, but not eliminate this uncertainty, recognizing reasonable limits of time and cost. Subsurface variations cannot be known, or entirely accounted for, despite exhaustive testing. This document should not be regarded as a guarantee that no further recognized environmental conditions are present on or beneath the site, beyond that which could have been detected within the scope of work.

In developing this report, Provost & Pritchard has relied on information that was prepared or provided by others. Provost & Pritchard assumes that this information is accurate and correct, unless noted. Changes in existing conditions at the site due to time lapse, natural causes, or operations on adjoining properties, may deem the information inappropriate.

No guarantee or warranty, expressed or implied, is made.

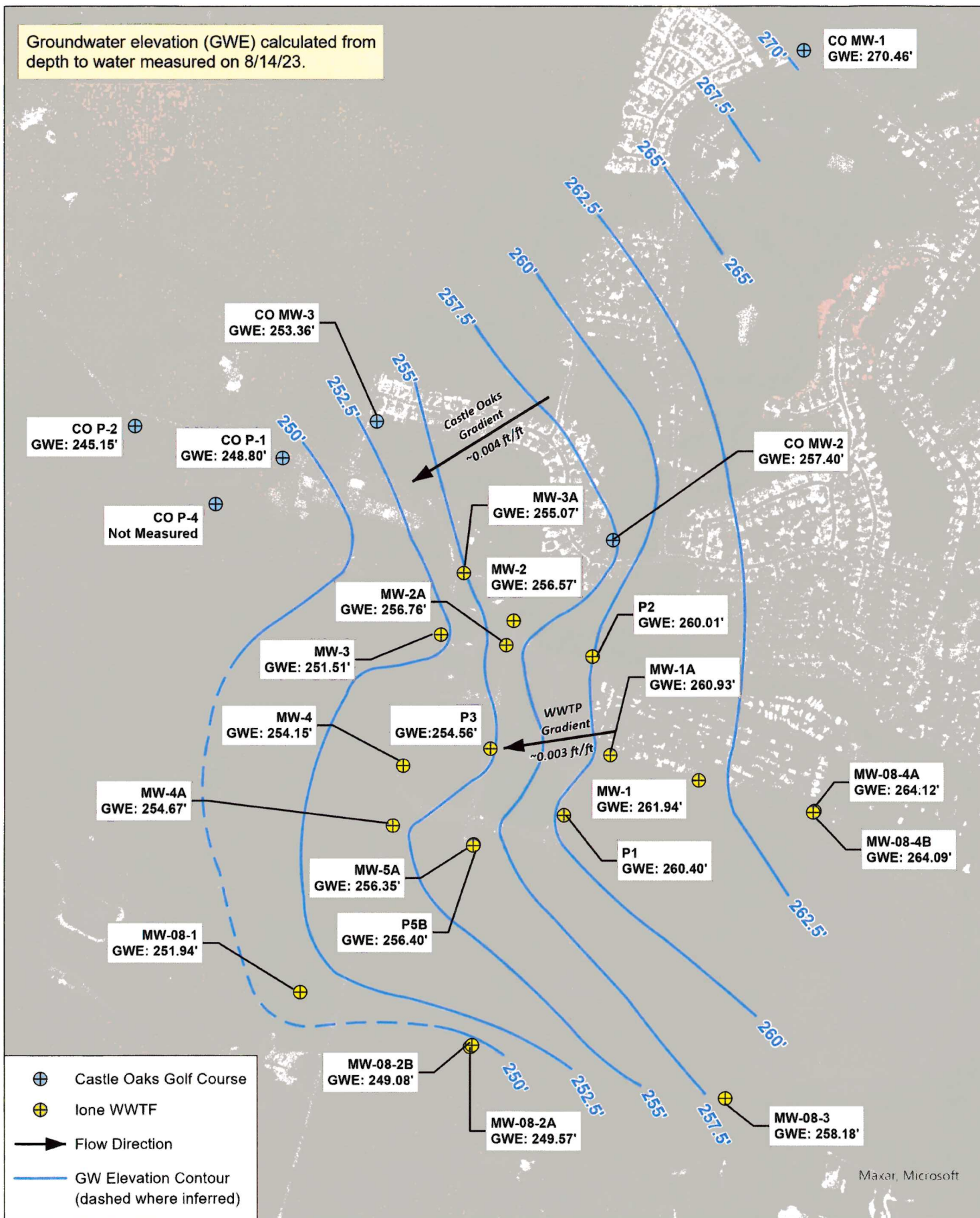
Respectfully,



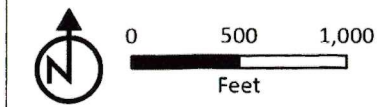
Darylyn Tachella, PG
Senior Geologist

Enclosure: Groundwater Elevation Map for 8/14/23

Groundwater elevation (GWE) calculated from depth to water measured on 8/14/23.



Castle Oaks Golf Course
 Lone WWTF
 Flow Direction
 GW Elevation Contour (dashed where inferred)



Groundwater Elevation Map Lone WWTF & Castle Oaks Golf Course

PROVOST & PRITCHARD

Attachment 2
Groundwater Monitoring Network
Measurements and Graphs



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Historical Groundwater Monitoring Data
City of Lone WWTf
R5-2013-0022-REV1

Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
			Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
			ft. msl	ft	ft. msl	gal	deg C	std units	umh/s/cm	mg/L	Mv	NTU
MW1		7/16/02	274.17	12.25	261.92			6.90				
MW1		9/18/02	274.17	14.21	259.96							
MW1		10/29/02	274.17	15.31	258.86							
MW1		11/22/02	274.17	12.85	261.32							
MW1		12/31/02	274.17	11.11	263.06							
MW1		1/21/03	274.17	15.21	258.96							
MW1		6/30/03	274.17	11.72	262.45			6.80				
MW1		7/31/03	274.17	13.19	260.98							
MW1		8/31/03	274.17	14.19	259.98							
MW1		9/30/03	274.17	14.98	259.19			6.90				
MW1		10/31/03	274.17	15.30	258.87							
MW1		11/30/03	274.17	12.47	261.70							
MW1		12/31/03	274.17	10.97	263.20			6.80				
MW1		1/31/04	274.17	10.62	263.55							
MW1		2/20/04	274.17	10.21	263.96							
MW1		3/31/04	274.17	10.22	263.95			6.80				
MW1		5/2/04	274.17	11.01	263.16							
MW1		6/1/04	274.17	11.53	262.64							
MW1		6/30/04	274.17	12.55	261.62			6.80				
MW1		7/31/04	274.17	13.72	260.45							
MW1		9/4/04	274.17	14.24	259.93							
MW1		10/1/04	274.17	14.82	259.35			6.90				

Historical Groundwater Monitoring Data
City of Lone WWTF
R5-2013-0022-REV1

Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
			Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
			ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW1		1/4/05	274.17	10.03	264.14			6.80				
MW1		4/1/05	274.17	8.15	266.02			6.90				
MW1		6/30/05	274.17	9.89	264.28			6.80				
MW1		10/11/05	274.17	12.93	261.24	15.0	18.4	6.80	310	3.00	172.0	
MW1		1/17/06	274.17	8.58	265.59							
MW1		2/9/06	274.17	9.21	264.96	8.0	17.5	6.90	320	5.70	106.0	
MW1		3/10/06	274.17	8.42	265.75							
MW1		4/29/06	274.17	8.62	265.55							
MW1		5/23/06	274.17	9.92	264.25	14.0	16.3	6.80	330	13.40	281.0	
MW1		6/30/06	274.17	10.93	263.24							
MW1		7/25/06	274.17	11.13	263.04							
MW1		8/24/06	274.17	11.61	262.56	12.0	17.8	6.80	340	5.60	284.0	
MW1		9/29/06	274.17	10.89	263.28							
MW1		10/24/06	274.17	9.81	264.36							
MW1		11/30/06	274.17	9.59	264.58							
MW1		12/29/06	274.17	9.48	264.69							
MW1		1/31/07	274.17	9.89	264.28							
MW1		2/27/07	274.17	8.93	265.24							
MW1		3/30/07	274.17	9.82	264.35	14.0	17.1	6.90	95	6.70	214.0	
MW1		4/30/07	274.17	10.26	263.91							
MW1		5/31/07	274.17	11.06	263.11							
MW1		6/25/07	274.17	11.36	262.81	8.0	17.5	6.90	85	8.00	284.0	
MW1		7/29/07	274.17	11.85	262.32							
MW1		8/30/07	274.17	13.10	261.07							
MW1		9/27/07	274.17	13.72	260.45	8.0	18.9	6.90	300	7.20	136.0	
MW1		12/27/07	274.17	10.46	263.71	8.0	17.8	6.80	370	4.20	127.0	

Historical Groundwater Monitoring Data
City of Lone WWTF
R5-2013-0022-REV1

Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation		Volume Purged, gal.		Temp. Metered deg C	Field pH Metered std units	Field EC Metered umhs/cm	Dissolved Oxygen		Oxidation/Reduction Potential		Turbidity
					Calculated	ft. msl	Measured	gal				Metered	mg/L	Metered	Mv	
MW1		2/2/08	274.17	9.34		264.83										Metered
MW1		3/2/08	274.17	9.92		264.25										NTU
MW1		7/7/08	274.17	11.89		262.28	7.0		17.2	7.04	291	7.90		126.0		
MW1		10/10/08	274.17	14.22		259.95	5.0		18.6	6.47	261	6.00		59.2		
MW1		11/5/08	274.17	14.21		259.96										
MW1		12/29/08	274.17	11.96		262.21	7.0		18.2	6.70	298	3.40		130.0		
MW1		3/11/09	274.17	9.56		264.61	8.0		14.3	6.86	292	5.40		126.3		
MW1		6/16/09	274.17	10.89		263.28	8.0		17.1	6.75	284	5.30		3.0		
MW1		9/22/09	274.17	14.48		259.69	5.0		17.7	6.11	274	5.98		124.3		
MW1		12/15/09	274.17	12.64		261.53	8.0		17.9	7.08	256	2.90		103.7		
MW1		3/22/10	274.17	9.78		264.39	8.0		14.7	6.81	358	7.42		192.3		
MW1		6/22/10	274.17	10.87		263.30	8.0		16.5	6.73	331	7.95		148.0		
MW1		9/22/10	274.17	12.91		261.26	6.0		17.2	6.78	304	4.68		115.2		
MW1		12/13/10	274.17	10.44		263.73	8.0		16.8	6.97	290	2.93		-12.6		
MW1		3/29/11	274.17	7.61		266.56	9.0		16.0	6.75	311	5.81		-136.1		
MW1		6/22/11	274.17	9.91		264.26	8.0		16.4	6.85	286	6.47		112.8		
MW1		9/13/11	274.17	11.45		262.72	7.0		17.3	6.59	234	4.11		210.1		
MW1		12/14/11	274.17	10.31		263.86	8.0		16.7	7.65	264	3.39		-51.6		
MW1		3/21/12	274.17	8.99		265.18	8.0		16.1	6.31	248	5.34		100.8		
MW1		6/26/12	274.17	10.75		263.42	8.0		16.4	6.73	247	4.65		183.0		
MW1		9/27/12	274.17	13.26		260.91	6.0		17.3	6.28	246	3.24		32.0		
MW1		12/19/12	274.17	10.72		263.45	8.0		17.1	7.12	234	2.84		-54.9		
MW1		3/13/13	274.17	10.42		263.75	9.0		16.4	6.69	290	5.63		87.0		
MW1		6/27/13	274.17	12.05		262.12	7.0		16.9	7.29	255	5.28		130.0		
MW1		9/12/13	274.17	14.99		259.18	10.0		18.0	6.65	267	4.86		127.9		

Historical Groundwater Monitoring Data
City of Lone WWTF
R5-2013-0022-REV1

Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
			Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
	Units:		ft. msl	ft	ft. msl	gal	deg C	std units	umh/cm	mg/L	Mv	NTU
MW1		12/11/13	274.17	15.45	258.72	5.0	18.4	6.76	275	3.36	50.6	
MW1		3/4/14	274.17	10.29	263.88	8.0	16.6	7.40	321	6.46	130.3	
MW1		6/17/14	274.17	12.25	261.92	7.0	17.4	6.74	315	6.52	84.5	
MW1		9/18/14	274.17	16.82	257.35	5.0	18.5	6.75	286	6.81	35.7	
MW1		12/18/14	274.17	12.82	261.35	6.0	18.8	6.77	258	3.52	65.0	
MW1		3/24/15	274.17	11.08	263.09	8.0	16.6	6.68	344	7.63	69.8	
MW1		6/11/15	274.17	11.34	262.83	8.0	17.5	6.53	327	7.45	135.0	
MW1		9/17/15	274.17	16.33	257.84	5.0	19.1	6.61	331	6.00	133.8	
MW1		12/16/15	274.17	12.49	261.68	9.0	19.4	6.70	380	2.69	45.7	
MW1		3/29/16	274.17	8.87	265.30	8.0	17.2	6.65	357	6.87	141.9	
MW1		6/21/16	274.17	10.89	263.28	8.0	17.5	6.53	331	7.56	145.9	
MW1		9/8/16	274.17	14.62	259.55	9.0	18.6	6.46	298	4.85	172.4	
MW1		12/8/16	274.17	11.17	263.00	8.0	18.4	6.70	298	3.89	88.9	
MW1		3/9/17	274.17	8.19	265.98	9.0	16.7	6.70	357	5.10	183.9	
MW1		6/14/17	274.17	10.03	264.14	10.0	16.4	6.64	366	5.43	231.0	
MW1		9/13/17	274.17	11.70	262.47	7.0	17.4	6.72	297	3.87	168.3	
MW1		12/5/17	274.17	10.00	264.17	8.0	17.3	6.79	271	2.41	185.0	
MW1		3/9/18	274.17	9.65	264.52	9.0	16.8	6.87	340	3.80	140.0	
MW1		6/15/18	274.17	10.09	264.08	9.0	18.0	6.81	337	3.70	135.0	
MW1		9/17/18	274.17	12.97	261.20	7.0	19.5	6.78	328	7.90	146.0	
MW1		12/17/18	274.17	12.02	262.15	7.5	19.5	6.83	295	2.70	160.0	

Historical Groundwater Monitoring Data
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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
			Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
	Units:		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW1		3/18/19	274.17	8.63	265.54	9.0	18.1	6.81	270	5.00	198.0	
MW1		5/13/19	274.17	10.01	264.16	8.5	17.6	7.64	285	4.50	175.0	
MW1		9/16/19	274.17	12.18	261.99	7.5	19.2	6.76	260	4.50	28.0	
MW1		12/6/19	274.17	9.64	264.53	8.5	16.8	6.88	258	3.82	269.0	
MW1		3/16/20	274.17	9.40	264.77	9.0	15.9	6.98	261	4.87	227.0	
MW1		6/16/20	274.17	10.69	263.48	8.0	18.1	6.92	246	5.24	213.0	
MW1		9/14/20	274.17	14.20	259.97	7.0	19.3	6.86	243	3.17	143.0	
MW1		12/15/20	274.17	12.58	261.59	7.0	18.0	7.01	292	3.94	196.0	
MW1		3/17/21	274.17	10.23	263.94	8.5	16.2	7.03	301	8.04	213.0	
MW1		6/22/21	274.17	12.33	261.84	7.5	18.4	6.92	255	6.78	119.0	
MW1		9/21/21	274.17	16.65	257.52	5.5	19.7	6.71	272	4.72	161.0	
MW1		12/14/21	274.17	11.02	263.15	8.0	16.6	7.00	172	6.68	171.0	
MW1		3/16/22	274.17	10.67	263.50	8.0	17.3	6.74	217	9.65	122.0	
MW1		6/15/22	274.17	10.67	263.50	8.5	17.3	6.40	237	6.95	137.0	
MW1		9/21/22	274.17	15.61	258.56	6.0	19.2	6.80	229	4.60	106.0	
MW1		11/28/22	274.17	15.62	258.55	6.0	18.9	6.90	329	5.40	130.0	125
MW1		3/2/23	274.17	8.62	265.55	9.0	16.6	7.02	337	7.30	99.0	117
MW1		6/26/23	274.17	10.83	263.34	9.0	16.9	6.97	337	5.10	240.0	115
MW1		8/14/23	274.17	12.23	261.94	7.5	19.1	6.90	308	4.80	188.0	14

Historical Groundwater Monitoring Data
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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method		Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
Units:		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW1A	8/30/07	274.09	13.46	260.63							
MW1A	9/24/07	274.09	13.82	260.27							
MW1A	10/31/07	274.09	12.98	261.11							
MW1A	11/29/07	274.09	11.33	262.76							
MW1A	12/27/07	274.09	10.63	263.46	22.0	18.2	6.83	770	0.50	175.0	
MW1A	2/2/08	274.09	9.82	264.27							
MW1A	3/2/08	274.09	10.41	263.68							
MW1A	7/7/08	274.09	12.33	261.76	14.0	18.7	6.51	488	4.14	192.0	
MW1A	10/10/08	274.09	14.27	259.82	18.0	18.0	6.59	427	3.24	43.0	
MW1A	11/5/08	274.09	14.23	259.86							
MW1A	12/29/08	274.09	12.41	261.68	14.0	18.7	6.64	445	2.96	168.0	
MW1A	3/11/09	274.09	10.24	263.85	15.0	17.7	6.77	408	2.51	114.5	
MW1A	6/16/09	274.09	11.28	262.81	16.0	18.3	6.67	350	4.06	-26.7	
MW1A	9/22/09	274.09	14.42	259.67	14.0	18.1	6.81	448	2.69	89.8	
MW1A	12/15/09	274.09	12.72	261.37	19.0	18.0	7.29	465	2.63	99.8	
MW1A	3/22/10	274.09	10.34	263.75	16.0	18.4	6.85	407	3.49	140.0	

Historical Groundwater Monitoring Data
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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method	Units:	Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW1A	6/22/10	274.09	11.48	262.61	15.0	17.6	6.68	411	5.28	194.0	
MW1A	9/22/10	274.09	13.05	261.04	14.0	17.5	6.71	387	3.01	287.0	
MW1A	12/13/10	274.09	10.87	263.22	15.0	17.4	6.94	401	2.13	53.2	
MW1A	3/29/11	274.09	8.11	265.98	17.0	17.0	6.75	368	4.45	-147.8	
MW1A	6/22/11	274.09	10.23	263.86	16.0	17.6	6.05	376	1.65	85.2	
MW1A	9/13/11	274.09	11.97	262.12	15.0	17.4	6.59	297	2.17	142.1	
MW1A	12/14/11	274.09	10.96	263.13	15.0	17.3	6.54	317	2.87	-27.8	
MW1A	3/21/12	274.09	9.38	264.71	16.0	17.1	6.57	293	2.98	60.9	
MW1A	6/26/12	274.09	11.20	262.89	15.0	17.1	6.42	336	2.01	133.7	
MW1A	9/27/12	274.09	13.27	260.82	14.0	16.9	6.41	362	1.82	75.8	
MW1A	12/19/12	274.09	11.14	262.95	15.0	17.3	6.96	392	1.25	-60.1	
MW1A	3/11/13	274.09	10.99	263.10	15.0	17.1	6.67	318	2.37	62.6	
MW1A	6/27/13	274.09	12.59	261.50	14.0	17.1	6.79	303	4.31	103.3	
MW1A	9/12/13	274.09	15.19	258.90	14.0	17.4	6.76	309	4.00	139.3	

Historical Groundwater Monitoring Data
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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method	Units:	Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW1A	12/12/13	274.09	15.40	258.69	13.0	17.0	6.90	318	2.11	58.4	
MW1A	3/4/14	274.09	10.15	263.94	16.0	17.2	6.83	359	4.28	139.7	
MW1A	6/17/14	274.09	12.98	261.11	15.0	17.5	6.65	408	3.19	82.4	
MW1A	9/18/14	274.09	16.84	257.25	12.0	17.6	6.79	342	3.05	26.5	
MW1A	12/18/14	274.09	11.64	262.45	15.0	19.0	6.63	488	3.63	63.6	
MW1A	3/24/15	274.09	11.75	262.34	16.0	18.0	6.67	450	2.82	61.7	
MW1A	6/11/15	274.09	11.31	262.78	20.0	18.2	6.41	457	2.06	130.4	
MW1A	9/17/15	274.09	16.46	257.63	13.0	18.1	6.70	452	0.58	132.3	
MW1A	12/16/15	274.09	11.75	262.34	15.0	19.5	6.62	481	3.69	47.9	
MW1A	3/29/16	274.09	8.73	265.36	17.0	16.7	6.66	440	1.15	138.3	
MW1A	6/21/16	274.09	11.18	262.91	15.0	15.7	6.27	433	1.21	147.9	
MW1A	9/8/16	274.09	14.85	259.24	14.0	16.4	6.77	475	0.47	174.9	
MW1A	12/8/16	274.09	11.41	262.68	15.0	18.1	6.59	495	2.23	95.2	
MW1A	3/9/17	274.09	8.35	265.74	17.0	17.5	6.66	456	2.32	177.8	

Historical Groundwater Monitoring Data
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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units:		Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
			ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW1A	6/14/17		274.09	10.54	263.55	17.0	17.6	6.66	439	0.48	190.5	
MW1A	9/13/17		274.09	12.43	261.66	14.0	17.8	6.71	442	2.49	136.7	
MW1A	12/5/17		274.09	10.33	263.76	16.0	18.9	6.67	480	2.03	185.9	
MW1A	3/9/18		274.09	10.04	264.05	16.0	17.9	6.77	578	3.40	154.0	
MW1A	6/15/18		274.09	10.21	263.88	16.0	18.2	6.64	530	3.20	137.0	
MW1A	9/17/18		274.09	12.94	261.15	15.0	19.2	6.79	577	7.30	129.0	
MW1A	12/17/18		274.09	12.51	261.58	15.0	18.6	6.79	505	1.10	150.0	
MW1A	3/18/19		274.09	9.19	264.90	16.5	18.7	6.77	310	1.00	175.0	
MW1A	5/13/19		274.09	10.57	263.52	16.0	18.7	8.02	347	3.30	164.0	
MW1A	9/16/19		274.09	12.53	261.56	10.0	21.1	6.65	425	5.20	74.0	
MW1A	12/16/19		274.09	9.63	264.46	16.5	19.3	6.74	475	1.40	225.0	
MW1A	3/16/20		274.09	9.60	264.49	16.5	17.0	6.84	474	2.40	203.0	
MW1A	6/16/20		274.09	11.43	262.66	15.5	20.6	6.84	374	1.91	201.0	
MW1A	9/14/20		274.09	14.69	259.40	14.0	19.9	6.80	400	1.81	166.0	

Historical Groundwater Monitoring Data
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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method		Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
Units:		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW1A	12/15/20	274.09	12.50	261.59	15.0	18.9	6.85	480	7.30	181.0	
MW1A	3/17/21	274.09	10.64	263.45	16.0	17.4	6.92	482	4.13	183.0	
MW1A	6/22/21	274.09	13.02	261.07	16.5	20.6	6.76	457	2.66	109.0	
MW1A	9/21/21	274.09	16.91	257.18	13.0	20.8	6.67	409	1.31	199.0	
MW1A	12/14/21	274.09	11.37	262.72	15.5	16.9	6.87	209	3.06	194.0	
MW1A	3/15/22	274.09	11.38	262.71	15.5	18.6	6.70	213	5.97	128.0	
MW1A	6/15/22	274.09	11.08	263.01	15.5	18.5	6.39	290	3.95	122.0	
MW1A	9/22/22	274.09	15.53	258.56	13.5	19.1	6.70	278	3.50	128.0	
MW1A	11/28/22	274.09	15.30	258.79	13.5	18.1	6.82	373	1.10	130.0	+1000
MW1A	3/2/23	274.09	8.79	265.30	18.0	16.9	6.95	513	3.80	76.0	238
MW1A	6/26/23	274.09	11.36	262.73	15.0	16.8	6.95	395	2.20	216.0	511
MW1A	8/14/23	274.09	13.16	260.93	15.0	18.1	6.85	411	1.60	174.0	282

Historical Groundwater Monitoring Data
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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units:		ft. msl	ft	ft. msl	gal	deg C	Metered std units	Metered umhs/cm	Metered mg/L	Metered Mv	Metered NTU
MW2	7/16/02		272.37	14.35	258.02							
MW2	9/18/02		272.37	14.71	257.66							
MW2	10/29/02		272.37	15.00	257.37							
MW2	11/22/02		272.37	13.18	259.19							
MW2	12/31/02		272.37	12.82	259.55							
MW2	1/21/03		272.37	14.72	257.65							
MW2	6/30/03		272.37	13.70	258.67							
MW2	7/31/03		272.37	14.33	258.04							
MW2	8/31/03		272.37	14.56	257.81							
MW2	9/30/03		272.37	14.71	257.66							
MW2	10/31/03		272.37	14.92	257.45							
MW2	11/30/03		272.37	13.60	258.77							
MW2	12/31/03		272.37	13.18	259.19							
MW2	1/31/04		272.37	13.50	258.87							
MW2	2/20/04		272.37	13.11	259.26							
MW2	3/31/04		272.37	13.47	258.90							
MW2	5/2/04		272.37	13.64	258.73							
MW2	6/1/04		272.37	13.79	258.58							
MW2	6/30/04		272.37	14.19	258.18							
MW2	7/31/04		272.37	14.54	257.83							
MW2	9/4/04		272.37	15.03	257.34							
MW2	10/1/04		272.37	15.37	257.00							
MW2	1/4/05		272.37	12.57	259.80							
MW2	4/1/05		272.37	12.20	260.17							
MW2	6/30/05		272.37	13.43	258.94							
MW2	10/6/05		272.37	13.45	258.92	5.0	19.2	6.20	500	0.20	119.0	
MW2	1/17/06		272.37	12.97	259.40							
MW2	2/10/06		272.37	13.36	259.01	7.0	19.5	6.90	390	0.30	-178.0	
MW2	3/10/06		272.37	12.14	260.23							
MW2	4/29/06		272.37	12.88	259.49							
MW2	5/23/06		272.37	13.43	258.94	18.0	17.7	7.00	360	7.20	-23.0	
MW2	6/30/06		272.37	14.05	258.32							

Historical Groundwater Monitoring Data
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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units		ft. msl	ft	ft. msl	Measured gal.	Metered deg C	Metered std units	Metered umhs/cm	Metered mg/L	Metered Mv	Metered NTU
MW2		7/25/06	272.37	13.98	258.39							
MW2		8/24/06	272.37	15.30	257.07	8.0	19.0	6.60	360	5.60	80.0	
MW2		9/29/06	272.37	14.07	258.30							
MW2		10/24/06	272.37	13.98	258.39							
MW2		11/30/06	272.37	14.06	258.31							
MW2		12/29/06	272.37	13.88	258.49							
MW2		1/31/07	272.37	14.35	258.02							
MW2		2/27/07	272.37	12.62	259.75							
MW2		3/30/07	272.37	14.05	258.32	13.0	19.1	6.70	240	4.90	-108.0	
MW2		4/30/07	272.37	14.12	258.25							
MW2		5/31/07	272.37	14.36	258.01							
MW2		6/25/07	272.37	14.52	257.85	15.0	18.4	6.95	420	6.30	-46.0	
MW2		7/29/07	272.37	14.59	257.78							
MW2		8/30/07	272.37	14.86	257.51							
MW2		9/27/07	272.37	14.89	257.48	14.0	18.9	6.59	540	5.50	-87.0	
MW2		10/31/07	272.37	14.11	258.26							
MW2		11/29/07	272.37	13.59	258.78							
MW2		12/26/07	272.37	13.48	258.89	9.0	19.0	7.40	900	3.20	-79.0	
MW2		2/2/08	272.37	13.12	259.25							
MW2		3/2/08	272.37	13.71	258.66							
MW2		7/7/08	272.37	13.81	258.56	6.0	18.3	6.69	531	3.63	-38.2	
MW2		10/10/08	272.37	14.20	258.17	7.5	17.8	6.66	448	2.20	-76.8	
MW2		11/5/08	272.37	13.95	258.42							
MW2		12/30/08	272.37	14.08	258.29	6.0	17.7	6.98	472	1.41	-37.5	
MW2		3/12/09	272.37	13.81	258.56	6.0	17.6	7.09	461	2.19	-42.8	
MW2		6/16/09	272.37	14.24	258.13	6.0	18.0	6.93	444	1.61	-47.1	
MW2		9/22/09	272.37	14.35	258.02	6.0	18.0	6.94	441	1.89	-47.6	
MW2		12/15/09	272.37	14.08	258.29	6.0	18.4	6.99	464	3.82	-51.3	
MW2		3/22/10	272.37	13.94	258.43	6.0	19.0	7.11	479	2.09	-64.2	
MW2		6/22/10	272.37	14.23	258.14	6.0	18.3	6.77	478	3.18	-10.6	
MW2		9/22/10	272.37	14.68	257.69	6.0	18.3	6.96	468	1.72	-57.6	

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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units:		ft. msl	ft	ft. msl	Measured gal	Metered deg C	Metered std units	Metered umhs/cm	Metered mg/L	Metered Mv	Metered NTU
MW2		12/13/10	272.37	14.01	258.36	6.0	18.2	7.22	481	1.22	-64.1	
MW2		3/29/11	272.37	11.40	260.97	7.5	18.6	6.67	469	1.08	-155.1	
MW2		6/23/11	272.37	14.53	257.84	6.0	17.8	6.91	488	1.25	-178.1	
MW2		9/14/11	272.37	14.48	257.89	6.0	18.6	7.01	418	1.23	54.4	
MW2		12/14/11	272.37	14.09	258.28	6.0	18.7	6.55	469	1.27	-83.9	
MW2		3/21/12	272.37	13.19	259.18	6.0	18.0	6.72	439	1.35	-76.8	
MW2		6/26/12	272.37	14.64	257.73	6.0	17.8	6.86	470	2.88	-59.7	
MW2		9/27/12	272.37	14.79	257.58	6.0	18.4	6.06	462	1.16	2.3	
MW2		12/19/12	272.37	14.10	258.27	6.0	18.6	7.23	479	2.04	-90.1	
MW2		3/11/13	272.37	14.31	258.06	6.0	18.4	6.65	525	2.63	-4.8	
MW2		6/26/13	272.37	15.03	257.34	6.0	18.0	6.46	535	1.18	190.3	
MW2		9/11/13	272.37	15.59	256.78	5.0	19.0	6.57	548	2.00	-52.1	
MW2		12/11/13	272.37	15.50	256.87	5.0	18.2	6.79	543	0.80	-49.6	
MW2		3/5/14	272.37	13.55	258.82	7.0	18.7	7.58	540	1.16	-43.1	
MW2		6/17/14	272.37	14.68	257.69	4.0	18.1	6.91	509	1.20	-73.0	
MW2		9/18/14	272.37	16.10	256.27	5.0	19.1	7.08	467	1.12	-39.5	
MW2		12/18/14	272.37	13.34	259.03	7.0	19.3	7.42	499	0.76	-23.9	
MW2		3/24/15	272.37	13.70	258.67	7.0	18.0	7.04	466	0.14	-31.5	
MW2		6/11/15	272.37	13.34	259.03	8.0	18.0	6.65	451	0.12	8.6	
MW2		9/17/15	272.37	15.68	256.69	5.0	19.4	7.06	453	0.62	-75.4	
MW2		12/15/15	272.37	12.99	259.38	7.0	19.5	6.96	463	1.08	17.6	
MW2		3/29/16	272.37	13.11	259.26	7.0	18.9	6.97	460	0.10	-79.0	
MW2		6/20/16	272.37	13.61	258.76	7.0	18.9	6.61	442	0.47	-84.2	

Historical Groundwater Monitoring Data
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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units		ft msl	ft	ft msl	Measured gal	Metered deg C	Metered std units	Metered umhs/cm	Metered mg/L	Metered Mv	Metered NTU
MW2		9/7/16	272.37	14.67	257.70	6.0	19.3	6.68	457	0.39	18.7	
MW2		12/8/16	272.37	13.53	258.84	7.0	19.4	6.93	474	0.35	-74.3	
MW2		3/10/17	272.37	12.75	259.62	3.0	18.9	6.95	487	0.16	-40.7	
MW2		6/13/17	272.37	7.15	265.22	6.0	18.6	6.94	419	0.63	-44.3	
MW2		9/13/17	272.37	14.58	257.79	6.0	19.8	6.99	447	1.47	-43.9	
MW2		12/6/17	272.37	13.73	258.64	6.0	19.5	7.02	430	0.73	-71.6	
MW2		3/9/18	272.37	13.57	258.80	6.0	18.5	7.05	529	1.30	-51.0	
MW2		6/15/18	272.37	13.96	258.41	6.0	19.2	6.56	546	1.50	-34.0	
MW2		9/17/18	272.37	14.77	257.60	6.0	19.4	7.03	574	7.30	-39.0	
MW2		12/17/18	272.37	14.62	257.75	6.0	18.8	6.98	525	1.90	-63.0	
MW2		3/18/19	272.37	14.02	258.35	6.0	18.9	7.01	425	3.10	-10.0	
MW2		5/13/19	272.37	14.43	257.94	6.0	19.1	7.01	550	2.80	-15.0	
MW2		9/16/19	272.37	15.14	257.23	6.0	18.5	6.93	540	3.00	-45.0	
MW2		12/16/19	272.37	13.62	258.75	6.5	19.3	6.91	451	1.59	-20.0	
MW2		3/16/20	272.37	13.00	259.37	6.5	15.6	6.87	546	1.83	36.0	
MW2		6/16/20	272.37	14.87	257.50	5.5	19.2	7.02	506	1.46	-28.0	
MW2		9/14/20	272.37	16.04	256.33	5.0	21.4	7.01	496	1.16	-37.0	
MW2		12/15/20	272.37	14.49	257.88	6.0	17.8	7.10	502	1.08	3.0	
MW2		3/17/21	272.37	14.00	258.37	6.0	18.3	7.19	485	1.88	30.0	
MW2		6/22/21	272.37	14.88	257.49	5.5	19.3	7.01	466	1.67	10.0	
MW2		9/21/21	272.37	17.29	255.08	4.5	21.1	6.66	527	0.83	86.0	
MW2		12/14/21	272.37	12.81	259.56	7.0	14.6	6.98	224	2.45	147.0	
MW2		3/15/22	272.37	13.75	258.62	6.5	14.0	6.75	251	3.43	87.0	
MW2		6/15/22	272.37	14.09	258.28	6.0	19.3	6.61	428	1.22	-37.0	
MW2		9/22/22	272.37	16.52	255.85	5.0	19.7	6.78	531	2.00	-12.0	
MW2		11/28/22	272.37	16.13	256.24	6.0	18.3	6.99	578	1.50	-80.0	144
MW2		3/2/23	272.37	13.42	258.95	6.0	17.6	7.37	474	1.50	-69.0	82
MW2		5/17/23	272.37	14.58	257.79	6.0	20.0	7.24	399	1.30	-67.0	81
MW2		8/14/23	272.37	15.80	256.57	6.0	20.1	7.20	431	0.90	-58.0	4

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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units:		Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
			ft. msl	ft	ft. msl	gal	deg C	std units	umh/cm	mg/L	Mv	NTU
MW2A		9/12/13	276.26	19.14	257.12	4.5	18.7	6.88	544	1.19	-133.6	
MW2A		12/11/13	276.26	18.85	257.41	4.5	18.8	6.93	544	1.89	-93.9	
MW2A		3/5/14	276.26	15.91	260.35	6.0	14.6	8.52	545	1.32	-123	
MW2A		6/17/14	276.26	17.69	258.57	6.0	16.8	6.89	562	1.05	-129.0	
MW2A		9/18/14	276.26	19.41	256.85	4.5	22.3	7.23	422	1.20	-139.4	
MW2A		12/18/14	276.26	15.98	260.28	6.0	20.0	6.99	491	0.73	-120.9	
MW2A		3/24/15	276.26	16.50	259.76	6.5	16.5	7.23	442	0.09	-125.7	
MW2A		6/11/15	276.26	16.01	260.25	8.0	17.5	6.65	479	0.09	-70.7	
MW2A		9/17/15	276.26	19.18	257.08	4.5	21.9	7.17	487	0.40	-146.6	
MW2A		12/16/15	276.26	15.72	260.54	6.0	19.5	7.02	532	1.14	3.5	
MW2A		3/29/16	276.26	14.89	261.37	6.8	14.3	7.21	442	0.25	-131.8	
MW2A		6/21/16	276.26	16.19	260.07	6.0	18.1	6.67	541	0.68	-152.4	
MW2A		9/8/16	276.26	17.73	258.53	5.3	21.4	7.09	526	0.38	-87.6	
MW2A		12/8/16	276.26	16.18	260.08	8.0	20.2	6.96	540	0.31	-158.2	

Historical Groundwater Monitoring Data
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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method		Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
Units:		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW2A	3/9/17	276.26	14.43	261.83	7.5	16.1	7.14	395	0.10	-123.6	
MW2A	6/13/17	276.26	16.44	259.82	8.0	16.4	7.03	404	0.45	-107.6	
MW2A	9/13/17	276.26	17.05	259.21	6.0	20.4	6.99	474	1.60	-104.1	
MW2A	12/5/17	276.26	15.87	260.39	6.0	18.9	7.10	448	0.25	-129.9	
MW2A	3/9/18	276.26	15.61	260.65	6.0	15.7	7.14	578	1.50	-98.0	
MW2A	6/15/18	276.26	15.79	260.47	6.0	18.4	6.88	633	1.50	-112.0	
MW2A	9/17/18	276.26	17.38	258.88	5.5	22.0	7.00	693	6.70	-103.0	
MW2A	12/17/18	276.26	17.75	258.51	5.5	22.0	7.05	672	1.10	-113.0	
MW2A	3/18/19	276.26	15.93	260.33	5.0	19.8	6.92	513	0.40	-107.0	
MW2A	5/13/19	276.26	16.85	259.41	4.5	20.0	7.13	543	1.00	-48.0	
MW2A	9/16/19	276.26	17.56	258.70	5.5	21.2	6.81	547	2.60	0.0	
MW2A	12/16/19	276.26	15.75	260.51	6.0	19.0	6.91	485	1.17	-83.0	
MW2A	3/16/20	276.26	16.14	260.12	6.0	15.5	7.17	380	0.90	-78.0	
MW2A	6/16/20	276.26	17.42	258.84	5.5	17.3	7.19	394	1.27	-105.0	

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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
			Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
	Units:		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW2A		9/14/20	276.26	19.10	257.16	4.5	20.5	7.10	425	0.75	-130.0	
MW2A		12/15/20	276.26	17.25	259.01	5.5	17.9	7.15	552	1.27	-93.0	
MW2A		3/17/21	276.26	16.48	259.78	6.0	16.4	7.23	391	2.07	-69.0	
MW2A		6/22/21	276.26	17.83	258.43	5.0	18.3	7.07	471	1.08	-88.0	
MW2A		9/21/21	276.26	20.60	255.66	4.0	21.2	6.80	512	1.17	-68.0	
MW2A		12/14/21	276.26	16.93	259.33	5.5	18.1	7.05	311	1.20	-21.0	
MW2A		3/15/22	276.26	17.00	259.26	5.5	18.1	6.86	335	1.72	-51.0	
MW2A		6/15/22	276.26	16.85	259.41	5.5	18.7	6.55	426	1.15	-70.0	
MW2A		9/22/22	276.26	19.30	256.96	4.5	19.8	6.88	398	1.09	-55.0	
MW2A		11/28/22	276.26	19.02	257.24	4.5	18.9	7.11	527	0.90	-105.0	5
MW2A		3/2/23	276.26	15.72	260.54	6.0	15.9	7.03	359	1.40	-72.0	3
MW2A		5/17/23	276.26	16.58	259.68	6.0	16.3	7.09	423	1.00	-80.0	4
MW2A		8/14/23	276.26	19.50	256.76	4.5	19.9	6.94	539	0.60	-100.0	8

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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units:		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	Metered NTU
MW3	7/16/02		269.85	15.28	254.57							
MW3	9/18/02		269.85	16.11	253.74							
MW3	10/29/02		269.85	16.51	253.34							
MW3	11/22/02		269.85	14.22	255.63							
MW3	12/31/02		269.85	13.31	256.54							
MW3	1/21/03		269.85	16.12	253.73							
MW3	6/30/03		269.85	14.47	255.38							
MW3	7/31/03		269.85	15.41	254.44							
MW3	8/31/03		269.85	15.83	254.02							
MW3	9/30/03		269.85	15.93	253.92							
MW3	10/31/03		269.85	16.20	253.65							
MW3	11/30/03		269.85	14.37	255.48							
MW3	12/31/03		269.85	13.55	256.30							
MW3	1/31/04		269.85	13.58	256.27							
MW3	2/20/04		269.85	13.31	256.54							

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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method	Units:	Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
		ft. msl	ft	ft. msl	gal	deg C	std units	umh/s/cm	mg/L	Mv	NTU
MW3	3/31/04	269.85	13.67	256.18							
MW3	5/2/04	269.85	14.29	255.56							
MW3	6/1/04	269.85	14.68	255.17							
MW3	6/30/04	269.85	15.31	254.54							
MW3	7/31/04	269.85	15.78	254.07							
MW3	9/4/04	269.85	15.77	254.08							
MW3	10/1/04	269.85	15.98	253.87							
MW3	1/4/05	269.85	13.03	256.82							
MW3	4/1/05	269.85	11.22	258.63			6.90				
MW3	6/30/05	269.85	13.72	256.13			6.90				
MW3	10/6/05	269.85	15.03	254.82	5.0	18.2	6.90	420	5.40	-33.0	
MW3	1/17/06	269.85	11.93	257.92							
MW3	2/13/06	269.85	12.76	257.09	14.0	18.6	6.90	560	1.20	-74.0	
MW3	3/10/06	269.85	11.62	258.23							

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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method	Units:	Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW3	4/29/06	269.85	11.41	258.44							
MW3	5/23/06	269.85	13.34	256.51	9.0	17.7	7.00	550	7.40	109.0	
MW3	6/30/06	269.85	14.02	255.83							
MW3	7/25/16	269.85	15.26	254.59							
MW3	8/25/06	269.85	15.42	254.43	14.0	17.8	7.00	840	4.70	103.0	
MW3	9/29/06	269.85	15.02	254.83							
MW3	10/24/06	269.85	13.89	255.96							
MW3	11/30/06	269.85	13.66	256.19							
MW3	12/29/06	269.85	13.49	256.36							
MW3	1/31/07	269.85	13.89	255.96							
MW3	2/27/07	269.85	13.34	256.51							
MW3	3/30/07	269.85	13.99	255.86	13.0	19.0	7.00	100	5.00	-9.0	
MW3	4/30/07	269.85	14.46	255.39							

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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method	Units:	Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW3	5/31/07	269.85	15.28	254.57							
MW3	6/25/07	269.85	15.82	254.03	14.0	17.8	7.00	560	6.70	231.0	
MW3	7/29/07	269.85	15.48	254.37							
MW3	8/30/07	269.85	16.33	253.52							
MW3	9/27/07	269.85	16.52	253.33	15.0	18.2	6.51	660	5.80	-7.0	
MW3	10/31/07	269.85	15.47	254.38							
MW3	12/31/07	269.85	13.79	256.06	10.0	18.7	7.06	590	2.40	33.0	
MW3	2/2/08	269.85	13.16	256.69							
MW3	3/2/08	269.85	13.59	256.26							
MW3	7/7/08	269.85	16.41	253.44	5.0	18.3	6.69	609	3.84	49.6	
MW3	10/10/08	269.85	16.32	253.53	10.0	17.0	6.66	491	3.26	1.2	
MW3	11/5/08	269.85	16.16	253.69							

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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method	Units:	Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW3	12/30/08	269.85	15.24	254.61	5.0	18.0	6.89	530	1.98	27.7	
MW3	3/12/09	269.85	13.35	256.50	6.0	18.5	6.95	564	1.55	-6.8	
MW3	6/16/09	269.85	14.91	254.94	6.0	18.9	7.04	544	1.20	-47.4	
MW3	9/22/09	269.85	16.31	253.54	5.0	18.1	6.92	494	2.62	-21.0	
MW3	12/15/09	269.85	15.29	254.56	5.0	18.2	7.10	541	1.51	10.8	
MW3	3/22/10	269.85	13.63	256.22	7.0	18.6	6.99	596	2.91	51.5	
MW3	6/22/10	269.85	14.82	255.03	6.0	18.4	6.81	612	4.54	74.0	
MW3	9/22/10	269.85	15.78	254.07	5.0	17.9	6.87	514	1.68	20.1	
MW3	12/14/10	269.85	14.25	255.60	6.0	18.2	7.15	534	1.87	-19.2	
MW3	3/29/11	269.85	11.05	258.80	8.0	18.5	6.62	571	1.21	-174.4	
MW3	6/23/11	269.85	14.45	255.40	6.0	17.8	6.83	553	1.29	-44.0	
MW3	9/14/11	269.85	15.85	254.00	5.0	17.9	6.85	517	1.13	-209.8	
MW3	12/14/11	269.85	14.94	254.91	6.0	18.0	6.45	524	1.82	-48.6	
MW3	3/21/12	269.85	13.75	256.10	6.0	18.2	6.54	503	1.34	54.5	

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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units:		ft. msl	ft	ft. msl	Measured gal	Metered deg C	Metered std units	Metered umhs/cm	Metered mg/L	Metered Mv	Metered NTU
MW3		6/26/12	269.85	15.73	254.12	5.0	17.4	6.55	511	1.56	70.4	
MW3		9/26/12	269.85	16.59	253.26	5.0	17.8	6.29	517	2.42	40.0	
MW3		12/18/12	269.85	14.76	255.09	6.0	17.6	6.94	530	1.46	23.9	
MW3		3/11/13	269.85	14.87	254.98	6.0	18.0	6.42	575	2.92	-16.7	
MW3		6/26/13	269.85	16.71	253.14	5.0	17.8	6.53	556	0.92	129.0	
MW3		9/11/13	269.85	18.00	251.85	5.0	18.1	6.23	571	2.03	83.0	
MW3		12/12/13	269.85	17.60	252.25	5.0	17.7	6.77	560	1.20	-3.9	
MW3		3/4/14	269.85	14.97	254.88	6.0	18.0	6.88	585	1.11	110.2	
MW3		6/17/14	269.85	16.83	253.02	5.0	17.3	6.83	581	1.21	-16.9	
MW3		9/18/14	269.85	18.89	250.96	6.0	17.6	6.65	528	1.89	94.3	
MW3		12/18/14	269.85	16.28	253.57	5.3	18.0	7.65	564	1.01	93.8	
MW3		3/24/15	269.85	15.43	254.42	6.5	18.1	6.89	624	0.10	42.4	
MW3		6/11/15	269.85	16.04	253.81	6.0	18.0	6.57	610	0.16	99.7	

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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method		Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
Units:		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW3	9/17/15	269.85	18.54	251.31	4.0	18.1	6.95	574	2.71	10.3	
MW3	12/16/15	269.85	16.24	253.61	9.0	18.2	6.94	561	1.10	50.2	
MW3	3/29/16	269.85	13.78	256.07	6.0	18.2	6.69	641	0.13	48.7	
MW3	6/20/16	269.85	15.85	254.00	5.0	18.0	6.29	593	0.69	42.9	
MW3	9/8/16	269.85	17.34	252.51	6.0	17.7	6.74	556	0.54	131.8	
MW3	12/8/16	269.85	15.55	254.30	5.0	17.9	6.82	566	0.40	-35.4	
MW3	3/10/17	269.85	11.58	258.27	8.0	17.9	6.66	638	0.16	96.2	
MW3	6/14/17	269.85	14.95	254.90	8.0	17.6	6.71	597	0.65	90.8	
MW3	9/13/17	269.85	16.52	253.33	5.0	18.1	6.76	551	1.21	55.4	
MW3	12/6/17	269.85	15.44	254.41	5.0	18.2	6.84	537	0.88	76.9	
MW3	3/9/18	269.85	15.07	254.78	7.5	18.1	6.91	647	1.40	67.0	
MW3	6/14/18	269.85	16.15	253.70	7.0	17.1	6.88	623	1.40	90.0	

Historical Groundwater Monitoring Data
City of Lone WWTF
R5-2013-0022-REV1

Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method	Units:	Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
		ft. msl	ft	ft. msl	gal	deg C	std units	umhls/cm	mg/L	Mv	NTU
MW3	9/17/18	269.85	17.45	252.40	6.5	17.6	6.95	621	5.90	87.0	
MW3	12/17/18	269.85	16.65	253.20	7.0	17.6	6.83	630	1.70	100.0	
MW3	3/18/19	269.85	13.26	256.59	8.5	18.6	6.77	549	2.40	122.0	
MW3	5/13/19	269.85	15.13	254.72	7.5	18.1	6.90	568	1.40	112.0	
MW3	9/16/19	269.85	17.52	252.33	6.5	17.9	6.91	567	3.00	44.0	
MW3	12/16/19	269.85	15.48	254.37	7.5	18.1	6.82	550	2.06	142.0	
MW3	3/16/20	269.85	15.85	254.00	7.0	17.2	6.96	576	2.45	106.0	
MW3	6/16/20	269.85	16.36	253.49	7.0	18.6	6.99	522	2.44	71.0	
MW3	9/14/20	269.85	18.54	251.31	6.0	18.9	7.05	483	2.10	215.0	
MW3	12/15/20	269.85	17.15	252.70	6.5	18.2	7.10	502	2.30	85.0	
MW3	3/17/21	269.85	15.83	254.02	7.0	18.6	7.12	484	2.48	175.0	
MW3	6/22/21	269.85	17.56	252.29	6.5	18.2	7.00	469	2.25	181.0	

Historical Groundwater Monitoring Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method		Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
Units:		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW3	9/21/21	269.85	20.20	249.65	5.0	18.5	6.80	502	2.92	210.0	
MW3	12/14/21	269.85	16.20	253.65	6.5	17.5	7.05	316	2.35	258.0	
MW3	3/15/22	269.85	15.85	254.00	7.0	18.1	6.86	368	2.46	91.0	
MW3	6/15/22	269.85	16.90	252.95	6.5	18.3	6.64	449	2.46	221.0	
MW3	9/21/22	269.85	19.75	250.10	5.5	18.3	6.89	409	2.09	84.0	
MW3	11/28/22	269.85	19.54	250.31	6.0	17.8	6.99	493	1.50	2.0	46
MW3	3/2/23	269.85	14.28	255.57	9.0	18.0	7.18	576	0.80	44.0	73
MW3	5/17/23	269.85	15.82	254.03	6.0	19.0	7.18	519	1.00	63.0	46
MW3	8/14/23	269.85	18.34	251.51	6.0	19.1	7.12	491	2.10	51.0	7

Historical Groundwater Monitoring Data
City of Lone WWTF
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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation		Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
				Calculated	Probe							
Method		ft. msl	ft	ft. msl	gal	deg C	std units	umh/s/cm	mg/L			NTU
MW3A	8/30/07	278.27	22.05	256.22								
MW3A	9/24/07	278.27	22.06	256.21								
MW3A	10/31/07	278.27	21.52	256.75								
MW3A	11/29/07	278.27	20.72	257.55								
MW3A	12/26/07	278.27	20.74	257.53	14.0	19.0	7.30	860	2.80	-105.0		
MW3A	2/2/08	278.27	20.37	257.90								
MW3A	3/2/08	278.27	20.99	257.28								
MW3A	7/7/08	278.27	21.08	257.19	6.0	17.9	6.99	568	4.56	-59.1		
MW3A	10/10/08	278.27	21.52	256.75	6.0	18.1	6.63	503	3.02	-106.3		
MW3A	11/5/08	278.27	21.16	257.11								
MW3A	12/30/08	278.27	21.21	257.06	5.0	18.1	7.01	519	0.90	-68.6		
MW3A	3/12/09	278.27	20.96	257.31	6.0	17.7	7.87	509	1.83	-64.3		
MW3A	6/16/09	278.27	21.68	256.59	5.0	18.3	7.05	497	1.50	-66.1		
MW3A	9/22/09	278.27	21.69	256.58	5.0	18.0	6.93	501	1.49	-61.9		
MW3A	12/15/09	278.27	21.11	257.16	5.0	18.3	7.25	545	1.52	-63.1		
MW3A	3/22/10	278.27	21.95	256.32	5.0	18.0	7.36	542	2.76	-93.3		
MW3A	6/22/10	278.27	21.41	256.86	5.0	18.0	6.82	520	3.00	-27.3		
MW3A	9/22/10	278.27	21.80	256.47	5.0	18.6	6.99	507	1.32	-92.0		
MW3A	12/14/10	278.27	21.08	257.19	5.0	18.4	7.32	527	1.15	-82.5		

Historical Groundwater Monitoring Data
City of Ione WWTF
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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Units:												
MW3A	3/29/11		278.27	18.76	259.51	7.0	17.0	6.93	577	1.51	-138.7	
MW3A	6/23/11		278.27	21.55	256.72	5.0	17.2	6.75	534	1.57	-78.2	
MW3A	9/14/11		278.27	21.96	256.31	5.0	18.5	6.81	495	1.18	-206.3	
MW3A	12/14/11		278.27	21.57	256.70	5.0	18.7	6.62	496	1.49	-107.3	
MW3A	3/21/12		278.27	20.62	257.65	6.0	17.1	6.51	489	1.46	-78.7	
MW3A	6/26/12		278.27	22.10	256.17	5.0	16.8	6.51	505	1.62	-64.9	
MW3A	9/26/12		278.27	22.22	256.05	5.0	17.6	6.68	518	2.71	-43.3	
MW3A	12/18/12		278.27	21.55	256.72	6.0	17.5	7.01	531	1.03	-107.4	
MW3A	3/11/13		278.27	21.79	256.48	6.0	17.3	6.92	584	2.10	-44.6	
MW3A	6/27/13		278.27	22.39	255.88	5.0	17.5	6.77	591	1.56	100.7	
MW3A	9/12/13		278.27	22.79	255.48	5.0	17.7	6.21	614	1.10	-66.4	
MW3A	12/11/13		278.27	22.64	255.63	5.0	18.2	6.77	645	0.87	-80.3	
MW3A	3/5/14		278.27	20.88	257.39	6.0	17.7	7.98	592	1.21	-82.7	
MW3A	6/17/14		278.27	22.12	256.15	7.0	16.8	6.94	570	1.14	-113.0	

Historical Groundwater Monitoring Data
City of Ione WWTF
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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Units:											
MW3A	9/18/14	278.27	23.62	254.65	5.0	18.4	6.97	520	1.09	-73.1	
MW3A	12/18/14	278.27	20.72	257.55	6.0	18.5	6.85	586	0.70	-73.5	
MW3A	3/24/15	278.27	21.33	256.94	7.0	17.2	7.07	547	0.14	-81.2	
MW3A	6/11/15	278.27	21.06	257.21	8.0	17.6	6.80	522	0.12	-42.2	
MW3A	9/17/15	278.27	23.04	255.23	5.0	18.3	7.08	535	0.96	-90.3	
MW3A	12/16/15	278.27	20.69	257.58	6.0	18.6	6.90	478	2.84	10.9	
MW3A	3/29/16	278.27	20.94	257.33	6.0	17.5	7.07	529	0.14	-104.3	
MW3A	6/21/16	278.27	21.51	256.76	7.0	17.4	6.47	490	1.08	-70.4	
MW3A	9/8/16	278.27	22.17	256.10	5.0	17.7	7.00	498	0.86	-8.6	
MW3A	12/8/16	278.27	21.33	256.94	5.0	18.2	6.95	568	0.37	-94.4	
MW3A	3/10/17	278.27	20.13	258.14	6.0	17.4	6.99	545	0.12	-65.7	
MW3A	6/14/17	278.27	21.28	256.99	6.0	17.7	7.02	488	0.37	-51.6	
MW3A	9/13/17	278.27	21.97	256.30	5.0	18.8	6.98	476	1.20	-80.6	
MW3A	12/5/17	278.27	21.34	256.93	5.0	19.5	7.04	444	0.22	-88.4	
MW3A	3/9/18	278.27	21.09	257.18	6.0	18.3	7.09	565	1.00	-81.0	
MW3A	6/15/18	278.27	21.64	256.63	6.0	20.7	6.52	588	1.10	-70.0	
MW3A	9/17/18	278.27	22.17	256.10	6.0	20.1	6.91	632	7.00	-90.0	
MW3A	12/17/18	278.27	21.64	256.63	5.5	19.7	6.85	612	1.40	-84.0	

Historical Groundwater Monitoring Data
City of Ione WWTF
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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Units:												
MW3A		3/18/19	278.27	20.64	257.63	6.0	19.0	6.94	528	1.40	-60.0	
MW3A		5/13/19	278.27	21.48	256.79	5.0	19.1	7.37	586	1.20	-72.0	
MW3A		9/16/19	278.27	22.35	255.92	5.5	19.6	6.87	559	2.40	-3.0	
MW3A		12/16/19	278.27	20.90	257.37	6.0	17.9	6.88	543	0.97	-22.0	
MW3A		3/16/20	278.27	19.90	258.37	6.5	16.3	7.00	579	1.18	-47.0	
MW3A		6/16/20	278.27	22.04	256.23	5.5	18.6	7.05	510	0.94	-61.0	
MW3A		9/14/20	278.27	23.09	255.18	5.5	20.0	7.02	477	0.84	-53.0	
MW3A		12/15/20	278.27	21.38	256.89	6.0	18.4	7.05	499	1.82	-33.0	
MW3A		3/17/21	278.27	21.31	256.96	6.0	17.9	7.14	473	1.95	-11.0	
MW3A		6/22/21	278.27	22.08	256.19	5.5	19.6	6.97	456	0.91	-44.0	
MW3A		9/21/21	278.27	24.50	253.77	4.5	21.1	6.80	475	0.76	55.0	
MW3A		12/14/21	278.27	20.14	258.13	6.5	19.2	6.82	348	1.19	34.0	
MW3A		3/15/22	278.27	21.27	257.00	5.5	19.0	6.74	371	1.08	-16.0	
MW3A		6/15/22	278.27	21.52	256.75	5.5	20.2	6.43	441	0.95	-57.0	
MW3A		9/22/22	278.27	23.84	254.43	4.5	19.9	6.90	420	2.30	4.0	
MW3A		11/28/22	278.27	23.37	254.90	4.5	19.3	6.94	524	1.20	-69.0	419
MW3A		3/2/23	278.27	20.82	257.45	6.0	17.5	6.98	540	1.20	-50.0	126
MW3A		5/17/23	278.27	22.19	256.08	6.0	19.2	6.98	455	0.80	-57.0	409
MW3A		8/14/23	278.27	23.2	255.07	6.0	20.0	7.10	449	1.20	-54.0	7

Historical Groundwater Monitoring Data
City of Ione WWTF
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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units:		ft. msl	ft	ft. msl	Measured gal	Metered deg C	Metered std units	Metered umhs/cm	Metered mg/L	Metered Mv	Metered NTU
MW4		7/16/02	268.77	12.64	256.13							
MW4		9/18/02	268.77	13.51	255.26							
MW4		10/29/02	268.77	13.81	254.96							
MW4		11/22/02	268.77	11.73	257.04							
MW4		12/31/02	268.77	10.53	258.24							
MW4		1/21/03	268.77	14.51	254.26							
MW4		6/30/03	268.77	12.92	255.85							
MW4		7/31/03	268.77	12.98	255.79							
MW4		8/31/03	268.77	13.16	255.61							
MW4		9/30/03	268.77	13.27	255.50							
MW4		10/31/03	268.77	13.32	255.45							
MW4		11/30/03	268.77	11.51	257.26							
MW4		12/31/03	268.77	10.52	258.25							
MW4		1/31/04	268.77	10.60	258.17							
MW4		2/20/04	268.77	10.13	258.64							

Historical Groundwater Monitoring Data
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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units:		Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
			ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW4		3/31/04	268.77	10.67	258.10							
MW4		5/2/04	268.77	11.71	257.06							
MW4		6/1/04	268.77	12.13	256.64							
MW4		6/30/04	268.77	12.67	256.10							
MW4		7/31/04	268.77	12.84	255.93							
MW4		9/4/04	268.77	12.12	256.65							
MW4		10/1/04	268.77	12.34	256.43							
MW4		1/4/05	268.77	10.15	258.62							
MW4		4/1/05	268.77	8.67	260.10							
MW4		6/30/05	268.77	10.40	258.37							
MW4		10/6/05	268.77	12.32	256.45	15.0	18.9	6.60	440	0.10	151.0	
MW4		1/17/06	268.77	8.57	260.20							
MW4		2/13/06	268.77	9.91	258.86	18.0	18.4	6.70	370	0.20	-100.0	
MW4		3/10/06	268.77	8.93	259.84							

Historical Groundwater Monitoring Data
City of Lone WWTF
R5-2013-0022-REV1

Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units:		ft. msl	ft	ft. msl	Measured gal	Metered deg C	Metered std units	Metered umhs/cm	Metered mg/L	Metered Mv	Metered NTU
MW4		4/29/06	268.77	8.79	259.98							
MW4		5/23/06	268.77	10.48	258.29	13.0	15.0	6.50	360	8.80	110.0	
MW4		6/30/06	268.77	12.01	256.76							
MW4		7/25/16	268.77	12.36	256.41							
MW4		8/25/06	268.77	12.33	256.44	18.0	15.3	6.30	840	4.60	193.0	
MW4		9/29/06	268.77	11.41	257.36							
MW4		10/24/06	268.77	9.63	259.14							
MW4		11/30/06	268.77	9.65	259.12							
MW4		12/29/06	268.77	9.59	259.18							
MW4		1/31/07	268.77	10.22	258.55							
MW4		2/27/07	268.77	9.62	259.15							
MW4		3/30/07	268.77	10.74	258.03	14.0	16.5	6.50	690	5.50	3.0	
MW4		4/30/07	268.77	11.30	257.47							

Historical Groundwater Monitoring Data
City of Lone WWTFF
R5-2013-0022-REV1

Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units:		ft. msl	ft	ft. msl	Measured gal	Metered deg C	Metered std units	Metered umhs/cm	Metered mg/L	Metered Mv	Metered NTU
MW4	5/31/07		268.77	12.33	256.44							
MW4	6/25/07		268.77	12.65	256.12	14.0	14.5	6.68	370	7.40	88.0	
MW4	7/29/07		268.77	11.72	257.05							
MW4	8/30/07		268.77	13.17	255.60							
MW4	9/27/07		268.77	13.07	255.70	14.0	14.9	6.69	490	6.60	38.0	
MW4	10/31/07		268.77	12.09	256.68							
MW4	11/29/07		268.77	11.01	257.76							
MW4	12/27/07		268.77	10.37	258.40	20.0	17.2	7.05	560	0.00	28.0	
MW4	2/2/08		268.77	9.85	258.92							
MW4	3/2/08		268.77	10.44	258.33							
MW4	7/7/08		268.77	12.70	256.07	8.0	15.6	6.94	429	4.14	88.5	
MW4	10/10/08		268.77	13.45	255.32	9.0	15.2	6.54	391	4.49	22.9	
MW4	11/5/08		268.77	13.23	255.54							

Historical Groundwater Monitoring Data
City of Lone WWTF
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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units:		ft. msl	ft	ft. msl	Measured gal.	Metered deg C	Metered std units	Metered umhs/cm	Metered mg/L	Metered Mv	Metered NTU
MW4		12/30/08	268.77	12.15	256.62	8.0	16.0	6.79	431	1.84	48.5	
MW4		3/12/09	268.77	10.14	258.63	11.0	16.3	6.78	449	1.87	56.0	
MW4		6/16/09	268.77	11.62	257.15	8.0	16.0	6.92	429	2.31	-37.5	
MW4		9/22/09	268.77	13.68	255.09	7.0	16.0	6.76	439	2.28	-17.3	
MW4		12/15/09	268.77	11.94	256.83	8.0	17.2	6.69	511	3.18	73.3	
MW4		3/22/10	268.77	10.48	258.29	8.0	21.9	7.16	494	1.77	-9.3	
MW4		6/22/10	268.77	11.92	256.85	8.0	17.2	6.90	448	3.88	61.2	
MW4		9/22/10	268.77	12.44	256.33	8.0	17.0	6.77	447	1.47	56.2	
MW4		12/14/10	268.77	10.73	258.04	8.0	17.7	7.05	480	1.28	-0.2	
MW4		3/29/11	268.77	8.64	260.13	9.0	18.3	6.67	403	1.09	-176.6	
MW4		6/23/11	268.77	11.06	257.71	8.0	16.5	7.05	362	1.96	-63.9	
MW4		9/14/11	268.77	12.41	256.36	8.0	16.6	7.11	371	1.39	105.8	
MW4		12/14/11	268.77	11.46	257.31	8.0	17.4	6.40	413	1.33	-36.8	
MW4		3/21/12	268.77	10.35	258.42	8.0	17.6	6.01	399	5.17	59.0	

Historical Groundwater Monitoring Data
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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method	Units:	Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW4	6/26/12	268.77	12.37	256.40	8.0	16.7	6.27	392	1.47	46.8	
MW4	9/26/12	268.77	13.09	255.68	7.0	17.1	6.43	433	2.64	25.8	
MW4	12/18/12	268.77	11.14	257.63	8.0	17.2	6.90	446	1.59	-40.8	
MW4	3/11/13	268.77	11.42	257.35	9.0	17.6	6.76	437	2.31	103.2	
MW4	6/27/13	268.77	13.30	255.47	7.0	16.7	6.79	427	4.12	150.1	
MW4	9/11/13	268.77	14.85	253.92	6.0	17.2	6.71	434	1.80	87.2	
MW4	12/11/13	268.77	14.21	254.56	7.0	17.3	6.76	451	1.23	20.9	
MW4	3/5/14	268.77	11.52	257.25	8.0	17.9	6.86	456	1.08	136.2	
MW4	6/17/14	268.77	13.70	255.07	8.0	18.0	6.74	460	1.31	29.1	
MW4	9/18/14	268.77	15.99	252.78	6.0	17.3	6.83	417	1.14	28.2	
MW4	12/18/14	268.77	13.36	255.41	7.0	17.9	6.81	436	0.65	-1.8	
MW4	3/24/15	268.77	12.50	256.27	9.0	17.7	6.62	455	0.07	44.0	
MW4	6/11/15	268.77	13.35	255.42	8.0	17.3	6.53	467	0.11	101.8	
MW4	9/17/15	268.77	15.61	253.16	6.0	17.6	6.66	476	0.69	93.7	

Historical Groundwater Monitoring Data
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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units:		Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
			ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW4	12/16/15		268.77	13.53	255.24	9.0	18.1	6.67	473	1.14	46.6	
MW4	3/29/16		268.77	10.99	257.78	8.0	17.9	6.78	537	0.17	79.0	
MW4	6/21/16		268.77	13.08	255.69	8.0	17.2	6.59	535	0.83	121.0	
MW4	9/8/16		268.77	14.36	254.41	9.0	17.4	6.66	498	0.50	140.1	
MW4	12/9/16		268.77	12.36	256.41	8.0	18.5	6.58	507	0.48	61.1	
MW4	3/9/17		268.77	9.04	259.73	9.0	18.1	6.66	707	0.14	175.5	
MW4	6/14/17		268.77	8.34	260.43	13.0	16.9	6.67	468	0.63	102.8	
MW4	9/13/17		268.77	12.86	255.91	8.0	17.8	6.81	494	2.14	89.6	
MW4	12/5/17		268.77	12.16	256.61	8.0	19.9	6.77	449	0.29	140.7	
MW4	3/9/18		268.77	11.91	256.86	8.0	19.8	6.79	542	1.20	136.0	
MW4	6/15/18		268.77	13.19	255.58	9.0	19.0	6.71	560	1.60	131.0	
MW4	9/17/18		268.77	14.12	254.65	8.0	21.0	6.84	561	5.20	405.0	

Historical Groundwater Monitoring Data
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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method		Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
Units:		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW4	12/17/18	268.77	12.46	256.31	9.0	18.9	6.92	560	0.70	157.0	
MW4	3/18/19	268.77	9.72	259.05	10.0	18.8	6.85	399	2.20	145.0	
MW4	5/13/19	268.77	11.49	257.28	9.5	18.1	6.88	395	1.50	202.0	
MW4	12/16/19	268.77	11.99	256.78	9.0	18.3	6.78	473	2.03	204.0	
MW4	9/16/19	268.77	14.05	254.72	8.0	17.6	6.74	483	2.60	24.0	
MW4	3/16/20	268.77	11.74	257.03	9.0	16.8	6.87	472	1.31	155.0	
MW4	6/16/20	268.77	12.38	256.39	9.0	19.5	6.85	497	1.28	139.0	
MW4	9/14/20	268.77	15.02	253.75	7.5	19.0	6.87	482	1.66	211.0	
MW4	12/15/20	268.77	13.75	255.02	8.5	17.8	6.94	460	1.82	107.0	
MW4	3/17/21	268.77	12.30	256.47	9.0	18.5	7.03	450	1.82	153.0	
MW4	6/22/21	268.77	14.20	254.57	8.0	19.3	6.86	455	1.81	164.0	
MW4	9/21/21	268.77	16.65	252.12	7.0	19.1	6.72	451	1.79	200.0	

Historical Groundwater Monitoring Data
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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method		Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
Units:		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW4	12/14/21	268.77	11.65	257.12	9.5	18.3	6.95	333	1.88	142.0	
MW4	3/15/22	268.77	12.03	256.74	9.0	18.5	7.18	280	1.53	98.0	
MW4	6/15/22	268.77	13.43	255.34	8.5	17.1	6.55	356	1.23	17.0	
MW4	9/22/22	268.77	16.15	252.62	7.0	16.8	6.82	340	1.64	121.0	
MW4	11/28/22	268.77	15.93	252.84	7.5	16.8	7.00	400	1.20	69.0	70
MW4	3/2/23	268.77	10.60	258.17	9.0	16.8	6.98	526	1.50	103.0	26
MW4	5/17/23	268.77	12.18	256.59	9.0	18.4	6.96	448	1.20	89.0	28
MW4	8/14/23	268.77	14.62	254.15	9.0	17.2	7.05	436	1.50	100.0	17

Historical Groundwater Monitoring Data
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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method	Units:	Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW4A	8/30/07	265.72	9.82	255.90							
MW4A	9/24/07	265.72	9.64	256.08							
MW4A	10/31/07	265.72	8.81	256.91							
MW4A	11/29/07	265.72	7.78	257.94							
MW4A	12/27/07	265.72	7.09	258.63	18.0	16.4	6.82	450	0.40	161.0	
MW4A	2/2/08	265.72	6.73	258.99							
MW4A	3/2/08	265.72	7.23	258.49							
MW4A	7/7/08	265.72	9.48	256.24	9.0	16.6	6.73	473	3.79	52.7	
MW4A	10/10/08	265.72	10.17	255.55	9.0	17.6	6.55	370	2.40	-44.2	
MW4A	11/5/08	265.72	9.86	255.86							
MW4A	12/30/08	265.72	8.68	257.04	9.0	16.2	6.72	366	1.84	49.3	
MW4A	3/12/09	265.72	6.97	258.75	10.0	14.8	7.11	403	3.03	114.1	
MW4A	6/16/09	265.72	8.32	257.40	9.0	16.0	6.98	433	2.34	-56.1	
MW4A	9/22/09	265.72	10.49	255.23	8.0	16.9	6.09	392	3.04	26.0	
MW4A	12/15/09	265.72	8.50	257.22	9.0	16.6	6.16	398	3.61	116.2	

Historical Groundwater Monitoring Data
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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method		Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
Units:		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW4A	3/22/10	265.72	7.24	258.48	10.0	15.2	7.26	487	3.42	101.0	
MW4A	6/22/10	265.72	8.64	257.08	9.0	16.1	6.95	514	6.94	86.2	
MW4A	9/22/10	265.72	9.30	256.42	9.0	17.6	6.67	448	1.42	43.7	
MW4A	12/14/10	265.72	7.54	258.18	9.0	15.9	6.96	456	1.62	38.6	
MW4A	3/30/11	265.72	6.18	259.54	11.0	14.6	6.79	501	2.29	-167.8	
MW4A	6/23/11	265.72	7.93	257.79	9.0	16.5	6.76	451	2.78	44.4	
MW4A	9/14/11	265.72	9.23	256.49	9.0	18.2	6.74	418	0.93	-260.1	
MW4A	12/14/11	265.72	8.15	257.57	9.0	15.9	6.26	397	2.01	-1.9	
MW4A	3/21/12	265.72	7.10	258.62	10.0	14.3	6.40	370	2.12	66.5	
MW4A	6/26/12	265.72	9.14	256.58	9.0	16.7	6.77	418	1.81	56.0	
MW4A	9/26/12	265.72	9.92	255.80	8.0	17.9	6.32	421	1.78	36.7	
MW4A	12/19/12	265.72	7.82	257.90	9.0	16.1	6.97	399	1.16	-34.5	
MW4A	3/11/13	265.72	8.12	257.60	9.0	14.3	6.73	425	3.06	95.3	
MW4A	6/27/13	265.72	10.01	255.71	9.0	15.4	6.64	415	2.98	131.9	

Historical Groundwater Monitoring Data
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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units:		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW4A	9/12/13		265.72	11.60	254.12	8.0	16.9	6.40	391	1.77	112.4	
MW4A	12/11/13		265.72	10.91	254.81	8.0	16.6	6.69	369	1.42	32.6	
MW4A	3/5/14		265.72	7.98	257.74	10.0	15.1	6.86	381	1.37	120.0	
MW4A	6/17/14		265.72	10.45	255.27	9.0	16.8	6.76	391	1.58	60.7	
MW4A	9/18/14		265.72	12.72	253.00	7.0	17.7	6.81	338	1.04	28.3	
MW4A	12/18/14		265.72	9.81	255.91	8.0	17.4	6.95	347	0.62	31.8	
MW4A	3/24/15		265.72	9.12	256.60	9.0	15.3	6.68	370	0.09	46.0	
MW4A	6/11/15		265.72	10.07	255.65	10.0	15.9	6.58	391	0.14	113.5	
MW4A	9/17/15		265.72	12.34	253.38	8.0	18.1	6.68	396	0.60	99.1	
MW4A	12/16/15		265.72	10.21	255.51	8.0	17.5	6.38	365	3.14	50.6	
MW4A	3/29/16		265.72	6.68	259.04	10.0	14.6	6.72	468	0.12	112.4	
MW4A	6/21/16		265.72	9.81	255.91	8.0	16.0	6.59	497	0.95	113.2	
MW4A	9/8/16		265.72	11.16	254.56	7.0	16.8	6.65	471	0.50	134.8	
MW4A	12/9/16		265.72	8.99	256.73	9.0	17.1	6.54	454	0.48	66.5	

Historical Groundwater Monitoring Data
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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units:		ft. msl	ft	ft. msl	Measured gal	Metered deg C	Metered std units	Metered umhs/cm	Metered mg/L	Metered Mv	Metered NTU
MW4A	3/9/17		265.72	6.37	259.35	11.0	13.3	6.85	445	0.14	211.4	
MW4A	6/14/17		265.72	7.92	257.80	10.0	17.1	6.74	473	0.43	116.1	
MW4A	9/13/17		265.72	9.57	256.15	9.0	17.7	6.76	486	1.62	68.9	
MW4A	12/5/17		265.72	8.73	256.99	9.0	16.8	6.79	436	0.36	162.1	
MW4A	3/9/18		265.72	8.53	257.19	10.0	13.7	7.02	597	1.80	156.0	
MW4A	6/15/18		265.72	9.94	255.78	9.0	16.8	6.64	560	1.50	136.0	
MW4A	9/17/18		265.72	10.67	255.05	9.0	18.0	6.84	529	7.20	294.0	
MW4A	12/17/18		265.72	8.73	256.99	9.5	16.6	6.77	540	2.00	150.0	
MW4A	3/18/19		265.72	6.68	259.04	10.5	14.4	7.00	421	3.80	153.0	
MW4A	5/13/19		265.72	8.21	257.51	10.0	18.2	6.88	513	3.20	140.0	
MW4A	9/16/19		265.72	10.53	255.19	9.5	17.9	6.80	442	2.70	61.0	
MW4A	12/16/19		265.72	8.42	257.30	10.0	15.9	6.89	435	1.87	207.0	
MW4A	3/16/20		265.72	7.52	258.20	10.0	11.6	7.37	446	2.32	179.0	
MW4A	6/16/20		265.72	9.02	256.70	9.5	16.8	6.92	484	2.06	164.0	
MW4A	9/14/20		265.72	11.48	254.24	8.5	18.0	6.88	430	1.63	192.0	

Historical Groundwater Monitoring Data
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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method		Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
Units:		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW4A	12/15/20	265.72	10.19	255.53	9.0	16.1	7.03	413	1.67	145.0	
MW4A	3/17/21	265.72	8.76	256.96	9.5	13.0	7.17	433	2.14	92.0	
MW4A	6/22/21	265.72	10.73	254.99	8.5	16.6	6.88	387	1.29	158.0	
MW4A	9/21/21	265.72	13.09	252.63	7.5	18.7	6.68	270	1.07	203.0	
MW4A	12/14/21	265.72	7.84	257.88	10.0	15.7	6.95	247	2.60	158.0	
MW4A	3/15/22	265.72	8.34	257.38	10.0	13.8	6.85	347	2.04	109.0	
MW4A	6/15/22	265.72	9.93	255.79	9.0	16.7	6.65	370	1.51	65.0	
MW4A	9/22/22	265.72	12.49	253.23	8.0	18.5	6.76	318	1.65	107.0	
MW4A	11/28/22	265.72	12.22	253.50	9.0	16.9	7.25	377	3.50	213.0	21
MW4A	3/2/23	265.72	7.30	258.42	12.0	11.2	7.09	451	2.10	104.0	23
MW4A	6/26/23	265.72	10.07	255.65	9.0	17.8	6.98	427	1.60	141.0	23
MW4A	8/14/23	265.72	11.05	254.67	12.0	17.1	7.08	418	1.50	97.0	3

Historical Groundwater Monitoring Data
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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units:		ft. msl	ft	ft. msl	Measured gal	Metered deg C	Metered std units	Metered umhs/cm	Metered mg/L	Metered Mv	Metered NTU
MW5A	8/30/07		266.13	8.86	257.27							
MW5A	9/24/07		266.13	8.72	257.41							
MW5A	10/31/07		266.13	7.92	258.21							
MW5A	11/29/07		266.13	6.68	259.45							
MW5A	12/31/07		266.13	6.06	260.07	45.0	16.3	6.94	460	1.30	224.0	
MW5A	2/2/08		266.13	5.72	260.41							
MW5A	3/2/08		266.13	6.22	259.91							
MW5A	7/2/08		266.13	8.29	257.84	40.0	59.9	7.00	353			
MW5A	10/10/08		266.13	9.43	256.70	40.0	17.2	6.63	295	3.45	24.1	
MW5A	11/5/08		266.13	9.17	256.96							
MW5A	12/30/08		266.13	7.84	258.29	39.0	16.5	6.77	306	1.29	133.1	
MW5A	3/12/09		266.13	5.99	260.14	44.0	15.3	6.87	415	2.03	117.8	
MW5A	6/16/09		266.13	7.16	258.97	41.0	15.7	6.43	445	1.93	9.8	
MW5A	9/22/09		266.13	9.82	256.31	36.0	17.4	6.85	318	2.30	51.8	
MW5A	12/15/09		266.13	7.43	258.70	41.0	16.9	6.43	360	2.80	131.4	

Historical Groundwater Monitoring Data
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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method	Units:	Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW5A	3/22/10	266.13	6.27	259.86	43.0	15.3	6.68	529	2.59	97.9	
MW5A	6/22/10	266.13	7.59	258.54	41.0	16.3	6.76	439	2.55	154.3	
MW5A	9/22/10	266.13	8.26	257.87	39.0	16.5	6.68	430	1.62	97.6	
MW5A	12/14/10	266.13	6.41	259.72	42.0	16.2	6.96	475	1.48	32.5	
MW5A	3/29/11	266.13	5.08	261.05	45.0	15.1	6.80	496	2.11	-156.4	
MW5A	6/23/11	266.13	6.54	259.59	42.0	14.3	6.62	464	1.84	24.2	
MW5A	9/14/11	266.13	7.97	258.16	39.0	16.6	6.81	375	1.24	124.0	
MW5A	12/14/11	266.13	6.96	259.17	42.0	16.5	6.35	359	1.69	-12.0	
MW5A	3/21/12	266.13	5.89	260.24	45.0	14.9	6.62	379	2.60	36.3	
MW5A	6/26/12	266.13	7.82	258.31	40.0	15.6	6.67	370	1.64	53.8	
MW5A	9/26/12	266.13	8.83	257.30	38.0	16.5	6.63	371	1.94	12.4	
MW5A	12/19/12	266.13	6.72	259.41	42.0	16.5	6.97	424	1.18	-28.7	
MW5A	3/11/13	266.13	6.94	259.19	42.0	14.8	6.61	404	2.09	71.3	
MW5A	6/27/13	266.13	8.88	257.25	33.0	16.1	5.50	348	2.85	192.2	

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Sample ID	Method	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
	Units:		ft. msl	ft	ft. msl	Measured	Metered	std units	umhs/cm	Metered	Mv	NTU
MW5A	9/12/13	266.13	11.79	254.34	33.0	17.9	6.82	360	2.40	118.7		
MW5A	12/11/13	266.13	10.17	255.96	35.0	17.4	6.62	381	1.71	65.3		
MW5A	3/5/14	266.13	6.84	259.29	41.0	16.1	6.97	401	1.28	138.4		
MW5A	6/17/14	266.13	9.43	256.70	40.0	16.4	6.73	378	1.51	64.1		
MW5A	9/18/14	266.13	12.09	254.04	32.0	17.4	6.76	317	1.11	-22.5		
MW5A	12/18/14	266.13	8.76	257.37	38.0	17.7	6.79	370	0.56	44.6		
MW5A	3/24/15	266.13	7.91	258.22	45.0	15.6	6.61	424	0.06	49.8		
MW5A	6/11/15	266.13	8.83	257.3	38.0	16.0	6.46	404	0.10	114.4		
MW5A	9/17/15	266.13	11.69	254.44	33.0	17.6	6.65	380	0.55	92.0		
MW5A	12/16/15	266.13	9.16	256.97	38.0	17.9	6.46	423	1.55	49.8		
MW5A	3/29/16	266.13	6.68	259.45	42.0	15.0	6.61	505	0.13	138.9		
MW5A	6/21/16	266.13	8.53	257.60	39.0	15.9	6.08	479	0.62	150.5		
MW5A	9/8/16	266.13	10.31	255.82	36.0	17.5	6.66	425	0.32	144.0		
MW5A	12/9/16	266.13	7.89	258.24	40.0	18.2	6.50	446	0.27	78.9		

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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method	Units:	Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW5A	3/9/17	266.13	5.12	261.01	45.0	14.9	6.74	457	0.20	163.1	
MW5A	6/14/17	266.13	6.43	259.70	44.0	16.4	6.69	465	0.48	104.1	
MW5A	9/13/17	266.13	8.28	257.85	39.0	17.1	6.53	512	1.80	138.6	
MW5A	12/5/17	266.13	7.45	258.68	41.0	17.5	6.74	408	0.20	142.1	
MW5A	3/9/18	266.13	7.25	258.88	41.0	14.3	6.84	491	1.90	154.0	
MW5A	6/15/18	266.13	8.57	257.56	40.0	17.7	6.39	482	2.00	144.0	
MW5A	9/17/18	266.13	9.52	256.61	37.0	17.9	6.62	462	8.40	150.0	
MW5A	12/17/18	266.13	7.38	258.75	41.0	17.8	6.55	421	2.10	160.0	
MW5A	3/18/19	266.13	5.27	260.86	45.0	18.0	6.83	398	1.30	180.0	
MW5A	5/13/19	266.13	6.85	259.28	40.0	16.8	7.30	438	1.80	202.0	
MW5A	9/16/19	266.13	9.25	256.88	37.0	19.2	6.67	408	3.90	26.0	
MW5A	12/16/19	266.13	7.05	259.08	42.0	17.5	6.81	393	1.76	273.0	
MW5A	3/16/20	266.13	5.99	260.14	44.0	14.2	7.03	379	3.26	161.0	
MW5A	6/16/20	266.13	7.60	258.53	41.0	15.7	6.92	467	3.31	204.0	
MW5A	9/14/20	266.13	10.47	255.66	35.0	18.9	6.84	341	2.56	193.0	

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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Volume Purged, gal.	Temp.	Field pH	Field EC	Dissolved Oxygen	Oxidation/Reduction Potential	Turbidity
Method		Surveyed	Probe	Calculated	Measured	Metered	Metered	Metered	Metered	Metered	Metered
Units:		ft. msl	ft	ft. msl	gal	deg C	std units	umhs/cm	mg/L	Mv	NTU
MW5A	12/15/20	266.13	9.04	257.09	38.0	15.5	7.06	369	4.48	211.0	
MW5A	3/17/21	266.13	7.47	258.66	41.0	15.1	7.01	384	2.91	219.0	
MW5A	6/22/21	266.13	9.52	256.61	37.0	20.3	6.89	315	2.12	58.0	
MW5A	9/21/21	266.13	12.27	253.86	31.0	20.3	7.02	315	2.89	129.0	
MW5A	12/14/21	266.13	6.38	259.75	43.0	15.4	6.92	273	1.99	176.0	
MW5A	3/15/22	266.13	6.91	259.22	42.0	20.3	6.80	315	2.44	135.0	
MW5A	6/15/22	266.13	8.43	257.70	39.0	16.7	6.35	342	1.58	101.0	
MW5A	9/22/22	266.13	11.53	254.60	33.0	19.0	6.63	276	1.65	132.0	
MW5A	11/28/22	266.13	11.31	254.82	37.5	19.6	6.90	327	2.10	88.0	4
MW5A	3/2/23	266.13	6.11	260.02	42.0	15.1	7.18	437	1.60	84.0	3
MW5A	5/17/23	266.13	7.95	258.18	42.0	16.9	7.00	387	1.20	155.0	3
MW5A	8/14/23	266.13	9.78	256.35	36.0	19.1	6.76	379	1.90	151.0	15

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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation
Method		Surveyed	Probe	Calculated	Method		Surveyed	Probe	Calculated
Units:		ft. msl	ft	ft. msl	Units:		ft. msl	ft	ft. msl
P1	Latitude	38.348882	Longitude	-120.955821	P2	Latitude	38.351917	Longitude	-120.955127
P1	8/30/07	268.88	8.77	260.11	P2	8/30/07	277.33	17.12	260.21
P1	9/24/07	268.88	8.99	259.89	P2	9/24/07	277.33	17.41	259.92
P1	10/31/07	268.88	8.12	260.76	P2	10/31/07	277.33	16.72	260.61
P1	11/29/07	268.88	6.38	262.50	P2	11/29/07	277.33	15.72	261.61
P1	12/24/07	268.88	5.65	263.23	P2	12/24/07	277.33	15.16	262.17
P1	2/2/08	268.88	4.97	263.91	P2	2/2/08	277.33	14.45	262.88
P1	3/2/08	268.88	6.84	262.04	P2	3/2/08	277.33	15.06	262.27
P1	7/21/08	268.88	8.34	260.54	P2	7/21/08	277.33	16.28	261.05
P1	10/2/08	268.88	9.61	259.27	P2	10/2/08	277.33	17.41	259.92
P1	11/5/08	268.88	9.52	259.36	P2	11/5/08	277.33	17.37	259.96
P1	12/29/08	268.88	7.73	261.15	P2	12/29/08	277.33	16.10	261.23
P1	3/11/09	268.88	5.40	263.48	P2	3/11/09	277.33	14.86	262.47
P1	6/16/09	268.88	6.28	262.60	P2	6/16/09	277.33	15.86	261.47
P1	9/22/09	268.88	9.86	259.02	P2	9/22/09	277.33	17.47	259.86
P1	12/15/09	268.88	7.83	261.05	P2	12/15/09	277.33	16.41	260.92
P1	3/22/10	268.88	5.36	263.52	P2	3/22/10	277.33	15.16	262.17
P1	6/22/10	268.88	6.73	262.15	P2	6/22/10	277.33	15.82	261.51
P1	9/22/10	268.88	8.14	260.74	P2	9/22/10	277.33	16.96	260.37
P1	12/13/10	268.88	5.96	262.92	P2	12/13/10	277.33	15.45	261.88
P1	3/28/11	268.88	3.68	265.20	P2	3/28/11	277.33	12.82	264.51
P1	6/22/11	268.88	5.18	263.70	P2	6/22/11	277.33	15.14	262.19
P1	9/13/11	268.88	7.04	261.84	P2	9/13/11	277.33	16.34	260.99
P1	12/12/11	268.88	6.01	262.87	P2	12/12/11	277.33	15.75	261.58
P1	3/20/12	268.88	4.52	264.36	P2	3/20/12	277.33	14.43	262.90
P1	6/25/12	268.88	6.29	262.59	P2	6/25/12	277.33	16.01	261.32
P1	9/24/12	268.88	8.17	260.71	P2	9/24/12	277.33	17.44	259.89
P1	12/17/12	268.88	5.98	262.9	P2	12/17/12	277.33	16.09	261.24
P1	3/11/13	268.88	5.91	262.97	P2	3/11/13	277.33	15.99	261.34
P1	6/24/13	268.88	7.61	261.27	P2	6/24/13	277.33	17.09	260.24
P1	9/11/13	268.88	10.20	258.68	P2	9/11/13	277.33	18.70	258.63

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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation
Method		Surveyed	Probe	Calculated	Method		Surveyed	Probe	Calculated
Units:		ft. msl	ft	ft. msl	Units:		ft. msl	ft	ft. msl
P1	12/10/13	268.88	10.26	258.62	P2	12/10/13	277.33	18.87	258.46
P1	3/4/14	268.88	5.49	263.39	P2	3/4/14	277.33	13.84	263.49
P1	6/16/14	268.88	8.36	260.52	P2	6/16/14	277.33	17.04	260.29
P1	9/17/14	268.88	12.05	256.83	P2	9/17/14	277.33	19.79	257.54
P1	12/17/14	268.88	7.62	261.26	P2	12/17/14	277.33	14.47	262.86
P1	3/23/15	268.88	7.01	261.87	P2	3/23/15	277.33	15.91	261.42
P1	6/10/15	268.88	7.08	261.80	P2	6/10/15	277.33	15.02	262.31
P1	9/16/15	268.88	11.72	257.16	P2	9/16/15	277.33	19.46	257.87
P1	12/15/15	268.88	7.77	261.11	P2	12/15/15	277.33	14.74	262.59
P1	3/29/16	268.88	4.89	263.99	P2	3/29/16	277.33	12.64	264.69
P1	6/20/16	268.88	6.89	261.99	P2	6/20/16	277.33	15.04	262.29
P1	9/7/16	268.88	10.06	258.82	P2	9/7/16	277.33	18.38	258.95
P1	12/7/16	268.88	6.92	261.96	P2	12/7/16	277.33	15.22	262.11
P1	3/8/17	268.88	3.67	265.21	P2	3/8/17	277.33	12.85	264.48
P1	6/13/17	268.88	5.23	263.65	P2	6/13/17	277.33	15.53	261.80
P1	9/12/17	268.88	7.47	261.41	P2	9/12/17	277.33	16.89	260.44
P1	12/4/17	268.88	5.92	262.96	P2	12/4/17	277.33	14.48	262.85
P1	3/9/18	268.88	5.65	263.23	P2	3/9/18	277.33	14.25	263.08
P1	6/15/18	268.88	6.14	262.74	P2	6/15/18	277.33	14.30	263.03
P1	9/16/18	268.88	8.44	260.44	P2	9/16/18	277.33	16.68	260.65
P1	12/16/18	268.88	7.25	261.63	P2	12/16/18	277.33	17.18	260.15
P1	3/18/19	268.88	3.65	265.23	P2	3/18/19	277.33	14.58	262.75
P1	5/13/19	268.88	5.22	263.66	P2	5/13/19	277.33	15.45	261.88
P1	9/15/19	268.88	7.54	261.34	P2	9/15/19	277.33	16.42	260.91
P1	12/15/19	268.88	5.42	263.46	P2	12/15/19	277.33	13.82	263.51
P1	3/15/20	268.88	4.92	263.96	P2	3/15/20	277.33	14.58	262.75
P1	6/14/20	268.88	6.34	262.54	P2	6/14/20	277.33	16.08	261.25
P1	9/13/20	268.88	9.89	258.99	P2	9/13/20	277.33	18.30	259.03
P1	12/15/20	268.88	8.11	260.77	P2	12/15/20	277.33	16.29	261.04
P1	3/17/21	268.88	6.15	262.73	P2	3/17/21	277.33	14.82	262.51
P1	6/22/21	268.88	8.11	260.77	P2	6/22/21	277.33	17.06	260.27
P1	9/21/21	268.88	12.08	256.80	P2	9/21/21	277.33	20.03	257.3
P1	12/14/21	268.88	6.11	262.77	P2	12/14/21	277.33	16.71	260.62

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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation
Method		Surveyed	Probe	Calculated	Method		Surveyed	Probe	Calculated
Units:		ft. msl	ft	ft. msl	Units:		ft. msl	ft	ft. msl
P1	3/15/22	268.88	6.22	262.66	P2	3/15/22	277.33	16.24	261.09
P1	6/12/22	268.88	6.49	262.39	P2	6/12/22	277.33	15.53	261.80
P1	9/22/22	268.88	11.04	257.84	P2	9/22/22	277.33	18.24	259.09
P1	11/28/22	268.88	10.86	258.02	P2	11/28/22	277.33	18.21	259.12
P1	3/2/23	268.88	4.77	264.11	P2	3/2/23	277.33	13.23	264.10
P1	5/17/23	268.88	6.07	262.81	P2	5/17/23	277.33	14.38	262.95
P1	8/14/23	268.88	8.48	260.40	P2	8/14/23	277.33	17.32	260.01



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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation
Method		Surveyed	Probe	Calculated	Method		Surveyed	Probe	Calculated
Units:		ft. msl	ft	ft. msl	Units:		ft. msl	ft	ft. msl
P3	Latitude	38.350149	Longitude	-120.957616	P5B	Latitude	38.348293	Longitude	-120.958019
P3	8/30/07	275.71	17.67	258.04	P5B	8/30/07	265.51	8.23	257.28
P3	9/24/07	275.71	17.04	258.67	P5B	9/24/07	265.51	8.08	257.43
P3	10/31/07	275.71	15.43	260.28	P5B	10/31/07	265.51	7.29	258.22
P3	11/29/07	275.71	12.57	263.14	P5B	11/29/07	265.51	6.06	259.45
P3	12/24/07	275.71	12.32	263.39	P5B	12/24/07	265.51	5.44	260.07
P3	2/2/08	275.71	12.36	263.35	P5B	2/2/08	265.51	5.11	260.40
P3	3/2/08	275.71	13.55	262.16	P5B	3/2/08	265.51	5.59	259.92
P3	7/21/08	275.71	16.65	259.06	P5B	7/21/08	265.51	8.28	257.23
P3	10/2/08	275.71	16.89	258.82	P5B	10/2/08	265.51	8.96	256.55
P3	11/5/08	275.71	16.77	258.94	P5B	11/5/08	265.51	8.53	256.98
P3	12/29/08	275.71	16.23	259.48	P5B	12/29/08	265.51	7.19	258.32
P3	3/11/09	275.71	13.19	262.52	P5B	3/11/09	265.51	5.36	260.15
P3	6/16/09	275.71	14.27	261.44	P5B	6/16/09	265.51	6.51	259.00
P3	9/22/09	275.71	16.90	258.81	P5B	9/22/09	265.51	9.19	256.32
P3	12/15/09	275.71	14.99	260.72	P5B	12/15/09	265.51	7.08	258.43
P3	3/22/10	275.71	13.23	262.48	P5B	3/22/10	265.51	5.63	259.88
P3	6/22/10	275.71	15.42	260.29	P5B	6/22/10	265.51	6.96	258.55
P3	9/22/10	275.71	18.35	257.36	P5B	9/22/10	265.51	7.62	257.89
P3	12/13/10	275.71	14.05	261.66	P5B	12/13/10	265.51	5.79	259.72
P3	3/28/11	275.71	11.38	264.33	P5B	3/28/11	265.51	4.46	261.05
P3	6/22/11	275.71	12.89	262.82	P5B	6/22/11	265.51	5.91	259.60
P3	9/13/11	275.71	15.93	259.78	P5B	9/13/11	265.51	7.32	258.19
P3	12/12/11	275.71	15.74	259.97	P5B	12/12/11	265.51	6.31	259.20
P3	3/20/12	275.71	13.59	262.12	P5B	3/20/12	265.51	5.24	260.27
P3	6/25/12	275.71	15.54	260.17	P5B	6/25/12	265.51	7.16	258.35
P3	9/24/12	275.71	15.96	259.75	P5B	9/24/12	265.51	8.19	257.32
P3	12/17/12	275.71	14.49	261.22	P5B	12/17/12	265.51	6.08	259.43
P3	3/11/13	275.71	15.20	260.51	P5B	3/11/13	265.51	6.31	259.20
P3	6/24/13	275.71	16.78	258.93	P5B	6/24/13	265.51	8.24	257.27
P3	9/11/13	275.71	18.59	257.12	P5B	9/11/13	265.51	10.14	255.37

Historical Groundwater Monitoring Data
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Depth to Water Only

Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation
Method		Surveyed	Probe	Calculated	Method		Surveyed	Probe	Calculated
Units:		ft. msl	ft	ft. msl	Units:		ft. msl	ft	ft. msl
P3	12/10/13	275.71	17.44	258.27	P5B	12/10/13	265.51	6.54	258.97
P3	3/4/14	275.71	15.48	260.23	P5B	3/4/14	265.51	6.19	259.32
P3	6/16/14	275.71	17.76	257.95	P5B	6/16/14	265.51	8.78	256.73
P3	9/17/14	275.71	20.23	255.48	P5B	9/17/14	265.51	11.44	254.07
P3	12/17/14	275.71	17.17	258.54	P5B	12/17/14	265.51	8.11	257.40
P3	3/23/15	275.71	17.05	258.66	P5B	3/23/15	265.51	7.37	258.14
P3	6/10/15	275.71	17.40	258.31	P5B	6/10/15	265.51	8.19	257.32
P3	9/16/15	275.71	20.32	255.39	P5B	9/16/15	265.51	11.06	254.45
P3	12/15/15	275.71	17.74	257.97	P5B	12/15/15	265.51	8.51	257.00
P3	3/29/16	275.71	15.65	260.06	P5B	3/29/16	265.51	6.02	259.49
P3	6/20/16	275.71	16.65	259.06	P5B	6/20/16	265.51	7.88	257.63
P3	9/7/16	275.71	20.71	255.00	P5B	9/7/16	265.51	9.66	255.85
P3	12/7/16	275.71	19.23	256.48	P5B	12/7/16	265.51	7.24	258.27
P3	3/8/17	275.71	14.52	261.19	P5B	3/8/17	265.51	4.51	261.00
P3	6/13/17	275.71	16.37	259.34	P5B	6/13/17	265.51	5.83	259.68
P3	9/12/17	275.71	18.93	256.78	P5B	9/12/17	265.51	7.65	257.86
P3	12/4/17	275.71	18.85	256.86	P5B	12/4/17	265.51	6.84	258.67
P3	3/8/18	275.71	18.80	256.91	P5B	3/8/18	265.51	6.60	258.91
P3	6/15/18	275.71	19.53	256.18	P5B	6/15/18	265.51	7.85	257.66
P3	9/16/18	275.71	20.97	254.74	P5B	9/16/18	265.51	8.89	256.62
P3	12/16/18	275.71	18.98	256.73	P5B	12/16/18	265.51	6.76	258.75
P3	3/18/19	275.71	14.30	261.41	P5B	3/18/19	265.51	4.63	260.88
P3	5/13/19	275.71	16.30	259.41	P5B	5/13/19	265.51	6.09	259.42
P3	9/15/19	275.71	17.81	257.90	P5B	9/15/19	265.51	8.34	257.17
P3	12/15/19	275.71	18.65	257.06	P5B	12/15/19	265.51	6.44	259.07
P3	3/15/20	275.71	18.20	257.51	P5B	3/15/20	265.51	5.31	260.20
P3	6/14/20	275.71	17.62	258.09	P5B	6/14/20	265.51	6.69	258.82
P3	9/13/20	275.71	22.33	253.38	P5B	9/13/20	265.51	9.83	255.68
P3	12/13/20	275.71	20.66	255.05	P5B	12/13/20	265.51	8.45	257.06



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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation
Method		Surveyed	Probe	Calculated	Method		Surveyed	Probe	Calculated
Units:		ft. msl	ft	ft. msl	Units:		ft. msl	ft	ft. msl
P3	3/17/21	275.71	19.24	256.47	P5B	3/17/21	265.51	6.82	258.69
P3	6/22/21	275.71	21.26	254.45	P5B	6/22/21	265.51	8.92	256.59
P3	9/21/21	275.71	24.10	251.61	P5B	9/21/21	265.51	11.65	253.86
P3	12/14/21	275.71	17.13	258.58	P5B	12/14/21	265.51	5.77	259.74
P3	3/15/22	275.71	17.31	258.40	P5B	3/15/22	265.51	6.28	259.23
P3	6/12/22	275.71	18.68	257.03	P5B	6/12/22	265.51	7.79	257.72
P3	9/22/22	275.71	23.15	252.56	P5B	9/22/22	265.51	11.42	254.09
P3	11/28/22	275.71	22.65	253.06	P5B	11/28/22	265.51	10.70	254.81
P3	3/2/23	275.71	16.60	259.11	P5B	3/2/23	265.51	5.50	260.01
P3	5/17/23	275.71	18.87	256.84	P5B	5/17/23	265.51	7.28	258.23
P3	8/14/23	275.71	21.15	254.56	P5B	8/14/23	265.51	9.11	256.40



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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation
Method		Surveyed	Probe	Calculated	Method		Surveyed	Probe	Calculated
Units:		ft. msl	ft	ft. msl	Units:		ft. msl	ft	ft. msl
MW08-01	Latitude	38.345472	Longitude	-120.962208	MW08-02A	Latitude	38.344438	Longitude	-120.958077
MW08-01	9/22/09	258.16	5.59	252.57	MW08-02A	9/22/09	262.33	14.63	247.70
MW08-01	12/15/09	258.16	3.46	254.70	MW08-02A	12/15/09	262.33	14.21	248.12
MW08-01	3/22/10	258.16	2.54	255.62	MW08-02A	3/22/10	262.33	8.59	253.74
MW08-01	6/22/10	258.16	3.79	254.37	MW08-02A	6/22/10	262.33	9.42	252.91
MW08-01	9/22/10	258.16	4.43	253.73	MW08-02A	9/22/10	262.33	12.01	250.32
MW08-01	12/13/10	258.16	2.22	255.94	MW08-02A	12/13/10	262.33	9.45	252.88
MW08-01	3/28/11	258.16	1.64	256.52	MW08-02A	3/28/11	262.33	7.01	255.32
MW08-01	9/13/11	258.16	4.20	253.96	MW08-02A	9/13/11	262.33	10.59	251.74
MW08-01	3/20/12	258.16	1.79	256.37	MW08-02A	3/20/12	262.33	7.63	254.70
MW08-01	9/24/12	258.16	5.76	252.40	MW08-02A	9/24/12	262.33	11.71	250.62
MW08-01	3/11/13	258.16	2.69	255.47	MW08-02A	3/11/13	262.33	7.95	254.38
MW08-01	6/24/13	258.16	5.18	252.98	MW08-02A	6/24/13	262.33	9.91	252.42
MW08-01	9/11/13	258.16	8.35	249.81	MW08-02A	9/11/13	262.33	12.60	249.73
MW08-01	3/4/14	258.16	2.40	255.76	MW08-02A	3/4/14	262.33	10.26	252.07
MW08-01	6/16/14	258.16	4.93	253.23	MW08-02A	6/16/14	262.33	10.65	251.68
MW08-01	9/17/14	258.16	7.32	250.84	MW08-02A	9/17/14	262.33	14.90	247.43
MW08-01	12/17/14	258.16	4.67	253.49	MW08-02A	12/17/14	262.33	14.78	247.55
MW08-01	3/23/15	258.16	3.40	254.76	MW08-02A	3/23/15	262.33	10.04	252.29
MW08-01	6/10/15	258.16	4.69	253.47	MW08-02A	6/10/15	262.33	11.02	251.31
MW08-01	9/16/15	258.16	6.93	251.23	MW08-02A	9/16/15	262.33	15.35	246.98
MW08-01	12/15/15	258.16	5.00	253.16	MW08-02A	12/15/15	262.33	15.33	247.00
MW08-01	3/29/16	258.16	2.77	255.39	MW08-02A	3/29/16	262.33	8.95	253.38
MW08-01	6/20/16	258.16	4.69	253.47	MW08-02A	6/20/16	262.33	10.8	251.53
MW08-01	9/7/16	258.16	6.08	252.08	MW08-02A	9/7/16	262.33	14.12	248.21
MW08-01	12/7/16	258.16	3.63	254.53	MW08-02A	12/7/16	262.33	12.65	249.68
MW08-01	3/8/17	258.16	2.14	256.02	MW08-02A	3/8/17	262.33	not measured	not measured
MW08-01	6/13/17	258.16	3.46	254.70	MW08-02A	6/13/17	262.33	8.39	253.94
MW08-01	9/12/17	258.16	5.02	253.14	MW08-02A	9/12/17	262.33	10.78	251.55
MW08-01	12/4/17	258.16	3.39	254.77	MW08-02A	12/4/17	262.33	9.43	252.90
MW08-01	3/8/18	258.16	2.86	255.30	MW08-02A	3/8/18	262.33	7.87	254.46

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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation
Method		Surveyed	Probe	Calculated	Method		Surveyed	Probe	Calculated
Units:		ft. msl	ft	ft. msl	Units:		ft. msl	ft	ft. msl
MW08-01	6/15/18	258.16	5.36	252.80	MW08-02A	6/15/18	262.33	8.33	254.00
MW08-01	9/16/18	258.16	5.57	252.59	MW08-02A	9/16/18	262.33	10.89	251.44
MW08-01	12/16/18	258.16	3.90	254.26	MW08-02A	12/16/18	262.33	10.13	252.20
MW08-01	3/18/19	258.16	20.23	255.83	MW08-02A	3/18/19	262.33	6.99	255.34
MW08-01	5/10/19	258.16	17.17	254.66	MW08-02A	5/10/19	262.33	7.15	255.18
MW08-01	9/15/19	258.16	17.05	252.84	MW08-02A	9/16/19	262.33	10.67	251.66
MW08-01	12/15/19	258.16	17.40	255.30	MW08-02A	12/16/19	262.33	9.41	252.92
MW08-01	3/15/20	258.16	20.32	255.89	MW08-02A	3/16/20	262.33	8.13	254.20
MW08-01	6/14/20	258.16	17.74	254.09	MW08-02A	6/14/20	262.33	8.82	253.51
MW08-01	9/13/20	258.16	15.65	251.98	MW08-02A	9/13/20	262.33	12.95	249.38
MW08-01	12/13/20	258.16	16.65	253.41	MW08-02A	12/13/20	262.33	13.41	248.92
MW08-01	3/16/21	258.16	20.71	255.22	MW08-02A	3/16/21	262.33	9.80	252.53
MW08-01	6/20/21	258.16	19.23	254.51	MW08-02A	6/20/21	262.33	11.63	250.70
MW08-01	9/21/21	258.16	14.52	250.35	MW08-02A	9/19/21	262.33	15.67	246.66
MW08-01	12/12/21	258.16	16.37	254.41	MW08-02A	12/12/21	262.33	13.61	248.72
MW08-01	3/14/22	258.16	18.93	254.66	MW08-02A	3/14/22	262.33	9.90	252.43
MW08-01	6/12/22	258.16	18.85	253.36	MW08-02A	6/12/22	262.33	11.17	251.16
MW08-01	9/24/22	258.16	18.80	250.82	MW08-02A	9/24/22	262.33	15.91	246.42
MW08-01	11/28/22	258.16	6.38	251.78	MW08-02A	11/28/22	262.33	15.90	246.43
MW08-01	3/2/23	258.16	2.23	255.93	MW08-02A	3/2/23	262.33	9.52	252.81
MW08-01	6/26/23	258.16	5.02	253.14	MW08-02A	6/26/23	262.33	10.82	251.51
MW08-01	8/14/23	258.16	6.22	251.94	MW08-02A	8/14/23	262.33	12.76	249.57



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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation
Method		Surveyed	Probe	Calculated	Method		Surveyed	Probe	Calculated
Units:		ft. msl	ft	ft. msl	Units:		ft. msl	ft	ft. msl
MW08-2B	Latitude	38.344469	Longitude	-120.958032	MW08-03	Latitude	38.343474	Longitude	-120.951869
MW08-2B	9/22/09	262.36	15.00	247.36	MW08-3	9/22/09	268.76	12.05	256.71
MW08-2B	12/15/09	262.36	14.30	248.06	MW08-3	12/15/09	268.76	8.81	259.95
MW08-2B	3/22/10	262.36	5.43	256.93	MW08-3	3/22/10	268.76	3.93	264.83
MW08-2B	6/22/10	262.36	8.70	253.66	MW08-3	6/22/10	268.76	6.95	261.81
MW08-2B	9/22/10	262.36	12.09	250.27	MW08-3	9/22/10	268.76	9.13	259.63
MW08-2B	12/13/10	262.36	7.61	254.75	MW08-3	12/13/10	268.76	4.08	264.68
MW08-2B	3/28/11	262.36	3.87	258.49	MW08-3	3/28/11	268.76	3.20	265.56
MW08-2B	9/13/11	262.36	10.13	252.23	MW08-3	9/13/11	268.76	8.85	259.91
MW08-2B	3/20/12	262.36	4.45	257.91	MW08-3	3/20/12	268.76	3.37	265.39
MW08-2B	9/24/12	262.36	12.72	249.64	MW08-3	9/24/12	268.76	10.45	258.31
MW08-2B	3/11/13	262.36	6.37	255.99	MW08-3	3/11/13	268.76	4.52	264.24
MW08-2B	6/24/13	262.36	10.65	251.71	MW08-3	6/24/13	268.76	9.13	259.63
MW08-2B	9/11/13	262.36	13.91	248.45	MW08-3	9/11/13	268.76	11.21	257.55
MW08-2B	3/4/14	262.36	9.22	253.14	MW08-3	3/4/14	268.76	5.27	263.49
MW08-2B	6/16/14	262.36	11.25	251.11	MW08-3	6/16/14	268.76	9.47	259.29
MW08-2B	9/17/14	262.36	15.36	247.00	MW08-3	9/17/14	268.76	12.80	255.96
MW08-2B	12/17/14	262.36	15.16	247.20	MW08-3	12/17/14	268.76	8.86	259.90
MW08-2B	3/23/15	262.36	7.91	254.45	MW08-3	3/23/15	268.76	6.19	262.57
MW08-2B	6/10/15	262.36	11.39	250.97	MW08-3	6/10/15	268.76	8.85	259.91
MW08-2B	9/16/15	262.36	15.80	246.56	MW08-3	9/16/15	268.76	12.89	255.87
MW08-2B	12/15/15	262.36	15.47	246.89	MW08-3	12/15/15	268.76	11.14	257.62
MW08-2B	3/29/16	262.36	5.31	257.05	MW08-3	3/29/16	268.76	3.73	265.03
MW08-2B	6/20/16	262.36	10.59	251.77	MW08-3	6/20/16	268.76	8.24	260.52
MW08-2B	9/7/16	262.36	14.53	247.83	MW08-3	9/7/16	268.76	11.63	257.13
MW08-2B	12/7/16	262.36	13.30	249.06	MW08-3	12/7/16	268.76	8.23	260.53
MW08-2B	3/8/17	262.36	not measured	not measured	MW08-3	3/8/17	268.76	3.25	265.51
MW08-2B	6/13/17	262.36	7.74	254.62	MW08-3	6/13/17	268.76	6.76	262.00
MW08-2B	9/12/17	262.36	11.47	250.89	MW08-3	9/12/17	268.76	9.83	258.93
MW08-2B	12/4/17	262.36	9.08	253.28	MW08-3	12/4/17	268.76	7.31	261.45
MW08-2B	3/9/18	262.36	5.95	256.41	MW08-3	3/8/18	268.76	4.06	264.70



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Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation
Method		Surveyed	Probe	Calculated	Method		Surveyed	Probe	Calculated
Units:		ft. msl	ft	ft. msl	Units:		ft. msl	ft	ft. msl
MW08-2B	6/15/18	262.36	8.63	253.73	MW08-3	6/15/18	268.76	7.30	261.46
MW08-2B	9/16/18	262.36	11.92	250.44	MW08-3	9/16/18	268.76	10.49	258.27
MW08-2B	12/16/18	262.36	10.11	252.25	MW08-3	12/16/18	268.76	8.63	260.13
MW08-2B	3/18/19	262.36	4.87	257.49	MW08-3	3/18/19	268.76	3.32	265.44
MW08-2B	5/10/19	262.36	6.90	255.46	MW08-3	5/10/19	268.76	5.40	263.36
MW08-2B	9/16/19	262.36	11.83	250.53	MW08-3	9/16/19	268.76	10.55	258.21
MW08-2B	12/16/19	262.36	9.26	253.10	MW08-3	12/16/19	268.76	6.85	261.91
MW08-2B	3/16/20	262.36	7.20	255.16	MW08-3	3/16/20	268.76	4.61	264.15
MW08-2B	6/14/20	262.36	9.32	253.04	MW08-3	6/14/20	268.76	7.65	261.11
MW08-2B	9/13/20	262.36	13.56	248.80	MW08-3	9/13/20	268.76	10.48	258.28
MW08-2B	12/13/20	262.36	13.24	249.12	MW08-3	12/13/20	268.76	9.80	258.96
MW08-2B	3/16/21	262.36	7.63	254.73	MW08-3	3/16/21	268.76	4.72	264.04
MW08-2B	6/20/21	262.36	11.92	250.44	MW08-3	6/20/21	268.76	10.01	258.75
MW08-2B	9/19/21	262.36	15.20	247.16	MW08-3	9/19/21	268.76	12.59	256.17
MW08-2B	12/12/21	262.36	13.37	248.99	MW08-3	12/12/21	268.76	6.63	262.13
MW08-2B	3/14/22	262.36	7.30	255.06	MW08-3	3/14/22	268.76	5.22	263.54
MW08-2B	6/12/22	262.36	10.88	251.48	MW08-3	6/12/22	268.76	8.35	260.41
MW08-2B	9/24/22	262.36	15.12	247.24	MW08-3	9/24/22	268.76	12.51	256.25
MW08-2B	11/28/22	262.36	14.75	247.61	MW08-3	11/28/22	268.76	11.35	257.41
MW08-2B	3/2/23	262.36	4.26	258.10	MW08-3	3/2/23	268.76	3.42	265.34
MW08-2B	6/26/23	262.36	8.67	253.69	MW08-3	5/17/23	268.76	5.77	262.99
MW08-2B	8/14/23	262.36	13.28	249.08	MW08-3	8/14/23	268.76	10.58	258.18

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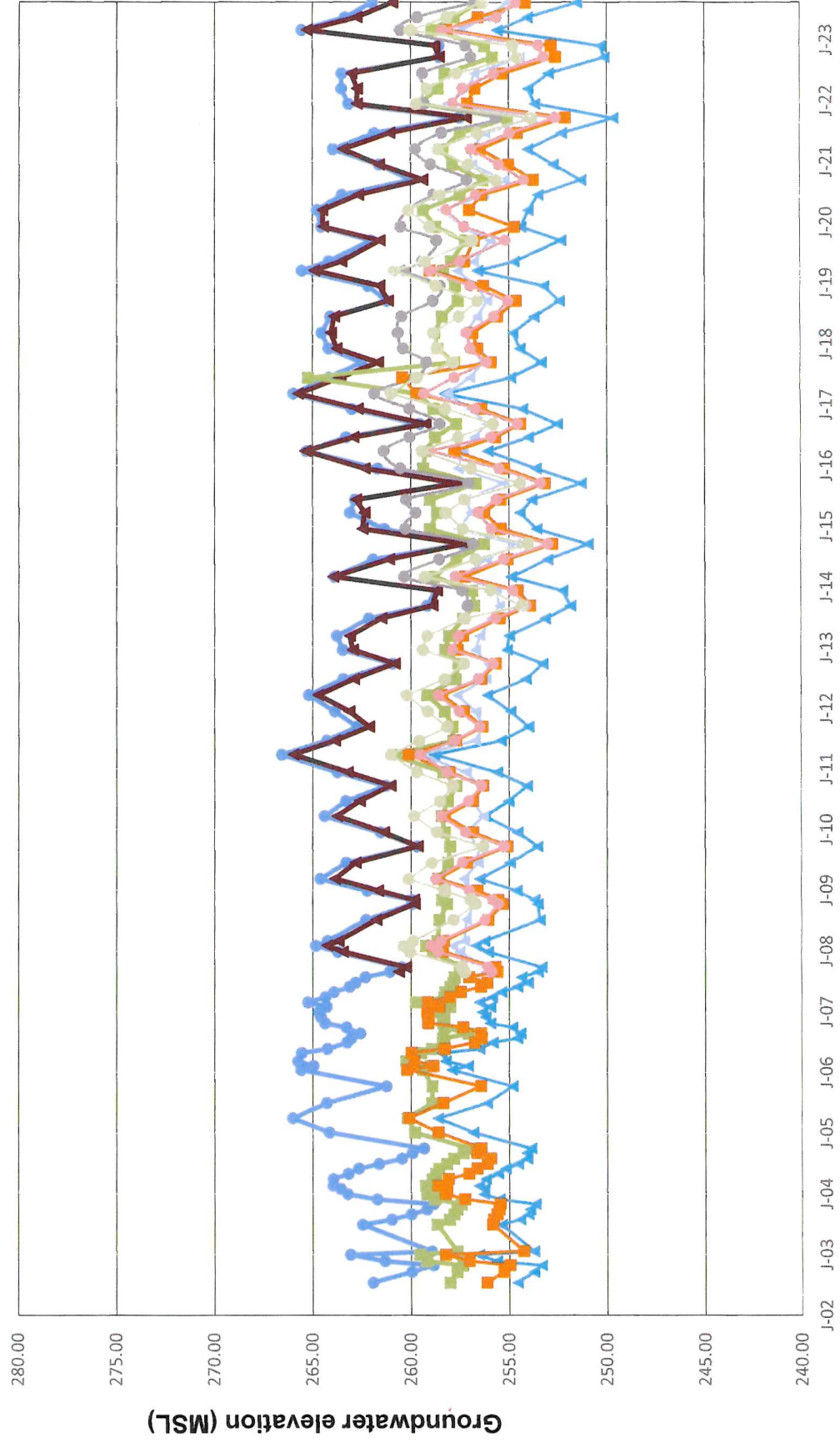
Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation
Method		Surveyed	Probe	Calculated	Method		Surveyed	Probe	Calculated
Units:		ft. msl	ft	ft. msl	Units:		ft. msl	ft	ft. msl
MW08-4A	Latitude	38.348980	Longitude	-120.949730	MW08-4B	Latitude	38.348954	Longitude	-120.949756
MW08-4A	9/22/09	280.06	20.00	260.06	MW08-4B	9/22/09	279.56	18.94	260.62
MW08-4A	12/15/09	280.06	17.55	262.51	MW08-4B	12/15/09	279.56	17.09	262.47
MW08-4A	3/22/10	280.06	13.75	266.31	MW08-4B	3/22/10	279.56	13.27	266.29
MW08-4A	6/22/10	280.06	14.82	265.24	MW08-4B	6/22/10	279.56	14.34	265.22
MW08-4A	9/22/10	280.06	17.89	262.17	MW08-4B	9/22/10	279.56	17.40	262.16
MW08-4A	12/13/10	280.06	14.74	265.32	MW08-4B	12/13/10	279.56	14.26	265.30
MW08-4A	3/28/11	280.06	10.49	269.57	MW08-4B	3/28/11	279.56	10.01	269.55
MW08-4A	9/13/11	280.06	15.57	264.49	MW08-4B	9/13/11	279.56	15.09	264.47
MW08-4A	3/20/12	280.06	13.00	267.06	MW08-4B	3/20/12	279.56	12.50	267.06
MW08-4A	9/24/12	280.06	18.42	261.64	MW08-4B	9/24/12	279.56	17.93	261.63
MW08-4A	3/11/13	280.06	14.59	265.47	MW08-4B	3/11/13	279.56	14.11	265.45
MW08-4A	6/24/13	280.06	16.29	263.77	MW08-4B	6/24/13	279.56	15.81	263.75
MW08-4A	9/11/13	280.06	20.05	260.01	MW08-4B	9/11/13	279.56	18.98	260.58
MW08-4A	3/4/14	280.06	14.92	265.14	MW08-4B	3/4/14	279.56	14.45	265.11
MW08-4A	6/16/14	280.06	16.28	263.78	MW08-4B	6/16/14	279.56	15.80	263.76
MW08-4A	9/17/14	280.06	22.16	257.90	MW08-4B	9/17/14	279.56	18.97	260.59
MW08-4A	12/17/14	280.06	18.01	262.05	MW08-4B	12/17/14	279.56	17.58	261.98
MW08-4A	3/23/15	280.06	15.04	265.02	MW08-4B	3/23/15	279.56	14.57	264.99
MW08-4A	6/10/15	280.06	15.46	264.60	MW08-4B	6/10/15	279.56	14.98	264.58
MW08-4A	9/16/15	280.06	21.60	258.46	MW08-4B	9/16/15	279.56	18.93	260.63
MW08-4A	12/15/15	280.06	17.36	262.70	MW08-4B	12/15/15	279.56	16.91	262.65
MW08-4A	3/29/16	280.06	12.86	267.20	MW08-4B	3/29/16	279.56	12.41	267.15
MW08-4A	6/20/16	280.06	14.88	265.18	MW08-4B	6/20/16	279.56	14.41	265.15
MW08-4A	9/7/16	280.06	19.68	260.38	MW08-4B	9/7/16	279.56	18.92	260.64
MW08-4A	12/7/16	280.06	15.53	264.53	MW08-4B	12/7/16	279.56	15.06	264.50
MW08-4A	3/8/17	280.06	11.68	268.38	MW08-4B	3/8/17	279.56	11.19	268.37
MW08-4A	6/13/17	280.06	13.87	266.19	MW08-4B	6/13/17	279.56	13.38	266.18
MW08-4A	9/12/17	280.06	15.75	264.31	MW08-4B	9/12/17	279.56	15.23	264.33
MW08-4A	12/4/17	280.06	14.02	266.04	MW08-4B	12/4/17	279.56	13.53	266.03
MW08-4A	3/8/18	280.06	13.57	266.49	MW08-4B	3/8/18	279.56	13.09	266.47

Historical Groundwater Monitoring Data
City of Ione WWTF
R5-2013-0022-REV1
Depth to Water Only

Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation	Sample ID	Date	Survey Mark Elevation	Depth to Water	Ground Water Elevation
Method		Surveyed	Probe	Calculated	Method		Surveyed	Probe	Calculated
Units:		ft. msl	ft	ft. msl	Units:		ft. msl	ft	ft. msl
MW08-4A	6/15/18	280.06	14.08	265.98	MW08-4B	6/15/18	279.56	14.08	265.48
MW08-4A	9/16/18	280.06	16.60	263.46	MW08-4B	9/16/18	279.56	17.42	262.14
MW08-4A	12/16/18	280.06	16.60	263.46	MW08-4B	12/16/18	279.56	16.12	263.44
MW08-4A	3/18/19	280.06	11.93	268.13	MW08-4B	3/18/19	279.56	11.46	268.10
MW08-4A	5/10/19	280.06	14.70	265.36	MW08-4B	5/10/19	279.56	13.23	266.33
MW08-4A	9/15/19	280.06	16.28	263.78	MW08-4B	9/15/19	279.56	15.80	263.76
MW08-4A	12/15/19	280.06	13.68	266.38	MW08-4B	12/15/19	279.56	13.20	266.36
MW08-4A	3/15/19	280.06	14.15	265.91	MW08-4B	3/15/19	279.56	13.65	265.91
MW08-4A	6/14/20	280.06	14.34	265.72	MW08-4B	6/14/20	279.56	13.89	265.67
MW08-4A	9/13/20	280.06	18.95	261.11	MW08-4B	9/13/20	279.56	18.45	261.11
MW08-4A	12/13/20	280.06	17.37	262.69	MW08-4B	12/13/20	279.56	16.89	262.67
MW08-4A	3/16/21	280.06	14.33	265.73	MW08-4B	3/16/21	279.56	13.84	265.72
MW08-4A	6/22/21	280.06	16.23	263.83	MW08-4B	6/22/21	279.56	15.78	263.78
MW08-4A	9/19/21	280.06	21.74	258.32	MW08-4B	9/19/21	279.56	18.96	260.60
MW08-4A	12/12/21	280.06	15.73	264.33	MW08-4B	12/12/21	279.56	15.28	264.28
MW08-4A	3/14/22	280.06	14.55	265.51	MW08-4B	3/14/22	279.56	14.09	265.47
MW08-4A	6/12/22	280.06	15.74	264.32	MW08-4B	6/12/22	279.56	15.15	264.41
MW08-4A	9/22/22	280.06	21.15	258.91	MW08-4B	9/22/22	279.56	19.53	260.03
MW08-4A	11/28/22	280.06	20.90	259.16	MW08-4B	11/28/22	279.56	19.00	260.56
MW08-4A	3/2/23	280.06	12.57	267.49	MW08-4B	3/2/23	279.56	12.09	267.47
MW08-4A	6/26/23	280.06	14.53	265.53	MW08-4B	6/26/23	279.56	14.06	265.50
MW08-4A	8/14/23	280.06	15.94	264.12	MW08-4B	8/14/23	279.56	15.47	264.09

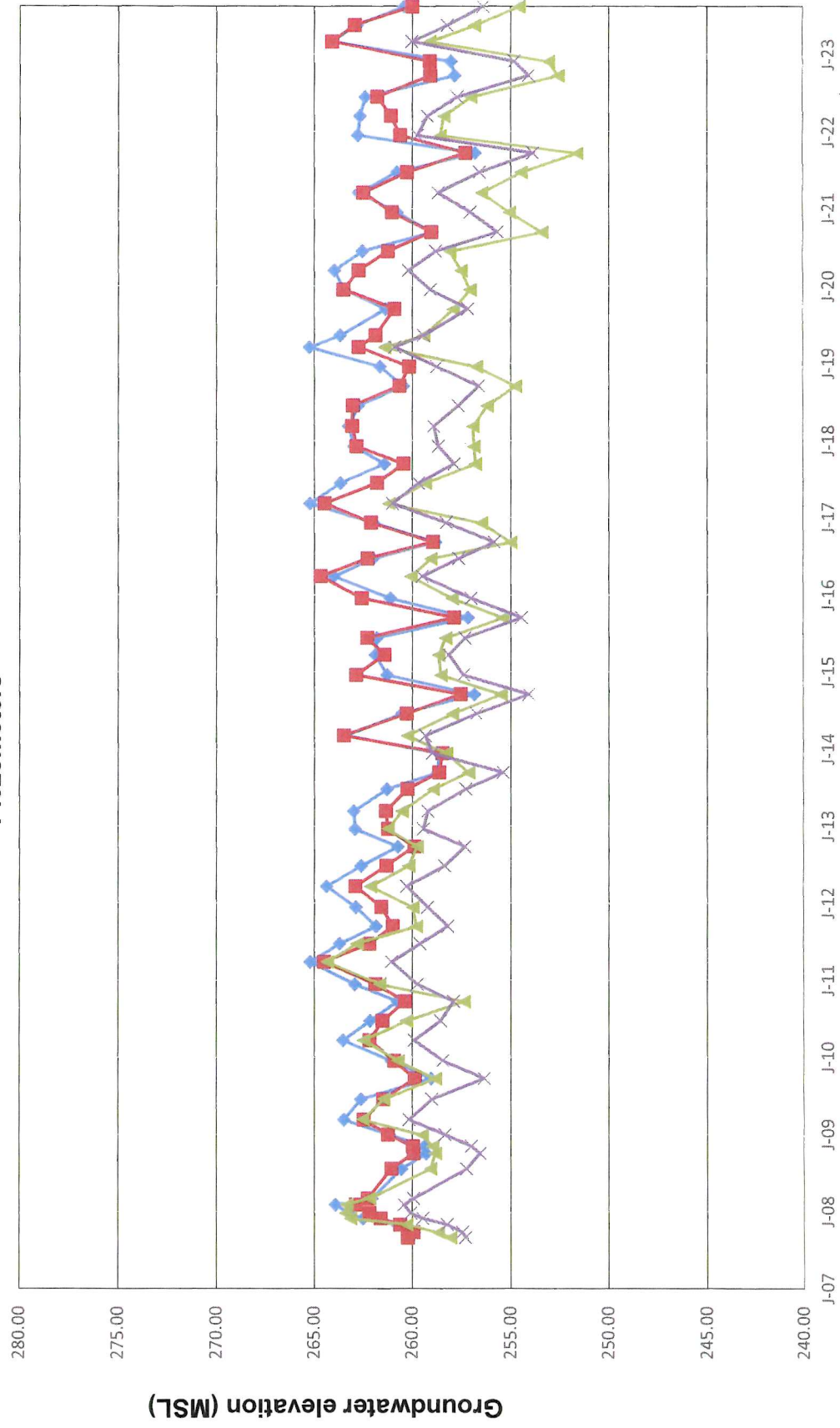
**City of Lone WWTF
Groundwater Monitoring Network Hydrographs
Onsite Monitoring Wells**

MW-1 MW-1A MW-2
MW-2A MW-3 MW-3A
MW-4 MW-4A MW-5A

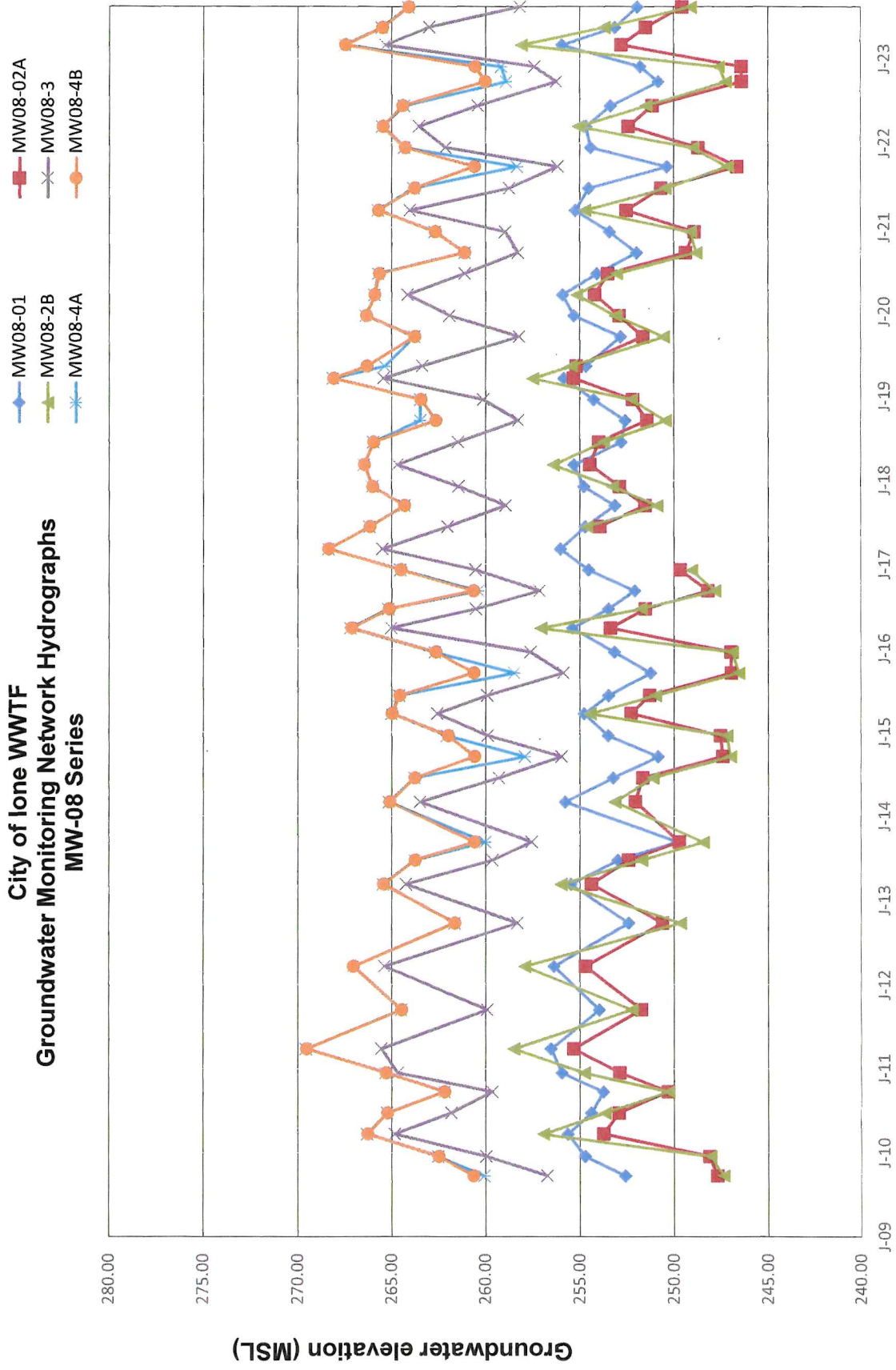


**City of Lone WWTF
Groundwater Monitoring Network Hydrographs
Piezometers**

P1
P2
P3
P5B



**City of Lone WWTF
Groundwater Monitoring Network Hydrographs
MW-08 Series**



**Attachment 3
Field Records**



1910 W. McKinley Avenue, Suite 110 • Fresno, California 93728-1298
Phone (559) 233-6129 • (800) 228-9896 • Fax (559) 268-8174
website: dellavallelab.com

MONITORING WELL FIELD LOG

PROJECT SUMMARY – MW 1

SAMPLING DATE	PROJECT NAME	PROJECT ADDRESS	SITE CONTACT	PROJECT MANAGER
8/14/2023	City of Lone WWTF Monitoring Well Network	lone, CA	Kathy Stone	Lisa Rubin

SITE OVERVIEW

LOCATION	MONUMENT WELL CASING	DIAMETER OF CASING/GALLONS PER FOOT DEPTH	DEPTH OF WELL (FT)	DEPTH OF PUMP (FT)	DEPTH TO WATER (FT)	STANDING WATER COLUMN (FT)
Lat: 38.349561 Long: -120.952534	Flush/PVC	2 inches / 0.1632	27.00	25	12.23	14.77

METHOD OVERVIEW

CALCULATED PURGE VOLUME (GALLON)	PURGE AND SAMPLING METHOD	SAMPLER	SAMPLE TIME	DEPTH TO WATER AT SAMPLING TIME (FT)	ANALYSIS PERFORMED	LAB ANALYSIS
2.41	Waterra Inertial Pump	Del-Tech Cassandra Harlan	11:21	12.29	See Chain of Custody	Dellavalle Laboratory, Inc.

FIELD SUMMARY

TIME	ACTUAL VOLUME PURGED (GAL)	PUMP RATE (GPM)	PH (UNITS)	EC (μS/CM)	TEMP (CELSIUS)	O.R.P (MVOLTS)	TURBIDITY (N.T.U)	DO (PPM)	COLOR	ODOR
11:05	0	0.5	6.91	329	20.9	185	123	4.4		
11:10	2.5	0.5	6.89	307	19.2	186	46	4.7		
11:15	2.5	0.5	6.89	308	18.8	195	18	4.6		
11:20	2.5	0.5	6.90	308	19.1	188	14	4.8	tan	none
					sampled					

MONITORING WELL FIELD LOG

PROJECT SUMMARY – MW 1A

SAMPLING DATE	PROJECT NAME	PROJECT ADDRESS	SITE CONTACT	PROJECT MANAGER
8/14/2023	City of Lone WWTF Monitoring Well Network	lone, CA	Kathy Stone	Lisa Rubin

SITE OVERVIEW

LOCATION	MONUMENT WELL CASING	DIAMETER OF CASING/GALLONS PER FOOT DEPTH	DEPTH OF WELL (FT)	DEPTH OF PUMP (FT)	DEPTH TO WATER (FT)	STANDING WATER COLUMN (FT)
Lat: 38.350034 Long: -120.954696	Post/PVC	2 inches / 0.1632	42.60	41	13.16	29.44

METHOD OVERVIEW

CALCULATED PURGE VOLUME (GALLON)	PURGE AND SAMPLING METHOD	SAMPLER	SAMPLE TIME	DEPTH TO WATER AT SAMPLING TIME (FT)	ANALYSIS PERFORMED	LAB ANALYSIS
4.80	Waterra Inertial Pump	Del-Tech Cassandra Harlan	10:55	13.18	See Chain of Custody	Dellavalle Laboratory, Inc.

FIELD SUMMARY

TIME	ACTUAL VOLUME PURGED (GAL)	PUMP RATE (GPM)	PH (UNITS)	EC (µS/CM)	TEMP (CELSIUS)	O.R.P (MVOLTS)	TURBIDITY (N.T.U)	DO (PPM)	COLOR	ODOR
10:39	0	1	6.87	415	20.6	165	234	1.7		
10:44	5	1	6.81	410	18.4	162	350	1.8		
10:49	5	1	6.81	411	17.9	171	316	1.5		
10:54	5	1	6.85	411	18.1	174	282	1.6	light brown	none
sampled										

MONITORING WELL FIELD LOG

PROJECT SUMMARY – MW 2

SAMPLING DATE	PROJECT NAME	PROJECT ADDRESS	SITE CONTACT	PROJECT MANAGER
8/14/2023	City of Ione WWTF Monitoring Well Network	Ione, CA	Kathy Stone	Lisa Rubin

SITE OVERVIEW

LOCATION	MONUMENT WELL CASING	DIAMETER OF CASING/GALLONS PER FOOT DEPTH	DEPTH OF WELL (FT)	DEPTH OF PUMP (FT)	DEPTH TO WATER (FT)	STANDING WATER COLUMN (FT)
Lat: 38.352602 Long: -120.957060	Flush/PVC	2 inches / 0.1632	26.19	24	15.80	10.39

METHOD OVERVIEW

CALCULATED PURGE VOLUME (GALLON)	PURGE AND SAMPLING METHOD	SAMPLER	SAMPLE TIME	DEPTH TO WATER AT SAMPLING TIME (FT)	ANALYSIS PERFORMED	LAB ANALYSIS
1.70	Waterra Inertial Pump	Del-Tech Antonio Morales	11:24	17.20	See Chain of Custody	Dellavalle Laboratory, Inc.

FIELD SUMMARY

TIME	ACTUAL VOLUME PURGED (GAL)	PUMP RATE (GPM)	PH (UNITS)	EC (μS/CM)	TEMP (CELSIUS)	O.R.P (MVOLTS)	TURBIDITY (N.T.U)	DO (PPM)	COLOR	ODOR
11:17	0	1	7.94	443	21.7	-31	51	1.0		
11:19	2	1	7.39	430	20.2	-72	50	1.2		
11:21	2	1	7.30	431	20.1	-65	36	1.0		
11:23	2	1	7.20	431	20.1	-58	4	0.9	Dark gray	sweet

MONITORING WELL FIELD LOG

PROJECT SUMMARY – MW 2A

SAMPLING DATE	PROJECT NAME	PROJECT ADDRESS	SITE CONTACT	PROJECT MANAGER
8/14/2023	City of Lone WWTF Monitoring Well Network	lone, CA	Kathy Stone	Lisa Rubin

SITE OVERVIEW

LOCATION	MONUMENT WELL CASING	DIAMETER OF CASING/GALLONS PER FOOT DEPTH	DEPTH OF WELL (FT)	DEPTH OF PUMP (FT)	DEPTH TO WATER (FT)	STANDING WATER COLUMN (FT)
Lat: 38.352136 Long: -120.957236	Flush/PVC	2 inches / 0.1632	27.81	26	19.50	8.31

METHOD OVERVIEW

CALCULATED PURGE VOLUME (GALLON)	PURGE AND SAMPLING METHOD	SAMPLER	SAMPLE TIME	DEPTH TO WATER AT SAMPLING TIME (FT)	ANALYSIS PERFORMED	LAB ANALYSIS
1.36	Waterra Inertial Pump	Del-Tech Cassandra Harlan	12:47	19.85	See Chain of Custody	Dellavalle Laboratory, Inc.

FIELD SUMMARY

TIME	ACTUAL VOLUME PURGED (GAL)	PUMP RATE (GPM)	PH (UNITS)	EC (µS/CM)	TEMP (CELSIUS)	O.R.P (MVOLTS)	TURBIDITY (N.T.U)	DO (PPM)	COLOR	ODOR
12:36	0	0.5	6.96	525	20.6	-71	15	1.0		
12:39	1.5	0.5	6.97	537	19.6	-89	11	1.4		
12:42	1.5	0.5	6.97	539	19.5	-94	7	1.2		
12:45	1.5	0.5	6.94	539	19.9	-100	8	0.6	clear	musty
sampled										

MONITORING WELL FIELD LOG

PROJECT SUMMARY – MW 3

SAMPLING DATE	PROJECT NAME	PROJECT ADDRESS	SITE CONTACT	PROJECT MANAGER
8/14/2023	City of Lone WWTF Monitoring Well Network	lone, CA	Kathy Stone	Lisa Rubin

SITE OVERVIEW

LOCATION	MONUMENT WELL CASING	DIAMETER OF CASING/GALLONS PER FOOT DEPTH	DEPTH OF WELL (FT)	DEPTH OF PUMP (FT)	DEPTH TO WATER (FT)	STANDING WATER COLUMN (FT)
Lat: 38.352333 Long: -120.958824	Post/PVC	2 inches / 0.1632	30.02	28	18.34	11.68

METHOD OVERVIEW

CALCULATED PURGE VOLUME (GALLON)	PURGE AND SAMPLING METHOD	SAMPLER	SAMPLE TIME	DEPTH TO WATER AT SAMPLING TIME (FT)	ANALYSIS PERFORMED	LAB ANALYSIS
1.91	Waterra Inertial Pump	Del-Tech Antonio Morales	11:46	18.74	See Chain of Custody	Dellavalle Laboratory, Inc.

FIELD SUMMARY

TIME	ACTUAL VOLUME PURGED (GAL)	PUMP RATE (GPM)	PH (UNITS)	EC (µS/CM)	TEMP (CELSIUS)	O.R.P (MVOLTS)	TURBIDITY (N.T.U)	DO (PPM)	COLOR	ODOR
11:39	0	1	7.35	475	19.7	61	101	2.0		
11:41	2	1	7.15	481	19.2	42	12	1.8		
11:43	2	1	7.12	488	19.1	47	8	1.7		
11:45	2	1	7.12	491	19.1	51	7	2.1	tan	none
sampled										

MONITORING WELL FIELD LOG

PROJECT SUMMARY – MW 3A

SAMPLING DATE	PROJECT NAME	PROJECT ADDRESS	SITE CONTACT	PROJECT MANAGER
8/14/2023	City of Lone WWTF Monitoring Well Network	lone, CA	Kathy Stone	Lisa Rubin

SITE OVERVIEW

LOCATION	MONUMENT WELL CASING	DIAMETER OF CASING/GALLONS PER FOOT DEPTH	DEPTH OF WELL (FT)	DEPTH OF PUMP (FT)	DEPTH TO WATER (FT)	STANDING WATER COLUMN (FT)
Lat: 38.353515 Long: -120.958275	Post/PVC	2 inches / 0.1632	32.71	30	23.20	9.51

METHOD OVERVIEW

CALCULATED PURGE VOLUME (GALLON)	PURGE AND SAMPLING METHOD	SAMPLER	SAMPLE TIME	DEPTH TO WATER AT SAMPLING TIME (FT)	ANALYSIS PERFORMED	LAB ANALYSIS
1.55	Waterra Inertial Pump	Del-Tech Antonio Morales	13:08	23.30	See Chain of Custody	Dellavalle Laboratory, Inc.

FIELD SUMMARY

TIME	ACTUAL VOLUME PURGED (GAL)	PUMP RATE (GPM)	PH (UNITS)	EC (µS/CM)	TEMP (CELSIUS)	O.R.P (MVOLTS)	TURBIDITY (N.T.U)	DO (PPM)	COLOR	ODOR
12:55	0	0.5	7.35	439	21.1	-42	189	1.4		
12:59	2	0.5	7.12	448	20.0	-56	9	1.0		
13:03	2	0.5	7.10	449	20.0	-53	8	1.5		
13:07	2	0.5	7.10	449	20.0	-54	7	1.2	tan	none
sampled										

MONITORING WELL FIELD LOG

PROJECT SUMMARY – MW 4

SAMPLING DATE	PROJECT NAME	PROJECT ADDRESS	SITE CONTACT	PROJECT MANAGER
8/14/2023	City of Lone WWTF Monitoring Well Network	Lone, CA	Kathy Stone	Lisa Rubin

SITE OVERVIEW

LOCATION	MONUMENT WELL CASING	DIAMETER OF CASING/GALLONS PER FOOT DEPTH	DEPTH OF WELL (FT)	DEPTH OF PUMP (FT)	DEPTH TO WATER (FT)	STANDING WATER COLUMN (FT)
Lat: 38.349817 Long: -120.959734	Post/PVC	2 inches / 0.1632	30.13	28	14.62	15.51

METHOD OVERVIEW

CALCULATED PURGE VOLUME (GALLON)	PURGE AND SAMPLING METHOD	SAMPLER	SAMPLE TIME	DEPTH TO WATER AT SAMPLING TIME (FT)	ANALYSIS PERFORMED	LAB ANALYSIS
2.53	Waterra Inertial Pump	Del-Tech Antonio Morales	12:46	15.10	See Chain of Custody	Dellavalle Laboratory, Inc.

FIELD SUMMARY

TIME	ACTUAL VOLUME PURGED (GAL)	PUMP RATE (GPM)	PH (UNITS)	EC (µS/CM)	TEMP (CELSIUS)	O.R.P (MVOLTS)	TURBIDITY (N.T.U)	DO (PPM)	COLOR	ODOR
12:36	0	1	7.55	431	18.0	127	126	1.2		
12:39	3	1	7.29	436	17.0	119	61	1.6		
12:42	3	1	7.09	436	17.2	112	28	1.5		
12:45	3	1	7.05	436	17.2	100	17	1.5	tan	none
sampled										

MONITORING WELL FIELD LOG

PROJECT SUMMARY – MW 4A

SAMPLING DATE	PROJECT NAME	PROJECT ADDRESS	SITE CONTACT	PROJECT MANAGER
8/14/2023	City of Lone WWTF Monitoring Well Network	lone, CA	Kathy Stone	Lisa Rubin

SITE OVERVIEW

LOCATION	MONUMENT WELL CASING	DIAMETER OF CASING/GALLONS PER FOOT DEPTH	DEPTH OF WELL (FT)	DEPTH OF PUMP (FT)	DEPTH TO WATER (FT)	STANDING WATER COLUMN (FT)
Lat: 38.348670 Long: -120.959979	Post/PVC	2 inches / 0.1632	28.00	26	11.05	16.95

METHOD OVERVIEW

CALCULATED PURGE VOLUME (GALLON)	PURGE AND SAMPLING METHOD	SAMPLER	SAMPLE TIME	DEPTH TO WATER AT SAMPLING TIME (FT)	ANALYSIS PERFORMED	LAB ANALYSIS
2.77	Waterra Inertial Pump	Del-Tech Antonio Morales	12:18	11.15	See Chain of Custody	Dellavalle Laboratory, Inc.

FIELD SUMMARY

TIME	ACTUAL VOLUME PURGED (GAL)	PUMP RATE (GPM)	PH (UNITS)	EC (µS/CM)	TEMP (CELSIUS)	O.R.P (MVOLTS)	TURBIDITY (N.T.U)	DO (PPM)	COLOR	ODOR
12:05	0	1	7.65	441	18.0	82	180	2.9		
12:09	4	1	7.20	418	17.3	67	6	2.1		
12:13	4	1	7.10	418	17.1	84	4	1.7		
12:17	4	1	7.08	418	17.1	97	3	1.5	grey	none
sampled										

MONITORING WELL FIELD LOG

PROJECT SUMMARY – MW 5A

SAMPLING DATE	PROJECT NAME	PROJECT ADDRESS	SITE CONTACT	PROJECT MANAGER
8/14/2023	City of Lone WWTF Monitoring Well Network	lone, CA	Kathy Stone	Lisa Rubin

SITE OVERVIEW

LOCATION	MONUMENT WELL CASING	DIAMETER OF CASING/GALLONS PER FOOT DEPTH	DEPTH OF WELL (FT)	DEPTH OF PUMP (FT)	DEPTH TO WATER (FT)	STANDING WATER COLUMN (FT)
Lat: 38.348315 Long: -120.958013	Post/PVC	4 inches / 0.6528	28.05	26	9.78	18.27

METHOD OVERVIEW

CALCULATED PURGE VOLUME (GALLON)	PURGE AND SAMPLING METHOD	SAMPLER	SAMPLE TIME	DEPTH TO WATER AT SAMPLING TIME (FT)	ANALYSIS PERFORMED	LAB ANALYSIS
11.93	Electronic Centrifugal Pump	Del-Tech Cassandra Harlan	12:26	9.80	See Chain of Custody	Dellavalle Laboratory, Inc.

FIELD SUMMARY

TIME	ACTUAL VOLUME PURGED (GAL)	PUMP RATE (GPM)	PH (UNITS)	EC (µS/CM)	TEMP (CELSIUS)	O.R.P (MVOLTS)	TURBIDITY (N.T.U)	DO (PPM)	COLOR	ODOR
11:49	0	1	6.90	419	20.4	191	14	1.5		
12:01	12	1	6.77	390	19.2	129	16	1.8		
12:13	12	1	6.78	379	18.7	144	26	1.9		
12:25	12	1	6.76	379	19.1	151	15	1.9	Grayish brown	none
sampled										

NOTES

WELL INSPECTION REPORT(S)	WEATHER	QUALITY CONTROL AND CONTAINMENT
	83-98 degrees Fahrenheit. Clear with winds 2-3 mph	All measurements are made from the north side and top edge of the well casing. Dedicated purge tubing in all except MW-5A. Water purged to the ground. Pump cleaned as necessary.

INSTRUMENTATION

TYPE OF INSTRUMENTATION	MANUFACTURER	SERIAL NO.
6P Multi Meter	Myron L Company	6263335/6223581
Turbidity Meter	Oakton	4060031101/98703
Dissolved Oxygen Meter	Milwaukee	11003280003/2290134991
D.T.W Meter	Heron Instruments, Inc.	I2FF2102146EC

CALIBRATIONS

TYPE OF INSTRUMENT	DATE	STANDARD MEASUREMENTS	PRE-CALIBRATED READING	CALIBRATED READING
pH Meter	8/14/23	4 units	3.97	4.00
		7 units	6.98	7.00
		10 units	10.24	10.00
Electrical Conductivity	8/14/23	1413 μ S/cm	1416	1413
Turbidity	8/14/23	20 NTU	20	20
Dissolved Oxygen	8/14/23	100 %	101	100
pH Meter	8/14/23	4 units	4.01	4.00
		7 units	6.80	7.00
		10 units	10.01	10.00
Electrical Conductivity	8/14/23	1413 μ S/cm	1416	1413
Turbidity	8/14/23	20 NTU	20	20
Dissolved Oxygen	8/14/23	100 %	100	100

Note: Upon completing the initial readings of the instruments, the instruments are adjusted to the calibration standard solutions that are being used at the time and at the current ambient temperature.

Attachment 4
Historical Quarterly Groundwater Quality
Data and Graphs



1910 W. McKinley Avenue, Suite 110 • Fresno, California 93728-1298
Phone (559) 233-6129 • (800) 228-9896 • Fax (559) 268-8174
website: dellavallelab.com

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units:		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW1	7/16/02	23	ND	2.40		3.80	6.20			190			0.16	ND
MW1	6/30/03	ND	ND	0.55		ND	1.10			162			0.81	0.02
MW1	9/30/03	ND	ND	0.51		ND	1.00			143			1.12	0.04
MW1	12/31/03	ND	ND	0.74		ND	1.20			170			0.09	ND
MW1	3/31/04	23	ND	1.70		ND	2.20			217			ND	ND
MW1	6/30/04	ND	ND	1.20		ND	1.70			187			0.31	ND
MW1	10/1/04	ND	ND	0.82		3.40	4.20			273				0.87
MW1	1/4/05	ND	ND	1.50		ND	2.00			196			1.01	0.10
MW1	4/1/05	ND	ND	2.70		ND	3.20			210			0.24	ND
MW1	6/30/05	ND	ND	3.00		ND	3.50			191			0.08	ND
MW1	10/6/05	ND	ND	1.30		ND	1.80			175			0.13	ND
MW1	2/9/06	ND	ND	2.00		ND	2.50			158			0.06	ND
MW1	5/23/06	2	ND	3.80		ND	4.30			215			0.32	ND
MW1	8/24/06	ND	ND	2.20		ND	2.70			239			0.83	0.04
MW1	12/29/06	30	ND	0.99		ND	1.50			165			0.31	0.02
MW1	3/30/07	ND		0.81		ND	1.30			185			0.13	ND
MW1	6/25/07	2		0.84		ND	1.30			168			0.04	ND

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units:		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW1	9/27/07	ND	ND	0.99		ND	1.50			156			0.17	0.01
MW1	12/27/07	ND	ND	0.84		ND	1.30			232			1.90	0.08
MW1	7/7/08	ND	ND	0.66		ND	1.20			170			0.62	0.02
MW1	10/10/08	ND	ND	0.93		ND	1.40			186			0.33	0.01
MW1	12/29/08	ND	ND	0.93		ND	1.00			210			1.60	0.05
MW1	3/11/09	ND	ND	0.86		0.07	0.90			200			0.42	0.01
MW1	6/16/09	ND	ND	0.98		ND	1.10			190			0.30	0.01
MW1	9/22/09	ND	ND	1.00		ND	1.10			160				
MW1	12/15/09	ND	ND	1.10		0.11	1.20			150	ND	ND		
MW1	3/22/10	2	ND	1.20		1.80	3.00			190	0.010	0.0280		
MW1	6/22/10	ND	ND	1.30		ND	1.30			200	ND	0.0230		
MW1	9/22/10	ND	ND	0.86		ND	0.90			210	ND	0.0010		
MW1	12/13/10	ND	ND	0.61		ND	0.60			160	ND	0.0010		
MW1	3/29/11	ND	ND	1.80		0.09	1.90			190	ND	0.0010		
MW1	6/22/11	ND	ND	2.90		ND	2.90			200	ND	0.0010		
MW1	9/13/11	ND	ND	1.00		ND	1.00			160	0.012	0.0010		
MW1	12/14/11	ND	ND	0.54		ND	0.60			160	0.012	0.0010		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units:		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW1	3/21/12	ND		0.58		ND	0.60			160	ND	0.0010		
MW1	6/26/12	ND	ND	1.00		ND	1.00			160	0.009	0.0020		
MW1	9/27/12	ND		0.65		ND	0.70			180	ND	0.0021		
MW1	12/19/12	ND		0.58		ND	0.60			150	0.005	ND		
MW1	3/30/07	ND		1.50		ND	1.50			190	ND	ND		
MW1	6/27/13	ND		0.66		ND	0.70			170	ND	ND		
MW1	9/12/13	ND		0.69	0.02		0.70			180	0.140	0.0088		
MW1	12/11/13	ND		0.79	ND	ND	0.79			150	0.340	0.1400		
MW1	3/4/14	4		1.50	0.02		1.50			200	0.072	0.0190		
MW1	6/17/14	ND		0.91	ND		0.91			230	ND	ND		
MW1	9/18/14	ND		0.87	ND		0.87			180	0.047	ND		
MW1	12/18/14	130		1.90	ND	0.06	1.96			180	ND	ND		
MW1	3/24/15	ND		1.90	ND		1.90			220	ND	ND		
MW1	6/11/15	ND		1.20	ND		1.20			220	ND	ND		
MW1	9/17/15	ND		1.00	ND		1.00			220	ND	0.0140		
MW1	12/16/15	ND		2.20	ND	ND	2.20			250	0.140	0.0059		
MW1	3/29/16	ND		1.80	ND		1.80			230	ND	ND		
MW1	6/21/16	ND		2.00	ND		2.00			210	ND	ND		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units:		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW1	9/8/16	ND		0.80	ND		0.80			210	ND	ND		
MW1	12/8/16	ND		1.20	0.03	0.60	1.23			200	ND	0.0064		
MW1	3/9/17	ND		3.50	ND		3.50			250	0.110	0.0220		
MW1	6/14/17	ND		5.90	ND		5.90			250	ND	ND		
MW1	9/13/17	ND		1.20	ND		1.20			200	ND	ND		
MW1	12/5/17	70		0.64	0.11	-0.08	0.64			160	ND	ND		
MW1	3/9/18	15		0.56	0.04		0.56			200	ND	0.0004		
MW1	6/15/18	4		1.50	ND		1.50			220	ND	0.0004		
MW1	9/17/18	21		0.52	0.07		1.60			170	ND	0.0057		
MW1	12/17/18	130		0.53	0.13	0.23	0.76			160	ND	0.0028		
MW1	3/18/19	21		1.10	0.07		1.20			170	ND	0.0032		
MW1	5/13/19	49		2.00	ND		2.00			220	0.760	0.002		
MW1	9/16/19	920		0.52	ND		0.52			160	ND	0.0061		
MW1	12/16/19	220		0.30	ND	0.23	0.53			160	ND	0.0022		
MW1	3/16/20	920		0.38	ND		0.38			150	0.046	0.0012		
MW1	6/16/20	17		0.67	0.09		0.75			160	ND	0.0023		
MW1	9/14/20	40		0.45	ND		0.45			160	ND	0.0051		
MW1	12/15/20	24		0.79	0.12		1.10			180	ND	0.0019		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H ⁺	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units:		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW1	3/16/21	ND		0.70	ND		1.10			180	ND	0.0024		
MW1	6/22/21	ND		0.51	0.10		0.60			190	ND	0.0017		
MW1	9/21/21	540		0.44	0.14		0.60			200	ND	0.0032		
MW1	12/14/21	1600		0.94	0.21	0.25	1.20			170	ND	0.0015		
MW1	3/15/22	40		1.10	0.08		1.20			190	ND	0.0015		
MW1	6/15/22	2		0.54	0.09		0.63			180	ND	0.0007		
MW1	9/22/22	540		0.21	ND		0.22			180	ND	0.0018		
MW1	11/28/22	ND		0.80	ND	ND	ND	345	7.2	189	ND	ND		
MW1	3/2/23	ND		2.70	ND		2.70	354	6.8	255	ND	ND		
MW1	6/26/23	<1.8		3.3	ND		3.30	354	6.9	240	ND	ND		
MW1	8/14/23	<1.8		1.3	ND		1.30	287	6.8	210	ND	ND		

NM - Not Measured

ND - Not Detected

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500-H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units.		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW1A	12/27/07	ND	ND	1.40		ND	1.90			301	ND	0.0140	1.10	0.070
MW1A	7/7/08	ND	ND	7.70		ND	8.20			283	ND	ND	0.38	0.015
MW1A	10/10/08	ND	ND	1.60		ND	2.10			297	ND	ND	6.31	0.310
MW1A	12/29/08	2		3.20		0.10	3.30			290	ND	0.0009	0.63	0.033
MW1A	3/11/09	ND		3.90		0.08	4.00			270	ND	ND	0.13	0.015
MW1A	6/16/09	ND	ND	3.00		ND	3.10			210	ND	ND	0.05	0.004
MW1A	9/22/09	ND	ND	3.50		6.30	9.80			290	ND	0.0160		
MW1A	12/15/09	2	ND	3.10		0.18	3.30			250	ND	ND		
MW1A	3/22/10	ND	ND	2.80		ND	2.90			250	ND	0.0093		
MW1A	6/22/10	ND	ND	3.80		ND	3.80			250	0.018	0.0350		
MW1A	9/22/10	ND	ND	3.50		ND	3.50			290	0.010	0.0270		
MW1A	12/13/10	ND	ND	2.30		ND	2.30			250	ND	0.0160		
MW1A	3/29/11	ND	ND	3.70		0.08	3.80			230	0.051	0.0610		
MW1A	6/22/11	ND	ND	1.60		ND	1.60			260	0.027	0.0450		
MW1A	9/13/11	ND		2.70		0.06	2.80			220	0.0230	0.0088		
MW1A	12/14/11	ND	ND	2.50		ND	2.50			220	0.015	0.0140		

Historical Quarterly Groundwater Quality Data
City of Ione W/WTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₃ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500-H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units:		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW1A	3/21/12	ND		1.60		ND	1.60			200	0.006	0.0110		
MW1A	6/26/12	ND	ND	1.20		ND	1.20			210	0.018	0.0160		
MW1A	9/27/12	2		0.99		ND	1.00			220	0.010	0.0240		
MW1A	12/19/12	ND		0.45		ND	0.50			230	0.006	0.0079		
MW1A	3/11/13	ND		1.10		ND	1.10			210	ND	0.0094		
MW1A	6/27/13	ND		1.50		0.10	1.60			180	ND	0.0040		
MW1A	9/12/13	ND		1.60	ND		1.60			200	0.097	0.0160		
MW1A	12/12/13	ND		1.40	ND	ND	1.40			210	ND	0.0061		
MW1A	3/4/14	4		2.70	0.02		2.70			210	ND	0.0076		
MW1A	6/17/14	ND		4.10	ND		4.10			270	0.039	ND		
MW1A	9/18/14	ND		2.50	ND		2.50			240	0.039	0.0071		
MW1A	12/18/14	4		3.70	ND	0.18	3.90			330	ND	ND		
MW1A	3/24/15	ND		4.80	ND		4.80			280	ND	ND		
MW1A	6/11/15	2		5.80	ND		5.80			310	ND	ND		
MW1A	9/17/15	ND		3.40	ND		3.40			290	ND	ND		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units:		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW1A	12/16/15	17		2.00	ND	ND	2.00			310	0.042	ND		
MW1A	3/29/16	280		5.60	ND		5.60			270	ND	ND		
MW1A	6/21/16	ND		2.30	ND		2.30			270	ND	ND		
MW1A	9/8/16	ND		0.79	0.03		0.80			300	ND	ND		
MW1A	12/8/16	ND		0.33	0.03	ND	0.41			330	ND	ND		
MW1A	3/9/17	49		8.30	ND		8.30			300	ND	ND		
MW1A	6/14/17	ND		6.00	0.04		6.00			280	ND	0.0049		
MW1A	9/13/17	ND		8.80	0.03		8.80			270	ND	ND		
MW1A	12/5/17	110		15.00	0.04	0.14	15.00			310	ND	ND		
MW1A	3/9/18	10		12.00	0.14		12.00			310	ND	0.0004		
MW1A	6/15/18	130		1.20	ND		1.20			290	ND	0.0007		
MW1A	9/17/18	2		0.06	0.07		0.10			300	ND	0.0069		
MW1A	12/17/18	1600		2.40	0.07	0.21	2.60			270	ND	0.0036		
MW1A	3/18/19	130		3.00	0.11		3.10			220	ND	0.0034		
MW1A	5/13/19	2		2.80	0.11		2.90			230	0.032	0.0043		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW1A 9/16/19		920		7.20	ND		7.20			290	ND	0.0044		
MW1A 12/16/19		920		6.00	ND	0.32	6.40			270	ND	0.0034		
MW1A 3/16/20		110		7.60	ND		7.60			290	0.032	0.0056		
MW1A 6/16/20		9		3.90	0.09		4.00			250	0.035	0.0120		
MW1A 9/14/20		540		5.90	ND		5.90			250	ND	0.0037		
MW1A 12/15/20		170		3.50	0.12		3.60			280	ND	0.0078		
MW1A 3/17/21		2		3.50	ND		3.60			330	ND	0.0055		
MW1A 6/22/21		5		4.00	0.10		4.10			310	ND	0.0012		
MW1A 9/21/21		240		2.80	0.16		3.00			320	ND	0.0021		
MW1A 12/14/21		540		1.90	ND	0.20	2.10			200	ND	0.0071		
MW1A 3/15/22		49		1.40	ND		1.40			200	ND	0.0052		
MW1A 6/15/22		49		1.80	0.08		1.90			220	ND	0.0290		
MW1A 9/22/22		20		2.70	ND		2.80			220	ND	0.0340		
MW1A 11/28/22		ND		1.60	ND	ND	1.56	396	7.3	414	ND	ND		
MW1A 3/2/23		6.9		13.3	ND		13.30	547	6.8	400	ND	ND		
MW1A 6/26/23		2		1.9	ND		1.90	423	6.9	345	ND	ND		
MW1A 8/14/23		13		4.6	ND		4.60	388	6.8	330	ND	ND		

NM - Not Measured
ND - Not Detected

Historical Annual Standard Minerals Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Calcium	Dissolved Calcium	Dissolved Magnesium	Total Sodium	Dissolved Sodium	Total Potassium	Dissolved Potassium	Total Boron	Dissolved Boron	Dissolved Aluminum	Total Arsenic	Dissolved Arsenic	Chloride	Sulfate	Bicarbonate Alkalinity (CaCO3)	Carbonate Alkalinity (CaCO3)	Hydroxide Alkalinity (CaCO3)	Total Alkalinity (CaCO3)	Hardness
Method/Analysis		EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.8	EPA 200.8	EPA 300.0	EPA 300.0	SM 2320-B	SM 2320-B	SM 2320-B	SM 2320-B	calculation
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MCL											0.2	0.010	0.010	250	250					
MW1A	12/26/07	40.0			85.0		1.10		0.100			ND		29.0	19.0	122	ND	ND	122	162
MW1A	7/7/08	47.0			19.0		0.86		0.082			ND		16.0	24.0	145	ND	ND	145	179
MW1A	10/10/08	44.0			26.0		1.30		0.110			0.002		44.0	17.0	138	ND	ND	138	170
MW1A	12/30/08	48.0		17.0	27.0		1.50		0.110			ND		28.0	20.0	160	ND	ND	160	190
MW1A	3/12/09	51.0		17.0	19.0		1.00		0.082			0.009		14.0	23.0	150	ND	ND	150	200
MW1A	6/16/09	40.0		15.0	15.0		0.97		0.078			ND		9.4	24.0	120	ND	ND	120	160
MW1A	12/15/09		45.0	17.0		26.0		0.91		0.110				36.0	15.0	150	ND	ND	150	180
MW1A	12/13/10		39.0	14.0		16.0		0.86		0.086				22.0	18.0	130	ND	ND	130	160
MW1A	12/14/11		34.0	13.0		12.0		0.84		0.067				8.8	24.0	110	ND	ND	110	140
MW1A	12/19/12		39.0	14.0		20.0		0.84		0.080				35.0	17.0	120	ND	ND	120	160
MW1A	12/11/13		34.0	12.0		12.0		0.79		0.066	ND		ND	12.0	22.0	110	ND	ND	110	130
MW1A	12/18/14		50.0	19.0		25.0		0.86		0.110	ND		ND	40.0	48.0	110	ND	ND	110	200
MW1A	12/15/15		42.0	15.0		24.0		0.66		0.110	ND		0.0004	60.0	33.0	110	ND	ND	110	170
MW1A	12/8/16		51.0	18.0		33.0		0.83		0.130	ND		ND	56.0	0.3	140	ND	ND	140	200
MW1A	12/6/17		50.0	18.0		25.0		0.71		0.100	ND		ND	30.0	15.0	130	ND	ND	130	200
MW1A	12/17/18		39.0	14.0		32.0		0.90		0.100	ND		ND	34.0	2.4	150	ND	ND	150	160
MW1A	12/16/19		45.0	15.0		30.0		0.61		0.100	ND		ND	39.0	6.0	140	ND	ND	140	180
MW1A	12/15/20		42.0	16.0		26.0		0.56		0.085	ND		ND	40.0	3.5	130	ND	ND	130	170
MW1A	12/14/21		33.0	12.0		19.0		0.76		0.078	ND		ND	16.0	1.9	110	ND	ND	110	130
MW1A	11/28/22		36.3	12.9		23.0		0.67		0.100	ND		ND	26.3	28.0	118	ND	ND	118	144

NM - Not Measured
ND - Not Detected

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₄ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW2	7/16/02	4	ND	ND		1.30	1.60			280			0.20	4.00
MW2	6/30/03	ND	ND	ND		2.00	2.00			199			4.63	3.66
MW2	9/30/03	ND	ND	ND		1.40	1.40			268			3.99	3.71
MW2	12/31/03	13	ND	ND		1.80	1.80			262			3.32	4.22
MW2	3/31/04	ND	ND	ND		2.00	2.00			304			3.06	4.74
MW2	6/30/04	50	ND	ND		2.00	2.00			297			3.62	4.57
MW2	10/1/04	50	ND	ND		2.00	2.00			297			3.62	5.20
MW2	1/4/05	50	4	ND		2.00	2.00			293			3.27	4.16
MW2	4/1/05	220	57	ND		1.90	1.90			249			2.70	3.66
MW2	6/30/05	ND	ND	ND		1.80	1.80			240			2.52	2.90
MW2	10/6/05	ND	ND	ND		1.80	1.80			247			2.37	2.82
MW2	2/9/06	ND	ND	ND		1.90	1.90			228			1.91	2.26
MW2	5/23/06	17	ND	ND		1.80	1.80			206			2.02	2.53
MW2	8/24/06	ND	ND	ND		1.70	1.70			223			1.90	2.40
MW2	12/29/06	ND	ND	ND		2.60	2.60			219			2.10	2.90
MW2	3/30/07	8		ND		2.00	2.00			196			1.80	2.60
MW2	6/25/07	ND		ND		1.70	1.70			218			1.63	2.25
MW2	9/27/07	ND	ND	ND		1.70	1.70			258	1.400	2.60	1.90	2.70

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW2	12/27/07	2	ND	ND		2.20	2.20			349	2.100	4.10	2.50	4.20
MW2	7/7/08	ND	ND	ND		2.40	2.40			289	2.200	3.30	2.80	3.00
MW2	10/10/08	13	ND	ND		2.70	2.70			279	1.970	4.05	2.14	3.93
MW2	12/29/08	13	4	0.05		2.60	2.60			270	2.600	4.20	3.10	4.90
MW2	3/11/09	ND		ND		2.50	2.60			260	0.320	3.90	2.60	5.00
MW2	6/16/09	ND	ND	0.06		3.20	3.30			260	0.025	3.10		5.10
MW2	9/22/09	ND	ND	ND		3.10	3.20			260	2.300	4.40		
MW2	12/15/09	240	11	ND		2.70	2.80			260	2.300	3.90		
MW2	3/22/10	50	4	ND		2.60	2.70			250	2.100	3.10		
MW2	6/22/10	ND	ND	ND		2.60	2.60			270	2.200	3.30		
MW2	9/22/10	ND	ND	0.04		3.10	3.10			320	2.200	4.50		
MW2	12/13/10	4	2	ND		3.20	3.20			260	2.300	4.10		
MW2	3/29/11	130		0.05		2.70	2.80			270	2.000	4.70		
MW2	6/22/11	ND		ND		2.80	2.80			270	2.200	4.30		
MW2	9/13/11	ND		ND		3.20	3.20			300	2.300	4.60		
MW2	12/14/11	ND	ND	ND		3.00	3.00			270	2.300	4.00		
MW2	3/21/12	240		0.07		3.00	3.10			270	2.000	4.50		
MW2	6/26/12	ND	ND	ND		3.20	3.20			280	2.100	3.30		
MW2	9/27/12	50		ND		2.70	2.70			260	2.500	3.10		
MW2	12/19/12	20		ND		2.90	2.90			270	2.400	5.20		
MW2	3/11/13	ND		ND		3.10	3.10			270	2.800	4.70		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540- C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW2	6/27/13	ND		ND		3.10	3.10			300	3.200	4.70		
MW2	9/12/13	ND		ND	3.20		3.20			320	3.000	5.00		
MW2	12/11/13	2		ND	3.00	3.20	3.20			300	2.900	4.90		
MW2	3/4/14	ND		ND	3.20		3.20			290	2.800	4.00		
MW2	6/17/14	ND		ND	2.60		2.60			290	2.600	4.90		
MW2	9/18/14	7		ND	2.80		2.80			280	2.800	4.30		
MW2	12/18/14	130		ND	2.90	2.80	2.80			300	2.500	3.10		
MW2	3/24/15	ND		ND	2.20		2.20			280	2.400	4.50		
MW2	6/11/15	2		0.05	2.80		2.80			290	2.400	3.60		
MW2	9/17/15	ND		ND	2.50		2.50			280	2.400	3.40		
MW2	12/16/15	ND		ND	2.40	2.30	2.30			300	2.300	3.10		
MW2	3/29/16	ND		ND	2.80		2.80			280	2.100	3.40		
MW2	6/21/16	ND		ND	2.70	2.50	2.50			270	2.200	4.20		
MW2	9/8/16	ND		0.04	2.40		2.40			260	2.300	3.60		
MW2	12/8/16	ND		ND	2.50	2.60	2.60			310	2.800	3.50		
MW2	3/9/17	2		ND	3.70		3.70			290	2.800	3.40		
MW2	6/14/17	ND		ND	3.20		3.20			250	2.500	2.80		
MW2	9/13/17	ND		ND	3.20		3.20			260	2.000	3.10		
MW2	12/5/17	ND		ND	2.90	3.00	3.00			270	1.900	2.70		
MW2	3/9/18	9		ND	2.90		2.90			280	ND	2.80		
MW2	6/15/18	920		ND	3.00		3.00			280	ND	3.30		
MW2	9/17/18	49		ND	3.60		3.60			290	0.046	3.70		
MW2	12/17/18	33		0.03	3.40	3.20	3.20			280	ND	3.20		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW2	3/18/19	110		ND	3.20		3.20			290	0.200	4.60		
MW2	5/13/19	1600		ND	3.50		3.50			310	0.240	5.20		
MW2	9/16/19	920		ND	3.50		3.50			300	0.360	4.70		
MW2	12/16/19	920		ND	3.60		3.90			300	0.360	4.70		
MW2	3/16/20	920		0.05	3.30		3.30			310	0.160	7.30		
MW2	6/16/20	70		ND	3.10		3.10			290	0.490	4.30		
MW2	9/14/20	14		0.08	2.80		2.90			300	ND	3.80		
MW2	12/15/20	540		0.05	2.60		3.00			300	0.110	3.10		
MW2	3/16/21	5		0.14	2.80		3.00			300	0.081	3.30		
MW2	6/22/21	2		0.10	2.50		2.50			290	ND	2.90		
MW2	9/21/21	280		0.10	2.50		2.60			370	ND	6.50		
MW2	12/14/21	920		ND	0.76	0.94	1.00			210	ND	5.80		
MW2	3/15/22	920		0.03	0.96		1.00			210	0.24	5.90		
MW2	6/15/22	170		ND	2.20		2.20			290	ND	3.30		
MW2	9/22/22	1600		0.05	2.50		2.50			450	0.10	5.90		
MW2	11/28/22	23		ND	1.71	5.13	5.21	598	7.2	312	1.81	4.05		
MW2	3/2/23	>23		ND	2.16		2.16	494	7.0	290	ND	3.27		
MW2	5/17/23	<1.1		ND	1.97		1.97	489	6.9	243	0.30	3.08		
MW2	8/14/23	<1.8		ND	2.58		2.58	407	6.9	240	0.51	3.21		

NM - Not Measured
ND - Not Detected

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese
Method/Analysis		SM 9221 B	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500-H+	SM 2540 C	EPA 200.7	EPA 200.7
Units:		MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L
MCL		2.2	10						500	0.3	0.05
MW2A	9/12/13	2	ND	4.80		4.80			270	15.00	4.10
MW2A	12/12/13	50	ND	4.60	5.20	5.20			270	15.00	4.20
MW2A	3/4/14	ND	ND	4.50		4.50			260	15.00	4.10
MW2A	6/17/14	ND	ND	7.80		7.80			290	19.00	3.30
MW2A	9/18/14	ND	ND	7.50		7.50			210	11.00	2.40
MW2A	12/18/14	ND	ND	5.60	5.90	5.90			290	11.00	3.20
MW2A	3/24/15	ND	ND	4.70		4.70			270	12.00	3.00
MW2A	6/11/15	ND	ND	6.00		6.00			290	12.00	3.60
MW2A	9/17/15	ND	0.03	5.60		5.60			280	11.00	3.20
MW2A	12/16/15	2	0.02	5.20	5.70	5.70			300	12.00	3.20
MW2A	3/29/16	ND	ND	3.40		3.40			260	10.00	2.80
MW2A	6/21/16	ND	ND	5.00		5.00			300	17.00	3.40
MW2A	9/8/16	ND	ND	4.90		4.90			270	19.00	3.20
MW2A	12/8/16	ND	ND	4.20	4.40	4.40			330	16.00	4.00

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese
Method/Analysis		SM 9221 B	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500-H+	SM 2540 C	EPA 200.7	EPA 200.7
Units:		MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L
MCL		2.2	10						500	0.3	0.05
MW2A	3/9/17	ND	ND	3.40		3.40			260	12.00	2.90
MW2A	6/14/17	ND	ND	3.30		3.30			220	11.00	2.90
MW2A	9/13/17	ND	ND	4.00		4.00			250	11.00	2.70
MW2A	12/5/17	ND	ND	3.50	3.70	3.70			260	11.00	2.90
MW2A	3/9/18	3	ND	3.50		3.50			290	1.30	2.40
MW2A	6/15/18	17	ND	3.70		3.70			300	1.50	3.50
MW2A	9/17/18	4.5	0.05	4.40		4.40			320	6.50	4.00
MW2A	12/17/18	22	0.07	3.80	3.70	3.80			300	1.50	3.50
MW2A	3/18/19	4	0.04	2.90		2.90			290	4.60	3.60
MW2A	5/13/19	350	ND	3.60		3.60			300	2.10	4.00
MW2A	9/16/19	> 1600	0.07	3.60		3.60			290	3.80	3.70
MW2A	12/16/19	240	ND	3.40	3.40	3.40			250	3.50	3.00
MW2A	3/16/20	540	ND	2.60		2.60			210	1.80	2.20
MW2A	6/16/20	ND	ND	2.90		2.90			220	2.80	2.10
MW2A	9/14/20	2	ND	3.10		3.10			240	0.50	2.10
MW2A	12/15/20	1.8	0.04	3.30		3.50			300	2.80	3.00
MW2A	3/17/21	13	0.05	2.60		2.70			240	1.20	2.00

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese
Method/Analysis		SM 9221 B	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500-H+	SM 2540 C	EPA 200.7	EPA 200.7
Units:		MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L
MCL		2.2	10						500	0.3	0.05
MW2A	6/22/21	> 1600	0.03	3.00		3.00			290	1.30	2.80
MW2A	9/21/21	920	0.15	3.80		4.00			300	ND	3.20
MW2A	12/14/21	920	ND	3.20	3.30	3.30			270	0.93	3.10
MW2A	3/15/22	21	ND	2.70		2.70			260	0.76	2.80
MW2A	6/15/22	130	ND	3.10		3.10			300	0.10	3.20
MW2A	9/22/22	240	0.05	3.30		3.30			280	0.36	3.30
MW2A	11/28/22	3.6	ND	3.28	7.80	7.90	536	7.1	267	4.59	4.08
MW2A	3/2/23	<1.1	ND	2.06		2.06	366	6.9	230	ND	2.12
MW2A	5/17/23	<1.1	ND	2.28		2.28	451	6.8	223	3.16	2.66
MW2A	8/14/23	<1.8	ND	3.27		3.27	494	6.8	290	2.19	4.26

NM - Not Measured

ND - Not Detected

Historical Annual Standard Minerals Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Dissolved Calcium	Dissolved Magnesium	Dissolved Sodium	Dissolved Potassium	Dissolved Boron	Dissolved Aluminum	Dissolved Arsenic	Chloride	Sulfate	Bicarbonate Alkalinity (CaCO3)	Carbonate Alkalinity (CaCO3)	Hydroxide Alkalinity (CaCO3)	Total Alkalinity (CaCO3)	Hardness
Method/Analysis		EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.8	EPA 300.0	EPA 300.0	SM 2320-B	SM 2320-B	SM 2320-B	SM 2320-B	calculation
Units:		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MCL							0.2	0.010	250	250					
MW2A 12/11/13		32.0	9.9	44.0	5.00	0.16	ND	0.019	40.0	28.0	160	ND	ND	160	120
MW2A 12/18/14		27.0	8.7	46.0	5.50	0.18	ND	0.013	50.0	31.0	110	ND	ND	110	100
MW2A 12/16/15		28.0	8.4	41.0	5.40	0.19	ND	0.022	64.0	27.0	120	ND	ND	120	100
MW2A 12/8/16		36.0	11.0	54.0	6.90	0.23	0.025	0.022	58.0	20.0	140	ND	ND	140	140
MW2A 12/5/17		28.0	7.9	43.0	5.20	0.16	ND	0.020	43.0	23.0	140	ND	ND	140	100
MW2A 12/17/18		38.0	10.0	44.0	6.90	0.16	ND	0.004	59.0	2.7	170	ND	ND	170	130
MW2A 12/16/19		28.0	7.1	38.0	6.40	0.14	ND	0.008	54.0	38.0	100	ND	ND	100	98
MW2A 12/15/20		27.0	7.6	46.0	6.50	0.15	ND	0.005	66.0	25.0	120	ND	ND	120	99
MW2A 12/14/21		28.0	7.3	52.0	6.40	0.17	ND	0.006	41.0	20.0	150	ND	ND	150	100
MW2A 11/28/22		33.8	9.0	54.0	7.90	0.20	ND	0.003	50.6	46.1	126	ND	ND	126	121

NM - Not Measured

ND - Not Detected

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500-H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units:		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW3	7/16/02	30	ND	ND		8.80	9.10			330			ND	5.40
MW3	6/30/03	ND	ND	ND		1.10	1.10			302			0.460	4.34
MW3	9/30/03	ND	ND	ND		ND	0.50			316			0.720	4.10
MW3	12/31/03	ND	ND	ND		1.10	1.10			325			0.590	4.14
MW3	3/31/04	ND	ND	ND		1.10	1.10			374			0.280	4.02
MW3	6/30/04	ND	ND	ND		ND	0.50			324			0.330	4.00
MW3	10/1/04	ND	ND	ND		ND	0.50			280			0.100	3.88
MW3	1/4/05	ND	ND	0.11		ND	0.60			331			0.120	4.41
MW3	4/1/05	ND	ND	ND		1.10	1.10			356			0.090	4.38
MW3	6/30/05	ND	ND	ND		ND	0.50			332			0.140	4.07
MW3	10/6/05	ND	ND	0.48		1.00	1.50			312			2.370	2.82
MW3	2/13/06	ND	ND	ND		ND	0.50			326			0.136	3.87
MW3	5/23/06	ND	ND	ND		1.00	1.00			310			0.310	4.63
MW3	8/25/06	ND	ND	ND		ND	0.50			306			0.230	3.90
MW3	12/29/06	ND	ND	0.34		1.40	1.70			304			0.100	3.80
MW3	3/30/07	ND		ND		ND	0.50			277			0.240	3.90

Historical Quarterly Groundwater Quality Data
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Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units:		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW3	6/25/07	ND		ND		ND	0.50			260			0.217	3.59
MW3	9/27/07	ND	ND	ND		ND	0.50			284	0.047	3.10	0.200	3.30
MW3	12/31/07	2	ND	0.93		ND	1.40			343	0.034	3.50	0.061	3.40
MW3	7/7/08	ND	ND	0.19		1.50	1.70			361	0.058	5.00	4.700	4.30
MW3	10/10/08	2	ND	ND		1.10	1.10			314	0.039	3.73	0.117	3.56
MW3	12/30/08	ND	ND	ND		1.00	1.10			330	0.087	4.70	0.110	5.30
MW3	3/12/09	ND		1.20		1.10	2.30			340	0.008	4.40	0.120	5.50
MW3	6/16/09	ND	ND	0.09		1.40	1.50			320	0.053	4.30	0.160	4.50
MW3	9/22/09	ND	ND	0.05		1.60	1.60			310	ND	3.90		
MW3	12/15/09	ND	ND	0.07		1.10	1.20			290	0.084	4.10		
MW3	3/22/10	ND	ND	0.08		1.10	1.20			310	0.050	4.00		
MW3	6/22/10	ND	ND	0.02		0.96	1.00			330	0.072	3.90		
MW3	9/22/10	ND	ND	ND		1.30	1.30			360	0.081	4.20		
MW3	12/14/10	ND		1.80		0.85	2.70			310	0.092	3.90		
MW3	3/29/11	ND		0.15		1.20	1.40			340	0.074	4.50		
MW3	6/23/11	ND		0.08		0.98	1.10			320	0.082	4.40		
MW3	9/14/11	ND		ND		1.30	1.30			350	0.100	4.30		
MW3	12/14/11	ND	ND	2.10		1.40	3.50			330	0.059	4.00		
MW3	3/21/12	ND		0.74		1.30	2.00			310	0.055	3.90		

Historical Quarterly Groundwater Quality Data
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R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500 - H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units:		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW3	6/26/12	ND	ND	ND		1.50	1.50			310	0.083	4.00		
MW3	9/26/12	ND		ND		1.70	1.70			310	0.086	4.20		
MW3	12/18/12	ND		1.60		1.60	3.20			300	0.068	4.30		
MW3	3/11/13	ND		0.24		1.50	1.70			320	0.061	4.80		
MW3	6/26/13	ND		ND		1.70	1.70			300	0.090	4.70		
MW3	9/11/13	ND		ND	1.40		1.40			320	0.098	4.80		
MW3	12/12/13	ND		ND	1.30	1.40	1.40			330	0.096	4.50		
MW3	3/4/14	ND		1.10	1.20		2.30			340	0.030	4.80		
MW3	6/17/14	ND		ND	1.70		1.70			340	0.110	4.70		
MW3	9/18/14	ND		ND	1.20		1.20			320	0.130	4.50		
MW3	12/18/14	ND		ND	1.30	1.60	1.30			350	ND	4.60		
MW3	3/24/15	ND		0.51	0.88		1.40			380	ND	5.30		
MW3	6/11/15	ND		0.09	1.20		1.30			360	ND	5.20		
MW3	9/17/15	ND		0.03	1.00		1.00			350	0.043	4.80		
MW3	12/16/15	ND		0.06	1.10	1.30	1.40			350	0.160	4.20		
MW3	3/29/16	ND		0.66	0.86		1.50			380	0.041	4.70		
MW3	6/20/16	ND		0.03	1.20	1.40	1.30			370	0.057	4.90		
MW3	9/8/16	ND		ND	0.94		1.00			350	0.075	4.70		
MW3	12/8/16	ND		ND	1.10	1.30	1.30			350	0.073	5.10		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
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Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500-H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW3	3/10/17	ND		0.54	0.78		1.30			390	0.065	5.50		
MW3	6/14/17	ND		ND	1.20		1.20			370	0.030	5.10		
MW3	9/13/17	ND		ND	1.40		1.40			320	0.040	4.60		
MW3	12/6/17	ND		3.40	1.30	1.70	5.10			360	0.038	4.10		
MW3	3/9/18	6		3.40	1.30		4.70			350	ND	2.90		
MW3	6/15/18	49		0.10	1.40		1.50			320	ND	4.30		
MW3	9/17/18	540		0.05	1.40		1.40			320	ND	3.80		
MW3	12/17/18	> 1600		0.03	1.70	1.70	1.80			320	0.030	3.70		
MW3	3/18/19	920		1.60	1.10		2.70			350	ND	3.40		
MW3	5/13/19	23		0.13	1.80		1.90			350	ND	4.70		
MW3	9/16/19	1600		ND	2.40		2.40			320	ND	4.90		
MW3	12/16/19	920		ND	1.90	1.90	1.90			300	0.034	4.30		
MW3	3/16/19	920		ND	2.00		2.00			330	0.059	4.50		
MW3	6/16/20	ND		0.14	1.90		2.04			310	0.043	4.30		
MW3	9/14/20	58		0.10	1.90		2.00			300	ND	4.10		
MW3	12/15/20	140		0.09	1.70		1.80			280	ND	3.40		
MW3	3/17/21	4.5		0.06	1.80		2.00			300	ND	3.40		
MW3	6/22/21	4.5		0.04	1.80		1.80			300	ND	3.50		
MW3	9/21/21	2		0.15	1.80		2.00			300	ND	3.60		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
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Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units:		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW3	12/14/21	> 1600		0.07	1.70	2.10	2.10			310	ND	3.50		
MW3	3/15/22	350		0.12	1.70		1.80			300	ND	3.80		
MW3	6/15/22	9.2		0.03	1.80		1.80			320	ND	4.10		
MW3	9/22/22	17		0.09	1.80		1.90			320	ND	3.90		
MW3	11/28/22	<1.1		ND	1.89	4.50	4.58	525	7.2	260	ND	4.32		
MW3	3/2/23	<1.1		0.1	1.50		1.60	610	7.0	363	ND	4.70		
MW3	5/17/23	<1.1		0.1	1.85		1.95	633	6.8	267	ND	4.67		
MW3	8/14/23	<1.8		ND	2.22		2.22	494	7.0	288	ND	4.07		

NM - Not Measured

ND - Not Detected

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW3A	12/26/07	ND	ND	0.17		4.80	5.00			318	4.10	5.50	6.10	5.60
MW3A	7/7/08	ND	ND	ND		4.60	4.60			295	2.60	6.10	8.30	5.70
MW3A	10/10/08	ND	ND	ND		6.30	6.30			286	4.63	5.95	5.96	5.84
MW3A	12/30/08	ND	ND	ND		6.40				280	6.20	7.20	17.00	8.10
MW3A	3/12/09	ND		0.41		6.00	6.40			270	0.14	6.00	5.50	7.50
MW3A	6/16/09	ND	ND	ND		4.40	4.50			250	0.38	5.00	4.80	5.60
MW3A	9/22/09	ND	ND	ND		6.30	6.40			290	ND	5.30		
MW3A	12/15/09	ND	ND	ND		7.00	7.10			280	6.80	6.50		
MW3A	3/22/10	ND	ND	0.21		2.30	2.50			280	5.20	5.70		
MW3A	6/22/10	ND	ND	ND		5.10	5.10			250	4.50	5.30		
MW3A	9/22/10	ND	ND	ND		13.00	13.00			330	5.50	5.60		
MW3A	12/14/10	ND		0.06		6.10	6.20			280	5.60	5.90		
MW3A	3/29/11	ND		0.46		6.20	6.70			300	2.10	3.00		
MW3A	6/23/11	ND		ND		4.80	4.80			290	4.70	5.90		
MW3A	9/14/11	ND		ND		5.10	5.10			300	4.50	5.70		
MW3A	12/14/11	ND	ND	ND		6.10	6.10			290	4.50	5.60		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW3A	3/21/12	ND		0.83		6.30	7.10			270	4.20	5.80		
MW3A	6/26/12	ND	ND	ND		5.90	5.90			300	4.70	5.60		
MW3A	9/26/12	ND		ND		5.20	5.20			270	4.40	5.80		
MW3A	12/18/12	ND		ND		5.70	5.70			300	4.90	6.40		
MW3A	3/11/13	ND		ND		6.10	6.10			300	7.30	7.30		
MW3A	6/27/13	ND		ND		6.40	6.40			320	6.80	7.30		
MW3A	9/12/13	ND		ND	7.50		7.50			320	7.00	7.60		
MW3A	12/11/13	ND		ND	8.40	8.40	8.40			330	6.70	8.20		
MW3A	3/5/14	ND		ND	6.70		6.70			310	7.50	7.30		
MW3A	6/17/14	ND		0.03	6.40		6.40			280	7.80	6.70		
MW3A	9/18/14	ND		ND	6.40		6.40			290	7.40	7.20		
MW3A	12/18/14	ND		ND	8.00	7.90	7.90			340	6.90	7.60		
MW3A	3/24/15	ND		ND	6.60		6.60			320	5.80	7.40		
MW3A	6/11/15	ND		ND	8.40		8.40			320	5.40	6.90		
MW3A	9/17/15	ND		ND	7.20		7.20			310	4.10	6.60		
MW3A	12/16/15	ND		0.04	7.00	7.70	7.70			310	4.50	5.90		
MW3A	3/29/16	ND		ND	6.60		6.60			310	4.50	6.10		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Method/Analysis	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
			SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
		Units	MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
		MCL	2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW3A	6/21/16		ND		ND	5.90		5.90			280	4.10	5.50		
MW3A	9/8/16		ND		0.22	6.40		6.60			290	4.30	6.10		
MW3A	12/8/16		ND		ND	6.80	6.80	6.80			340	5.50	7.40		
MW3A	3/10/17		ND		0.24	0.34		0.60			310	5.30	7.50		
MW3A	6/14/17		ND		ND	6.70		6.70			270	4.20	6.20		
MW3A	9/13/17		ND		0.16	6.10		6.30			260	3.30	5.20		
MW3A	12/5/17		ND		ND	5.60	6.50	6.50			270	3.40	5.20		
MW3A	3/9/18		ND		ND	5.60		5.60			270	0.36	3.80		
MW3A	6/15/18	2	ND	ND	ND	5.50		5.50			280	0.17	6.40		
MW3A	9/17/18	5			0.04	6.50		6.50			300	0.44	6.20		
MW3A	12/17/18	79			0.05	6.90	6.80	6.90			300	0.03	5.70		
MW3A	3/18/19	ND			0.17	6.50		6.70			320	0.82	5.70		
MW3A	5/13/19	79			ND	6.10		6.10			310	0.37	6.50		
MW3A	9/16/19	920			ND	6.30		6.30			310	0.35	6.60		
MW3A	12/16/19	> 1600			ND	5.70	5.90	5.90			290	0.99	6.00		
MW3A	3/16/19	40			ND	6.10		6.10			320	1.50	6.60		
MW3A	6/16/20	ND			ND	5.10		5.10			290	1.10	5.40		
MW3A	9/14/20	7			ND	4.60		4.60			290	ND	5.20		

Historical Quarterly Groundwater Quality Data
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Sample ID	Date	Method/Analysis	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Units:			MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L	SM 2510 B	SM 4500-H+	mg/L	mg/L	mg/L	mg/L	mg/L
MCL			2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW3A	12/15/20		2		0.07	4.60		5.30			310	0.14	4.70		
MW3A	3/17/21		ND		0.04	4.50		4.60			280	0.23	5.10		
MW3A	6/22/21		240		0.06	4.70		4.80			290	0.05	5.20		
MW3A	9/21/21		2		0.09	4.70		4.80			290	ND	5.30		
MW3A	12/14/21		22		ND	5.10	4.60	4.60			320	1.00	6.40		
MW3A	3/15/22		ND		ND	4.60		4.60			290	1.30	6.00		
MW3A	6/15/22		NM		0.03	4.40		4.40			300	0.20	6.40		
MW3A	9/22/22		ND		0.05	5.00		5.00			300	ND	6.40		
MW3A	11/28/22		<1.1		0.20	4.40	12.40	12.50	546	7.1	312	1.35	6.54		
MW3A	3/2/23		1.1		0.1	4.74	5.08	5.18	570	6.9	325	ND	5.91		
MW3A	5/17/23		<1.1		0.1	3.58		3.68	496	6.9	293	0.62	4.56		
MW3A	8/14/23		<1.8		0.1	4.40		4.50	438	6.9	220	0.50	4.69		

NM - Not Measured

ND - Not Detected

Outlier not included in graph

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
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Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₄ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500-H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		sid units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW4	7/16/02	50	ND	ND		5.40	5.70			250			0.13	0.11
MW4	6/30/03	ND	ND	ND		ND	0.50			268			1.28	0.11
MW4	9/30/03	ND	ND	ND		ND	0.50			247			0.10	0.04
MW4	12/31/03	ND	ND	ND		ND	0.50			277			ND	0.03
MW4	3/31/04	ND	ND	0.20		ND	0.70			278			ND	0.04
MW4	6/30/04	ND	ND	ND		ND	0.50			275			ND	0.05
MW4	10/1/04	110	17	ND		ND	0.50			296			ND	0.05
MW4	1/4/05	2	ND	ND		ND	0.50			219			ND	0.04
MW4	4/1/05	2	ND	0.06		ND	0.60			252			ND	0.06
MW4	6/30/05	1600	13	ND		ND	0.50			254			2.24	0.09
MW4	10/7/05	2	ND	ND		ND	0.50			238			0.78	0.09
MW4	2/13/06	2	ND	ND		ND	0.50			199			ND	0.09
MW4	5/23/06	30	ND	ND		ND	0.50			218			0.27	0.09
MW4	8/24/06	ND	ND	ND		ND	0.50			237			0.17	0.11
MW4	12/29/06	2	ND	ND		ND	0.50			232			0.19	0.11
MW4	3/30/07	ND		ND		ND	0.50			180			0.08	0.12
MW4	6/25/07	ND		ND		ND	0.50			216			0.06	0.12
MW4	9/27/07	4	4	ND		ND	0.50			259	ND	0.15	0.03	0.15

Historical Quarterly Groundwater Quality Data
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Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500-H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW4	12/27/07	ND	ND	ND		ND	0.50			239	ND	0.18	0.02	0.18
MW4	7/7/08	17	ND	ND		ND	0.50			232	ND	0.20	0.02	0.20
MW4	10/10/08	ND	ND	ND		ND	0.50			251	ND	0.22	ND	0.20
MW4	12/30/08	ND	ND	ND		1.30	1.40			250	0.01	0.29	1.20	0.66
MW4	3/12/09	NM	NM	ND		0.14	0.20			270	0.02	0.30	2.70	0.39
MW4	6/16/09	ND	ND	ND		0.17	0.20			250	0.02	0.31	0.50	0.30
MW4	9/22/09	ND	ND	ND		0.18	0.20			280	ND	0.31		
MW4	12/15/09	ND	ND	ND		0.14	0.20			310	0.12	0.37		
MW4	3/22/10	ND	ND	0.14		ND	0.20			280	0.14	0.32		
MW4	6/22/10	ND	ND	ND		ND	0.04			250	0.04	0.26		
MW4	9/22/10	ND	ND	ND		ND	0.04			310	0.03	0.36		
MW4	12/14/10	ND		ND		0.09	0.10			270	0.02	0.42		
MW4	3/29/11	ND		0.42		ND	0.40			250	ND	0.37		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
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Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₄ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units:		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW4	6/23/11	ND		0.10		ND	0.10			220	ND	0.34		
MW4	9/14/11	ND		ND		0.06	0.10			220	0.02	0.38		
MW4	12/14/11	ND	ND	ND		0.11	0.10			250	0.01	0.44		
MW4	3/21/12	ND		ND		0.13	0.10			250	0.01	0.47		
MW4	6/26/12	ND	ND	ND		0.10	0.10			230	0.02	0.43		
MW4	9/26/12	ND		0.12		0.11	0.20			250	0.01	0.51		
MW4	12/18/12	2		ND		ND	0.10			250	0.02	0.57		
MW4	3/11/13	ND		ND		0.16	0.20			260	ND	0.56		
MW4	6/27/13	ND		ND		0.17	0.20			230	ND	0.55		
MW4	9/11/13	ND		ND	0.04		0.05			250	ND	0.60		
MW4	12/11/13	ND		ND	0.02	0.16	0.20			270	ND	0.59		
MW4	3/5/14	80		ND	0.06		0.10			230	ND	0.64		
MW4	6/17/14	ND		ND	ND		0.03			250	0.03	0.63		
MW4	9/18/14	ND		ND	ND		0.03			250	ND	0.69		
MW4	12/18/14	8		ND	0.04	0.82	0.82			270	ND	0.67		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW4	3/24/15	ND		ND	ND		0.03			280	ND	0.77		
MW4	6/11/15	ND		ND	ND		0.02			300	ND	0.81		
MW4	9/17/15	ND		0.18	ND		0.19			290	ND	0.80		
MW4	12/16/15	ND		0.21	0.03	0.21	0.42			310	0.08	0.69		
MW4	3/29/16	ND		8.20	ND		8.21			330	ND	0.89		
MW4	6/21/16	ND		3.50	ND		3.51			340	ND	0.92		
MW4	9/8/16	ND		1.20	ND		1.21			340	ND	0.92		
MW4	12/9/16	ND		2.60	0.02	0.17	2.80			350	0.04	1.00		
MW4	3/9/17	2		20.00	ND		20.01			500	ND	1.70		
MW4	6/14/17	ND		1.20	ND		1.21			330	ND	0.98		
MW4	9/13/17	ND		0.54	ND		0.55			310	ND	0.95		
MW4	12/5/17	ND		0.36	0.03	0.15	0.51			290	ND	0.91		
MW4	3/9/18	ND		1.10	0.17		1.27			300	ND	0.65		
MW4	6/15/18	8	ND	1.70	0.08		1.80			290	0.04	0.89		
MW4	9/17/18	33		0.45	0.13		0.60			300	ND	1.10		
MW4	12/17/18	>1,600		0.26	0.13	0.47	0.73			280	ND	0.94		
MW4	3/18/19	46		2.70	0.14		0.60			270	ND	0.81		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
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Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500-H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW4	5/13/19	46		0.44	ND		0.40			240	ND	0.81		
MW4	9/16/19	220		ND	ND		0.10			280	ND	0.97		
MW4	12/16/19	920		0.05	ND	0.21	0.30			270	ND	0.99		
MW4	3/16/19	540		0.21	ND		0.20			280	0.03	0.93		
MW4	6/16/20	27		1.90	0.10		2.00			340	ND	1.10		
MW4	9/14/20	20		0.11	ND		0.10			300	ND	1.10		
MW4	12/15/20	2		0.12	0.11		0.38			260	ND	0.87		
MW4	3/17/21	ND		0.52	ND		0.38			290	ND	1.00		
MW4	6/22/21	350		1.50	0.11		1.60			300	ND	0.87		
MW4	9/21/21	79		1.70	0.17		1.90			290	ND	0.87		
MW4	12/14/21	1600		7.20	ND	0.42	7.60			320	ND	1.00		
MW4	3/15/22	240		8.30	0.08		8.38			280	ND	1.10		
MW4	6/15/22	2.0		1.20	0.09		1.30			270	ND	0.87		
MW4	9/22/22	920		0.47	0.08		0.55			270	ND	1.20		
MW4	11/28/22	<1.1		0.30	ND	ND	ND	429	7.2	235	ND	1.26		
MW4	3/2/23	3.6		8.6	ND		8.60	562	6.8	330	ND	1.62		
MW4	5/17/23	<1.1		3.0	ND		3.0	495	6.9	247	ND	1.27		
MW4	8/14/23	<1.8		0.7	0.652		1.4	439	7.0	265	ND	1.08		

NM - Not Measured
ND - Not Detected

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units:		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW4A	12/26/07	50	ND	0.12		ND	0.62			313	ND	0.05	3.60	0.45
MW4A	7/7/08	2	ND	0.20		ND	0.70			265	0.05	0.09	0.28	0.10
MW4A	10/10/08	ND	ND	0.37		ND	0.87			238	0.10	0.12	1.64	0.17
MW4A	12/30/08	8	ND	0.48		0.05	0.53			230	0.12	0.17	0.25	0.19
MW4A	3/12/09	ND	NM	NM		0.18	0.18			240	ND	0.09	ND	0.12
MW4A	6/16/09	240	2	0.15		0.10	0.25			280	0.04	0.18	0.10	0.18
MW4A	9/22/09	ND	ND	ND		ND	0.15			240	ND	0.10		
MW4A	12/15/09	ND	ND	0.30		ND	0.40			230	0.08	0.08		
MW4A	3/22/10	17	ND	0.49		0.10	0.59			280	ND	0.09		
MW4A	6/22/10	4	ND	0.40		ND	0.43			290	ND	0.10		
MW4A	9/22/10	50	ND	0.04		ND	0.06			330	0.06	0.08		
MW4A	12/14/10	170		0.09		0.23	0.32			270	0.20	0.11		
MW4A	3/29/11	900	900	1.10		0.86	1.96			290	0.02	0.11		
MW4A	6/23/11	ND		0.20		0.26	0.46			280	0.02	0.12		
MW4A	9/14/11	ND		0.05		ND	0.07			280	ND	0.05		
MW4A	12/14/11	2	ND	0.36		ND	0.39			250	ND	0.06		
MW4A	3/21/12	140		0.46		ND	0.49			240	0.30	0.06		
MW4A	6/26/12	ND	ND	0.15		ND	0.18			290	0.01	0.06		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
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Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW4A	9/26/12	4		ND		0.06	0.07			240	0.01	0.06		
MW4A	12/18/12	17		0.10		ND	0.14			250	0.03	0.06		
MW4A	3/11/13	ND		0.22		ND	0.26			270	ND	0.06		
MW4A	6/27/13	ND		0.41		0.17	0.58			230	0.05	0.07		
MW4A	9/12/13	ND		0.46	0.02		0.48			170	ND	0.06		
MW4A	12/11/13	8		0.46	ND	ND	0.48			220	0.06	0.07		
MW4A	3/5/14	≥ 1600		0.33	0.05		0.38			210	ND	0.06		
MW4A	6/17/14	2		0.21	ND		0.21			230	0.03	0.07		
MW4A	9/18/14	2		0.25	ND		0.25			220	ND	0.06		
MW4A	12/18/14	≥ 1600		0.31	ND	ND	0.31			230	ND	0.04		
MW4A	3/24/15	ND		1.10	ND		1.10			240	ND	0.04		
MW4A	6/11/15	ND		0.97	ND		0.97			270	ND	0.04		
MW4A	9/17/15	2		0.68	ND		0.68			260	ND	0.06		

Historical Quarterly Groundwater Quality Data
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Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units:		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW4A	12/16/15	5		0.86	ND	0.26	1.12			250	0.06	0.03		
MW4A	3/29/16	94		2.80	ND		2.80			280	ND	0.02		
MW4A	6/21/16	ND		3.60	0.03		3.63			310	0.05	0.11		
MW4A	9/8/16	ND		2.70	ND		2.70			310	ND	0.05		
MW4A	12/9/16	ND		1.80	ND	0.09	1.90			290	ND	0.03		
MW4A	3/9/17	110		2.00	ND		2.00			310	ND	0.01		
MW4A	6/14/17	ND		0.44	ND		0.44			330	ND	0.11		
MW4A	9/13/17	ND		0.68	0.05		0.70			310	ND	0.06		
MW4A	12/5/17	140		2.40	0.06	0.17	2.60			300	ND	0.04		
MW4A	3/9/18	4		1.40	0.04		1.40			310	ND	0.02		
MW4A	6/15/18	14	2	1.60	0.08		1.70			290	ND	0.04		
MW4A	9/17/18	ND		0.86	0.08		0.90			290	ND	0.05		
MW4A	12/17/18	49		0.62	0.09	0.13	0.75			260	ND	ND		
MW4A	3/18/19	220		1.50	0.06		1.60			280	ND	0.02		
MW4A	5/13/19	23		0.76	ND		0.80			310	ND	0.08		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units:		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW4A	9/16/19	920		0.20	ND		0.20			260	ND	0.07		
MW4A	12/16/19	280		0.57	ND	0.15	0.72			250	ND	0.02		
MW4A	3/16/19	170		0.42	ND		0.42			270	ND	0.02		
MW4A	6/16/20	21		0.71	0.10		0.80			330	ND	0.07		
MW4A	9/14/20	11		0.32	ND		0.32			280	ND	0.10		
MW4A	12/15/20	14		0.24	0.11		0.69			220	ND	0.02		
MW4A	3/17/21	13		0.45	ND		0.45			250	ND	0.02		
MW4A	6/22/21	4		0.56	0.09		0.56			250	ND	0.04		
MW4A	9/21/21	2		0.36	0.15		0.51			250	ND	0.01		
MW4A	12/14/21	920		1.50	ND	0.26	1.80			220	ND	0.01		
MW4A	3/15/22	920		5.00	0.07		5.07			290	ND	0.11		
MW4A	6/15/22	920		2.10	0.08		2.20			280	ND	0.06		
MW4A	9/22/22	94		0.62	0.10		0.72			270	ND	0.06		
MW4A	11/28/22	3.6		0.50	ND	ND	ND	413	7.2	225	ND	ND		
MW4A	3/2/23	>23		2.2	ND		2.20	481	7.0	283	ND	ND		
MW4A	6/26/23	<1.8		2.4	ND		2.40	462	7.0	260	ND	0.02		
MW4A	8/14/23	<1.8		2.1	0.523		2.62	419	7.0	258	ND	0.07		

NM - Not Measured

ND - Not Detected

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Method/Analysis	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Units			MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L	SM 2510 B	std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL			2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW5A	12/27/07		ND	ND	ND		ND	0.53			304	ND	0.23	0.32	0.28
MW5A	7/7/08		ND	ND	0.60		ND	1.10			227	ND	0.25	0.65	0.27
MW5A	10/10/08		ND	ND	0.85		ND	1.35			199	ND	0.13	0.10	0.13
MW5A	12/29/08		ND	ND	0.70		0.05	0.75			200	0.01	0.10	0.02	0.09
MW5A	3/11/09		ND		0.44		0.09	0.53			260	ND	0.16	0.03	0.21
MW5A	6/16/09		ND	ND	0.15		0.08	0.23			250	ND	0.15	ND	0.170
MW5A	9/22/09		ND	ND	0.72		ND	0.82			190	0.03	0.06		
MW5A	12/15/09		ND	ND	0.60		ND	0.70			230	ND	0.08		
MW5A	3/22/10		13	ND	0.39		0.10	0.48			310	ND	0.18		
MW5A	6/22/10		ND	ND	0.44		ND	0.47			240	ND	0.19		
MW5A	9/22/10		ND	ND	0.28		ND	0.31			320	ND	0.26		
MW5A	12/13/10		2		0.08		ND	0.11			280	ND	0.16		
MW5A	3/29/11		23		0.03		ND	0.06			310	ND	0.32		
MW5A	6/22/11		ND		0.12		0.26	0.38			280	ND	0.28		
MW5A	9/13/11		ND		0.44		ND	0.47			220	0.07	0.36		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW5A 12/14/11		ND	ND	0.83		ND	0.86			230	ND	0.23		
MW5A 3/21/12		140		0.32		ND	0.35			250	ND	0.28		
MW5A 6/26/12		2	ND	0.24		ND	0.27			250	0.01	0.31		
MW5A 9/27/12		ND		0.30		ND	0.33			230	0.01	0.30		
MW5A 12/19/12		11		0.37		0.09	0.46			250	ND	0.36		
MW5A 3/11/13		9		0.59		ND	0.63			230	ND	0.28		
MW5A 6/27/13		ND		0.70		0.10	0.80			210	ND	0.10		
MW5A 9/12/13		ND		0.66	0.02		0.68			210	ND	0.06		
MW5A 12/12/13		ND		0.19	ND	0.08	0.26			230	0.10	0.12		
MW5A 3/4/14		9		0.27	0.05		0.30			230	ND	0.09		
MW5A 6/17/14		ND		0.20	ND		0.20			220	ND	0.13		
MW5A 9/18/14		ND		0.41	ND		0.40			200	ND	0.07		
MW5A 12/18/14		30		0.50	ND	0.05	0.55			240	ND	0.04		
MW5A 3/24/15		ND		1.20	ND		1.20			270	ND	0.11		
MW5A 6/11/15		ND		0.84	ND		0.90			280	ND	0.12		
MW5A 9/17/15		ND		0.87	ND		0.90			250	ND	0.04		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500- H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW5A 12/16/15		ND		1.50	ND	0.17	1.60			290	0.06	0.04		
MW5A 3/29/16		14		3.00	ND		3.00			310	ND	0.10		
MW5A 6/21/16		ND		3.60	ND		3.60			300	ND	0.14		
MW5A 9/8/16		ND		2.50	ND		2.50			280	ND	0.12		
MW5A 12/8/16		14		1.80	ND	ND	1.90			280	ND	0.09		
MW5A 3/9/17		8		1.90	0.03		1.90			320	ND	0.10		
MW5A 6/14/17		ND		ND	0.03		0.030			290	ND	0.33		
MW5A 9/13/17		ND		3.40	ND		3.40			340	ND	0.31		
MW5A 12/5/17		ND		3.20	0.04	0.11	3.40			270	ND	0.24		
MW5A 3/9/18		ND		1.80	0.08		1.80			270	ND	0.19		
MW5A 6/15/18		7	ND	1.10	ND		1.10			270	ND	0.18		
MW5A 9/17/18		ND		1.70	0.07		1.80			250	0.05	0.17		
MW5A 12/17/18		33		0.99	0.07		1.10			250	ND	0.06		
MW5A 3/18/19		49		1.70	ND		1.70			290	ND	0.13		
MW5A 5/13/19		49		0.05	0.07		0.10			280	ND	0.24		
MW5A 9/16/19		350		1.50	ND		1.50			250	ND	0.21		

Historical Quarterly Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

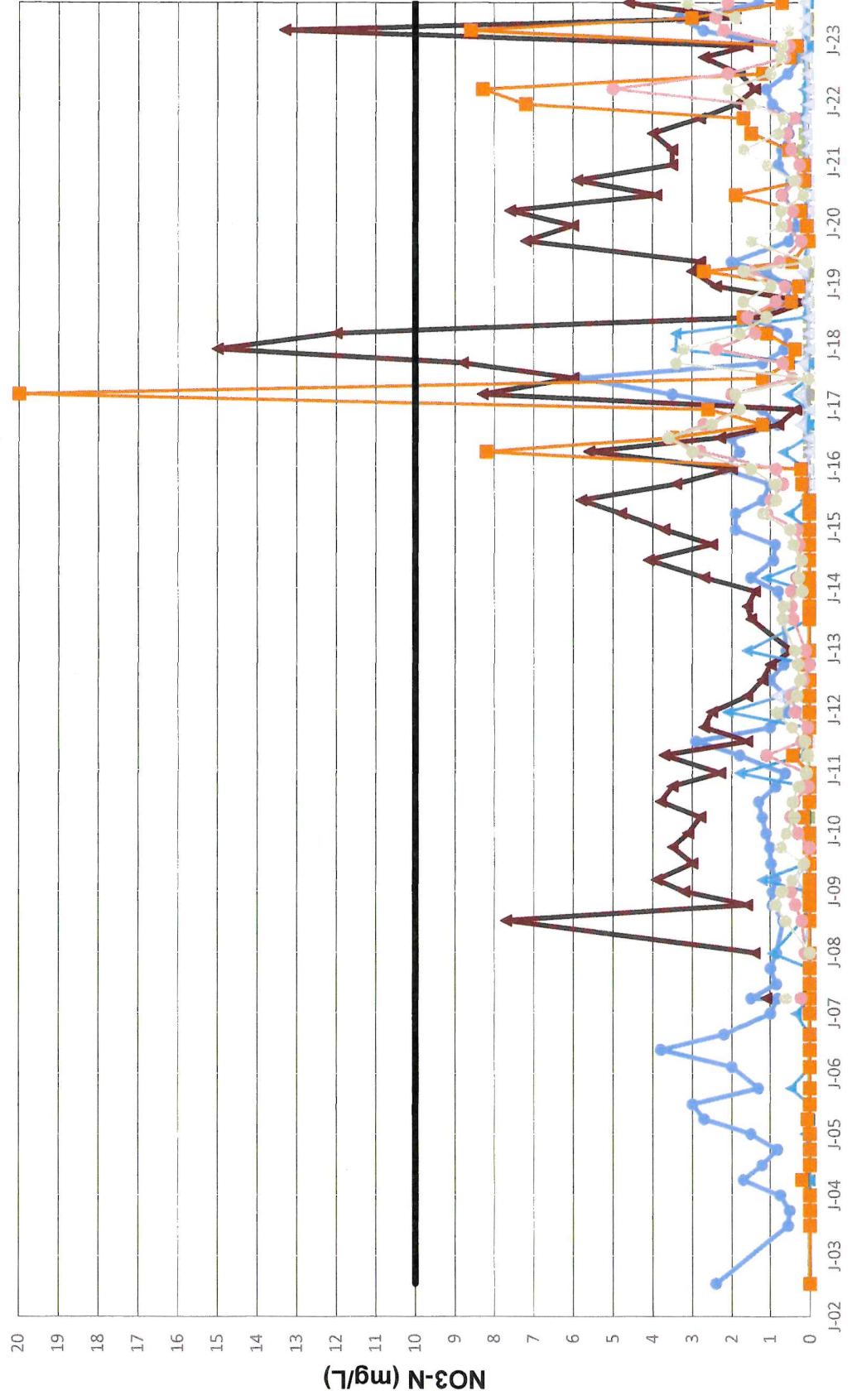
Sample ID	Date	Total Coliform Bacteria (TCO)	Fecal Coliform Bacteria (FCO)	Nitrate as N (NO ₃ -N)	Ammonia as N (NH ₄ -N)	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen (TN)	EC	pH	Total Dissolved Solids (TDS)	Dissolved Iron	Dissolved Manganese	Total Iron	Total Manganese
Method/Analysis		SM 9221 B	SM 9221 E	EPA 300.0	SM 4500 - NH ₃ H	SM 4500 - NH ₃ C	calculation	SM 2510 B	SM 4500-H+	SM 2540 C	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Units:		MPN/100ml	MPN/100ml	mg/L	mg/L	mg/L	mg/L		std units	mg/L	mg/L	mg/L	mg/L	mg/L
MCL		2.2	2.2	10						500	0.3	0.05	0.3	0.05
MW5A	12/16/19	110		0.73	ND	0.11	0.84			250	ND	0.24		
MW5A	3/16/20	70		0.73	ND		0.73			230	ND	0.22		
MW5A	6/16/20	49		0.14	0.12		0.26			310	ND	0.29		
MW5A	9/14/20	1600		0.38	ND		0.38			220	ND	0.17		
MW5A	12/15/20	920		1.10	0.09		1.50			200	ND	0.13		
MW5A	3/17/21	2		1.70	ND		1.70			250	ND	0.15		
MW5A	6/22/21	49		0.81	0.09		0.90			240	ND	0.11		
MW5A	9/21/21	2		0.66	0.16		0.80			210	ND	0.07		
MW5A	12/14/21	920		1.50	ND		1.70			250	ND	0.07		
MW5A	3/15/22	ND		2.10	ND		2.10			270	ND	0.24		
MW5A	6/15/22	2		0.99	0.07		1.10			260	ND	0.30		
MW5A	9/22/22	9		0.73	ND		0.80			230	ND	0.09		
MW5A	11/28/22	<1.1		0.70	ND	ND	ND	363	7.0	187	ND	0.23		
MW5A	3/2/23	>23		0.5	ND		0.50	462	6.8	267	ND	0.14		
MW5A	5/17/23	<1.1		1.9	ND		1.90	475	6.7	233	ND	0.26		
MW5A	8/14/23	<1.8		3.1	ND		3.10	359	6.8	232	ND	0.13		

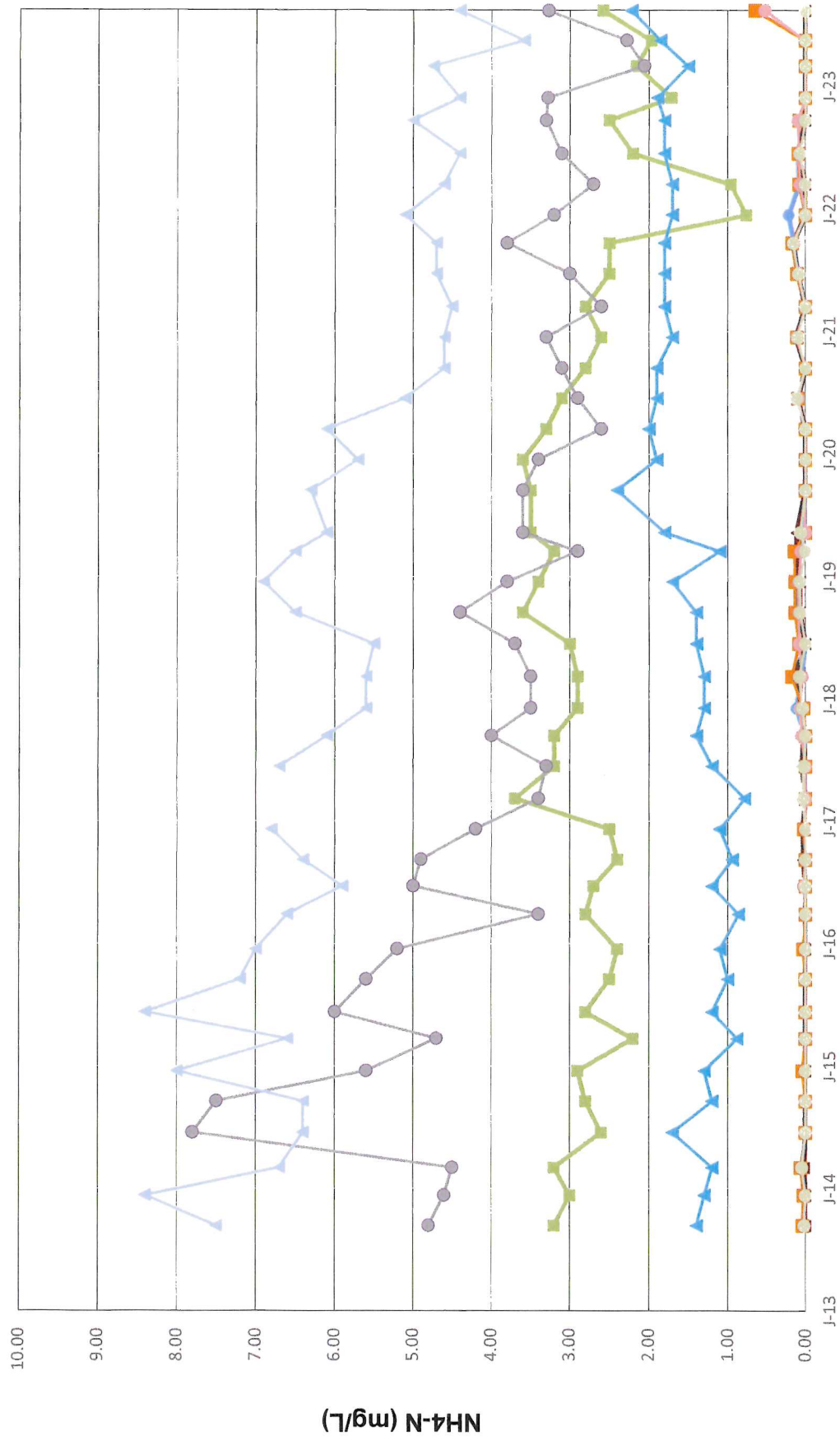
NM - Not Measured

ND - Not Detected

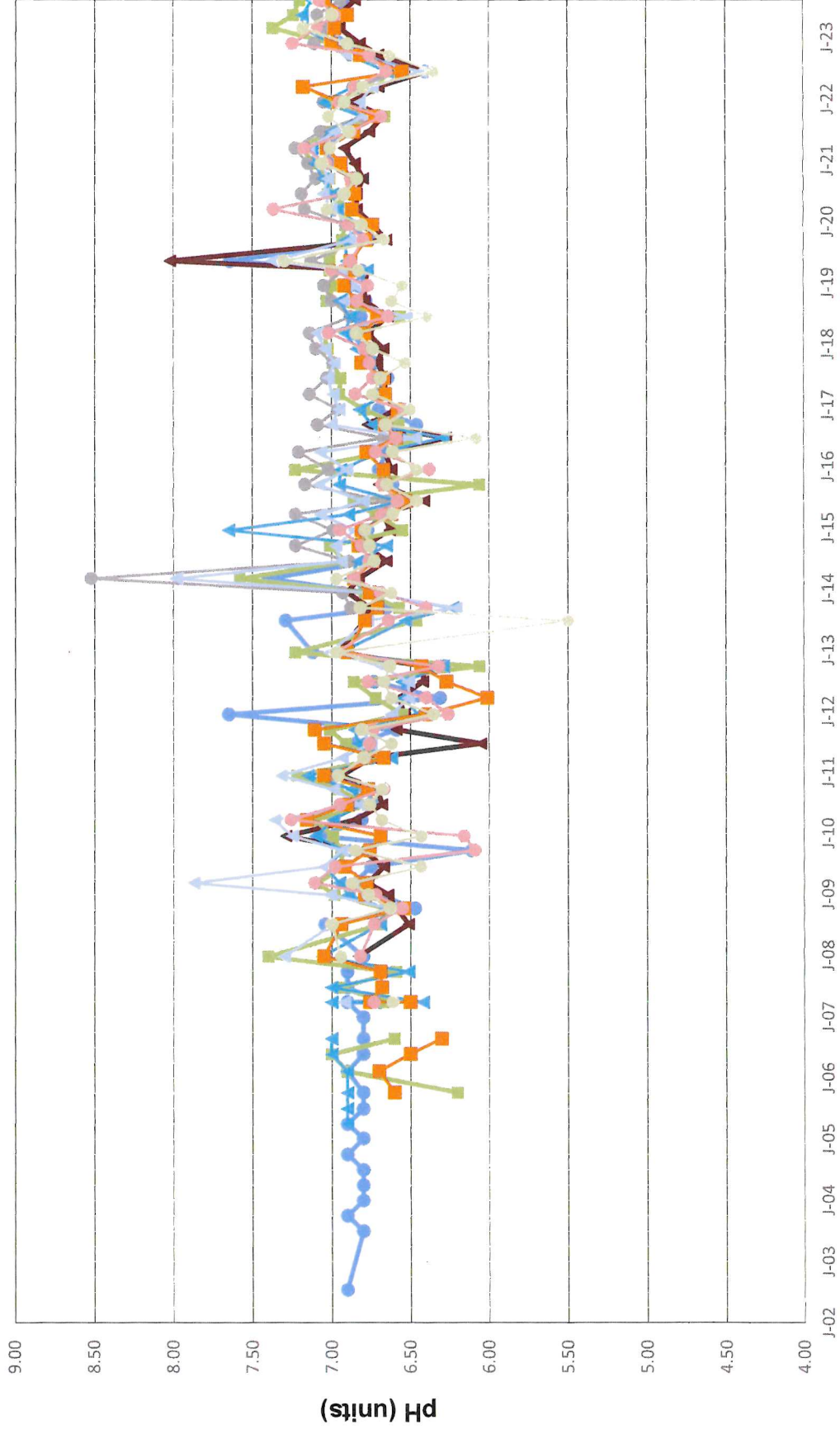
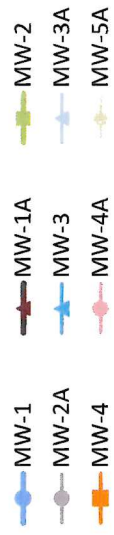
**City of Lone WWTF Monitoring Wells
Nitrate as N (NO3-N)**

- MW-1
- MW-1A
- MW-2
- MW-2A
- MW-3
- MW-3A
- MW-4
- MW-4A
- MW-5A
- Primary MCL

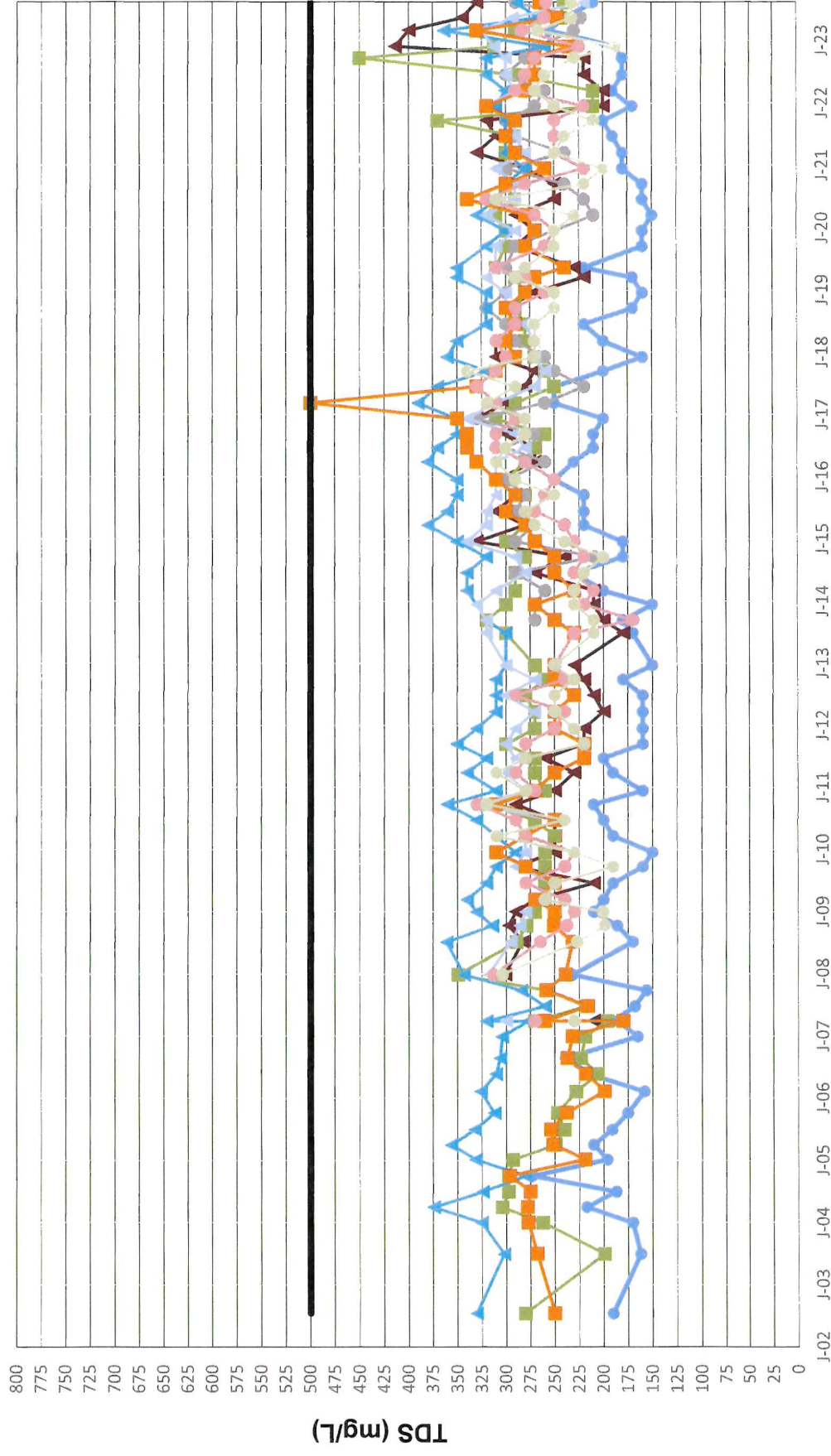
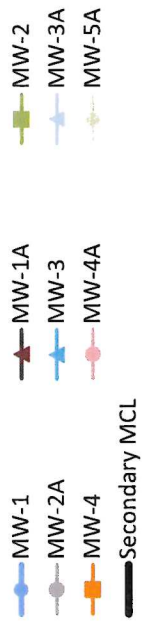




**City of Lone WWTF Monitoring Wells
Field pH**

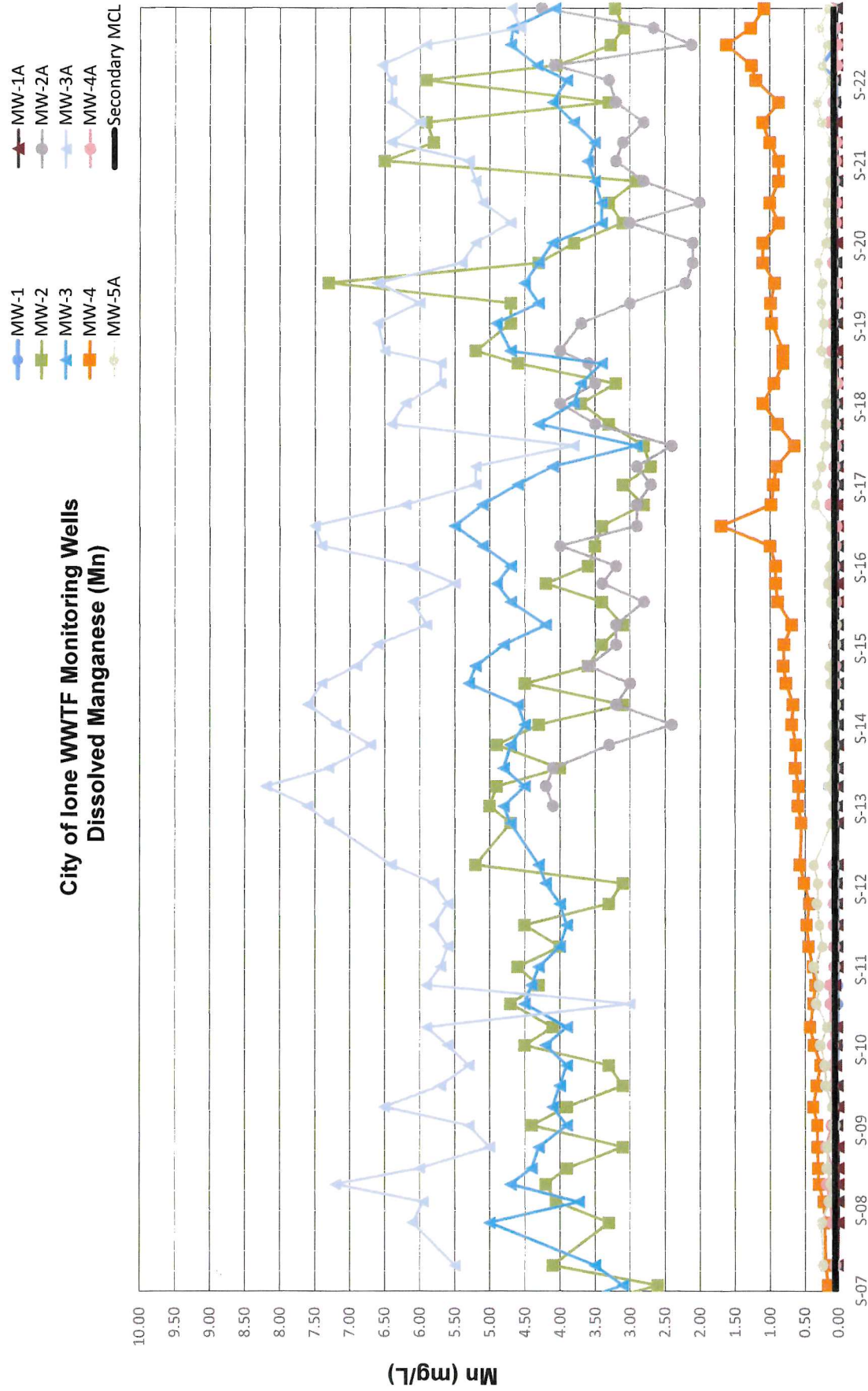


**City of Lone WWTF Monitoring Wells
Total Dissolved Solids (TDS)**





**City of Lone WWTF Monitoring Wells
Dissolved Manganese (Mn)**



Attachment 5
Historical Annual Standard Minerals
Groundwater Quality Data



1910 W. McKinley Avenue, Suite 110 • Fresno, California 93728-1298
Phone (559) 233-6129 • (800) 228-9896 • Fax (559) 268-8174
website: dellavallelab.com

Historical Annual Standard Minerals Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Method/Analysis	Date	Total Calcium	Dissolved Calcium	Dissolved Magnesium	Total Sodium	Dissolved Sodium	Total Potassium	Dissolved Potassium	Total Boron	Dissolved Boron	Dissolved Aluminum	Total Arsenic	Dissolved Arsenic	Chloride	Sulfate	Bicarbonate Alkalinity (CaCO3)	Carbonate Alkalinity (CaCO3)	Hydroxide Alkalinity (CaCO3)	Total Alkalinity (CaCO3)	Hardness
	Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	calculation
	MCL											0.2	0.010	0.010	250	250					
MW1		7/16/02	33.0			10.0		1.40							6.3	23.0	92	ND	ND	92	140
MW1		6/30/03	28.0			8.7		1.17		ND					6.6	24.0	101	ND	ND	101	115
MW1		9/30/03	27.0			8.2		1.24		ND					6.7	22.0	101	ND	ND	101	108
MW1		12/31/03	31.0			8.6		1.22		ND					8.5	19.0	108	ND	ND	108	122
MW1		3/31/04	33.0			9.2		1.25		ND					8.4	30.0	110	ND	ND	110	132
MW1		6/30/04	29.0			8.8		1.19		ND					7.2	28.0	101	ND	ND	101	116
MW1		10/1/04	32.0			14.0		1.66		0.100					9.9	23.0	110	ND	ND	110	132
MW1		10/12/04	32.0			9.2		1.52		ND					8.3	26.0	102	ND	ND	102	124
MW1		1/4/05	33.0			9.6		1.46		ND			ND		9.8	24.0	112	ND	ND	112	136
MW1		4/1/05	34.0			9.2		1.28		ND			ND		8.9	32.0	108	ND	ND	108	146
MW1		6/30/05	32.0			9.0		1.27		0.050			ND		8.1	30.0	99	ND	ND	99	132
MW1		10/11/05	33.0			9.9		1.30		ND			ND		7.0	30.0	105	ND	ND	105	133
MW1		2/9/06	32.0			10.7		1.40		0.090			ND		9.0	25.0	110	ND	ND	110	134
MW1		5/23/06	37.0			9.5		1.26		ND			ND		7.2	25.0	106	ND	ND	106	143
MW1		8/24/06	37.0			11.0		1.60		0.050			ND		8.0	29.0	110	ND	ND	110	145
MW1		12/12/06	32.0			9.5		1.40		0.060			ND		6.8	21.0	100	ND	ND	100	124
MW1		3/13/07	28.0			8.4		1.22		0.060			ND		7.5	23.0	93	ND	ND	93	124
MW1		6/25/07	29.0			8.9		1.20		0.064			ND		6.3	25.0	82	ND	ND	82	113
MW1		9/27/07	28.0			9.8		1.40		ND			ND		6.7	22.0	84	ND	ND	84	113
MW1		12/27/07	30.0			9.8		1.50		0.054			ND		10.0	23.0	92	ND	ND	92	122
MW1		7/7/08	28.0			8.9		1.40		0.068			ND		8.8	28.0	90	ND	ND	90	110
MW1		10/10/08	29.0			8.5		1.30		0.061			ND		9.3	23.0	100	ND	ND	100	119
MW1		12/29/08	35.0		14.0	11.0		1.50		0.059			ND		13.0	23.0	110	ND	ND	110	140

Historical Annual Standard Minerals Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Method/Analysis	Date	Total Calcium	Dissolved Calcium	Dissolved Magnesium	Total Sodium	Dissolved Sodium	Total Potassium	Dissolved Potassium	Total Boron	Dissolved Boron	Dissolved Aluminum	Total Arsenic	Dissolved Arsenic	Chloride	Sulfate	Bicarbonate Alkalinity (CaCO3)	Carbonate Alkalinity (CaCO3)	Hydroxide Alkalinity (CaCO3)	Total Alkalinity (CaCO3)	Hardness
	Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	EPA 200.8	EPA 300.0	SM 2320-B	SM 2320-B	SM 2320-B	SM 2320-B	calculation
	MCL											0.2	0.010	0.010	250	250					
MW1		3/11/09	34.0		14.0	9.9		1.30		0.046			0.008			25.0	100	ND	ND	100	140
MW1		6/16/09	32.0		13.0	10.0		1.40		0.057			ND			30.0	96	ND	ND	96	130
MW1		12/15/09		27.0	11.0		8.3		1.20		0.054					18.0	93	ND	ND	93	110
MW1		12/13/10		27.0	11.0		9.3		1.20		0.060					20.0	99	ND	ND	99	110
MW1		12/14/11		28.0	11.0		9.4		1.30		0.056					18.0	110	ND	ND	110	120
MW1		12/19/12		26.0	10.0		8.3		1.10		0.049					19.0	88	ND	ND	88	110
MW1		12/12/13		29.0	11.0		8.4		1.20		0.053	ND		ND		19.0	100	ND	ND	100	120
MW1		12/18/14		29.0	12.0		9.1		1.30		0.048	ND		ND		16.0	87	ND	ND	87	120
MW1		12/16/15		37.0	15.0		10.0		1.30		0.047	ND		0.00040		30.0	110	ND	ND	110	150
MW1		12/8/16		35.0	14.0		13.0		1.40		0.061	ND		ND		23.0	110	ND	ND	110	150
MW1		12/5/17		31.0	12.0		10.0		1.30		0.062	ND		ND		19.0	110	ND	ND	110	130
MW1		12/17/18		24.0	9.5		8.6		1.10		0.038	0.017		ND		17.0	90	ND	ND	90	100
MW1		12/16/19		28.0	10.0		9.3		1.20		0.049	0.023		ND		15.0	110	ND	ND	110	110
MW1		12/15/20		27.0	11.0		9.4		1.30		0.059	0.013		0.00094		14.0	95	ND	ND	95	110
MW1		12/14/21		30.0	11.0		9.5		1.30		0.044	0.008		ND		19.0	100	ND	ND	100	120
MW1		11/28/22		35.4	13.4		12.0		1.35		0.060	ND		ND		23.8	105	ND	ND	105	143

NM - Not Measured

ND - Not Detected

Historical Annual Standard Minerals Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Calcium	Dissolved Calcium	Dissolved Magnesium	Total Sodium	Dissolved Sodium	Total Potassium	Dissolved Potassium	Total Boron	Dissolved Boron	Dissolved Aluminum	Total Arsenic	Dissolved Arsenic	Chloride	Sulfate	Bicarbonate Alkalinity (CaCO3)	Carbonate Alkalinity (CaCO3)	Hydroxide Alkalinity (CaCO3)	Total Alkalinity (CaCO3)	Hardness
Method/Analysis		EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.8	EPA 200.8	EPA 300.0	EPA 300.0	SM 2320-B	SM 2320-B	SM 2320-B	SM 2320-B	calculation
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MCL											0.2	0.010	0.010	250	250					
MW2	7/16/02	42.0			45.0		4.50							31.0	21.0	170	ND	ND	170	170
MW2	6/30/03	34.0			36.0		4.02		0.01					32.0	11.0	178	ND	ND	178	142
MW2	9/30/03	34.0			36.0		3.96		0.26					32.0	7.7	200	ND	ND	200	151
MW2	12/31/03	34.0			36.0		4.44		0.22					32.0	5.9	198	ND	ND	198	155
MW2	3/31/04	36.0			38.0		4.42		0.21					35.0	4.9	198	ND	ND	198	167
MW2	6/30/04	37.0			39.0		4.34		0.25					34.0	5.9	198	ND	ND	198	159
MW2	10/1/04	41.0			40.0		4.37		0.26					36.0	5.6	214	ND	ND	214	167
MW2	1/4/05	36.0			39.0		4.88		0.23			0.0073		36.0	10.0	191	ND	ND	191	149
MW2	4/1/05	32.0			33.0		4.04		0.20			0.0046		34.0	16.0	156	ND	ND	156	130
MW2	6/30/05	30.0			31.0		3.93		0.20			0.0051		30.0	18.0	137	ND	ND	137	124
MW2	10/14/05	30.0			36.0		4.20		0.22			0.0061		34.0	16.0	137	ND	ND	137	125
MW2	2/10/06	25.0			34.1		3.04		0.26			0.0050		34.0	16.0	114	ND	ND	114	103
MW2	5/23/06	24.0			29.1		3.64		0.17			0.0055		27.0	18.0	103	ND	ND	103	95
MW2	8/24/06	22.0			32.0		3.50		0.15			0.0057		25.0	14.0	110	ND	ND	110	96
MW2	12/12/06	24.0			34.0		4.40		0.22			0.0064		29.0	9.2	116	ND	ND	116	96
MW2	3/13/07	22.0			32.6		3.97		0.19			0.0053		33.0	10.0	112	ND	ND	112	96
MW2	6/25/07	22.0			31.0		3.60		0.17			0.0042		30.0	14.0	103	ND	ND	103	96
MW2	9/27/07	25.0			36.0		4.00		0.16			0.0064		30.0	12.0	111	ND	ND	111	101
MW2	12/26/07	36.0			40.0		4.80		0.19			0.0065		35.0	59.0	111	ND	ND	111	145
MW2	7/7/08	33.0			39.0		4.30		0.15			0.0067		34.0	56.0	119	ND	ND	119	136
MW2	10/10/08	32.0			36.0		4.20		0.17			0.0050		41.0	35.0	136	ND	ND	136	138
MW2	12/30/08	36.0			44.0		4.90		0.21			0.0130		40.0	30.0	140	ND	ND	140	140
MW2	3/12/09	32.0			41.0		4.60		0.21			0.0110		42.0	18.0	140	ND	ND	140	120
MW2	6/16/09	39.0			42.0		6.60		0.19			0.0330		39.0	13.0	140	ND	ND	140	180

Historical Annual Standard Minerals Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Calcium	Dissolved Calcium	Dissolved Magnesium	Total Sodium	Dissolved Sodium	Total Potassium	Dissolved Potassium	Total Boron	Dissolved Boron	Dissolved Aluminum	Total Arsenic	Dissolved Arsenic	Chloride	Sulfate	Bicarbonate Alkalinity (CaCO3)	Carbonate Alkalinity (CaCO3)	Hydroxide Alkalinity (CaCO3)	Total Alkalinity (CaCO3)	Hardness
Method/Analysis		EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.8	EPA 200.8	EPA 300.0	EPA 300.0	SM 2320-B	SM 2320-B	SM 2320-B	SM 2320-B	calculation
Units:		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MCL											0.2	0.010	0.010	250	250					
MW2	12/15/09		30.0	10.0		37.0		4.80		0.22				43.0	11.0	130	ND	ND	130	120
MW2	12/13/10		30.0	9.6		43.0		4.50		0.22				41.0	5.9	160	ND	ND	160	110
MW2	12/14/11		31.0	10.0		44.0		4.70		0.20				37.0	7.3	170	ND	ND	170	120
MW2	12/19/12		34.0	11.0		44.0		5.00		0.18				42.0	6.6	180	ND	ND	180	130
MW2	12/11/13		36.0	12.0		45.0		4.60		0.17	ND		ND	53.0	7.4	190	ND	ND	190	140
MW2	12/18/14		35.0	13.0		45.0		5.00		0.16	0.0340		ND	47.0	30.0	140	ND	ND	140	140
MW2	12/15/15		29.0	10.0		39.0		4.10		0.16	ND		0.00650	45.0	24.0	130	ND	ND	130	110
MW2	12/8/16		36.0	13.0		48.0		4.90		0.20	0.03		0.00670	47.0	21.0	140	ND	ND	140	140
MW2	12/6/17		27.0	8.9		38.0		4.20		0.16	ND		0.00580	35.0	23.0	110	ND	ND	110	100
MW2	12/17/18		33.0	11.0		42.0		4.50		0.14	0.0062		0.00190	41.0	20.0	160	ND	ND	160	130
MW2	12/16/19		35.0	11.0		45.0		4.90		0.16	ND		0.00460	42.0	15.0	190	ND	ND	190	130
MW2	12/15/20		29.0	10.0		39.0		4.20		0.15	ND		0.00320	45.0	29.0	130	ND	ND	130	110
MW2	12/14/21		31.0	10.0		23.0		3.50		0.09	ND		0.00070	15.0	26.0	130	ND	ND	130	120
MW2	11/28/22		47.6	15.7		45.0		4.78		0.16	ND		0.00072	56.3	46.0	153	ND	ND	153	184

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R5-2013-0022-REV1

Sample ID	Date	Total Calcium	Dissolved Calcium	Dissolved Magnesium	Total Sodium	Dissolved Sodium	Total Potassium	Dissolved Potassium	Total Boron	Dissolved Boron	Dissolved Aluminum	Total Arsenic	Dissolved Arsenic	Chloride	Sulfate	Bicarbonate Alkalinity (CaCO3)	Carbonate Alkalinity (CaCO3)	Hydroxide Alkalinity (CaCO3)	Total Alkalinity (CaCO3)	Hardness
Method/Analysis		EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.8	EPA 200.8	EPA 300.0	EPA 300.0	SM 2320-B	SM 2320-B	SM 2320-B	SM 2320-B	calculation
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MCL											0.2	0.010	0.010	250	250					
MW3	7/16/02	59.0			48.0		3.50							32.0	20.0	210	ND	ND	210	230
MW3	6/30/03	50.0			40.0		2.82		0.26					33.0	22.0	226	ND	ND	226	207
MW3	9/30/03	47.0			38.0		2.60		0.24					34.0	18.0	230	ND	ND	230	201
MW3	12/31/03	59.0			40.0		2.84		0.26					33.0	12.0	258	ND	ND	258	224
MW3	3/31/04	58.0			39.0		2.75		0.30					33.0	10.0	260	ND	ND	260	217
MW3	6/30/04	51.0			40.0		2.63		0.26					31.0	7.9	238	ND	ND	238	202
MW3	10/1/04	49.0			38.0		2.59		0.28					33.0	6.2	218	ND	ND	218	191
MW3	1/4/05	55.0			42.0		3.29		0.24			ND		34.0	4.3	265	ND	ND	265	208
MW3	4/1/05	56.0			40.0		2.71		0.25			ND		36.0	6.1	252	ND	ND	252	216
MW3	6/30/05	53.0			36.0		2.84		0.22			ND		34.0	7.0	232	ND	ND	232	208
MW3	10/14/05	49.0			38.0		2.80		0.20			ND		32.0	8.1	215	ND	ND	215	192
MW3	2/13/06	48.0			40.0		3.02		0.28			0.001		30.0	7.7	220	ND	ND	220	188
MW3	5/23/06	49.0			35.6		2.85		0.21			ND		29.0	7.0	211	ND	ND	211	195
MW3	8/25/06	45.0			36.0		2.60		0.20			ND		29.0	8.4	192	ND	ND	192	179
MW3	12/12/06	48.0			37.0		2.80		0.21			ND		26.0	6.3	197	ND	ND	197	185
MW3	3/13/07	46.0			34.0		2.95		0.20			ND		28.0	5.5	190	ND	ND	190	182
MW3	6/25/07	39.0			34.0		2.50		0.19			ND		28.0	7.0	160	ND	ND	160	145
MW3	9/27/07	39.0			37.0		2.50		0.18			ND		30.0	6.4	159	ND	ND	159	153
MW3	12/31/07	48.0			38.0		2.60		0.22			ND		29.0	13.0	176	ND	ND	176	186
MW3	7/7/08	53.0			44.0		3.20		0.18			0.003		37.0	23.0	205	ND	ND	205	199
MW3	10/10/08	46.0			34.0		2.50		0.18			ND		38.0	31.0	178	ND	ND	178	186
MW3	12/30/08	55.0		16.0	44.0		3.00		0.23			0.011		37.0	25.0	200	ND	ND	200	200
MW3	3/12/09	54.0		16.0	42.0		2.90		0.23			0.017		39.0	20.0	200	ND	ND	200	200
MW3	6/16/09	44.0		14.0	42.0		3.20		0.21			ND		40.0	15.0	200	ND	ND	200	170

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Sample ID	Date	Total Calcium	Dissolved Calcium	Dissolved Magnesium	Total Sodium	Dissolved Sodium	Total Potassium	Dissolved Potassium	Total Boron	Dissolved Boron	Dissolved Aluminum	Total Arsenic	Dissolved Arsenic	Chloride	Sulfate	Bicarbonate Alkalinity (CaCO ₃)	Carbonate Alkalinity (CaCO ₃)	Hydroxide Alkalinity (CaCO ₃)	Total Alkalinity (CaCO ₃)	Hardness
Method/Analysis		EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.8	EPA 200.8	EPA 300.0	EPA 300.0	SM 2320-B	SM 2320-B	SM 2320-B	SM 2320-B	calculation
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MCL											0.2	0.010	0.010	250	250					
MW3	12/15/09		48.0	14.0		42.0		2.60		0.21				39.0	8.3	200	ND	ND	200	180
MW3	12/14/10		45.0	13.0		40.0		2.70		0.21				36.0	4.1	200	ND	ND	200	170
MW3	12/14/11		47.0	14.0		41.0		2.90		0.20				38.0	4.3	210	ND	ND	210	170
MW3	12/18/12		46.0	14.0		43.0		2.90		0.19				38.0	3.3	220	ND	ND	220	170
MW3	12/12/13		47.0	14.0		41.0		2.90		0.18	ND		ND	48.0	3.0	220	ND	ND	220	180
MW3	12/18/14		52.0	16.0		47.0		3.00		0.18	ND		ND	41.0	17.0	210	ND	ND	210	200
MW3	12/16/15		44.0	13.0		40.0		2.80		0.16	ND		0.001	48.0	26.0	190	ND	ND	190	160
MW3	12/8/16		58.0	17.0		47.0		3.00		0.20	ND		0.00057	49.0	16.0	210	ND	ND	210	220
MW3	12/6/17		45.0	13.0		38.0		2.90		0.18	ND		ND	42.0	15.0	180	ND	ND	180	170
MW3	12/17/18		47.0	12.0		41.0		3.20		0.17	0.0100		0.0008	45.0	14.0	190	ND	ND	190	170
MW3	12/16/19		49.0	13.0		45.0		3.50		0.18	ND		ND	47.0	13.0	210	ND	ND	210	180
MW3	12/15/20		36.0	11.0		39.0		3.20		0.16	0.0120		0.0008	43.0	23.0	150	ND	ND	150	130
MW3	12/14/21		39.0	11.0		43.0		3.20		0.14	0.0048		ND	54.0	20.0	150	ND	ND	150	140
MW3	11/28/22		38.4	10.8		48.0		3.84		0.19	ND		0.00068	45.0	29.9	157	ND	ND	157	140

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City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Calcium	Dissolved Calcium	Dissolved Magnesium	Total Sodium	Dissolved Sodium	Total Potassium	Dissolved Potassium	Total Boron	Dissolved Boron	Dissolved Aluminum	Total Arsenic	Dissolved Arsenic	Chloride	Sulfate	Bicarbonate Alkalinity (CaCO ₃)	Carbonate Alkalinity (CaCO ₃)	Hydroxide Alkalinity (CaCO ₃)	Total Alkalinity (CaCO ₃)	Hardness
Method/Analysis		EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.8	EPA 200.8	EPA 300.0	EPA 300.0	SM 2320-B	SM 2320-B	SM 2320-B	SM 2320-B	calculation
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MCL											0.2	0.010	0.010	250	250					
MW3A	12/26/07	35.0			38.0		5.40		0.20			0.011		33.0	21.0	152	ND	ND	152	141
MW3A	7/7/08	33.0			38.0		4.80		0.16			0.010		34.0	45.0	147	ND	ND	147	136
MW3A	10/10/08	38.0			37.0		5.20		0.19			0.013		39.0	19.0	188	ND	ND	188	150
MW3A	12/30/08	40.0		12.0	44.0				0.23			0.018		42.0	12.0	190	ND	ND	190	NM
MW3A	3/12/09	37.0		11.0	41.0		5.40		0.23			0.016		43.0	11.0	170	ND	ND	170	140
MW3A	6/16/09	35.0		11.0	43.0		5.00		0.22			ND		40.0	8.3	160	ND	ND	160	130
MW3A	12/15/09		38.0	11.0		44.0		5.30		0.24				45.0	3.1	190	ND	ND	190	140
MW3A	12/14/10		35.0	10.0		43.0		4.90		0.23				37.0	3.3	190	ND	ND	190	130
MW3A	12/14/11		33.0	9.8		43.0		5.00		0.20				34.0	3.8	190	ND	ND	190	120
MW3A	12/18/12		37.0	11.0		45.0		5.10		0.18				39.0	3.5	220	ND	ND	220	140
MW3A	12/11/13		47.0	14.0		46.0		6.00		0.20	ND		0.0110	47.0	2.7	250	ND	ND	250	170
MW3A	12/18/14		43.0	13.0		45.0		6.30		0.18	ND		ND	45.0	18.0	200	ND	ND	200	160
MW3A	12/16/15		33.0	10.0		39.0		5.10		0.17	ND			48.0	21.0	170	ND	ND	170	120
MW3A	12/8/16		40.0	13.0		50.0		6.40		0.20	0.0230		0.0120	53.0	12.0	190	ND	ND	190	150
MW3A	12/5/17		30.0	8.9		40.0		5.00		0.21	ND		0.0110	41.0	19.0	150	ND	ND	150	110
MW3A	12/17/18		37.0	11.0		46.0		5.50		0.15	0.0031		0.0034	46.0	12.0	200	ND	ND	200	140
MW3A	12/16/19		36.0	10.0		45.0		5.10		0.18	0.0030		0.0060	44.0	12.0	200	ND	ND	200	130
MW3A	12/15/20		29.0	8.9		37.0		4.50		0.16	ND		0.0034	42.0	27.0	140	ND	ND	140	110
MW3A	12/14/21		40.0	11.0		44.0		5.50		0.16	ND		0.0029	43.0	60.0	150	ND	ND	150	150
MW3A	11/28/22		39.5	11.4		46.0		5.82		0.19	ND		0.0014	40.8	33.1	169	ND	ND	169	145

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R5-2013-0022-REV1

Sample ID	Date	Total Calcium mg/L	Dissolved Calcium mg/L	Dissolved Magnesium mg/L	Total Sodium mg/L	Dissolved Sodium mg/L	Total Potassium mg/L	Dissolved Potassium mg/L	Total Boron mg/L	Dissolved Boron mg/L	Dissolved Aluminum mg/L	Total Arsenic mg/L	Dissolved Arsenic mg/L	Chloride mg/L	Sulfate mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Carbonate Alkalinity (CaCO3) mg/L	Hydroxide Alkalinity (CaCO3) mg/L	Total Alkalinity (CaCO3) mg/L	Hardness calculation
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MCL											0.2	0.010	0.010	250	250					
MW4	7/16/02	46.0			21.0		ND							27.0	19.0	120	ND	ND	120	180
MW4	6/30/03	45.0			29.0		0.52		0.21					35.0	21.0	170	ND	ND	170	174
MW4	9/30/03	44.0			31.0		0.43		0.17					35.0	14.0	193	ND	ND	193	185
MW4	12/31/03	46.0			31.0		0.48		0.15					43.0	15.0	178	ND	ND	178	180
MW4	3/31/04	41.0			31.0		0.43		0.15					42.0	17.0	164	ND	ND	164	159
MW4	6/30/04	40.0			31.0		0.39		0.18					34.0	17.0	166	ND	ND	166	159
MW4	10/1/04	37.0			33.0		0.41		0.21					37.0	18.0	158	ND	ND	158	154
MW4	1/4/05	33.0			32.0		0.51		0.17			ND		32.0	16.0	137	ND	ND	137	130
MW4	4/1/05	33.0			31.0		0.38		0.16			ND		32.0	23.0	134	ND	ND	134	134
MW4	6/30/05	34.0			31.0		0.63		0.18			ND		33.0	16.0	138	ND	ND	138	132
MW4	10/7/05	38.0			37.0		0.55		0.18			ND		36.0	25.0	141	ND	ND	141	143
MW4	2/13/06	29.0			30.8		0.44		0.17			ND		31.0	25.0	106	ND	ND	106	112
MW4	5/23/06	32.0			27.6		0.66		0.11			ND		22.0	24.0	111	ND	ND	111	119
MW4	8/24/06	32.0			31.0		0.44		0.15			ND		25.0	24.0	121	ND	ND	121	123
MW4	12/12/06	27.0			31.0		0.42		0.16			ND		36.0	15.0	96	ND	ND	96	108
MW4	3/13/07	27.0			26.0		0.40		0.10			ND		35.0	18.0	82	ND	ND	82	106
MW4	6/25/07	27.0			27.0		0.37		0.10			ND		30.0	19.0	85	ND	ND	85	109
MW4	9/27/07	32.0			34.0		0.39		0.11			ND		36.0	27.0	98	ND	ND	98	123
MW4	12/27/07	34.0			39.0		0.48		0.17			ND		53.0	25.0	108	ND	ND	108	137
MW4	7/7/08	28.0			34.0		0.40		0.13			ND		50.0	24.0	88	ND	ND	88	114
MW4	10/10/08	32.0			33.0		0.44		0.15			ND		49.0	25.0	108	ND	ND	108	126
MW4	12/30/08	37.0		13.0	37.0		0.78		0.12			0.01		46.0	24.0	120	ND	ND	120	140
MW4	3/12/09	38.0		13.0	43.0		0.58		0.18			ND		44.0	26.0	130	ND	ND	130	150
MW4	6/16/09	35.0		12.0	43.0		0.44		0.17			ND		37.0	22.0	130	ND	ND	130	140

Historical Annual Standard Minerals Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Calcium	Dissolved Calcium	Dissolved Magnesium	Total Sodium	Dissolved Sodium	Total Potassium	Dissolved Potassium	Total Boron	Dissolved Boron	Dissolved Aluminum	Total Arsenic	Dissolved Arsenic	Chloride	Sulfate	Bicarbonate Alkalinity (CaCO ₃)	Carbonate Alkalinity (CaCO ₃)	Hydroxide Alkalinity (CaCO ₃)	Total Alkalinity (CaCO ₃)	Hardness
Method/Analysis		EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.8	EPA 200.8	EPA 300.0	EPA 300.0	SM 2320-B	SM 2320-B	SM 2320-B	SM 2320-B	calculation
Units:		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MCL											0.2	0.010	0.010	250	250					
MW4 12/15/09			37.0	13.0		46.0		0.54		0.21				57.0	19.0	130	ND	ND	130	140
MW4 12/14/10			32.0	11.0		46.0		0.40		0.22				54.0	13.0	130	ND	ND	130	130
MW4 12/14/11			29.0	10.0		44.0		0.43		0.19				40.0	13.0	140	ND	ND	140	110
MW4 12/18/12			34.0	11.0		46.0		0.42		0.16				46.0	7.2	160	ND	ND	160	130
MW4 12/11/13			32.0	11.0		43.0		0.38		0.15	ND		ND	46.0	8.6	150	ND	ND	150	130
MW4 12/18/14			35.0	13.0		44.0		0.40		0.14	ND		ND	36.0	13.0	150	ND	ND	150	140
MW4 12/16/15			34.0	12.0		40.0		0.26		0.12	ND		0.00045	42.0	28.0	140	ND	ND	140	130
MW4 12/9/16			47.0	16.0		53.0		0.38		0.16	ND		ND	47.0	40.0	140	ND	ND	140	180
MW4 12/5/17			36.0	12.0		45.0		0.32		0.20	ND		ND	45.0	32.0	150	ND	ND	150	140
MW4 12/17/18			39.0	13.0		41.0		0.58		0.13	ND		ND	38.0	29.0	160	ND	ND	160	150
MW4 12/16/19			37.0	12.0		44.0		0.29		0.18	ND		ND	38.0	24.0	160	ND	ND	160	140
MW4 12/15/20			34.0	12.0		40.0		0.37		0.15	0.0055		ND	31.0	29.0	140	ND	ND	140	130
MW4 12/14/21			41.0	14.0		43.0		0.39		0.14	0.0048		ND	52.0	34.0	120	ND	ND	120	160
MW4 11/28/22			33.2	11.1		37.0		ND		0.15	ND		ND	27.5	29.6	138	ND	ND	138	129

NM - Not Measured

ND - Not Detected

Historical Annual Standard Minerals Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Date	Total Calcium	Dissolved Calcium	Dissolved Magnesium	Total Sodium	Dissolved Sodium	Total Potassium	Dissolved Potassium	Total Boron	Dissolved Boron	Dissolved Aluminum	Total Arsenic	Dissolved Arsenic	Chloride	Sulfate	Bicarbonate Alkalinity (CaCO ₃)	Carbonate Alkalinity (CaCO ₃)	Hydroxide Alkalinity (CaCO ₃)	Total Alkalinity (CaCO ₃)	Hardness
Method/Analysis		EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.8	EPA 200.8	EPA 300.0	EPA 300.0	SM 2320-B	SM 2320-B	SM 2320-B	SM 2320-B	calculation
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MCL											0.2	0.010	0.010	250	250					
MW4A	12/27/07	43.0			23.0		0.54		0.088			ND		24.0	23.0	127	ND	ND	127	162
MW4A	7/7/08	43.0			24.0		0.30		0.083			ND		34.0	27.0	137	ND	ND	137	165
MW4A	10/10/08	41.0			21.0		0.42		0.089			ND		24.0	28.0	138	ND	ND	138	152
MW4A	12/30/08	40.0		14.0	22.0		0.32		0.093			ND		13.0	25.0	140	ND	ND	140	160
MW4A	3/12/09	45.0		15.0	24.0		0.31		0.090			0.019		25.0	25.0	130	ND	ND	130	170
MW4A	6/16/09	46.0		16.0	25.0		0.33		0.088			ND		29.0	27.0	140	ND	ND	140	180
MW4A	12/15/09		39.0	14.0		20.0		0.31		0.091				21.0	25.0	130	ND	ND	130	150
MW4A	12/14/10		44.0	14.0		24.0		0.30		0.098				36.0	22.0	130	ND	ND	130	170
MW4A	12/14/11		39.0	14.0		24.0		0.31		0.092				23.0	22.0	140	ND	ND	140	150
MW4A	12/19/12		41.0	14.0		23.0		0.21		0.085				25.0	19.0	150	ND	ND	150	160
MW4A	12/11/13		35.0	12.0		21.0		0.24		0.083	ND		ND	17.0	20.0	140	ND	ND	140	140
MW4A	12/18/14		36.0	13.0		21.0		0.24		0.083	ND		ND	16.0	21.0	120	ND	ND	120	140
MW4A	12/16/15		37.0	13.0		19.0		0.21		0.073	ND		0.0004	19.0	28.0	140	ND	ND	140	150
MW4A	12/9/16		56.0	19.0		26.0		0.37		0.091	ND		ND	32.0	35.0	140	ND	ND	140	220
MW4A	12/5/17		45.0	15.0		28.0		0.37		0.100	ND		ND	35.0	35.0	150	ND	ND	150	170
MW4A	12/17/18		42.0	14.0		27.0		0.24		0.075	0.0063		ND	18.0	33.0	160	ND	ND	160	160
MW4A	12/16/19		42.0	14.0		29.0		0.16		0.090	0.0180		ND	25.0	29.0	150	ND	ND	150	160
MW4A	12/15/20		37.0	13.0		26.0		0.16		0.086	0.0160		ND	18.0	26.0	150	ND	ND	150	150
MW4A	12/14/21		36.0	12.0		25.0		0.26		0.090	0.0088		ND	25.0	26.0	120	ND	ND	120	140
MW4A	11/28/22		39.0	13.0		24.0		ND		0.100	ND		ND	20.7	30.2	133	ND	ND	133	151

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Historical Annual Standard Minerals Groundwater Quality Data
City of Ione WWTF
R5-2013-0022-REV1

Sample ID	Method/Analysis	Date	Total Calcium	Dissolved Calcium	Dissolved Magnesium	Total Sodium	Dissolved Sodium	Total Potassium	Dissolved Potassium	Total Boron	Dissolved Boron	Dissolved Aluminum	Total Arsenic	Dissolved Arsenic	Chloride	Sulfate	Bicarbonate Alkalinity (CaCO3)	Carbonate Alkalinity (CaCO3)	Hydroxide Alkalinity (CaCO3)	Total Alkalinity (CaCO3)	Hardness
			EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.8	EPA 200.8	EPA 300.0	EPA 300.0	SM 2320-B	SM 2320-B	SM 2320-B	SM 2320-B	calculation
	Units:		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
	MCL											0.2	0.010	0.010	250	250					
MW5A		12/31/07	47.0			24.0		0.61		0.095			ND		26.0	26.0	130	ND	ND	130	178
MW5A		7/2/08	38.0			17.0		0.62		0.071			ND		18.0	25.0	125	ND	ND	125	144
MW5A		10/10/08	37.0			15.0		0.49		0.076			ND		11.0	26.0	116	ND	ND	116	128
MW5A		12/30/08	38.0			16.0		0.57		0.084			ND		8.3	26.0	120	ND	ND	120	150
MW5A		3/12/09	47.0			21.0		0.57		0.091			0.011		23.0	30.0	140	ND	ND	140	180
MW5A		6/16/09	49.0			23.0		0.61		0.086			ND		26.0	27.0	150	ND	ND	150	190
MW5A		12/15/09		37.0	13.0		15.0		0.61		0.085				19.0	22.0	120	ND	ND	120	150
MW5A		12/14/10		48.0	16.0		23.0		0.55		0.100				35.0	19.0	150	ND	ND	150	190
MW5A		12/14/11		37.0	13.0		20.0		0.58		0.084				15.0	22.0	130	ND	ND	130	150
MW5A		12/19/12		43.0	15.0		22.0		0.48		0.085				NM	17.0	140	ND	ND	140	170
MW5A		12/11/13		36.0	13.0		19.0		0.48		0.081	0.1100		ND	36.0	15.0	120	ND	ND	120	140
MW5A		12/18/14		39.0	14.0		21.0		0.50		0.083	ND		ND	22.0	20.0	120	ND	ND	120	160
MW5A		12/16/15		40.0	14.0		18.0		0.51		0.070	ND		0.00038	33.0	29.0	120	ND	ND	120	160
MW5A		12/9/16		54.0	18.0		25.0		0.72		0.091	ND		ND	35.0	32.0	140	ND	ND	140	210
MW5A		12/5/17		41.0	14.0		27.0		0.63		0.110	ND		ND	22.0	33.0	140	ND	ND	140	160
MW5A		12/17/18		38.0	13.0		19.0		0.54		0.070	ND		ND	15.0	26.0	140	ND	ND	140	150
MW5A		12/16/19		39.0	13.0		24.0		0.47		0.092	ND		ND	20.0	26.0	140	ND	ND	140	150
MW5A		12/15/20		35.0	13.0		19.0		0.45		0.076	0.0042		ND	20.0	20.0	120	ND	ND	120	140
MW5A		12/14/21		35.0	13.0		19.0		0.45		0.076	0.0042		ND	20.0	20.0	120	ND	ND	120	140
MW5A		11/28/22		33.7	11.6		20.0		ND		0.100	ND		ND	14.9	26.8	124	ND	ND	124	132

NM - Not Measured
ND - Not Detected

Attachment 6
Reports of Water Analysis
(Onsite Monitoring Wells)



1910 W. McKinley Avenue, Suite 110 • Fresno, California 93728-1298
Phone (559) 233-6129 • (800) 228-9896 • Fax (559) 268-8174
website: dellavallelab.com

DELLAVALLETM

LABORATORY INC

City of Ione
1 East Main Street
Lone, CA 95640

Account# 00-0025573
Account Manager: Lisa Rubin
Submitted By: Todd Waklee
Ranch: R5-2013-0022 (REV1) City Of Ione MW
Network

Received: 08/15/2023 12:07
Reported: 08/17/2023 15:25

Samples in this Report

Lab ID	Sample	Matrix	Sampled By	Crop	Date Sampled
23H1316-01	MW-1	Monitoring Well	Del-Tech/Cassandra Harlan		08/14/2023 11:21
23H1316-02	MW-1A	Monitoring Well	Del-Tech/Cassandra Harlan		08/14/2023 10:55
23H1316-03	MW-2A	Monitoring Well	Del-Tech/Cassandra Harlan		08/14/2023 12:47
23H1316-04	MW-5A	Monitoring Well	Del-Tech/Cassandra Harlan		08/14/2023 12:26

Default Cooler Temperature on Receipt °C: 3.8
Containers Intact
COC/Labels Agree
Preservation Confirmed
Received On Ice

Notes and Definitions

Item	Definition
H	Hold Time Exceeded
MCL	Drinking Water Maximum Contaminant Level
ND	Analyte NOT DETECTED at or above the reporting limit.
NES	Not Enough Sample
*	Not Taken
RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated.



Laboratory Director/Technical Manager

ELAP Certification #1595
A2LA Certification #6440.02

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Network

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Reported: 08/17/2023 15:25

Sample Results

Sample: MW-1
23H1316-01 (Water)

Sampled: 8/14/2023 11:21
Sampled By: Del-Tech/Cassandra Harlan

Analyte	Result	Units	Reporting Limit	DIL	DW MCL	Date/Time Analyzed	Method	Notes	Batch
Electrical Conductivity	0.29	mmhos/cm	0.01	1		08/15/23 17:04	SM 2510 B		BEH0723
Electrical Conductivity umhos	287	umhos/cm	10.0	1		08/15/23 17:04	SM 2510 B		BEH0723
Iron	ND	mg/L	0.10	1		08/16/23 14:18	EPA 200.7		BEH0771
Manganese	ND	mg/L	0.02	1		08/16/23 14:18	EPA 200.7		BEH0771
Ammonia (as N)	ND	mg/L	0.500	1		08/16/23 11:01	SM 4500-NH3 H		BEH0702
Nitrate Nitrogen as NO3N	1.3	mg/L	0.1	1	10	08/15/23 20:50	EPA 300.0		BEH0726
pH	6.8	units	1.0	1		08/15/23 17:04	SM 4500-H+	H	BEH0723
Total Filterable Solids (TDS)	210	mg/L	10.0	1		08/16/23 15:09	SM 2540 C		BEH0718

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Reported: 08/17/2023 15:25

Sample Results (Continued)

Sample: MW-1A
23H1316-02 (Water)

Sampled: 8/14/2023 10:55
Sampled By: Del-Tech/Cassandra Harlan

Analyte	Result	Units	Reporting Limit	DIL	DW MCL	Date/Time Analyzed	Method	Notes	Batch
Electrical Conductivity	0.39	mmhos/cm	0.01	1		08/15/23 17:05	SM 2510 B		BEH0723
Electrical Conductivity umhos	388	umhos/cm	10.0	1		08/15/23 17:05	SM 2510 B		BEH0723
Iron	ND	mg/L	0.10	1		08/16/23 14:19	EPA 200.7		BEH0771
Manganese	ND	mg/L	0.02	1		08/16/23 14:19	EPA 200.7		BEH0771
Ammonia (as N)	ND	mg/L	0.500	1		08/16/23 11:02	SM 4500-NH3 H		BEH0702
Nitrate Nitrogen as NO3N	4.6	mg/L	0.1	1	10	08/15/23 21:11	EPA 300.0		BEH0726
pH	6.8	units	1.0	1		08/15/23 17:05	SM 4500-H+	H	BEH0723
Total Filterable Solids (TDS)	330	mg/L	10.0	1		08/16/23 15:09	SM 2540 C		BEH0718

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Reported: 08/17/2023 15:25

Sample Results (Continued)

Sample: MW-2A
23H1316-03 (Water)

Sampled: 8/14/2023 12:47
Sampled By: Del-Tech/Cassandra Harlan

Analyte	Result	Units	Reporting Limit	DIL	DW MCL	Date/Time Analyzed	Method	Notes	Batch
Electrical Conductivity	0.49	mmhos/cm	0.01	1		08/15/23 17:07	SM 2510 B		BEH0723
Electrical Conductivity umhos	494	umhos/cm	10.0	1		08/15/23 17:07	SM 2510 B		BEH0723
Iron	2.19	mg/L	0.10	1		08/16/23 14:20	EPA 200.7		BEH0771
Manganese	4.26	mg/L	0.02	1		08/16/23 14:20	EPA 200.7		BEH0771
Ammonia (as N)	3.27	mg/L	0.500	1		08/16/23 11:12	SM 4500-NH3 H		BEH0702
Nitrate Nitrogen as NO3N	ND	mg/L	0.1	1	10	08/15/23 21:32	EPA 300.0		BEH0726
pH	6.8	units	1.0	1		08/15/23 17:07	SM 4500-H+	H	BEH0723
Total Filterable Solids (TDS)	290	mg/L	10.0	1		08/16/23 15:09	SM 2540 C		BEH0718

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Reported: 08/17/2023 15:25

Sample Results (Continued)

Sample: MW-5A
23H1316-04 (Water)

Sampled: 8/14/2023 12:26
Sampled By: Del-Tech/Cassandra Harlan

Analyte	Result	Units	Reporting Limit	DIL	DW MCL	Date/Time Analyzed	Method	Notes	Batch
Electrical Conductivity	0.36	mmhos/cm	0.01	1		08/15/23 17:08	SM 2510 B		BEH0723
Electrical Conductivity umhos	359	umhos/cm	10.0	1		08/15/23 17:08	SM 2510 B		BEH0723
Iron	ND	mg/L	0.10	1		08/16/23 14:22	EPA 200.7		BEH0771
Manganese	0.13	mg/L	0.02	1		08/16/23 14:22	EPA 200.7		BEH0771
Ammonia (as N)	ND	mg/L	0.500	1		08/16/23 11:13	SM 4500-NH3 H		BEH0702
Nitrate Nitrogen as NO3N	3.1	mg/L	0.1	1	10	08/15/23 21:53	EPA 300.0		BEH0726
pH	6.8	units	1.0	1		08/15/23 17:08	SM 4500-H+	H	BEH0723
Total Filterable Solids (TDS)	232	mg/L	10.0	1		08/16/23 15:09	SM 2540 C		BEH0718

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Ranch: R5-2013-0022 (REV1) City Of Ione MW
Network

Received: 08/15/2023 12:07
Reported: 08/17/2023 15:25

Quality Control

Analyte	ResultQual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BEH0702									
Blank (BEH0702-BLK1)									
Ammonia (as N)	ND	0.500	mg/L	Prepared: 8/15/2023 Analyzed: 8/16/2023					
Blank (BEH0702-BLK2)									
Ammonia (as N)	ND	0.500	mg/L	Prepared: 8/15/2023 Analyzed: 8/16/2023					
LCS (BEH0702-BS1)									
Ammonia (as N)	10.4	0.500	mg/L	9.990		104	90-110		
LCS (BEH0702-BS2)									
Ammonia (as N)	10.1	0.500	mg/L	9.990		101	90-110		
Duplicate (BEH0702-DUP1)									
Ammonia (as N)	ND	0.500	mg/L			ND			10
Duplicate (BEH0702-DUP2)									
Ammonia (as N)	ND	0.500	mg/L			ND			10
Matrix Spike (BEH0702-MS1)									
Ammonia (as N)	10.9	0.500	mg/L	9.990	ND	109	90-110		
Matrix Spike (BEH0702-MS2)									
Ammonia (as N)	10.3	0.500	mg/L	9.990	ND	103	90-110		
Reference (BEH0702-SRM1)									
Ammonia (as N)	5.94		mg/L	5.470		109	90-110		

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DELLAVALLETM

LABORATORY INC

City of Ione
1 East Main Street
Lone, CA 95640

Account# 00-0025573
Account Manager: Lisa Rubin
Submitted By: Todd Waklee
Ranch: R5-2013-0022 (REV1) City Of Ione MW
Network

Received: 08/15/2023 12:07

Reported: 08/17/2023 15:25

Quality Control (Continued)

Analyte	ResultQual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BEH0718									
Blank (BEH0718-BLK1)									
Total Filterable Solids (TDS)	ND	10.0	mg/L						
Prepared: 8/15/2023 Analyzed: 8/16/2023									
LCS (BEH0718-BS1)									
Total Filterable Solids (TDS)	22.5	10.0	mg/L	2000		1.12	0-200		
Prepared: 8/15/2023 Analyzed: 8/16/2023									
Duplicate (BEH0718-DUP1)									
Total Filterable Solids (TDS)	2540	10.0	mg/L		2420			4.84	10
Prepared: 8/15/2023 Analyzed: 8/16/2023									
Duplicate (BEH0718-DUP2)									
Total Filterable Solids (TDS)	310	10.0	mg/L		290			6.67	10
Prepared: 8/15/2023 Analyzed: 8/16/2023									
Reference (BEH0718-SRM1)									
Total Filterable Solids (TDS)	320		mg/L	325.0		98.5	90-110		
Prepared: 8/15/2023 Analyzed: 8/16/2023									
Reference (BEH0718-SRM2)									
Total Filterable Solids (TDS)	487		mg/L	495.0		98.3	90-110		
Prepared: 8/15/2023 Analyzed: 8/16/2023									

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Ranch: R5-2013-0022 (REV1) City Of Ione MW
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Received: 08/15/2023 12:07
Reported: 08/17/2023 15:25

Quality Control (Continued)

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BEH0723									
Blank (BEH0723-BLK1)					Prepared & Analyzed: 8/15/2023				
pH	5.4	1.0	units						
Electrical Conductivity	ND	0.01	mmhos/cm						
Electrical Conductivity umhos	ND	10.0	umhos/cm						
Blank (BEH0723-BLK2)					Prepared & Analyzed: 8/15/2023				
pH	7.3	1.0	units						
Electrical Conductivity	ND	0.01	mmhos/cm						
Electrical Conductivity umhos	ND	10.0	umhos/cm						
Blank (BEH0723-BLK3)					Prepared & Analyzed: 8/15/2023				
Electrical Conductivity	ND	0.01	mmhos/cm						
pH	6.7	1.0	units						
Electrical Conductivity umhos	ND	10.0	umhos/cm						
Duplicate (BEH0723-DUP1)					Source: 23H0088-01 Prepared & Analyzed: 8/15/2023				
Electrical Conductivity	1.25	0.01	mmhos/cm		1.26			0.748	10
pH	8.4	1.0	units		8.4			0.237	10
Electrical Conductivity umhos	1250	10.0	umhos/cm		1260			0.748	10
Duplicate (BEH0723-DUP2)					Source: 23H1361-04 Prepared & Analyzed: 8/15/2023				
Electrical Conductivity	0.43	0.01	mmhos/cm		0.43			1.12	10
pH	7.5	1.0	units		7.5			0.266	10
Electrical Conductivity umhos	426	10.0	umhos/cm		431			1.12	10
Reference (BEH0723-SRM1)					Prepared & Analyzed: 8/15/2023				
Electrical Conductivity	523		umhos/cm	538.0		97.1	90-110		
Reference (BEH0723-SRM2)					Prepared & Analyzed: 8/15/2023				
pH	5.8		units	5.820		99.8	28178-101.7		
Reference (BEH0723-SRM3)					Prepared & Analyzed: 8/15/2023				
Electrical Conductivity	939		umhos/cm	1000		93.9	90-110		
Electrical Conductivity umhos	939		umhos/cm	1000		93.9	90-110		
Reference (BEH0723-SRM4)					Prepared & Analyzed: 8/15/2023				
Electrical Conductivity	941		umhos/cm	1000		94.1	90-110		
Electrical Conductivity umhos	941		umhos/cm	1000		94.1	90-110		
Reference (BEH0723-SRM5)					Prepared & Analyzed: 8/15/2023				
Electrical Conductivity	950		umhos/cm	1000		95.0	90-110		
Electrical Conductivity umhos	950		umhos/cm	1000		95.0	90-110		

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Quality Control (Continued)

Analyte	ResultQual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BEH0723 (Continued)									
Reference (BEH0723-SRM6)									
pH	4.0		units	4.000		100	97.5-102.5		
Reference (BEH0723-SRM7)									
pH	4.0		units	4.000		100	97.5-102.5		
Reference (BEH0723-SRM8)									
pH	4.0		units	4.000		100	97.5-102.5		

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Reported: 08/17/2023 15:25

Quality Control (Continued)

Analyte	Result/Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BEH0726									
Blank (BEH0726-BLK1)				Prepared & Analyzed: 8/15/2023					
Nitrate Nitrogen as NO3N	ND	0.1	mg/L						
Blank (BEH0726-BLK2)				Prepared & Analyzed: 8/15/2023					
Nitrate Nitrogen as NO3N	ND	0.1	mg/L						
Blank (BEH0726-BLK3)				Prepared: 8/15/2023 Analyzed: 8/16/2023					
Nitrate Nitrogen as NO3N	ND	0.1	mg/L						
LCS (BEH0726-BS1)				Prepared & Analyzed: 8/15/2023					
Nitrate Nitrogen as NO3N	5.1	0.1	mg/L	5.000		102	90-110		
LCS (BEH0726-BS2)				Prepared: 8/15/2023 Analyzed: 8/16/2023					
Nitrate Nitrogen as NO3N	5.1	0.1	mg/L	5.000		103	90-110		
Duplicate (BEH0726-DUP1)				Source: 23H1316-01		Prepared & Analyzed: 8/15/2023			
Nitrate Nitrogen as NO3N	1.2	0.1	mg/L		1.3			2.91	10
Duplicate (BEH0726-DUP2)				Source: 23H1449-10		Prepared: 8/15/2023 Analyzed: 8/16/2023			
Nitrate Nitrogen as NO3N	0.3	0.1	mg/L		0.3			1.21	10
Matrix Spike (BEH0726-MS1)				Source: 23H1316-01		Prepared & Analyzed: 8/15/2023			
Nitrate Nitrogen as NO3N	6.4	0.1	mg/L	5.000	1.3	102	90-110		
Matrix Spike (BEH0726-MS2)				Source: 23H1449-10		Prepared: 8/15/2023 Analyzed: 8/16/2023			
Nitrate Nitrogen as NO3N	5.5	0.1	mg/L	5.000	0.3	103	90-110		
Reference (BEH0726-SRM1)				Prepared & Analyzed: 8/15/2023					
Nitrate Nitrogen as NO3N	10.4		mg/L	10.00		104	90-110		
Reference (BEH0726-SRM2)				Prepared: 8/15/2023 Analyzed: 8/16/2023					
Nitrate Nitrogen as NO3N	10.2		mg/L	10.00		102	90-110		
Reference (BEH0726-SRM3)				Prepared: 8/15/2023 Analyzed: 8/16/2023					
Nitrate Nitrogen as NO3N	10.2		mg/L	10.00		102	90-110		

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LABORATORY INC

City of Ione
1 East Main Street
Lone, CA 95640

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Account Manager: Lisa Rubin
Submitted By: Todd Waklee
Ranch: R5-2013-0022 (REV1) City Of Ione MW
Network

Received: 08/15/2023 12:07
Reported: 08/17/2023 15:25

Quality Control (Continued)

Analyte	ResultQual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BEH0771									
Blank (BEH0771-BLK1)									
Manganese	ND	0.02	mg/L						
Iron	ND	0.10	mg/L						
Prepared: 8/15/2023 Analyzed: 8/16/2023									
Blank (BEH0771-BLK2)									
Iron	ND	0.10	mg/L						
Manganese	ND	0.02	mg/L						
Prepared: 8/15/2023 Analyzed: 8/16/2023									
LCS (BEH0771-BS1)									
Iron	6.81	0.10	mg/L	7.143		95.4	90-110		
Manganese	6.86	0.02	mg/L	7.143		96.1	90-110		
Prepared: 8/15/2023 Analyzed: 8/16/2023									
LCS (BEH0771-BS2)									
Iron	6.79	0.10	mg/L	7.143		95.0	90-110		
Manganese	6.85	0.02	mg/L	7.143		95.8	90-110		
Prepared: 8/15/2023 Analyzed: 8/16/2023									
Duplicate (BEH0771-DUP1)									
Source: 23H1313-02									
Iron	0.03	0.10	mg/L		0.03			9.03	15
Manganese	0.02	0.02	mg/L		0.02			2.38	15
Prepared: 8/15/2023 Analyzed: 8/16/2023									
Matrix Spike (BEH0771-MS1)									
Source: 23H1313-02									
Iron	6.16	0.10	mg/L	7.143	0.03	85.9	90-110		
Manganese	6.16	0.02	mg/L	7.143	0.02	85.9	90-110		
Prepared: 8/15/2023 Analyzed: 8/16/2023									
Matrix Spike (BEH0771-MS2)									
Source: 23H1386-05									
Manganese	6.84	0.02	mg/L	7.143	0.07	94.8	90-110		
Iron	6.73	0.10	mg/L	7.143	ND	94.2	90-110		
Prepared: 8/15/2023 Analyzed: 8/16/2023									
Reference (BEH0771-SRM1)									
Prepared: 8/15/2023 Analyzed: 8/16/2023									
Manganese	1.37		mg/L	1.400		97.8	90-110		
Iron	1.88		mg/L	1.910		98.3	90-110		

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08/15/23 12:07

21H1316

MM

DELLAVALLE LABORATORY, INC.

1910 W McKinley Avenue, Suite 110 • Fresno, CA 93728

www.dellavallelab.com 559 233-6129 • 800 228-9896 • Fax 559 268-8174

Purchase Order No. 25573 54
 Bill To: Acct # Cons #

No. Samples: No of Bottles:

Results Need By

Water Type: ☐ Drinking Water ☐ Wastewater
☐ Ag Water ☐ Groundwater ☒ Monitoring Well

Name: City of Ione

Other:

Billing Address: 1 East Main Street

Analysis and Bottles Required: (Please indicate Analysis)

City: Ione State: CA Zip: 95640

☒ Quarterly

Telephone: 209-274-2412

pH, EC, TDS, NO₃N, NH₄-N, Dissolved Fe and Mn

Cell:

Email: twaklee@ione-ca.com

(1-1 Liter Plastic, Unpreserved) White per site

COPY TO: agedney@ione-ca.com

(1-250 mL Plastic w/H₂SO₄) NH₄-N Yellow per site

jdoersen@ione-ca.com

REQUESTED BY: Todd Waklee

☐ Annually

PROJECT: R5-2013-0022 (REV 1)

Dissolved General Mineral (No MBAS), Dissolved: As, Al, B, K,

Site: City of Ione MW Network

NH₄-N, TKN, TN

☐ Co. Health Dept

(1-1 Liter Plastic, Unpreserved) per site

☐ RWQCB

☒ Copy of Chain

(1-250 mL Plastic, Unpreserved) As White BSK per site

☐ State Forms

☒ QA/QC Documents

(1-250 mL Plastic w/H₂SO₄) TKN Yellow per site

Sampled By:

Del-Tech/Cassandra Harlan

	Description of Samples	Date Sampled	Time Sampled	Rec'd Temp °C	Field EC
1	MW-1	8-14-23	1121	3.8	6.8 18/15/23
2	MW-1A	8-14-23	1055	4.6	
3	MW-2				
4	MW-2A	8-14-23	1247	31	
5	MW-3				
6	MW-3A				
7	MW-4				
8	MW-4A				
9	MW-5A	8-14-23	1224	2.3	

CHAIN OF CUSTODY

Carrier	Signature	Company	Received Date/Time	Relinquished Date/Time
First	Cassandra Harlan	Del-Tech	8/14/23 1055	8-14-23 1:00
Second	Don Chubba	DL	8/14/23 100	8/15/23
Third			12107	1020
Fourth		DL	8-15-23 1214	

I guarantee that as the client, or on behalf of client named, I have the authority to contract the above requested services. Should it be found that I do not have such authority, I agree to be personally liable for all costs and, if there should be action against me for this breach, reasonable attorneys' fees. It is understood that payment is expected to be cash with samples unless terms have been previously arranged. Terms are net 30 days, overdue accounts will be charged a liquidated damage fee of 2% per month (annually 24%) or \$3.00 per month whichever is greater. If payment is not made when due and a legitimate dispute exists concerning the product or services of Dellavalle Laboratory, Inc., it will be submitted to mediation under the Rules and Procedures of Creative Alternative to Litigation, Inc. (cal). If the dispute is not resolved in mediation, then the dispute will be submitted to binding arbitration through cal under its Rules and Procedures. The parties will equally bear the costs of mediation/arbitration. If, however, the mediator declares that no legitimate dispute exists, then debtor will pay all mediation and arbitration costs, and in the event of arbitration, reasonable attorneys' fees of Dellavalle Laboratory.

IR Thermometer SN: 200560723
 Correction Factor: 0°C
 Calibration Due: 9/26/2023
 Location: Laboratory

Lisa will invoice

Signature

Sample received in cooler with ice (coolant)

☒ Yes ☐ No



08/15/23 12:07

21H1316

Shipping Information: Shipped In ☐ Picked-Up ☒ Walk In ☐ DLI Sampler ☐ Other ☐											
☐ Samples re Fridgerated before pick up						☒ Picked up samples placed in Ice chest					
Container: Ice Chest ☒ Box ☐ None ☐						Refrigerant: Wet Ice ☐ Blue Ice ☐ None ☐					
Samples Preserved with HNO₃ or H₂SO₄ were: ☐ Received Preserved ☐ Preserved Upon Receipt at Laboratory											
Type of Container(s) Received				Sample Number							
				1	2	3	4	5	6	7	8
Sample Containers for Internal (DLI) Use (Containers that go into the Lab)											
Plastics	100 mL sterile plastic Na ₂ S ₂ O ₃ (Green)										
	250 mL unpreserved (White) Plastic										
	250 mL HNO ₃ (Red) Plastic										
	* pH Value										
	250 mL H ₂ SO ₄ (Yellow) Plastic										
	* pH Value	1	2	2	2						
	500 mL unpreserved (White) Plastic										
	1 L unpreserved (White) Plastic	1	1	1	1						
Special	1 L unpreserved (BOD) (Purple) Plastic										
	500mL unpreserved (White) Glass										
	PO4-P Kit										
Other:											
Sample Containers for Subcontracted ("Send Out") Analyses (Containers that go in the Subcontract ("Send Out") Refrigerator)											
Plastics	100 mL sterile plastic Na ₂ S ₂ O ₃ (Green)										
	250 mL unpreserved (White) Plastic										
	250 mL HNO ₃ (Red) Plastic										
	250 mL H ₂ SO ₄ (Yellow) Plastic										
	500 mL HNO ₃ (Red)										
	1 L unpreserved (White) Plastic										
	1 L unpreserved (BOD) (Purple) Plastic										
	1 L HNO ₃ (Red)										
VOA Vials	40 mL VOA, Na ₂ S ₂ O ₃ + MCAA (EPA531)										
	40 mL VOA, Na ₂ S ₂ O ₃ (EPA547)										
	40mL AG VOA unpreserved (White) (Set of 3)										
	40 mL AG VOA, Na ₂ S ₂ O ₃ (Green) (Set of 3)										
	40mL VOA, H ₃ PO ₄ (Set of 3)										
	40 mL VOA, HCl (Blue) (Set of 3)										
	40 mL VOA, Na ₂ S ₂ O ₃ (Green) (Set of 3)										
Glass	250 mL AG unpreserved (White)										
	250 mL AG H ₂ SO ₄ (Yellow)										
	250 mL AG Na ₂ S ₂ O ₃ (Green)										
	250 mL AG Na ₂ S ₂ O ₃ + MCAA										
	500 mL glass unpreserved (White)										
	500 mL AG HCl (Blue)										
	1 L AG unpreserved (White)										
	1 L AG H ₂ SO ₄ (Yellow)										
	1 L AG Na ₂ S ₂ O ₃ (Green)										
	1 L AG HCl (Blue)										
Special	Cr ⁶⁺ - 50mL Plastic w/Borate/HCO ₃ /CO ₃										
	Cyanide - 500 mL NaOH										
	Asbestos - 1L P wrapped in foil (Set of 2)										
	Sulfide - 1 L AG or P NaOH + ZnAc										
	Chlorite/Bromate - 250 mL AG with EDA										
	HAA5 - 250mL AG Ammonium Chlorite										
	DO KIT										
	Other:										
Other:											

DELLAVALLETM

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Ranch: R5-2013-0022 (REV1) City Of Ione MW
Network

Received: 08/15/2023 12:07
Reported: 08/17/2023 15:33

Samples in this Report

Lab ID	Sample	Matrix	Sampled By	Crop	Date Sampled
23H1386-01	MW-2	Monitoring Well	Antonio Del-Tech		08/14/2023 11:24
23H1386-02	MW-3	Monitoring Well	Antonio Del-Tech		08/14/2023 11:46
23H1386-03	MW-3A	Monitoring Well	Antonio Del-Tech		08/14/2023 13:08
23H1386-04	MW-4	Monitoring Well	Antonio Del-Tech		08/14/2023 12:46
23H1386-05	MW-4A	Monitoring Well	Antonio Del-Tech		08/14/2023 12:18

Default Cooler Temperature on Receipt °C: 2.6
Containers Intact
COC/Labels Agree
Received On Ice

Notes and Definitions

Item	Definition
H	Hold Time Exceeded
MCL	Drinking Water Maximum Contaminant Level
ND	Analyte NOT DETECTED at or above the reporting limit.
NES	Not Enough Sample
*	Not Taken
RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated.



Laboratory Director/Technical Manager

ELAP Certification #1595

A2LA Certification #6440.02

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Sample Results

Sample: MW-2
23H1386-01 (Water)

Sampled: 8/14/2023 11:24
Sampled By: Antonio Del-Tech

Analyte	Result	Units	Reporting Limit	DIL	DW MCL	Date/Time Analyzed	Method	Notes	Batch
Electrical Conductivity	0.41	mmhos/cm	0.01	1		08/15/23 18:15	SM 2510 B		BEH0757
Electrical Conductivity umhos	407	umhos/cm	10.0	1		08/15/23 18:15	SM 2510 B		BEH0757
Iron	0.51	mg/L	0.10	1		08/16/23 14:31	EPA 200.7		BEH0771
Manganese	3.21	mg/L	0.02	1		08/16/23 14:31	EPA 200.7		BEH0771
Ammonia (as N)	2.58	mg/L	0.500	1		08/16/23 11:15	SM 4500-NH3 H		BEH0702
Nitrate Nitrogen as NO3N	ND	mg/L	0.1	1	10	08/15/23 21:06	EPA 300.0		BEH0724
pH	6.9	units	1.0	1		08/15/23 18:15	SM 4500-H+	H	BEH0757
Total Filterable Solids (TDS)	240	mg/L	10.0	1		08/16/23 15:09	SM 2540 C		BEH0718

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Sample Results (Continued)

Sample: MW-3
23H1386-02 (Water)

Sampled: 8/14/2023 11:46
Sampled By: Antonio Del-Tech

Analyte	Result	Units	Reporting Limit	DIL	DW MCL	Date/Time Analyzed	Method	Notes	Batch
Electrical Conductivity	0.49	mmhos/cm	0.01	1		08/16/23 11:26	SM 2510 B		BEH0789
Electrical Conductivity umhos	494	umhos/cm	10.0	1		08/16/23 11:26	SM 2510 B		BEH0789
Iron	ND	mg/L	0.10	1		08/16/23 14:32	EPA 200.7		BEH0771
Manganese	4.07	mg/L	0.02	1		08/16/23 14:32	EPA 200.7		BEH0771
Ammonia (as N)	2.22	mg/L	0.500	1		08/16/23 11:16	SM 4500-NH3 H		BEH0702
Nitrate Nitrogen as NO3N	ND	mg/L	0.1	1	10	08/15/23 21:25	EPA 300.0		BEH0724
pH	7.0	units	1.0	1		08/16/23 11:26	SM 4500-H+	H	BEH0789
Total Filterable Solids (TDS)	288	mg/L	10.0	1		08/16/23 15:09	SM 2540 C		BEH0718

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Account# 00-0025573
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Ranch: R5-2013-0022 (REV1) City Of Ione MW
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Received: 08/15/2023 12:07
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Sample Results (Continued)

Sample: MW-3A
23H1386-03 (Water)

Sampled: 8/14/2023 13:08
Sampled By: Antonio Del-Tech

Analyte	Result	Units	Reporting Limit	DIL	DW MCL	Date/Time Analyzed	Method	Notes	Batch
Electrical Conductivity	0.44	mmhos/cm	0.01	1		08/16/23 11:28	SM 2510 B		BEH0789
Electrical Conductivity umhos	438	umhos/cm	10.0	1		08/16/23 11:28	SM 2510 B		BEH0789
Iron	0.50	mg/L	0.10	1		08/16/23 14:33	EPA 200.7		BEH0771
Manganese	4.69	mg/L	0.02	1		08/16/23 14:33	EPA 200.7		BEH0771
Ammonia (as N)	4.40	mg/L	0.500	1		08/16/23 11:18	SM 4500-NH3 H		BEH0702
Nitrate Nitrogen as NO3N	0.1	mg/L	0.1	1	10	08/15/23 21:45	EPA 300.0		BEH0724
pH	6.9	units	1.0	1		08/16/23 11:28	SM 4500-H+	H	BEH0789
Total Filterable Solids (TDS)	220	mg/L	10.0	1		08/16/23 15:09	SM 2540 C		BEH0718

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Sample Results (Continued)

Sample: MW-4
23H1386-04 (Water)

Sampled: 8/14/2023 12:46
Sampled By: Antonio Del-Tech

Analyte	Result	Units	Reporting Limit	DIL	DW MCL	Date/Time Analyzed	Method	Notes	Batch
Electrical Conductivity	0.44	mmhos/cm	0.01	1		08/16/23 11:29	SM 2510 B		BEH0789
Electrical Conductivity umhos	439	umhos/cm	10.0	1		08/16/23 11:29	SM 2510 B		BEH0789
Iron	ND	mg/L	0.10	1		08/16/23 14:34	EPA 200.7		BEH0771
Manganese	1.08	mg/L	0.02	1		08/16/23 14:34	EPA 200.7		BEH0771
Ammonia (as N)	0.652	mg/L	0.500	1		08/16/23 11:19	SM 4500-NH3 H		BEH0702
Nitrate Nitrogen as NO3N	0.7	mg/L	0.1	1	10	08/15/23 22:05	EPA 300.0		BEH0724
pH	7.0	units	1.0	1		08/16/23 11:29	SM 4500-H+	H	BEH0789
Total Filterable Solids (TDS)	265	mg/L	10.0	1		08/16/23 15:09	SM 2540 C		BEH0718

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Sample Results (Continued)

Sample: MW-4A
23H1386-05 (Water)

Sampled: 8/14/2023 12:18
Sampled By: Antonio Del-Tech

Analyte	Result	Units	Reporting Limit	DIL	DW MCL	Date/Time Analyzed	Method	Notes	Batch
Electrical Conductivity	0.42	mmhos/cm	0.01	1		08/16/23 11:31	SM 2510 B		BEH0789
Electrical Conductivity umhos	419	umhos/cm	10.0	1		08/16/23 11:31	SM 2510 B		BEH0789
Iron	ND	mg/L	0.10	1		08/16/23 14:36	EPA 200.7		BEH0771
Manganese	0.07	mg/L	0.02	1		08/16/23 14:36	EPA 200.7		BEH0771
Ammonia (as N)	0.523	mg/L	0.500	1		08/16/23 11:20	SM 4500-NH3 H		BEH0702
Nitrate Nitrogen as NO3N	2.1	mg/L	0.1	1	10	08/16/23 00:44	EPA 300.0		BEH0724
pH	7.0	units	1.0	1		08/16/23 11:31	SM 4500-H+	H	BEH0789
Total Filterable Solids (TDS)	258	mg/L	10.0	1		08/16/23 15:09	SM 2540 C		BEH0718

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Quality Control

Analyte	Result/Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BEH0702									
Blank (BEH0702-BLK1)									
Ammonia (as N)	ND	0.500	mg/L	Prepared: 8/15/2023 Analyzed: 8/16/2023					
Blank (BEH0702-BLK2)									
Ammonia (as N)	ND	0.500	mg/L	Prepared: 8/15/2023 Analyzed: 8/16/2023					
LCS (BEH0702-BS1)									
Ammonia (as N)	10.4	0.500	mg/L	9.990		104	90-110		
LCS (BEH0702-BS2)									
Ammonia (as N)	10.1	0.500	mg/L	9.990		101	90-110		
Duplicate (BEH0702-DUP1)									
Ammonia (as N)	ND	0.500	mg/L	Prepared: 8/15/2023 Analyzed: 8/16/2023					10
Duplicate (BEH0702-DUP2)									
Ammonia (as N)	ND	0.500	mg/L	Prepared: 8/15/2023 Analyzed: 8/16/2023					10
Matrix Spike (BEH0702-MS1)									
Ammonia (as N)	10.9	0.500	mg/L	9.990	ND	109	90-110		
Matrix Spike (BEH0702-MS2)									
Ammonia (as N)	10.3	0.500	mg/L	9.990	ND	103	90-110		
Reference (BEH0702-SRM1)									
Ammonia (as N)	5.94		mg/L	5.470		109	90-110		

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Quality Control (Continued)

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BEH0718									
Blank (BEH0718-BLK1)									
Total Filterable Solids (TDS)	ND	10.0	mg/L	Prepared: 8/15/2023 Analyzed: 8/16/2023					
LCS (BEH0718-BS1)									
Total Filterable Solids (TDS)	22.5	10.0	mg/L	2000	1.12		0-200		
Duplicate (BEH0718-DUP1)									
Total Filterable Solids (TDS)	2540	10.0	mg/L	2420				4.84	10
Duplicate (BEH0718-DUP2)									
Total Filterable Solids (TDS)	310	10.0	mg/L	290				6.67	10
Reference (BEH0718-SRM1)									
Total Filterable Solids (TDS)	320		mg/L	325.0	98.5		90-110		
Reference (BEH0718-SRM2)									
Total Filterable Solids (TDS)	487		mg/L	495.0	98.3		90-110		

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Quality Control (Continued)

Analyte	Result/Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BEH0724									
Blank (BEH0724-BLK1)									
Nitrate Nitrogen as NO3N	ND	0.1	mg/L						Prepared & Analyzed: 8/15/2023
Blank (BEH0724-BLK2)									
Nitrate Nitrogen as NO3N	ND	0.1	mg/L						Prepared & Analyzed: 8/15/2023
Blank (BEH0724-BLK3)									
Nitrate Nitrogen as NO3N	ND	0.1	mg/L						Prepared: 8/15/2023 Analyzed: 8/16/2023
LCS (BEH0724-BS1)									
Nitrate Nitrogen as NO3N	5.5	0.1	mg/L	5.000		110	90-110		Prepared & Analyzed: 8/15/2023
LCS (BEH0724-BS2)									
Nitrate Nitrogen as NO3N	5.2	0.1	mg/L	5.000		103	90-110		Prepared: 8/15/2023 Analyzed: 8/16/2023
Duplicate (BEH0724-DUP1)									
Nitrate Nitrogen as NO3N	0.1	0.1	mg/L		0.08			26.2	10 Source: 23H1360-01 Prepared & Analyzed: 8/15/2023
Duplicate (BEH0724-DUP2)									
Nitrate Nitrogen as NO3N	0.7	0.1	mg/L		0.7			0.542	10 Source: 23H1386-04 Prepared: 8/15/2023 Analyzed: 8/16/2023
Matrix Spike (BEH0724-MS1)									
Nitrate Nitrogen as NO3N	5.0	0.1	mg/L	5.000	0.08	97.4	90-110		Prepared & Analyzed: 8/15/2023 Source: 23H1360-01
Matrix Spike (BEH0724-MS2)									
Nitrate Nitrogen as NO3N	5.7	0.1	mg/L	5.000	0.7	99.3	90-110		Prepared: 8/15/2023 Analyzed: 8/16/2023 Source: 23H1386-04
Reference (BEH0724-SRM1)									
Nitrate Nitrogen as NO3N	9.8		mg/L	10.00		98.0	90-110		Prepared & Analyzed: 8/15/2023
Reference (BEH0724-SRM2)									
Nitrate Nitrogen as NO3N	9.9		mg/L	10.00		98.6	90-110		Prepared: 8/15/2023 Analyzed: 8/16/2023
Reference (BEH0724-SRM3)									
Nitrate Nitrogen as NO3N	9.9		mg/L	10.00		99.2	90-110		Prepared: 8/15/2023 Analyzed: 8/16/2023

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Quality Control (Continued)

Analyte	ResultQual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BEH0757									
Blank (BEH0757-BLK1)					Prepared & Analyzed: 8/15/2023				
Electrical Conductivity	ND	0.01	mmhos/cm						
pH	5.3	1.0	units						
Electrical Conductivity umhos	ND	10.0	umhos/cm						
Blank (BEH0757-BLK2)					Prepared & Analyzed: 8/15/2023				
Electrical Conductivity	ND	0.01	mmhos/cm						
pH	7.1	1.0	units						
Electrical Conductivity umhos	ND	10.0	umhos/cm						
Blank (BEH0757-BLK3)					Prepared & Analyzed: 8/15/2023				
Electrical Conductivity	ND	0.01	mmhos/cm						
pH	7.0	1.0	units						
Electrical Conductivity umhos	ND	10.0	umhos/cm						
Duplicate (BEH0757-DUP1)					Source: 23H1364-01 Prepared & Analyzed: 8/15/2023				
pH	7.8	1.0	units		7.8			0.384	10
Electrical Conductivity	0.24	0.01	mmhos/cm		0.24			1.49	10
Electrical Conductivity umhos	240	10.0	umhos/cm		244			1.49	10
Duplicate (BEH0757-DUP2)					Source: 23H1368-03 Prepared & Analyzed: 8/15/2023				
pH	7.6	1.0	units		7.6			0.656	10
Electrical Conductivity	3.35	0.01	mmhos/cm		3.36			0.215	10
Electrical Conductivity umhos	3350	10.0	umhos/cm		3360			0.215	10
Reference (BEH0757-SRM1)					Prepared & Analyzed: 8/15/2023				
Electrical Conductivity	515		umhos/cm		538.0	95.7	90-110		
Reference (BEH0757-SRM2)					Prepared & Analyzed: 8/15/2023				
pH	5.8		units		5.820	100	28178-101.7		
Reference (BEH0757-SRM3)					Prepared & Analyzed: 8/15/2023				
Electrical Conductivity	949		umhos/cm		1000	94.9	90-110		
Electrical Conductivity umhos	949		umhos/cm		1000	94.9	90-110		
Reference (BEH0757-SRM4)					Prepared & Analyzed: 8/15/2023				
Electrical Conductivity	954		umhos/cm		1000	95.4	90-110		
Electrical Conductivity umhos	954		umhos/cm		1000	95.4	90-110		
Reference (BEH0757-SRM5)					Prepared & Analyzed: 8/15/2023				
Electrical Conductivity	958		umhos/cm		1000	95.8	90-110		
Electrical Conductivity umhos	958		umhos/cm		1000	95.8	90-110		

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Quality Control (Continued)

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BEH0757 (Continued)									
Reference (BEH0757-SRM6)									
pH	4.0		units	4.000		100	97.5-102.5		
Reference (BEH0757-SRM7)									
pH	4.0		units	4.000		100	97.5-102.5		
Reference (BEH0757-SRM8)									
pH	4.0		units	4.000		100	97.5-102.5		

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Quality Control (Continued)

Analyte	ResultQual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BEH0771									
Blank (BEH0771-BLK1)									
Manganese	ND	0.02	mg/L						
Iron	ND	0.10	mg/L						
Prepared: 8/15/2023 Analyzed: 8/16/2023									
Blank (BEH0771-BLK2)									
Iron	ND	0.10	mg/L						
Manganese	ND	0.02	mg/L						
Prepared: 8/15/2023 Analyzed: 8/16/2023									
LCS (BEH0771-BS1)									
Manganese	6.86	0.02	mg/L	7.143		96.1	90-110		
Iron	6.81	0.10	mg/L	7.143		95.4	90-110		
Prepared: 8/15/2023 Analyzed: 8/16/2023									
LCS (BEH0771-BS2)									
Manganese	6.85	0.02	mg/L	7.143		95.8	90-110		
Iron	6.79	0.10	mg/L	7.143		95.0	90-110		
Prepared: 8/15/2023 Analyzed: 8/16/2023									
Duplicate (BEH0771-DUP1)									
Source: 23H1313-02									
Iron	0.03	0.10	mg/L		0.03			9.03	15
Manganese	0.02	0.02	mg/L		0.02			2.38	15
Prepared: 8/15/2023 Analyzed: 8/16/2023									
Matrix Spike (BEH0771-MS1)									
Source: 23H1313-02									
Iron	6.16	0.10	mg/L	7.143	0.03	85.9	90-110		
Manganese	6.16	0.02	mg/L	7.143	0.02	85.9	90-110		
Prepared: 8/15/2023 Analyzed: 8/16/2023									
Matrix Spike (BEH0771-MS2)									
Source: 23H1386-05									
Manganese	6.84	0.02	mg/L	7.143	0.07	94.8	90-110		
Iron	6.73	0.10	mg/L	7.143	ND	94.2	90-110		
Prepared: 8/15/2023 Analyzed: 8/16/2023									
Reference (BEH0771-SRM1)									
Manganese	1.37		mg/L	1.400		97.8	90-110		
Iron	1.88		mg/L	1.910		98.3	90-110		

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Quality Control (Continued)

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BEH0789									
Blank (BEH0789-BLK1)				Prepared & Analyzed: 8/16/2023					
pH	5.6	1.0	units						
Electrical Conductivity	ND	0.01	mmhos/cm						
Electrical Conductivity umhos	ND	10.0	umhos/cm						
Blank (BEH0789-BLK2)				Prepared & Analyzed: 8/16/2023					
pH	6.3	1.0	units						
Electrical Conductivity	ND	0.01	mmhos/cm						
Electrical Conductivity umhos	ND	10.0	umhos/cm						
Blank (BEH0789-BLK3)				Prepared & Analyzed: 8/16/2023					
pH	7.2	1.0	units						
Electrical Conductivity	ND	0.01	mmhos/cm						
Electrical Conductivity umhos	ND	10.0	umhos/cm						
Duplicate (BEH0789-DUP1)				Source: 23H0157-01		Prepared & Analyzed: 8/16/2023			
pH	6.7	1.0	units		6.6			1.20	10
Electrical Conductivity	0.42	0.01	mmhos/cm		0.43			3.56	10
Electrical Conductivity umhos	416	10.0	umhos/cm		432			3.56	10
Duplicate (BEH0789-DUP2)				Source: 23H1462-01		Prepared & Analyzed: 8/16/2023			
Electrical Conductivity	0.91	0.01	mmhos/cm		0.91			0.110	10
pH	7.9	1.0	units		7.9			0.127	10
Electrical Conductivity umhos	911	10.0	umhos/cm		912			0.110	10
Reference (BEH0789-SRM1)				Prepared & Analyzed: 8/16/2023					
Electrical Conductivity	505		umhos/cm	538.0		93.8	90-110		
Reference (BEH0789-SRM2)				Prepared & Analyzed: 8/16/2023					
pH	5.8		units	5.820		101	28178-101.7		
Reference (BEH0789-SRM3)				Prepared & Analyzed: 8/16/2023					
Electrical Conductivity	945		umhos/cm	1000		94.5	90-110		
Electrical Conductivity umhos	945		umhos/cm	1000		94.5	90-110		
Reference (BEH0789-SRM4)				Prepared & Analyzed: 8/16/2023					
Electrical Conductivity	950		umhos/cm	1000		95.0	90-110		
Electrical Conductivity umhos	950		umhos/cm	1000		95.0	90-110		
Reference (BEH0789-SRM5)				Prepared & Analyzed: 8/16/2023					
Electrical Conductivity	958		umhos/cm	1000		95.8	90-110		
Electrical Conductivity umhos	958		umhos/cm	1000		95.8	90-110		

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Quality Control
(Continued)

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BEH0789 (Continued)									
Reference (BEH0789-SRM6)									
pH	4.0		units	4.000		101	97.5-102.5		
Reference (BEH0789-SRM7)									
pH	4.0		units	4.000		101	97.5-102.5		
Reference (BEH0789-SRM8)									
pH	4.0		units	4.000		101	97.5-102.5		

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08/15/23 12:07

23H1086

MM

DELLAVALLE LABORATORY, INC.

1910 W. McKinley Avenue, Suite 110 • Fresno, CA 93728

www.dellavallelab.com 559 233-6129 • 800 228-9896 • Fax 559 268-8174

Purchase Order No. 25573 54
 Bill To: Acct # Cons #

Results Need By

Name: City of Ione

Billing Address: 1 East Main Street

City: Ione State: CA Zip: 95640

Telephone: 209-274-2412

Cell:

Email: twaklee@ione-ca.com

COPY TO: agedney@ione-ca.com

jdoersen@ione-ca.com

REQUESTED BY: Todd Waklee

PROJECT: R5-2013-0022 (REV 1)

Site: City of Ione MW Network

No. Samples: 5 No of Bottles: 10

Water Type: ☐ Drinking Water ☐ Wastewater
☐ Ag Water ☐ Groundwater ☒ Monitoring Well

Other:

Analysis and Bottles Required: (Please indicate Analysis)

☒ QuarterlypH, EC, TDS, NO₃N, NH₄-N, Dissolved Fe and Mn

(1-1 Liter Plastic, Unpreserved) White per site

(1-250 mL Plastic w/H₂SO₄) NH₄-N Yellow per site☐ Annually

Dissolved General Mineral (No MBAS), Dissolved: As, Al, B, K,

NH₄-N, TKN, TN

(1-1 Liter Plastic, Unpreserved) per site

(1-250 mL Plastic, Unpreserved) As White BSK per site

(1-250 mL Plastic w/H₂SO₄) TKN Yellow per site☐ Co. Health Dept☐ RWQCB☒ Copy of Chain☐ State Forms☒ QA/QC Documents

Sampled By:

Antonio Del-Tech

Description of Samples

	Date Sampled	Time Sampled	Rec'd Temp °C	Field EC
1 MW-1				
2 MW-1A				
3 MW-2	8/14/23	11:24	2.4	
4 MW-2A				
5 MW-3	8/14/23	11:46	2.9	
6 MW-3A	8/14/23	13:08	2.8	
7 MW-4	8/14/23	12:46	2.8	
8 MW-4A	8/14/23	12:15	2.0	
9 MW-5A				

CHAIN OF CUSTODY

Carrier	Signature	Company	Received Date/Time	Relinquished Date/Time
First	<i>[Signature]</i>	Del-Tech	8/14/23 1:00	8/14/23 1:00
Second	<i>[Signature]</i>	DLI	8/14/23 1:00	8/15/23 10:20
Third				
Fourth		DLI	8/15/23 12:07	

I guarantee that as the client, or on behalf of client named, I have the authority to contract the above requested services. Should it be found that I do not have such authority, I agree to be personally liable for all costs and, if there should be action against me for this breach, reasonable attorneys' fees. It is understood that payment is expected to be cash with samples unless terms have been previously arranged. Terms are net 30 days, overdue accounts will be charged a liquidated damage fee of 2% per month (annually 24%) or \$5.00 per month whichever is greater.

If payment is not made when due and a legitimate dispute exists concerning the product or services of Dellavalle Laboratory, Inc., it will be submitted to mediation under the Rules and Procedures of Creative Alternative to Litigation, Inc. (cal). If the dispute is not resolved in mediation, then the dispute will be submitted to binding arbitration through cal under its Rules and Procedures. The parties will equally bear the costs of mediation/arbitration. If, however, the mediator declares that no legitimate dispute exists, then debtor will pay all mediation and arbitration costs, and in the event of arbitration, reasonable attorneys' fees of Dellavalle Laboratory.

R Thermometer SN: 200560723

Correction Factor: 0°C

Calibration Due: 9/26/2023

Location: Laboratory

Lisa will invoice

Signature

Sample received in cooler with ice (coolant)

☒ Yes ☐ No



08/15/23 12:07

23H1386

Shipping Information: Shipped In ☐ Picked-Up ☒ Walk In ☐ DLI Sampler ☐ Other ☐										
☐ Samples re Fridgerated before pick up					☒ Picked up samples placed in Ice chest					
Container: Ice Chest ☒ Box ☐ None ☐					Refrigerant: Wet Ice ☐ Blue Ice ☐ None ☐					
Samples Preserved with HNO ₃ or H ₂ SO ₄ were: ☒ Received Preserved ☐ Preserved Upon Receipt at Laboratory										
Type of Container(s) Received					Sample Number					
					1	2	3	4	5	6
Sample Containers for Internal (DLI) Use (Containers that go into the Lab)										
Plastics	100 mL sterile plastic Na ₂ S ₂ O ₃ (Green)									
	250 mL unpreserved (White) Plastic									
	250 mL HNO ₃ (Red) Plastic									
	* pH Value									
	250 mL H ₂ SO ₄ (Yellow) Plastic	1	1	1	1	1				
	* pH Value	6.7	6.2	6.2	6.2					
	500 mL unpreserved (White) Plastic									
	1 L unpreserved (White) Plastic	1	1	1	1	1				
	1 L unpreserved (BOD) (Purple) Plastic									
Special	500mL unpreserved (White) Glass									
	PO4-P Kit									
Other:										
Sample Containers for Subcontracted ("Send Out") Analyses (Containers that go in the Subcontract ("Send Out") Refrigerator)										
Plastics	100 mL sterile plastic Na ₂ S ₂ O ₃ (Green)									
	250 mL unpreserved (White) Plastic									
	250 mL HNO ₃ (Red) Plastic									
	250 mL H ₂ SO ₄ (Yellow) Plastic									
	500 mL HNO ₃ (Red)									
	1 L unpreserved (White) Plastic									
	1 L unpreserved (BOD) (Purple) Plastic									
	1 L HNO ₃ (Red)									
	VOA Vials	40 mL VOA, Na ₂ S ₂ O ₃ + MCAA (EPA531)								
40 mL VOA, Na ₂ S ₂ O ₃ (EPA547)										
40mL AG VOA unpreserved (White) (Set of 3)										
40 mL AG VOA, Na ₂ S ₂ O ₃ (Green) (Set of 3)										
40mL VOA, H ₃ PO ₄ (Set of 3)										
40 mL VOA, HCl (Blue) (Set of 3)										
40 mL VOA, Na ₂ S ₂ O ₃ (Green) (Set of 3)										
Glass	250 mL AG unpreserved (White)									
	250 mL AG H ₂ SO ₄ (Yellow)									
	250 mL AG Na ₂ S ₂ O ₃ (Green)									
	250 mL AG Na ₂ S ₂ O ₃ + MCAA									
	500 mL glass unpreserved (White)									
	500 mL AG HCl (Blue)									
	1 L AG unpreserved (White)									
	1 L AG H ₂ SO ₄ (Yellow)									
	1 L AG Na ₂ S ₂ O ₃ (Green)									
	1 L AG HCl (Blue)									
Special	Cr ⁶⁺ - 50mL Plastic w/Borate/HCO ₃ /CO ₃									
	Cyanide - 500 mL NaOH									
	Asbestos - 1L P wrapped in foil (Set of 2)									
	Sulfide - 1 L AG or P NaOH + ZnAc									
	Chlorite/Bromate - 250 mL AG with EDA									
	HAA5 - 250mL AG Ammonium Chlorite									
	DO KIT									
	Other:									
	Other:									



City of Ione
1 East Main Street
Ione, CA 95640

Account# 00-0025573
Account Manager: Lisa Rubin
Submitted By:
Ranch: R5-2013-0022 (REV 1)

Received: 08/15/2023 10:20
Reported: 08/29/2023 11:11

Samples in this Report

Lab ID	Sample	Matrix	Sampled By	Crop	Date Sampled
23H1374-01	MW-2	Monitoring Well	antonio Del-Tech		8/14/2023 11:24
23H1374-02	MW-3	Monitoring Well	antonio Del-Tech		8/14/2023 11:46
23H1374-03	MW-3A	Monitoring Well	Antonio Del-Tech		8/14/2023 13:08
23H1374-04	MW-4	Monitoring Well	Antonio Del-Tech		8/14/2023 12:46
23H1374-05	MW-4A	Monitoring Well	Antonio Del-Tech		8/14/2023 12:18

Default Cooler Temperature on Receipt °C: 3.8
Containers Intact
COC/Labels Agree
Received On Ice

Laboratory Director/Technical Manager

ELAP Certification #1595
A2LA Certification #6440.02

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AGH2024

Bacti Testing

23H1374 - R5-2013-0022 (REV 1)

Certificate of Analysis

City of Ione #25573/54
Project: R5-2013-0022 (REV 1)

Sample ID: AGH2024-01
Sampled By: Antonio - Del Tech
Sample Description: 23H1374-01 // MW-2

Sample Date - Time: 08/14/2023 - 11:24
Matrix: Water
Sample Type: Routine

BSK Associates Laboratory Fresno

Microbiology

Analyte	Method	Result	RL	Units	Batch	Prepared	Analyzed	Qual
Coliform by 3x5 MTF								
Total Coliform	SM 9221B	<1.8	1.8	MPN/100 mL	AGH1060	08/15/23 14:37	08/15/23 14:37	HT1.0

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGH2024 FINAL 08292023 0816



AGH2024

Bacti Testing

23H1374 - R5-2013-0022 (REV 1)

City of Ione #25573/54

Project: R5-2013-0022 (REV 1)

Certificate of Analysis

Sample ID: AGH2024-02

Sampled By: Antonio - Del Tech

Sample Description: 23H1374-02 // MW-3

Sample Date - Time: 08/14/2023 - 11:46

Matrix: Water

Sample Type: Routine

BSK Associates Laboratory Fresno

Microbiology

Analyte	Method	Result	RL	Units	Batch	Prepared	Analyzed	Qual
Coliform by 3x5 MTF								
Total Coliform	SM 9221B	<1.8	1.8	MPN/100 mL	AGH1060	08/15/23 14:37	08/15/23 14:37	HT1.0

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGH2024 FINAL 08292023 0816



AGH2024

Bacti Testing

23H1374 - R5-2013-0022 (REV 1)

Certificate of Analysis

City of Ione #25573/54

Project: R5-2013-0022 (REV 1)

Sample ID: AGH2024-03

Sampled By: Antonio - Del Tech

Sample Description: 23H1374-03 // MW-3A

Sample Date - Time: 08/14/2023 - 13:08

Matrix: Water

Sample Type: Routine

BSK Associates Laboratory Fresno

Microbiology

Analyte	Method	Result	RL	Units	Batch	Prepared	Analyzed	Qual
Coliform by 3x5 MTF								
Total Coliform	SM 9221B	<1.8	1.8	MPN/100 mL	AGH1060	08/15/23 14:37	08/15/23 14:37	HT1.0

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGH2024 FINAL 08292023 0816



AGH2024

Bacti Testing

23H1374 - R5-2013-0022 (REV 1)

Certificate of Analysis

City of Ione #25573/54

Project: R5-2013-0022 (REV 1)

Sample ID: AGH2024-04

Sampled By: Antonio - Del Tech

Sample Description: 23H1374-04 // MW-4

Sample Date - Time: 08/14/2023 - 12:46

Matrix: Water

Sample Type: Routine

BSK Associates Laboratory Fresno

Microbiology

Analyte	Method	Result	RL	Units	Batch	Prepared	Analyzed	Qual
Coliform by 3x5 MTF								
Total Coliform	SM 9221B	<1.8	1.8	MPN/100 mL	AGH1060	08/15/23 14:37	08/15/23 14:37	HT1.0



AGH2024

Bacti Testing

23H1374 - R5-2013-0022 (REV 1)

Certificate of Analysis

City of Ione #25573/54

Project: R5-2013-0022 (REV 1)

Sample ID: AGH2024-05

Sampled By: Antonio - Del Tech

Sample Description: 23H1374-05 // MW-4A

Sample Date - Time: 08/14/2023 - 12:18

Matrix: Water

Sample Type: Routine

BSK Associates Laboratory Fresno

Microbiology

Analyte	Method	Result	RL	Units	Batch	Prepared	Analyzed	Qual
Coliform by 3x5 MTF								
Total Coliform	SM 9221B	<1.8	1.8	MPN/100 mL	AGH1060	08/15/23 14:37	08/15/23 14:37	HT1.0

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGH2024 FINAL 08292023 0816



08/15/23 10:20

23H1374

DELLAVALLE LABORATORY, INC.

1910 W. McKinley Avenue, Suite 110 • Fresno, CA 93728

www.dellavallelab.com 559 233-6129 • 800 228-9896 • Fax 559 268-8174

Purchase Order No: 25573 54
 Bill To: Acct # Cons #

Results Need By

Name: City of Ione

Billing Address: 1 East Main Street

City: Ione State: CA Zip: 95640

Telephone: 209-274-2412

Cell:

Email: twaklee@ione-ca.com

COPY TO: agedney@ione-ca.com

jdoersen@ione-ca.com

REQUESTED BY: Todd Waklee

PROJECT: R5-2013-0022 (REV 1)

Site: City of Ione MW Network

No. Samples: 9 No of Bottles: 9

Water Type: ☐ Drinking Water ☐ Wastewater
☐ Ag Water ☐ Groundwater ☒ Monitoring Well

Other:

Analysis and Bottles Required: (Please indicate Analysis)

Total Coliform, MPN (3X5 MTF; SM 9221B)

No E. coli

(1-100 mL Sterile Plastic w/Na₂S₂O₃) Green bsk per site

Quarterly

☐ Co. Health Dept
☐ RWQCB ☒ Copy of Chain
☐ State Forms ☒ QA/QC Documents

Sampled By:

Antonio Del-Tech

Description of Samples

	Date Sampled	Time Sampled	Rec'd Temp °C	Field EC
1 MW-1				
2 MW-1A				
3 MW-2	8/14/23	1124	3.8	
4 MW-2A				
5 MW-3	8/14/23	1146	5.4	
6 MW-3A	8/14/23	1308	6.4	
7 MW-4	8/14/23	1246	6.4	
8 MW-4A	8/14/23	1218	6.9	
9 MW-5A				
10				

IR Thermometer SN: 200260723
 Correction Factor: 0°C
 Calibration Due: 9/26/2023
 Location: Laboratory

CHAIN OF CUSTODY

Carrier	Signature	Company	Received Date/Time	Relinquished Date/Time
First		Del-Tech	8/14/23 1124	8/14/23 1020
Second	Ruben	DLI	8/14/23 1020	8/15/23 1020
Third				
Fourth				

I guarantee that as the client, or on behalf of client named, I have the authority to contract the above requested services. Should it be found that I do not have such authority, I agree to be personally liable for all costs and, if there should be action against me for this breach, reasonable attorneys' fees. It is understood that payment is expected to be cash with samples unless terms have been previously arranged. Terms are net 30 days. overdue accounts will be charged a liquidated damage fee of 2% per month (annually 24%) or \$5.00 per month whichever is greater. If payment is not made when due and a legitimate dispute exists concerning the product or services of Dellavalle Laboratory, Inc., it will be submitted to mediation under the Rules and Procedures of Creative Alternative to Litigation, Inc. (cal). If the dispute is not resolved in mediation, then the dispute will be submitted to binding arbitration through cal under its Rules and Procedures. The parties will equally bear the costs of mediation/arbitration. If, however, the mediator declares that no legitimate dispute exists, then debtor will pay all mediation and arbitration costs, and in the event of arbitration, reasonable attorneys' fees of Dellavalle Laboratory.

Lisa will invoice

Signature

Sample received in cooler with ice (coolant)

☒ Yes ☐ No



08/15/23 10:20

23H1374

Shipping Information: Shipped In ☐ Picked-Up ☒ Walk In ☐ DLI Sampler ☐ Other ☐										
☐ Samples refridgerated before pick up					☐ Picked up samples placed in Ice chest					
Container: Ice Chest ☒ Box ☐ None ☐					Refrigerant: Wet Ice ☒ Blue Ice ☐ None ☐					
Samples Preserved with HNO ₃ or H ₂ SO ₄ were:					☐ Received Preserved ☐ Preserved Upon Receipt at Laboratory					
Type of Container(s) Received		Sample Number								
		1	2	3	4	5	6	7	8	9
Sample Containers for Internal (DLI) Use (Containers that go into the Lab)										
Plastics	100 mL sterile plastic Na ₂ S ₂ O ₃ (Green)									
	250 mL unpreserved (White) Plastic									
	250 mL HNO ₃ (Red) Plastic									
	* pH Value									
	250 mL H ₂ SO ₄ (Yellow) Plastic									
	* pH Value									
	500 mL unpreserved (White) Plastic									
	1 L unpreserved (White) Plastic									
Special	1 L unpreserved (BOD) (Purple) Plastic									
	500mL unpreserved (White) Glass									
	PO4-P Kit									
Other:										
Sample Containers for Subcontracted ("Send Out") Analyses (Containers that go in the Subcontract ("Send Out") Refrigerator)										
Plastics	100 mL sterile plastic Na ₂ S ₂ O ₃ (Green)									
	250 mL unpreserved (White) Plastic									
	250 mL HNO ₃ (Red) Plastic									
	250 mL H ₂ SO ₄ (Yellow) Plastic									
	500 mL HNO ₃ (Red)									
	1 L unpreserved (White) Plastic									
	1 L unpreserved (BOD) (Purple) Plastic									
	1 L HNO ₃ (Red)									
VOA Vials	40 mL VOA, Na ₂ S ₂ O ₃ + MCAA (EPA531)									
	40 mL VOA, Na ₂ S ₂ O ₃ (EPA547)									
	40mL AG VOA unpreserved (White) (Set of 3)									
	40 mL AG VOA, Na ₂ S ₂ O ₃ (Green) (Set of 3)									
	40mL VOA, H ₃ PO ₄ (Set of 3)									
	40 mL VOA, HCl (Blue) (Set of 3)									
	40 mL VOA, Na ₂ S ₂ O ₃ (Green) (Set of 3)									
Glass	250 mL AG unpreserved (White)									
	250 mL AG H ₂ SO ₄ (Yellow)									
	250 mL AG Na ₂ S ₂ O ₃ (Green)									
	250 mL AG Na ₂ S ₂ O ₃ + MCAA									
	500 mL glass unpreserved (White)									
	500 mL AG HCl (Blue)									
	1 L AG unpreserved (White)									
	1 L AG H ₂ SO ₄ (Yellow)									
	1 L AG Na ₂ S ₂ O ₃ (Green)									
	1 L AG HCl (Blue)									
Special	Cr ⁶⁺ - 50mL Plastic w/Borate/HCO ₃ /CO ₃									
	Cyanide - 500 mL NaOH									
	Asbestos - 1L P wrapped in foil (Set of 2)									
	Sulfide - 1 L AG or P NaOH + ZnAc									
	Chlorite/Bromate - 250 mL AG with EDA									
	HAA5 - 250mL AG Ammonium Chlorite									
	DO KIT									
	Other:									
	Other:									



08/15/23 10:20

23H1374

Sending Laboratory:

Dellavalle Laboratory Inc.
1910 McKinley, Ste. 110
Fresno, CA 93728-1298
Phone: (559) 233-6129
Fax: (559) 268-8174

After Hours Contact:

Susan Villagran
559-530-1346
Martin James
559-940-2024

Attn: Kaitlynn Shaw
dataentry@dellavallelab.com

PO# 58805

Subcontracted Laboratory:

BSK & Associates - Stanislaus
687 N. Laverne
Fresno, CA 93727
Phone: (559) 497-2888
Fax: 559 485-6935

Turnaround: Standard ☒ Rush ☐
State Forms: Yes ☐ No ☒ Sys#

Work Order: 23H1374

Project: R5-2013-0022 (REV 1)

Analysis

Sample ID: 23H1374-01 Monitoring Well

Client Sample Name: MW-2

Sampled: 8/14/2023 11:24AM

Sampled By: antonio Del-Tech

Comments

Coli 3x5 Total Coli:SO

Containers Supplied:

Sample ID: 23H1374-02 Monitoring Well

Client Sample Name: MW-3

Sampled: 8/14/2023 11:46AM

Sampled By: antonio Del-Tech

Comments

Coli 3x5 Total Coli:SO

Containers Supplied:

Sample ID: 23H1374-03 Monitoring Well

Client Sample Name: MW-3A

Sampled: 8/14/2023 1:08PM

Sampled By: Antonio Del-Tech

Comments

Coli 3x5 Total Coli:SO

Containers Supplied:

Sample ID: 23H1374-04 Monitoring Well

Client Sample Name: MW-4

Sampled: 8/14/2023 12:46PM

Sampled By: Antonio Del-Tech

Comments

Coli 3x5 Total Coli:SO

Containers Supplied:

Released By

Date

Received By

Date

Released By

Date

Received By

Date

OK to remove hold time



08/15/23 10:20

23H1374

Work Order: 23H1374 (Continued)

Project: R5-2013-0022 (REV 1)

Analysis

Sample ID: 23H1374-05 *Monitoring Well*

Sampled: 8/14/2023 12:18PM

Client Sample Name: MW-4A

Sampled By: Antonio Del-Tech

Comments

Coli 3x5 Total Coli:SO

Containers Supplied:

Released By

Date

Received By

Date

Released By

Date

Received By

Date



City of Ione
1 East Main Street
Ione, CA 95640

Account# 00-0025573
Account Manager: Lisa Rubin
Submitted By:
Ranch: R5-2013-0022 (REV1)

Received: 08/15/2023 10:20
Reported: 08/29/2023 11:12

Samples in this Report

Lab ID	Sample	Matrix	Sampled By	Crop	Date Sampled
23H1315-01	MW-1	Monitoring Well	Del-Tech/Cassandra Hanan		8/14/2023 11:21
23H1315-02	MW-1A	Monitoring Well	Del-Tech/Cassandra Hanan		8/14/2023 10:55
23H1315-03	MW-2A	Monitoring Well	Del-Tech/Cassandra Hanan		8/14/2023 12:47
23H1315-04	MW-5A	Monitoring Well	Del-Tech/Cassandra Hanan		8/14/2023 12:26

Default Cooler Temperature on Receipt °C: 5.2
Containers Intact
COC/Labels Agree
Received On Ice

Laboratory Director/Technical Manager

ELAP Certification #1595
A2LA Certification #6440.02

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1910 W. McKinley Ave Suite 110 Fresno, CA 93728 559-233-6129 www.dellavallelab.com



AGH2026

Bacti Testing

23H1315 - R5-2013-0022 (REV 1)

Certificate of Analysis

City of Ione #25573/54

Project: R5-2013-0022 (REV 1)

Sample Date - Time: 08/14/2023 - 11:21

Matrix: Water

Sample Type: Routine

Sample ID: AGH2026-01

Sampled By: Deltech / Cassandra

Sample Description: 23H1315-01 // MW-1

BSK Associates Laboratory Fresno

Microbiology

Analyte	Method	Result	RL	Units	Batch	Prepared	Analyzed	Qual
Coliform by 3x5 MTF								
Total Coliform	SM 9221B	<1.8	1.8	MPN/100 mL	AGH1064	08/15/23 14:37	08/15/23 14:37	HT1.0

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGH2026 FINAL 08292023 0822



AGH2026

Bacti Testing

23H1315 - R5-2013-0022 (REV 1)

Certificate of Analysis

City of Ione #25573/54
Project: R5-2013-0022 (REV 1)

Sample Date - Time: 08/14/2023 - 10:55

Matrix: Water

Sample Type: Routine

Sample ID: AGH2026-02

Sampled By: Deltech / Cassandra

Sample Description: 23H1315-02 // MW-1A

BSK Associates Laboratory Fresno

Microbiology

Analyte	Method	Result	RL	Units	Batch	Prepared	Analyzed	Qual
Coliform by 3x5 MTF								
Total Coliform	SM 9221B	13	1.8	MPN/100 mL	AGH1064	08/15/23 14:37	08/15/23 14:37	HT1.0

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGH2026 FINAL 08292023 0822



AGH2026

Bacti Testing

23H1315 - R5-2013-0022 (REV 1)

Certificate of Analysis

City of Ione #25573/54

Project: R5-2013-0022 (REV 1)

Sample Date - Time: 08/14/2023 - 12:47

Matrix: Water

Sample Type: Routine

Sample ID: AGH2026-03

Sampled By: Deltech / Cassandra

Sample Description: 23H1315-03 // MW-2A

BSK Associates Laboratory Fresno

Microbiology

Analyte	Method	Result	RL	Units	Batch	Prepared	Analyzed	Qual
Coliform by 3x5 MTF								
Total Coliform	SM 9221B	<1.8	1.8	MPN/100 mL	AGH1064	08/15/23 14:37	08/15/23 14:37	HT1.0

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGH2026 FINAL 08292023 0822



AGH2026

Bacti Testing

23H1315 - R5-2013-0022 (REV 1)

Certificate of Analysis

City of Ione #25573/54

Project: R5-2013-0022 (REV 1)

Sample ID: AGH2026-04

Sampled By: Deltech / Cassandra

Sample Description: 23H1315-04 // MW-5A

Sample Date - Time: 08/14/2023 - 12:26

Matrix: Water

Sample Type: Routine

BSK Associates Laboratory Fresno

Microbiology

Analyte	Method	Result	RL	Units	Batch	Prepared	Analyzed	Qual
Coliform by 3x5 MTF								
Total Coliform	SM 9221B	<1.8	1.8	MPN/100 mL	AGH1064	08/15/23 14:37	08/15/23 14:37	HT1.0

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGH2026 FINAL 08292023 0822



08/14/23 14:24

23H1315

DELLAVALLE LABORATORY, INC.

1910 W. McKinley Avenue, Suite 110 • Fresno, CA 93728

www.dellavallelab.com 559 233-6129 • 800 228-9896 • Fax 559 268-8174

Purchase Order No. 25573 Bill To: 54
Acct # Cons #

Results Need By

Name: City of IoneBilling Address: 1 East Main StreetCity: Ione State: CA Zip: 95640Telephone: 209-274-2412

Cell:

Email: twaklee@ione-ca.comCOPY TO: agedney@ione-ca.comjdoersen@ione-ca.comREQUESTED BY: Todd WakleePROJECT: R5-2013-0022 (REV 1)Site: City of Ione MW NetworkNo. Samples: 9 No of Bottles: 9

Water Type: ☐ Drinking Water ☐ Wastewater
☐ Ag Water ☐ Groundwater ☒ Monitoring Well

Other:

Analysis and Bottles Required: (Please indicate Analysis)

Total Coliform, MPN (3X5 MTF; SM 9221B)**No E. coli**(1-100 mL Sterile Plastic w/Na₂S₂O₃) Green bsk per site

Quarterly

☐ Co. Health Dept
☐ RWQCB ☒ Copy of Chain
☐ State Forms ☒ QA/QC Documents

Sampled By: Del-Tech / Cassandra Harlan

	Description of Samples	Date Sampled	Time Sampled	Rec'd Temp °C	Field EC
1	MW-1	<u>8-14-23</u>	<u>1121</u>	<u>5.2</u>	
2	MW-1A	<u>8-14-23</u>	<u>1055</u>	<u>4.9</u>	
3	MW-2				
4	MW-2A	<u>8-14-23</u>	<u>1247</u>	<u>7.3</u>	
5	MW-3				
6	MW-3A				
7	MW-4				
8	MW-4A				
9	MW-5A	<u>8-14-23</u>	<u>1220</u>	<u>7.5</u>	
10					

IR Thermometer SN: 200560723
Correction Factor: 0°C
Calibration Due: 9/26/2023
Location: Laboratory

CHAIN OF CUSTODY

Carrier	Signature	Company	Received Date/Time	Relinquished Date/Time
First	<u>Cassandra Harlan</u>	<u>Del-Tech</u>	<u>8/14/23 1055</u>	<u>8-14-23 1100</u>
Second	<u>John Kulzer</u>	<u>DLI</u>	<u>8/14/23 1:20</u>	<u>8/15/23 1020</u>
Third				
Fourth				

I guarantee that as the client, or on behalf of client named, I have the authority to contract the above requested services. Should it be found that I do not have such authority, I agree to be personally liable for all costs and, if there should be action against me for this breach, reasonable attorneys' fees. It is understood that payment is expected to be cash with samples unless terms have been previously arranged. Terms are net 30 days, overdue accounts will be charged a liquidated damage fee of 2% per month (annually 24%) or \$5.00 per month whichever is greater.

If payment is not made when due and a legitimate dispute exists concerning the product or services of Dellavalle Laboratory, Inc., it will be submitted to mediation under the Rules and Procedures of Creative Alternative to Litigation, Inc. (cal). If the dispute is not resolved in mediation, then the dispute will be submitted to binding arbitration through cal under its Rules and Procedures. The parties will equally bear the costs of mediation/arbitration. If, however, the mediator declares that no legitimate dispute exists, then debtor will pay all mediation and arbitration costs, and in the event of arbitration, reasonable attorneys' fees of Dellavalle Laboratory.

Lisa will invoice

Signature

Sample received in cooler with ice (coolant)

☒ Yes ☐ No



08/15/23 10:20

23H1315

Shipping Information: Shipped In ☐ Picked-Up ☒ Walk In ☐ DLI Sampler ☐ Other ☐										
Container: Ice Chest ☐ Box ☐ None ☐					Refrigerant: Wet Ice ☒ Blue Ice ☐ None ☐					
Samples Preserved with HNO₃ or H₂SO₄ were:					☐ Received Preserved ☐ Preserved Upon Receipt at Laboratory					
Type of Container(s) Received					Sample Number					
					1	2	3	4	5	6
Sample Containers for Internal (DLI) Use (Containers that go into the Lab)										
Plastics	100 mL sterile plastic Na ₂ S ₂ O ₃ (Green)									
	250 mL unpreserved (White) Plastic									
	250 mL HNO ₃ (Red) Plastic									
	* pH Value									
	250 mL H ₂ SO ₄ (Yellow) Plastic									
	* pH Value									
	500 mL unpreserved (White) Plastic									
	1 L unpreserved (White) Plastic									
	1 L unpreserved (BOD) (Purple) Plastic									
Special	500mL unpreserved (White) Glass									
	PO ₄ -P Kit									
Other:										
Sample Containers for Subcontracted ("Send Out") Analyses (Containers that go in the Subcontract ("Send Out") Refrigerator)										
Plastics	100 mL sterile plastic Na ₂ S ₂ O ₃ (Green)									
	250 mL unpreserved (White) Plastic									
	250 mL HNO ₃ (Red) Plastic									
	250 mL H ₂ SO ₄ (Yellow) Plastic									
	500 mL HNO ₃ (Red)									
	1 L unpreserved (White) Plastic									
	1 L unpreserved (BOD) (Purple) Plastic									
	1 L HNO ₃ (Red)									
	VOA Vials	40 mL VOA, Na ₂ S ₂ O ₃ + MCAA (EPA531)								
40 mL VOA, Na ₂ S ₂ O ₃ (EPA547)										
40mL AG VOA unpreserved (White) (Set of 3)										
40 mL AG VOA, Na ₂ S ₂ O ₃ (Green) (Set of 3)										
40mL VOA, H ₃ PO ₄ (Set of 3)										
40 mL VOA, HCl (Blue) (Set of 3)										
40 mL VOA, Na ₂ S ₂ O ₃ (Green) (Set of 3)										
Glass	250 mL AG unpreserved (White)									
	250 mL AG H ₂ SO ₄ (Yellow)									
	250 mL AG Na ₂ S ₂ O ₃ (Green)									
	250 mL AG Na ₂ S ₂ O ₃ + MCAA									
	500 mL glass unpreserved (White)									
	500 mL AG HCl (Blue)									
	1 L AG unpreserved (White)									
	1 L AG H ₂ SO ₄ (Yellow)									
	1 L AG Na ₂ S ₂ O ₃ (Green)									
	1 L AG HCl (Blue)									
Special	Cr ⁶⁺ - 50mL Plastic w/Borate/HCO ₃ /CO ₃									
	Cyanide - 500 mL NaOH									
	Asbestos - 1L P wrapped in foil (Set of 2)									
	Sulfide - 1 L AG or P NaOH + ZnAc									
	Chlorite/Bromate - 250 mL AG with EDA									
	HAA5 - 250mL AG Ammonium Chlorite									
	DO KIT									
	Other:									
Other:										

DELLAVALLETM

LABORATORY INC

SUBCONTRACT



08/15/23 10:20

23H1315

Sending Laboratory:

Dellavalle Laboratory Inc.
1910 McKinley, Ste. 110
Fresno, CA 93728-1298
Phone: (559) 233-6129
Fax: (559) 268-8174

Attn: Kaitlynn Shaw
dataentry@dellavallelab.com

After Hours Contact:

Susan Villagran
559-530-1346
Martin James
559-940-2024

PO# 58809

Subcontracted Laboratory:

BSK & Associates - Stanislaus
687 N. Laverne
Fresno, CA 93727
Phone: (559) 497-2888
Fax: 559 485-6935

Turnaround: Standard ☒ Rush ☐
State Forms: Yes ☐ No ☒ Sys#

Work Order: 23H1315

Project: R5-2013-0022 (REV1)

Analysis

Sample ID: 23H1315-01 Monitoring Well

Sampled: 8/14/2023 11:21AM

Client Sample Name: MW-1

Sampled By: Del-Tech/Cassandra

Comments

Coli 3x5 Total Coli:SO

Containers Supplied:

Sample ID: 23H1315-02 Monitoring Well

Sampled: 8/14/2023 10:55AM

Client Sample Name: MW-1A

Sampled By: Del-Tech/Cassandra

Comments

Coli 3x5 Total Coli:SO

Containers Supplied:

Sample ID: 23H1315-03 Monitoring Well

Sampled: 8/14/2023 12:47PM

Client Sample Name: MW-2A

Sampled By: Del-Tech/Cassandra

Comments

Coli 3x5 Total Coli:SO

Containers Supplied:

Sample ID: 23H1315-04 Monitoring Well

Sampled: 8/14/2023 12:26PM

Client Sample Name: MW-5A

Sampled By: Del-Tech/Cassandra

Comments

Coli 3x5 Total Coli:SO

Containers Supplied:

Released By

Date

Received By

Date

Released By

Date

Received By

Date

OK to run out of hold time



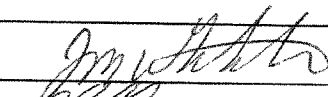
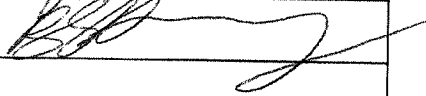
TRAINING SHEET

Topic: Generator Safety O/M

Date: 10/23/2023

Medium	
Video	
CD/DVD	
Hands On	Training with Hometown Generators
Equipment	
Movies	
PowerPoint Presentation	
Written Material	
TEST	N/A

ATTENDEE NAMES

Print Last Name	Print First Name	Signature
Whitaker	James	
Dennedy	Bonnie	

Training by: Hometown Generators

Affiliation or Position: _____

Date completed: 10/23/2023

Facility Dept. # City of Ione

End of Report

ITEM #G1

**CITY COUNCIL MEETING MINUTES OF
NOVEMBER 7, 2023 ARE BEING CONTINUED
TO DECEMBER 5, 2023**



CITY OF IONE
IONE, CA 95640

Agenda Item #G2

DATE: NOVEMBER 21, 2023

TO: THE HONORABLE MAYOR AND MEMBERS OF THE CITY COUNCIL

FROM: JOHN ALFRED, POLICE CHIEF

SUBJECT: ANNUAL IONE CHRISTMAS PARADE RESOLUTION 2023-**

RECOMMENDED ACTION:

Adopt Resolution 2023-** granting permission to conduct the 2023 Annual Ione Christmas Parade.

FISCAL IMPACT:

None

BACKGROUND:

The Annual Ione Christmas Parade is an annual event organized by the Ione Business and Community Association. The requested redirection and parking prohibition are for the safety of the participants, volunteers, and spectators along the route. The parade is scheduled between 10:00 A.M. and 1:00 P.M. on Saturday, December 9th, 2023.

ATTACHMENTS:

- A. Resolution 2023-**
- B. Traffic Control Plan

RESOLUTION NO. 2023-*
A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IONE REDIRECTING
TRAFFIC AND PROHIBITING PARKING ON MAIN STREET DURING THE
ANNUAL IONE CHRISTMAS PARADE

WHEREAS, the Annual Ione Christmas Parade (Parade) is an annual event organized by the Ione Business and Community Association (IBCA); and

WHEREAS, the requested parking prohibition is for the safety of the participants, children, volunteers and spectators along the route. The Parade is scheduled between 10:00 A.M. and 1:00 P.M. on Saturday, December 9, 2023; and

WHEREAS, staff has worked with the Ione Police Department and California Department of Transportation (Caltrans) to secure the necessary permit and coordinate logistics.

NOW, THEREFORE BE IT RESOLVED, by the City Council of the City of Ione that the following section of Main Street in the City of Ione be closed to parking:

On Saturday, December 9, 2023, from Buena Vista Street onto Main Street/SR104 to Jackson Street/SR104 for the Parade with traffic being redirected from SR104 to Sacramento Street to West Market Street and back to SR 104 and reverse for westbound traffic; and

BE IT FURTHER RESOLVED, that this closure to parking is being done pursuant to Section 22506 of the Vehicle Code of the State of California and therefore the Chief of Police of the City of Ione is directed to do the following:

- a. Obtain signs required by Section 22507 of the Vehicle Code;
- b. Obtain approval of the proposed form of this resolution by the California Department of Transportation (Caltrans) pursuant to Section 22506 of the Vehicle Code; and

BE IT FURTHER RESOLVED, that the City of Ione Police Department is hereby given the right to remove vehicles pursuant to Section 22651 (n) of said Vehicle Code following the installation of signs giving notice of said removal during the period of time covered by the resolution.

The foregoing resolution was duly introduced and adopted by the City Council of the City of Ione at their regular meeting held on November 21, 2023 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

Stacy Rhoades, Mayor

Attest: _____
Janice Traverso, City Clerk



CITY OF IONE
IONE, CA 95640

Agenda Item #I1

DATE: NOVEMBER 21, 2023

TO: THE HONORABLE MAYOR AND MEMBERS OF THE CITY COUNCIL

FROM: ANDY PINASCO, CITY ATTORNEY

**SUBJECT: EXECUTIVE RECRUITMENT FOR RECRUITMENT OF CITY
MANAGER**

RECOMMENDED ACTION:

Staff recommends that the City Council review proposals submitted by executive recruitment firms to recruit for the position of City Manager, authorize the Mayor to execute a professional services contract for the recruitment of a City Manager, and/or take other action relative to the recruitment of a City Manager as the Council deems appropriate.

FISCAL IMPACT:

Should the Council wish to retain one of the search firms below, the total fiscal impact would not exceed \$27,500. This expense has not been included in the budget and would require a budget adjustment.

BACKGROUND:

On October 5, 2023, the City Council directed City Attorney to obtain proposals from executive recruitment firms to perform the City Manager recruitment.

DISCUSSION:

The City Attorney reached out multiple executive recruitment firms seeking, among other matters, qualifications, pricing, and a timeline for completion of an executive search. Two search firms responded to the City Attorney. Their proposals are attached to this staff report. A summary of the key information from the proposals is set forth below.

Name of Firm	Pricing/Fees	Estimated Recruitment Timeline
Bob Hall & Associates	Comprehensive Search Not to Exceed \$26,000	12 weeks
	Modified Search Not to Exceed \$18,500	
Peckham & McKenney	All inclusive Fee \$27,500	12 weeks

The following options are available to the Council:

1. Authorize the Mayor to enter into a contract with one of the above referenced search firms (proposed resolution is attached);
2. Direct staff to pursue proposals from additional recruitment firms;
3. Direct staff to take other action toward the recruitment of the City Manager as the Council deems appropriate; or
4. Take no action at this time.

ATTACHMENTS:

1. [Proposed] Resolution
2. Executive Recruitment Proposals

RESOLUTION 2023-*

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IONE AUTHORIZING
THE MAYOR TO EXECUTE A PROFESSIONAL SERVICES CONTRACT FOR THE
RECRUITMENT OF THE CITY MANAGER**

WHEREAS, the City Council of the City of Ione recognizes the need to fill the position of City Manager, and

WHEREAS, the City Council of the City of Ione wish to contract with a professional recruiting firm to assist with the recruitment of the City Manager.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Ione hereby authorizes the Mayor to execute a professional services contract for the recruitment of the City Manager position with [NAME OF FIRM] in an amount not to exceed \$[AMOUNT].

The foregoing Resolution was duly passed and adopted by the City Council of the City of Ione at their regular meeting held on November 21, 2023, by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

Stacy Rhoades, Mayor

Attest:

Janice Traverso, City Clerk



October 30, 2023

Mayor Rhoades, Vice Mayor Mitchell, and Council Members Lafayne, Atlan and Wratten
City of Ione
c/o Andy Pinasco, City Attorney
1 E Main St, P.O. Box 398
Ione, CA 95640

Via PDF/Email to: apinasco@neumiller.com

Dear Mayor Rhoades and Members of the City Council,

Thank you for considering Peckham & McKenney for the City of Ione recruitment for City Manager. Peckham & McKenney would be honored to represent you and the City of Ione in this important search and specifically *finding* the right candidate for working with the City Council, serving residents, and achieving your goals.

As a mid-size, long-standing, and boutique firm, Peckham & McKenney is known for achieving successful and long-term placements. Among *many* of our strong attributes, these are four key reasons cities choose us:

- We actively and personally search for and find candidates. We don't just rely on ads and posts to attract applicants. We have an extensive network, use the telephone, email and LinkedIn, and sell the opportunity.
- We limit the number of concurrent searches to directly focus on serving our client.
- We prioritize communicating with our clients and applicants to keep everyone informed.
- Your recruiter is personally and directly responsible for all aspects of the search and your one point of contact.

As an executive recruiter for the firm, I'm proud of what we do because our team's values and priorities are to assist public agencies in furtherance of good government; place quality above quantity; and build long lasting relationships with those in the public service.

Our Peckham & McKenney team is comprised of retired City executives who are passionate about the public sector. For example, I am a 27-year veteran of local California government including serving 15 years as City Manager for the Town of Los Altos Hills. I am very familiar with the responsibilities of a small-town City Manager and the expectations of the position. Moreover, I know and understand what is necessary to find good candidates and I have a strong, excellent network for attracting candidates.

Attached is an example of a Candidate Profile that illustrates the information we collect, detail, and utilize to attract applicants. Also attached is our proposal for conducting the search that includes information about

our firm, process, timeline, resources, references, experience, and fee. Peckham & McKenney charges a fixed, all-inclusive fee of \$27,500 that I would be pleased to discuss.

I am prepared to launch an aggressive recruiting and outreach campaign starting after the holidays on January 2, 2024.

Peckham & McKenney is excited for the opportunity to implement the process leading to the successful placement of a candidate that “fits” the City’s interests. I would like to add that I reside within 32 miles of the City of Ione and will be very accessible as we conduct the search for Ione’s next City Manager. Please feel free to call me at 650.504.3515 if there are any questions.

Sincerely,

Carl Cahill

Carl Cahill, Executive Recruiter

Carl@PeckhamAndMcKenney.com

Enclosure:

City of Ione Search Proposal

Candidate Profile Example (City of Corning)

City of Ione

RECRUITMENT PROPOSAL

for

City Manager

October 30, 2023



Peckham & McKenney
EXECUTIVE SEARCH

Serving local governments (cities, counties, districts) by conducting recruitments and placing management and executive leaders that fit the personnel needs and interests of agencies.

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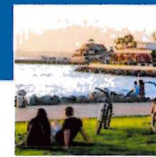
WHY CHOOSE US?

Peckham & McKenney focuses on *quality* searches and placements (over quantity) in recognition that each placement is "All about fit". Serving local government since 2004, we are one of the most trusted and respected executive recruitment firms in the country. We have successfully placed hundreds of local government professionals including City Managers, County Executive Officers, General Managers, Police and Fire Chiefs, Department Heads, Assistant Managers, and mid-level Managers. Time and again, we receive unsolicited compliments from clients and candidates

in reference to our integrity and high ethics, commitment, follow-through, communication, and service. We take pride in treating both our clients and candidates with utmost respect.



For more information, please visit our website at www.PeckhamAndMcKenney.com.



OUR COMMITMENT TO YOU

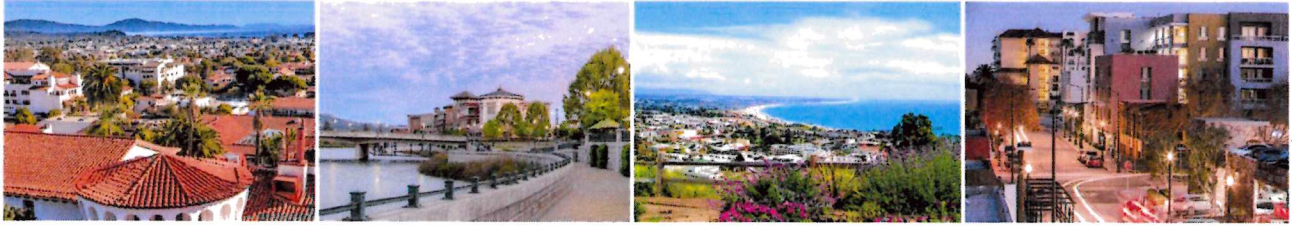
Peckham & McKenney, by maintaining the quality, style, values and culture established by Bobbi Peckham and Phil McKenney, performs on the premise that an executive search firm must be dedicated to providing its clients and candidates with professional and responsive service, and a personal, hands-on approach. Our business philosophy is founded on the understanding that we are in a "people" related industry and that attention to others' needs is the key to providing effective customer service.

- **We believe in honesty.** No client should ever appoint an individual without being fully knowledgeable of the candidate's complete background and history. Additionally, no candidate should ever enter into a new career opportunity without full disclosure of any organizational "issues."
- **We keep everyone involved in the recruitment process informed.** Not only do we provide regular updates to our clients, we also have a reputation for keeping our candidates up to date.
- **We do not recruit staff from our client agencies** for another recruitment during an active engagement, nor

do we "parallel process" a candidate, thereby pitting one client against another for the same candidate.

- **We do not recruit our placements — ever.** Should a placement of ours have an interest in a position for which we are recruiting, they may choose to apply. If they become a finalist, we ask that they speak to their supervisor to alert them of their intent.
- **We are retained only by cities, counties and special districts.** We are not retained by applicants or non-governmental agencies.
- **We do not over commit ourselves to too many searches.** Your recruiter maintains a small, limited number of concurrent searches at all times in order to focus specifically and diligently on recruiting qualified candidates for your vacancy.
- **We commit to diversity in its broadest possible definition in every aspect of each executive recruitment.** Peckham & McKenney has a well established reputation of placing women and people with diverse backgrounds.

EXPERIENCE



With our recruitment team that solely consists of retired City Managers, Police Chiefs, Assistant City Managers and Department Heads, and our expert support team, Peckham & McKenney brings more experience and knowledge of local government and executive search than any other California recruiter. Just a few of our most recent recruitments within the last year related to City Manager include:

- City Manager, City of Anderson, CA (current search)
- City of Corning, CA
- City of Pleasant Hill, CA
- City Manager, City of Manteca, CA
- City Manager, City of Seaside, CA
- City Manager, City of Watsonville, CA
- County Executive Officer, Napa County, CA
- County Administrator, Solano County, CA
- County Administrative Officer, Mono County, CA
- Assistant County Administrative Officer, Mariposa County, CA

Please don't hesitate to contact these agencies as well as our large list of current and former clients on our website ([here](#)); they will attest to our quality of service, on-going communication throughout the process, personal and direct outreach and sourcing of candidates, quality applicant pool, written materials and interview facilitation.

As an ambassador of our clients, Peckham & McKenney is also known for maintaining ongoing communications with our applicants throughout the search process, treating every applicant with respect, and appropriately informing candidates to support their best effort. The numerous compliments we have received from applicants fairly illustrate this reputation as follows:

Comfortable and Professional Experience

“I’d like to thank you again for your support and guidance throughout the recruitment and selection process. It was a comfortable and professional experience, and I attribute a great deal of that to you. It’s my hope that our professional paths may cross again in the future.” **Candidate**

It really has been, “All about fit!”

“From the construction of the colorful candidate profile, to being responsive to phone calls, texts and my questions, I have been thoroughly impressed with the professionalism and approach of Peckham & McKenney. Maria Hurtado and Joyce Johnson have been the team that have shepherded my application through the municipal hiring processes, and I can speak highly for both of them. Should I need a recruiter to help fill a critical position in my new city, I will be calling on Maria Hurtado and Peckham & McKenney. And, by the way, it really has been, “All about fit!” **Candidate**

Straightforward, Friendly, and Humane Recruitment Process

“I wanted to let you know what a terrific job I thought you and Peckham & McKenney did on the recruitment. It was absolutely the most straightforward, friendly, and humane recruitment process I’ve ever participated in. And I would feel the same way even if the outcome was not successful for me.” **Candidate**

You Made Me Feel So Comfortable

“This is my first time working with a recruiting company, and I’m so happy for having the opportunity to work with your company, wow! I truly enjoyed the process! Your interview skills are amazing! You made me feel so comfortable and I felt like I was just talking shop with a longtime friend. Thanks for the personal touch that you include in your job, I believe that this is what makes your firm so desirable and successful.” **Candidate**

Testimonials from clients and candidates are at <https://www.peckhamandmckenney.com/testimonials>.

As references, please feel free to contact any of the following current and recent clients to inquire about their experience with Peckham & McKenney. In addition, we would be pleased to furnish the client contact and phone numbers for any past clients listed in this proposal.

Mali LaGoe, City Manager / **Amanda Armstrong**, Human Resources Manager
City of Scotts Valley, CA
(831) 440-5606 mlagoe@scottsvalley.gov / 831-440-5613 aarmstrong@scottsvalley.gov

Ethan Bindernagel, City Manager / **Ericka Mitchell**, Human Resources Manager
Pleasant Hill, CA
(925) 671-5267 ebindernagel@pleasanthillca.org / (925) 671-5220 emitchell@pleasanthillca.org

Collin Bogener, City Attorney,
Cities of Anderson and Corning, CA
(530) 605-0355 / cbogener@mooreandbogener.com

YOUR RECRUITMENT TEAM

Our Approach

With every Peckham & McKenney recruitment, your Recruiter has the entire Peckham & McKenney team of Recruiters and administrative personnel for backup, support, collaboration, and sourcing. *However*, when you retain Peckham & McKenney, *your Recruiter* serves as your single point of contact throughout the entire search process and is fully responsible for its success. Moreover, in order to fully focus on your search and finding applicants that fit with the ideal candidate you are seeking, your Recruiter also maintains no more than 6 active searches.

The Executive Recruiter for you in this search is Carl Cahill.



Peckham & McKenney Team

Carl Cahill, Executive Recruiter, Peckham & McKenney Executive Search

Carl has over 27 years of local government service. Carl worked for the Town of Los Altos Hills, California from 1999 until late 2021. He served as the Town's Planning Director from 2000 until February 2006 and was then appointed City Manager. Carl has a Bachelor's degree in Urban Studies from Montclair State University in New Jersey and a Master's degree in Public Administration from Cal State University, East Bay. He is a member of the American Institute of Certified Planners and the International City/County Management Association.



Carl is supported by the following [team](#).

Joyce Johnson, Operations Manager

Joyce Johnson joined Peckham & McKenney in 2005 and serves as the firm's Operations Manager. She has over 30 years' experience in the field of administrative and executive support for all aspects of the executive recruitment process. She oversees internal administration of the firm as well as directing contract administrative support in the areas of advertising and design, web posting, and duplication and mailing services. Prior to joining Peckham & McKenney, Ms. Johnson oversaw internal administration in the Western Region headquarters of two national management consulting and executive recruitment firms. Ms. Johnson is complimented regularly on her strong customer orientation working with both clients and candidates alike. Ms. Johnson holds an Associate of Arts degree from American River College.

Taylor Bergstrom, Research Assistant

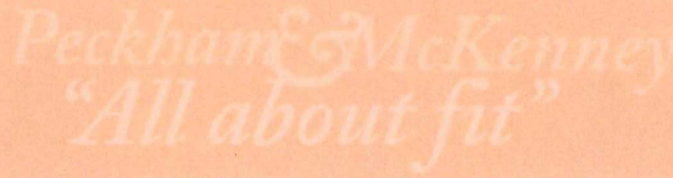
Taylor Bergstrom joined Peckham & McKenney in 2022 and currently serves as a Research Associate. Taylor is currently pursuing a PhD at UCLA where she worked previously as a lab manager overseeing various research projects. Prior to that, Taylor graduated from UC San Diego with a Bachelor of Science degree in Psychology.

Linda Pucilowski, Graphic Designer

With nearly 30 years of experience, Linda Pucilowski provides her expert design and marketing skills to Peckham & McKenney. She is the firm's "go-to" professional for all advertising and brochure design and creation. Ms. Pucilowski holds a Bachelor's degree from California State University, Sacramento.

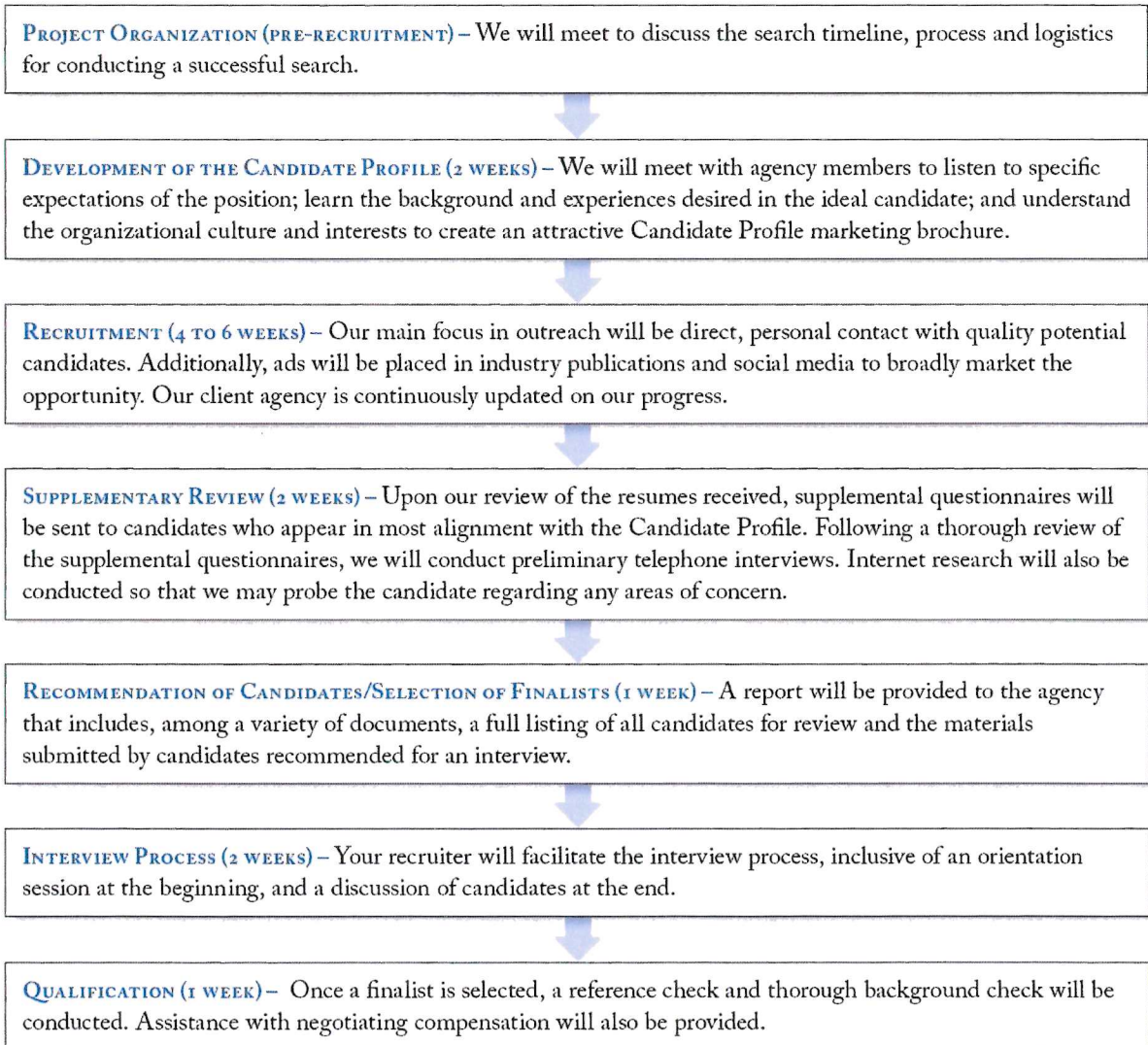
Rachel Moran, Website & Social Media Assistant

Rachel Moran has been in the graphic design field since 2007 and prides herself on creating eye-catching visual art. She supports the Peckham & McKenney team by handling all website visual and technical design as well as social media. Ms. Moran graduated from the Art Institute of Houston obtaining her Bachelor's Degree in Fine Arts with a concentration in Graphic Design.



THE SEARCH PROCESS AND SCHEDULE

Peckham & McKenney is committed to finding the best fit for your position. Our process is 12 to 14 weeks and generally involves the following phases:



COST OF SERVICES

The proposed fee to conduct the search process for your next City Manager is \$27,500. As our intent is to be competitive, we can discuss this further. This is an all-inclusive fee as described below to achieve success and retain us to personally and directly reach out and find candidates.

Peckham & McKenney is unique among recruiting firms for several reasons including having a fixed all-inclusive fee. We have found that an all-inclusive fee for the search process is simpler, cost-effective, and efficient.

The all-inclusive fee above includes professional fees and expenses (out-of-pocket costs associated with advertising, Recruiter travel, administrative support / printing / copying / postage / materials, telephone / technology, internet research checks on recommended candidates, and full background check on selected finalist only). For services not specified herein, we will discuss your interests and an appropriate fee.

PROCESS OF PAYMENT

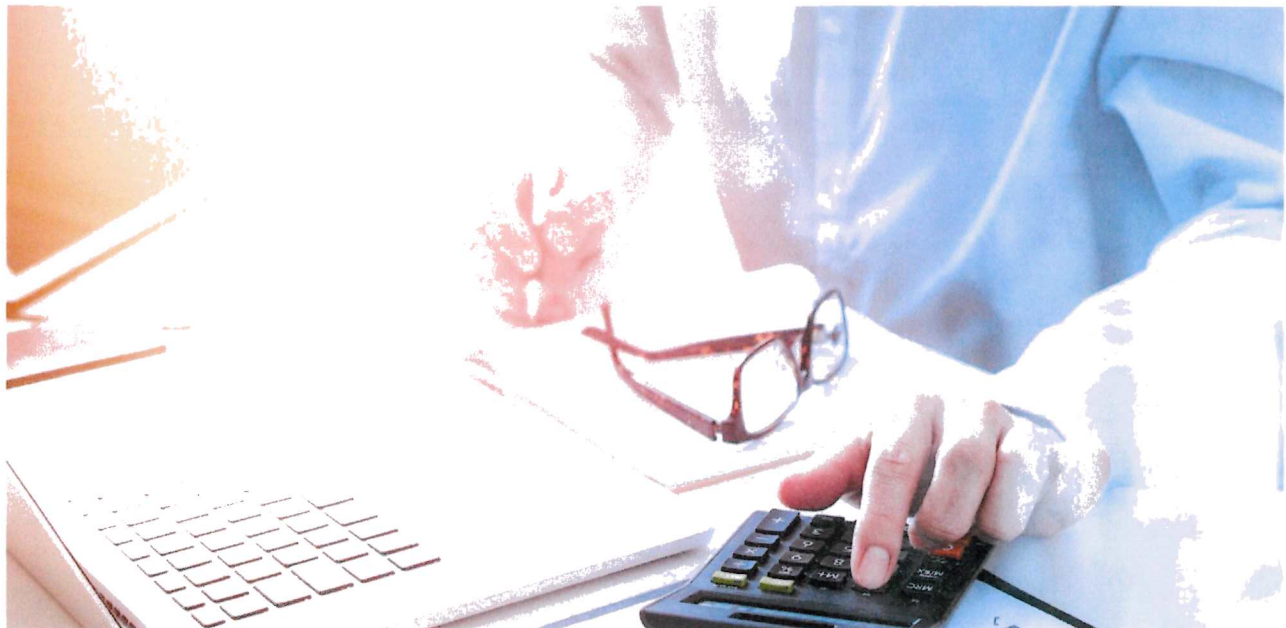
One-third of the all-inclusive fee is due as a retainer upon execution of the agreement. This retainer covers upfront and necessary expenses incurred by Peckham & McKenney on the City's behalf for the preparatory work and advertising. If the retainer is not received by Peckham & McKenney within 30 days of execution of the agreement, we will suspend the recruitment process until payment is received. The second one-third of the full payment will be invoiced 1 month from contract execution, and it is due within 30 days following the invoice date. The final one-third of the full payment will be invoiced 2 months from contract execution, and it is due within 30 days following the invoice date.

AGREEMENT

Peckham & McKenney is the operating name of City Management Advisors LLC, Anton Dahlerbruch, Managing Member.

INSURANCE

Peckham & McKenney carries Professional Liability Insurance (\$1,000,000 limit), Commercial General Liability Insurance (\$2,000,000 General Liability, and \$4,000,000 Products) and Automobile Liability Insurance (\$1,000,000). Our Insurance Broker is B&B Premier Insurance Solutions, Agoura Hills, CA.



GUARANTEE

We are pleased to share that the Peckham & McKenney success and placement record are particularly strong. We are confident that our recruitment process will result in a quality candidate that will stay in your employment.



OUR GUARANTEE:

- We will connect with you and our placement in 6 months and 1 year after the appointment to check-in.
- We will conduct a second search within 6 months of our search process if a candidate is not placed.
- If the placement vacates the position within 1 year from the date of accepting the offer (external candidates only and except in the event of budgetary cutbacks, promotion, position elimination, or illness/death, etc.), we agree to conduct a second search within 6 months of the vacancy.

The fee for a second search will be the cost of expenses (approximately \$8,000).

DIVERSITY STATEMENT



Peckham & McKenney is committed to diversity in its broadest possible definition in every aspect of each executive recruitment our firm provides. We take pride in the placement of women and applicants of diversity, and are known for long, successful tenures of candidates selected by the agency.

Peckham & McKenney does not discriminate on the basis of race, color, religion, creed, sex/gender, national origin/ancestry, disability, pregnancy, sexual orientation (including transgender status), marriage or family status, military status, or age. We are fully compliant with all applicable federal and state employment laws and regulations in all of our recruitments.

For over 30 years, founder Bobbi Peckham has been a champion of women seeking executive leadership positions within local government.

With our diverse team of Recruiters, Peckham & McKenney supports, promotes and advocates for diversity in the recruitment and hiring processes. In addition to our outreach methods, Peckham & McKenney routinely advertises with the National Forum of Black Public Administrators (NFBPA), Local Government Hispanic Network (LGHN) and CivicPRIDE as well as the National Diversity Network to ensure placement of your opportunity with the following online venues:

- African American Job Network
- Asian Job Network
- Disability Job Network
- Latino Job Network
- LGBT Job Network
- Retirement Job Network
- Veteran Job Network
- Women's Job Network



October 27, 2023

Dear Mayor Rhoades and City Council:

Bob Hall & Associates is pleased to submit this proposal to conduct a the recruitment for the position of City Manager for the City of Lone.

If selected, Bob Hall will be the point of contact and lead project director for this search. As former City Manager of Laguna Niguel, Stanton, and Fountain Valley, Bob Hall's substantial knowledge and experiences will help the City of Lone find a candidate that fits the ideal criteria for the position. No one has a better pulse on the challenges that California cities face than Bob as a former City Manager. Recent recruitments by Bob Hall include the Cities of Manteca, Tracy, Morro Bay, San Bernardino, Laguna Niguel, Costa Mesa, Seal Beach, San Clemente, American Canyon, and Escalon.

While not a large firm, Bob Hall & Associates' network encompasses a strong talent pool and will add the personal, individualized attention that each search requires. Attached is a summary of the search process and the services that the Bob Hall & Associates team is willing and able to offer the City of Lone.

For more information or clarification, do not hesitate to contact Bob Hall at (714) 309-9104 or by email at bob@bobhallandassociates.com. We appreciate the opportunity to be considered to aid in the search for the City Manager vacancy. Should you select our team, we are prepared to proceed immediately.

Sincerely,

Bob Hall



Executive Summary

We are excited to submit our proposal to the City of Lone for the opportunity to assist with the identification and recruitment for the City Manager position. The Bob Hall & Associates team is well connected throughout California with a keen knowledge of talent and is prepared to offer a strong pool of top candidates. At Bob Hall & Associates, we pride ourselves in adding a personal, individualized touch to each recruiting search. In the last 48 months, the Bob Hall & Associates team has conducted more than 85 recruitments across the state of California.

We provide an alternative to the large recruitment firms while providing excellent customer service focused specifically on our clients' needs to ensure we meet or exceed their expectations on every recruitment. Our individualized service helps target candidates who are equipped to the specific needs within the region. We do not stray from a challenge and thrive in filling the tough to find positions at all levels throughout the organization. Our work ethic and desire to help our clients succeed is second to none.

Bob Hall brings over 30 years of experience in municipal government and leadership. Hall has served as City Manager for Fountain Valley, Laguna Niguel, and Stanton. His prior City Manager experience gives him a unique perspective on the recruiting process. He knows first-hand the talent it takes to build a high-performance operation and wants to share that knowledge and experience with candidates and municipalities. His wide variety of experience throughout municipal organizations provides a strong understanding of the diverse needs throughout the City. Before assuming the leadership role in Orange County, he worked in many departments, including General Services Director for the City of Riverside.

Bob Hall holds a Master's degree in Public Administration from California State University, San Bernardino. Hall is a member of ICMA, former Board Member of Cal ICMA and has been an invited guest lecturer at Cal-State Northridge, Cal-State Fullerton and Long Beach State University.



The Team and Recent Placements

Our Recruitment Team

Bob Hall

Founder, Bob Hall & Associates

With Bob's 30 plus years of experience serving in most departments within a municipal organization, he brings a strong knowledge and understanding of city operations. This diverse knowledge has translated into Bob Hall & Associates keen ability to place highly qualified candidates in key positions. Bob's niche is finding that "perfect fit", especially in positions that traditionally are more challenging to fill. Bob Hall provides individualized customer service and responsiveness resulting in successful placements and ultimately, client satisfaction.

Joe Gorton

Executive Recruiter

Joe Gorton is the former City Manager of the City of San Ramon, California, for over six years. Joe managed an operating budget of approximately eighty million dollars and a thirty-million-dollar capital budget in the city of 85,000 residents. Joe has over 35 years of experience in local government.

Joe started his career in law enforcement at the Contra Costa County Sheriff's Office and later transferred to the San Ramon Police Department when the city council voted to form their own police department after years of contracting police service with the sheriff's office. Joe ultimately ascended the ranks to the Chief of Police for the San Ramon Police Department. Joe has over twenty-eight years of experience in law enforcement. One of the highlights of Joe's career was being selected as the second in command of the newly formed San Ramon Police Department and put in charge of its creation from the ground up. Joe was tasked with leading the transition team and was instrumental in the formation of the department. The transition team's primary task was hiring fifty-six sworn police officers and several civilian staff members. This endeavor entailed creating comprehensive background checks, training, and orientation of new employees.

Joe holds a Master of Science degree in Organizational Development from the University of San Francisco (USF) where he graduated in the top ten percent of his class. He also holds a Bachelor of Public Administration degree, receiving college honors, from USF and an Associates of Science degree in Administration of Justice from Butte College. Joe is graduate of the California Command College and ranked number one in his academy class.

Rachel Hall

Recruitment Manager

Rachel has a Bachelor of Arts in Communications from the University of Arizona and brings a background in marketing and writing to the team. Rachel has experience working within municipal government and provides support services for Bob Hall & Associates recruitments. She is proficient in Adobe Suite, Microsoft Office, Google Workspace, and NeoGov.

Recent Recruitments

City Manager - Stanton
City Manager - Laguna Niguel
City Manager - Manteca
City Manager - San Bernardino
City Manager - Fountain Valley
City Manager - Tracy
City Manager - Laguna Hills
City Manager - San Clemente
Assistant City Manager - Costa Mesa
City Attorney - Manteca
Fire Chief - Morro Bay

Chief of Police - Signal Hill
Assistant to City Manager - San Luis Obispo
Director of Finance - Placentia
Director of Finance - Moorpark
Director of Finance - Manteca
Director of Public Works - Signal Hill
Director of Human Resources - Marina
Director of Community Development - San Bernardino
Director of Community Services - Costa Mesa
Director of Parks & Recreation - American Canyon
IT Director - El Segundo

Recruiting Process

Below, you will find our proposed recruiting process, schedule, and cost breakdown for your consideration. During the recruitment process, we will require the following specific assistance from the City: a draft job description (we will work with the City to craft language), any other legal descriptions or City language and guidelines; City logo, high resolution photography, review of the brochure and other marketing materials and timely feedback; and logistics coordination with any City staff and our team.



Create Position Profile

The Bob Hall & Associates team will meet with the City to discuss the strategy for the search as well as communication preferences and project timeline. It is at this time that the team will collaborate with the City to determine characteristics of the ideal candidate. Communication and customer service is a priority, as the Bob Hall & Associates team will stay in touch with the City throughout the recruitment keeping them up to date. In the meeting, the search criteria will be determined to help aid the Bob Hall & Associates team in narrowing the search to appropriate candidates based on the specific goals and qualities of the organization.

Outreach and Recruiting

Outreach

Outreach begins with the creation of a job announcement and brochure that will be advertised for the public to see on platforms such as *Public CEO*, *ICMA*, *California City News*, *GovernmentJobs.com* and in *Western City Magazine*. We will also utilize social media engagement on LinkedIn, networking with top industry leaders throughout the nation, and personal outreach.

Candidate Identification

Following the creation of the job announcement and advertisement of the position, the Bob Hall & Associates team will actively seek out qualified candidates by tapping into the network of talented prospects both local to California and across the country. Unlike other firms, Bob Hall & Associates focuses on adding a personal touch to the identification process by tailoring the recruiting process to the needs and desires of the organization. Our active recruiting style has proved to increase the number of applications and resumes from potential candidates leading to a deeper evaluation of each individual.

Candidate Assessment

Screening

Every application will be carefully examined and those that most closely fit the criteria indicated by the organization will be subject to a more thorough evaluation. Such evaluation will focus on aspects such as professional experience, size and complexity of current organization as compared to the advertised position.

Initial Research and Interviews

Research will be conducted on top candidates in the form of Internet searches and other public profiles to ensure prospects' values, experiences, and history match the criteria established by the organization. Following research, preliminary interviews will be conducted via phone, video-conferencing, or face-to-face, depending on candidates' location.

Selection and Presentation of Top Candidates

Bob Hall & Associates will manage the selected finalist candidates. Top candidates will be presented to the City for consideration to determine which candidates will be interviewed. City will be provided with detailed description of work history and other important information about each candidate prior to selection and scheduling of interviews.

Negotiations

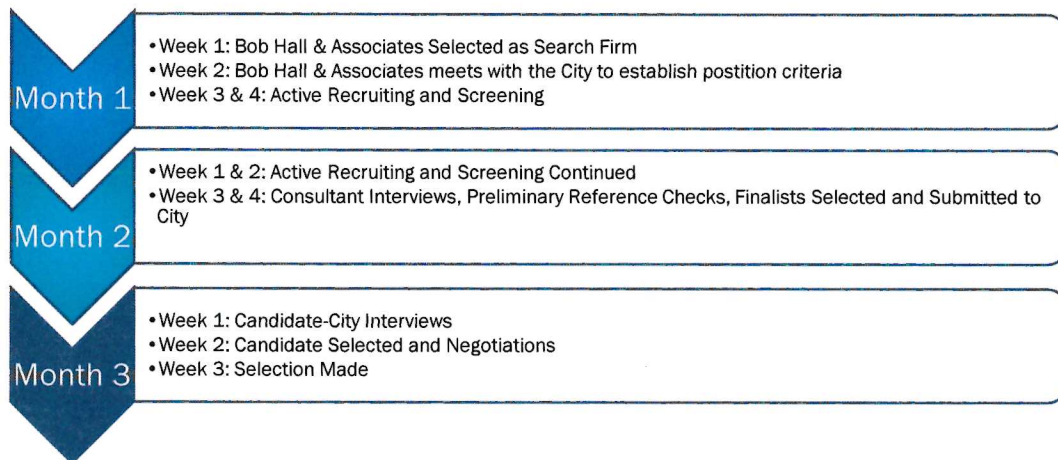
The Bob Hall & Associates team is willing and able to support the City in the negotiation process of the selected candidate's compensation package.

Close Out

After the organization has successfully chosen a candidate, the search will be closed out. This includes informing finalist candidates of the status of the search via telephone.

Project Timeline

A typical search will be conducted in a 90 to 120-day period from start to finish. Following the final selection, negotiations can take up to two weeks. The proposed schedule includes four to five weeks of active recruitment, which reflects our suggested minimum timeline. However, this can be adjusted if the City would prefer a longer or accelerated process. An exact schedule will be provided once a firm start date has been provided by the City. If an expedited process is preferred, we can reduce the process to about 60 days, however we will need to ensure review dates and interviews are scheduled early in the process.



Bob Hall & Associates' Guarantee

The Bob Hall & Associates team guarantees industry-standard services. If within one year following appointment, selected candidate resigns or is terminated for cause, our team will conduct another search free of professional services charges. However, the organization will be expected to pay for incurred costs.

Project Costs

Complete and Comprehensive Search: The complete and comprehensive search will include involvement from start to finish, including all steps stated above. The fee to conduct this search will be \$23,500 plus expenses not to exceed \$26,000. This fee will include advertising, printing, four in-person visits to the city and unlimited virtual meetings with City staff. Additional trips to the city will be billed at \$900 per trip. Top candidates will be subject to DMV, civil and criminal background, and credit checks.

Fees will be collected in three installments as follows:

1. Upon Execution of the Agreement – \$8,000
2. Following Presentation of Candidates – \$8,000
3. Upon Acceptance of Offer – \$7,500

Modified Search: The modified search will include involvement from start to presentation of candidates to the City as stated above. The fee to perform the search will be \$16,000 plus expenses, not to exceed \$18,500. These expenses include advertising and printing. It is anticipated that all meetings held with City staff will be virtual. This proposal is good for at least 180 days from October 27, 2023.

Fees will be collected in three installments as follows:

1. Upon Execution of the Agreement: \$8,000
2. Following Presentation of Candidates: \$8,000

References

Damien Arrula, City Manager of Placentia

darrula@placentia.org
(714) 993-8117

Jarad Hildenbrand, City Manager of Laguna Hills

jhildenbrand@lagunahillsca.gov
(949) 707-2610

Patrick Harper, Mayor of Fountain Valley

patrick.harper@fountainvalley.org
(714) 593-4403

Karin Schnaider, Assistant City Manager, Tracy

karin.schnaider@cityoftracy.org
(209) 831-6800

Fred Minagar, MS PE, Mayor of Laguna Niguel

fminagar@cityoflagunaniguel.org
(949) 338-8964

Rigoberto Ramirez, Mayor Pro Tem of Stanton

rramirez22@ci.stanton.ca.us
(714) 890-454

Janine Heft, Mayor Pro Tem of Laguna Hills

jheft@lagunahillsca.gov
(949) 735-0718