

August 5, 2019

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Re: Second Quarter 2019 Yakima Valley Dairies Consent Decree Groundwater Monitoring Data
Transmittal

This transmittal contains the results of groundwater monitoring activities conducted pursuant to the requirements of the 2015 Consent Decrees (CDs) executed by the following: 1) Cow Palace Dairy, LLC; 2) D&A Dairy, LLC (also known as D & A Dairy, L.L.C.), George DeRuyter & Son Dairy, LLC, and George & Margaret, LLC; and 3) Liberty Dairy, LLC, and its associated dairy facility H&S Bosma Dairy (collectively the Dairies) and the Community Association for Restoration of the Environment, Inc. (CARE).

Groundwater monitoring for the 14 CD wells was conducted in parallel with the Second Quarter 2019 monitoring event for wells monitored under the separate Administrative Order on Consent (AOC) executed between the U.S. Environmental Protection Agency (EPA) and the Dairies. Information regarding the Second Quarter 2019 groundwater sampling results at the AOC wells was reported in the Second Quarter 2019 Groundwater Monitoring Data Report Memorandum submitted to EPA on August 5, 2019 (Anchor QEA 2019).

Reference

Anchor QEA (Anchor QEA, LLC), 2019. Memorandum to: Eric Winiecki, United States Environmental Protection Agency. Regarding: Second Quarter 2019 Groundwater Monitoring Data Report, Yakima Valley Dairies, SDWA 10-2013-0080. Yakima Valley Dairies. August 5, 2019.

Accompanying Materials

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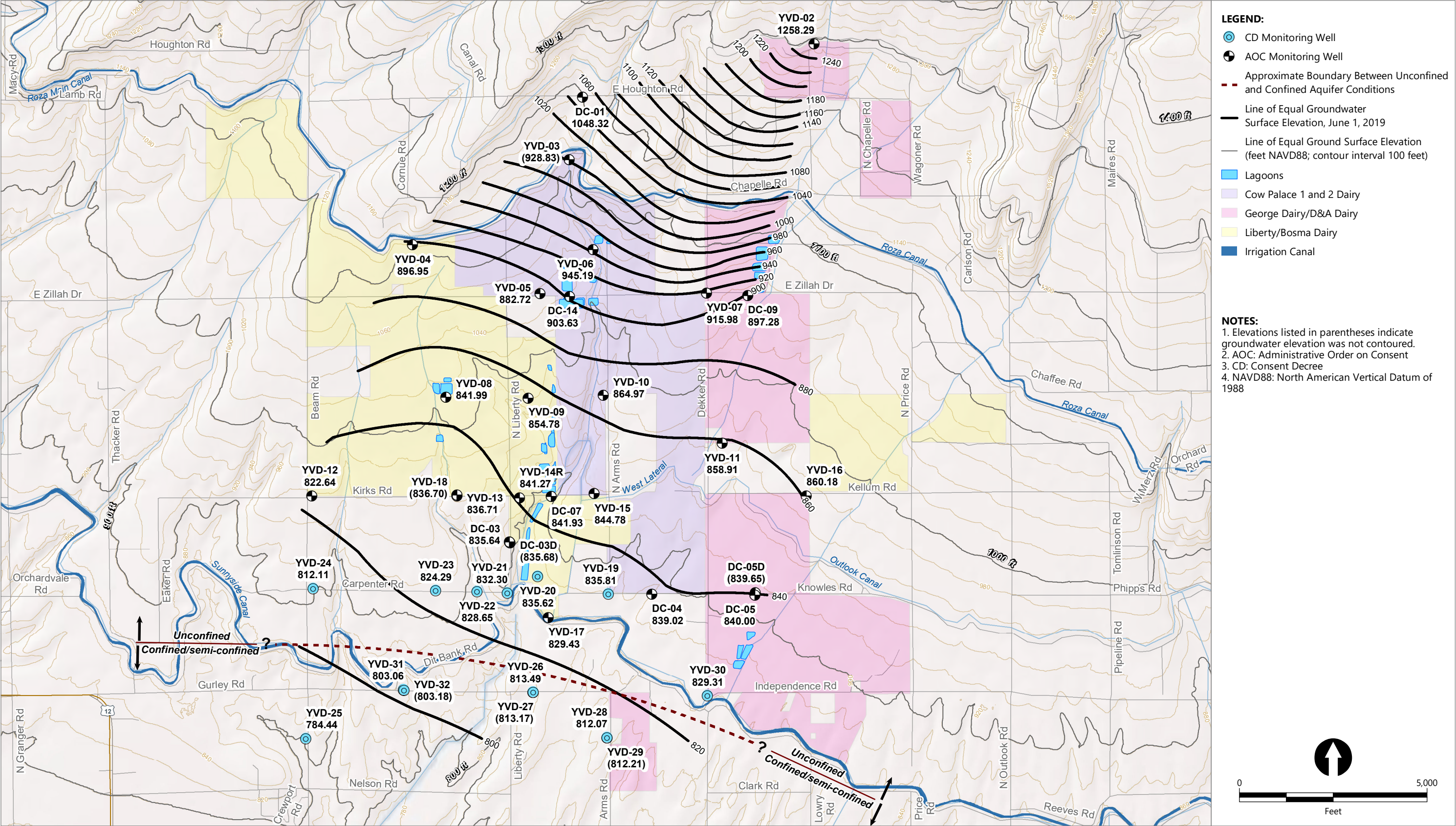
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Attachments

- Attachment A Second Quarter 2019 Field Forms
- Attachment B Analytical Laboratory Reports

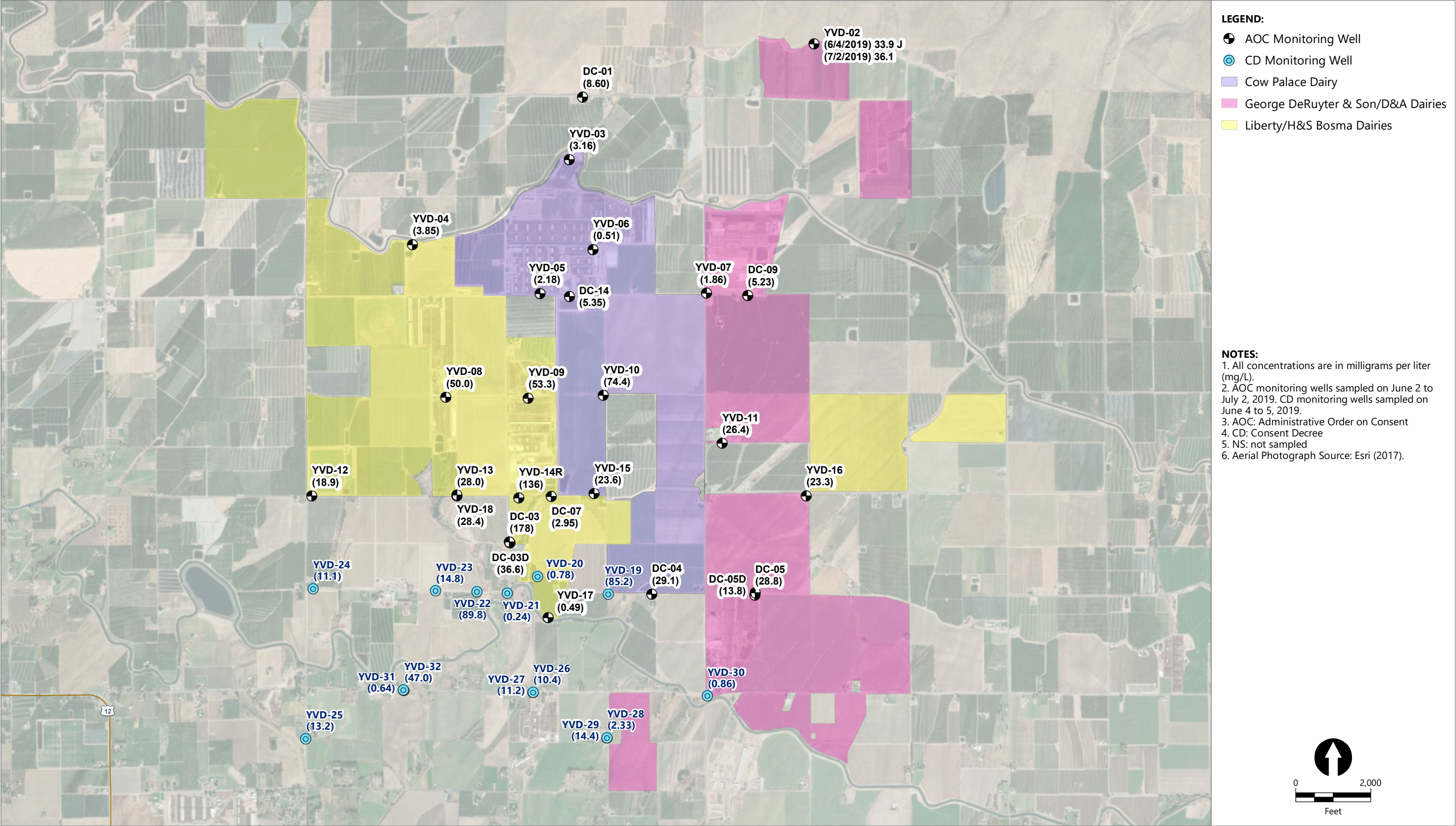
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Figure 1
Surficial Aquifer Groundwater Elevation Contour Map Second Quarter 2019
Second Quarter 2019 Yakima Valley Dairies Consent Decree Groundwater Monitoring Data Transmittal
Yakima Valley Dairies



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Figure 2
Nitrate Concentrations in Groundwater Second Quarter 2019
Second Quarter 2019 Yakima Valley Dairies Consent Decree Groundwater Monitoring Data Transmittal
Yakima Valley Dairies

Tables

Table 1
Monitoring Well Construction Details – Consent Decree Wells

Well ID	Installation Date	Coordinates		Coordinates WA State Plane NAD83		Screened Zone (Surficial Aquifer)	Top of Well Casing Elevation (ft NAVD88)	Ground Surface Elevation (ft NAVD88)	Surface Completion	Boring Depth (ft bgs)
		Latitude	Longitude	Easting	Northing					
YVD-19	11/29/2016	46.38245	-120.13574	1732344.6624	382786.6144	Water Table	877.56	877.96	Flush	53.0
YVD-20	11/22/2016	46.38378	-120.14316	1730467.7287	383261.7760	Water Table	875.21	875.74	Flush	60.0
YVD-21	12/16/2016	46.38256	-120.14639	1729654.7004	382812.6485	Water Table	891.69	892.16	Flush	75.0
YVD-22	12/15/2016	46.38269	-120.14959	1728849.0081	382858.1283	Water Table	883.08	883.42	Flush	75.0
YVD-23	12/14/2016	46.38275	-120.15395	1727747.3827	382873.7076	Water Table	913.57	914.16	Flush	106.0
YVD-24	12/12/2016	46.38295	-120.16691	1724476.9172	382934.9632	Water Table	902.01	902.62	Flush	105.0
YVD-25	3/9/2017	46.37200	-120.16772	1724288.9448	378937.9731	Shallow Confined	798.73	799.14	Flush	86.0
YVD-26	12/8/2016	46.37531	-120.14372	1730342.8703	380171.5594	Shallow Confined	831.95	832.39	Flush	67.0
YVD-27	12/7/2016	46.37530	-120.14369	1730349.4341	380171.4506	Deep Confined	832.42	832.82	Flush	100.0
YVD-28	12/2/2016	46.37196	-120.13591	1732317.5015	378960.1658	Shallow Confined	846.12	846.68	Flush	56.0
YVD-29	3/5/2017	46.37197	-120.13591	1732317.2301	378964.8944	Deep Confined	846.04	846.45	Flush	80.0
YVD-30	11/28/2016	46.37498	-120.12530	1734992.0753	380074.6701	Water Table	865.45	862.58	Stick-Up	55.0
YVD-31	11/28/2017	46.37551	-120.15740	1726889.2460	380231.9800	Shallow Confined	848.55	848.63	Flush	105.0
YVD-32	3/10/2018	46.37551	-120.15732	1726907.0000	380229.8000	Deep Confined	847.74	848.28	Flush	130.3

Notes:

bgs: below ground surface

ft: feet

NAD83: North American Datum of 1983

NAVD88: North American Vertical Datum of 1988

PVC: polyvinyl chloride

WA: Washington

Table 1
Monitoring Well Construction Details – Consent Decree Wells

Well ID	Installation Date	Coordinates		Coordinates WA State Plane NAD83		Casing and Screen Material	Screen Slot Size (inches)	Screen Length (ft)	Depth to Top of Screen (ft bgs)	Depth to Bottom of Screen (ft bgs)
		Latitude	Longitude	Easting	Northing					
YVD-19	11/29/2016	46.38245	-120.13574	1732344.6624	382786.6144	Schedule 40 PVC	0.020	20	29.8	49.8
YVD-20	11/22/2016	46.38378	-120.14316	1730467.7287	383261.7760	Schedule 40 PVC	0.020	20	29.1	49.1
YVD-21	12/16/2016	46.38256	-120.14639	1729654.7004	382812.6485	Schedule 40 PVC	0.020	20	54.7	74.7
YVD-22	12/15/2016	46.38269	-120.14959	1728849.0081	382858.1283	Schedule 40 PVC	0.020	20	54.7	74.7
YVD-23	12/14/2016	46.38275	-120.15395	1727747.3827	382873.7076	Schedule 40 PVC	0.020	20	85.7	105.7
YVD-24	12/12/2016	46.38295	-120.16691	1724476.9172	382934.9632	Schedule 40 PVC	0.020	20	84.7	104.7
YVD-25	3/9/2017	46.37200	-120.16772	1724288.9448	378937.9731	Schedule 40 PVC	0.020	20	65.8	85.8
YVD-26	12/8/2016	46.37531	-120.14372	1730342.8703	380171.5594	Schedule 40 PVC	0.020	20	46.2	66.2
YVD-27	12/7/2016	46.37530	-120.14369	1730349.4341	380171.4506	Schedule 40 PVC	0.020	10	87.0	97.0
YVD-28	12/2/2016	46.37196	-120.13591	1732317.5015	378960.1658	Schedule 40 PVC	0.020	20	35.4	55.4
YVD-29	3/5/2017	46.37197	-120.13591	1732317.2301	378964.8944	Schedule 40 PVC	0.020	10	65.5	75.5
YVD-30	11/28/2016	46.37498	-120.12530	1734992.0753	380074.6701	Schedule 40 PVC	0.020	20	31.0	51.0
YVD-31	11/28/2017	46.37551	-120.15740	1726889.2460	380231.9800	Schedule 40 PVC	0.020	20	79.7	99.7
YVD-32	3/10/2018	46.37551	-120.15732	1726907.0000	380229.8000	Schedule 40 PVC	0.020	10	120.0	130.0

Notes:

bgs: below ground surface

ft: feet

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NAVD88: North American Vertical Datum of 1988

PVC: polyvinyl chloride

WA: Washington

Table 1
Monitoring Well Construction Details – Consent Decree Wells

Well ID	Installation Date	Coordinates		Coordinates WA State Plane NAD83		Depth to Bottom of Well (ft bgs)	Elevation of Top of Screen (ft NAVD88)	Elevation of Base of Screen (ft NAVD88)	Elevation of Bottom of Well (ft NAVD88)
		Latitude	Longitude	Easting	Northing				
YVD-19	11/29/2016	46.38245	-120.13574	1732344.6624	382786.6144	50.1	848.2	828.2	827.9
YVD-20	11/22/2016	46.38378	-120.14316	1730467.7287	383261.7760	49.5	846.6	826.6	826.2
YVD-21	12/16/2016	46.38256	-120.14639	1729654.7004	382812.6485	75.0	837.5	817.5	817.2
YVD-22	12/15/2016	46.38269	-120.14959	1728849.0081	382858.1283	75.0	828.8	808.8	808.4
YVD-23	12/14/2016	46.38275	-120.15395	1727747.3827	382873.7076	106.0	828.5	808.5	808.2
YVD-24	12/12/2016	46.38295	-120.16691	1724476.9172	382934.9632	105.0	818.0	798.0	797.6
YVD-25	3/9/2017	46.37200	-120.16772	1724288.9448	378937.9731	86.2	733.3	713.3	713.0
YVD-26	12/8/2016	46.37531	-120.14372	1730342.8703	380171.5594	66.5	786.2	766.2	765.9
YVD-27	12/7/2016	46.37530	-120.14369	1730349.4341	380171.4506	97.4	745.8	735.8	735.5
YVD-28	12/2/2016	46.37196	-120.13591	1732317.5015	378960.1658	55.8	811.3	791.3	790.9
YVD-29	3/5/2017	46.37197	-120.13591	1732317.2301	378964.8944	75.9	780.9	770.9	770.6
YVD-30	11/28/2016	46.37498	-120.12530	1734992.0753	380074.6701	51.3	831.6	811.6	811.3
YVD-31	11/28/2017	46.37551	-120.15740	1726889.2460	380231.9800	100.0	768.9	748.9	748.6
YVD-32	3/10/2018	46.37551	-120.15732	1726907.0000	380229.8000	130.3	728.3	718.3	718.0

Notes:

bgs: below ground surface

ft: feet

NAD83: North American Datum of 1983

NAVD88: North American Vertical Datum of 1988

PVC: polyvinyl chloride

WA: Washington

Table 2**Summary of Consent Decree Wells Groundwater Elevations – Second Quarter 2019**

Well ID	Date of Measurement	Reference Point Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet NAVD88)
YVD-19	6/1/2019	877.56	41.75	835.81
YVD-20	6/1/2019	875.21	39.59	835.62
YVD-21	6/1/2019	891.69	59.39	832.30
YVD-22	6/1/2019	883.08	54.43	828.65
YVD-23	6/1/2019	913.57	89.28	824.29
YVD-24	6/1/2019	902.01	89.90	812.11
YVD-25	6/2/2019	798.73	14.29	784.44
YVD-26	6/1/2019	831.95	18.46	813.49
YVD-27	6/1/2019	832.42	19.25	813.17
YVD-28	6/1/2019	846.12	34.05	812.07
YVD-29	6/1/2019	846.04	33.83	812.21
YVD-30	6/1/2019	865.45	36.14	829.31
YVD-31	6/1/2019	848.55	45.49	803.06
YVD-32	6/1/2019	848.28	45.10	803.18

Notes:

BTOC: below top of casing

NAVD88: North American Vertical Datum of 1988

Table 3
Historical Consent Decree Wells Groundwater Elevations

Well ID	Date of Measurement	Reference Point Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet NAVD88)
YVD-19	3/5/2017	877.56	40.78	836.78
YVD-19	6/4/2017	877.56	40.61	836.95
YVD-19	9/27/2017	877.56	38.78	838.78
YVD-19	12/3/2017	877.56	39.36	838.20
YVD-19	3/18/2018	877.56	41.08	836.48
YVD-19	6/3/2018	877.56	40.94	836.62
YVD-19	9/8/2018	877.56	39.65	837.91
YVD-19	12/9/2018	877.56	39.98	837.58
YVD-19	3/21/2019	877.56	41.87	835.69
YVD-19	6/1/2019	877.56	41.75	835.81
YVD-20	3/5/2017	875.21	40.00	835.21
YVD-20	6/4/2017	875.21	38.13	837.08
YVD-20	9/27/2017	875.21	35.35	839.86
YVD-20	12/3/2017	875.21	37.65	837.56
YVD-20	3/18/2018	875.21	40.23	834.98
YVD-20	6/3/2018	875.21	38.33	836.88
YVD-20	9/8/2018	875.21	36.37	838.84
YVD-20	12/9/2018	875.21	38.93	836.28
YVD-20	3/21/2019	875.21	41.70	833.51
YVD-20	6/1/2019	875.21	39.59	835.62
YVD-21	3/5/2017	891.69	60.25	831.44
YVD-21	6/4/2017	891.69	58.67	833.02
YVD-21	9/27/2017	891.69	55.85	835.84
YVD-21	12/3/2017	891.69	57.69	834.00

Table 3
Historical Consent Decree Wells Groundwater Elevations

Well ID	Date of Measurement	Reference Point Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet NAVD88)
YVD-21	3/18/2018	891.69	60.48	831.21
YVD-21	6/3/2018	891.69	58.54	833.15
YVD-21	9/8/2018	891.69	56.33	835.36
YVD-21	12/9/2018	891.69	58.16	833.53
YVD-21	3/21/2019	891.69	60.99	830.70
YVD-21	6/1/2019	891.69	59.39	832.30
YVD-22	3/5/2017	883.08	54.08	829.00
YVD-22	6/4/2017	883.08	53.77	829.31
YVD-22	9/27/2017	883.08	51.71	831.37
YVD-22	12/3/2017	883.08	52.18	830.90
YVD-22	3/18/2018	883.08	54.21	828.87
YVD-22	6/3/2018	883.08	53.80	829.28
YVD-22	9/8/2018	883.08	52.21	830.87
YVD-22	12/9/2018	883.08	52.55	830.53
YVD-22	3/21/2019	883.08	54.65	828.43
YVD-22	6/1/2019	883.08	54.43	828.65
YVD-23	3/5/2017	913.57	88.28	825.29
YVD-23	6/4/2017	913.57	88.74	824.83
YVD-23	9/27/2017	913.57	87.38	826.19
YVD-23	12/3/2017	913.57	87.08	826.49
YVD-23	3/18/2018	913.57	88.69	824.88
YVD-23	6/3/2018	913.57	88.65	824.92
YVD-23	9/8/2018	913.57	87.72	825.85
YVD-23	12/9/2018	913.57	87.49	826.08
YVD-23	3/21/2019	913.57	88.91	824.66
YVD-23	6/1/2019	913.57	89.28	824.29
YVD-24	3/5/2017	902.01	88.46	813.55

Table 3
Historical Consent Decree Wells Groundwater Elevations

Well ID	Date of Measurement	Reference Point Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet NAVD88)
YVD-24	6/4/2017	902.01	89.51	812.50
YVD-24	9/27/2017	902.01	89.61	812.40
YVD-24	12/3/2017	902.01	87.99	814.02
YVD-24	3/18/2018	902.01	88.85	813.16
YVD-24	6/3/2018	902.01	89.24	812.77
YVD-24	9/8/2018	902.01	89.10	812.91
YVD-24	12/9/2018	902.01	88.57	813.44
YVD-24	3/21/2019	902.01	89.17	812.84
YVD-24	6/1/2019	902.01	89.90	812.11
YVD-25	3/20/2017	798.73	12.31	786.42
YVD-25	6/4/2017	798.73	13.59	785.14
YVD-25	9/27/2017	798.73	11.53	787.20
YVD-25	12/3/2017	798.73	11.42	787.31
YVD-25	3/18/2018	798.73	13.20	785.53
YVD-25	6/3/2018	798.73	14.12	784.61
YVD-25	9/8/2018	798.73	13.11	785.62
YVD-25	12/9/2018	798.73	12.60	786.13
YVD-25	3/21/2019	798.73	13.15	785.58
YVD-25	6/2/2019	798.73	14.29	784.44
YVD-26	3/5/2017	831.95	17.20	814.75
YVD-26	6/4/2017	831.95	18.40	813.55
YVD-26	9/27/2017	831.95	13.86	818.09
YVD-26	12/3/2017	831.95	15.72	816.23
YVD-26	3/18/2018	831.95	18.87	813.08
YVD-26	6/3/2018	831.95	18.05	813.90
YVD-26	9/8/2018	831.95	15.22	816.73
YVD-26	12/9/2018	831.95	16.52	815.43

Table 3
Historical Consent Decree Wells Groundwater Elevations

Well ID	Date of Measurement	Reference Point Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet NAVD88)
YVD-26	3/21/2019	831.95	18.64	813.31
YVD-26	6/1/2019	831.95	18.46	813.49
YVD-27	3/5/2017	832.42	17.99	814.43
YVD-27	6/4/2017	832.42	19.17	813.25
YVD-27	9/27/2017	832.42	14.61	817.81
YVD-27	12/3/2017	832.42	16.50	815.92
YVD-27	3/18/2018	832.42	19.61	812.81
YVD-27	6/3/2018	832.42	18.83	813.59
YVD-27	9/8/2018	832.42	15.98	816.44
YVD-27	12/9/2018	832.42	17.33	815.09
YVD-27	3/21/2019	832.42	19.38	813.04
YVD-27	6/1/2019	832.42	19.25	813.17
YVD-28	3/5/2017	846.12	31.92	814.20
YVD-28	6/4/2017	846.12	32.96	813.16
YVD-28	9/27/2017	846.12	30.27	815.85
YVD-28	12/3/2017	846.12	31.34	814.78
YVD-28	3/18/2018	846.12	33.66	812.46
YVD-28	6/3/2018	846.12	33.77	812.35
YVD-28	9/8/2018	846.12	31.35	814.77
YVD-28	12/9/2018	846.12	32.19	813.93
YVD-28	3/21/2019	846.12	34.03	812.09
YVD-28	6/1/2019	846.12	34.05	812.07
YVD-29	3/21/2017	846.04	32.05	813.99
YVD-29	6/4/2017	846.04	32.73	813.31
YVD-29	9/27/2017	846.04	30.03	816.01
YVD-29	12/3/2017	846.04	31.17	814.87

Table 3
Historical Consent Decree Wells Groundwater Elevations

Well ID	Date of Measurement	Reference Point Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet NAVD88)
YVD-29	3/18/2018	846.04	33.55	812.49
YVD-29	6/3/2018	846.04	33.54	812.50
YVD-29	9/8/2018	846.04	31.11	814.93
YVD-29	12/9/2018	846.04	31.95	814.09
YVD-29	3/21/2019	846.04	33.87	812.17
YVD-29	6/1/2019	846.04	33.83	812.21
YVD-30	3/5/2017	865.45	39.97	825.48
YVD-30	6/4/2017	865.45	35.72	829.73
YVD-30	9/27/2017	865.45	30.56	834.89
YVD-30	12/3/2017	865.45	35.08	830.37
YVD-30	3/18/2018	865.45	39.85	825.60
YVD-30	6/3/2018	865.45	35.52	829.93
YVD-30	9/8/2018	865.45	31.05	834.40
YVD-30	12/9/2018	865.45	35.92	829.53
YVD-30	3/21/2019	865.45	40.43	825.02
YVD-30	6/1/2019	865.45	36.14	829.31
YVD-31	12/3/2017	848.55	42.77	805.78
YVD-31	3/18/2018	848.55	45.05	803.50
YVD-31	6/3/2018	848.55	45.22	803.33
YVD-31	9/8/2018	848.55	43.64	804.91
YVD-31	12/9/2018	848.55	43.74	804.81
YVD-31	3/21/2019	848.55	45.13	803.42
YVD-31	6/1/2019	848.55	45.49	803.06
YVD-32	3/18/2018	848.28	44.61	803.67
YVD-32	6/3/2018	848.28	44.79	803.49
YVD-32	9/8/2018	848.28	43.30	804.98

Table 3
Historical Consent Decree Wells Groundwater Elevations

Well ID	Date of Measurement	Reference Point Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet NAVD88)
YVD-32	12/9/2018	848.28	43.39	804.89
YVD-32	3/21/2019	848.28	44.69	803.59
YVD-32	6/1/2019	848.28	45.10	803.18

Notes:

BTOC: below top of casing

NAVD88: North American Vertical Datum of 1988

Table 4**Consent Decree Wells Groundwater Field Parameter Measurements – Second Quarter 2019**

Well ID	Sample Date	Bladder Pump Type (portable or dedicated)	Purge Time (minutes)	Volume Purged (liters)	Temperature (°C)	Dissolved Oxygen (mg/L)	Specific Conductance (µS/cm)	pH (Standard Units)	Oxidation/Reduction Potential (mV)	Turbidity (NTUs)
YVD-19	6/4/2019	Dedicated	20	2.4	15.5	7.23	1928	6.34	199.3	2.56
YVD-20	6/4/2019	Dedicated	15	3.1	15.0	5.47	347.2	7.53	152.7	0.79
YVD-21	6/4/2019	Dedicated	15	3.4	16.5	10.95	171.9	6.54	114.1	1.65
YVD-22	6/4/2019	Dedicated	27	6.3	14.9	2.13	1981	4.89	101.1	0.44
YVD-23	6/4/2019	Dedicated	15	2.3	16.4	9.64	880	6.22	119.4	0.72
YVD-24	6/4/2019	Dedicated	15	2.3	16.5	8.19	889	7.55	18.0	0.62
YVD-25	6/5/2019	Dedicated	15	3.0	15.0	0.42	785	7.63	47.3	1.65
YVD-26	6/5/2019	Dedicated	15	3.3	14.2	4.45	709	6.68	145.4	0.35
YVD-27	6/5/2019	Dedicated	15	2.9	14.6	2.70	507.0	7.57	130.2	0.85
YVD-28	6/4/2019	Dedicated	15	4.3	14.9	0.59	536.6	7.90	-24.3	0.25
YVD-29	6/4/2019	Dedicated	15	6.4	14.7	0.52	616.5	7.74	12.2	0.27
YVD-30	6/4/2019	Dedicated	15	3.2	16.3	9.07	234.1	6.74	144.6	0.73
YVD-31	6/5/2019	Dedicated	21	4.4	15.5	4.37	237.2	6.13	153.7	0.68
YVD-32	6/5/2019	Dedicated	15	4.4	14.8	7.30	965	7.55	115.3	0.32

Notes:

°C: degrees Celsius

µS/cm: microsiemens per centimeter

mg/L: milligrams per liter

mV: millivolt

NTU: nephelometric turbidity unit

Table 5**Consent Decree Wells Vertical Gradients at Shallow/Deep Well Pairs – Second Quarter 2019**

Well ID	Midpoint Screen Elevation (feet NAVD88)	Midpoint Screen Elevation Difference (feet)	Groundwater Elevation June 1, 2019 (feet NAVD88)	Vertical Gradient (feet/feet)	Flow Direction
YVD-26	776.2	35.4	813.49	0.0091	Downward
YVD-27	740.8		813.17		
YVD-28	801.3	25.4	812.07	-0.0052	Upward
YVD-29	775.9		812.21		
YVD-31	758.9	35.6	803.06	-0.0034	Upward
YVD-32	723.3		803.18		

Note:

NAVD88: North American Vertical Datum of 1988

Table 6
Consent Decree Wells Groundwater Sampling Analytical Results – Second Quarter 2019

Analyte				Calcium		Magnesium		Potassium		Sodium		Chloride		Fluoride		Nitrate (as N)		Nitrite (as N)		Sulfate		Ammonia (as N)		Total Kjeldahl Nitrogen		Phosphorus		Alkalinity, Bicarbonate (as CaCO ₃)		Alkalinity, Total (as CaCO ₃)	
Analytical Method				EPA 200.7		EPA 200.7		EPA 200.7		EPA 200.7		EPA 300.0		EPA 300.0		EPA 300.0		EPA 300.0		EPA 300.0		SM 4500 NH3-G		EPA 351.2		SM 4500-P E		SM2320B		SM2320B	
Well ID	Sample ID	Sample Date	Sample Group	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier
YVD-19	CD-060419-04	6/4/2019	992243	184	--	53.50	--	3.02	--	156	--	65.9	--	0.10	U	85.2	--	0.05	U	125	--	0.07	U	0.5	U	0.07	U	508	--	508	--
YVD-20	CD-060419-02	6/4/2019	992243	34.0	--	9.450	--	0.62	U	26.2	--	7.10	--	0.23	--	0.78	--	0.05	U	18.4	--	0.07	U	0.5	U	0.14	--	135	--	135	--
YVD-20 (FD)	CD-060419-03	6/4/2019	992243	33.4	--	9.350	--	0.62	U	26.5	--	6.02	--	0.22	--	0.72	--	0.05	U	14.6	--	0.07	U	0.5	U	0.15	--	135	--	135	--
YVD-21	CD-060419-07	6/4/2019	992243	20.8	--	5.750	--	0.62	U	6.80	--	3.10	--	0.10	U	0.24	--	0.05	U	4.74	--	0.07	U	0.5	U	0.07	U	81.4	--	81.4	--
YVD-22	CD-060419-11	6/4/2019	992243	215	--	55.50	--	2.22	--	122	--	123.0	--	0.12	--	89.8	--	0.05	U	122	--	0.07	U	0.5	U	0.07	U	490	--	490	--
YVD-23	CD-060419-09	6/4/2019	992243	100	--	29.20	--	2.50	--	40.9	--	30.9	--	0.24	--	14.8	--	0.05	U	142	--	0.07	U	0.5	U	0.07	U	228	--	228	--
YVD-24	CD-060419-10	6/4/2019	992243	108	--	36.40	--	1.50	--	33.6	--	40.8	--	0.26	--	11.1	--	0.05	U	115	--	0.07	U	0.5	U	0.07	U	278	--	278	--
YVD-25	CD-060519-18	6/5/2019	992296	64.5	--	32.55	--	0.62	U	66.5	--	14.2	--	0.45	--	13.2	--	0.05	U	36.5	--	0.07	U	0.5	U	0.07	U	326	--	326	--
YVD-26	CD-060519-13	6/5/2019	992296	74.0	--	31.80	--	0.62	U	29.1	--	20.6	--	0.50	--	10.4	--	0.05	U	23.6	--	0.07	U	0.5	U	0.07	U	293	--	293	--
YVD-27	CD-060519-14	6/5/2019	992296	47.4	--	17.05	--	1.15	--	38.1	--	12.8	--	0.59	--	11.2	--	0.05	U	23.8	--	0.07	U	0.5	U	0.07	U	176	--	176	--
YVD-28	CD-060419-08	6/4/2019	992243	73.5	--	20.20	--	7.45	--	13.0	--	4.50	--	0.10	U	2.33	--	0.05	U	27.2	--	0.07	U	0.5	U	0.07	U	254	--	254	--
YVD-29	CD-060419-06	6/4/2019	922243	73.0	--	23.50	--	3.76	--	20.4	--	28.6	--	0.88	--	14.4	--	0.05	U	31.5	--	0.07	U	0.5	U	0.07	U	228	--	228	--
YVD-30	CD-060419-05	6/4/2019	992243	30.2	--	8.300	--	1.34	--	6.00	--	4.18	--	0.16	--	0.86	--	0.05	U	6.03	--	0.07	U	0.5	U	0.07	U	107	--	107	--
YVD-31	CD-060519-15	6/5/2019	992296	22.8	--	10.15	--	0.62	U	13.9	--	3.17	--	1.02	--	0.64	--	0.05	U	6.42	--	0.07	U	0.5	U	0.07	U	113	--	113	--
YVD-32	CD-060519-16	6/5/2019	992296	87.5	--	29.50	--	1.77	--	75.5	--	28.5	--	0.47	--	47.0	--	0.05	U	65.0	--	0.07	U	0.5	U	0.07	U	234	--	234	--
YVD-32 (FD)	CD-060519-17	6/5/2019	992296	87.5	--	29.40	--	1.76	--	75.0	--	26.7	--	0.44	--	44.7	--	0.05	U	69.1	--	0.07	U	0.5	U	0.07	U	233	--	233	--

Notes:

Bold: detected value

--: not qualified

CaCO₃: calcium carbonate

EPA: U.S. Environmental Protection Agency Method

FD: field duplicate

mg/L: milligrams per liter

N: nitrogen

SM: Standard Method

U: not detected above the method detection limit

Table 7
Historical Consent Decree Wells Groundwater Sampling Analytical Results

Analyte				Calcium		Magnesium		Potassium		Sodium		Chloride		Fluoride		Nitrate (as N)		Nitrite (as N)		Sulfate		Ammonia (as N)		Total Kjeldahl Nitrogen		Phosphorus		Alkalinity, Bicarbonate (as CaCO ₃)		Alkalinity, Total (as CaCO ₃)		Ammonia (as N)		Phosphorus	
Analytical Method				EPA 200.7		EPA 200.7		EPA 200.7		EPA 200.7		EPA 300.0		EPA 300.0		EPA 300.0		EPA 300.0		EPA 300.0		SM 4500 NH3-G		EPA 351.2		SM 4500-P E		SM2320B		SM2320B		EPA 350.1		EPA 365.3	
Well ID	Sample ID	Sample Date	Sample Group	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier
YVD-19	CD-031517-11	3/15/2017	K1702583	187	--	55.3	--	2.91	--	144	--	80.2	--	0.35	--	94.5	--	0.05	J	90.7	--	--	--	0.5	U	--	--	452	--	452	--	0.050	U	0.035	--
YVD-19	CD-060717-09	6/7/2017	K1705832	186	--	55.3	--	2.97	--	142	--	78.6	--	0.37	--	95.4	--	0.10	U	111	--	--	--	0.5	U	--	--	435	--	435	--	0.050	U	0.090	--
YVD-19	CD-092717-08	9/27/2017	K1710382	189	--	52.8	--	2.93	--	137	--	70.9	--	0.35	--	89.7	--	0.10	U	109	--	--	--	0.5	U	--	--	434	--	434	--	0.595	--	0.016	--
YVD-19	CD-120617-06	12/6/2017	K1713145	165	--	50.0	--	2.75	--	125	--	61.0	--	0.35	--	81.1	--	0.10	U	87.3	--	--	--	0.5	U	--	--	436	--	436	--	0.026	J	0.031	--
YVD-19	CD-031918-03	3/19/2018	870717	190	--	53.50	--	3.12	--	143	--	73.3	--	0.31	--	98.8	--	0.05	U	102	--	0.12	--	0.5	U	0.07	U	465	--	465	--	--	--	--	--
YVD-19	CD-060518-03	6/5/2018	874862	186	--	56.50	--	3.22	--	156	--	72.7	--	0.32	--	104	--	0.05	U	106	--	1.00	--	0.5	U	0.07	U	482	--	482	--	--	--	--	--
YVD-19	CD-091018-11	9/10/2018	880652	200	--	57.50	--	3.24	--	156	--	71.0	--	0.32	--	114	--	0.05	U	123	--	0.07	U	0.5	U	0.07	U	493	--	493	--	--	--	--	--
YVD-19	CD-121118-03	12/11/2018	884998	180	--	50.50	--	3.38	--	152	--	61.2	--	0.30	--	97.2	--	0.05	U	118	--	0.07	U	0.5	U	0.07	U	470	--	470	--	--	--	--	--
YVD-19	CD-031819-04	3/18/2019	988274	191	--	54.00	--	3.14	--	150	--	69.0	--	0.33	--	99.5	--	0.05	U	117	--	0.07	U	0.5	U	0.07	U	508	--	508	--	--	--	--	--
YVD-19	CD-060419-04	6/4/2019	992243	184	--	53.50	--	3.02	--	156	--	65.9	--	0.1	U	85.2	--	0.05	U	125	--	0.07	U	0.5	U	0.07	U	508	--	508	--	--	--	--	--
YVD-20	CD-031517-13	3/15/2017	K1702583	62.1	--	16.7	--	0.53	--	28.8	--	21.0	--	0.32	--	3.94	--	0.06	J	63.0	--	0.05	U	0.5	U	0.14	--	177	--	177	--	0.050	U	0.142	--
YVD-20	CD-060717-07	6/7/2017	K1705832	55.5	--	15.0	--	0.70	--	26.4	--	19.5	--	0.39	--	2.36	--	0.10	U	58.1	--	0.05	U	0.5	U	0.12	--	169	--	169	--	0.050	U	0.119	--
YVD-20	CD-092717-07	9/27/2017	K1710382	47.2	--	12.4	--	0.56	--	25.3	--	18.4	--	0.38	--	1.58	--	0.10	U	56.7	--	0.51	--	0.5	U	0.10	--	145	--	145	--	0.511	--	0.102	--
YVD-20	CD-120617-05	12/6/2017	K1713145	47.1	--	13.6	--	0.79	--	26.7	--	17.5	--	0.50	--	2.35	--	0.10	U	56.1	--	0.03	J	0.5	U	0.17	--	154	--	154	--	0.026	J	0.170	--
YVD-20	CD-031918-02	3/19/2018	871553	58.0	--	15.40	--	0.62	U	31.1	--	23.6	--	0.31	--	6.30	--	0.05	U	81.2	--	0.07	U	0.5	U	0.12	--	135	--	135	--	--	--	--	--
YVD-20	CD-060518-05	6/5/2018	874862	46.7	--	13.35	--	0.62	U	24.6	--	15.0	--	0.30	--	2.68	--	0.05	U	49.7	--	0.07	U	0.5	U	0.10	--	139	--	139	--	--	--	--	--
YVD-20	CD-091018-02	9/10/2018	880652	41.2	--	11.20	--	0.62	U	25.4	--	13.2	--	0.37	--	1.58	--	0.05	U	40.1	--	0.07	U	0.5	U	0.11	--	128	--	128	--	--	--	--	--
YVD-20	CD-121118-07	12/11/2018	884998	36.3	--	10.00	--	0.62	U	25.8	--	12.4	--	0.39	--	1.23	--	0.05	U	41.1	--	0.07	U	0.5	U	0.16	--	128	--	128	--	--	--	--	--
YVD-20	CD-031919-10	3/19/2019	988338	36.4	--	10.10	--	0.62	U	27.2	--	10.6	--	0.23	--	1.53	--	0.05	U	26.4	--	0.07	U	0.8	--	0.16	--	148	--	148	--	--	--	--	--
YVD-20	CD-060419-02	6/4/2019	992243	34.0	--	9.450	--	0.62	U	26.2	--	7.10	--	0.23	--	0.78	--	0.05	U	18.4	--	0.07	U	0.5	U	0.14	--	135	--	135	--	--	--	--	--
YVD-20 (FD)	CD-060419-03	6/4/2019	992243	33.4	--	9.350	--	0.62	U	26.5	--	6.02	--	0.22	--	0.72	--	0.05	U	14.6	--	0.07	U	0.5	U	0.15	--	135	--	135	--	--	--	--	--
YVD-21	CD-031417-08	3/14/2017	K1702541	18.7	--	5.12	--	1.05	--	6.52	--	2.64	--	0.15	J	0.08	J	0.10	U	2.26	--	--	--	0.5	U	--	--	76	--	76	--	0.050	U	0.023	J
YVD-21	CD-060717-03	6/7/2017	K1705832	20.4	--	5.46	--	0.68	--	6.50	--	2.53	--	0.14	J	0.07	J	0.10	U	2.98	--	--	--	0.5	U	--	--	82	--	82	--	0.050	U	0.021	--
YVD-21 (FD)	CD-060717-05	6/7/2017	K1705832	20.2	--	5.44	--	0.69	--	6.31	--	2.52	--	0.13	J	0.07	J	0.10	U	2.86	--	--	--	0.5	U	--	--	82	--	82	--	0.050	U	0.023	--
YVD-21	CD-092717-09	9/27/2017	K1710430	21.3	--	5.72	--	0.62	--	6.44	--	2.86	--	0.15	J	0.11	--	0.10	U	3.45	--	--	--	0.5	U	--	--	87	--	87	--	0.050	U	0.026	--
YVD-21	CD-120617-04	12/6/2017	K1713145	18.9	--	5.53	--	0.60	--	6.87	--	3.70	--	0.19	J	0.11	--	0.10	U	5.09	--	--	--	0.5	U	--	--	83	--	83	--	0.026	J	0.020	--
YVD-21	CD-032018-16	3/20/2018	870717	19.6	--	5.450	--	0.62	U	6.65	--	3.12	--	0.12	--	0.13	--	0.05	U	3.79	--	0.12	--	0.5	U	0.07	U	73	--	73	--	--	--	--	--
YVD-21	CD-060518-02	6/5/2018	875019	21.4	--	6.100	--	0.67	--	6.85	--	3.57	--	0.11	--	0.18	--	0.05	U	5.90	--	0.07	U	0.5	U	0.07	U	76.8	--	76.8	--	--	--	--	--
YVD-21 (FD)	CD-060518-04	6/5/2018	875019	21.6	--	6.200	--	0.66	--	6.90	--	3.58	--	0.11	--	0.18	--	0.05	U	5.97	--	0.07	U	0.5	U	0.07	U	78.2	--	78.2	--	--	--	--	--
YVD-21	CD-091018-04	9/10/2018	880652	22.4	--	6.100	--	0.62	--	6.85	--	3.33	--	0.13	--	0.14	--	0.05	U	4.42	--	0.07	U	0.5	U	0.07	U	81.2	--	81.2	--	--	--	--	--
YVD-21	CD-121218-14	12/12/2018	885015	20.0	--	5.550	--	0.62	U	6.85	--	3.83	--	0.11	--	0.																			

Table 7
Historical Consent Decree Wells Groundwater Sampling Analytical Results

Analyte				Calcium		Magnesium		Potassium		Sodium		Chloride		Fluoride		Nitrate (as N)		Nitrite (as N)		Sulfate		Ammonia (as N)		Total Kjeldahl Nitrogen		Phosphorus		Alkalinity, Bicarbonate (as CaCO ₃)		Alkalinity, Total (as CaCO ₃)		Ammonia (as N)		Phosphorus	
Analytical Method				EPA 200.7		EPA 200.7		EPA 200.7		EPA 200.7		EPA 300.0		EPA 300.0		EPA 300.0		EPA 300.0		EPA 300.0		SM 4500 NH3-G		EPA 351.2		SM 4500-P E		SM2320B		SM2320B		EPA 350.1		EPA 365.3	
Well ID	Sample ID	Sample Date	Sample Group	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier
YVD-22	CD-120617-02	12/6/2017	K1713145	132	--	34.5	--	1.55	--	89.3	--	57.9	--	0.20	J	57.2	--	0.10	U	60.4	--	--	--	0.5	U	--	--	364	--	364	--	0.106	--	0.014	--
YVD-22 (FD)	CD-120617-03	12/6/2017	K1713145	130	--	33.8	--	1.60	--	89.1	--	58.2	--	0.19	J	57.5	--	0.10	U	61.6	--	--	--	0.5	U	--	--	368	--	368	--	0.050	U	0.013	--
YVD-22	CD-032018-18	3/20/2018	870717	201	--	46.95	--	2.10	--	111	--	101	--	0.14	--	84.0	--	0.05	U	96.6	--	0.11	--	0.5	U	0.07	U	464	--	464	--	--	--	--	--
YVD-22	CD-060618-15	6/6/2018	875019	209	--	55.50	--	2.37	--	123	--	96.3	--	0.15	--	88.5	--	0.05	U	94.7	--	0.07	U	0.5	U	0.07	U	468	--	468	--	--	--	--	--
YVD-22	CD-091018-06	9/10/2018	880652	157	--	40.35	--	2.00	--	105	--	72.6	--	0.18	--	62.0	--	0.05	U	77.6	--	0.07	U	0.5	U	0.07	U	394	--	394	--	--	--	--	--
YVD-22	CD-121218-16	12/12/2018	885015	158	--	39.80	--	1.91	--	99.0	--	76.6	--	0.16	--	71.0	--	0.05	U	72.4	--	0.07	U	0.5	U	0.07	U	394	--	394	--	--	--	--	--
YVD-22	CD-031919-08	3/19/2019	988338	215	--	53.50	--	2.58	--	118	--	106	--	0.52	--	95.5	--	0.05	U	106	--	0.07	U	0.5	U	0.07	U	496	--	496	--	--	--	--	--
YVD-22	CD-060419-11	6/4/2019	992243	215	--	55.50	--	2.22	--	122	--	123	--	0.12	--	89.8	--	0.05	U	122	--	0.07	U	0.5	U	0.07	U	490	--	490	--	--	--	--	--
YVD-23	CD-031517-14	3/15/2017	K1702583	119	--	34.5	--	2.49	--	31.2	--	49.7	--	0.24	--	15.2	--	0.10	U	126	--	--	--	0.5	U	--	--	236	--	236	--	0.050	U	0.020	--
YVD-23	CD-062217-07	6/22/2017	K1706560	117	--	34.2	--	2.47	--	33.1	--	56.5	--	0.25	--	16.8	--	0.10	U	171	--	--	--	0.5	U	--	--	213	--	213	--	0.050	U	0.010	U
YVD-23	CD-092817-15	9/28/2017	K1710430	122	--	33.6	--	2.54	--	34.6	--	61.0	--	0.25	--	16.7	--	0.10	U	179	--	--	--	0.5	U	--	--	188	--	188	--	0.050	U	0.007	J
YVD-23 (FD)	CD-092817-16	9/28/2017	K1710430	123	--	34.6	--	2.66	--	35.6	--	58.0	--	0.25	--	17.3	--	0.10	U	180	--	--	--	0.5	U	--	--	192	--	192	--	0.050	U	0.010	U
YVD-23	CD-120617-11	12/6/2017	K1713145	118	--	34.4	--	2.50	--	34.3	--	62.3	--	0.26	--	18.1	--	0.10	U	190	--	--	--	0.5	U	--	--	196	--	196	--	0.022	J	0.005	J
YVD-23	CD-031918-06	3/19/2018	870717	131	--	37.10	--	2.86	--	40.1	--	65.2	--	0.23	--	18.4	--	0.05	U	175	--	0.11	--	0.5	U	0.07	U	207	--	207	--	--	--	--	--
YVD-23	CD-060618-16	6/6/2018	875019	122	--	36.50	--	2.80	--	40.2	--	61.6	--	0.24	--	18.2	--	0.05	U	180	--	0.07	U	0.5	U	0.07	U	196	--	196	--	--	--	--	--
YVD-23	CD-091018-08	9/10/2018	880652	118	--	33.60	--	2.76	--	39.8	--	59.0	--	0.24	--	16.5	--	0.05	U	195	--	0.07	U	0.5	U	0.07	U	188	--	188	--	--	--	--	--
YVD-23	CD-121218-18	12/12/2018	885015	110	--	31.55	--	2.54	--	37.7	--	40.5	--	0.23	--	12.8	--	0.05	U	176	--	0.07	U	0.5	U	0.07	U	206	--	206	--	--	--	--	--
YVD-23	CD-032019-19	3/20/2019	988419	110	--	28.35	--	9.45	--	34.2	--	32.1	--	0.10	U	13.0	--	0.05	U	156	--	0.32	--	0.5	U	0.15	--	237	--	237	--	--	--	--	--
YVD-23	CD-060419-09	6/4/2019	992243	100	--	29.20	--	2.50	--	40.9	--	30.9	--	0.24	--	14.8	--	0.05	U	142	--	0.07	U	0.5	U	0.07	U	228	--	228	--	--	--	--	--
YVD-24	CD-031517-07	3/15/2017	K1702541	115	--	41.5	--	1.65	--	25.8	--	51.8	--	0.33	--	11.2	--	0.10	U	144	--	--	--	0.5	U	--	--	237	--	237	--	0.050	U	0.012	
YVD-24	CD-062217-08	6/22/2017	K1706560	109	--	39.1	--	1.59	--	27.0	--	39.8	--	0.30	--	9.33	--	0.10	U	153	--	--	--	0.5	U	--	--	258	--	258	--	0.050	U	0.021	
YVD-24	CD-092717-06	9/27/2017	K1710382	112	--	36.4	--	1.49	--	26.8	--	41.0	--	0.31	--	9.08	--	0.10	U	143	--	--	--	0.5	U	--	--	259	--	259	--	0.405	--	0.008	J
YVD-24	CD-120617-10	12/6/2017	K1713145	98.9	--	36.2	--	1.51	--	26.6	--	30.8	--	0.33	--	7.29	--	0.10	U	142	--	--	--	0.5	U	--	--	263	--	263	--	0.023	J	0.015	--
YVD-24	CD-031918-04	3/19/2018	870717	109	--	36.40	--	1.63	--	29.6	--	32.3	--	0.30	--	7.50	--	0.05	U	130	--	0.11	--	0.5	U	0.07	U	264	--	264	--	--	--	--	--
YVD-24	CD-060518-08	6/5/2018	875019	103	--	36.05	--	1.62	--	29.4	--	33.6	--	0.31	--	7.70	--	0.05	U	112	--	0.07	U	0.5	U	0.07	U	265	--	265	--	--	--	--	--
YVD-24	CD-091018-10	9/10/2018	880652	110	--	37.25	--	1.64	--	31.2	--	57.5	--	0.30	--	8.20	--	0.05	U	131	--	0.07	U	0.5	U	0.07	U	257	--	257	--	--	--	--	--
YVD-24	CD-121218-17	12/12/2018	885015	100	--	34.10	--	1.52	--	30.1	--	38.8	--	0.29	--	7.20	--	0.05	U	116	--	0.07	U	0.5	U	0.07	U	263	--	263	--	--	--	--	--
YVD-24	CD-032019-18	3/20/2019	988419	105	--	35.70	--	1.60	--	31.8	--	37.6	--	0.25	--	11.6	--	0.05	U	118	--	0.07	U	0.5	U	0.07	U	286	--	286	--	--	--	--	--
YVD-24	CD-060419-10	6/4/2019	992243	108	--	36.40	--	1.50	--	33.6	--	40.8	--	0.26	--	11.1	--	0.05	U	115	--	0.07	U	0.5	U	0.07	U	278	--	278	--	--	--	--	--
YVD-25	CD-032017-16	3/20/2017	K1702746	60.8	--	30.2	--	0.73	--	64.0	--	18.2	--	0.44	--	9.69	J	0.13	--	37.5	--	--	--	0.5	U	--	--	311	--	311	--	1.0	U	0.043	--
YVD-25 (FD)	CD-032017-17	3/20/2017	K1702746	60.4	--	29.9	--	0.76	--	63.3	--	18.3	--	0.43	--	9.73	J	0.13	--	37.3	--	--	--</												

Table 7
Historical Consent Decree Wells Groundwater Sampling Analytical Results

Analyte				Calcium		Magnesium		Potassium		Sodium		Chloride		Fluoride		Nitrate (as N)		Nitrite (as N)		Sulfate		Ammonia (as N)		Total Kjeldahl Nitrogen		Phosphorus		Alkalinity, Bicarbonate (as CaCO ₃)		Alkalinity, Total (as CaCO ₃)		Ammonia (as N)		Phosphorus				
Analytical Method				EPA 200.7		EPA 200.7		EPA 200.7		EPA 200.7		EPA 300.0		EPA 300.0		EPA 300.0		EPA 300.0		EPA 300.0		SM 4500 NH3-G		EPA 351.2		SM 4500-P E		SM2320B		SM2320B		EPA 350.1		EPA 365.3				
Well ID	Sample ID	Sample Date	Sample Group	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier			
YVD-25	CD-121218-15	12/12/2018	885015	64.0	--	32.10	--	0.68	--	55.5	--	7.71	--	0.19	--	4.25	--	0.05	U	17.1	--	0.07	U	0.5	U	0.07	U	329	--	329	--	--	--	--	--			
YVD-25	CD-032019-17	3/20/2019	988419	64.5	--	33.40	--	0.74	--	64.5	--	15.8	--	0.38	--	12.6	--	0.05	U	40.3	--	0.07	U	0.5	U	0.07	U	344	--	344	--	--	--	--	--			
YVD-25	CD-060519-18	6/5/2019	992296	64.5	--	32.55	--	0.62	U	66.5	--	14.2	--	0.45	--	13.2	--	0.05	U	36.5	--	0.07	U	0.5	U	0.07	U	326	--	326	--	--	--	--	--			
YVD-26	CD-031417-06	3/14/2017	K1702541	68.1	--	31.6	--	1.10	--	30.4	--	17.2	--	0.57	--	9.96	--	0.18	--	32.1	--	--	--	0.5	U	--	--	262	--	262	--	0.050	U	0.077	--			
YVD-26	CD-062217-03	6/22/2017	K1706560	69.3	--	30.2	--	0.71	--	28.4	--	17.5	--	0.56	--	8.30	--	0.10	U	30.0	--	--	--	0.5	U	--	--	281	--	281	--	0.050	U	0.049	--			
YVD-26	CD-092817-12	9/28/2017	K1710430	76.9	--	30.3	--	0.65	--	28.6	--	19.9	--	0.58	--	8.41	--	0.10	U	25.9	--	--	--	0.5	U	--	--	288	--	288	--	0.050	U	0.054	--			
YVD-26	CD-120717-15	12/7/2017	K1713207	68.1	--	29.2	--	0.55	--	26.0	--	19.5	--	0.59	--	8.45	--	0.10	U	26.2	--	--	--	0.5	U	--	--	287	--	287	--	0.025	J	0.060	--			
YVD-26	CD-032018-09	3/20/2018	870717	70.5	--	29.45	--	0.62	U	29.1	--	18.2	--	0.55	--	7.70	--	0.05	U	24.6	--	0.07	U	0.5	U	0.07	U	284	--	284	--	--	--	--	--			
YVD-26	CD-060618-09	6/6/2018	875019	75.5	--	32.30	--	0.62	U	29.2	--	21.8	--	0.55	--	8.40	--	0.05	U	24.0	--	0.07	U	0.5	U	0.07	U	296	--	296	--	--	--	--	--			
YVD-26 (FD)	CD-060618-11	6/6/2018	875019	73.0	--	31.90	--	0.62	U	30.0	--	18.7	--	0.54	--	8.40	--	0.05	U	23.8	--	0.07	U	0.5	U	0.07	U	289	--	289	--	--	--	--	--			
YVD-26	CD-091118-15	9/11/2018	880728	72.5	--	30.75	--	0.62	U	28.6	--	20.2	--	0.53	--	7.60	--	0.05	U	23.0	--	0.07	U	0.5	U	0.07	U	288	--	288	--	--	--	--	--			
YVD-26	CD-121218-09	12/12/2018	885015	71.5	--	29.95	--	0.62	U	26.1	--	18.4	--	0.46	--	8.20	--	0.05	U	21.9	--	0.07	U	0.5	U	0.07	U	289	--	289	--	--	--	--	--			
YVD-26	CD-032019-12	3/20/2019	988419	71.5	--	31.20	--	0.62	U	28.4	--	17.8	--	0.46	--	8.80	--	0.05	U	24.6	--	0.07	U	0.5	U	0.07	U	293	--	293	--	--	--	--	--			
YVD-26 (FD)	CD-032019-14	3/20/2019	988419	69.0	--	30.00	--	0.62	U	27.8	--	17.9	--	0.41	--	8.74	--	0.05	U	25.2	--	0.07	U	0.5	U	0.07	U	290	--	290	--	--	--	--	--			
YVD-26	CD-060519-13	6/5/2019	992296	74.0	--	31.80	--	0.62	U	29.1	--	20.6	--	0.50	--	10.4	--	0.05	U	23.6	--	0.07	U	0.5	U	0.07	U	293	--	293	--	--	--	--	--			
YVD-27	CD-031417-02	3/14/2017	K1702541	49.2	--	20.7	--	2.45	--	42.7	--	18.4	--	0.61	--	9.12	--	0.33	--	35.8	--	--	--	0.5	U	--	--	189	--	189	--	0.241	--	0.053	J			
YVD-27 (FD)	CD-031417-04	3/14/2017	K1702541	49.1	--	20.5	--	2.37	--	41.9	--	18.7	--	0.61	--	9.36	--	0.38	--	36.6	--	--	--	0.5	U	--	--	190	--	190	--	0.244	--	0.078	J			
YVD-27	CD-062217-02	6/22/2017	K1706560	51.9	--	18.9	--	1.41	--	38.6	--	14.9	--	0.58	--	11.5	--	0.10	U	35.2	--	--	--	0.5	U	--	--	194	--	194	--	0.050	U	0.040	--			
YVD-27	CD-092817-13	9/28/2017	K1710430	52.6	--	18.0	--	1.28	--	39.4	--	16.0	--	0.60	--	11.0	--	0.10	U	32.4	--	--	--	0.5	U	--	--	191	--	191	--	0.062	--	0.030	--			
YVD-27	CD-120717-17	12/7/2017	K1713207	49.3	--	18.8	--	1.30	--	38.4	--	15.7	--	0.64	--	12.0	--	0.10	U	35.1	--	--	--	0.5	U	--	--	197	--	197	--	0.026	J	0.040	--			
YVD-27	CD-032018-11	3/20/2018	870717	49.8	--	17.65	--	1.30	--	38.6	--	13.9	--	0.61	--	10.3	--	0.05	U	29.6	--	0.10	--	0.5	U	0.07	U	185	--	185	--	--	--	--	--			
YVD-27	CD-060618-10	6/6/2018	875019	50.0	--	18.55	--	1.32	--	39.7	--	14.6	--	0.58	--	11.3	--	0.05	U	30.2	--	0.07	U	0.5	U	0.07	U	184	--	184	--	--	--	--	--			
YVD-27	CD-091118-13	9/11/2018	880728	53.0	--	18.70	--	1.17	--	40.4	--	16.0	--	0.58	--	12.5	--	0.05	U	32.2	--	0.07	U	0.5	U	0.07	U	191	--	191	--	--	--	--	--			
YVD-27 (FD)	CD-091118-14	9/11/2018	880728	54.0	--	18.80	--	1.16	--	40.6	--	16.1	--	0.58	--	12.6	--	0.05	U	32.4	--	0.07	U	0.5	U	0.07	U	191	--	191	--	--	--	--	--			
YVD-27	CD-121218-10	12/12/2018	885015	47.8	--	17.20	--	1.24	--	36.0	--	15.1	--	0.58	--	11.2	--	0.05	U	28.9	--	0.07	U	0.5	U	0.07	U	184	--	184	--	--	--	--	--			
YVD-27	CD-032019-13	3/20/2019	988419	49.5	--	17.65	--	1.28	--	38.1	--	15.0	--	0.52	--	12.3	--	0.05	U	28.2	--	0.07	U	0.5	U	0.07	U	187	--	187	--	--	--	--	--			
YVD-27	CD-060519-14	6/5/2019	992296	47.4	--	17.05	--	1.15	--	38.1	--	12.8	--	0.59	--	11.2	--	0.05	U	23.8	--	0.07	U	0.5	U	0.07	U	176	--	176	--	--	--	--	--			
YVD-28	CD-031417-05	3/14/2017	K1702541	66.9	--	20.0	--	7.30	--	11.9	--	4.43	--	0.22	--	0.75	--	0.07	J	32.0	--	--	--	0.5	U	--	--	232	--	232	--	0.050	U	0.067	--			
YVD-28	CD-062217-10	6/22/2017	K1706560	70.2	--	20.2	--	7.42	--	12.1	--	4.76	--	0.13	J	1.50	--	0.10	U	36.2	--	--	--	0.5	U	--	--	249	--	249	--	0.050	U	0.067	--			
YVD-28	CD-092717-05	9/27/2017	K1710382	67.7	--	20.4	--	5.53	--	13.8	--	8.55	--	0.19	J	6.73	--	0.10	U	24.8	--	--	--	0.5	U	--	--	241	--	241	--	0.690	--	0.081	--			
YVD-28	CD-120617-08	12/6/2017	K1713145	66.8	--	19.3	--	7.05	--	10.8	--	4.0	--	0.12	J	0.80	--	0.10	U	36.4	--	--	--	0.5</														

Table 7
Historical Consent Decree Wells Groundwater Sampling Analytical Results

Analyte				Calcium		Magnesium		Potassium		Sodium		Chloride		Fluoride		Nitrate (as N)		Nitrite (as N)		Sulfate		Ammonia (as N)		Total Kjeldahl Nitrogen		Phosphorus		Alkalinity, Bicarbonate (as CaCO ₃)		Alkalinity, Total (as CaCO ₃)		Ammonia (as N)		Phosphorus	
Analytical Method				EPA 200.7		EPA 200.7		EPA 200.7		EPA 200.7		EPA 300.0		EPA 300.0		EPA 300.0		EPA 300.0		EPA 300.0		SM 4500 NH3-G		EPA 351.2		SM 4500-P E		SM2320B		SM2320B		EPA 350.1		EPA 365.3	
Well ID	Sample ID	Sample Date	Sample Group	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier
YVD-29	CD-032117-18	3/20/2017	K1702746	62.5	--	20.0	--	2.38	--	32.3	--	14.1	--	0.24	--	6.90	--	0.11	--	35.2	--	1.00	U	0.5	U	--	--	238	--	238	--	1.0	U	0.054	--
YVD-29	CD-062217-09	6/22/2017	K1706560	61.0	--	21.5	--	3.37	--	24.8	--	10.8	--	0.15	J	5.84	--	0.08	J	33.0	--	0.05	U	0.5	U	--	--	231	--	231	--	0.050	U	0.043	--
YVD-29	CD-092717-04	9/27/2017	K1710382	64.8	--	19.9	--	3.24	--	21.2	--	11.8	--	0.14	J	7.04	--	0.10	U	31.5	--	0.66	--	0.5	U	--	--	229	--	229	--	0.660	--	0.051	--
YVD-29	CD-120617-09	12/6/2017	K1713145	62.1	--	20.6	--	3.30	--	20.9	--	13.9	--	0.15	J	8.93	--	0.10	U	32.8	--	0.02	J	0.5	U	--	--	226	--	226	--	0.023	J	0.048	--
YVD-29	CD-031918-07	3/19/2018	870717	71.0	--	22.15	--	3.66	--	22.9	--	15.6	--	0.11	--	10.6	--	0.05	U	33.0	--	0.10	--	0.5	U	0.07	U	221	--	221	--	--	--	--	--
YVD-29 (FD)	CD-031918-08	3/19/2018	870717	71.5	--	22.40	--	3.64	--	22.6	--	15.7	--	0.11	--	10.7	--	0.05	U	33.1	--	0.07	U	0.5	U	0.07	U	229	--	229	--	--	--	--	--
YVD-29	CD-060618-17	6/6/2018	875019	71.0	--	23.65	--	4.00	--	22.5	--	15.5	--	0.11	--	10.8	--	0.05	U	31.3	--	0.07	U	0.5	U	0.07	U	230	--	230	--	--	--	--	--
YVD-29	CD-091018-09	9/10/2018	880652	76.5	--	24.15	--	3.89	--	21.5	--	19.1	--	0.12	--	13.7	--	0.05	U	31.4	--	0.07	U	0.5	U	0.07	U	228	--	228	--	--	--	--	--
YVD-29	CD-121118-04	12/11/2018	884998	71.5	--	22.50	--	3.98	--	21.0	--	18.9	--	0.11	--	13.5	--	0.05	U	31.6	--	0.07	U	0.5	U	0.07	U	234	--	234	--	--	--	--	--
YVD-29 (FD)	CD-121118-06	12/11/2018	884998	72.5	--	22.80	--	4.00	--	21.0	--	19.4	--	0.12	--	13.4	--	0.05	U	32.2	--	0.07	U	0.5	U	0.07	U	228	--	228	--	--	--	--	--
YVD-29	CD-031919-09	3/19/2019	988338	74.0	--	23.20	--	3.90	--	20.4	--	17.4	--	0.10	U	13.0	--	0.05	U	32.4	--	0.07	U	0.5	U	0.07	U	234	--	234	--	--	--	--	--
YVD-29	CD-060419-06	6/4/2019	922243	73.0	--	23.50	--	3.76	--	20.4	--	28.6	--	0.88	--	14.4	--	0.05	U	31.5	--	0.07	U	0.5	U	0.07	U	228	--	228	--	--	--	--	--
YVD-30	CD-031417-03	3/14/2017	K1702541	55.7	--	14.0	--	1.95	--	6.92	--	7.89	--	0.24	--	4.98	--	0.10	U	21.8	--	--	--	0.5	U	--	--	159	--	159	--	0.050	U	0.110	--
YVD-30	CD-060717-11	6/7/2017	K1705832	32.6	--	8.55	--	1.30	--	5.75	--	4.22	--	0.22	--	1.39	--	0.10	U	6.28	--	--	--	0.5	U	--	--	115	--	115	--	0.050	U	0.093	--
YVD-30	CD-092717-02	9/27/2017	K1710382	32.8	--	9.17	--	1.17	--	7.34	--	4.06	--	0.23	--	1.52	--	0.10	U	8.26	--	--	--	0.5	U	--	--	123	--	123	--	0.668	--	0.073	--
YVD-30 (FD)	CD-092717-03	9/27/2017	K1710382	32.4	--	8.88	--	1.14	--	7.08	--	4.04	--	0.22	--	1.52	--	0.10	U	8.20	--	--	--	0.5	U	--	--	122	--	122	--	0.610	--	0.079	--
YVD-30	CD-120617-07	12/6/2017	K1713145	39.2	--	11.1	--	1.36	--	6.49	--	5.42	--	0.23	--	2.85	--	0.10	U	12.9	--	--	--	0.5	U	--	--	140	--	140	--	0.027	J	0.081	--
YVD-30	CD-032018-10	3/20/2018	870717	61.0	--	14.20	--	2.02	--	7.30	--	9.96	--	0.14	--	7.40	--	0.05	U	26.1	--	0.10	--	0.5	U	0.07	U	156	--	156	--	--	--	--	--
YVD-30 (FD)	CD-032018-12	3/20/2018	870717	61.0	--	14.20	--	1.97	--	7.35	--	9.88	--	0.14	--	7.10	--	0.05	U	25.9	--	0.07	U	0.5	U	0.07	U	155	--	155	--	--	--	--	--
YVD-30	CD-060518-06	6/5/2018	875019	32.5	--	9.550	--	1.34	--	6.50	--	5.00	--	0.19	--	1.78	--	0.05	U	6.20	--	0.07	U	0.5	U	0.07	--	115	--	115	--	--	--	--	--
YVD-30	CD-091018-03	9/10/2018	880652	33.1	--	9.850	--	1.22	--	8.15	--	4.83	--	0.21	--	1.96	--	0.05	U	8.74	--	0.07	U	0.5	U	0.07	--	115	--	115	--	--	--	--	--
YVD-30 (FD)	CD-091018-05	9/10/2018	880652	33.8	--	10.15	--	1.32	--	8.20	--	4.79	--	0.21	--	1.92	--	0.05	U	8.66	--	0.07	U	0.5	U	0.08	--	117	--	117	--	--	--	--	--
YVD-30	CD-121118-05	12/11/2018	884998	41.1	--	11.00	--	1.58	--	7.05	--	7.04	--	0.18	--	2.35	--	0.05	U	12.0	--	0.07	U	0.5	U	0.07	--	141	--	141	--	--	--	--	--
YVD-30	CD-031819-03	3/18/2019	988274	53.5	--	12.40	--	1.94	--	7.00	--	7.56	--	0.12	--	4.07	--	0.05	U	19.1	--	0.07	U	0.5	U	0.07	U	158	--	158	--	--	--	--	--
YVD-30 (FD)	CD-031819-02	3/18/2019	988274	53.5	--	12.40	--	1.96	--	7.00	--	7.50	--	0.13	--	4.01	--	0.05	U	18.8	--	0.07	U	0.5	U	0.09	--	156	--	156	--	--	--	--	--
YVD-30	CD-060419-05	6/4/2019	992243	30.2	--	8.300	--	1.34	--	6.00	--	4.18	--	0.16	--	0.86	--	0.05	U	6.03	--	0.07	U	0.5	U	0.07	U	107	--	107	--	--	--	--	--
YVD-31	CD-120717-16	12/7/2017	K1713207	20.7	--	8.92	--	0.68	--	17.1	--	3.71	--	1.01	--	0.37	--	0.08	J	8.99	--	--	--	0.5	U	--	--	117	--	117	--	0.025	J	0.025	--
YVD-31	CD-032018-13	3/20/2018	870717	22.6	--	9.800	--	0.62	--	15.8	--	3.13	--	1.00	--	0.60	--	0.05	U	7.26	--	0.11	--	0.5	U	0.07	U	112	--	112	--	--	--	--	--
YVD-31	CD-060618-12	6/6/2018	875019	23.4	--	10.70	--	0.62	U	14.5	--	3.02	--	0.96	--	0.48	--	0.05	U	6.64	--	0.07	U	0.5	U	0.07	U	113	--	113	--	--	--	--	--
YVD-31	CD-091118-16	9/11/2018	880728	23.6	--	10.40	--	0.62	U	14.0	--	3.56	--	0.94	--	0.69	--	0.05	U	7.07	--	0.07	U	0.5	U	0.07	U	110	--	110	--	--	--	--	--
YVD-31	CD-121218-13	12/12/2018	885015	22.6	--	10.00	--</																												

Table 7
Historical Consent Decree Wells Groundwater Sampling Analytical Results

Analyte				Calcium		Magnesium		Potassium		Sodium		Chloride		Fluoride		Nitrate (as N)		Nitrite (as N)		Sulfate		Ammonia (as N)		Total Kjeldahl Nitrogen		Phosphorus		Alkalinity, Bicarbonate (as CaCO ₃)		Alkalinity, Total (as CaCO ₃)		Ammonia (as N)		Phosphorus	
Analytical Method				EPA 200.7		EPA 200.7		EPA 200.7		EPA 200.7		EPA 300.0		EPA 300.0		EPA 300.0		EPA 300.0		EPA 300.0		SM 4500 NH3-G		EPA 351.2		SM 4500-P E		SM2320B		SM2320B		EPA 350.1		EPA 365.3	
Well ID	Sample ID	Sample Date	Sample Group	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier	Result (mg/L)	Qualifier
YVD-32	CD-032019-15	3/20/2019	988419	86.0	--	28.85	--	1.88	--	71.0	--	30.2	--	0.42	--	45.0	--	0.05	U	63.4	--	0.07	U	0.5	U	0.07	U	240	--	240	--	--	--	--	--
YVD-32	CD-060519-16	6/5/2019	992296	87.5	--	29.50	--	1.77	--	75.5	--	28.5	--	0.47	--	47.0	--	0.05	U	65.0	--	0.07	U	0.5	U	0.07	U	234	--	234	--	--	--	--	--
YVD-32 (FD)	CD-060519-17	6/5/2019	992296	87.5	--	29.40	--	1.76	--	75.0	--	26.7	--	0.44	--	44.7	--	0.05	U	69.1	--	0.07	U	0.5	U	0.07	U	233	--	233	--	--	--	--	--

Notes:

Bold: detected value

--: not qualified

CaCO₃: calcium carbonate

EPA: U.S. Environmental Protection Agency Method

FD: field duplicate

J: estimated value

mg/L: milligrams per liter

N: nitrogen

SM: Standard Method

U: not detected above the method detection limit

Attachment A

Second Quarter 2019 Field Forms

Yakima Valley Dairies - CD Wells

TASK SHEET

Quarterly Monitoring Event

Quarter 1 2 3 4Year 2019

Location ID	Depth to Bottom (feet btoc)	Date	Sample ID	Sample Time	Comments
YVD-19	49.8	6/4/19	CD-060419-04	1015	
YVD-20	49.3	6/4/19	CD-060419-02	0905	
YVD-21	75.4	6/4/19	CD-060419-07	1220	
YVD-22	75.5	6/4/19	CD-060419-11	1400	
YVD-23	104.2	6/4/19	CD-060419-09	1350	
YVD-24	104.8	6/4/19	CD-060419-10	1355	
YVD-25	86.0	6/5/19	CD-060519-18	1055	
YVD-26	66.3	6/5/19	CD-060519-13	0820	
YVD-27	97.4	6/5/19	CD-060519-14	0830	
YVD-28	55.3	6/4/19	CD-060419-08	1250	
YVD-29	76.0	6/4/19	CD-060419-06	1220	
YVD-30	54.4	6/4/19	CD-060419-05	1110	MS/MSD
YVD-31	100.3	6/5/19	CD-060519-15	0935	
YVD-32	129.9	6/5/19	CD-060519-16	0930	
QA/QC Samples					
DUP	-	6/5/19	CD-060519-17	0935	YVD-32
DUP	-	6/4/19	CD-060419-03	0910	YVD-20
DUP	-				
Field blank	-	6/4/19	CD-060419-01	0735	0830
Field blank	-	6/5/19	CD-060419-12	0735	0805 June 19
Field blank	-	6/5/19	CD-060519-12	0735	
Notes:					
Flush-mount Well					
btoc = below top of casing					

WATER LEVEL SURVEY - Yakima Valley Dairies - CD Wells[illegible]

☆ = DTR on 6/2/19
 ☆☆ = washers

FIELD SAMPLING DATA SHEET



6720 SW Macadam Ave, Suite 125, Portland, OR 97219
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells **WELL ID:** FIELD BLANK
SITE ADDRESS: Outlook, WA **BLIND ID:** CD-060419-01

DUP ID: _____ **Time:** _____
WIND FROM: N NE E SE S SW W NW LIGHT MEDIUM HEAVY
WEATHER: SUNNY PRTLY CLDY CLOUDY RAIN No Wind **TEMPERATURE:** 63 °F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)						[Water Column]	[Water Column x Gal/ft]
Date	Time	DTW (feet btoc)	Correction Factor	Corrected DTW	DTB (ft btoc)	DTB-DTW	Volume (gal)
/ /	:			<u>Sum 6/4/19</u>			X 1
/ /	:						X 3
Gal/ft = (dia./2) ² x 0.163		1" = 0.041	2" = 0.174	6" = 1.469	8" = 2.611	10" = 4.079	

§ METHODS: (A) Dedicated Bladder Pump (B) Portable Bladder Pump (C) Peristaltic Pump (D) Waterra inertial pump (E) Bailor (F) Other Pump

GROUNDWATER SAMPLING DATA										[✓ if used]
Bottle Type	Date	Time	Method §	#	Volume	Preservative [circle]	Ice	Filter	pH	✓
Yellow Poly	6/4/19	08:30	F	②	125 ml 250 ml 500 ml	<u>H₂SO₄</u>	<u>YES</u>	<u>NO</u>	—	✓
Red Poly-total	/ /	:	↓	①	125 ml 250 ml 500 ml	<u>HNO₃</u>	<u>YES</u>	<u>NO</u>	—	✓
White Poly	<u>N</u>	<u>↓</u>	<u>↓</u>	①	125 ml 250 ml 500 ml	<u>None</u>	<u>YES</u>	<u>NO</u>	—	✓

Total Bottles (include duplicate count): 4

MS & MSD (circle if collected)

BOTTLE TYPE	ANALYSIS PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
YELLOW - Poly	Ammonia (SM 4500-NH ₃ G) TKN (351.2) Total Phosphorus (SM 4500-P E)
RED TOTAL - Poly	Total Metals (Na, Mg, K, Ca (200.7))
WHITE - Poly	Ions (SO ₄ , Cl, F (300.0)) Alkalinity (total and bicarbonate (SM2320B)) Nitrate as N (300.0) Nitrite as N (300.0)

WATER QUALITY DATA				Purge Start Time: NA							
Meas.	Method §	Time (24hr or elapsed)	Purged (gal)(L)	DTW (ft)	Temp (°C)	DO (mg/l)	Spec Cond (µS/cm)	pH (Standard Units)	ORP (mV)	Turbidity (NTU)	Water clarity/color
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											

Select A-GI

Cumulative Totals

[Select A-G]

[Cumulative Totals]

Comments:

Sample collect by pouring laboratory-provided deionized water into sample containers from a height of one foot.
ft btoc = feet below top of casing DTW = depth to water DTB = depth to bottom

SAMPLER: J. Melton / S. Norwood
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



6720 SW Macadam Ave, Suite 125, Portland, OR 97219
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells **WELL ID:** YVD-20
SITE ADDRESS: Outlook, WA **BLIND ID:** CD-060419-02
Lat: 46.38377781 **Long:** 120.143165 **DUP ID:** CD-060419-03 **Time:** 0910
WIND FROM: N NE E SE S SW W NW **WEATHER:** SUNNY PRTLY CLDY CLOUDY RAIN No Wind **TEMPERATURE:** 63 °F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)							[Water Column]	[Water Column x Gal/R]
Date	Time	DTW (feet btoc)	Correction Factor	Corrected DTW	DTB (ft btoc)	DTB-DTW		Volume (gal)
6/4/19	08:44	39.72	-0.15	39.57	49.3	9.73	X1	1.69
---	---	---	-0.15	---	---	---	X3	5.07, 5.08
Gal/ft = (dia./2) ² x 0.163		1" = 0.041	2" = 0.174	6" = 1.469	8" = 2.611	10" = 4.079		

§ METHODS (A) Dedicated Bladder Pump (B) Portable Bladder Pump (C) Peristaltic Pump (D) Waterra inertial pump (E) Bailor (F) Other

GROUNDWATER SAMPLING DATA										[✓ if used]
Bottle Type	Date	Time	Method §	#	Volume	Preservative (circle)	Ice	Filter	pH	
Yellow Poly	6/4/19	09:05	A	3	125 ml 250 ml 500 ml	H ₂ SO ₄	YES	NO	---	✓
Red Poly-total	1/1	↓	↓	2	125 ml 250 ml 500 ml	HNO ₃	YES	NO	---	✓
White Poly	1/1	↓	↓	2	125 ml 250 ml 500 ml	None	YES	NO	---	✓
Total Bottles (include duplicate count): 8					MS & MSD (circle if collected)					

BOTTLE TYPE	ANALYSIS PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
YELLOW - Poly	Ammonia (SM 4500-NH3 G) TKN (351.2) Total Phosphorus (SM 4500-P E)
RED TOTAL - Poly	Total Metals (Na, Mg, K, Ca (200.7))
WHITE - Poly	Ions (SO ₄ , Cl, F (300.0)) Alkalinity (total and bicarbonate (SM2220B)) Nitrate as N (300.0) Nitrite as N (300.0)

WATER QUALITY DATA				Purge Start Time: 0846			Pump stop time: 0916			Pump Inlet depth (ft btoc) 46.3	
Meas.	Method §	Time (24hr or elapsed)	Purged (gal) (L)	DTW (ft)	Temp (°C)	DO (mg/l)	Spec Cond (µS/cm)	pH (Standard Units)	ORP (mV)	Turbidity (NTU)	Water clarity/color
1	A	0	0	39.72	—	—	—	—	—	—	Jun 6/4/19
2	A	3	0.5	39.76	15.0	6.83	380.4	7.57	161.6	0.45	clear, colorless PSI=40
3	A	6	1.1	39.76	14.9	6.13	364.9	7.57	160.8	1.01	" "
4	A	9	1.8	39.73	14.9	5.76	363.8	7.50	158.2	0.57	" "
5	A	12	2.4	39.73	15.0	5.30	347.8	7.57	154.7	0.63	" "
6	A	15	3.1	39.75	15.0	5.47	347.2	7.53	152.7	0.79	" "
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											

Comments:
PSI setting 30 psi; refill/discharge ratio = 10/5
ft btoc = feet below top of casing DTW = depth to water DTB = depth to bottom

SAMPLER: J. Melton / S. Norwood
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



6720 SW Macadam Ave, Suite 125, Portland, OR 97219

Office: (503) 670-1108

Fax: (503) 670-1128

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells **WELL ID:** YVD-19
SITE ADDRESS: Outlook, WA **BLIND ID:** CD-060419-04
Lat: 46.38245129 **Long:** -120.1357363 **DUP ID:** Time: _____

WIND FROM: N NE E SE S SW W NW LIGHT MEDIUM HEAVY
WEATHER: SUNNY PRTLY CLDY CLOUDY RAIN No Wind **TEMPERATURE:** 70 °F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)							[Water Column]	[Water Column x Gal/ft]
Date	Time	DTW (feet btoc)	Correction Factor	Corrected DTW	DTB (ft btoc)	DTB-DTW		Volume (gal)
6/4/19	09:44	41.93	-0.13	41.80	49.8	8.0	X1	1.39
---	---	---	-0.13	---	---	---	X3	4.18
Gal/ft = (dia./2) ² x 0.163		1" = 0.041	2" = <u>0.174</u>	6" = 1.469	8" = 2.611	10" = 4.079		

§ METHODS: (A) Dedicated Bladder Pump (B) Portable Bladder Pump (C) Peristaltic Pump (D) Waterra inertial pump (E) Bailor (F) Other _____

GROUNDWATER SAMPLING DATA										[✓ if used]
Bottle Type	Date	Time	Method §	#	Volume	Preservative [circle]	Ice	Filter	pH	
Yellow Poly	6/4/19	10:15	A	②	125 ml 250 ml 500 ml	H ₂ SO ₄	YES	NO	---	✓
Red Poly-total	1/1	↓	↓	①	125 ml 250 ml 500 ml	HNO ₃	YES	NO	---	✓
White Poly	1/1	↓	↓	①	125 ml 250 ml 500 ml	None	YES	NO	---	✓
Total Bottles (include duplicate count): <u>4</u>					MS & MSD (circle if collected)					

BOTTLE TYPE	ANALYSIS PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
YELLOW - Poly	Ammonia (SM 4500-NH3 G) TKN (351.2) Total Phosphorus (SM 4500-P E)
RED TOTAL - Poly	Total Metals (Na, Mg, K, Ca (200.7))
WHITE - Poly	Ions (SO ₄ , Cl, F (300.0)) Alkalinity (total and bicarbonate (SM 2320B)) Nitrate as N (300.0) Nitrite as N (300.0)

WATER QUALITY DATA										Purge Start Time: <u>0945</u>	Pump stop time: <u>1022</u>	Pump Inlet depth (ft btoc): 46.8
Meas.	Method §	Time (24hr or elapsed)	Purged (gal)(L)	DTW (ft)	Temp (°C)	DO (mg/l)	Spec Cond (µS/cm)	pH (Standard Units)	ORP (mV)	Turbidity (NTU)	Water clarity/color	
1	A	0	0	41.93							Jm 6/4/19	
2	A	4	0.5	41.94	15.6	7.39	1887	6.70	226.1	4.08	clear, colorless	
3	A	8	0.95	41.94	15.6	7.25	1915	6.45	216.8	4.04	"	
4	A	12	1.4	41.93	15.6	7.15	1925	6.39	209.8	3.54	"	
5	A	16	1.9	41.94	15.6	7.23	1927	6.42	204.3	2.63	"	
6	A	20	2.35	41.93	15.5	7.23	1928	6.34	195.3	2.56	"	
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												

Comments:
 PSI setting = 40 psi; refill/discharge ratio = 10/5
 ft btoc = feet below top of casing DTW = depth to water DTB = depth to bottom
SAMPLER: J. Meltor / S. Norwood
 (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



6720 SW Macadam Ave, Suite 125, Portland, OR 97219
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells **WELL ID:** YVD-30
SITE ADDRESS: Outlook, WA **BLIND ID:** CD-060419-05
Lat: 46.37498054 **Long:** 120.1252971 **DUP ID:** _____ **Time:** _____

WIND FROM: N NE E SE S SW W NW **WEATHER:** SUNNY PRTLY CLDY CLOUDY RAIN No Wind **TEMPERATURE:** 73 °F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)							[Water Column]	[Water Column x Gal/ft]
Date	Time	DTW (feet btoc)	Correction Factor	Corrected DTW	DTB (ft btoc)	DTB-DTW		Volume (gal)
6/4/19	10:45	36.23	-0.12	36.11	54.4	18.29	X 1	3.18
			-0.12				X 3	9.55
Gal/ft = (dia./2) ² x 0.163		1" = 0.041	2" = 0.174	6" = 1.469	8" = 2.611	10" = 4.079		

§ METHODS: (A) Dedicated Bladder Pump (B) Portable Bladder Pump (C) Peristaltic Pump (D) Waterra inertial pump (E) Bailor (F) Other

GROUNDWATER SAMPLING DATA										[✓ if used]
Bottle Type	Date	Time	Method §	#	Volume	Preservative [circle]	Ice	Filter	pH	
Yellow Poly	6/4/19	11:10	A	2	125 ml 250 ml 500 ml	H ₂ SO ₄	YES	NO	---	✓
Red Poly-total	1/1	↓	↓	①	125 ml 250 ml 500 ml	HNO ₃	YES	NO	---	✓
White Poly	1/1	↓	↓	①	125 ml 250 ml 500 ml	None	YES	NO	---	✓
Total Bottles (include duplicate count): 4					MS & MSD (circle if collected)					

BOTTLE TYPE	ANALYSIS PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
YELLOW - Poly	Ammonia (SM 4500-NH ₃ G) TKN (351.2) Total Phosphorus (SM 4500-P E)
RED TOTAL - Poly	Total Metals (Na, Mg, K, Ca (200.7))
WHITE - Poly	Ions (SO ₄ , Cl, F (300.0)) Alkalinity (total and bicarbonate (SM2320B)) Nitrate as N (300.0) Nitrite as N (300.0)

WATER QUALITY DATA				Purge Start Time: 1048		Pump stop time: 1114				Pump Inlet depth (ft btoc): 51.4	
Meas.	Method §	Time (24hr or Elapsed)	Purged (gal) (1)	DTW (ft)	Temp (°C)	DO (mg/l)	Spec Cond (µS/cm)	pH (Standard Units)	ORP (mV)	Turbidity (NTU)	Water clarity/color
1	A	0	0	36.23							Jun 6/4/19
2	A	3	0.7	36.30	16.3	8.99	266.9	7.38	144.1	1.33	clear, cloudy
3	A	6	1.35	36.32	16.3	9.11	246.2	7.01	160.2	0.55	" "
4	A	9	1.9	36.32	16.3	8.98	239.7	6.89	155.1	0.95	" "
5	A	12	2.5	36.30	16.4	8.88	236.2	6.82	149.2	0.91	" "
6	A	15	3.2	36.31	16.3	9.07	234.1	6.74	144.6	0.73	" "
7											
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17											
18											

Comments:

PSI setting = 30 psi; refill/discharge ratio = 10/5

ft btoc = feet below top of casing DTW = depth to water DTB = depth to bottom

+ 1 TKN bottle for MS/MSD

SAMPLER: J. Melton/S. Norwood
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



6720 SW Macadam Ave, Suite 125, Portland, OR 97219
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells **WELL ID:** YVD-29
SITE ADDRESS: Outlook, WA **BLIND ID:** CD- 060419-06
Lat: 46.37197164 **Long:** 120.1359149 **DUP ID:** Time: _____
WIND FROM: N NE E SE S SW W NW **LIGHT:** MEDIUM HEAVY
WEATHER: SUNNY PRTLY CLDY CLOUDY RAIN **TEMPERATURE:** 76 °F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)							[Water Column]		[Water Column x Gal/ft]	
Date	Time	DTW (feet btoc)	Correction Factor	Corrected DTW	DTB (ft btoc)	DTB-DTW			Volume (gal)	
6/4/19	11:58	34.05	-0.15	33.90	76.0	42.10	X1		7.33	
1			-0.15				X3		21.98	
Gal/ft = (dia./2) ² x 0.163		1" = 0.041		2" = 0.164		6" = 1.469		8" = 2.611		10" = 4.079

§ METHODS: (A) Dedicated Bladder Pump (B) Portable Bladder Pump (C) Peristaltic Pump (D) Waterra inertial pump (E) Bailor (F) Other _____

GROUNDWATER SAMPLING DATA										[if used]
Bottle Type	Date	Time	Method §	#	Volume	Preservative [circle]	Ice	Filter	pH	✓
Yellow Poly	6/3/19	12:20	A	2	125 ml 250 ml 500 ml	H ₂ SO ₄	YES	NO	---	✓
Red Poly-total	1/1	:		1	125 ml 250 ml 500 ml	HNO ₃	YES	NO	---	✓
White Poly	7/4/19	:		1	125 ml 250 ml 500 ml	None	YES	NO	---	✓
Total Bottles (include duplicate count):				4	MS & MSD (circle if collected)					

BOTTLE TYPE	ANALYSIS PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
YELLOW - Poly	Ammonia (SM 4500-NH3 G) TKN (351.2) Total Phosphorus (SM 4500-P E)
RED TOTAL - Poly	Total Metals (Na, Mg, K, Ca (200.7))
WHITE - Poly	Ions (SO ₄ , Cl, F (300.0)) Alkalinity (Total and bicarbonate (SM2320B)) Nitrate as N (300.0) Nitrite as N (300.0)

WATER QUALITY DATA				Purge Start Time: 1201		Pump stop time: 1225				Pump Inlet depth (ft btoc): 73.0	
Meas.	Method §	Time (24hr or elapsed)	Purged (gal)	DTW (ft)	Temp (°C)	DO (mg/l)	Spec Cond (µS/cm)	pH (Standard Units)	ORP (mV)	Turbidity (NTU)	Water clarity/color
1	A	0	—	36.70	—	—	—	—	—	—	Clear/colorless ↓ *
2	1	3	1.40	36.71	14.7	0.60	608.6	7.89	38.9	0.48	
3		6	2.8	1	14.7	0.58	607.5	7.85	28.3	0.30	
4		9	3.9		14.7	0.54	608.7	7.81	22.6	0.27	
5		12	5.0		14.7	0.53	610.9	7.79	16.2	0.46	
6	4	15	6.4	4	14.7	0.52	616.5	7.74	12.2	0.27	
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18											

Select A-G

Cumulative Totals

Comments:
PSI setting = 60 psi; refill/discharge ratio = 10/5
ft btoc = feet below top of casing DTW = depth to water DTB = depth to bottom
SAMPLER: J. Melton / S. Norwood (PRINTED NAME)
(SIGNATURE)

FIELD SAMPLING DATA SHEET



6720 SW Macadam Ave, Suite 125, Portland, OR 97219
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells **WELL ID:** YVD-21
SITE ADDRESS: Outlook, WA **BLIND ID:** CD-06419-07
Lat: 46.38255624 **Long:** 120.1463946 **DUP ID:** Time: _____

WIND FROM: N NE E SE S SW W NW **WEATHER:** SUNNY PRTLY CLDY CLOUDY RAIN No Wind **TEMPERATURE:** 77 °F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)							[Water Column]	[Water Column x Gal/ft]
Date	Time	DTW (feet btoc)	Correction Factor	Corrected DTW	DTB (ft btoc)	DTB-DTW		Volume (gal)
6/4/19	11:58	59.49	-0.14	59.35	75.4	16.05	X1	2.79
7/7			-0.14				X3	Jun 6/4/19 8-8 5:38
Gal/ft = (dia./2) ² x 0.163		1" = 0.041	2" = 0.174	6" = 1.469	8" = 2.611	10" = 4.079		

§ METHODS: (A) Dedicated Bladder Pump (B) Portable Bladder Pump (C) Peristaltic Pump (D) Waterz inertial pump (E) Bailer (F) Other _____

GROUNDWATER SAMPLING DATA										[if used]
Bottle Type	Date	Time	Method	#	Volume	Preservative [circle]	Ice	Filter	pH	✓
Yellow Poly	6/4/19	12:20	A	3	125 ml 250 ml 500 ml	H ₂ SO ₄	YES	NO	---	✓
Red Poly-total	1/1	:	↓	1	125 ml 250 ml 500 ml	HNO ₃	YES	NO	---	✓
White Poly	1/1	↓	↓	0	125 ml 250 ml 500 ml	None	YES	NO	---	✓
Total Bottles (include duplicate count): 3					MS & MSD (circle if collected)					

BOTTLE TYPE	ANALYSIS PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
YELLOW - Poly	Ammonia (SM 4500-NH3 G) TKN (351.2) Total Phosphorus (SM 4500-P E)
RED TOTAL - Poly	Total Metals (Na, Mg, K, Ca (200.7))
WHITE - Poly	ions (SC4, Cl, F (300.0)) Alkalinity (total and bicarbonate (SM2320B)) Nitrate as N (300.0) Nitrite as N (300.0)

WATER QUALITY DATA				Purge Start Time: 1200		Pump stop time: 1225			Pump Inlet depth (ft btoc): 72.4		
Meas.	Method §	Time (24hr or elapsed)	Purged (gal) (L)	DTW (ft)	Temp (°C)	DO (mg/l)	Spec Cond (µS/cm)	pH (Standard Units)	ORP (mV)	Turbidity (NTU)	Water clarity/color
1	A	0	0	59.49							Jun 6/4/19
2	A	3	0.7	59.57	16.5	12.95	171.2	6.72	153.1	2.03	clear, colorless
3	A	6	1.4	59.58	16.6	11.63	170.3	6.63	142.3	1.33	" "
4	A	9	2.05	59.56	16.5	11.14	171.3	6.54	131.2	2.08	" "
5	A	12	2.7	59.58	16.6	10.97	172.4	6.53	121.4	0.76	" "
6	A	15	3.4	59.57	16.5	10.95	171.9	6.54	114.1	1.65	" "
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[Select A-G]		[Cumulative Totals]									

Comments:
PSI setting = 50 psi; refill/discharge ratio = 10/5
ft btoc = feet below top of casing DTW = depth to water DTB = depth to bottom
Well located about 10 feet west of left-turn arrow sign

SAMPLER: J. Melton S. Norwood
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



6720 SW Macadam Ave, Suite 125, Portland, OR 97219
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells **WELL ID:** YVD-28
SITE ADDRESS: Outlook, WA **BLIND ID:** CD- 060419-08
Lat: 46.37195867 **Long:** -120.1359139 **DUP ID:** Time: _____
WIND FROM: N NE E SE S SW W NW **LIGHT:** LIGHT MEDIUM HEAVY
WEATHER: SUNNY PRTLY CLDY CLOUDY RAIN **No Wind** **TEMPERATURE:** 76 °F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)							[Water Column]	[Water Column x Gal/R]
Date	Time	DTW (feet btoc)	Correction Factor	Corrected DTW	DTB (ft btoc)	DTB-DTW		Volume (gal)
6/4/19	12:28	34.27	-0.13	34.14	55.3	21.16	X1	3.68
			-0.13				X3	11.05
Gal/ft = (dia./2) ² x 0.163		1" = 0.041	2" = 0.17	6" = 1.469	8" = 2.611	10" = 4.079		

§ METHODS: (A) Dedicated Bladder Pump (B) Portable Bladder Pump (C) Peristaltic Pump (D) Waterra inertial pump (E) Bailer (F) Other

GROUNDWATER SAMPLING DATA										[if used]
Bottle Type	Date	Time	Method §	#	Volume	Preservative [circle]	Ice	Filter	pH	✓
Yellow Poly	6/4/19	12:50	A	2	125 ml 250 ml 500 ml	H ₂ SO ₄	YES	NO	---	✓
Red Poly-total	1/1	:		1	125 ml 250 ml 500 ml	HNO ₃	YES	NO	---	✓
White Poly	1/1	:		1	125 ml 250 ml 500 ml	None	YES	NO	---	✓
Total Bottles (include duplicate count):				4	MS & MSD (circle if collected)					

BOTTLE TYPE	ANALYSIS PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
YELLOW - Poly	Ammonia (SM 4500-NH ₃ G) TKN (351.2) Total Phosphorus (SM 4500-P E)
RED TOTAL - Poly	Total Metals (Na, Mg, K, Ca (200.7))
WHITE - Poly	Iron (504, Cl F (200.0)) Alkalinity (total and bicarbonate (SM2320B)) Nitrate as N (300.0) Nitrite as N (300.0)

WATER QUALITY DATA				Purge Start Time: 233		Pump stop time: 1255				Pump Inlet depth (ft btoc): 52.3	
Meas.	Method §	Time (24hr or elapsed)	Purged (gal) (L)	DTW (ft)	Temp (°C)	DO (mg/l)	Spec Cond (µS/cm)	pH (Standard Units)	ORP (mV)	Turbidity (NTU)	Water clarity/color
1	A	0	—	34.27	—	—	—	—	—	—	—
2		3	0.9	34.30	15.1	1.34	531.3	7.91	7.2	0.87	clear / color 455
3		6	1.8		14.9	0.96	530.8	7.92	-3.3	0.30	
4		9	2.6		15.1	0.75	533.4	7.91	-12.5	0.77	
5		12	3.4		15.0	0.67	535.8	7.91	-18.9	0.35	
6		15	4.3		14.9	0.59	536.6	7.90	-24.3	0.25	
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Select A-G

Cumulative Totals

Comments:
PSI setting = 40 psi; refill/discharge ratio = 10/5
ft btoc = feet below top of casing DTW = depth to water DTB = depth to bottom

SAMPLER: J. Melton / S. Norwood
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



6720 SW Macadam Ave, Suite 125, Portland, OR 97219
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells **WELL ID:** YVD-23
SITE ADDRESS: Outlook, WA **BLIND ID:** CD- 060419-01
Lat: 46.38274688 **Long:** 120.1539512 **DUP ID:** Time: _____

WIND FROM: N NE E SE S SW ~~SW~~ NW **LIGHT** MEDIUM HEAVY
WEATHER: SUNNY PRTLY CLDY CLOUDY RAIN No Wind **TEMPERATURE:** 79 °F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)							[Water Column]	
Date	Time	DTW (feet btoc)	Correction Factor	Corrected DTW	DTB (ft btoc)	DTB-DTW	Volume (gal)	
6/4/19	12:37	89.58	-0.14	89.44	104.2	14.76	X 1	2.57
---	---	---	-0.14	---	---	---	X 3	7.70
Gal/ft = (dia./2) ² x 0.163		1" = 0.041	2" = 0.174	6" = 1.469	8" = 2.611	10" = 4.079		

§ METHODS: (A) Dedicated Bladder Pump (B) Portable Bladder Pump (C) Peristaltic Pump (D) Waterra inertial pump (E) Bailor (F) Other

GROUNDWATER SAMPLING DATA										[if used]
Bottle Type	Date	Time	Method §	#	Volume	Preservative [circle]	Ice	Filter	pH	✓
Yellow Poly	6/4/19	13:00	A	2	125 ml 250 ml 500 ml	H ₂ SO ₄	YES	NO	---	✓
Red Poly-total	1/1	:	↓	1	125 ml 250 ml 500 ml	HNO ₃	YES	NO	---	✓
White Poly	1/1	↓	↓	1	125 ml 250 ml 500 ml	None	YES	NO	---	✓
Total Bottles (include duplicate count):				4	MS & MSD (circle if collected)					

BOTTLE TYPE	ANALYSIS PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
YELLOW - Poly	Ammonia (SM 4500-NH3 G) TKN (351.2) Total Phosphorus (SM 4500-P E)
RED TOTAL - Poly	Total Metals (Na, Mg, K, Ca (200.7))
WHITE - Poly	Ions (SO ₄ , Cl, F (300.0)) Alkalinity (total and bicarbonate (SM2320B)) Nitrate as N (300.0) Nitrite as N (300.0)

WATER QUALITY DATA Purge Start Time: 1241 Pump stop time: 1305 Pump Inlet depth (ft btoc): 101.2

Meas.	Method §	Time (24hr or elapsed)	Purged (gal)	DTW (ft)	Temp (°C)	DO (mg/l)	Spec Cond (µS/cm)	pH (Standard Units)	ORP (mV)	Turbidity (NTU)	Water clarity/color
1	A	0	0	89.58							Jun 6/4/19
2	A	3	0.5	89.64	16.7	9.83	884	6.50	142.4	0.62	clear, colorless
3	A	6	0.9	89.64	16.4	9.61	881	6.37	135.9	0.50	" "
4	A	9	1.4	89.65	16.2	9.86	881	6.27	129.6	0.40	" "
5	A	12	1.85	89.64	16.4	9.76	878	6.25	123.8	0.47	" "
6	A	15	2.3	89.64	16.4	9.64	880	6.22	119.4	0.72	" "
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18											

Comments:
PSI setting = 60 psi; refill/discharge ratio = 10/5
ft btoc = feet below top of casing DTW = depth to water DTB = depth to bottom

SAMPLER: J. Melton S. Norwood
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



6720 SW Macadam Ave, Suite 125, Portland, OR 97219
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells **WELL ID:** YVD-24
SITE ADDRESS: Outlook, WA **BLIND ID:** CD- 060417-10
Lat: 46.38295346 **Long:** 120.1669093 **DUP ID:** Time: _____
WIND FROM: N NE E SE S SW W NW **LIGHT:** MEDIUM HEAVY
WEATHER: SUNNY PRTLY CLDY CLOUDY RAIN **TEMPERATURE:** 78 °F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft) [Water Column] [Water Column x Gal/ft]
Date Time DTW (feet btoc) Correction Factor Corrected DTW DTB (ft btoc) DTB-DTW Volume (gal)
6/4/19 13:22 90.25 -0.16 90.09 104.8 14.71 X1 2.56
-0.16 X3 7.68
Gal/ft = (dia./2)² x 0.163 1" = 0.041 2" = 0.174 6" = 1.469 8" = 2.611 10" = 4.079

§ METHODS: (A) Dedicated Bladder Pump (B) Portable Bladder Pump (C) Peristaltic Pump (D) Waterra inertial pump (E) Bailer (F) Other _____

GROUNDWATER SAMPLING DATA [√ if used]
Bottle Type Date Time Method # Volume Preservative [circle] Ice Filter pH
Yellow Poly 6/4/19 13:55 A 2 125 ml 250 ml 500 ml H₂SO₄ YES NO --- ✓
Red Poly-total 1/1 : 1 125 ml 250 ml 500 ml HNO₃ YES NO --- ✓
White Poly 1/1 : 1 125 ml 250 ml 500 ml None YES NO --- ✓
Total Bottles (include duplicate count): 4 MS & MSD (circle if collected)

BOTTLE TYPE ANALYSIS PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
YELLOW - Poly Ammonia (SM 4500-NH₃ G) TKN (351.2) Total Phosphorus (SM 4500-P E)
RED TOTAL - Poly Total Metals (Na, Mg, K, Ca (200.7))
WHITE - Poly Nitrate as N (300.0) Nitrite as N (300.0) Alkalinity (total and bicarbonate (SM2320B))

WATER QUALITY DATA Purge Start Time: 1339 Pump stop time: 1505 Pump Inlet depth (ft btoc): 101.8
Meas. Method Time (24hr or elapsed) Purged (gal) DTW (ft) Temp (°C) DO (mg/l) Spec Cond (µS/cm) pH (Standard Units) ORP (mV) Turbidity (NTU) Water clarity/color
1 A 0 93.14
2 3 0.4 93.22 16.9 8.43 871 7.61 30.0 0.49 Clear/colorless
3 6 0.85 93.23 16.6 8.10 887 7.55 26.6 0.29
4 9 1.3 16.6 8.06 888 7.53 23.8 0.23
5 12 1.80 16.5 8.18 888 7.54 20.6 0.32
6 15 2.25 16.5 8.19 889 7.55 18.0 0.62
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Comments:
PSI setting = 60 psi; refill/discharge ratio = 10/5
ft btoc = feet below top of casing DTW = depth to water DTB = depth to bottom

SAMPLER: J. Melton / S. Norwood (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



6720 SW Macadam Ave, Suite 125, Portland, OR 97219
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells **WELL ID:** YVD-22
SITE ADDRESS: Outlook, WA **BLIND ID:** CD- 060419-11
Lat: 46.38269082 **Long:** -120.1495863 **DUP ID:** _____ **Time:** _____
WIND FROM: N NE E SE S SW W NW LIGHT MEDIUM HEAVY
WEATHER: SUNNY PRTLY CLDY CLOUDY RAIN No Wind **TEMPERATURE:** 81 °F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)							[Water Column]		[Water Column x Gal/ft]	
Date	Time	DTW (feet btoc)	Correction Factor	Corrected DTW	DTB (ft btoc)	DTB-DTW			Volume (gal)	
6/4/19	12:24	54.54	-0.12	54.42	75.5	21.08	X1		3.67	
---	---	---	-0.12	---	---	---	X3		11.00	
Gal/ft = (dia./2) ² x 0.163		1" = 0.041		2" = 0.174	6" = 1.469	8" = 2.611			10" = 4.079	

§ METHODS: (A) Dedicated Bladder Pump (B) Portable Bladder Pump (C) Peristaltic Pump (D) Waterra inertial pump (E) Bailor (F) Other _____

GROUNDWATER SAMPLING DATA										[√ if used]
Bottle Type	Date	Time	Method §	#	Volume	Preservative [circle]	Ice	Filter	pH	√
Yellow Poly	6/4/19	14:00	A	2	125 ml 250 ml 500 ml	H ₂ SO ₄	YES	NO	---	✓
Red Poly-total	1/1	:	↓	3	125 ml 250 ml 500 ml	HNO ₃	YES	NO	---	✓
White Poly	1/1	:	↓	1	125 ml 250 ml 500 ml	None	YES	NO	---	✓
Total Bottles (include duplicate count): 4					MS & MSD (circle if collected)					

BOTTLE TYPE	ANALYSIS PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
YELLOW - Poly	Ammonia (SM 4500-NH3 G) TKN (351.2) Total Phosphorus (SM 4500-P E)
RED TOTAL - Poly	Total Metals (Na, Mg, K, Ca (200.7))
WHITE - Poly	Ions (SO ₄ , Cl, F (300.0)) Alkalinity (total and bicarbonate (SM2320B)) Nitrate as N (300.0) Nitrite as N (300.0)

WATER QUALITY DATA				Purge Start Time: 1330		Pump stop time: 1406		Pump Inlet depth (ft btoc): 72.5			
Meas.	Method §	Time (24hr or elapsed)	Purged (gal)	DTW (ft)	Temp (°C)	DO (mg/l)	Spec Cond (µS/cm)	pH (Standard Units)	ORP (mV)	Turbidity (NTU)	Water clarity/color
1	A	0	0	54.54	—	—	—	—	—	—	Sum 6/4/19
2	A	3	0.7	54.59	15.1	2.33	1953	6.07	134.9	0.65	clear, colorless
3	A	6	1.4	54.58	15.0	2.12	1972	5.87	128.3	0.56	" "
4	A	9	2.1	54.60	14.9	2.14	1977	5.73	120.5	1.04	" "
5	A	12	2.8	54.59	14.9	2.11	1983	5.60	114.6	1.11	" "
6	A	15	3.5	54.58	15.1	2.10	1979	5.42	109.9	0.35	" "
7	A	18	4.2	54.57	15.0	2.09	1978	5.09	106.3	0.54	" "
8	A	21	4.9	54.58	14.9	2.16	1980	4.92	104.8	0.57	" "
9	A	24	5.6	54.58	14.7	2.12	1985	4.87	102.8	1.01	" "
10	A	27	6.3	54.57	14.9	2.13	1981	4.89	101.1	0.44	" "
11	Sum 6/4/19										
12											
13											
14											
15											
16											
17											
18											
(Select A-C)		(Cumulative Total)									

Comments:
PSI setting = 50 psi; refill/discharge ratio = 10/5
ft btoc = feet below top of casing DTW = depth to water DTB = depth to bottom

SAMPLER: J. Melton S. Norwood
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



6720 SW Macadam Ave, Suite 125, Portland, OR 97219
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells		WELL ID: FIELD BLANK	
SITE ADDRESS: Outlook, WA		BLIND ID: CD- 060519-12	
DUP ID:		Time: _____	
WIND FROM:	N NE E SE S SW <u>W</u> NW	<u>LIGHT</u> MEDIUM HEAVY	
WEATHER:	SUNNY <u>PRTLY CLDY</u> CLOUDY RAIN No Wind	TEMPERATURE: 58 °F	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)						[Water Column]	[Water Column x Gal/ft]
Date	Time	DTW (feet btoc)	Correction Factor	Corrected DTW	DTB (ft btoc)	DTB-DTW	Volume (gal)
6/5/19	:			Jun 6/5/19			X 1
/ /	:						X 3
Gal/ft = (dia./2) ² x 0.163		1" = 0.041	2" = 0.174	6" = 1.469	8" = 2.611	10" = 4.079	

§ METHODS: (A) Dedicated Bladder Pump (B) Portable Bladder Pump (C) Peristaltic Pump (D) Waterra inertial pump (E) Bailor (F) Other POR

GROUNDWATER SAMPLING DATA										[√ if used]
Bottle Type	Date	Time	Method §	#	Volume	Preservative [circle]	Ice	Filter	pH	√
Yellow Poly	6/5/19	07:35	P	②	125 ml 250 ml 500 ml	H ₂ SO ₄	YES	NO	---	✓
Red Poly-total	/ /	:	↓	①	125 ml 250 ml 500 ml	HNO ₃	YES	NO	---	✓
White Poly	/ /	↓	↓	①	125 ml 250 ml 500 ml	None	YES	NO	---	✓
Total Bottles (include duplicate count):				④	MS & MSD (circle if collected)					

BOTTLE TYPE	ANALYSIS PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
YELLOW - Poly	Ammonia (SM 4500-NH ₃ G) TKN (351.2) Total Phosphorus (SM 4500-P E)
RED TOTAL - Poly	Total Metals (Na, Mg, K, Ca (200.7))
WHITE - Poly	Ions (SO ₄ , Cl, F (300.0)) Alkalinity (total and bicarbonate (SM 2320B)) Nitrate as N (300.0) Nitrite as N (300.0)

WATER QUALITY DATA		Purge Start Time: NA									
Meas.	Method §	Time (24hr or elapsed)	Purged (gal)(L)	DTW (ft)	Temp (°C)	DO (mg/l)	Spec Cond (uS/cm)	pH (Standard Units)	ORP (mV)	Turbidity (NTU)	Water clarity/color
1											
2											
3											
4											
5											
6											
7											
8											
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18											

Comments:
Sample collect by pouring laboratory-provided deionized water into sample containers from a height of one foot.
ft btoc = feet below top of casing DTW = depth to water DTB = depth to bottom

SAMPLER: J. Melton S. Norwood
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



6720 SW Macadam Ave, Suite 125, Portland, OR 97219
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells **WELL ID:** YVD-26
SITE ADDRESS: Outlook, WA **BLIND ID:** CD-060519-13
Lat: 46.37530531 **Long:** -120.1437151 **DUP ID:** Time: _____
WIND FROM: N NE E SE S SW W NW **WEATHER:** SUNNY PRTY CLDY CLOUDY RAIN No Wind **TEMPERATURE:** 58 °F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)							[Water Column]	[Water Column x Gal/ft]
Date	Time	DTW (feet btoc)	Correction Factor	Corrected DTW	DTB (ft btoc)	DTB-DTW		Volume (gal)
6/5/19	07:59	18.13	-0.10	18.03	66.3	48.27	X 1	8.40
---	---	---	-0.10	---	---	---	X 3	25.20
Gal/ft = (dia./2) ² x 0.163		1" = 0.041	2" = 0.174	6" = 1.469	8" = 2.611	10" = 4.079		

§ METHOD: (A) Dedicated Bladder Pump (B) Portable Bladder Pump (C) Peristaltic Pump (D) Waterra inertial pump (E) Bailor (F) Other _____

GROUNDWATER SAMPLING DATA										[if used]
Bottle Type	Date	Time	Method	#	Volume	Preservative [circle]	Ice	Filter	pH	✓
Yellow Poly	6/5/19	08:20	A	2	125 ml 250 ml 500 ml	H ₂ SO ₄	YES	NO	---	✓
Red Poly-total	1/1	:	↓	1	125 ml 250 ml 500 ml	HNO ₃	YES	NO	---	✓
White Poly	1/1	:	↓	1	125 ml 250 ml 500 ml	None	YES	NO	---	✓
Total Bottles (include duplicate count): 4					MS & MSD (circle if collected)					

BOTTLE TYPE	ANALYSIS PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
YELLOW - Poly	Ammonia (SM 4500-NH ₃ G) TKN (351.2) Total Phosphorus (SM 4500-P E)
RED TOTAL - Poly	Total Metals (Na, Mg, K, Ca (200.7))
WHITE - Poly	Ions (SO ₄ , Cl, F (300.0)) Alkalinity (total and bicarbonate (SM2320B)) Nitrate as N (300.0) Nitrite as N (300.0)

WATER QUALITY DATA				Purge Start Time: 0802			Pump stop time: 0824			Pump Inlet depth (ft btoc): 63.3	
Meas.	Method ^s	Time (24hr or elapsed)	Purged (gal)(L)	DTW (ft)	Temp (°C)	DO (mg/l)	Spec Cond (µS/cm)	pH (Standard Units)	ORP (mV)	Turbidity (NTU)	Water clarity/color
1	A	0	0	18.13							Jun 6/5/19
2	A	3	0.8	18.28	15.1	5.28	707	6.82	160.5	0.46	clear, colorless
3	A	6	1.4	18.24	14.7	4.55	714	6.83	155.9	0.38	" "
4	A	9	2.0	18.23	14.8	4.49	714	6.77	157.3	0.31	" "
5	A	12	2.6	18.29	14.5	4.46	711	6.69	148.6	0.31	" "
6	A	15	3.3	18.31	14.2	4.45	709	6.68	145.4	0.35	" "
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10											Jun 6/5/19
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16											
17											
18											

Select A-G

Cumulative Totals

Comments:
PSI setting = 40 psi; refill/discharge ratio = 9/6
ft btoc = feet below top of casing DTW = depth to water DTB = depth to bottom
SAMPLER: J. Melton / S. Norwood (PRINTED NAME) *J. Melton* (SIGNATURE)

FIELD SAMPLING DATA SHEET



6720 SW Macadam Ave, Suite 125, Portland, OR 97219
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells **WELL ID:** YVD-27
SITE ADDRESS: Outlook, WA **BLIND ID:** CD-060519-12 CD-060519-14
Lat: 46.37530493 **Long:** -120.1436891 **DUP ID:** Time: _____
WIND FROM: N NE E SE S SW W NW **WEATHER:** SUNNY PRITLY CLOUDY CLOUDY RAIN No Wind **TEMPERATURE:** 58 °F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)						(Water Column)	(Water Column x Gal/R)
Date	Time	DTW (feet btoc)	Correction Factor	Corrected DTW	DTB (ft btoc)	DTB-DTW	Volume (gal)
6/5/19	08:06	18.97	-0.14	18.83	97.4	78.57	X1 13.67
1/1	:		-0.14				X3 41.01
Gal/ft = (dia./2) ² x 0.163		1" = 0.041	2" = 0.174	6" = 1.469	8" = 2.611	10" = 4.079	

§ METHODS: (A) Dedicated Bladder Pump (B) Portable Bladder Pump (C) Peristaltic Pump (D) Waterra inertial pump (E) Bailer (F) Other _____

GROUNDWATER SAMPLING DATA										[✓ if used]
Bottle Type	Date	Time	Method §	#	Volume	Preservative [circle]	Ice	Filter	pH	✓
Yellow Poly	6/4/19	08:30	A	2	125 ml 250 ml 500 ml	H ₂ SO ₄	YES	NO	---	✓
Red Poly-total	1/1	:		1	125 ml 250 ml 500 ml	HNO ₃	YES	NO	---	✓
White Poly	1/1	:		1	125 ml 250 ml 500 ml	None	YES	NO	---	✓
Total Bottles (include duplicate count):				4	MS & MSD (circle if collected)					

BOTTLE TYPE	ANALYSIS PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
YELLOW - Poly	Ammonia (SM 4500-NH ₃ G) TKN (351.2) Total Phosphorus (SM 4500-P E)
RED TOTAL - Poly	Total Metals (Na, Mg, K, Ca (200.7))
WHITE - Poly	Ions (SO ₄ , Cl, F (300.0)) Alkalinity (total and bicarbonate (SM2320B)) Nitrate as N (300.0) Nitrite as N (300.0)

WATER QUALITY DATA				Purge Start Time: 0812			Pump stop time: 0838			Pump Inlet depth (ft btoc): 94.4	
Meas.	Method [§]	Time (24hr or elapsed)	Purged (gal) (L)	DTW (ft)	Temp (°C)	DO (mg/l)	Spec Cond (µS/cm)	pH (Standard Units)	ORP (mV)	Turbidity (NTU)	Water clarity/color
1	A	0	—	21.62	—	—	—	—	—	—	clear/colorless
2		3	1.1	22.09	13.9	2.94	496.6	7.46	146.40	0.34	
3		6	1.5	21.78	14.7	2.83	491.9	7.49	141.30	0.46	
4		9	1.9	21.80	14.8	2.87	500.3	7.53	137.51	0.00	
5		12	2.5	21.81	14.6	2.76	505.0	7.55	134.00	0.62	
6		15	2.9	21.80	14.6	2.70	507.0	7.57	130.20	0.85	
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Comments:

PSI setting = 60 psi; refill/discharge ratio = 9/6

ft btoc = feet below top of casing DTW = depth to water DTB = depth to bottom

50 psi @ 3-6 minutes
50 psi after 6 minutes

SAMPLER: J. Melton S. Norwood
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



6720 SW Macadam Ave, Suite 125, Portland, OR 97219
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells **WELL ID:** YVD-31
SITE ADDRESS: Outlook, WA **BLIND ID:** CD- 060519-15
Lat: _____ **Long:** _____ **DUP ID:** _____ **Time:** _____
WIND FROM: N NE E SE S SW W NW LIGHT MEDIUM HEAVY
WEATHER: SUNNY PARTLY CLDY CLOUDY RAIN No Wind **TEMPERATURE:** 62 °F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)							[Water Column]	[Water Column x Gal/ft]
Date	Time	DTW (feet btoc)	Correction Factor	Corrected DTW	DTB (ft btoc)	DTB-DTW		Volume (gal)
6/5/19	09:03	45.74	-0.10	45.64	100.3	54.66	X 1	9.51
1/1			-0.10				X 3	28.53
Gal/ft = (dia./2) ² x 0.163		1" = 0.041	2" = 0.174	6" = 1.469	8" = 2.611	10" = 4.079		

§ METHODS: (A) Dedicated Bladder Pump (B) Portable Bladder Pump (C) Peristaltic Pump (D) Waterra inertial pump (E) Bailor (F) Other _____

GROUNDWATER SAMPLING DATA										[✓ if used]
Bottle Type	Date	Time	Method §	#	Volume	Preservative [circle]	Ice	Filter	pH	
Yellow Poly	6/5/19	09:35	A	2	125 ml 250 ml 500 ml	H ₂ SO ₄	YES	NO	---	✓
Red Poly-total	1/1			1	125 ml 250 ml 500 ml	HNO ₃	YES	NO	---	✓
White Poly	1/1			1	125 ml 250 ml 500 ml	None	YES	NO	---	✓
Total Bottles (include duplicate count): 3					MS & MSD (circle if collected)					

BOTTLE TYPE	ANALYSIS PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
YELLOW - Poly	Ammonia (SM 4500-NH3 G) TKN (351.2) Total Phosphorus (SM 4500-P E)
RED TOTAL - Poly	Total Metals (Na, Mg, K, Ca (200.7))
WHITE - Poly	Ions (SO ₄ , Cl, F (300.0)) Alkalinity (total and bicarbonate (SM2320B)) Nitrate as N (300.0) Nitrite as N (300.0)

WATER QUALITY DATA				Purge Start Time: 0908			Pump stop time: 0939			Pump Inlet depth (ft btoc): 97.3	
Meas.	Method ^s	Time (24hr or elapsed)	Purged (gal)(L)	DTW (ft)	Temp (°C)	DO (mg/l)	Spec Cond (µS/cm)	pH (Standard Units)	ORP (mV)	Turbidity (NTU)	Water clarity/color
1	A	0	0	45.74							Jun 6/5/19
2	A	3	0.7	46.10	15.3	4.82	239.0	6.85	190.9	1.65	clear, colorless
3	A	6	1.4	46.16	15.1	4.51	238.7	6.36	186.1	0.77	" "
4	A	9	2.0	46.10	15.2	4.43	238.4	6.15	176.7	1.11	" "
5	A	12	2.6	46.11	15.2	4.35	237.5	6.16	170.4	0.74	" "
6	A	15	3.2	46.09	15.1	4.32	237.7	6.29	165.0	0.70	" "
7	A	18	3.8	46.09	15.3	4.32	237.5	6.22	160.5	0.46	" "
8	A	21	4.4	46.06	15.5	4.37	237.2	6.13	153.7	0.68	" "
9											
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18											

[Select A-G] [Cumulative Totals]

Comments:

PSI Setting = 50 PSI; refill/discharge ratio = 9/6

ft btoc = feet below top of casing DTW = depth to water DTB = depth to bottom

SAMPLER: J. Melton / S. Norwood
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



6720 SW Macadam Ave, Suite 125, Portland, OR 97219
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells **WELL ID:** YVD-32
SITE ADDRESS: Outlook, WA **BLIND ID:** CD- 060519-16
Lat: **Long:** **DUP ID:** CD-060519-17 **Time:** 0935
WIND FROM: N NE E SE S SW W NW **WEATHER:** SUNNY PRTLY CLDY CLOUDY RAIN No Wind **TEMPERATURE:** 62 °F

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)							[Water Column]	[Water Column x Gal/#]
Date	Time	DTW (feet btoc)	Correction Factor	Corrected DTW	DTB (ft btoc)	DTB-DTW		Volume (gal)
6/14/19	09:12	15.29	-0.10	15.19	129.86	84.67	X1	14.73
6/14/19			-0.10				X3	44.20
Gal/ft = (dia./2) ² x 0.163		1" = 0.041	2" = 0.174	6" = 1.469	8" = 2.611	10" = 4.079		

§ METHODS: (A) Dedicated Bladder Pump (B) Portable Bladder Pump (C) Peristaltic Pump (D) Waterra inertial pump (E) Bailer (F) Other

GROUNDWATER SAMPLING DATA										[✓ if used]
Bottle Type	Date	Time	Method §	#	Volume	Preservative (circle)	Ice	Filter	pH	
Yellow Poly	6/5/19	09:30	A	2	125 ml 250 ml 500 ml	H ₂ SO ₄	YES	NO	---	✓
Red Poly-total	1/1			1	125 ml 250 ml 500 ml	HNO ₃	YES	NO	---	✓
White Poly	1/1			1	125 ml 250 ml 500 ml	None	YES	NO	---	✓
Total Bottles (include duplicate count):				4	MS & MSD (circle if collected)					

BOTTLE TYPE	ANALYSIS PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
YELLOW - Poly	Ammonia (SM 4500-NH ₃ G) TKN (351.2) Total Phosphorus (SM 4500-P E)
RED TOTAL - Poly	Total Metals (Na, Mg, K, Ca (200.7))
WHITE - Poly	Ions (SO ₄ , Cl, F (300.0)) Alkalinity (total and bicarbonate (SM2320B)) Nitrate as N (300.0) Nitrite as N (300.0)

WATER QUALITY DATA										Purge Start Time: 0916	Pump stop time: 0940	Pump Inlet depth (ft btoc): 126.9
Meas.	Method §	Time (24hr or elapsed)	Purged (gal)	DTW (ft)	Temp (°C)	DO (mg/l)	Spec Cond (µS/cm)	pH (Standard Units)	ORP (mV)	Turbidity (NTU)	Water clarity/color	
1	A	0		48.15							Clear/Colorless	
2		3	1.05	48.27	14.9	7.30	963	7.59	143.2	0.35		
3		6	1.75		14.9	7.36	965	7.57	134.6	0.38		
4		9	2.3		14.7	7.41	966	7.56	126.9	0.28		
5		12	3.6		14.8	7.34	964	7.56	120.6	0.26		
6		15	4.4		14.8	7.30	965	7.55	115.3	0.32		
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15												
16												
17												
18												

Comments:
PSI Setting = 85 PSI; refill/discharge ratio = 9/6
ft btoc = feet below top of casing DTW = depth to water DTB = depth to bottom
SAMPLER: J. Melton / S. Norwood
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



6720 SW Macadam Ave, Suite 125, Portland, OR 97219

Office: (503) 670-1108

Fax: (503) 670-1128

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells **WELL ID:** YVD-25
SITE ADDRESS: Outlook, WA **BLIND ID:** CD-060519-18
Lat: 46.371995 **Long:** 120.1677208 **DUP ID:** _____ **Time:** _____

WIND FROM: N NE E SE S SW W NW **WEATHER:** SUNNY PRTLY CLDY CLOUDY RAIN **TEMPERATURE:** 75 °F
Light: LIGHT MEDIUM HEAVY
No Wind

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DTW (feet btoc)	Correction Factor	Corrected DTW	DTB (ft btoc)	DTB-DTW	[Water Column]	[Water Column x Gal/ft]
6/5/19	10:28	14.53	-0.14	14.39	86.0	71.61	X 1	12.46
---	---	---	-0.14	---	---	---	X 3	37.38
Gal/ft = (dia./2) ² x 0.163		1" = 0.041	2" = 0.174	6" = 1.469	8" = 2.611	10" = 4.079		

§ METHOD: (A) Dedicated Bladder Pump (B) Portable Bladder Pump (C) Peristaltic Pump (D) Waterra inertial pump (E) Bailor (F) Other

GROUNDWATER SAMPLING DATA

Bottle Type	Date	Time	Method §	#	Volume	Preservative [circle]	Ice	Filter	pH	[✓ if used]
Yellow Poly	6/5/19	10:55	A	②	125 ml 250 ml 500 ml	H ₂ SO ₄	YES	NO	---	✓
Red Poly-total	1/1	---	↓	①	125 ml 250 ml 500 ml	HNO ₃	YES	NO	---	✓
White Poly	1/1	---	↓	③	125 ml 250 ml 500 ml	None	YES	NO	---	✓
Total Bottles (include duplicate count): ④					MS & MSD (circle if collected)					

BOTTLE TYPE

ANALYSIS PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)

YELLOW - Poly

Ammonia (SM 4500-NH₃ G) TKN (351.2) Total Phosphorus (SM 4500-P E)

RED TOTAL - Poly

Total Metals (Na, Mg, K, Ca (200.7))

WHITE - Poly

Ions (SO₄, Cl, F (300.0)) Alkalinity (total and bicarbonate (SM2320B)) Nitrate as N (300.0) Nitrite as N (300.0)

WATER QUALITY DATA

Purge Start Time: 1834

Pump stop time: 1858

Pump Inlet depth (ft btoc): 83.0

Meas.	Method §	Time (24hr or elapsed)	Purged (gal)(L)	DTW (ft)	Temp (°C)	DO (mg/l)	Spec Cond (µS/cm)	pH (Standard Units)	ORP (mV)	Turbidity (NTU)	Water clarity/color
1	A	0	0	14.53	---	---	---	---	---	---	June 6/5/19
2	A	3	0.6	14.55	15.4	0.50	797	7.73	80.7	1.32	clear, colorless
3	A	6	1.2	14.56	15.1	0.42	796	7.68	70.7	0.93	" "
4	A	9	1.8	14.56	15.3	0.40	791	7.65	61.0	1.06	" "
5	A	12	2.4	14.58	15.3	0.41	788	7.63	54.4	0.69	" "
6	A	15	3.0	14.57	15.0	0.42	785	7.63	47.3	1.65	" "
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[Select A-G]

[Cumulative Totals]

Comments:

PSI setting = 50 psi; refill/discharge ratio = 9%

ft btoc = feet below top of casing DTW = depth to water DTB = depth to bottom

SAMPLER: J. Melton / S. Norwood

(PRINTED NAME)

(SIGNATURE)



DATE: 04 Jun 19

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells

PROJECT NO: 180996-01.02 task 01

DAILY SAFETY BRIEFING

PERSON CONDUCTING

MEETING: Sasha Norwood

HEALTH & SAFETY

OFFICER: Chris Torell

PROJECT

MANAGER: Mark Larsen

TOPICS COVERED:

- ☐ Emergency Procedures and Evacuation Route
- ☐ Directions to Hospital
- ☐ HASP Review and Location
- ☐ Safety Equipment Location
- ☐ Proper Safety Equipment Use
- ☐ Employee Right-to-Know/MSDS Location
- ☐ Fire Extinguisher Location
- ☐ Eye Wash Station Location
- ☐ Buddy System
- ☒ Self and Coworker Monitoring

- ☐ Lines of Authority
- ☒ Communication
- ☐ Site Security
- ☐ Vessel Safety Protocols
- ☐ Work Zones
- ☒ Vehicle Safety and Driving/Road Conditions
- ☐ Equipment Safety and Operation
- ☐ Proper Use of PPE
- ☐ Decontamination Procedures
- ☐ Other:

- ☒ Lifting Techniques
- ☒ Slips, Trips, and Falls
- ☐ Hazard Exposure Routes
- ☒ Heat and Cold Stress
- ☐ Overhead and Underfoot Hazards
- ☐ Chemical Hazards
- ☐ Flammable Hazards
- ☐ Biological Hazards
- ☐ Eating/Drinking/Smoking

WEATHER CONDITIONS: Expected high of 86°F

DAILY WORK SCOPE: Start CD well Sampling

SITE-SPECIFIC HAZARDS: Heat stress due to high temps and Slips trips and falls due to brush growth

SAFETY COMMENTS: Stay hydrated and keep in constant communication

ATTENDEES

PRINTED NAME	SIGNATURE
<u>Sasha Norwood</u>	<u>[Signature]</u>
<u>James Moraw</u>	<u>[Signature]</u>



DATE: 05 Jun 19

PROJECT NAME: Yakima Valley Dairies Groundwater Monitoring - CD Wells

PROJECT NO: 190996-01.02 task 01

DAILY SAFETY BRIEFING

PERSON CONDUCTING

MEETING: Sasha Norwood

HEALTH & SAFETY

OFFICER: Chris Torell

PROJECT

MANAGER: Mark Larsen

TOPICS COVERED:

- | | | |
|--|--|---|
| ☐ Emergency Procedures and Evacuation Route | ☐ Lines of Authority | ☒ Lifting Techniques |
| ☐ Directions to Hospital | ☐ Communication | ☒ Slips, Trips, and Falls |
| ☐ HASP Review and Location | ☐ Site Security | ☐ Hazard Exposure Routes |
| ☐ Safety Equipment Location | ☐ Vessel Safety Protocols | ☒ Heat and Cold Stress |
| ☐ Proper Safety Equipment Use | ☐ Work Zones | ☐ Overhead and Underfoot Hazards |
| ☐ Employee Right-to-Know/MSDS Location | ☒ Vehicle Safety and Driving/Road Conditions | ☐ Chemical Hazards |
| ☐ Fire Extinguisher Location | ☐ Equipment Safety and Operation | ☐ Flammable Hazards |
| ☐ Eye Wash Station Location | ☐ Proper Use of PPE | ☐ Biological Hazards |
| ☐ Buddy System | ☐ Decontamination Procedures | ☐ Eating/Drinking/Smoking |
| ☒ Self and Coworker Monitoring | ☐ Other: | |

WEATHER CONDITIONS: Expected high of 82°F

DAILY WORK SCOPE: Finish remaining 5 CD wells together with flaggers

SITE-SPECIFIC HAZARDS:

Be aware of passing vehicles in the work zone.

SAFETY COMMENTS: Stay hydrated.

ATTENDEES

PRINTED NAME

SIGNATURE

Sasha Norwood
James Norwood

[Signature]
[Signature]

Calibration Log
Yakima Valley Dairies Groundwater Monitoring - CD Wells

Year 2019
 Quarter 1st 2nd 3rd 4th

Probe #: 131400471				
	Initial	Final	Temp	Baro Pressure
Date: 5/3/19 6/4/19				
SC 1413 μ S/cm	1396	1413	22.1	---
pH 7.0	7.12	7.01	22.3	---
pH 4.01	4.02	4.02	22.2	---
pH 10.0				---
DO mg/L	9.04	9.04	28.9	738.4
ORP mV	236.4	235.5	22.3	---
Date: 6/4/19 6/5/19				
SC 1413 μ S/cm	1415	1415	19.3	---
pH 7.0	7.11	7.02	19.2	---
pH 4.01	4.04	4.01	19.3	---
pH 10.0				---
DO mg/L	10.92	10.92	19.2	740.7
ORP mV	239.7	239.3	19.5	---
Date:				
SC 1413 μ S/cm				---
pH 7.0				---
pH 4.01				---
pH 10.0				---
DO mg/L				---
ORP mV				---
Date:				
SC 1413 μ S/cm				---
pH 7.0				---
pH 4.01				---
pH 10.0				---
DO mg/L				---
ORP mV				---

Probe #: 165100041				
	Initial	Final	Temp	Baro Pressure
Date: 5/3/19 6/4/19				
SC 1413 μ S/cm	1395	1413	22.6	---
pH 7.0	6.85	7.01	22.8	---
pH 4.01	3.77	4.00	22.6	---
pH 10.0				---
DO mg/L	8.93	8.93	31.4	737.5
ORP mV	235.9	235.1	22.6	---
Date: 6/4/19 6/5/19				
SC 1413 μ S/cm	1431	1413	19.2	---
pH 7.0	7.56	7.03	19.0	---
pH 4.01	4.04	4.01	18.9	---
pH 10.0				---
DO mg/L	12.53	12.53	19.4	739.8
ORP mV	269.3	239.4	19.3	---
Date:				
SC 1413 μ S/cm				---
pH 7.0				---
pH 4.01				---
pH 10.0				---
DO mg/L				---
ORP mV				---
Date:				
SC 1413 μ S/cm				---
pH 7.0				---
pH 4.01				---
pH 10.0				---
DO mg/L				---
ORP mV				---

Comments:

SC = Specific Conductance

DO = Dissolved Oxygen

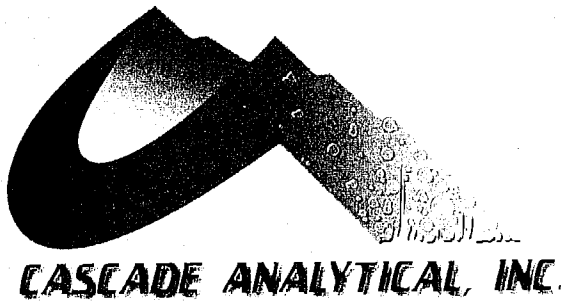
ORP = Oxidation/Reduction Potential

μ S/cm = microSiemens per centimeter

mV = millivolts

Attachment B

Analytical Laboratory Reports

**WENATCHEE**

3019 G.S. Center Road
Wenatchee, WA 98801

Tel: (509) 662-1888

Fax: (509) 662-8183

YAKIMA

1008 W. Ahtanum Road
Union Gap, WA 98903

Tel: (509) 452-7707

Fax: (509) 452-7773

Client: Anchor QEA

Cascade Analytical Batch ID 992243

Project: Yakima Valley Dairies

Narrative**Receipt**

Samples were received by courier on 6.4.19 at 3:00 pm in the field. Samples were received at the lab on 6.4.19 at 3:30 pm in good condition, preserved and on wet ice with a temperature of 6.0° C.

Chain of Custody

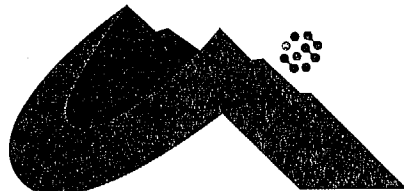
None

Data quality

Sample CD-060419-04, lab number 19-E014746 exceeded 48 hour hold time by four minutes for Nitrate-N. The sample needed further dilution outside of the labs normal working hours. Data was generated out of hold time, flagged and reported.

Exceptions

None



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Fax: (509) 452-7773
1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 992243
Client: Anchor QEA
Account: 19301
Sampler: Melton/Norwood
PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014743

Date Received: 6/ 4/19

Sample Identification: CD-060419-01

Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/26/19	
Other Lab Number	19F0083				6/ 4/19	
Sodium	< 0.7	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	< 0.62	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	< 0.4	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	< 0.06	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	< 0.07	mg/L	0.07	SM 4500-P E	6/11/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	< 5	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	< 5	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

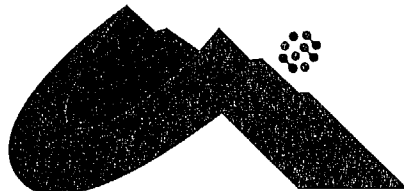
Andy Schut

Approved By Name: Lab Manager/Yakima

Signature:

Function:

Eurofins-Cascade Analytical uses procedures established by EPA, ADAC, APHA, ASTM, and AWWA. Eurofins-Cascade Analytical makes no warranty of any kind. The client assumes all risk and liability from the use of these results. Results relate only to the items tested and the sample(s) as received by the laboratory. Eurofins-Cascade Analytical liability to the client as a result of use of the test results shall be limited to a sum equal to the fees paid by the client to Eurofins-Cascade Analytical for analysis. PLEASE REVIEW YOUR DATA IN A TIMELY MANNER. DATA GAPS OR ERRORS AFTER ONE MONTH WILL NOT BE OUR RESPONSIBILITY. THOUGH WE DO KEEP ALL ANALYTICAL DATA FOR SEVERAL YEARS, SAMPLES ARE DISPOSED OF AFTER SIX WEEKS.



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Batch: 992243
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PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014743

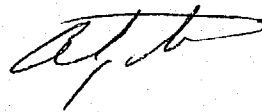
Date Received: 6/ 4/19

Sample Identification: CD-060419-01

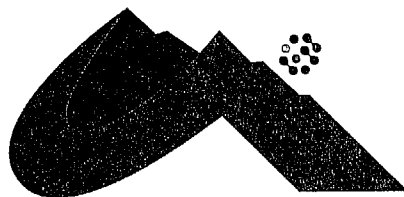
Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	< 0.1	mg/L	0.1	EPA 300.0	6/ 5/19	
Chloride	0.32	mg/L	0.1	EPA 300.0	6/ 5/19	
Nitrate-N	0.08	mg/L	0.05	EPA 300.0	6/ 5/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 5/19	
Sulfate	0.57	mg/L	0.1	EPA 300.0	6/ 5/19	

Approved By Name: Andy Schut
Lab Manager/Yakima
Function: _____

Signature: 

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Union Gap, WA 98903

Batch: 992243
Client: Anchor QEA
Account: 19301
Sampler: Melton/Norwood
PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014744

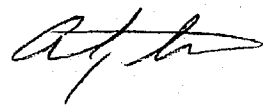
Date Received: 6/ 4/19

Sample Identification: CD-060419-02

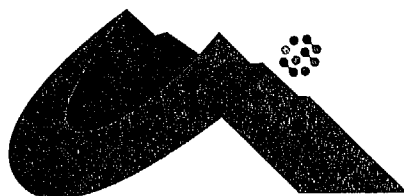
Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/26/19	
Other Lab Number	19F0083				6/ 4/19	
Sodium	26.2	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	< 0.62	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	34.0	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	9.450	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	0.14	mg/L	0.07	SM 4500-P E	6/11/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	135.	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	135.	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

Approved By Name: Andy Schut
Function: Lab Manager/Yakima

Signature: 

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Union Gap, WA 98903

Batch: 992243
Client: Anchor QEA
Account: 19301
Sampler: Melton/Norwood
PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014744

Date Received: 6/ 4/19

Sample Identification: CD-060419-02

Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	0.23	mg/L	0.1	EPA 300.0	6/ 5/19	
Chloride	7.10	mg/L	0.1	EPA 300.0	6/ 5/19	
Nitrate-N	0.78	mg/L	0.05	EPA 300.0	6/ 5/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 5/19	
Sulfate	18.4	mg/L	0.1	EPA 300.0	6/ 5/19	

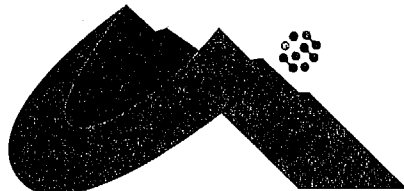
Approved By Name:

Andy Schut
Lab Manager/Yakima

Signature:

Function:

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Batch: 992243
Client: Anchor QEA
Account: 19301
Sampler: Melton/Norwood
PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014745

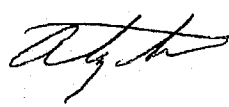
Date Received: 6/ 4/19

Sample Identification: CD-060419-03

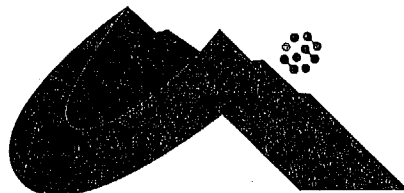
Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/26/19	
Other Lab Number	19F0083				6/ 4/19	
Sodium	26.5	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	< 0.62	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	33.4	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	9.350	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	0.15	mg/L	0.07	SM 4500-P E	6/11/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	135.	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	135.	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

Approved By Name: Andy Schut
Function: Lab Manager/Yakima

Signature: 

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1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 992243
Client: Anchor QEA
Account: 19301
Sampler: Melton/Norwood
PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-F014745

Date Received: 6/ 4/19

Sample Identification: CD-060419-03

Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	0.22	mg/L	0.1	EPA 300.0	6/ 5/19	
Chloride	6.02	mg/L	0.1	EPA 300.0	6/ 5/19	
Nitrate-N	0.72	mg/L	0.05	EPA 300.0	6/ 5/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 5/19	
Sulfate	14.6	mg/L	0.1	EPA 300.0	6/ 5/19	

Approved By Name:

Andy Schut

Signature:

Function:

Lab Manager/Yakima

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Batch: 992243
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Account: 19301
Sampler: Melton/Norwood
PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014746

Date Received: 6/ 4/19

Sample Identification: CD-060419-04

Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/26/19	
Other Lab Number	19F0083				6/ 4/19	
Sodium	156.	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	3.02	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	184.	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	53.50	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	< 0.07	mg/L	0.07	SM 4500-P E	6/11/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	508.	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	508.	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

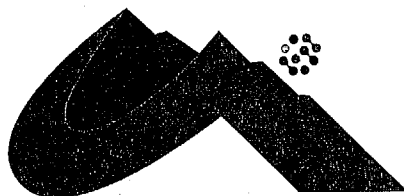
Approved By Name:

Andy Schut
Lab Manager/Yakima

Signature:

Function:

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PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014746

Date Received: 6/ 4/19

Sample Identification: CD-060419-04

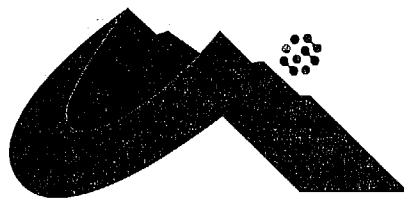
Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	< 0.1	mg/L	0.1	EPA 300.0	6/ 5/19	
Chloride	65.9	mg/L	1	EPA 300.0	6/ 5/19	
Nitrate-N	85.2	mg/L	1	EPA 300.0	6/ 6/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 5/19	
Sulfate	125.	mg/L	1	EPA 300.0	6/ 5/19	

Approved By Name: *Andy Schut*
Lab Manager/Yakima
Function: _____

Signature: *Andy Schut*

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Wenatchee, WA 98801

Batch: 992243
Client: Anchor QEA
Account: 19301
Sampler: Melton/Norwood
PO Number:
(509) 452-7707
Fax: (509) 452-7773
1008 W. Ahtanum Rd.
Union Gap, WA 98903

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014747

Date Received: 6/ 4/19

Sample Identification: CD-060419-05

Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/26/19	
Other Lab Number	19F0083				6/ 4/19	
Sodium	6.00	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	1.34	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	30.2	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	8.300	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	< 0.07	mg/L	0.07	SM 4500-P E	6/11/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	107.	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	107.	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

Approved By Name:

Andy Schut
Lab Manager/Yakima

Signature:

Function:

Eurofins-Cascade Analytical uses procedures established by EPA, ADAC, APHA, ASTM, and AWWA. Eurofins-Cascade Analytical makes no warranty of any kind. The client assumes all risk and liability from the use of these results. Results relate only to the items tested and the sample(s) as received by the laboratory. Eurofins-Cascade Analytical liability to the client as a result of use of the test results shall be limited to a sum equal to the fees paid by the client to Eurofins-Cascade Analytical for analysis. PLEASE REVIEW YOUR DATA IN A TIMELY MANNER. DATA GAPS OR ERRORS AFTER ONE MONTH WILL NOT BE OUR RESPONSIBILITY. THOUGH WE DO KEEP ALL ANALYTICAL DATA FOR SEVERAL YEARS, SAMPLES ARE DISPOSED OF AFTER SIX WEEKS.



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1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 992243
Client: Anchor QEA
Account: 19301
Sampler: Melton/Norwood
PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014747

Date Received: 6/ 4/19

Sample Identification: CD-060419-05

Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	0.16	mg/L	0.1	EPA 300.0	6/ 5/19	
Chloride	4.18	mg/L	0.1	EPA 300.0	6/ 5/19	
Nitrate-N	0.86	mg/L	0.05	EPA 300.0	6/ 5/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 5/19	
Sulfate	6.03	mg/L	0.1	EPA 300.0	6/ 5/19	

Approved By Name:

Andy Schut

Signature:

Function:

Lab Manager/Yakima

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--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014748

Date Received: 6/ 4/19

Sample Identification: CD-060419-06

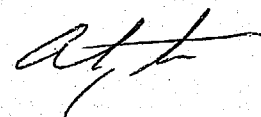
Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/26/19	
Other Lab Number	19F0083				6/ 4/19	
Sodium	20.4	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	3.76	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	73.0	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	23.50	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	< 0.07	mg/L	0.07	SM 4500-P E	6/13/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	228.	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	228.	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

Approved By Name:

Andy Schut

Signature:



Function:

Lab Manager/Yakima

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1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 992243
Client: Anchor QEA
Account: 19301
Sampler: Melton/Norwood
PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E01474A

Date Received: 6/ 4/19

Sample Identification: CD-060419-06

Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	0.88	mg/L	0.1	EPA 300.0	6/ 5/19	
Chloride	28.6	mg/L	0.1	EPA 300.0	6/ 5/19	
Nitrate-N	14.4	mg/L	1	EPA 300.0	6/ 5/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 5/19	
Sulfate	31.5	mg/L	0.1	EPA 300.0	6/ 5/19	

Approved By Name:

Andy Schut
Lab Manager/Yakima

Signature:

Function:

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Batch: 992243
Client: Anchor QEA
Account: 19301
Sampler: Melton/Norwood
PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014749

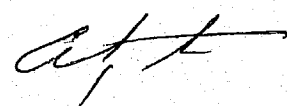
Date Received: 6/4/19

Sample Identification: CD-060419-07

Date Sampled: 6/4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/26/19	
Other Lab Number	19F0083				6/4/19	
Sodium	6.80	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	< 0.62	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	20.8	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	5.750	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	< 0.07	mg/L	0.07	SM 4500-P E	6/13/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	81.4	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	81.4	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

Approved By Name: Andy Schut
Lab Manager/Yakima

Signature: 

Function: _____

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PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014749

Date Received: 6/ 4/19

Sample Identification: CD-060419-07

Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	< 0.1	mg/L	0.1	EPA 300.0	6/ 5/19	
Chloride	3.10	mg/L	0.1	EPA 300.0	6/ 5/19	
Nitrate-N	0.24	mg/L	0.05	EPA 300.0	6/ 5/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 5/19	
Sulfate	4.74	mg/L	0.1	EPA 300.0	6/ 5/19	

Approved By Name:

Andy Schut
Lab Manager/Yakima

Signature:

Function:

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Batch: 992243
Client: Anchor QEA
Account: 19301
Sampler: Melton/Norwood
PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014750
Sample Identification: CD-060419-08

Date Received: 6/ 4/19
Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/26/19	
Other Lab Number	19F0083				6/ 4/19	
Sodium	13.0	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	7.45	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	73.5	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	20.20	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	< 0.07	mg/L	0.07	SM 4500-P E	6/13/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	254.	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	254.	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

Approved By Name:

Andy Schut
Lab Manager/Yakima

Signature:

Function:

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Union Gap, WA 98903

Batch: 992243
Client: Anchor QEA
Account: 19301
Sampler: Melton/Norwood
PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014750

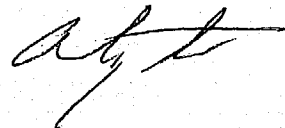
Date Received: 6/ 4/19

Sample Identification: CD-060419-08

Date Sampled: 6/ 4/19

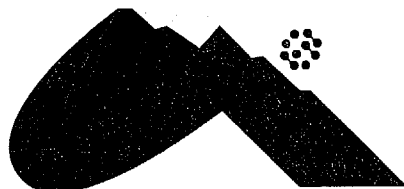
Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	< 0.1	mg/L	0.1	EPA 300.0	6/ 5/19	
Chloride	4.50	mg/L	0.1	EPA 300.0	6/ 5/19	
Nitrate-N	2.33	mg/L	0.05	EPA 300.0	6/ 5/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 5/19	
Sulfate	27.2	mg/L	0.1	EPA 300.0	6/ 5/19	

Approved By Name: Andy Schut
Lab Manager/Yakima

Signature: 

Function: _____

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Client: Anchor QEA
Account: 19301
Sampler: Melton/Norwood
PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014751

Date Received: 6/ 4/19

Sample Identification: CD-060419-09

Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/26/19	
Other Lab Number	19F0083				6/ 4/19	
Sodium	40.9	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	2.50	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	100.	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	29.20	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	< 0.07	mg/L	0.07	SM 4500-P E	6/13/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	228.	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	228.	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

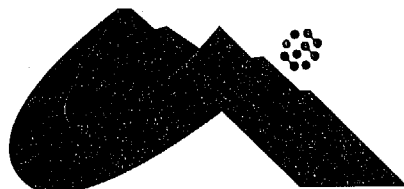
Approved By Name:

Andy Schut
Lab Manager/Yakima

Signature:

Function:

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Client: Anchor QEA
Account: 19301
Sampler: Melton/Norwood
PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014751

Date Received: 6/ 4/19

Sample Identification: CD-060419-09

Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	0.24	mg/L	0.1	EPA 300.0	6/ 5/19	
Chloride	30.9	mg/L	0.1	EPA 300.0	6/ 5/19	
Nitrate-N	14.8	mg/L	1	EPA 300.0	6/ 5/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 5/19	
Sulfate	142.	mg/L	2	EPA 300.0	6/ 5/19	

Approved By Name:

Andy Schut
Lab Manager/Yakima

Signature:

Function:

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Client: Anchor QEA
Account: 19301
Sampler: Melton/Norwood
PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014752
Sample Identification: CD-060419-10

Date Received: 6/ 4/19
Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/26/19	
Other Lab Number	19F0083				6/ 4/19	
Sodium	33.6	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	1.50	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	108.	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	36.40	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	< 0.07	mg/L	0.07	SM 4500-P E	6/13/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	278.	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	278.	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

Approved By Name:

Andy Schut
Lab Manager/Yakima

Signature:

Function:

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Account: 19301
Sampler: Melton/Norwood
PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014752

Date Received: 6/4/19

Sample Identification: CD-060419-10

Date Sampled: 6/4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	0.26	mg/L	0.1	EPA 300.0	6/6/19	
Chloride	40.8	mg/L	0.1	EPA 300.0	6/6/19	
Nitrate-N	11.1	mg/L	0.5	EPA 300.0	6/6/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/6/19	
Sulfate	115.	mg/L	1	EPA 300.0	6/6/19	

Approved By Name:

Andy Schut
Lab Manager/Yakima

Signature:

Function:

Eurofins-Cascade Analytical uses procedures established by EPA, AOAC, APHA, ASTM, and AWWA. Eurofins-Cascade Analytical makes no warranty of any kind. The client assumes all risk and liability from the use of these results. Results relate only to the items tested and the sample(s) as received by the laboratory. Eurofins-Cascade Analytical liability to the client as a result of use of the test results shall be limited to a sum equal to the fees paid by the client to Eurofins-Cascade Analytical for analysis. PLEASE REVIEW YOUR DATA IN A TIMELY MANNER. DATA GAPS OR ERRORS AFTER ONE MONTH WILL NOT BE OUR RESPONSIBILITY. THOUGH WE DO KEEP ALL ANALYTICAL DATA FOR SEVERAL YEARS, SAMPLES ARE DISPOSED OF AFTER SIX WEEKS.



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Wenatchee, WA 98801

(509) 452-7707
Fax: (509) 452-7773
1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 992243
Client: Anchor QEA
Account: 19301
Sampler: Melton/Norwood
PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014753

Date Received: 6/ 4/19

Sample Identification: CD-060419-11

Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/26/19	
Other Lab Number	19F0083				6/ 4/19	
Sodium	122.	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	2.22	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	215.	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	55.50	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	< 0.07	mg/L	0.07	SM 4500-P E	6/13/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	490.	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	490.	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

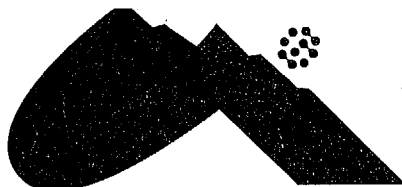
Approved By Name:

Andy Schut
Lab Manager/Yakima

Signature:

Function:

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Union Gap, WA 98903

Batch: 992243
Client: Anchor QEA
Account: 19301
Sampler: Melton/Norwood
PO Number:

--- Water Analytical Report ---

Report Date: 6/26/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014753

Date Received: 6/ 4/19

Sample Identification: CD-060419-11

Date Sampled: 6/ 4/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	0.12	mg/L	0.1	EPA 300.0	6/ 6/19	
Chloride	123.	mg/L	2	EPA 300.0	6/ 6/19	
Nitrate-N	89.8	mg/L	1	EPA 300.0	6/ 6/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 6/19	
Sulfate	122.	mg/L	2	EPA 300.0	6/ 6/19	

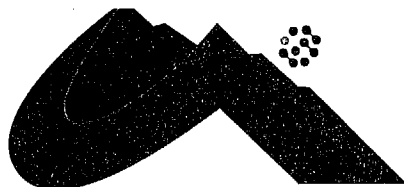
Approved By Name:

Andy Schut
Lab Manager/Yakima

Signature:

Function:

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Account: 19301
Sampler: Melton/Norwood
Date Sampled: 6/ 4/19
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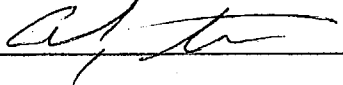
-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

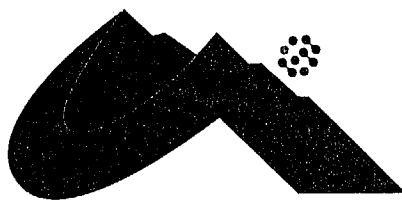
Batch number 992243

-- Blank Analysis --

Analyte	Blank ID	Units	Blank Results	Date Analyzed
Na	IPC_BlK	mg/l	< 0.7	6/11/19
Na	Dig_BlK	mg/l	< 0.7	6/11/19
Na	IPC_BlK	mg/l	< 0.7	6/11/19
Na	IPC_BlK	mg/l	< 0.7	6/11/19
Na	IPC_BlK	mg/l	< 0.7	6/11/19
K	IPC_BlK	mg/L	< 0.62	6/11/19
K	Dig_BlK	mg/L	< 0.62	6/11/19
K	IPC_BlK	mg/L	< 0.62	6/11/19
K	IPC_BlK	mg/L	< 0.62	6/11/19
K	IPC_BlK	mg/L	< 0.62	6/11/19
Ca	IPC_BlK	mg/L	< 0.4	6/11/19
Ca	Dig_BlK	mg/L	< 0.4	6/11/19
Ca	IPC_BlK	mg/L	< 0.4	6/11/19
Ca	IPC_BlK	mg/L	< 0.4	6/11/19
Ca	IPC_BlK	mg/L	< 0.4	6/11/19
Mg	IPC_BlK	mg/l	< 0.06	6/11/19
Mg	Dig_BlK	mg/l	< 0.06	6/11/19
Mg	IPC_BlK	mg/l	< 0.06	6/11/19
Mg	IPC_BlK	mg/l	< 0.06	6/11/19
Mg	IPC_BlK	mg/l	< 0.06	6/11/19
TP	Blank	mg/L	< 0.07	6/11/19
TP	Blank	mg/L	< 0.07	6/13/19
NH3	Blank	mg/L	< 0.07	6/10/19
F/IC	Blank	mg/L	< 0.1	6/ 5/19
F/IC	IPC_BlK	mg/L	< 0.1	6/ 5/19
F/IC	Blank	mg/L	< 0.1	6/ 5/19
F/IC	IPC_BlK	mg/L	< 0.1	6/ 5/19
F/IC	Blank	mg/L	< 0.1	6/ 5/19
F/IC	IPC_BlK	mg/L	< 0.1	6/ 5/19
F/IC	Blank	mg/L	< 0.1	6/ 6/19
F/IC	IPC_BlK	mg/L	< 0.1	6/ 6/19
F/IC	Blank	mg/L	< 0.1	6/ 6/19
F/IC	IPC_BlK	mg/L	< 0.1	6/ 6/19
F/IC	Blank	mg/L	< 0.1	6/ 6/19
F/IC	IPC_BlK	mg/L	< 0.1	6/ 6/19

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Union Gap, WA 98903

Account: 19301
Sampler: Melton/Norwood
Date Sampled: 6/ 4/19
Date Received: 6/ 4/19
Report Date: 6/26/19

-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Batch number 992243

-- Blank Analysis --

Analyte	Blank ID	Units	Blank Results	Date Analyzed
CL/IC	Blank	mg/L	< 0.1	6/ 5/19
CL/IC	IPC_Blk	mg/L	< 0.1	6/ 5/19
CL/IC	Blank	mg/L	< 0.1	6/ 5/19
CL/IC	IPC_Blk	mg/L	< 0.1	6/ 5/19
CL/IC	Blank	mg/L	< 0.1	6/ 5/19
CL/IC	IPC_Blk	mg/L	< 0.1	6/ 5/19
CL/IC	Blank	mg/L	< 0.1	6/ 6/19
CL/IC	IPC_Blk	mg/L	< 0.1	6/ 6/19
CL/IC	Blank	mg/L	< 0.1	6/ 6/19
CL/IC	IPC_Blk	mg/L	< 0.1	6/ 6/19
CL/IC	Blank	mg/L	< 0.1	6/ 6/19
CL/IC	IPC_Blk	mg/L	< 0.1	6/ 6/19
NO3-N	Blank	mg/L	< 0.05	6/ 5/19
NO3-N	IPC_Blk	mg/L	< 0.05	6/ 5/19
NO3-N	Blank	mg/L	< 0.05	6/ 5/19
NO3-N	IPC_Blk	mg/L	< 0.05	6/ 5/19
NO3-N	Blank	mg/L	< 0.05	6/ 5/19
NO3-N	IPC_Blk	mg/L	< 0.05	6/ 5/19
NO3-N	Blank	mg/L	< 0.05	6/ 6/19
NO3-N	IPC_Blk	mg/L	< 0.05	6/ 6/19
NO3-N	Blank	mg/L	< 0.05	6/ 6/19
NO3-N	IPC_Blk	mg/L	< 0.05	6/ 6/19
NO3-N	Blank	mg/L	< 0.05	6/ 6/19
NO3-N	IPC_Blk	mg/L	< 0.05	6/ 6/19

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Page: 2



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Date Sampled: 6/ 4/19
Date Received: 6/ 4/19
Report Date: 6/26/19

-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

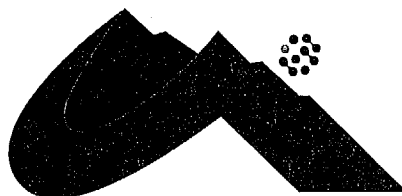
Batch number 992243

-- Blank Analysis --

Analyte	Blank ID	Units	Blank Results	Date Analyzed
NO2-N	Blank	mg/L	< 0.05	6/ 5/19
NO2-N	IPC_Blk	mg/L	< 0.05	6/ 5/19
NO2-N	Blank	mg/L	< 0.05	6/ 5/19
NO2-N	IPC_Blk	mg/L	< 0.05	6/ 5/19
NO2-N	Blank	mg/L	< 0.05	6/ 5/19
NO2-N	IPC_Blk	mg/L	< 0.05	6/ 5/19
NO2-N	Blank	mg/L	< 0.05	6/ 6/19
NO2-N	IPC_Blk	mg/L	< 0.05	6/ 6/19
NO2-N	Blank	mg/L	< 0.05	6/ 6/19
NO2-N	IPC_Blk	mg/L	< 0.05	6/ 6/19
NO2-N	Blank	mg/L	< 0.05	6/ 6/19
NO2-N	IPC_Blk	mg/L	< 0.05	6/ 6/19
NO2-N	Blank	mg/L	< 0.05	6/ 6/19
NO2-N	IPC_Blk	mg/L	< 0.05	6/ 6/19
SO4/IC	Blank	mg/L	< 0.1	6/ 5/19
SO4/IC	IPC_Blk	mg/L	< 0.1	6/ 5/19
SO4/IC	Blank	mg/L	< 0.1	6/ 5/19
SO4/IC	IPC_Blk	mg/L	< 0.1	6/ 5/19
SO4/IC	Blank	mg/L	< 0.1	6/ 5/19
SO4/IC	IPC_Blk	mg/L	< 0.1	6/ 5/19
SO4/IC	Blank	mg/L	< 0.1	6/ 6/19
SO4/IC	IPC_Blk	mg/L	< 0.1	6/ 6/19
SO4/IC	Blank	mg/L	< 0.1	6/ 6/19
SO4/IC	IPC_Blk	mg/L	< 0.1	6/ 6/19
SO4/IC	Blank	mg/L	< 0.1	6/ 6/19
SO4/IC	IPC_Blk	mg/L	< 0.1	6/ 6/19

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Account: 19301
Sampler: Melton/Norwood
Date Sampled: 6/ 4/19
Date Received: 6/ 4/19
Report Date: 6/26/19

-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Batch number 992243

-- Duplicate Analysis --

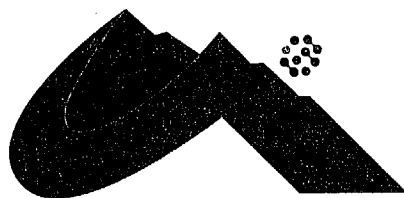
Acceptable Limit = 20 % RPD

Analyte	Sample ID	Units	Original Result	Duplicate Result	% RPD
NH3	19-E014738	mg/L	< 0.07	< 0.07	0.00
NH3	19-E014749	mg/L	< 0.07	< 0.07	0.00
NH3	19-E014882	mg/L	< 0.07	< 0.07	0.00
NH3	19-E014862	mg/L	0.49	0.51	4.00
Alk.	19-E014321	mg/L	118.	115.	-2.58
Alk.	19-E014744	mg/L	135.	134.	-0.74
Alk.	19-E014749	mg/L	81.4	78.6	-3.50
Alk.	19-E014884	mg/L	233.	233.	0.00
Bicarb	19-E014321	mg/L	118.	115.	-2.58
Bicarb	19-E014744	mg/L	135.	134.	-0.74
Bicarb	19-E014749	mg/L	81.4	78.6	-3.50
Bicarb	19-E014884	mg/L	233.	233.	0.00
Carbonate	19-E014321	mg/L	< 5	< 5	0.00
Carbonate	19-E014744	mg/L	< 5	< 5	0.00
Carbonate	19-E014749	mg/L	< 5	< 5	0.00
Carbonate	19-E014884	mg/L	< 5	< 5	0.00

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Report Date: 6/26/19

-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Batch number 992243

-- Spike Results --

Acceptable Limits = 75 - 125 %

Analyte	Sample ID	Date Analyzed	Units	Original Result	Spike Amount	Amount Found	Percent Recovery
**Na	19-E014746	6/11/19	mg/l	156.	10.0	170.	140
**Na	19-E014746	6/11/19	mg/l	156.	10.0	168.	120
Na	19-E014881	6/11/19	mg/l	38.1	10.0	48.2	101
Na	19-E014881	6/11/19	mg/l	38.1	10.0	48.0	99
**Na	19-E014885	6/11/19	mg/l	66.5	10.0	77.5	110
**Na	19-E014885	6/11/19	mg/l	66.5	10.0	77.0	105
K	19-E014746	6/11/19	mg/L	3.02	10.0	13.9	109
K	19-E014746	6/11/19	mg/L	3.02	10.0	13.8	108
K	19-E014881	6/11/19	mg/L	1.15	10.0	11.6	104
K	19-E014881	6/11/19	mg/L	1.15	10.0	11.4	102
K	19-E014885	6/11/19	mg/L	< 0.62	10.0	11.2	112
K	19-E014885	6/11/19	mg/L	< 0.62	10.0	11.2	112
**Ca	19-E014746	6/11/19	mg/L	184.	10.0	197.	130
**Ca	19-E014746	6/11/19	mg/L	184.	10.0	193.	90
**Ca	19-E014881	6/11/19	mg/L	47.4	10.0	56.5	91
**Ca	19-E014881	6/11/19	mg/L	47.4	10.0	56.0	86
**Ca	19-E014885	6/11/19	mg/L	64.5	10.0	74.5	100
**Ca	19-E014885	6/11/19	mg/L	64.5	10.0	75.5	110
**Mg	19-E014746	6/11/19	mg/l	53.50	10.00	63.50	100
**Mg	19-E014746	6/11/19	mg/l	53.50	10.00	62.50	90
Mg	19-E014881	6/11/19	mg/l	17.05	10.00	26.20	92
Mg	19-E014881	6/11/19	mg/l	17.05	10.00	26.10	90
Mg	19-E014885	6/11/19	mg/l	32.55	10.00	41.65	91
Mg	19-E014885	6/11/19	mg/l	32.55	10.00	41.85	93
TP	19-E014325	6/11/19	mg/L	< 0.07	2.50	2.50	100
TP	19-E014325	6/11/19	mg/L	< 0.07	2.50	2.58	103
TP	19-E014740	6/11/19	mg/L	< 0.07	2.50	2.54	102
TP	19-E014740	6/11/19	mg/L	< 0.07	2.50	2.55	102
TP	19-E014881	6/13/19	mg/L	< 0.07	2.50	2.60	104
TP	19-E014881	6/13/19	mg/L	< 0.07	2.50	2.66	106
TP	19-E014884	6/13/19	mg/L	< 0.07	2.50	2.66	106
TP	19-E014884	6/13/19	mg/L	< 0.07	2.50	2.67	107

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Page: 1

-- Quality Assurance Report --

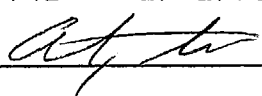
Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Batch number 992243

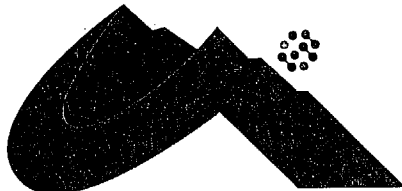
-- Spike Results --

Acceptable Limits = 75 - 125 %

Analyte	Sample ID	Date Analyzed	Units	Original Result	Spike Amount	Amount Found	Percent Recovery
NH3	19-E014738	6/10/19	mg/L	< 0.07	5.00	4.85	97
NH3	19-E014749	6/10/19	mg/L	< 0.07	5.00	4.93	99
NH3	19-E014882	6/10/19	mg/L	< 0.07	5.00	4.86	97
NH3	19-E014862	6/10/19	mg/L	0.49	5.00	5.54	101
F/IC	19-E014743	6/ 5/19	mg/L	< 0.1	2.00	2.18	109
F/IC	19-E014743	6/ 5/19	mg/L	< 0.1	2.00	2.39	120
F/IC	19-E014737	6/ 5/19	mg/L	< 0.1	20.0	23.0	115
F/IC	19-E014737	6/ 5/19	mg/L	< 0.1	20.0	22.3	112
F/IC	19-E014612	6/ 6/19	mg/L	0.11	20.0	22.2	110
F/IC	19-E014612	6/ 6/19	mg/L	0.11	20.0	22.0	109
F/IC	19-E015126	6/ 6/19	mg/L	0.72	20.0	22.7	110
F/IC	19-E015126	6/ 6/19	mg/L	0.72	20.0	23.0	111
CL/IC	19-E014743	6/ 5/19	mg/L	0.32	8.00	8.15	98
CL/IC	19-E014743	6/ 5/19	mg/L	0.32	8.00	8.72	105
CL/IC	19-E014737	6/ 5/19	mg/L	< 0.1	80.0	84.2	105
CL/IC	19-E014737	6/ 5/19	mg/L	< 0.1	80.0	82.0	102
CL/IC	19-E014612	6/ 6/19	mg/L	2.94	80.0	84.1	101
CL/IC	19-E014612	6/ 6/19	mg/L	2.94	80.0	83.6	101
NO3-N	19-E014743	6/ 5/19	mg/L	0.08	2.00	2.25	108
NO3-N	19-E014743	6/ 5/19	mg/L	0.08	2.00	2.38	115
NO3-N	19-E014737	6/ 5/19	mg/L	< 0.05	20.0	22.7	114
NO3-N	19-E014737	6/ 5/19	mg/L	< 0.05	20.0	21.9	110
NO3-N	19-E014612	6/ 6/19	mg/L	0.58	20.0	22.7	111
NO3-N	19-E014612	6/ 6/19	mg/L	0.58	20.0	22.4	109
NO2-N	19-E014743	6/ 5/19	mg/L	< 0.05	2.00	2.01	100
NO2-N	19-E014743	6/ 5/19	mg/L	< 0.05	2.00	2.22	111
NO2-N	19-E014737	6/ 5/19	mg/L	< 0.05	20.0	21.3	106
NO2-N	19-E014737	6/ 5/19	mg/L	< 0.05	20.0	20.6	103
NO2-N	19-E014612	6/ 6/19	mg/L	< 0.05	20.0	20.4	102
NO2-N	19-E014612	6/ 6/19	mg/L	< 0.05	20.0	20.2	101
SD4/IC	19-E014743	6/ 5/19	mg/L	0.57	8.00	8.19	95
SD4/IC	19-E014743	6/ 5/19	mg/L	0.57	8.00	8.80	103

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CASCADE ANALYTICAL

A EUROFINS COMPANY

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Fax: (509) 452-7773
1008 W. Ahtanum Rd.
Union Gap, WA 98903

Account: 19301
Sampler: Melton/Norwood
Date Sampled: 6/ 4/19
Date Received: 6/ 4/19
Report Date: 6/26/19

-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Batch number 992243

-- Spike Results --

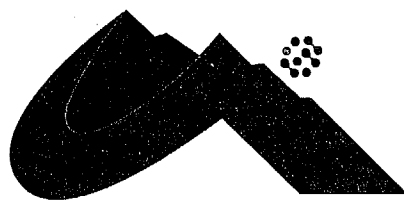
Acceptable Limits = 75 - 125 %

Analyte	Sample ID	Date Analyzed	Units	Original Result	Spike Amount	Amount Found	Percent Recovery
SD4/IC	19-E014737	6/ 5/19	mg/L	0.13	80.0	84.9	106
SD4/IC	19-E014737	6/ 5/19	mg/L	0.13	80.0	82.6	103
SD4/IC	19-E014612	6/ 6/19	mg/L	4.32	80.0	85.9	102
SD4/IC	19-E014612	6/ 6/19	mg/L	4.32	80.0	85.3	101

** Original amount is > 4 times spike amount.

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-- Quality Assurance Report --

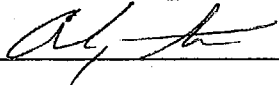
Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Batch number 992243

-- Matrix Spike Duplicate Results --

Acceptable Limits = 20 % RPD

Analyte	Date Analyzed	Units	Original Spk. Result	Duplicate Spk. Results	% RPD
Na	6/11/19	mg/l	170.	168.	-1.18
Na	6/11/19	mg/l	48.2	48.0	-0.42
Na	6/11/19	mg/l	77.5	77.0	-0.65
K	6/11/19	mg/L	13.9	13.8	-0.72
K	6/11/19	mg/L	11.6	11.4	-1.74
K	6/11/19	mg/L	11.2	11.2	0.00
Ca	6/11/19	mg/L	197.	193.	-2.05
Ca	6/11/19	mg/L	56.5	56.0	-0.89
Ca	6/11/19	mg/L	74.5	75.5	1.33
Mg	6/11/19	mg/l	63.50	62.50	-1.59
Mg	6/11/19	mg/l	26.20	26.10	-0.38
Mg	6/11/19	mg/l	41.65	41.85	0.48
TP	6/11/19	mg/L	2.50	2.58	3.15
TP	6/11/19	mg/L	2.54	2.55	0.39
TP	6/13/19	mg/L	2.60	2.66	2.28
TP	6/13/19	mg/L	2.66	2.67	0.38
F/IC	6/ 5/19	mg/L	2.18	2.39	9.19
F/IC	6/ 5/19	mg/L	23.0	22.3	-3.09
F/IC	6/ 6/19	mg/L	22.2	22.0	-0.90
F/IC	6/ 6/19	mg/L	22.7	23.0	1.31
CL/IC	6/ 5/19	mg/L	8.15	8.72	6.76
CL/IC	6/ 5/19	mg/L	84.2	82.0	-2.65
CL/IC	6/ 6/19	mg/L	84.1	83.6	-0.60
NO3-N	6/ 5/19	mg/L	2.25	2.38	5.62
NO3-N	6/ 5/19	mg/L	22.7	21.9	-3.59
NO3-N	6/ 6/19	mg/L	22.7	22.4	-1.33
NO2-N	6/ 5/19	mg/L	2.01	2.22	9.93
NO2-N	6/ 5/19	mg/L	21.3	20.6	-3.34
NO2-N	6/ 6/19	mg/L	20.4	20.2	-0.99
SO4/IC	6/ 5/19	mg/L	8.19	8.80	7.18
SO4/IC	6/ 5/19	mg/L	84.9	82.6	-2.75
SO4/IC	6/ 6/19	mg/L	85.9	85.3	-0.70

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Account: 19301
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Report Date: 6/26/19

-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Batch number 992243

-- Check Standard Analysis --

Acceptable Limits = 85 - 115 %

Analyte	Known ID	Units	Result	Target Value	Percent Recovery	Date Analyzed
Na	QCS	mg/l	1.99	2.00	100	6/11/19
Na	IPC	mg/l	1.97	2.00	98	6/11/19
Na	LFB	mg/l	10.6	10.0	106	6/11/19
Na	IPC	mg/l	2.12	2.00	106	6/11/19
Na	LFB	mg/l	10.7	10.0	107	6/11/19
Na	IPC	mg/l	2.16	2.00	108	6/11/19
Na	LFB	mg/l	10.6	10.0	106	6/11/19
Na	IPC	mg/l	2.19	2.00	110	6/11/19
K	QCS	mg/L	9.96	10.0	100	6/11/19
K	IPC	mg/L	10.0	10.0	100	6/11/19
K	LFB	mg/L	10.2	10.0	102	6/11/19
K	IPC	mg/L	10.3	10.0	103	6/11/19
K	LFB	mg/L	10.2	10.0	102	6/11/19
K	IPC	mg/L	10.1	10.0	101	6/11/19
K	LFB	mg/L	10.2	10.0	102	6/11/19
K	IPC	mg/L	10.0	10.0	100	6/11/19
Ca	QCS	mg/L	1.94	2.00	97	6/11/19
Ca	IPC	mg/L	2.00	2.00	100	6/11/19
Ca	LFB	mg/L	9.90	10.0	99	6/11/19
Ca	IPC	mg/L	1.97	2.00	98	6/11/19
Ca	LFB	mg/L	10.0	10.0	100	6/11/19
Ca	IPC	mg/L	1.98	2.00	99	6/11/19
Ca	LFB	mg/L	10.0	10.0	100	6/11/19
Ca	IPC	mg/L	2.00	2.00	100	6/11/19
Mg	QCS	mg/l	2.030	2.000	102	6/11/19
Mg	IPC	mg/l	2.000	2.000	100	6/11/19
Mg	LFB	mg/l	9.700	10.00	97	6/11/19
Mg	IPC	mg/l	2.010	2.000	100	6/11/19
Mg	LFB	mg/l	9.750	10.00	98	6/11/19
Mg	IPC	mg/l	2.000	2.000	100	6/11/19
Mg	LFB	mg/l	9.700	10.00	97	6/11/19
Mg	IPC	mg/l	1.990	2.000	100	6/11/19

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Account: 19301
Sampler: Melton/Norwood
Date Sampled: 6/ 4/19
Date Received: 6/ 4/19
Report Date: 6/26/19

-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Batch number 992243

-- Check Standard Analysis --

Acceptable Limits = 85 - 115 %

Analyte	Known ID	Units	Result	Target Value	Percent Recovery	Date Analyzed
TP	Known	mg/L	2.35	2.26	104	6/11/19
TP	LFB	mg/L	2.46	2.50	98	6/11/19
TP	Known	mg/L	2.37	2.26	105	6/11/19
TP	LFB	mg/L	2.51	2.50	100	6/11/19
TP	Known	mg/L	2.44	2.26	108	6/13/19
TP	LFB	mg/L	2.60	2.50	104	6/13/19
TP	Known	mg/L	2.42	2.26	107	6/13/19
TP	LFB	mg/L	2.60	2.50	104	6/13/19
NH3	QCS	mg/L	10.3	10.0	103	6/10/19
NH3	CCV	mg/L	3.98	4.00	100	6/10/19
NH3	LFB	mg/L	4.83	5.00	97	6/10/19
NH3	CCV	mg/L	4.01	4.00	100	6/10/19
NH3	LFB	mg/L	4.68	5.00	94	6/10/19
NH3	CCV	mg/L	3.99	4.00	100	6/10/19
NH3	LFB	mg/L	4.76	5.00	95	6/10/19
NH3	CCV	mg/L	3.95	4.00	99	6/10/19
NH3	LFB	mg/L	4.81	5.00	96	6/10/19
NH3	CCV	mg/L	4.08	4.00	102	6/10/19
Alk.	Known	mg/L	436.	472.	92	6/12/19
Alk.	Known	mg/L	443.	472.	94	6/12/19
Alk.	Known	mg/L	441.	472.	93	6/12/19
Alk.	Known	mg/L	443.	472.	94	6/12/19

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Page: 2



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-- Quality Assurance Report --

Anchor QEA
Matt Wilson
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Batch number 992243

-- Check Standard Analysis --

Acceptable Limits = 85 - 115 %

Analyte	Known ID	Units	Result	Target Value	Percent Recovery	Date Analyzed
F/IC	IPC_Low	mg/L	0.52	0.50	104	6/ 5/19
F/IC	IPC_HI	mg/L	3.06	3.00	102	6/ 5/19
F/IC	LFB	mg/L	2.20	2.00	110	6/ 5/19
F/IC	IPC_Low	mg/L	0.52	0.50	104	6/ 5/19
F/IC	IPC_HI	mg/L	3.06	3.00	102	6/ 5/19
F/IC	LFB	mg/L	2.20	2.00	110	6/ 5/19
F/IC	IPC_Low	mg/L	0.52	0.50	104	6/ 5/19
F/IC	IPC_HI	mg/L	3.07	3.00	102	6/ 5/19
F/IC	IPC_Low	mg/L	0.52	0.50	104	6/ 6/19
F/IC	IPC_HI	mg/L	3.06	3.00	102	6/ 6/19
F/IC	LFB	mg/L	2.20	2.00	110	6/ 6/19
F/IC	IPC_Low	mg/L	0.52	0.50	104	6/ 6/19
F/IC	IPC_HI	mg/L	3.06	3.00	102	6/ 6/19
F/IC	LFB	mg/L	2.20	2.00	110	6/ 6/19
F/IC	IPC_Low	mg/L	0.52	0.50	104	6/ 6/19
F/IC	IPC_HI	mg/L	3.06	3.00	102	6/ 6/19
CL/IC	IPC_Low	mg/L	0.50	0.50	100	6/ 5/19
CL/IC	IPC_HI	mg/L	9.83	10.0	98	6/ 5/19
CL/IC	LFB	mg/L	8.14	8.00	102	6/ 5/19
CL/IC	IPC_Low	mg/L	0.51	0.50	102	6/ 5/19
CL/IC	IPC_HI	mg/L	9.84	10.0	98	6/ 5/19
CL/IC	LFB	mg/L	8.17	8.00	102	6/ 5/19
CL/IC	IPC_Low	mg/L	0.48	0.50	96	6/ 5/19
CL/IC	IPC_HI	mg/L	9.82	10.0	98	6/ 5/19
CL/IC	IPC_Low	mg/L	0.47	0.50	94	6/ 6/19
CL/IC	IPC_HI	mg/L	9.81	10.0	98	6/ 6/19
CL/IC	LFB	mg/L	8.19	8.00	102	6/ 6/19
CL/IC	IPC_Low	mg/L	0.47	0.50	94	6/ 6/19
CL/IC	IPC_HI	mg/L	9.78	10.0	98	6/ 6/19
CL/IC	LFB	mg/L	8.17	8.00	102	6/ 6/19
CL/IC	IPC_Low	mg/L	0.48	0.50	96	6/ 6/19
CL/IC	IPC_HI	mg/L	9.80	10.0	98	6/ 6/19

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[Signature]

Page:

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-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Batch number 992243

-- Check Standard Analysis --

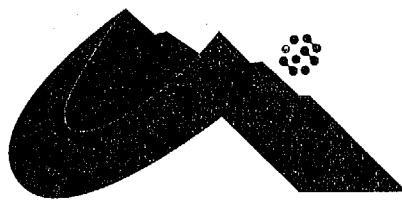
Acceptable Limits = 85 - 115 %

Analyte	Known ID	Units	Result	Target Value	Percent Recovery	Date Analyzed
N03-N	IPC_Low	mg/L	0.24	0.25	96	6/ 5/19
N03-N	IPC_HI	mg/L	2.82	3.00	94	6/ 5/19
N03-N	LFB	mg/L	2.16	2.00	108	6/ 5/19
N03-N	IPC_Low	mg/L	0.24	0.25	96	6/ 5/19
N03-N	IPC_HI	mg/L	2.83	3.00	94	6/ 5/19
N03-N	LFB	mg/L	2.18	2.00	109	6/ 5/19
N03-N	IPC_Low	mg/L	0.24	0.25	96	6/ 5/19
N03-N	IPC_HI	mg/L	2.83	3.00	94	6/ 5/19
N03-N	IPC_Low	mg/L	0.23	0.25	92	6/ 6/19
N03-N	IPC_HI	mg/L	2.83	3.00	94	6/ 6/19
N03-N	LFB	mg/L	2.19	2.00	110	6/ 6/19
N03-N	IPC_Low	mg/L	0.23	0.25	92	6/ 6/19
N03-N	IPC_HI	mg/L	2.82	3.00	94	6/ 6/19
N03-N	LFB	mg/L	2.18	2.00	109	6/ 6/19
N03-N	IPC_Low	mg/L	0.23	0.25	92	6/ 6/19
N03-N	IPC_HI	mg/L	2.82	3.00	94	6/ 6/19
N02-N	IPC_Low	mg/L	0.23	0.25	92	6/ 5/19
N02-N	IPC_HI	mg/L	2.96	3.00	99	6/ 5/19
N02-N	LFB	mg/L	2.03	2.00	102	6/ 5/19
N02-N	IPC_Low	mg/L	0.23	0.25	92	6/ 5/19
N02-N	IPC_HI	mg/L	2.96	3.00	99	6/ 5/19
N02-N	LFB	mg/L	2.04	2.00	102	6/ 5/19
N02-N	IPC_Low	mg/L	0.23	0.25	92	6/ 5/19
N02-N	IPC_HI	mg/L	2.96	3.00	99	6/ 5/19
N02-N	IPC_Low	mg/L	0.23	0.25	92	6/ 6/19
N02-N	IPC_HI	mg/L	2.94	3.00	98	6/ 6/19
N02-N	LFB	mg/L	2.03	2.00	102	6/ 6/19
N02-N	IPC_Low	mg/L	0.23	0.25	92	6/ 6/19
N02-N	IPC_HI	mg/L	2.95	3.00	98	6/ 6/19
N02-N	LFB	mg/L	2.03	2.00	102	6/ 6/19
N02-N	IPC_Low	mg/L	0.23	0.25	92	6/ 6/19
N02-N	IPC_HI	mg/L	2.95	3.00	98	6/ 6/19

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Sampler: Melton/Norwood
Date Sampled: 6/ 4/19
Date Received: 6/ 4/19
Report Date: 6/26/19

-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Batch number 992243

-- Check Standard Analysis --

Acceptable Limits = 85 - 115 %

Analyte	Known ID	Units	Result	Target Value	Percent Recovery	Date Analyzed
S04/IC	IPC_Low	mg/L	0.46	0.50	92	6/ 5/19
S04/IC	IPC_HI	mg/L	9.90	10.0	99	6/ 5/19
S04/IC	LFB	mg/L	8.18	8.00	102	6/ 5/19
S04/IC	IPC_Low	mg/L	0.49	0.50	98	6/ 5/19
S04/IC	IPC_HI	mg/L	9.92	10.0	99	6/ 5/19
S04/IC	LFB	mg/L	8.18	8.00	102	6/ 5/19
S04/IC	IPC_Low	mg/L	0.47	0.50	94	6/ 5/19
S04/IC	IPC_HI	mg/L	9.93	10.0	99	6/ 5/19
S04/IC	IPC_Low	mg/L	0.46	0.50	92	6/ 6/19
S04/IC	IPC_HI	mg/L	9.88	10.0	99	6/ 6/19
S04/IC	LFB	mg/L	8.22	8.00	103	6/ 6/19
S04/IC	IPC_Low	mg/L	0.47	0.50	94	6/ 6/19
S04/IC	IPC_HI	mg/L	9.89	10.0	99	6/ 6/19
S04/IC	LFB	mg/L	8.23	8.00	103	6/ 6/19
S04/IC	IPC_Low	mg/L	0.46	0.50	92	6/ 6/19
S04/IC	IPC_HI	mg/L	9.90	10.0	99	6/ 6/19

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Page: 5

Chain of Custody

LABORATORY NAME: Cascade Analytical, Inc.	
LABORATORY ADDRESS: 1008 W Ahtanum Road, Suite 2	
LABORATORY PHONE: 509-452-7707	
Project Manager:	Matt Wilson
Client Name:	Anchor QEA, LLC
Address:	6720 SW Macadam Ave., Suite 125
City, State ZIP:	Portland, OR 97219
Email:	mwilson@anchorage.com
Phone:	503-347-8511

Work Order No.: 992243

Bill to:	Cindy Fields
Company:	Anchor QEA, LLC
Email:	labdata@anchorage.com

Project Name: Yakima Valley Dairies Groundwater Monitoring - CD Wells					REQUESTED ANALYSIS								TAT		
Project Number: 190996-01.02 task 01					No. of containers	Ammonia method SM 4500-NH3 G	TKN 351.2 (sub to ARI)	Total Phosphorous method SM 4500-P E	Total Metals (Na, Mg, K, Ca) method 200.7	Anions (NO2, NO3, SO4, CL, F) Method 300.0	Alkalinity (Total and Bicarbonate) SM2320B	May Require Dilution			Comments
P.O. Number:												CI	NO3	SO4	
Sampler's Name: J. Melton / S. Norwood / A. Evans															
SAMPLE RECEIPT															
Temperature (°C):	6	Temp Blank Present		Yes											
Received Intact:	Yes	No	N/A	Wet Ice / Blue Ice											
Cooler Custody Seals:	Yes	No	N/A	Total Containers 44											
Sample Identification	Matrix	Date Sampled	Time Sampled	Lab ID											
CD-060419-01	WG	6/4/19	0830		4	X	X	X	X	X	X				19-E014743
CD-060419-02			0905		1									X	19-E014744
CD-060419-03			0910		1									X	19-E014745
CD-060419-04			1015		1							X	X	X	19-E014746
CD-060419-05			1110		5										19-E014747
CD-060419-06			1220		4								X		19-E014748
CD-060419-07			1220		1										19-E014749
CD-060419-08			1250		1								X		19-E014750
CD-060419-09			1300		1							X	X	X	19-E014751
CD-060419-10			1355		1							X	X	X	19-E014752
CD-060419-11			1400		1							X	X	X	19-E014753

Comments: Nitrate - 48 hour hold time

Email Sample Receipt Forms with a copy of the COC, reports and invoices to labdata@anchorage.com

RELINQUISHED BY			RECEIVED BY		
Print Name	Signature	Date/Time	Print Name	Signature	Date/Time
James Melton	<i>[Signature]</i>	6/4/19 1500	James King	<i>[Signature]</i>	6/4/19 3:00



Sample Receipt Form

Date Received: 6/11/19 Time Received: 15:30 Initials: AS

Client Name: Anchor Project Name: _____

Temperature of cooler upon receipt: 6.0 °C Thermometer ID: 0A2

Custody seals: ☒ Intact ☐ Broken ☐ None ☐ N/A

Chain of Custody Completed:

Client name, address, and phone number;	☒ Yes	No
Date and time of sampling;	☒ Yes	No
Test requests clear;	☒ Yes	No
Completed in ink;	☒ Yes	No
Signed by client;	☒ Yes	No

All samples received: ☒ Yes No

All samples intact: ☒ Yes No

Sample ID's match COC form: ☒ Yes No

Appropriate containers used: ☒ Yes No

Sufficient amount of sample for analysis: ☒ Yes No

Correct preservative verified: N/A ☒ Yes No

Air bubbles in VOC, TTHM, or HAA5 samples: N/A Yes No

Sample(s) exceed hold time: Yes ☒ No

Type of coolant: ☒ Ice ☐ Blue Ice ☐ None ☐ Other Comment: _____

Shipping Method: ☐ FedEx ☐ UPS ☐ USPS ☐ Brett & Sons ☐ Hand Delivered ☒ CAI Sampled AS
6/19

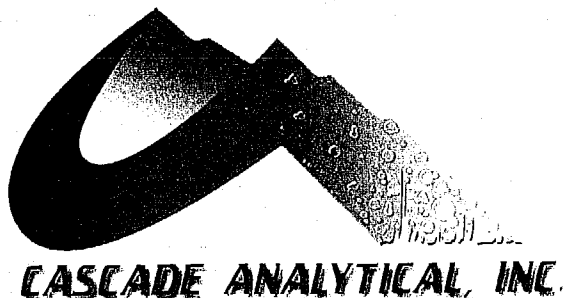
Shipping Container: ☒ CAI Cooler ☐ CAI Cooler Box ☐ Client's Cooler ☐ None ☐ Other _____

Samples accepted for analysis: ☒ Yes No

Reason for Rejection: _____

Name of Person Contacted: _____ Date Contacted: _____

Comments: _____

**WENATCHEE**

3019 G.S. Center Road
Wenatchee, WA 98801

Tel: (509) 662-1888

Fax: (509) 662-8183

YAKIMA

1008 W. Ahtanum Road
Union Gap, WA 98903

Tel: (509) 452-7707

Fax: (509) 452-7773

Client: Anchor QEA

Cascade Analytical Batch ID 992296

Project: Yakima Valley Dairies

Narrative**Receipt**

Samples were received at the lab on 6.5.19 at 1:04 pm in good condition, preserved and on wet ice with a temperature of 7.0° C.

Chain of Custody

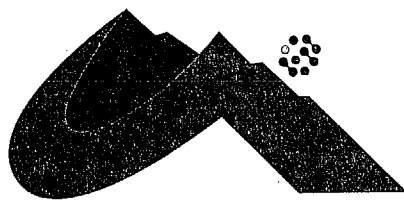
None

Data quality

None

Exceptions

None



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Fax: (509) 452-7773
1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 992296
Client: Anchor QEA
Account: 19301
Sampler: Melton\Norton
PO Number:

--- Water Analytical Report ---

Report Date: 6/24/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-F014879

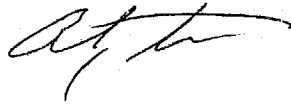
Date Received: 6/ 5/19

Sample Identification: CD-060519-12

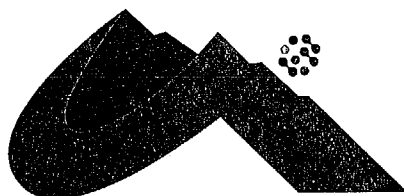
Date Sampled: 6/ 5/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/24/19	
Other Lab Number	19F0081				6/ 5/19	
Sodium	< 0.7	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	< 0.62	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	< 0.4	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	< 0.06	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	< 0.07	mg/L	0.07	SM 4500-P E	6/13/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	< 5	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	< 5	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

Approved By Name: Andy Schut
Function: Lab Manager/Yakima

Signature: 

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1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 992296
Client: Anchor QEA
Account: 19301
Sampler: Melton\Norton
PO Number:

--- Water Analytical Report ---

Report Date: 6/24/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014879

Date Received: 6/ 5/19

Sample Identification: CD-060519-12

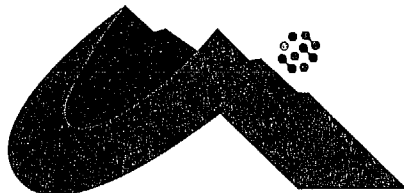
Date Sampled: 6/ 5/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	< 0.1	mg/L	0.1	EPA 300.0	6/ 6/19	
Chloride	< 0.1	mg/L	0.1	EPA 300.0	6/ 6/19	
Nitrate-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 6/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 6/19	
Sulfate	< 0.1	mg/L	0.1	EPA 300.0	6/ 6/19	

Approved By Name: Andy Schut
Lab Manager/Yakima
Function: _____

Signature: 

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Union Gap, WA 98903

Batch: 992296
Client: Anchor QEA
Account: 19301
Sampler: Melton\Norton
PO Number:

--- Water Analytical Report ---

Report Date: 6/24/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014880

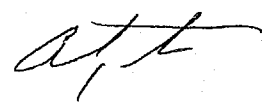
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Sample Identification: CD-060519-13

Date Sampled: 6/ 5/19

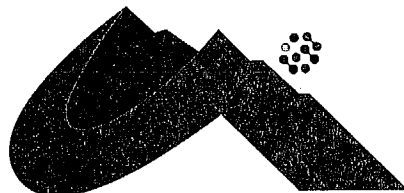
Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/24/19	
Other Lab Number	19F0081				6/ 5/19	
Sodium	29.1	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	< 0.62	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	74.0	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	31.80	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	< 0.07	mg/L	0.07	SM 4500-P E	6/13/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	293.	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	293.	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

Approved By Name: **Andy Schut**

Signature: 

Function: **Lab Manager/Yakima**

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Batch: 992296
Client: Anchor QEA
Account: 19301
Sampler: Melton\Norton
PO Number:

--- Water Analytical Report ---

Report Date: 6/24/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014880

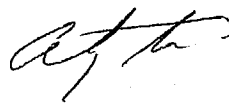
Date Received: 6/ 5/19

Sample Identification: CD-060519-13

Date Sampled: 6/ 5/19

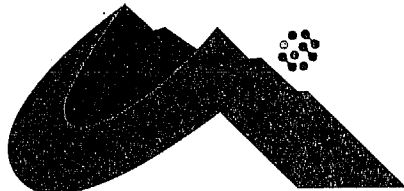
Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	0.50	mg/L	0.1	EPA 300.0	6/ 6/19	
Chloride	20.6	mg/L	0.1	EPA 300.0	6/ 6/19	
Nitrate-N	10.4	mg/L	0.5	EPA 300.0	6/ 6/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 6/19	
Sulfate	23.6	mg/L	0.1	EPA 300.0	6/ 6/19	

Approved By Name: **Andy Schut**
Lab Manager/Yakima

Signature: 

Function: _____

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Batch: 992296
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Account: 19301
Sampler: Melton\Norton
PO Number:

--- Water Analytical Report ---

Report Date: 6/24/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014881

Date Received: 6/ 5/19

Sample Identification: CD-060519-14

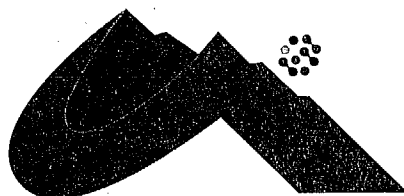
Date Sampled: 6/ 5/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/24/19	
Other Lab Number	19F0081				6/ 5/19	
Sodium	38.1	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	1.15	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	47.4	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	17.05	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	< 0.07	mg/L	0.07	SM 4500-P E	6/13/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	176.	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	176.	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

Approved By Name: *Andy Schut*
Function: *Lab Manager/Yakima*

Signature: *At*

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Union Gap, WA 98903

Batch: 992296
Client: Anchor QEA
Account: 19301
Sampler: Melton\Norton
PO Number:

--- Water Analytical Report ---

Report Date: 6/24/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014881

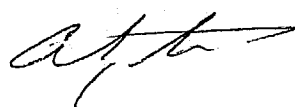
Date Received: 6/ 5/19

Sample Identification: CD-060519-14

Date Sampled: 6/ 5/19

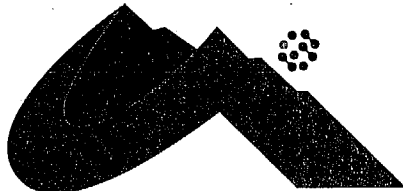
Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	0.59	mg/L	0.1	EPA 300.0	6/ 6/19	
Chloride	12.8	mg/L	0.1	EPA 300.0	6/ 6/19	
Nitrate-N	11.2	mg/L	0.5	EPA 300.0	6/ 6/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 6/19	
Sulfate	23.8	mg/L	0.1	EPA 300.0	6/ 6/19	

Approved By Name: Andy Schut
Lab Manager/Yakima

Signature: 

Function: _____

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Batch: 992296
Client: Anchor QEA
Account: 19301
Sampler: Melton\Norton
PO Number:

--- Water Analytical Report ---

Report Date: 6/24/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014882

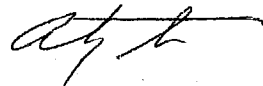
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Sample Identification: CD-060519-15

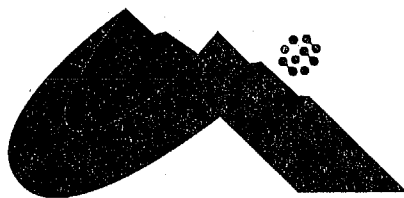
Date Sampled: 6/ 5/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/24/19	
Other Lab Number	19F0081				6/ 5/19	
Sodium	13.9	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	< 0.62	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	22.8	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	10.15	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	< 0.07	mg/L	0.07	SM 4500-P E	6/13/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	113.	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	113.	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

Approved By Name: **Andy Schut**
Function: **Lab Manager/Yakima**

Signature: 

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Union Gap, WA 98903

Batch: 992296
Client: Anchor QEA
Account: 19301
Sampler: Melton\Norton
PO Number:

--- Water Analytical Report ---

Report Date: 6/24/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014882

Date Received: 6/ 5/19

Sample Identification: CD-060519-15

Date Sampled: 6/ 5/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	1.02	mg/L	0.1	EPA 300.0	6/ 6/19	
Chloride	3.17	mg/L	0.1	EPA 300.0	6/ 6/19	
Nitrate-N	0.64	mg/L	0.05	EPA 300.0	6/ 6/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 6/19	
Sulfate	6.42	mg/L	0.1	EPA 300.0	6/ 6/19	

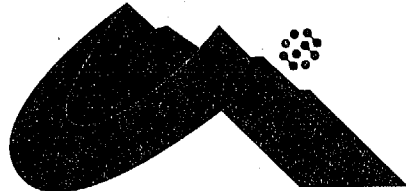
Approved By Name:

Andy Schut
Lab Manager/Yakima

Signature:

Function:

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Batch: 992296
Client: Anchor QEA
Account: 19301
Sampler: Melton\Norton
PO Number:

--- Water Analytical Report ---

Report Date: 6/24/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014883

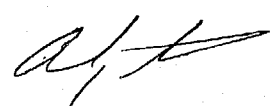
Date Received: 6/ 5/19

Sample Identification: CD-060519-16

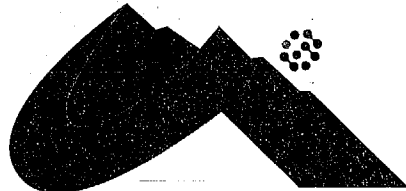
Date Sampled: 6/ 5/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/24/19	
Other Lab Number	19F0081				6/ 5/19	
Sodium	75.5	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	1.77	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	87.5	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	29.50	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	< 0.07	mg/L	0.07	SM 4500-P E	6/13/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	234.	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	234.	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

Approved By Name: **Andy Schut**
Lab Manager/Yakima
Function: _____

Signature: 

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3019 G. S. Center Road
Wenatchee, WA 98801

(509) 452-7707
Fax: (509) 452-7773
1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 992296
Client: Anchor QEA
Account: 19301
Sampler: Melton\Norton
PO Number:

--- Water Analytical Report ---

Report Date: 6/24/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014883

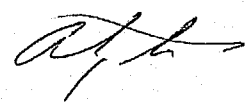
Date Received: 6/ 5/19

Sample Identification: CD-060519-16

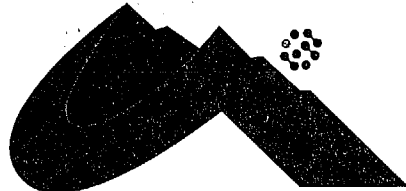
Date Sampled: 6/ 5/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	0.47	mg/L	0.1	EPA 300.0	6/ 6/19	
Chloride	28.5	mg/L	0.1	EPA 300.0	6/ 6/19	
Nitrate-N	47.0	mg/L	2.5	EPA 300.0	6/ 6/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 6/19	
Sulfate	65.0	mg/L	5	EPA 300.0	6/ 6/19	

Approved By Name: **Andy Schut**
Lab Manager/Yakima
Function: _____

Signature: 

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Batch: 992296
Client: Anchor QEA
Account: 19301
Sampler: Melton\Norton
PO Number:

--- Water Analytical Report ---

Report Date: 6/24/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125.
Portland, OR 97219

Laboratory Number: 19-E014884

Date Received: 6/ 5/19

Sample Identification: CD-060519-17

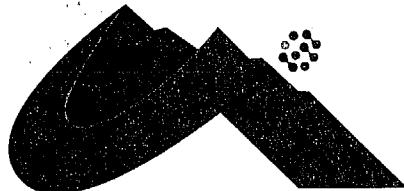
Date Sampled: 6/ 5/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/24/19	
Other Lab Number	19F0081				6/ 5/19	
Sodium	75.0	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	1.76	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	87.5	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	29.40	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	< 0.07	mg/L	0.07	SM 4500-P E	6/13/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	233.	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	233.	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

Approved By Name: *Andy Schut*
Function: *Lab Manager/Yakima*

Signature: 

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Batch: 992296
Client: Anchor QEA
Account: 19301
Sampler: Melton\Norton
PO Number:

--- Water Analytical Report ---

Report Date: 6/24/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014884

Date Received: 6/ 5/19

Sample Identification: CD-060519-17

Date Sampled: 6/ 5/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	0.44	mg/L	0.1	EPA 300.0	6/ 6/19	
Chloride	26.7	mg/L	0.1	EPA 300.0	6/ 6/19	
Nitrate-N	44.7	mg/L	0.5	EPA 300.0	6/ 6/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 6/19	
Sulfate	69.1	mg/L	1	EPA 300.0	6/ 6/19	

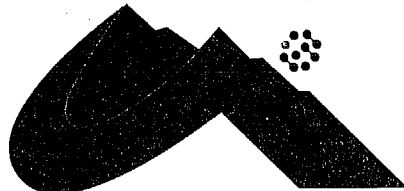
Approved By Name:

Andy Schut
Lab Manager/Yakima

Signature:

Function:

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Batch: 992296
Client: Anchor QEA
Account: 19301
Sampler: Melton\Norton
PO Number:

--- Water Analytical Report ---

Report Date: 6/24/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014885

Date Received: 6/ 5/19

Sample Identification: CD-060519-18

Date Sampled: 6/ 5/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by ARI				6/24/19	
Other Lab Number	19F0081				6/ 5/19	
Sodium	66.5	mg/l	0.35	EPA 200.7	6/11/19	
Potassium	< 0.62	mg/L	0.62	EPA 200.7	6/11/19	
Calcium	64.5	mg/L	0.2	EPA 200.7	6/11/19	
Magnesium	32.55	mg/l	0.06	EPA 200.7	6/11/19	
Total Phosphorus	< 0.07	mg/L	0.07	SM 4500-P E	6/17/19	
Ammonia	< 0.07	mg/L	0.07	SM 4500NH3-G	6/10/19	
Alkalinity (as CaCO3)	326.	mg/L	5	SM 2320-B	6/12/19	
Bicarbonate (as CaCO3)	326.	mg/L	5	SM 2320-B	6/12/19	
Carbonate as CaCO3	< 5	mg/L	5	SM 2320-B	6/12/19	

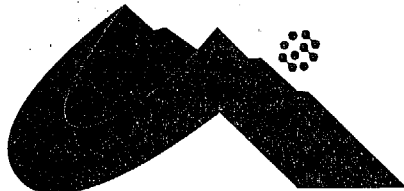
Approved By Name:

Andy Schut
Lab Manager/Yakima

Signature:

Function:

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Union Gap, WA 98903

Batch: 992296
Client: Anchor QEA
Account: 19301
Sampler: Melton\Norton
PO Number:

--- Water Analytical Report ---

Report Date: 6/24/19

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Laboratory Number: 19-E014885

Date Received: 6/ 5/19

Sample Identification: CD-060519-18

Date Sampled: 6/ 5/19

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Metals Digest Water	Metals Digest				6/10/19	
Fluoride	0.45	mg/L	0.1	EPA 300.0	6/ 6/19	
Chloride	14.2	mg/L	0.1	EPA 300.0	6/ 6/19	
Nitrate-N	13.2	mg/L	0.5	EPA 300.0	6/ 6/19	
Nitrite-N	< 0.05	mg/L	0.05	EPA 300.0	6/ 6/19	
Sulfate	36.5	mg/L	0.1	EPA 300.0	6/ 6/19	

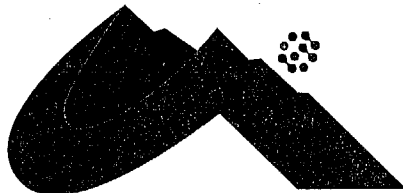
Andy Schut

Approved By Name: Lab Manager/Yakima

Signature:

Function: _____

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Union Gap, WA 98903

Account: 19301
Sampler: Melton\Norton
Date Sampled: 6/ 5/19
Date Received: 6/ 5/19
Report Date: 6/24/19

-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

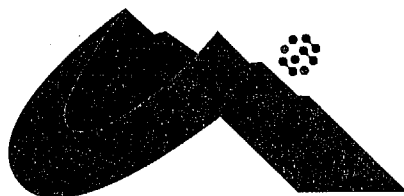
Batch number 992296

-- Blank Analysis --

Analyte	Blank ID	Units	Blank Results	Date Analyzed
Na	IPC_Bl1k	mg/l	< 0.7	6/11/19
Na	Dig_Bl1k	mg/l	< 0.7	6/11/19
Na	IPC_Bl1k	mg/l	< 0.7	6/11/19
Na	IPC_Bl1k	mg/l	< 0.7	6/11/19
Na	IPC_Bl1k	mg/l	< 0.7	6/11/19
K	IPC_Bl1k	mg/L	< 0.62	6/11/19
K	Dig_Bl1k	mg/L	< 0.62	6/11/19
K	IPC_Bl1k	mg/L	< 0.62	6/11/19
K	IPC_Bl1k	mg/L	< 0.62	6/11/19
K	IPC_Bl1k	mg/L	< 0.62	6/11/19
Ca	IPC_Bl1k	mg/L	< 0.4	6/11/19
Ca	Dig_Bl1k	mg/L	< 0.4	6/11/19
Ca	IPC_Bl1k	mg/L	< 0.4	6/11/19
Ca	IPC_Bl1k	mg/L	< 0.4	6/11/19
Ca	IPC_Bl1k	mg/L	< 0.4	6/11/19
Mg	IPC_Bl1k	mg/l	< 0.06	6/11/19
Mg	Dig_Bl1k	mg/l	< 0.06	6/11/19
Mg	IPC_Bl1k	mg/l	< 0.06	6/11/19
Mg	IPC_Bl1k	mg/l	< 0.06	6/11/19
Mg	IPC_Bl1k	mg/l	< 0.06	6/11/19
TP	Blank	mg/L	< 0.07	6/13/19
TP	Blank	mg/L	< 0.07	6/17/19
NH3	Blank	mg/L	< 0.07	6/10/19
F/IC	Blank	mg/L	< 0.1	6/ 6/19
F/IC	IPC_Bl1k	mg/L	< 0.1	6/ 6/19
F/IC	Blank	mg/L	< 0.1	6/ 6/19
F/IC	IPC_Bl1k	mg/L	< 0.1	6/ 6/19
F/IC	Blank	mg/L	< 0.1	6/ 6/19
F/IC	IPC_Bl1k	mg/L	< 0.1	6/ 6/19
CL/IC	Blank	mg/L	< 0.1	6/ 6/19
CL/IC	IPC_Bl1k	mg/L	< 0.1	6/ 6/19
CL/IC	Blank	mg/L	< 0.1	6/ 6/19
CL/IC	IPC_Bl1k	mg/L	< 0.1	6/ 6/19
CL/IC	Blank	mg/L	< 0.1	6/ 6/19
CL/IC	IPC_Bl1k	mg/L	< 0.1	6/ 6/19

Approved by

Page: 1



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Account: 19301
Sampler: Melton\Norton
Date Sampled: 6/ 5/19
Date Received: 6/ 5/19
Report Date: 6/24/19

-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Batch number 992296

-- Blank Analysis --

Analyte	Blank ID	Units	Blank Results	Date Analyzed
NO3-N	Blank	mg/L	< 0.05	6/ 6/19
NO3-N	IPC_B1k	mg/L	< 0.05	6/ 6/19
NO3-N	Blank	mg/L	< 0.05	6/ 6/19
NO3-N	IPC_B1k	mg/L	< 0.05	6/ 6/19
NO3-N	Blank	mg/L	< 0.05	6/ 6/19
NO3-N	IPC_B1k	mg/L	< 0.05	6/ 6/19
NO2-N	Blank	mg/L	< 0.05	6/ 6/19
NO2-N	IPC_B1k	mg/L	< 0.05	6/ 6/19
NO2-N	Blank	mg/L	< 0.05	6/ 6/19
NO2-N	IPC_B1k	mg/L	< 0.05	6/ 6/19
NO2-N	Blank	mg/L	< 0.05	6/ 6/19
NO2-N	IPC_B1k	mg/L	< 0.05	6/ 6/19
SO4/IC	Blank	mg/L	< 0.1	6/ 6/19
SO4/IC	IPC_B1k	mg/L	< 0.1	6/ 6/19
SO4/IC	Blank	mg/L	< 0.1	6/ 6/19
SO4/IC	IPC_B1k	mg/L	< 0.1	6/ 6/19
SO4/IC	Blank	mg/L	< 0.1	6/ 6/19
SO4/IC	IPC_B1k	mg/L	< 0.1	6/ 6/19

Approved by

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Union Gap, WA 98903

Account: 19301
Sampler: Melton\Norton
Date Sampled: 6/ 5/19
Date Received: 6/ 5/19
Report Date: 6/24/19

-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Batch number 992296

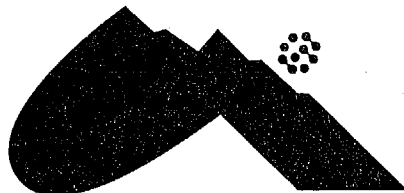
-- Duplicate Analysis --

Acceptable Limit = 20 % RPD

Analyte	Sample ID	Units	Original Result	Duplicate Result	% RPD
NH3	19-E014738	mg/L	< 0.07	< 0.07	0.00
NH3	19-E014749	mg/L	< 0.07	< 0.07	0.00
NH3	19-E014882	mg/L	< 0.07	< 0.07	0.00
NH3	19-E014862	mg/L	0.49	0.51	4.00
Alk.	19-E014321	mg/L	118.	115.	-2.58
Alk.	19-E014744	mg/L	135.	134.	-0.74
Alk.	19-E014749	mg/L	81.4	78.6	-3.50
Alk.	19-E014884	mg/L	233.	233.	0.00
Bicarb	19-E014321	mg/L	118.	115.	-2.58
Bicarb	19-E014744	mg/L	135.	134.	-0.74
Bicarb	19-E014749	mg/L	81.4	78.6	-3.50
Bicarb	19-E014884	mg/L	233.	233.	0.00
Carbonate	19-E014321	mg/L	< 5	< 5	0.00
Carbonate	19-E014744	mg/L	< 5	< 5	0.00
Carbonate	19-E014749	mg/L	< 5	< 5	0.00
Carbonate	19-E014884	mg/L	< 5	< 5	0.00

Approved by

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Union Gap, WA 98903

Account: 19301
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Date Sampled: 6/ 5/19
Date Received: 6/ 5/19
Report Date: 6/24/19

-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Batch number 992296

-- Spike Results --

Acceptable Limits = 75 - 125 %

Analyte	Sample ID	Date Analyzed	Units	Original Result	Spike Amount	Amount Found	Percent Recovery
**Na	19-E014746	6/11/19	mg/l	156.	10.0	170.	140
**Na	19-E014746	6/11/19	mg/l	156.	10.0	168.	120
Na	19-E014881	6/11/19	mg/l	38.1	10.0	48.2	101
Na	19-E014881	6/11/19	mg/l	38.1	10.0	48.0	99
**Na	19-E014885	6/11/19	mg/l	66.5	10.0	77.5	110
**Na	19-E014885	6/11/19	mg/l	66.5	10.0	77.0	105
K	19-E014746	6/11/19	mg/L	3.02	10.0	13.9	109
K	19-E014746	6/11/19	mg/L	3.02	10.0	13.8	108
K	19-E014881	6/11/19	mg/L	1.15	10.0	11.6	104
K	19-E014881	6/11/19	mg/L	1.15	10.0	11.4	102
K	19-E014885	6/11/19	mg/L	< 0.62	10.0	11.2	112
K	19-E014885	6/11/19	mg/L	< 0.62	10.0	11.2	112
**Ca	19-E014746	6/11/19	mg/L	184.	10.0	197.	130
**Ca	19-E014746	6/11/19	mg/L	184.	10.0	193.	90
**Ca	19-E014881	6/11/19	mg/L	47.4	10.0	56.5	91
**Ca	19-E014881	6/11/19	mg/L	47.4	10.0	56.0	86
**Ca	19-E014885	6/11/19	mg/L	64.5	10.0	74.5	100
**Ca	19-E014885	6/11/19	mg/L	64.5	10.0	75.5	110
**Mg	19-E014746	6/11/19	mg/l	53.50	10.00	63.50	100
**Mg	19-E014746	6/11/19	mg/l	53.50	10.00	62.50	90
Mg	19-E014881	6/11/19	mg/l	17.05	10.00	26.20	92
Mg	19-E014881	6/11/19	mg/l	17.05	10.00	26.10	90
Mg	19-E014885	6/11/19	mg/l	32.55	10.00	41.65	91
Mg	19-E014885	6/11/19	mg/l	32.55	10.00	41.85	93
TP	19-E014881	6/13/19	mg/L	< 0.07	2.50	2.60	104
TP	19-E014881	6/13/19	mg/L	< 0.07	2.50	2.66	106
TP	19-E014884	6/13/19	mg/L	< 0.07	2.50	2.66	106
TP	19-E014884	6/13/19	mg/L	< 0.07	2.50	2.67	107
TP	19-E014885	6/17/19	mg/L	< 0.07	2.50	2.63	105
TP	19-E014885	6/17/19	mg/L	< 0.07	2.50	2.60	104
TP	19-E016143	6/17/19	mg/L	0.26	2.50	2.76	100
TP	19-E016143	6/17/19	mg/L	0.26	2.50	2.83	103

Approved by

Page: 1



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3019 G. S. Center Road
Wenatchee, WA 98801

(509) 452-7707
Fax: (509) 452-7773
1008 W. Ahtanum Rd.
Union Gap, WA 98903

Account: 19301
Sampler: Melton\Norton
Date Sampled: 6/ 5/19
Date Received: 6/ 5/19
Report Date: 6/24/19

-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Batch number 992296

-- Spike Results --

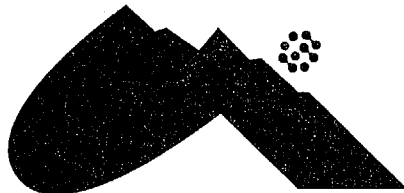
Acceptable Limits = 75 - 125 %

Analyte	Sample ID	Date Analyzed	Units	Original Result	Spike Amount	Amount Found	Percent Recovery
NH3	19-E014738	6/10/19	mg/L	< 0.07	5.00	4.85	97
NH3	19-E014749	6/10/19	mg/L	< 0.07	5.00	4.93	99
NH3	19-E014882	6/10/19	mg/L	< 0.07	5.00	4.86	97
NH3	19-E014862	6/10/19	mg/L	0.49	5.00	5.54	101
F/IC	19-E014612	6/ 6/19	mg/L	0.11	20.0	22.2	110
F/IC	19-E014612	6/ 6/19	mg/L	0.11	20.0	22.0	109
F/IC	19-E015126	6/ 6/19	mg/L	0.72	20.0	22.7	110
F/IC	19-E015126	6/ 6/19	mg/L	0.72	20.0	23.0	111
CL/IC	19-E014612	6/ 6/19	mg/L	2.94	80.0	84.1	101
CL/IC	19-E014612	6/ 6/19	mg/L	2.94	80.0	83.6	101
NO3-N	19-E014612	6/ 6/19	mg/L	0.58	20.0	22.7	111
NO3-N	19-E014612	6/ 6/19	mg/L	0.58	20.0	22.4	109
NO2-N	19-E014612	6/ 6/19	mg/L	< 0.05	20.0	20.4	102
NO2-N	19-E014612	6/ 6/19	mg/L	< 0.05	20.0	20.2	101
SO4/IC	19-E014612	6/ 6/19	mg/L	4.32	80.0	85.9	102
SO4/IC	19-E014612	6/ 6/19	mg/L	4.32	80.0	85.3	101

** Original amount is > 4 times spike amount.

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Page: 2



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Account: 19301
Sampler: Melton\Norton
Date Sampled: 6/ 5/19
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Report Date: 6/24/19

-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Batch number 992296

-- Matrix Spike Duplicate Results --

Acceptable Limits = 20 % RPD

Analyte	Date Analyzed	Units	Original Spk. Result	Duplicate Spk. Results	% RPD
Na	6/11/19	mg/l	170.	168.	-1.18
Na	6/11/19	mg/l	48.2	48.0	-0.42
Na	6/11/19	mg/l	77.5	77.0	-0.65
K	6/11/19	mg/L	13.9	13.8	-0.72
K	6/11/19	mg/L	11.6	11.4	-1.74
K	6/11/19	mg/L	11.2	11.2	0.00
Ca	6/11/19	mg/L	197.	193.	-2.05
Ca	6/11/19	mg/L	56.5	56.0	-0.89
Ca	6/11/19	mg/L	74.5	75.5	1.33
Mg	6/11/19	mg/l	63.50	62.50	-1.59
Mg	6/11/19	mg/l	26.20	26.10	-0.38
Mg	6/11/19	mg/l	41.65	41.85	0.48
TP	6/13/19	mg/L	2.60	2.66	2.28
TP	6/13/19	mg/L	2.66	2.67	0.38
TP	6/17/19	mg/L	2.63	2.60	-1.15
TP	6/17/19	mg/L	2.76	2.83	2.50
F/IC	6/ 6/19	mg/L	22.2	22.0	-0.90
F/IC	6/ 6/19	mg/L	22.7	23.0	1.31
CL/IC	6/ 6/19	mg/L	84.1	83.6	-0.60
NO3-N	6/ 6/19	mg/L	22.7	22.4	-1.33
NO2-N	6/ 6/19	mg/L	20.4	20.2	-0.99
SO4/IC	6/ 6/19	mg/L	85.9	85.3	-0.70

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Page: 1

-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

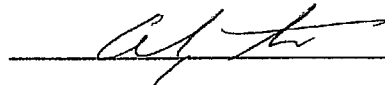
Batch number 992296

-- Check Standard Analysis --

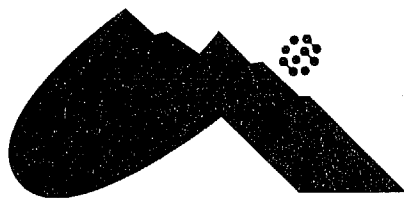
Acceptable Limits = 85 - 115 %

Analyte	Known ID	Units	Result	Target Value	Percent Recovery	Date Analyzed
Na	QCS	mg/l	1.99	2.00	100	6/11/19
Na	IPC	mg/l	1.97	2.00	98	6/11/19
Na	LFB	mg/l	10.6	10.0	106	6/11/19
Na	IPC	mg/l	2.12	2.00	106	6/11/19
Na	LFB	mg/l	10.7	10.0	107	6/11/19
Na	IPC	mg/l	2.16	2.00	108	6/11/19
Na	LFB	mg/l	10.6	10.0	106	6/11/19
Na	IPC	mg/l	2.19	2.00	110	6/11/19
K	QCS	mg/L	9.96	10.0	100	6/11/19
K	IPC	mg/L	10.0	10.0	100	6/11/19
K	LFB	mg/L	10.2	10.0	102	6/11/19
K	IPC	mg/L	10.3	10.0	103	6/11/19
K	LFB	mg/L	10.2	10.0	102	6/11/19
K	IPC	mg/L	10.1	10.0	101	6/11/19
K	LFB	mg/L	10.2	10.0	102	6/11/19
K	IPC	mg/L	10.0	10.0	100	6/11/19
Ca	QCS	mg/L	1.94	2.00	97	6/11/19
Ca	IPC	mg/L	2.00	2.00	100	6/11/19
Ca	LFB	mg/L	9.90	10.0	99	6/11/19
Ca	IPC	mg/L	1.97	2.00	98	6/11/19
Ca	LFB	mg/L	10.0	10.0	100	6/11/19
Ca	IPC	mg/L	1.98	2.00	99	6/11/19
Ca	LFB	mg/L	10.0	10.0	100	6/11/19
Ca	IPC	mg/L	2.00	2.00	100	6/11/19
Mg	QCS	mg/l	2.030	2.000	102	6/11/19
Mg	IPC	mg/l	2.000	2.000	100	6/11/19
Mg	LFB	mg/l	9.700	10.00	97	6/11/19
Mg	IPC	mg/l	2.010	2.000	100	6/11/19
Mg	LFB	mg/l	9.750	10.00	98	6/11/19
Mg	IPC	mg/l	2.000	2.000	100	6/11/19
Mg	LFB	mg/l	9.700	10.00	97	6/11/19
Mg	IPC	mg/l	1.990	2.000	100	6/11/19

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Page: 1



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Account: 19301
Sampler: Melton\Norton
Date Sampled: 6/ 5/19
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-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Batch number 992296

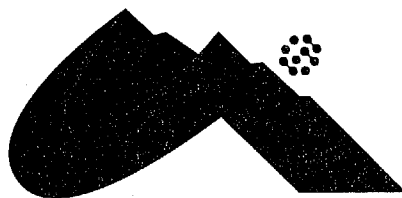
-- Check Standard Analysis --

Acceptable Limits = 85 - 115 %

Analyte	Known ID	Units	Result	Target Value	Percent Recovery	Date Analyzed
TP	Known	mg/L	2.44	2.26	108	6/13/19
TP	LFB	mg/L	2.60	2.50	104	6/13/19
TP	Known	mg/L	2.42	2.26	107	6/13/19
TP	LFB	mg/L	2.60	2.50	104	6/13/19
TP	Known	mg/L	2.28	2.26	101	6/17/19
TP	LFB	mg/L	2.54	2.50	102	6/17/19
TP	Known	mg/L	2.41	2.26	107	6/17/19
TP	LFB	mg/L	2.56	2.50	102	6/17/19
NH3	QCS	mg/L	10.3	10.0	103	6/10/19
NH3	CCV	mg/L	3.98	4.00	100	6/10/19
NH3	LFB	mg/L	4.83	5.00	97	6/10/19
NH3	CCV	mg/L	4.01	4.00	100	6/10/19
NH3	LFB	mg/L	4.68	5.00	94	6/10/19
NH3	CCV	mg/L	3.99	4.00	100	6/10/19
NH3	LFB	mg/L	4.76	5.00	95	6/10/19
NH3	CCV	mg/L	3.95	4.00	99	6/10/19
NH3	LFB	mg/L	4.81	5.00	96	6/10/19
NH3	CCV	mg/L	4.08	4.00	102	6/10/19
Alk.	Known	mg/L	436.	472.	92	6/12/19
Alk.	Known	mg/L	443.	472.	94	6/12/19
Alk.	Known	mg/L	441.	472.	93	6/12/19
Alk.	Known	mg/L	443.	472.	94	6/12/19
F/IC	IPC_Low	mg/L	0.52	0.50	104	6/ 6/19
F/IC	IPC_HI	mg/L	3.06	3.00	102	6/ 6/19
F/IC	LFB	mg/L	2.20	2.00	110	6/ 6/19
F/IC	IPC_Low	mg/L	0.52	0.50	104	6/ 6/19
F/IC	IPC_HI	mg/L	3.06	3.00	102	6/ 6/19
F/IC	LFB	mg/L	2.20	2.00	110	6/ 6/19
F/IC	IPC_Low	mg/L	0.52	0.50	104	6/ 6/19
F/IC	IPC_HI	mg/L	3.06	3.00	102	6/ 6/19

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Page: 2



CASCADE ANALYTICAL

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Union Gap, WA 98903

Account: 19301
Sampler: Melton\Norton
Date Sampled: 6/ 5/19
Date Received: 6/ 5/19
Report Date: 6/24/19

-- Quality Assurance Report --

Anchor QEA
Matt Wilson
6720 SW Macadam Ave Ste 125
Portland, OR 97219

Batch number 992296

-- Check Standard Analysis --

Acceptable Limits = 85 - 115 %

Analyte	Known ID	Units	Result	Target Value	Percent Recovery	Date Analyzed
CL/IC	IPC_Low	mg/L	0.47	0.50	94	6/ 6/19
CL/IC	IPC_HI	mg/L	9.81	10.0	98	6/ 6/19
CL/IC	LFB	mg/L	8.19	8.00	102	6/ 6/19
CL/IC	IPC_Low	mg/L	0.47	0.50	94	6/ 6/19
CL/IC	IPC_HI	mg/L	9.78	10.0	98	6/ 6/19
CL/IC	LFB	mg/L	8.17	8.00	102	6/ 6/19
CL/IC	IPC_Low	mg/L	0.48	0.50	96	6/ 6/19
CL/IC	IPC_HI	mg/L	9.80	10.0	98	6/ 6/19
NO3-N	IPC_Low	mg/L	0.23	0.25	92	6/ 6/19
NO3-N	IPC_HI	mg/L	2.83	3.00	94	6/ 6/19
NO3-N	LFB	mg/L	2.19	2.00	110	6/ 6/19
NO3-N	IPC_Low	mg/L	0.23	0.25	92	6/ 6/19
NO3-N	IPC_HI	mg/L	2.82	3.00	94	6/ 6/19
NO3-N	LFB	mg/L	2.18	2.00	109	6/ 6/19
NO3-N	IPC_Low	mg/L	0.23	0.25	92	6/ 6/19
NO3-N	IPC_HI	mg/L	2.82	3.00	94	6/ 6/19
NO2-N	IPC_Low	mg/L	0.23	0.25	92	6/ 6/19
NO2-N	IPC_HI	mg/L	2.94	3.00	98	6/ 6/19
NO2-N	LFB	mg/L	2.03	2.00	102	6/ 6/19
NO2-N	IPC_Low	mg/L	0.23	0.25	92	6/ 6/19
NO2-N	IPC_HI	mg/L	2.95	3.00	98	6/ 6/19
NO2-N	LFB	mg/L	2.03	2.00	102	6/ 6/19
NO2-N	IPC_Low	mg/L	0.23	0.25	92	6/ 6/19
NO2-N	IPC_HI	mg/L	2.95	3.00	98	6/ 6/19
SO4/IC	IPC_Low	mg/L	0.46	0.50	92	6/ 6/19
SO4/IC	IPC_HI	mg/L	9.88	10.0	99	6/ 6/19
SO4/IC	LFB	mg/L	8.22	8.00	103	6/ 6/19
SO4/IC	IPC_Low	mg/L	0.47	0.50	94	6/ 6/19
SO4/IC	IPC_HI	mg/L	9.89	10.0	99	6/ 6/19
SO4/IC	LFB	mg/L	8.23	8.00	103	6/ 6/19
SO4/IC	IPC_Low	mg/L	0.46	0.50	92	6/ 6/19
SO4/IC	IPC_HI	mg/L	9.90	10.0	99	6/ 6/19

Approved by

Page: 3

Chain of Custody

LABORATORY NAME:	Cascade Analytical, Inc.
LABORATORY ADDRESS:	1008 W Ahtanum Road, Suite 2
LABORATORY PHONE:	509-452-7707

Work Order No.: 992296

Project Manager:	Matt Wilson		
Client Name:	Anchor QEA, LLC		
Address:	6720 SW Macadam Ave., Suite 125		
City, State ZIP:	Portland, OR 97219		
Email:	mwilson@anchoragea.com	Phone:	503-347-8511

Bill to:	Cindy Fields
Company:	Anchor QEA, LLC
Email:	labdata@anchoragea.com

Project Name:	Yakima Valley Dairies Groundwater Monitoring - CD Wells										REQUESTED ANALYSIS			TAT	
Project Number:	190996-01.02 task 01										☒ Routine ☐ Same Day *** ☐ Next Day *** ☐ 5 Day ☐ 7 Day ☐ 14 Day *** Please call for availability				
P.O. Number:															
Sampler's Name:	N. Melton/ S. Norwood/A. Evans														
SAMPLE RECEIPT															
Temperature (°C):	7		Temp Blank Present		Y										
Received Intact:	Yes		No	N/A	Wet Ice / Blue Ice										
Cooler Custody Seals:	Yes		No	N/A	Total Containers: 28										
Sample Identification	Matrix	Date Sampled	Time Sampled	Lab ID	No. of containers	Ammonia method SM 4500-NH3 G	TKN 351.2 (sub to ARI)	Total Phosphorous method SM 4500-P E	Total Metals (Na, Mg, K, Ca) method 200.7	Anions (NO2, NO3, SO4, CL, F) Method 300.0	Alkalinity (Total and Bicarbonate) SM2320B	May Require Dilution		Comments	
												Cl	NO3		SO4
CD-060519-12	WGC	6/5/19	0735		4	X	X	X	X	X	X				19-E014879
CD-060519-13			0820										X		19-E014880
CD-060519-14			0830										X		19-E014881
CD-060519-15			0935												19-E014882
CD-060519-16			0930									X	X		19-E014883
CD-060519-17			0935									X	X		19-E014884
CD-060519-18			1055									X			19-E014885
															19-LAS-6/5

Comments: Nitrate - 48 hour hold time

Email Sample Receipt Forms with a copy of the COC, reports and invoices to labdata@anchoragea.com

RELINQUISHED BY			RECEIVED BY		
Print Name	Signature	Date/Time	Print Name	Signature	Date/Time
Sasha Norwood		05 Jun 19 / 13:04	Joanna G-schuller		6-5-19 / 13:04



Sample Receipt Form

Date Received: 6.5.19 6-4-19 Time Received: 13:04 Initials: J63

Client Name: Anchor QEA, LLC Project Name: _____

Temperature of cooler upon receipt: 7 °C Thermometer ID: 012

Custody seals: Intact Broken None N/A

Chain of Custody Completed:

Client name, address, and phone number;	<u>Yes</u>	No
Date and time of sampling;	<u>Yes</u>	No
Test requests clear;	<u>Yes</u>	No
Completed in ink;	<u>Yes</u>	No
Signed by client;	<u>Yes</u>	No

All samples received: Yes No

All samples intact: Yes No

Sample ID's match COC form: Yes No

Appropriate containers used: Yes No

Sufficient amount of sample for analysis: Yes No

Correct preservative verified: N/A Yes No

Air bubbles in VOC, TTHM, or HAA5 samples: N/A Yes No

Sample(s) exceed hold time: Yes No

Type of coolant: Ice Blue Ice None Other Comment: _____

Shipping Method: FedEx UPS USPS Brett & Sons Hand Delivered CAI Sampled

Shipping Container: CAI Cooler CAI Cooler Box Client's Cooler None Other _____

Samples accepted for analysis: Yes No

Reason for Rejection: _____

Name of Person Contacted: _____ Date Contacted: _____

Comments: _____



Analytical Resources, Incorporated
Analytical Chemists and Consultants

24 June 2019

Andy Schut
Cascade Analytical, Inc.-Eurofins
3019 GS Center Rd
Wenatchee, WA 98801

RE: GW Monitoring Anchor QEA -TKN

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
19F0081

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

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.





**AGRICULTURE &
ENVIRONMENTAL ANALYSIS**

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Union Gap, WA 98903

Page 1 of 2
Sub-Contract ORDER FORM

P.O. NO:

992296

PROJECT NAME <i>Anchor QEA</i>

CONTRACT LAB <i>ARI</i>
ADDRESS
CITY, STATE, ZIP
TELEPHONE

RELINQUISHED BY: Signature ① <i>[Signature]</i>	DATE <i>6/5/19</i>	RELINQUISHED BY: Signature ② <i>C</i>	DATE	RELINQUISHED BY: Signature ③	DATE
(Printed) <i>James King</i>	TIME <i>4:30pm</i>	(Printed)	TIME	(Printed)	TIME
RECEIVED BY: Signature <i>[Signature]</i>	DATE <i>6/6/19</i>	RECEIVED BY: Signature	DATE	RECEIVED BY: Signature	DATE
(Printed) <i>Erin Sella</i>	TIME <i>10:30</i>	(Printed)	TIME	(Printed)	TIME

1	Sample I.D.	<i>See Attached -</i>	Sample Date	Sample Time
	ANALYSIS REQUESTED			
	COMMENT			
2	Sample I.D.		Sample Date	Sample Time
	ANALYSIS REQUESTED			
	COMMENT			
3	Sample I.D.		Sample Date	Sample Time
	ANALYSIS REQUESTED			
	COMMENT			
4	Sample I.D.		Sample Date	Sample Time
	ANALYSIS REQUESTED			
	COMMENT			

SPECIAL INSTRUCTIONS:

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19F0081		Turn-around Requested: Standard		Date: 6/5/19																		
ARI Client Company: Cascade Analytical Inc. Union Gap		Phone: 509-452-7707		Page: 2 of 2																		
Client Contact: Andy Schut andys@cascadeanalytical.com				No. of Coolers: 2 Cooler Temps: 2																		
Client Project Name: Anchor QEA				Analysis Requested																		
Client Project #: 992296		Samplers: J Melton\S Norwood		Notes/Comments																		
Sample ID	Date	Time	Matrix	No. Containers																		
CD-060519-12	06/05/19	07:35	GW	1	TKN 351.2 WAD Cyanide Amenable Cyanide 420.1 Phenols 200.8 Sb,As,Be,Cd,Cr 200.8 Cu,Pb,Ni,Se,Ag 200.8 Ti,Zn SM3500 Cr6																	
CD-060519-13	06/05/19	08:20	GW	1																		
CD-060519-14	06/05/19	08:30	GW	1																		
CD-060519-15	06/05/19	09:35	GW	1																		
CD-060519-16	06/05/19	09:30	GW	1																		
CD-060519-17	06/05/19	09:35	GW	1																		
CD-060519-18	06/05/19	10:55	GW	1																		
<table border="1"> <tr> <td rowspan="4">Comments/Special Instructions Anchor QEA EDD and J-Flags Please!</td> <td>Relinquished by: (Signature) <i>[Signature]</i></td> <td>Received by: (Signature) <i>[Signature]</i></td> <td>Relinquished by: (Signature) <i>[Signature]</i></td> <td>Received by: (Signature) <i>[Signature]</i></td> </tr> <tr> <td>Printed Name: James King</td> <td>Printed Name: Erin Soller</td> <td>Printed Name:</td> <td>Printed Name:</td> </tr> <tr> <td>Company: CAI Union Gap</td> <td>Company: ARI</td> <td>Company:</td> <td>Company:</td> </tr> <tr> <td>Date & Time: 6-5-19 16:30</td> <td>Date & Time: 6/6/19 1030</td> <td>Date & Time:</td> <td>Date & Time:</td> </tr> </table>						Comments/Special Instructions Anchor QEA EDD and J-Flags Please!	Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Printed Name: James King	Printed Name: Erin Soller	Printed Name:	Printed Name:	Company: CAI Union Gap	Company: ARI	Company:	Company:	Date & Time: 6-5-19 16:30	Date & Time: 6/6/19 1030	Date & Time:	Date & Time:
Comments/Special Instructions Anchor QEA EDD and J-Flags Please!	Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>																		
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	Date & Time: 6-5-19 16:30	Date & Time: 6/6/19 1030	Date & Time:	Date & Time:																		



Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

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Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.



Cascade Analytical, Inc.-Eurofins
3019 GS Center Rd
Wenatchee WA, 98801

Project: GW Monitoring Anchor QEA -TKN
Project Number: 992296
Project Manager: Andy Schut

Reported:
24-Jun-2019 11:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CD-060519-12	19F0081-01	Water	05-Jun-2019 07:35	06-Jun-2019 10:30
CD-060519-13	19F0081-02	Water	05-Jun-2019 08:20	06-Jun-2019 10:30
CD-060519-14	19F0081-03	Water	05-Jun-2019 08:30	06-Jun-2019 10:30
CD-060519-15	19F0081-04	Water	05-Jun-2019 09:35	06-Jun-2019 10:30
CD-060519-16	19F0081-05	Water	05-Jun-2019 09:30	06-Jun-2019 10:30
CD-060519-17	19F0081-06	Water	05-Jun-2019 09:35	06-Jun-2019 10:30
CD-060519-18	19F0081-07	Water	05-Jun-2019 10:55	06-Jun-2019 10:30



Cascade Analytical, Inc.-Eurofins
3019 GS Center Rd
Wenatchee WA, 98801

Project: GW Monitoring Anchor QEA -TKN
Project Number: 992296
Project Manager: Andy Schut

Reported:
24-Jun-2019 11:17

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received June 6, 2019 under ARI work order 19F0081. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Wet Chemistry

The sample(s) were prepared and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.



WORK ORDER

19F0081

Client: Cascade Analytical, Inc.-Eurofins

Project Manager: Shelly Fishel

Project: GW Monitoring Anchor QEA -TKN

Project Number: 992053

Preservation Confirmation

Container ID	Container Type	pH	
19F0081-01 A	HDPE NM, 250mL H2SO4	7.2	PASS
19F0081-02 A	HDPE NM, 250mL H2SO4	7.2	PASS
19F0081-03 A	HDPE NM, 250mL H2SO4	7.2	PASS
19F0081-04 A	HDPE NM, 250mL H2SO4	7.2	PASS
19F0081-05 A	HDPE NM, 250mL H2SO4	7.2	PASS
19F0081-06 A	HDPE NM, 250mL H2SO4	7.2	PASS
19F0081-07 A	HDPE NM, 250mL H2SO4	7.2	PASS


Preservation Confirmed By

6/6/19
Date



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Cascade Analytical

Project Name: Anchor

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 19F0081

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? _____

YES NO

Were custody papers included with the cooler? _____

YES NO

Were custody papers properly filled out (ink, signed, etc.) _____

YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1030

2.1

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: DOO 2565

Cooler Accepted by: [Signature]

Date: 6/6/19

Time: 1030

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? _____

YES

NO

What kind of packing material was used? ...

Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: Cardboard

Was sufficient ice used (if appropriate)? _____

NA

YES

NO

How were bottles sealed in plastic bags? _____

Individually

Grouped

Not

Did all bottles arrive in good condition (unbroken)? _____

YES

NO

Were all bottle labels complete and legible? _____

YES

NO

Did the number of containers listed on COC match with the number of containers received? _____

YES

NO

Did all bottle labels and tags agree with custody papers? _____

YES

NO

Were all bottles used correct for the requested analyses? _____

YES

NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ...

NA

YES

NO

Were all VOC vials free of air bubbles? _____

NA

YES

NO

Was sufficient amount of sample sent in each bottle? _____

YES

NO

Date VOC Trip Blank was made at ARI: _____

NA

Were the sample(s) split
by ARI? NA YES

Date/Time: _____

Equipment: _____

Split by: _____

Samples Logged by: [Signature]

Date: 6/6/19

Time: 1520

Labels checked by: WS

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____

Date: _____



Cascade Analytical, Inc.-Eurofins
3019 GS Center Rd
Wenatchee WA, 98801

Project: GW Monitoring Anchor QEA -TKN
Project Number: 992296
Project Manager: Andy Schut

Reported:
24-Jun-2019 11:17

CD-060519-12
19F0081-01 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/05/2019 07:35

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/19/2019 18:40

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0081-01 A

Preparation Batch: BHF0245

Sample Size: 25 mL

Prepared: 11-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



Cascade Analytical, Inc.-Eurofins
3019 GS Center Rd
Wenatchee WA, 98801

Project: GW Monitoring Anchor QEA -TKN
Project Number: 992296
Project Manager: Andy Schut

Reported:
24-Jun-2019 11:17

CD-060519-13
19F0081-02 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/05/2019 08:20

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/19/2019 18:41

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0081-02 A

Preparation Batch: BHF0245

Sample Size: 25 mL

Prepared: 11-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



Cascade Analytical, Inc.-Eurofins
3019 GS Center Rd
Wenatchee WA, 98801

Project: GW Monitoring Anchor QEA -TKN
Project Number: 992296
Project Manager: Andy Schut

Reported:
24-Jun-2019 11:17

CD-060519-14
19F0081-03 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/05/2019 08:30

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/19/2019 18:42

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0081-03 A

Preparation Batch: BHF0245

Sample Size: 25 mL

Prepared: 11-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



Cascade Analytical, Inc.-Eurofins
3019 GS Center Rd
Wenatchee WA, 98801

Project: GW Monitoring Anchor QEA -TKN
Project Number: 992296
Project Manager: Andy Schut

Reported:
24-Jun-2019 11:17

CD-060519-15
19F0081-04 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/05/2019 09:35

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/19/2019 18:43

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0081-04 A

Preparation Batch: BHF0245

Sample Size: 25 mL

Prepared: 11-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



Cascade Analytical, Inc.-Eurofins
3019 GS Center Rd
Wenatchee WA, 98801

Project: GW Monitoring Anchor QEA -TKN
Project Number: 992296
Project Manager: Andy Schut

Reported:
24-Jun-2019 11:17

CD-060519-16
19F0081-05 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/05/2019 09:30

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/19/2019 18:45

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0081-05 A

Preparation Batch: BHF0245

Sample Size: 25 mL

Prepared: 11-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



Cascade Analytical, Inc.-Eurofins
3019 GS Center Rd
Wenatchee WA, 98801

Project: GW Monitoring Anchor QEA -TKN
Project Number: 992296
Project Manager: Andy Schut

Reported:
24-Jun-2019 11:17

CD-060519-17
19F0081-06 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/05/2019 09:35

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/19/2019 18:46

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0081-06 A

Preparation Batch: BHF0245

Sample Size: 25 mL

Prepared: 11-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



Cascade Analytical, Inc.-Eurofins
3019 GS Center Rd
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Project: GW Monitoring Anchor QEA -TKN
Project Number: 992296
Project Manager: Andy Schut

Reported:
24-Jun-2019 11:17

CD-060519-18
19F0081-07 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/05/2019 10:55

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/19/2019 18:47

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0081-07 A

Preparation Batch: BHF0245

Sample Size: 25 mL

Prepared: 11-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



Cascade Analytical, Inc.-Eurofins
3019 GS Center Rd
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Project: GW Monitoring Anchor QEA -TKN
Project Number: 992296
Project Manager: Andy Schut

Reported:
24-Jun-2019 11:17

Wet Chemistry - Quality Control

Batch BHF0245 - No Prep Wet Chem

Instrument: LACHAT2 Analyst: KOTT

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0245-BLK1)										
Prepared: 11-Jun-2019 Analyzed: 18-Jun-2019 17:07										
Total Kjeldahl Nitrogen	ND	0.5	0.5	mg/L						U
LCS (BHF0245-BS1)										
Prepared: 11-Jun-2019 Analyzed: 18-Jun-2019 17:08										
Total Kjeldahl Nitrogen	5.0	0.5	0.5	mg/L	5.00		99.0 90-110			
LCS (BHF0245-BS2)										
Prepared: 11-Jun-2019 Analyzed: 18-Jun-2019 17:09										
Total Kjeldahl Nitrogen	5.1	0.5	0.5	mg/L	5.00		101 90-110			



Cascade Analytical, Inc.-Eurofins
3019 GS Center Rd
Wenatchee WA, 98801

Project: GW Monitoring Anchor QEA -TKN
Project Number: 992296
Project Manager: Andy Schut

Reported:
24-Jun-2019 11:17

Certified Analyses included in this Report

Analyte	Certifications		
EPA 351.2 in Water			
Total Kjeldahl Nitrogen		WADOE,NELAP	
Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019



Cascade Analytical, Inc.-Eurofins
3019 GS Center Rd
Wenatchee WA, 98801

Project: GW Monitoring Anchor QEA -TKN
Project Number: 992296
Project Manager: Andy Schut

Reported:
24-Jun-2019 11:17

Notes and Definitions

U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

26 June 2019

Andy Schut
Cascade Analytical, Inc.-Eurofins
3019 GS Center Rd
Wenatchee, WA 98801

RE: GW Monitoring Anchor QEA -TKN

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
19F0083

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

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.



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19F0083		Turn-around Requested: Standard		Date: 6/5/19	
ARI Client Company: Cascade Analytical Inc. Union Gap		Phone: 509-452-7707		Page: 2 of 3	
Client Contact: Andy Schut andys@cascadeanalytical.com				No. of Coolers: 1 Cooler Temps: 2.1	
Client Project Name: Anchor QEA				Analysis Requested	
Client Project #: 992243		Samplers: J Melton\S Norwood		Notes/Comments	
Sample ID	Date	Time	Matrix	No. Containers	TKN 351.2
					WAD Cyanide
					Amenable Cyanide
					420.1 Phenols
					200.8 Sb,As,Be,Cd,Cr
					200.8 Cu,Pb,Ni,Se,Ag
					200.8 Ti,Zn
					SM3500 Cr6
CD-060419-01	06/04/19	08:30	GW	1	✓
CD-060419-02	06/04/19	09:05	GW	1	✓
CD-060419-03	06/04/19	09:10	GW	1	✓
CD-060419-04	06/04/19	10:15	GW	1	✓
CD-060419-05	06/04/19	11:10	GW	1	✓
CD-060419-06	06/04/19	12:20	GW	1	✓
CD-060419-07	06/04/19	12:20	GW	1	✓
CD-060419-08	06/04/19	12:50	GW	1	✓
CD-060419-09	06/04/19	13:00	GW	1	✓
CD-060419-10	06/04/19	13:55	GW	1	✓
Comments/Special Instructions Anchor QEA EDD and J-Flags Please!		Relinquished by: (Signature) <i>[Signature]</i> Printed Name: James King Company: CAI Union Gap Date & Time: 6-5-19 16:30		Received by: (Signature) <i>[Signature]</i> Printed Name: Erin Scille Company: ARI Date & Time: 6/6/19 1030	
		Relinquished by: (Signature) Printed Name: Company: Date & Time:		Received by: (Signature) Printed Name: Company: Date & Time:	



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Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

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Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19F0083		Turn-around Requested: Standard		Date: 6/5/19		 Analytical Resources, Incorporated Analytical Chemists and Consultants 4611 South 134th Place, Suite 100 Tukwila, WA 98168 206-695-6200 206-695-6201 (fax)			
ARI Client Company: Cascade Analytical Inc. Union Gap		Phone: 509-452-7707		Page: 3 of 3					
Client Contact: Andy Schut andys@cascadeanalytical.com				No. of Coolers: 1 Cooler Temps: 2.1					
Client Project Name: Anchor QEA				Analysis Requested				Notes/Comments	
Client Project #: 992243		Samplers: J Melton\S Norwood		TKN 351.2	WAD Cyanide	Amenable Cyanide	420.1 Phenols		
Sample ID	Date	Time	Matrix	No. Containers	200.8 Sb,As,Be,Cd,Cr	200.8 Cu,Pb,Ni,Se,Ag	200.8 Ti,Zn	SM3500 Cr6	
CD-060419-11	06/04/49	14:00	GW	1	✓				
Comments/Special Instructions Anchor QEA EDD and J-Flags Please!				Relinquished by: (Signature) <i>[Signature]</i>		Received by: (Signature) <i>[Signature]</i>		Relinquished by: (Signature)	
				Printed Name: <i>James King</i>		Printed Name: <i>Erin Solie</i>		Printed Name:	
				Company: <i>CAI Union Gap</i>		Company: <i>ARI</i>		Company:	
				Date & Time: <i>6-5-19 16:30</i>		Date & Time: <i>6/6/19 1030</i>		Date & Time:	

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Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.



Cascade Analytical, Inc.-Eurofins
3019 GS Center Rd
Wenatchee WA, 98801

Project: GW Monitoring Anchor QEA -TKN
Project Number: 992243
Project Manager: Andy Schut

Reported:
26-Jun-2019 09:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CD-060419-01	19F0083-01	Water	04-Jun-2019 08:30	06-Jun-2019 10:30
CD-060419-02	19F0083-02	Water	04-Jun-2019 09:05	06-Jun-2019 10:30
CD-060419-03	19F0083-03	Water	04-Jun-2019 09:10	06-Jun-2019 10:30
CD-060419-04	19F0083-04	Water	04-Jun-2019 10:15	06-Jun-2019 10:30
CD-060419-05	19F0083-05	Water	04-Jun-2019 11:10	06-Jun-2019 10:30
CD-060419-06	19F0083-06	Water	04-Jun-2019 12:20	06-Jun-2019 10:30
CD-060419-07	19F0083-07	Water	04-Jun-2019 12:20	06-Jun-2019 10:30
CD-060419-08	19F0083-08	Water	04-Jun-2019 12:50	06-Jun-2019 10:30
CD-060419-09	19F0083-09	Water	04-Jun-2019 13:00	06-Jun-2019 10:30
CD-060419-10	19F0083-10	Water	04-Jun-2019 13:55	06-Jun-2019 10:30
CD-060419-11	19F0083-11	Water	04-Jun-2019 14:00	06-Jun-2019 10:30



Cascade Analytical, Inc.-Eurofins
3019 GS Center Rd
Wenatchee WA, 98801

Project: GW Monitoring Anchor QEA -TKN
Project Number: 992243
Project Manager: Andy Schut

Reported:
26-Jun-2019 09:16

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received June 6, 2019 under ARI work order 19F0083. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Wet Chemistry

The sample(s) were prepared and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

The Duplicate RPD was within control limits.

The Matrix Spike/Matrix Spike Duplicate RPD and percent recoveries were within control limits.



WORK ORDER

19F0083

Client: Cascade Analytical, Inc.-Eurofins

Project Manager: Shelly Fishel

Project: GW Monitoring Anchor QEA -TKN

Project Number: 992242

Preservation Confirmation

Container ID	Container Type	pH	
19F0083-01 A	HDPE NM, 250mL H2SO4	2	Pass
19F0083-02 A	HDPE NM, 250mL H2SO4	2	Pass
19F0083-03 A	HDPE NM, 250mL H2SO4	2	Pass
19F0083-04 A	HDPE NM, 250mL H2SO4	2	Pass
19F0083-05 A	HDPE NM, 250mL H2SO4	2	Pass
19F0083-05 B	HDPE NM, 250mL H2SO4	2	Pass
19F0083-06 A	HDPE NM, 250mL H2SO4	2	Pass
19F0083-07 A	HDPE NM, 250mL H2SO4	2	Pass
19F0083-08 A	HDPE NM, 250mL H2SO4	2	Pass
19F0083-09 A	HDPE NM, 250mL H2SO4	2	Pass
19F0083-10 A	HDPE NM, 250mL H2SO4	2	Pass
19F0083-11 A	HDPE NM, 250mL H2SO4	2	Pass

JBW
Preservation Confirmed By

06/06/19
Date



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Cascade Analytical
COC No(s): _____ (NA)
Assigned ARI Job No: 19 F0083

Project Name: Anchor
Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
Tracking No: 129744F44373884473 NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO
Were custody papers included with the cooler? YES NO
Were custody papers properly filled out (ink, signed, etc.) YES NO
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1030 2.1
If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 2565

Cooler Accepted by: [Signature] Date: 6/6/19 Time: 1030

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO 6/6/19
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: Cardboard
Was sufficient ice used (if appropriate)? NA YES NO
How were bottles sealed in plastic bags? Individually Grouped Not
Did all bottles arrive in good condition (unbroken)? YES NO
Were all bottle labels complete and legible? YES NO
Did the number of containers listed on COC match with the number of containers received? YES NO
Did all bottle labels and tags agree with custody papers? YES NO
Were all bottles used correct for the requested analyses? YES NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO
Were all VOC vials free of air bubbles? NA YES NO
Was sufficient amount of sample sent in each bottle? YES NO
Date VOC Trip Blank was made at ARI: NA
Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JSW Date: 06/06/19 Time: 1538 Labels checked by: JSW

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



Cascade Analytical, Inc.-Eurofins
3019 GS Center Rd
Wenatchee WA, 98801

Project: GW Monitoring Anchor QEA -TKN
Project Number: 992243
Project Manager: Andy Schut

Reported:
26-Jun-2019 09:16

CD-060419-01
19F0083-01RE1 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/04/2019 08:30

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/24/2019 15:18

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0083-01RE1 A

Preparation Batch: BHF0503

Sample Size: 25 mL

Prepared: 20-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



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Reported:
26-Jun-2019 09:16

CD-060419-02
19F0083-02 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/04/2019 09:05

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/25/2019 13:00

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0083-02 A

Preparation Batch: BHF0511

Sample Size: 25 mL

Prepared: 21-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



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Reported:
26-Jun-2019 09:16

CD-060419-03
19F0083-03 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/04/2019 09:10

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/25/2019 13:02

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0083-03 A

Preparation Batch: BHF0511

Sample Size: 25 mL

Prepared: 21-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



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Reported:
26-Jun-2019 09:16

CD-060419-04
19F0083-04 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/04/2019 10:15

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/25/2019 13:03

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0083-04 A

Preparation Batch: BHF0511

Sample Size: 25 mL

Prepared: 21-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



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Reported:
26-Jun-2019 09:16

CD-060419-05
19F0083-05 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/04/2019 11:10

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/25/2019 13:04

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0083-05 B

Preparation Batch: BHF0511

Sample Size: 25 mL

Prepared: 21-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



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Reported:
26-Jun-2019 09:16

CD-060419-06
19F0083-06RE1 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/04/2019 12:20

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/25/2019 14:06

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0083-06RE1 A

Preparation Batch: BHF0511

Sample Size: 25 mL

Prepared: 21-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



Cascade Analytical, Inc.-Eurofins
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Reported:
26-Jun-2019 09:16

CD-060419-07
19F0083-07RE1 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/04/2019 12:20

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/25/2019 14:07

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0083-07RE1 A

Preparation Batch: BHF0511

Sample Size: 25 mL

Prepared: 21-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



Cascade Analytical, Inc.-Eurofins
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Project: GW Monitoring Anchor QEA -TKN
Project Number: 992243
Project Manager: Andy Schut

Reported:
26-Jun-2019 09:16

CD-060419-08
19F0083-08RE1 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/04/2019 12:50

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/25/2019 14:08

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0083-08RE1 A

Preparation Batch: BHF0511

Sample Size: 25 mL

Prepared: 21-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



Cascade Analytical, Inc.-Eurofins
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Reported:
26-Jun-2019 09:16

CD-060419-09
19F0083-09RE1 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/04/2019 13:00

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/25/2019 14:09

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0083-09RE1 A

Preparation Batch: BHF0511

Sample Size: 25 mL

Prepared: 21-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



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Project Manager: Andy Schut

Reported:
26-Jun-2019 09:16

CD-060419-10
19F0083-10RE1 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/04/2019 13:55

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/25/2019 14:10

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0083-10RE1 A

Preparation Batch: BHF0511

Sample Size: 25 mL

Prepared: 21-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



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Reported:
26-Jun-2019 09:16

CD-060419-11
19F0083-11RE1 (Water)

Wet Chemistry

Method: EPA 351.2

Sampled: 06/04/2019 14:00

Instrument: LACHAT2 Analyst: KOTT

Analyzed: 06/25/2019 14:12

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 19F0083-11RE1 A

Preparation Batch: BHF0511

Sample Size: 25 mL

Prepared: 21-Jun-2019

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Kjeldahl Nitrogen		1	0.5	0.5	ND	mg/L	U



Cascade Analytical, Inc.-Eurofins
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Project Number: 992243
Project Manager: Andy Schut

Reported:
26-Jun-2019 09:16

Wet Chemistry - Quality Control

Batch BHF0503 - No Prep Wet Chem

Instrument: LACHAT2 Analyst: KOTT

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0503-BLK1)										
					Prepared: 20-Jun-2019 Analyzed: 24-Jun-2019 14:38					
Total Kjeldahl Nitrogen	ND	0.5	0.5	mg/L						U
LCS (BHF0503-BS1)										
					Prepared: 20-Jun-2019 Analyzed: 24-Jun-2019 14:39					
Total Kjeldahl Nitrogen	4.8	0.5	0.5	mg/L	5.00		95.4 90-110			
LCS (BHF0503-BS2)										
					Prepared: 20-Jun-2019 Analyzed: 24-Jun-2019 14:41					
Total Kjeldahl Nitrogen	4.9	0.5	0.5	mg/L	5.00		97.6 90-110			



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Project Number: 992243
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Reported:
26-Jun-2019 09:16

Wet Chemistry - Quality Control

Batch BHF0511 - No Prep Wet Chem

Instrument: LACHAT2 Analyst: KOTT

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0511-BLK1)						Prepared: 21-Jun-2019 Analyzed: 25-Jun-2019 12:57					
Total Kjeldahl Nitrogen	ND	0.5	0.5	mg/L							U
LCS (BHF0511-BS1)						Prepared: 21-Jun-2019 Analyzed: 25-Jun-2019 12:58					
Total Kjeldahl Nitrogen	5.0	0.5	0.5	mg/L	5.00		99.6	90-110			
LCS (BHF0511-BS2)						Prepared: 21-Jun-2019 Analyzed: 25-Jun-2019 12:59					
Total Kjeldahl Nitrogen	5.1	0.5	0.5	mg/L	5.00		101	90-110			
Duplicate (BHF0511-DUP1)						Prepared: 21-Jun-2019 Analyzed: 25-Jun-2019 13:05					
Total Kjeldahl Nitrogen	ND	0.5	0.5	mg/L		ND					U
Matrix Spike (BHF0511-MS1)						Prepared: 21-Jun-2019 Analyzed: 25-Jun-2019 13:07					
Total Kjeldahl Nitrogen	10.4	1.0	1.0	mg/L	10.0	ND	104	75-125			D
Recovery limits for target analytes in MS/MSD QC samples are advisory only.											
Matrix Spike Dup (BHF0511-MSD1)						Prepared: 21-Jun-2019 Analyzed: 25-Jun-2019 13:08					
Total Kjeldahl Nitrogen	10.4	1.0	1.0	mg/L	10.0	ND	104	75-125	0.58	200	D
Recovery limits for target analytes in MS/MSD QC samples are advisory only.											



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26-Jun-2019 09:16

Certified Analyses included in this Report

Analyte	Certifications		
EPA 351.2 in Water			
Total Kjeldahl Nitrogen		WADOE,NELAP	
Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019



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26-Jun-2019 09:16

Notes and Definitions

D	The reported value is from a dilution
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.