



August 22, 2017
Yakima Valley Dairies



Revised Groundwater Monitoring Data Report Yakima Valley Dairies First Quarter 2017 SDWA-10-2013-0080

Prepared for
Cow Palace, LLC
George DeRuyter & Son Dairy, LLC/D & A Dairy, LLC/George & Margaret, LLC
Liberty Dairy, LLC/H & S Bosma Dairy

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Groundwater Monitoring Data Report First Quarter 2017

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Date: August 22, 2017



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DISTRIBUTION LIST

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ABBREVIATIONS

ALS	ALS Environmental
AOC	Administrative Order on Consent
CFR	Code of Federal Regulations
Dairies	Yakima Valley Dairies
EPA	U.S. Environmental Protection Agency
foot/foot	foot per foot
HASP	Health and Safety Plan
J (qualifier)	The compound was positively identified; however, the associated numerical value is an estimated concentration.
MCL	maximum contaminant level
MDL	method detection limit
mg/L	milligrams per liter
MRL	method reporting limit
mV	Millivolt
NAVD88	North American Vertical Datum of 1988
NPDES	National Pollutant Discharge Elimination System
NTU	nephelometric turbidity unit
ORP	oxidation-reduction potential
OSHA	Occupational Safety and Health Administration
PC	Project Coordinator
QA/QC	quality assurance/quality control
QAPP	Quality Assurance Project Plan
QAPP Addendum 1	<i>Groundwater Monitoring Quality Assurance Project Plan Addendum 1</i>
Report	Quarterly Groundwater Monitoring Data Report
SMCL	secondary maximum contaminant level
SOP	Standard Operating Procedure
SOW	Statement of Work
STORET/WQX	Storage and Retrieval and Water Quality Exchange
TKN	total Kjeldahl nitrogen
WQX	Water Quality Exchange

Executive Summary

The (1) Cow Palace Dairy, LLC; (2) D & A Dairy, LLC (also known as D&A Dairy L.L.C.), George DeRuyter & Son Dairy, L.L.C., and George & Margaret, L.L.C; and (3) Liberty Dairy LLC and its associated dairy facility H&S Bosma Dairy (Yakima Valley Dairies) present this Quarterly Groundwater Monitoring Data Report (Report) for the Yakima Valley Dairies (Dairies). The Report is prepared in accordance with requirements identified in Section III.E of the Statement of Work (SOW; Appendix B of Administrative Order on Consent [AOC] SDWA-10-2013-0080). Groundwater monitoring at the Dairies is required by the AOC in accordance with the *Groundwater Monitoring Quality Assurance Project Plan* (QAPP) dated June 21, 2013, and revised August 28, 2015 (IES 2015).

Pursuant to Section III.E of the AOC SOW, the objectives of groundwater monitoring are to establish a baseline of groundwater quality information at the Dairies to evaluate whether actions taken to reduce nitrogen loading are effective over time and to collect information to supplement and verify existing information on the environmental setting at the Dairies, including further clarification of the hydraulic gradient of the aquifer beneath the Dairies. After 8 years of quarterly groundwater monitoring (32 quarters), the nitrate levels in the monitoring wells that are downgradient of the Dairies' nitrogen sources will be evaluated. For any individual monitoring well where the nitrate level is not trending downward, additional source control actions will be required in accordance with Section III.G of the AOC SOW.

There are 26 groundwater monitoring wells installed at the Dairies, including 7 groundwater monitoring wells installed by the U.S. Environmental Protection Agency (EPA) in 2012 and 19 groundwater monitoring wells installed by the Dairies as part of the AOC in 2013. Twenty-three of the monitoring wells were completed at the top of the shallow surficial aquifer (at the water table), and three of the monitoring wells were completed deeper in the surficial aquifer. All the wells were installed in the surficial aquifer, which is used as a source of drinking water. All the wells were designed and installed according to Washington State regulations and an EPA-approved QAPP.

This is the 15th Report prepared under the AOC SOW. The First Quarter 2017 groundwater monitoring event was conducted from March 5 to March 13, 2017. All 26 of the monitoring wells at the site were sampled in accordance with the sampling procedures outlined in the Groundwater Monitoring QAPP (IES 2015) and the *Groundwater Monitoring Quality Assurance Project Plan Addendum 1* (QAPP Addendum 1; Anchor QEA 2016a).

Groundwater samples were analyzed for the following:

- Nitrate as nitrogen
- Nitrite as nitrogen
- Ammonia
- Total Kjeldahl nitrogen (TKN)

- Total phosphorus
- Inorganic anions (chloride, fluoride, sulfate)
- Total metals (calcium, potassium, magnesium, sodium)
- Alkalinity (total and bicarbonate)

These results are presented in Figures 24, 25, 26, and 27. The sulfate concentration detected in one downgradient well, YVD-13, met or exceeded the secondary maximum contaminant level (SMCL) of 250 milligrams per liter (mg/L).

Nitrate was measured as nitrogen (Nitrate-N). The nitrate results are presented spatially on a map in Figure 17A. Historical nitrate concentrations since 2013 are presented in Figure 17B and charted in Figures 18 through 23. The monitoring well network includes wells that are located upgradient and downgradient of the Dairies. There are four groundwater monitoring wells located upgradient of the Dairy facilities' footprint. All four wells were screened at the water table. Nitrate concentrations reported in mg/L in the upgradient monitoring wells for First Quarter 2017 are as follows:

Well	Nitrate (mg/L)
DC-01	9.0
YVD-02	5.4
YVD-03	4.42
YVD-04	3.70

Note:
mg/L: milligrams per liter

The nitrate concentrations in these upgradient groundwater monitoring wells ranged from 3.70 mg/L to 9.0 mg/L. The drinking water standard, or maximum contaminant level (MCL), for nitrate is 10 mg/L. Nitrate concentrations in all upgradient monitoring wells were less than the MCL.

Nitrate concentrations (reported in mg/L) in the downgradient monitoring wells that were screened at the water table for First Quarter 2017 are as follows:

Well	Nitrate (mg/L)
DC-03	179
DC-04	46.0
DC-05	32.9J
DC-07	2.58
DC-09	5.54
DC-14	4.34
YVD-05	2.88
YVD-06	0.61

Well	Nitrate (mg/L)
YVD-07	1.74J
YVD-08	37.3J
YVD-09	44.3
YVD-10	123J
YVD-11	77.3
YVD-12	13.4
YVD-13	23.3
YVD-14R	91.1
YVD-15	25.0J
YVD-16	20.1
YVD-17	0.42

Note:

J: The compound was positively identified; however, the associated numerical value is an estimated concentration.

mg/L: milligrams per liter

Nitrate concentrations in the downgradient water table groundwater monitoring wells ranged from 0.42 to 179 mg/L. Nitrate concentrations in 7 of the downgradient water table wells were less than the MCL; nitrate concentrations in 12 of the downgradient water table wells exceeded the MCL.

The Dairies installed three additional downgradient groundwater monitoring wells with well screens positioned at depths that were estimated by EPA to approximate the depth of a typical residential drinking water well in the area. Each of these deeper wells was paired at the same location with a water table well. The results for each well pair, with the water table well listed above its deeper counterpart, are as follows:

Well	Nitrate (mg/L)	Well	Nitrate (mg/L)	Well	Nitrate (mg/L)
YVD-13	23.3J	DC-03	179	DC-05	32.9J
YVD-18	23.7J	DC-03D	32.9	DC-05D	11.6J

Note:

J: The compound was positively identified; however, the associated numerical value is an estimated concentration.

mg/L: milligrams per liter

The results from two of the three well pairs (DC-03/DC-03D and DC-05/DC-05D) show higher nitrate concentrations at the top of the water table and lower concentrations at depth. The nitrate concentrations at well pair YVD-13/YVD-18 were similar, but nitrate concentrations were slightly higher in the deeper well.

Depth to groundwater from the top of the well casings ranged from 27.34 to 220.89 feet. In general, depth to groundwater was greatest in borings located in areas of the site that were topographically

higher. Comparatively, depth to groundwater was lower in borings located in areas of the site that were topographically lower.

The groundwater gradient at the site is generally to the southwest at an average hydraulic gradient of 0.026 foot per foot (foot/foot). Hydraulic gradients are higher in the topographically higher areas in the northern section of the site, with an average of 0.048 foot/foot. As groundwater flows to the southwest toward the center of the Yakima River valley, hydraulic gradients decrease to about 0.011 foot/foot in the central portion of the site and then decrease further to 0.0048 foot/foot in the southern portion of the site. The estimated average linear groundwater flow velocities for the shallow surficial aquifer at the Dairies range from 4.2 to 24.8 feet per day across the site.

Site groundwater is primarily classified as calcium-bicarbonate-type water, which was present in groundwater samples collected from 18 monitoring wells. Calcium-sulfate-type waters were present in groundwater samples collected from seven monitoring wells and groundwater in one well was classified as "no dominant type."

Total dissolved ions and nitrate increase in concentration in the downgradient direction from wells YVD-02 to DC-03, as shown in Figure 23. The increase of dissolved ion concentrations in the areas downgradient of the Dairies can be seen graphically in Figure 29.

1 Report Organization

This Report includes the following sections: Executive Summary, Report Organization, Introduction, Groundwater Monitoring Activities, Soil and Groundwater Characteristics, Analytical Program, Data Validation and Usability, Groundwater Sampling Results, Summary and Conclusions, References, and Certifications.

2 Introduction

The 1) Cow Palace Dairy, LLC; 2) D & A Dairy, LLC (also known as D&A Dairy L.L.C.), George DeRuyter & Son Dairy, L.L.C., and George & Margaret, L.L.C.; and 3) Liberty Dairy LLC and its associated dairy facility H&S Bosma Dairy (Yakima Valley Dairies) present this Quarterly Groundwater Monitoring Data Report (Report) for the Yakima Valley Dairies (Dairies). The Report is prepared in accordance with requirements identified in Section III.E of the Statement of Work (SOW; Appendix B of Administrative Order on Consent [AOC] SDWA-10-2013-0080). Groundwater monitoring at the Dairies is required by the AOC in accordance with the *Groundwater Monitoring Quality Assurance Project Plan* (QAPP) dated June 21, 2013, and revised August 28, 2015 (IES 2015).

Pursuant to Section III.E of the AOC SOW, the objectives of groundwater monitoring are to establish a baseline of groundwater quality information at the Dairies to evaluate whether actions taken to reduce nitrogen loading are effective over time and to collect information to supplement and verify existing information on the environmental setting at the Dairies, including further clarification of the hydraulic gradient of the aquifer beneath the Dairies. After 8 years of quarterly groundwater monitoring (32 quarters), the nitrate levels in the monitoring wells that are downgradient of the Dairies' nitrogen sources will be evaluated. For any individual monitoring well where the nitrate level is not trending downward, additional source control actions will be required in accordance with Section III.G of the AOC SOW.

2.1 Location and Setting

The Dairies are located in an area that occupies both the easternmost portion of the Toppenish Basin and the westernmost portion of the Benton Basin within the southcentral part of the Yakima Basin, just south of the Rattlesnake Hills in Yakima County, Washington.

The Dairies are located approximately 10 road miles northwest of Sunnyside, Washington. A site vicinity map is presented in Figure 1. The Dairies occupy portions or all of Sections 25, 26, 27, 35, and 36 of Township 11 North, Range 21 East; Sections 19, 30, 31, and 32 of Township 11 North, Range 22 East; Section 1 of Township 10 North, Range 21 East; and Sections 6 and 7 of Township 10 North, Range 22 East, Willamette Meridian. Figure 2A shows the location of the Dairies, the installed monitoring wells, and general topography of the area. Figure 2B shows an aerial photograph of the Dairies. Figure 3A shows the general facility plan for the Dairies, which includes land use information within the Dairies boundary.

Figures 3B, 3C, and 3D present a facility plan for each individual Dairy; these include facility-specific features, such as dairy production areas, irrigation and domestic water wells, pipelines, and outfalls. One outfall is located within the footprint of Liberty Dairy, as shown in Figure 3D. Discharge from the outfall is non-contact process water related to milk plate cooler. Cooling water from the plate cooler

is discharged to Sunnyside Valley Irrigation District Joint Drain 26-6. This outfall is not covered by a National Pollutant Discharge Elimination System (NPDES) permit. There are no outfalls within the footprint of Cow Palace. One outfall is located within the footprint of the George DeRuyter & Son-owned property, as shown in Figure 3C. Discharge from the outfall is non-contact process water related to milk plate cooler. Cooling water from the plate cooler is discharged to the Roza Irrigation District drain. This outfall is not covered by a NPDES permit. There are no French drains, sewer pipes, stormwater drains, or tile drains within the footprint of the Dairies.

Topography of the Dairies site consists of gently rolling hills within the Yakima River valley. Topography slopes from topographic highs along bounding hills and ridges to the north toward the Yakima River in the south. Land use is predominantly large dairy farms, which are concentrated animal feeding operations, and irrigated cropland, including corn fields, apple and cherry orchards, and grape vineyards. Residences are interspersed throughout the area and are serviced by private water wells for drinking water.

2.2 Regional Geology and Hydrogeology

The information presented in this section is summarized from the U.S. Geological Survey publication *Hydrogeologic Framework of the Yakima River Basin Aquifer System, Washington* (Vaccaro et al. 2009), the U.S. Environmental Protection Agency (EPA) publication *Relation Between Nitrate in Water Wells and Potential Sources in the Lower Yakima Valley, Washington* (EPA 2012), and the U.S. Geological Survey publication *Environmental Setting of the Granger Drain and DR2 Basins* (USGS 2007).

The Dairies are located within the Toppenish and Benton Basins in the southeastern part of the Lower Yakima Valley. The western boundary of the Benton Basin abuts the eastern boundary of the Toppenish Basin. The Toppenish and Benton basins consist of fine- and coarse-grained sediments overlying a sequence of three major basalt flows. The structural setting is created by bounding ridges, such as the Rattlesnake Mountains, Ahtanum Ridge, Toppenish Ridge, and Horse Heaven Hills. The uppermost basalts of the Saddle Mountain Unit of the Columbia River Basalt Group are typically exposed in these upland ridges. This unit averages more than 500 feet thick. The underlying Wanapum unit averages 600 feet thick. These units are separated by the Mabton Interbed, which has an average thickness of 70 feet.

The local area of the Dairies is bounded on the north by the Rattlesnake Hills and on the south by Snipes Mountain. Basalts of the Saddle Mountains Basalt Formation outcrop on both of these ridges and are believed to underlie the unconsolidated surficial deposits in the basin. The unconsolidated sediments fall into four broad groups that pinch out along the flanks of the bounding ridges. The oldest are Miocene-age sands and gravels deposited by the ancestral Columbia and Yakima rivers. Overlying these are Pleistocene- to Quaternary-aged alluvial fan deposits eroded from the bounding ridges. Surficial sediments consist of silt loess deposits of varying thickness. The loess deposits are

spatially heterogeneous and discontinuous. (USGS 2007.) The thickness of these sedimentary units decreases from an average of more than 500 feet in the Toppenish Basin to less than 200 feet in the lower Benton Basin. Surface soils and drainage classification, as mapped by the Natural Resources Conservation Service within the footprint of the Dairies' facilities, are illustrated in Appendix A.

There are two main aquifers in the Toppenish and Benton Basins. These include a surficial unconfined to semiconfined alluvial aquifer contained within the unconsolidated sediments and an extensive basalt aquifer of great thickness underlying the sedimentary deposits. The basalt aquifer is believed to be semi-isolated from the surficial aquifer and stream systems. Groundwater flow within the surficial aquifer generally follows topography, with natural recharge occurring along the bounding ridges and on the sides of the valley and discharge occurring to the Yakima River. The unconsolidated sediments of the surficial aquifer have an internal structure that strongly controls groundwater movement. As the water moves through these sediments, it tends to follow preferential flow paths composed of coarser sediment. Locally, the flow direction may be modified by geologic structures and by irrigation practices, drains, ditches, canals, and other hydrologic features. In the topographically higher areas near the bounding ridges, the depth to the water table can exceed 200 feet. The water table is found at shallower depths to the south in the direction of the Yakima River. Near the Yakima River, depth to water may be less than 10 feet, especially during the irrigation season from March through October. Flow within the uppermost portions of the underlying basalt aquifer also generally follows this pattern.

3 Groundwater Monitoring Activities

Investigation efforts were initiated as a result of the March 19, 2013, AOC. As stated in Section 2, the objectives of groundwater monitoring are to establish a baseline of groundwater quality information at the Dairies to evaluate whether actions taken to reduce nitrogen loading are effective over time and to collect information to supplement and verify existing information on the environmental setting at the Dairies, including further clarification of the hydraulic gradient of the aquifer beneath the Dairies. As part of the ongoing activities, a conceptual site model was developed and will be updated and modified as necessary (Figures 4 and 5).

The Groundwater Monitoring QAPP dated June 21, 2013, was conditionally approved with modification by EPA on June 19, 2013. Field investigation activities pursuant to the EPA-approved QAPP were initiated on June 27, 2013. Drilling and monitoring well construction activities of the 19 AOC wells began on June 27, 2013, and concluded on August 23, 2013. Well development activities began on August 26, 2013, and concluded September 4, 2013. A quarterly groundwater monitoring program was initiated in September 2013. The Groundwater Monitoring QAPP was revised and updated on August 28, 2015. An addendum to the QAPP (*Groundwater Monitoring Quality Assurance Project Plan Addendum 1* [QAPP Addendum 1]) was approved by EPA on January 13, 2017 (Anchor QEA 2016a).

3.1 Groundwater Monitoring Well Network

A total of 26 groundwater monitoring wells comprise the well network in the groundwater monitoring program: 19 wells installed as part of the AOC in 2013 (YVD wells) and 7 wells installed by EPA in 2012 (DC wells). Twenty-three wells have screens that intersect the first water and monitor impacts at the water table the shallow surficial aquifer; three wells are screened in deeper zones of the surficial aquifer, approximately 45 feet below the water table.

Well YVD-14 was destroyed by agricultural harvesting activities sometime during the month of June 2015. Well YVD-14 was abandoned and decommissioned on December 2, 2015. Well YVD-14R was installed approximately 20 feet west of the previous location of well YVD-14 on December 3 to December 5, 2015, as a replacement well for well YVD-14.

Personnel from Anchor QEA, LLC, performed groundwater monitoring of the 26 wells in the monitoring well network from March 5 through March 13, 2017. The locations of the monitoring wells are shown in Figures 2A and 2B. The location and construction information for each well is presented in Table 1. Groundwater monitoring was performed in accordance with the sampling procedures documented in the Groundwater Monitoring QAPP (IES 2015).

3.1.1 *Synoptic Static Depth to Water Measurement*

Prior to collecting groundwater samples, a set of synoptic water level measurements was collected from the 26 wells in the monitoring network on March 5, 2017, using an electronic water level meter. Depth to water measurements were recorded to the nearest 0.01 foot at the indicated reference point on each well casing. Static depth to water measurement was recorded on the Water Level Survey Form presented in Appendix B of the QAPP Addendum 1 (Anchor QEA 2016a). The depth to water measurements were collected from the 26 wells in as short a period of time as possible (approximately 6 hours) to provide a “snapshot” of groundwater elevations and to reduce the effect of atmospheric pressure changes or precipitation effects on the water levels. The groundwater elevation in the North American Vertical Datum of 1988 (NAVD88) was calculated by subtracting the depth to water measurements from the surveyed reference point on each well casing. The recorded groundwater measurements for First Quarter 2017 are summarized in Table 2.

3.1.2 *Sample Collection*

Groundwater samples were collected using low-flow purging and sampling procedures described in the Standard Operating Procedure (SOP) entitled *Low-Flow Groundwater Purging and Sampling Procedures for Monitoring Wells* (Appendix E of Anchor QEA 2016a). Low-flow sample collection minimizes the impact of the purging process on groundwater chemistry and results in a smaller volume of purge water generated.

The low-flow sample collection method requires water quality indicator parameters and water levels to be measured during purging. Stabilization of the water quality indicator parameters and groundwater levels is a prerequisite to sample collection. Analyte specifications for field parameters and stabilization criteria are presented in Table 4 of the Groundwater Monitoring QAPP (IES 2015).

Purging and sampling of the monitoring wells was performed with dedicated 1-inch-diameter stainless steel Solinst Model 407 bladder pumps with polytetrafluoroethylene (Teflon) bladders installed in each well.

Groundwater field parameters collected during purging included pH, temperature, specific conductance, turbidity, dissolved oxygen, and oxidation reduction potential. Water quality parameters were measured using a portable turbidimeter and a YSI Professional Plus multi-parameter water quality meter with a flow-through cell. Parameters were measured every 3 minutes during well purging until the parameters stabilized to the requirements set forth in Appendix E of the QAPP Addendum 1 (Anchor QEA 2016a). Observations regarding odors present, the color and amount of sediment/turbidity, or foreign matter (if present) were noted in the comments section of the Field Sampling Data Sheet. Field data measurements recorded are presented in Table 3.

Sample collection was performed after both the depth to water from the top of casing and all field parameters stabilized within the requirements stated in this section for at least three consecutive readings. Samples were transported to the analytical laboratory and analyzed in accordance with the Groundwater Monitoring QAPP (IES 2015) and the QAPP Addendum 1 (Anchor QEA 2016a).

3.1.3 *Sample Handling and Custody*

All samples were accompanied by a chain-of-custody record. When custody of samples was transferred, the individuals relinquishing and receiving the samples signed and dated the chain-of-custody record. The chain-of-custody record documents the custody transfer from the sampler, often through another agent (e.g., a shipping/transport company), to the laboratory sample custodian.

Prior to shipment, samples were packaged properly, and a chain-of-custody record accompanied each shipping container. All shipping containers were sealed with custody seals for shipment/transport to the laboratory unless the samples were hand-delivered to the laboratory. Custody seals were placed in a manner that would indicate if the container was opened during shipment. Courier names and other pertinent information were documented on the chain-of-custody record. All shipments were accompanied by the chain-of-custody record that identifies the contents of the shipment. The original and one copy was included in the shipment, and an additional copy was retained by the sampler and provided to the Dairies' Project Coordinator (PC). All shipping documentation (e.g., freight bills) was retained as part of the chain-of-custody documentation by the Dairies' PC.

All samples collected for laboratory analyses were delivered to ALS Environmental (ALS), located at 1317 South 13th Avenue in Kelso, Washington. Upon arrival at the laboratory, the ALS sample custodian accepted custody of the samples from the carrier and entered information about the shipment into a sample receipt log that included the initials of the person delivering the package and the status of custody seals on the containers. The sample custodian logged in the samples following the laboratory SOP. Following sample analysis, the unused portions of all samples were disposed of by ALS in accordance with their laboratory SOP. A total of six sample delivery groups were submitted to the analytical laboratory; the delivery groups and collection dates are as follows:

Sample Delivery Group	Samples Collected	Date Received by Lab
K1702228	March 6, 2017	March 7, 2017
K1702324	March 6, 7, and 8, 2017	March 9, 2017
K1702404	March 9, 2017	March 10, 2017
K1702448	March 9 and 10, 2017	March 11, 2017
K1702489	March 13, 2017	March 14, 2017
K1702542	March 13, 2017	March 15, 2017

Field Sampling Data Sheets were completed at each well and indicate samples collected, sample identification, duplicate samples, and other pertinent information, including significant events and observations that occurred during sampling activities. Sufficient information was noted on field sampling forms to enable participants to reconstruct events that occurred and to refresh the memory of field personnel, if needed (Appendix B). Original copies of all field forms and chain-of-custody documents were retained by the Dairies' Field Lead in the project files.

3.1.3.1 Sample Containers, Preservatives, and Hold Times

Field personnel, in coordination with the analytical laboratory, determined the number and type of sample containers needed for a given sampling event, including enough sample containers for the quality assurance/quality control (QA/QC) samples, in addition to the containers required for the actual well sampling. Preservatives were required for EPA Method 350.1, 365.3, 351.2, and 200.7 analyses. ALS provided the appropriate containers for the analytes, including required container sizes. In addition, ALS provided deionized water for collection of field blank samples.

3.1.4 Measurement of Final Water Level

Low-flow sampling methods were used, and a consistent, stabilized water level was maintained during sampling.

3.1.5 Equipment Decontamination

Non-dedicated equipment was decontaminated to prevent cross-contamination between monitoring wells. All other equipment and materials were either dedicated to a particular well or disposable. The following decontamination procedures were followed for non-dedicated equipment:

- The equipment was cleaned with a solution of phosphate-free detergent, such as Liquinox, and potable water.
- The equipment was rinsed three successive times with deionized water.

Water used for decontamination was disposed of in the immediate vicinity away from the nearest monitoring well. All disposable items, such as paper towels, disposable gloves, and washcloths, were deposited into garbage bags and disposed of in a solid-waste container located at the staging area.

3.1.6 Health and Safety

Anchor QEA prepared a *Project Health and Safety Plan* (HASP; Anchor QEA 2016b). Work activities referenced in this Report were conducted in accordance with applicable Occupational Safety and Health Administration (OSHA) rules and regulations, as well as those specifically established in the Project HASP. All personnel involved in the work were current with respect to required OSHA training and refresher requirements of 29 Code of Federal Regulations (CFR) Part 1920.120. The work was conducted in Level-D personal protective equipment.

4 Soil and Groundwater Characteristics

The following section summarizes soil and groundwater conditions encountered during subsurface soil boring and well installation efforts conducted at the Dairies. Specific information for each soil boring is provided in the *Groundwater Monitoring Well Installation Report* (ARCADIS 2013).

4.1 Subsurface Soil Characteristics

Soil boring and groundwater monitoring well drilling efforts were conducted from June 2013 through August 2013. Borehole field observations are provided in geologic borehole logs provided in Appendix A of the *Groundwater Monitoring Well Installation Report* (ARCADIS 2013). Figure 6 illustrates the locations of geologic cross sections across the site. Figures 7 through 14 present geologic cross sections. The geologic cross sections have been recreated and modified from their original format to improve appearance, usability, and ease of interpretation. The scale of the cross sections has been reduced from 50 times vertical exaggeration to 10 times vertical exaggeration to more clearly illustrate the geological features.

Lithology and depths of borings varied throughout most of the site. Site geology in most borings typically consisted of finer-grained materials in the upper portion of borings and coarser-grained material in the lower portion of borings. A silt loam, likely equivalent to Warden silt loam soils, was typically encountered in most borings at the surface or within 20 feet of the surface. Silt loam thickness was greatest in the areas where wells YVD-13 and YVD-18 are located (Figures 8 and 11) and in the upland areas where wells DC-01 and YVD-04 are located (Figures 7 and 9, respectively). Silt loam in these areas ranged from 23 to 57 feet thick. The silt loam typically pinched out with distance from the upland borings toward lower-elevation borings. In areas where the silt loam layer was deeper, such as in the area containing well DC-01, the silt loam interbeds with the sand and gravelly sand sediments that typically dominate the lithology of borings located further downslope (Figure 7).

Several borings encountered a partially cemented layer of sand and gravel (e.g., wells YVD-08, YVD-12, YVD-13/18, and YVD-15) located either beneath or interbedded with the silt loam. This partially cemented layer was generally 5 to 10 feet thick and slow to drill. Lithology beneath the cemented layer varied from 10 to 20 feet of silt loam in some borings (e.g., well YVD-13) and sand in other borings (e.g., well YVD-12).

Various layers of sand, gravelly sand, and sandy gravel dominated most of the borings completed at the Dairies. Sand and gravel were typically poorly graded. Lenses of silty sand and clayey sand were encountered in some of the borings. These lenses typically were present in the deeper portion of borings.

Three borings—from wells DC-01, YVD-02, and YVD-03—penetrated weathered basalt, which was encountered in borings YVD-02 and YVD-03 at 12 and 184 feet below ground surface, respectively. The depth to the surface of the weathered basalt greatly increased in a short distance from these two wells in the down-slope direction. Basalt was not encountered in the nearest down-slope wells, including YVD-04, YVD-06, and YVD-07. Total depths of these wells ranged from 168 to 245 feet below ground surface, thus indicating that the depth to the top of the basalt increases down-slope.

4.2 Groundwater Characteristics

The unconfined surficial aquifer is situated in gravelly sand or sandy gravel. Depth to water was measured from a surveyed reference point on the top of the well casing. The measured depth to water below the top of casing in the 26 wells on March 5, 2017, ranged from 27.34 to 220.89 feet. Depth to groundwater varies considerably across the site. Depth to groundwater was greatest in wells located in areas of the site that are topographically higher (e.g., wells YVD-04, YVD-05, YVD-06, YVD-07, YVD-08, and YVD-09), with the exception of well YVD-02. Well YVD-02 is located in the northernmost area of the site, where the depth to the underlying basalt bedrock is relatively shallow. Comparatively, depth to groundwater was lower in wells located in areas of the site that are topographically lower toward the center of the Yakima Valley (e.g., wells YVD-14R, YVD-15, YVD-17, DC-03, and DC-04).

Groundwater elevations in the surficial aquifer measured on March 5, 2017, ranged from 1,261.63 feet NAVD88 in well YVD-02 to 823.89 feet NAVD88 in well YVD-12. A summary of historical depth to water measurements and groundwater elevations is presented in Table 4. Figure 15 presents surficial aquifer water table groundwater elevation contours developed from the synoptic water level measurement event on March 5, 2017. The groundwater elevation in well YVD-03 appears anomalous when compared to groundwater elevations in nearby wells and was not used to create the groundwater elevation contour map in Figure 15. As can be seen in geologic cross section A-A' (Figure 7,) well YVD-03 is screened in the underlying basalt and weathered basalt aquifer.

As can be seen in Figure 15, groundwater generally flows in a northeast to southwest direction. The average hydraulic gradient is 0.026 foot per foot (foot/foot). Greater hydraulic gradients exist higher in the topographically higher upslope areas in the northern section of the site, with an average of 0.048 foot/foot. As groundwater flows to the southwest toward the center of the Yakima River valley, hydraulic gradients decrease to about 0.011 foot/foot in the central portion of the site and then decrease further to 0.0048 foot/foot in the southern portion of the site.

Comparison of groundwater elevations in the three shallow/deep monitoring well pairs (YVD-13/YVD-18, DC-03/DC-03D, and DC-05/DC-05D) indicates varying vertical hydraulic gradients as calculated using data collected during the synoptic measurement event on March 5, 2017. There

are downward vertical gradients of 0.0025 and 0.004 at well pairs DC-03/DC-03D and DC-05/DC-05D, respectively, and an upward vertical gradient of 0.0014 at well pair YVD-13/YVD-18.

4.3 Continuous Groundwater Elevation Monitoring

Continuous long-term groundwater elevations are being monitored using Solinst Levellogger Junior Edge pressure transducers in six monitoring wells to evaluate seasonal fluctuations and trends in groundwater elevations. Two pressure transducers were installed in one of the shallow/deep monitoring well pairs to evaluate differences in hydraulic head and vertical gradients between the shallow and deep portions of the surficial aquifer. Wells with transducers include DC-03, the DC-05/DC-05D well pair, YVD-03, YVD-08, and YVD-11. Additionally, a Solinst Barologger Edge barometric pressure transducer was deployed in well YVD-08 to provide the basis to compensate water levels for barometric pressure changes. Water levels often exhibit a response to barometric pressure (i.e., a rise in barometric pressure will often result in a drop in water levels). The sensitivity of the water level response to pressure is termed "barometric efficiency." Although barometric pressure compensation is calculated for each transducer, some fluctuation will be present due to the barometric efficiency of the aquifer.

Levellogger transducers were suspended in the well screen intervals below the water table at a depth where the transducers would remain fully submerged throughout seasonal changes in the water level. Further, the transducers were appropriately rated for the respective anticipated head in each well. Transducers were secured within the steel surface casing to prevent vandalism or tampering.

Transducers have been recording water levels in hourly increments since 12:00 p.m. on October 15, 2013. During data downloads, water levels in wells were manually gauged using an electronic water level meter. Following the data download, water level data were compensated for changes in barometric pressure and recalibrated with concurrent field-verified groundwater elevation measurements. The resulting groundwater hydrographs are presented in Figures 16A through 16G.

Hydrographs of the groundwater elevations in the wells in Figures 16A through 16G show that there are short-term fluctuations that occur over the course of a few days to a week and seasonal fluctuations in groundwater elevations at the site with an overall long-term decreasing trend in elevations, as shown in Figure 16A. Groundwater elevations in wells DC-03 (Figure 16B) and DC-05 (Figure 16C) exhibit short-term fluctuations of approximately 0.1 foot and seasonal fluctuations of approximately 2 feet, with maximum elevations in late summer/early fall and minimum elevations in spring. Groundwater elevations in both wells shows a long-term trend of consistent gradually decreasing elevations since measurements began in 2013.

Groundwater elevations in well DC-05D (Figure 16D) exhibit the same trend and seasonal fluctuations as well DC-05, although with greater short-term fluctuations on the order of

approximately 1 foot. Groundwater elevations are generally lower in well DC-05D compared to water levels in well DC-05, indicating a slight downward vertical hydraulic gradient.

Groundwater elevations in well YVD-03 (Figure 16E) exhibit short-term temporal fluctuations of approximately 0.5 to 1 foot. Long-term groundwater elevations in well YVD-03 gradually increased from the beginning of the measurement period in 2013 to April 2015, with elevations increasing approximately 3 feet over this period. Since April 2015, elevations in well YVD-03 consistently declined through Fourth Quarter 2016. Since December 2016, groundwater elevations in well YVD-03 have begun to slowly increase, with increasing short-term fluctuations on the order of 0.5 foot.

Groundwater elevations in well YVD-08 (Figure 16F) exhibit short-term temporal fluctuations of approximately 0.5 to 1 foot. Long-term groundwater elevations in well YVD-08 gradually increased from the beginning of the measurement period in 2013 to April 2015. Elevations began to decline in April 2015 and continued to decline through Fourth Quarter 2016. Since December 2016, groundwater elevations have stabilized with increasing short-term fluctuations on the order of 0.5 foot.

Groundwater elevations in well YVD-11 exhibit short-term fluctuations of approximately 0.1 foot (Figure 16G.) There is a consistent long-term trend of declining groundwater elevations in well YVD-11, as shown in Figure 16G. Elevations decreased slightly from the beginning of the monitoring period in 2013 until Fourth Quarter 2015. The rate of decrease increased as of Fourth Quarter 2015 and continued through Third Quarter 2016. Groundwater elevations increased slightly from Third Quarter 2016 to Fourth Quarter 2016 and have stabilized in First Quarter 2017.

4.4 Human Influences on Groundwater Flow

Human influences in the Yakima River valley may affect the hydrology and hydrogeology on and around the Dairies. These human influences include, but are not limited to, water extraction wells, large septic systems, stormwater basins/structures, irrigation ditches/pipelines, surface water structures such as ponds, and field irrigation methods. Many of these structures are depicted in Figures 3B, 3C, and 3D.

Supply wells and regional wells withdraw water for irrigation, residential use, and other farming uses. These wells may withdraw consistent volumes of water year-round or large volumes of water seasonally. Supply wells will likely affect the local hydraulic regime of the underlying aquifer, particularly within the area of well influence. Leakage of irrigation water from the Roza and Sunnyside irrigation canals is a source of recharge to the upper surficial aquifer during months when flow is present in the canals.

4.5 Average Linear Groundwater Flow Velocity

A potential average linear groundwater flow velocity for the surficial alluvial aquifer can be estimated based on the measured groundwater gradient and the observed characteristics of the aquifer material. The average linear velocity of groundwater flow (V_x) is determined according to the following equation:

Equation 1

$$V_x = \frac{K}{n_e} \times I$$

where:

- | | | |
|-------|---|--|
| K | = | hydraulic conductivity of the aquifer material |
| I | = | hydraulic gradient of the aquifer |
| n_e | = | effective porosity of the aquifer material |

No direct testing or analysis of hydraulic conductivity or effective porosity was performed for the surficial alluvial aquifer. Measurements of hydraulic conductivity and effective porosity are typically made using methods such as aquifer tests (e.g., pumping tests or slug tests) or physical analysis of aquifer material (e.g., permeameter testing, grain-size analysis). However, an estimate of the average linear groundwater velocity can be made using data (developed by others) for hydraulic conductivities and effective porosities of materials similar to those composing the surficial alluvial aquifer.

Review of the boring logs for wells completed at the Dairies indicate that the shallow surficial aquifer is chiefly composed of the following materials:

- Sands of fine grain size
- Sands of medium grain size with fine gravels
- Gravelly sands of medium to coarse grain size with fine to coarse gravels
- Sandy gravels of fine grain size with fine to coarse sands

Estimated values for hydraulic conductivity and effective porosity of the shallow surficial aquifer material are obtained from *Method 9100, Saturated Hydraulic Conductivity, Saturated Leachate Conductivity, and Intrinsic Permeability* (EPA 1986) and *Data Collection Handbook to Support Modeling Impacts of Radioactive Material in Soil* (Yu et al. 1993), respectively. Values of hydraulic conductivity (K) and effective porosity (n_e) for materials similar to the shallow surficial aquifer were selected from the previously referenced literature. The selected values are presented in Table 5.

The hydraulic gradient (I) of the shallow surficial aquifer as measured during March 2017 averages 0.026 foot/foot across the Dairies site. Hydraulic gradients in the topographically higher areas average 0.048 foot/foot. Hydraulic gradients decrease to approximately 0.011 foot/foot in the central portion of the Dairies and further decrease to 0.0048 foot/foot in the southern portion of the Dairies. A calculated range of average linear groundwater flow velocities in feet per day is presented in Table 5 based on the average and specific gradients. The estimated linear groundwater flow velocities for the surficial aquifer using the site average hydraulic gradient range from 4.2 to 24.8 feet per day, depending on the lithologic formation material.

The average linear groundwater flow velocities presented in Table 5 are a range of estimated possible values only; they are calculated using data elements (hydraulic conductivity and effective porosity) that are not site-specific and may not reflect the actual conditions present at the Dairies. However, this range of calculated groundwater velocity, based on values of material properties and hydraulic conductivity presented in literature together with the measured site-specific hydraulic gradients, is the best estimate of groundwater velocity that can be determined at this time.

5 Analytical Program

5.1 Analytical Methods

Groundwater samples were analyzed for the following:

- Nitrate (as nitrogen) by EPA Method 300.0
- Nitrite (as nitrogen) by EPA Method 300.0
- Ammonia by EPA Method 350.1
- Total phosphorus by EPA Method 365.3
- Total Kjeldahl nitrogen (TKN) by EPA Method 351.2
- Inorganic anions (chloride, fluoride, sulfate) by EPA Method 300.0
- Metals (calcium, potassium, magnesium, sodium) by EPA Method 200.7
- Alkalinity (total and bicarbonate) by Standard Method 2320B

The QAPP Addendum 1 (Anchor QEA 2016a, Table 3) presents the analytes, method, container, preservation method, and holding times for the groundwater samples collected during the groundwater monitoring event. Because of the 48-hour holding time for nitrate analysis by EPA Method 300.0, samples were either hand-delivered or shipped using an overnight delivery service each day (Sunday through Thursday). ALS analyzed the samples immediately upon receipt to ensure holding time compliance. Analytical laboratory reports are presented in Appendix C.

5.2 Quality Control

This section presents the field and laboratory QC requirements for groundwater monitoring sampling.

5.2.1 *Field Quality Control Samples*

The groundwater monitoring sampling included the collection of field QC samples, including field duplicates, field blanks, and equipment rinsate blanks. Field QC samples were collected at the required frequency as specified in the QAPP.

5.2.2 *Laboratory Quality Control Procedures*

Laboratory QC procedures included the following:

- Nitrate analysis of water samples according to EPA Method 300.0
- Instrument calibration and standards as defined in the associated EPA method or Standard Method
- Laboratory blank measurements at a minimum 5%, or one-per-batch frequency
- Accuracy and precision measurements at a minimum of 1 in 20, or one per set

- Data reduction and reporting according to laboratory SOP requirements
- Laboratory documentation according to laboratory SOP requirements

5.3 Data Validation and Usability

All data underwent review and validation as described in Section 4 of the Groundwater Monitoring QAPP. The Data Validation Report is presented in Appendix D.

5.4 Data Management

All field data collected during the groundwater monitoring sampling were recorded on Field Sampling Data Sheets (Appendix B). Pertinent information, such as field parameter measurements, was transferred to an Excel spreadsheet.

The analytical data obtained from the laboratory are maintained in an electronic data management tool. Additionally, the data are provided to EPA in accordance with the procedures presented in EPA Region 10 Monitoring and Analytical Data Deliverables Data Submission Process for Water Quality Exchange (WQX) Compatible Deliverables for Yakima Dairies (Docket No. SDWA-10-2013-0080), and EPA Region 10 Geographic Information System Data Deliverable Guidance for Yakima Dairies (Docket No. SDWA-10-2013-0080). Data submitted to EPA are provided in the requested format, which is consistent with the examples provided by EPA to the Dairies. Data are available via the Storage and Retrieval and Water Quality Exchange (STORET/WQX) Data Warehouse (<http://www.epa.gov/waterdata/storage-and-retrieval-and-water-quality-exchange>) under the Organization ID YAKIMAVLYDAIRIES_WQX.

5.5 Corrective Actions

No corrective actions were required for the First Quarter 2017 sampling event.

6 Data Validation and Usability

6.1 Data Review, Verification, and Validation

All data underwent a Stage 2 validation, which included a data package completeness review. Data were validated in accordance with EPA National Functional Guidelines. The Data Validation Report is presented in Appendix D. Any deviation from the approved QAPP was either documented within the body of this Report or in the Data Validation Report. Results met project data quality goals and criteria with some exceptions. Data are usable as reported or as qualified for all purposes.

7 Groundwater Sampling Results

Groundwater field parameter measurements for the First Quarter 2017 sampling event are presented in Table 3. Groundwater analytical results for First Quarter 2017 are presented in Table 6. A summary of historical groundwater sampling results is presented in Table 7. Additionally, a summary of the cation/anion balance is presented in Appendix E. These results establish current groundwater quality conditions in the surficial alluvial aquifer at the Dairies. Further, analytical results will be compared to subsequent quarterly events to identify spatial and temporal water quality trends.

7.1 Field Parameters

Groundwater field parameters collected during well purging included dissolved oxygen, pH, oxidation-reduction potential (ORP), specific conductance, temperature, and turbidity. Parameters were measured every 3 to 5 minutes during well purging until the parameters stabilized to the requirements set forth in Appendix E of the QAPP Addendum 1 (Anchor QEA 2016a). A summary of the final measurements recorded during the purging of each well are presented in Table 3.

Dissolved oxygen measures the concentration of molecular oxygen dissolved in groundwater. Oxygen's limited solubility, as described by Henry's law, is directly related to atmospheric pressure and inversely related to water temperature and salinity. The solubility of oxygen increases proportionately with hydrostatic pressure, hence depth. In dilute solutions at sea level, the solubility of oxygen ranges between 7.0 and 10.0 milligrams per liter (mg/L), at temperatures ranging between 15 °C to 31 °C (APHA 1981).

The primary chemical characteristic of molecular oxygen is its ability to accept electrons from (oxidize) other species in water. Aerobic bacteria utilize dissolved oxygen as part of their metabolism. This results in the oxidation of organic carbon, hydrogen sulfide, ammonium, molecular nitrogen, and other reductants. An important aspect of these biochemical reactions is their irreversibility; dissolved oxygen is always consumed and never produced as a result of bacterial metabolism. Groundwater sources usually contain a low level of dissolved oxygen compared to surface waters. A dissolved oxygen level less than 1.0 mg/L is considered indicative of anaerobic conditions.

Dissolved oxygen in the measured wells ranged from 0.19 mg/L in monitoring well DC-03D to 10.81 mg/L in monitoring well DC-09.

ORP is a measure of the intensity or activity of an aqueous environment or soil to mediate reactions of important elements in biological systems (e.g., oxygen, nitrogen, manganese, iron, sulfur, and carbon) and other metallic elements (EPA 2013). The ORP is the tendency of a chemical species to acquire electrons and thereby be reduced. Each species has its own intrinsic reduction potential; the more positive the potential, the greater the species' affinity for electrons and tendency to be reduced.

In aqueous solutions, the ORP is the tendency of the solution to either gain or lose electrons when it is subject to change by introduction of a new species. A solution with a higher (more positive) ORP than the new species will tend to gain electrons from the new species (i.e., to be reduced by oxidizing the new species) and a solution with a lower (more negative) ORP will tend to lose electrons to the new species (i.e., to be oxidized by reducing the new species). The transfer of electrons between chemical species determines the ORP of an aqueous solution. It does not characterize the capacity of the system for oxidation or reduction, in much the same way that pH does not characterize the buffering capacity of the system. A numerically positive ORP represents an environment conducive to the oxidation of an introduced substance by reduction of the original media.

Groundwater typically contains both reduced and oxidized species; however, what is termed the redox buffer capacity of an aquifer is normally dominated by the chemistry of the aquifer matrix. In most natural groundwater systems, iron is the dominant (by one to three orders of magnitude) buffering species involved in redox reactions.

The denitrification (NO_3 to N_2) reaction ($3\text{CH}_2\text{O} + 4\text{NO}_3^- = 2\text{N}_2 + 3\text{HCO}_3^- + \text{H}^+ + 2\text{H}_2\text{O}$) consumes organic matter in groundwater (Vance 1996). Denitrification can occur under ORP conditions in the range of +100 millivolts (mV) to +250 mV. Water in contact with air will have an ORP in the range of +350 mV to +500 mV.

Most work with oxidation/reduction reactions involves solutions in closed systems that are in a state of equilibrium. In groundwater with more than one oxidation/reduction species, the ORP cannot be accurately measured unless the reactants are at thermodynamic equilibrium. Some redox reactions can take from 10 to 1,000 years to reach equilibrium. However, environmental processes are typically in disequilibrium, caused by the following:

- Flowing groundwater conditions
- Biological activity
- Reactions of light bioactive elements (carbon, hydrogen, oxygen, and sulfur), which most often involve the breaking of covalent bonds, a process that is normally slow
- Electrochemical reactions of exposed active mineral surfaces

ORP ranged from -15.8 to +143.5 mV in monitoring wells YVD-17 and DC-14, respectively.

The measured pH ranged from 6.32 to 8.09 standard units, with the lowest reading measured in monitoring well DC-07 and the highest reading measured in well YVD-07.

Specific conductance is a measurement of the dissolved material in an aqueous solution, which relates to the ability of the media to conduct an electrical current. The greater the amount of dissolved material in a media, the higher the specific conductance value. Specific conductance in water depends on the concentration of ions, mobility, valence, relative concentrations, and the

temperature of the solution. Natural waters have specific conductance that are usually much less than 1 micromho per centimeter. An estimate of total dissolved solids in mg/L can be made by multiplying specific conductance in micromhos per centimeter by a factor ranging from 0.55 to 0.9, depending on the concentration of soluble component. The presence of charged ionic species allows current to be conducted through the solution, but other undissociated species in the solution complicate the relationship between specific conductance and total dissolved solids. Specific conductance, as a field parameter, may best reflect major ion chemistry in groundwater, as it is less affected by either volatilization or small-scale heterogeneity. Comparing temporal and spatial specific conductance measurements can provide an approximation of the mobility of the ionic species in the system. Specific conductance ranged from 287.5 to 3,600 microsiemens per centimeter, with the lowest reading measured in monitoring well YVD-02 and the highest reading measured in well YVD-10.

Groundwater temperature measurements ranged from 11.9 °C to 14.6 °C in monitoring wells YVD-10 and YVD-18, respectively. Groundwater temperature measurements are made at the surface and do not necessarily indicate the water temperature of the aquifer.

The lowest turbidity reading was 0.41 nephelometric turbidity units (NTUs) in monitoring well DC-03D. The highest turbidity reading of 9.99 NTUs was recorded in well YVD-16.

7.2 Nitrate

Nitrate (as nitrogen) was detected above the method detection limit (MDL) in all 26 monitoring wells (Figure 17A). Detected concentrations range from 0.42 mg/L in well YVD-17 to 179 mg/L in well DC-03 (Table 6).

Nitrate was detected in the following 11 wells at concentrations less than the maximum contaminant level (MCL) of 10 mg/L¹:

- DC-01 (9.0 mg/L)
- DC-09 (5.54 mg/L)
- YVD-03 (4.42 mg/L)
- YVD-05 (2.88 mg/L)
- YVD-07 (1.74J mg/L)
- DC-14 (4.34 mg/L)
- DC-07 (2.58 mg/L)
- YVD-02 (5.40 mg/L)
- YVD-04 (3.70 mg/L)
- YVD-06 (0.61 mg/L)
- YVD-17 (0.42 mg/L)

¹ J qualifiers denote estimated values.

Nitrate was detected in the following 15 wells at concentrations greater than the MCL of 10 mg/L²:

- DC-03 (179.0 mg/L)
- DC-04 (46.0 mg/L)
- DC-05D (11.6J mg/L)
- YVD-08 (37.3J mg/L)
- YVD-10 (123J mg/L)
- YVD-12 (13.4 mg/L)
- YVD-14R (91.1 mg/L)
- YVD-16 (20.1J mg/L)
- DC-03D (32.9 mg/L)
- DC-05 (32.9J mg/L)
- YVD-09 (44.3 mg/L)
- YVD-11 (77.3J mg/L)
- YVD-13 (23.3J mg/L)
- YVD-15 (25.0J mg/L)
- YVD-18 (23.7J mg/L)

Nitrate concentrations in well pairs showed lower detected concentrations in the deep well compared to the shallow well. Nitrate was detected in well pair YVD-13 (shallow) and YVD-18 (deep) at 23.3 and 23.7 mg/L, respectively. Nitrate was detected in well pair DC-03 (shallow) and DC 03D (deep) at 179 and 32.9 mg/L, respectively. Nitrate was detected in well pair DC-05 (shallow) and DC-05D (deep) at 32.9J and 11.6J mg/L, respectively.

Historical nitrate concentrations are presented in Figure 17B. The Dairies' monitoring wells are subdivided into the following groupings:

- East Downgradient wells (DC-04, DC-05, DC-05D, YVD-15, and YVD-17)
- West Downgradient wells (DC-03, DC-03D, DC-07, YVD-12, YVD-13, YVD-14/14R, and YVD 18)
- Central wells (YVD-08, YVD-09, YVD-10, YVD-11, and YVD-16)
- Northern wells (DC-09, DC-14, YVD-05, YVD-06, and YVD-07)
- Upgradient wells (DC-01, YVD-02, YVD-03, and YVD-04.)

Nitrate concentration trend plots for the East Downgradient wells, West Downgradient wells, Central wells, Northern wells, and Upgradient wells are presented in Figures 18 through 22, respectively.

Nitrate and total dissolved ion concentrations in wells along a linear transect from wells YVD-02, YVD-07, YVD-10, YVD-14R, and DC-03 (cross section G-G' in Figures 13a and 13b) are presented in Figure 23.

7.3 Nitrite

Nitrite was detected above the MDL of 0.004 mg/L in eight monitoring wells in First Quarter 2017 (Figure 24 and Table 6). One detection (in well DC-03) was above the method reporting limit (MRL) of 0.10 mg/L; the remaining detections are all below the MRL and are estimated values (J qualifier).

² J qualifiers denote estimated values.

7.4 Ammonia

Ammonia was detected in one well (YVD-06) at a concentration of 0.021 mg/L, which is below the MRL of 0.050 mg/L. This sample has been qualified as an estimated value (J qualifier). Ammonia was not detected in any of the remaining samples. Ammonia concentrations are presented in Table 6 and depicted in Figure 24.

7.5 Total Kjeldahl Nitrogen

TKN was not detected above the MRL of 0.5 mg/L in any of the monitoring wells in First Quarter 2017. TKN concentrations are presented in Table 6 and depicted in Figure 24.

7.6 Total Phosphorus

Total phosphorus concentrations ranged from 0.006 mg/L in well DC-03 to 0.099 mg/L in well YVD-02. Phosphorous concentrations are presented in Table 6 and depicted in Figure 24.

7.7 Inorganic Anions

Inorganic anions analyzed included chloride, fluoride, and sulfate. The analytical results for the First Quarter 2017 sampling event are presented in Table 6 and depicted in Figure 25. A summary of the results is discussed in the following subsections.

7.7.1 Chloride

Detected chloride concentrations ranged from 2.65 mg/L in well YVD-17 to 173 mg/L in well YVD-10. All chloride concentrations were less than the secondary maximum contaminant level (SMCL) of 250 mg/L.

7.7.2 Fluoride

Detected fluoride concentrations ranged from 0.09 mg/L in well YVD-10 to 0.65 mg/L in a field duplicate sample at well YVD-03. Fluoride was not detected in one well, DC-07. All detected concentrations are below the SMCL for fluoride of 2.0 mg/L.

7.7.3 Sulfate

Detected sulfate concentrations ranged from 6.26 mg/L in well YVD-17 to 799 mg/L in well YVD-10. Sulfate was detected in two wells, YVD-13 and YVD-10, at concentrations equal to or greater than the SMCL of 250 mg/L.

7.8 Metals

Metals analyzed included calcium, magnesium, potassium, and sodium. The analytical results for the First Quarter 2017 sampling event are presented in Table 6 and depicted in Figure 26. A summary of the results is discussed in the following subsections.

7.8.1 Calcium

Calcium concentrations ranged from 17.6 mg/L in well YVD-07 to 569 mg/L in well YVD-10.

7.8.2 Magnesium

Magnesium concentrations ranged from 5.84 mg/L in well YVD-06 to 128 mg/L in well YVD-10.

7.8.3 Potassium

Potassium concentrations ranged from 0.26 mg/L in well YVD-17 to 7.78 mg/L in well YVD-09.

7.8.4 Sodium

Sodium concentrations ranged from 5.39 mg/L in well YVD-17 to 185 mg/L in well YVD-09.

7.9 Alkalinity

Alkalinity analyses included bicarbonate alkalinity and total alkalinity. The analytical results for the First Quarter 2017 sampling event are presented in Table 6 and depicted in Figure 27. A summary of the results is discussed in the following subsections.

7.9.1 Bicarbonate Alkalinity

Bicarbonate concentrations ranged from 103 mg/L in well YVD-02 to 637 mg/L in well YVD-10.

7.9.2 Total Alkalinity

Total alkalinity concentrations ranged from 103 mg/L in well YVD-02 to 637 mg/L in well YVD-10.

7.10 Water Type Classifications

Analytical results for cations and anions were used to construct Stiff diagrams and Piper diagrams. These diagrams are used to evaluate the natural water chemistry of the shallow surficial aquifer, describe water type classifications, and map hydrochemical facies.

7.10.1 Anion and Cation Balance

A worksheet displaying the calculation of the anion and cation balance for the samples for First Quarter 2017 is presented in Appendix E. The total cation concentration was calculated as the sum of calcium, magnesium, sodium, and potassium. The total anion concentration was calculated as

the sum of chloride, sulfate, and bicarbonate; nitrate was also included because this anion was present at significant concentrations in many samples. This information is summarized in a table with the calculated milliequivalents per liter (equivalent weight or equivalent mass) for the groundwater analytical results. The ion balances for the groundwater samples were within $\pm 4\%$, with the exceptions of the samples at well YVD-02, which were -5.6% , and well YVD-17, which were $+4.5\%$. The average ion balances of the groundwater samples were $\pm 1.7\%$, indicating that the major-ion laboratory analyses were of good quality.

7.10.2 Stiff Diagrams

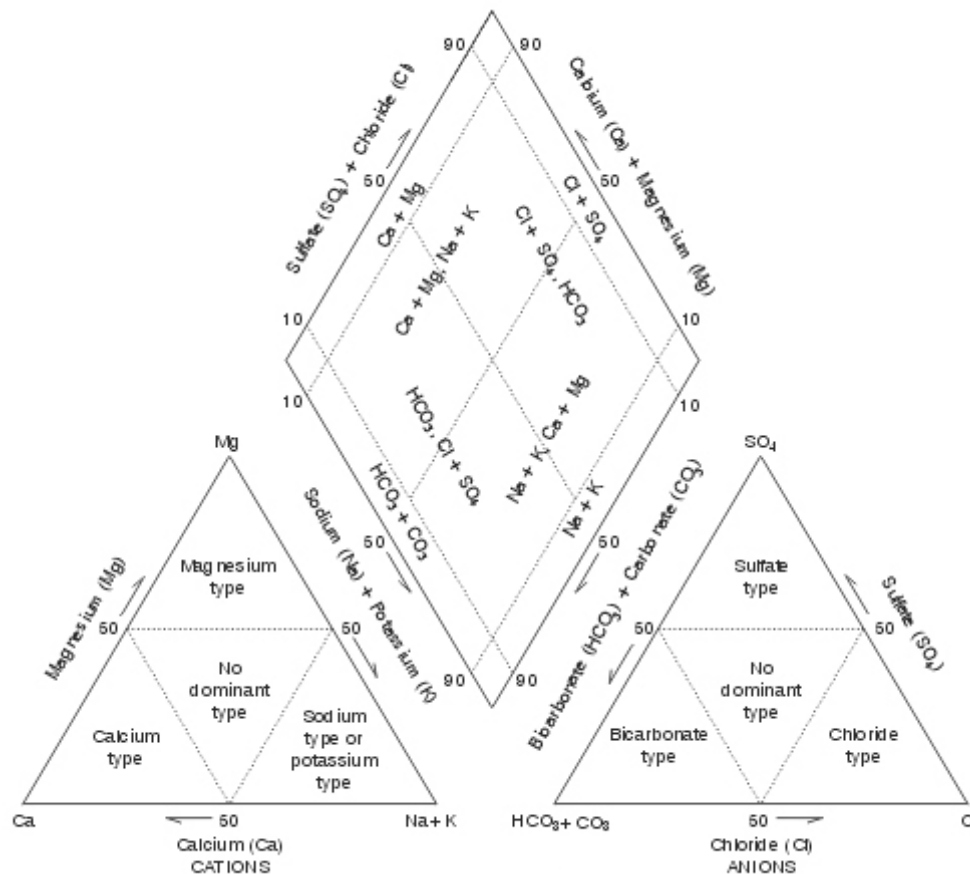
Stiff diagrams are used to graphically compare the cation and anion concentrations for wells throughout the site both spatially and over time. A polygonal shape is created from four parallel horizontal lines extending on either side of a vertical zero axis. Cations are plotted on the left of the zero axis, one to each horizontal axis, and anions are plotted to the right, extending along a given horizontal axis. Stiff diagrams are useful in making rapid visual comparison between water of different sources; generally, waters with the same polygonal shapes are derived from the same source. The larger the area of the polygonal shape, the greater the concentrations of the various ions associated with the depicted sample. Figures 28A through 28I present Stiff diagrams for all 26 wells. Figure 29 presents the Stiff diagrams next to their respective sample point on a facility base map. Concentrations in the Stiff diagrams are expressed in milliequivalents per liter and require a specific conversion for each individual ion concentration.

7.10.3 Piper Diagrams

Piper diagrams illustrate the geochemical characteristics of each sample point within the lithological flow path by plotting dissolved ion concentrations (expressed in milliequivalents per liter) on two-dimensional trilinear diagrams shown in Chart 1. Each trilinear diagram represents the relative percentages of three ions. Cations are represented in the left trilinear diagram, anions in the right. The apex of each of the triangles represents 100% of the ion shown at that corner. For example, water compositions with more than 50% relative calcium ions would plot in the bottom left corner of the cation diagram and would be considered calcium dominant. Compositions with less than 50% of each of the represented cations would plot in the center of the diagram and would therefore be considered to have no dominant type. Each of the data points from the cation and anion diagrams are then projected into the quadrilateral above. The quadrilateral represents the water composition with respect to the six represented ions.

Chart 1

Piper Diagram Displaying Relative Ion Composition (Bartos and Ogle 2002)



The Piper diagrams were constructed in general accordance with ASTM International D5754-95 (2006) *Standard Guide for Displaying the Results of Chemical Analyses of Groundwater for Major Ions and Trace Elements – Trilinear Diagrams for Two or More Analyses*. Figure 30 presents a Piper diagram of general water quality for all 26 well samples. The wells are divided into well groups, based on location and with respect to groundwater gradient, and shown on individual Piper diagrams in Figures 31 through Figure 33. Individual data points within each sample group demonstrate the changes in the hydrochemical facies throughout the groundwater flow path through the Dairies site.

Group 1 consists of nine wells (DC-03, DC-03D, YVD-04, YVD-05, YVD-08, YVD-09, YVD-12, YVD-13, and YVD-18) located within the western portion of the Dairies. The Group 1 wells' groundwater is generally calcium-bicarbonate type in the upgradient wells (YVD-04 and YVD-05) and calcium-sulfate type in the downgradient wells (DC-03, DC-03D, YVD-08, YVD-12, YVD-13, and YVD-18), as shown in Figure 31. Well YVD-09, which is located approximately between the upgradient and downgradient portions of the Dairies site, has groundwater classified as "no dominant type." Groundwater in

well DC-03D, which is a downgradient well screened in a deeper zone of the surficial aquifer, is calcium-bicarbonate type.

Group 2 consists of ten wells (DC-01, DC-04, DC-07, DC-14, YVD-03, YVD-06, YVD-10, YVD-14R, YVD-15, and YVD-17) located within in the central portion of the Dairies. Group 2 wells' groundwater is calcium-bicarbonate type, with the exception of groundwater in wells DC-01 and YVD-10, which are calcium-sulfate type. DC-01 is an upgradient well screened in the underlying basalt. Groundwater in well YVD-10 has historically been calcium-bicarbonate type. In First Quarter 2017, groundwater in well YVD-10 was classified as calcium-sulfate-type water.

Group 3 consists of seven wells (DC-05, DC-05D, DC-09, YVD-02, YVD-07, YVD-11, and YVD-16) located within the eastern portion of the Dairies. The Group 3 wells' groundwater is calcium-bicarbonate type.

8 Summary and Conclusions

Data collected during First Quarter 2017 indicate that nitrate concentrations, hydraulic gradients, and groundwater chemistry in the shallow aquifer have generally remained stable and are consistent with results from previous years of the groundwater monitoring program with a few exceptions.

In First Quarter 2017, there were 15 wells located on or downgradient of the Dairies with nitrate concentrations in groundwater above the MCL (10 mg/L), which is consistent with past first-quarter monitoring events. Nitrate concentrations in the East Downgradient wells, West Downgradient wells, Northern wells, and Upgradient wells (Figures 18, 19, 21, and 22, respectively) have generally remained stable or are decreasing. Nitrate concentrations in three Central wells (YVD-08, YVD-10, and YVD-11) have been gradually increasing since 2014.

Groundwater in the surficial aquifer flows in a north-northeast to south-southwest direction with little seasonal change in hydraulic gradient. Groundwater hydrographs shown in Figures 16A through 16G show that groundwater elevations have been decreasing in the surficial aquifer since monitoring began in 2013. Groundwater elevations in the surficial aquifer fluctuate seasonally, with the highest elevations during the third quarter and lowest elevations in the first quarter, suggesting groundwater recharge from the effects of agricultural irrigation activities from March through October.

Groundwater in the surficial aquifer in the location of the Dairies from First Quarter 2017 is mainly calcium-bicarbonate type, with calcium-sulfate-type water present in several downgradient wells and one upgradient well partially screened in the basalt formation. These results are generally consistent with analyses of groundwater quality from previous years of the groundwater monitoring program, with the exception of groundwater at well YVD-10, which historically was calcium-bicarbonate-type water but in First Quarter 2017 was calcium-sulfate-type water.

9 References

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10 Certifications

Cow Palace Certification

I certify under the penalty of law that this document and all attachments were prepared by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel gathered and evaluated the information submitted. Based on my inquiry of any and all persons directly responsible for gathering and analyzing the information obtained, I certify that the information contained in or accompanying this submittal is to the best of my knowledge and belief, true, accurate, and complete. As to those identified portion(s) of this submittal for which I cannot personally verify the accuracy, I certify that this submittal and all attachments were prepared in accordance with procedures designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those directly responsible for gathering the information, or the immediate supervisor of such person(s), the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Cow Palace, LLC

Signature



Name

Adam Dolsen

Title

Member

Date

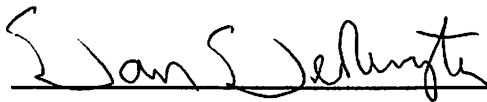
5-5-17

D & A Dairy, George DeRuyter & Son Dairy, and George & Margaret, LLC Certification

I certify under the penalty of law that this document and all attachments were prepared by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel gathered and evaluated the information submitted. Based on my inquiry of any and all persons directly responsible for gathering and analyzing the information obtained, I certify that the information contained in or accompanying this submittal is to the best of my knowledge and belief, true, accurate, and complete. As to those identified portion(s) of this submittal for which I cannot personally verify the accuracy, I certify that this submittal and all attachments were prepared in accordance with procedures designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those directly responsible for gathering the information, or the immediate supervisor of such person(s), the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

**D & A Dairy LLC (also known as D and A Dairy, L.L.C.),
George DeRuyter & Son Dairy, LLC, and George & Margaret, LLC**

Signature



Name

Dan DeRuyter

Title

Member

Date

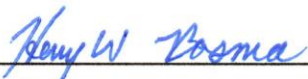
5/10/17

Liberty Dairy Certification

I certify under the penalty of law that this document and all attachments were prepared by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel gathered and evaluated the information submitted. Based on my inquiry of any and all persons directly responsible for gathering and analyzing the information obtained, I certify that the information contained in or accompanying this submittal is to the best of my knowledge and belief, true, accurate, and complete. As to those identified portion(s) of this submittal for which I cannot personally verify the accuracy, I certify that this submittal and all attachments were prepared in accordance with procedures designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those directly responsible for gathering the information, or the immediate supervisor of such person(s), the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Liberty Dairy, LLC (and its associated dairy facility H & S Bosma Dairy)

Signature



Name

Henry Bosma

Title

Partner

Date

5-8-17

Tables

Table 1
Monitoring Well Construction

Well ID	Coordinates		Top of Casing Elevation (ft NAVD88)	Ground Surface Elevation (feet NAVD88)	Surface Completion	Well Depth (feet bgs)	Casing and Screen Material	Screen Slot Size (inches)	Screen Length (feet)	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)	Elevation of Top of Screen (feet NAVD88)	Elevation of Base of Screen (feet NAVD88)	Depth to Top of Filter Pack (feet bgs)	Depth to Bottom of Filter Pack (feet bgs)
	Latitude	Longitude													
Monitoring Wells															
DC-01	46.418795	-120.138185	1,199.17	1,199.64	Flush	160.0	Schedule 40 PVC	0.020	20.0	140.0	160.0	1,059.6	1,039.6	136.0	160.0
DC-03	46.386289	-120.146145	910.58	911.04	Flush	85.0	Schedule 40 PVC	0.020	20.0	62.5	82.5	848.5	828.5	58.5	85.0
DC-03D	46.386220	-120.146054	911.33	908.83	Stick-up	116.1	Schedule 40 PVC	0.020	9.5	106.1	115.6	802.7	793.2	100.0	116.5
DC-04	46.382446	-120.131129	877.22	877.62	Flush	51.0	Schedule 40 PVC	0.020	20.0	29.5	49.5	848.1	828.1	24.5	51.0
DC-05	46.382358	-120.120237	911.95	912.35	Flush	86.0	Schedule 40 PVC	0.020	20.0	63.5	83.5	848.9	828.9	59.5	86.0
DC-05D	46.382517	-120.120210	915.91	913.55	Stick-up	126.8	Schedule 40 PVC	0.020	9.5	116.8	126.3	796.8	787.3	114.0	128.0
DC-07	46.389612	-120.141671	889.29	889.78	Flush	61.0	Schedule 40 PVC	0.020	20.0	38.5	58.5	851.3	831.3	34.5	61.0
DC-09	46.404230	-120.120858	1,048.60	1,048.97	Flush	196.0	Schedule 40 PVC	0.020	20.0	173.5	193.5	875.5	855.5	169.5	196.0
DC-14	46.404240	-120.139685	1,036.61	1,036.92	Flush	151.0	Schedule 40 PVC	0.020	20.0	128.5	148.5	908.4	888.4	124.5	151.0
YVD-02	46.422601	-120.113697	1,288.97	1,285.81	Stick-up	35.0	Schedule 40 PVC	0.020	19.5	15.0	34.5	1,270.8	1,251.3	13.0	36.0
YVD-03	46.414227	-120.139638	1,120.68	1,118.15	Stick-up	200.1	Schedule 40 PVC	0.020	19.5	180.1	199.6	938.1	918.6	176.0	202.0
YVD-04	46.408062	-120.156224	1,118.66	1,116.06	Stick-up	245.2	Schedule 40 PVC	0.020	19.5	225.2	244.7	890.9	871.4	220.0	248.0
YVD-05	46.404457	-120.142790	1,051.78	1,052.26	Flush	182.2	Schedule 40 PVC	0.020	19.5	162.2	181.7	890.1	870.6	156.0	208.0
YVD-06	46.407671	-120.137191	1,053.51	1,053.88	Flush	169.0	Schedule 40 PVC	0.020	19.5	149.0	168.5	904.9	885.4	144.0	170.0
YVD-07	46.404432	-120.125205	1,073.03	1,070.59	Stick-up	168.3	Schedule 40 PVC	0.020	19.5	148.3	167.8	922.3	902.8	145.0	169.0
YVD-08	46.396920	-120.152771	1,014.38	1,011.92	Stick-up	182.5	Schedule 40 PVC	0.020	19.5	162.5	182.0	849.4	829.9	155.0	188.0
YVD-09	46.396832	-120.144078	966.81	964.28	Stick-up	122.3	Schedule 40 PVC	0.020	19.5	102.3	121.8	862.0	842.5	9.5	128.0
YVD-10	46.396978	-120.136165	958.00	955.45	Stick-up	103.1	Schedule 40 PVC	0.020	19.5	83.1	102.6	872.4	852.9	76.0	103.5
YVD-11	46.393446	-120.123627	967.91	965.51	Stick-up	116.9	Schedule 40 PVC	0.020	19.5	96.9	116.4	868.6	849.1	94.0	117.3
YVD-12	46.389730	-120.166996	961.91	959.51	Stick-up	151.4	Schedule 40 PVC	0.020	19.5	131.4	150.9	828.1	808.6	127.0	154.0
YVD-13	46.389708	-120.151673	965.59	963.07	Stick-up	141.0	Schedule 40 PVC	0.020	19.5	121.0	140.5	842.1	822.6	117.0	148.0
YVD-14R	46.389532	-120.145124	920.19	918.80	Stick-up	93.0	Schedule 40 PVC	0.020	20.0	72.0	92.0	846.8	826.8	69.0	93.0
YVD-15	46.389802	-120.137153	940.61	938.08	Stick-up	105.1	Schedule 40 PVC	0.020	19.5	85.1	104.6	853.0	833.5	81.0	128.0
YVD-16	46.389586	-120.114783	975.90	972.99	Stick-up	122.1	Schedule 40 PVC	0.020	19.5	102.1	121.6	870.9	851.4	100.5	127.0
YVD-17	46.380761	-120.142067	866.73	864.28	Stick-up	47.7	Schedule 40 PVC	0.020	19.5	27.7	47.2	836.6	817.1	25.0	58.0
YVD-18	46.389758	-120.151671	965.74	963.42	Stick-up	179.9	Schedule 40 PVC	0.020	9.5	169.9	179.4	793.5	784.0	166.0	181.5
Decommissioned Wells															
YVD-14	46.389536	-120.145067	920.19	917.64	Stick-up	91.0	Schedule 40 PVC	0.020	19.5	71.0	90.5	846.6	827.1	66.0	98.0

Notes:
Latitude and longitude in decimal degrees, based on World Geodetic Survey 1984 (WGS84).
bgs: below ground surface
NAVD88: North American Vertical Datum of 1988
PVC: polyvinyl chloride

Table 2
Summary of Groundwater Elevations

Well ID	Date of Measurement	Reference Point Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet NAVD88)
DC-01	3/5/2017	1,199.17	150.55	1,048.62
DC-03	3/5/2017	910.58	74.20	836.38
DC-03D	3/5/2017	911.33	75.05	836.28
DC-04	3/5/2017	877.22	35.45	841.77
DC-05	3/5/2017	911.95	70.98	840.97
DC-05D	3/5/2017	915.91	74.96	840.95
DC-07	3/5/2017	889.29	46.27	843.02
DC-09	3/5/2017	1,048.60	146.24	902.36
DC-14	3/5/2017	1,036.61	133.81	902.80
YVD-02	3/5/2017	1,288.97	27.34	1,261.63
YVD-03	3/5/2017	1,120.68	190.85	929.83
YVD-04	3/5/2017	1,118.66	220.89	897.77
YVD-05	3/5/2017	1,051.78	167.98	883.80
YVD-06	3/5/2017	1,053.51	107.89	945.62
YVD-07	3/5/2017	1,073.03	157.59	915.44
YVD-08	3/5/2017	1,014.38	171.16	843.22
YVD-09	3/5/2017	966.81	111.92	854.89
YVD-10	3/5/2017	958.00	93.24	864.76
YVD-11	3/5/2017	967.91	109.08	858.83
YVD-12	3/5/2017	961.91	138.02	823.89
YVD-13	3/5/2017	965.59	127.92	837.67
YVD-14R	3/5/2017	921.41	79.14	842.27
YVD-15	3/5/2017	940.61	94.96	845.65
YVD-16	3/5/2017	975.90	114.90	861.00
YVD-17	3/5/2017	866.73	37.88	828.85
YVD-18	3/5/2017	965.74	128.01	837.73

Notes:

1. Not measured. Well was covered in snow and ice and could not be located.

BTOC: below top of casing

NAVD88: North American Vertical Datum of 1988

Table 3
Field Parameter Measurements

Well ID	Sample Date	Bladder Pump Type (portable or dedicated)	Purge Time (minutes)	Volume Purged (liters)	Temperature (°C)	Specific Conductance (µS/cm)	pH (standard units)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	Oxidation/ Reduction Potential (mV)
DC-01	3/8/2017	Dedicated	45	1.7	12.2	816	7.71	1.87	7.44	19.1
DC-03	3/8/2017	Dedicated	22	5.8	12.9	2,723	6.98	1.22	7.41	65.2
DC-03D	3/8/2017	Dedicated	18	4.6	13.5	1,536	6.90	0.41	0.19	59.5
DC-04	3/10/2017	Dedicated	28	4.8	13.9	1,424	6.95	1.58	7.04	52.7
DC-05	3/7/2017	Dedicated	22	5.4	13.3	1,181	7.14	1.60	5.64	134.3
DC-05D	3/7/2017	Dedicated	15	2.8	13.3	770	7.68	5.53	6.14	63.9
DC-07	3/9/2017	Dedicated	18	4.9	13.7	673	6.32	1.77	2.64	100.3
DC-09	3/13/2017	Dedicated	15	1.4	13.3	394.8	7.87	2.63	10.81	132.8
DC-14	3/13/2017	Dedicated	15	2.6	13.8	901	7.03	1.16	2.46	143.5
YVD-02	3/8/2017	Dedicated	27	2.4	14.1	287.5	7.59	8.69	7.21	75.6
YVD-03	3/6/2017	Dedicated	15	1.7	13.0	510.7	7.59	9.83	8.12	80.5
YVD-04	3/10/2017	Dedicated	21	0.9	14.4	482.5	7.36	3.53	7.96	38.1
YVD-05	3/13/2017	Dedicated	15	3.3	14.4	458.8	7.76	2.23	8.00	81.9
YVD-06	3/6/2017	Dedicated	15	1.7	13.8	297.1	7.91	1.28	7.67	56.9
YVD-07	3/7/2017	Dedicated	28	5.2	13.1	300.1	8.09	1.38	7.36	54.3
YVD-08	3/9/2017	Dedicated	15	2.5	14.2	1,391	7.36	4.64	6.01	80.1
YVD-09	3/13/2017	Dedicated	26	5.4	14.3	1,620	7.25	1.91	5.98	25.7
YVD-10	3/9/2017	Dedicated	36	4.9	11.9	3,600	6.85	8.00	6.29	135.0
YVD-11	3/13/2017	Dedicated	60	5.1	12.8	1,778	7.04	8.01	6.22	76.5
YVD-12	3/9/2017	Dedicated	15	3.1	14.0	1,053	7.63	3.99	6.50	78.7
YVD-13	3/7/2017	Dedicated	15	2.9	13.8	1,215	7.78	0.73	7.22	61.9
YVD-14R	3/9/2017	Dedicated	15	3.7	13.6	2,202	6.77	1.32	2.57	56.0
YVD-15	3/9/2017	Dedicated	18	5.7	13.0	1,183	7.16	2.28	5.74	76.4
YVD-16	3/9/2017	Dedicated	18	3.0	12.5	998	7.50	9.99	5.44	81.9
YVD-17	3/10/2017	Dedicated	21	8.8	13.6	306.5	7.99	2.49	1.64	-15.8
YVD-18	3/6/2017	Dedicated	21	2.8	14.6	932	7.80	3.73	9.40	60.4

Notes:

µS/cm: microsiemens per centimeter

mg/L: milligram per liter

mV: millivolt

NTU: nephelometric turbidity unit

Table 4
Cumulative Groundwater Elevations

Well ID	Date of Measurement	Reference Point Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet NAVD88)
DC-01	9/16/2013	1199.17	150.45	1048.72
DC-01	12/9/2013	1199.17	150.66	1048.51
DC-01	3/16/2014	1199.17	150.43	1048.74
DC-01	6/1/2014	1199.17	150.50	1048.67
DC-01	9/21/2014	1199.17	150.32	1048.85
DC-01	12/14/2014	1199.17	150.20	1048.97
DC-01	3/5/2015	1199.17	150.35	1048.82
DC-01	6/15/2015	1199.17	150.41	1048.76
DC-01	9/21/2015	1199.17	150.50	1048.67
DC-01	12/13/2015	1199.17	150.46	1048.71
DC-01	3/8/2016	1199.17	150.53	1048.64
DC-01	6/19/2016	1199.17	150.70	1048.47
DC-01	9/25/2016	1199.17	150.70	1048.47
DC-01	12/11/2016	1199.17	150.65	1048.52
DC-01	3/5/2017	1199.17	150.55	1048.62
DC-03	9/16/2013	910.58	72.43	838.15
DC-03	12/9/2013	910.58	72.55	838.03
DC-03	3/16/2014	910.58	73.62	836.96
DC-03	6/1/2014	910.58	73.25	837.33
DC-03	9/21/2014	910.58	72.26	838.32
DC-03	12/14/2014	910.58	72.40	838.18
DC-03	3/5/2015	910.58	73.60	836.98
DC-03	6/15/2015	910.58	73.12	837.46
DC-03	9/21/2015	910.58	72.35	838.23
DC-03	12/13/2015	910.58	73.64	837.94
DC-03	3/8/2016	910.58	73.99	836.59
DC-03	6/19/2016	910.58	73.84	836.74
DC-03	9/25/2016	910.58	72.87	837.71
DC-03	12/11/2016	910.58	72.93	837.65
DC-03	3/5/2017	910.58	74.20	836.38
DC-03D	9/16/2013	911.33	73.03	838.30
DC-03D	12/9/2013	911.33	73.16	838.17
DC-03D	3/16/2014	911.33	74.35	836.98
DC-03D	6/1/2014	911.33	73.90	837.43
DC-03D	9/21/2014	911.33	72.87	838.46
DC-03D	12/14/2014	911.33	73.13	838.20
DC-03D	3/5/2015	911.33	74.28	837.05
DC-03D	6/15/2015	911.33	73.72	837.61
DC-03D	9/21/2015	911.33	72.96	838.37
DC-03D	12/13/2015	911.33	73.31	838.02
DC-03D	3/8/2016	911.33	74.66	836.67
DC-03D	6/19/2016	911.33	74.47	836.86
DC-03D	9/25/2016	911.33	73.44	837.89
DC-03D	12/11/2016	911.33	73.73	837.60
DC-03D	3/5/2017	911.33	75.05	836.28

Table 4
Cumulative Groundwater Elevations

Well ID	Date of Measurement	Reference Point Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet NAVD88)
DC-04	9/16/2013	877.22	31.75	845.47
DC-04	12/9/2013	877.22	32.61	844.61
DC-04	3/16/2014	877.22	34.55	842.67
DC-04	6/1/2014	877.22	34.65	842.57
DC-04	9/21/2014	877.22	31.99	845.23
DC-04	12/14/2014	877.22	32.98	844.24
DC-04	3/5/2015	877.22	34.31	842.91
DC-04	6/15/2015	877.22	34.70	842.52
DC-04	9/21/2015	877.22	33.61	843.61
DC-04	12/13/2015	877.22	34.38	842.84
DC-04	3/8/2016	877.22	35.60	841.62
DC-04	6/19/2016	877.22	34.74	842.48
DC-04	9/25/2016	877.22	33.81	843.41
DC-04	12/11/2016	877.22	34.33	842.89
DC-04	3/5/2017	877.22	35.45	841.77
DC-05	9/16/2013	911.95	67.78	844.17
DC-05	12/9/2013	911.95	68.28	843.67
DC-05	3/16/2014	911.95	69.25	842.70
DC-05	6/1/2014	911.95	70.15	841.80
DC-05	9/21/2014	911.95	69.43	842.52
DC-05	12/14/2014	911.95	68.80	843.15
DC-05	3/5/2015	911.95	69.33	842.62
DC-05	6/15/2015	911.95	70.28	841.67
DC-05	9/21/2015	911.95	69.94	842.01
DC-05	12/13/2015	911.95	69.59	842.36
DC-05	3/8/2016	911.95	70.58	841.37
DC-05	6/19/2016	911.95	71.43	840.52
DC-05	9/25/2016	911.95	71.08	840.87
DC-05	12/11/2016	911.95	70.24	841.71
DC-05	3/5/2017	911.95	70.98	840.97
DC-05D	9/16/2013	915.91	71.92	843.99
DC-05D	12/9/2013	915.91	72.04	843.87
DC-05D	3/16/2014	915.91	73.83	842.08
DC-05D	6/1/2014	915.91	74.80	841.11
DC-05D	9/21/2014	915.91	73.78	842.13
DC-05D	12/14/2014	915.91	73.02	842.89
DC-05D	3/5/2015	915.91	73.66	842.25
DC-05D	6/15/2015	915.91	74.71	841.20
DC-05D	9/21/2015	915.91	74.38	841.53
DC-05D	12/13/2015	915.91	73.88	842.03
DC-05D	3/8/2016	915.91	74.70	841.21
DC-05D	6/19/2016	915.91	75.71	840.20
DC-05D	9/25/2016	915.91	75.40	840.51
DC-05D	12/11/2016	915.91	74.65	841.26
DC-05D	3/5/2017	915.91	74.96	840.95

Table 4
Cumulative Groundwater Elevations

Well ID	Date of Measurement	Reference Point Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet NAVD88)
DC-07	9/16/2013	889.29	44.76	844.53
DC-07	12/9/2013	889.29	44.15	845.14
DC-07	3/16/2014	889.29	44.76	844.53
DC-07	6/1/2014	889.29	35.12	854.17
DC-07	9/21/2014	889.29	44.59	844.70
DC-07	12/14/2014	889.29	44.13	845.16
DC-07	3/5/2015	889.29	44.90	844.39
DC-07	6/15/2015	889.29	45.30	843.99
DC-07	9/21/2015	889.29	45.08	844.21
DC-07	12/13/2015	889.29	44.65	844.64
DC-07	3/8/2016	889.29	45.50	843.79
DC-07	6/19/2016	889.29	46.16	843.13
DC-07	9/25/2016	889.29	45.69	843.60
DC-07	12/11/2016	889.29	45.61	843.68
DC-07	3/5/2017	889.29	46.27	843.02
DC-09	9/16/2013	1048.60	147.16	901.44
DC-09	12/9/2013	1048.60	143.10	905.50
DC-09	3/16/2014	1048.60	139.81	908.79
DC-09	6/1/2014	1048.60	142.53	906.07
DC-09	9/21/2014	1048.60	143.67	904.93
DC-09	12/14/2014	1048.60	139.42	909.18
DC-09	3/5/2015	1048.60	137.83	910.77
DC-09	6/15/2015	1048.60	146.33	902.27
DC-09	9/21/2015	1048.60	151.28	897.32
DC-09	12/13/2015	1048.60	147.46	901.14
DC-09	3/8/2016	1048.60	146.70	901.90
DC-09	6/19/2016	1048.60	151.03	897.57
DC-09	9/25/2016	1048.60	151.98	896.62
DC-09	12/11/2016	1048.60	148.71	899.89
DC-09	3/5/2017	1048.60	146.24	902.36
DC-14	9/16/2013	1036.61	131.08	905.53
DC-14	12/9/2013	1036.61	131.10	905.51
DC-14	3/16/2014	1036.61	130.32	906.29
DC-14	6/1/2014	1036.61	130.02	906.59
DC-14	9/21/2014	1036.61	130.25	906.36
DC-14	12/14/2014	1036.61	137.91	898.70
DC-14	3/5/2015	1036.61	129.51	907.10
DC-14	6/15/2015	1036.61	129.37	907.24
DC-14	9/21/2015	1036.61	130.28	906.33
DC-14	12/13/2015	1036.61	130.71	905.90
DC-14	3/8/2016	1036.61	131.26	905.35
DC-14	6/19/2016	1036.61	131.89	904.72
DC-14	9/25/2016	1036.61	132.76	903.85
DC-14	12/11/2016	1036.61	133.45	903.16
DC-14	3/5/2017	1036.61	133.81	902.80

Table 4
Cumulative Groundwater Elevations

Well ID	Date of Measurement	Reference Point Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet NAVD88)
YVD-02	9/16/2013	1288.97	24.21	1264.76
YVD-02	12/9/2013	1288.97	32.85	1256.12
YVD-02	3/16/2014	1288.97	34.45	1254.52
YVD-02	6/1/2014	1288.97	22.10	1266.87
YVD-02	9/21/2014	1288.97	26.14	1262.83
YVD-02	12/14/2014	1288.97	33.01	1255.96
YVD-02	3/5/2015	1288.97	34.42	1254.55
YVD-02	6/15/2015	1288.97	19.69	1269.28
YVD-02	9/21/2015	1288.97	25.36	1263.61
YVD-02	12/13/2015	1288.97	33.25	1255.72
YVD-02	3/8/2016	1288.97	33.93	1255.04
YVD-02	6/19/2016	1288.97	27.49	1261.48
YVD-02	9/25/2016	1288.97	27.72	1261.25
YVD-02	12/11/2016	1288.97	32.52	1256.45
YVD-02	3/5/2017	1288.97	27.34	1261.63
YVD-03	9/16/2013	1120.68	189.88	930.80
YVD-03	12/9/2013	1120.68	190.42	930.26
YVD-03	3/16/2014	1120.68	189.10	931.58
YVD-03	6/1/2014	1120.68	188.97	931.71
YVD-03	9/21/2014	1120.68	189.04	931.64
YVD-03	12/14/2014	1120.68	188.73	931.95
YVD-03	3/5/2015	1120.68	187.92	932.76
YVD-03	6/15/2015	1120.68	188.70	931.98
YVD-03	9/21/2015	1120.68	189.63	931.05
YVD-03	12/13/2015	1120.68	189.85	930.83
YVD-03	3/8/2016	1120.68	190.64	930.04
YVD-03	6/19/2016	1120.68	191.31	929.37
YVD-03	9/25/2016	1120.68	191.61	929.07
YVD-03	12/11/2016	1120.68	191.25	929.43
YVD-03	3/5/2017	1120.68	190.85	929.83
YVD-04	9/16/2013	1118.66	220.55	898.11
YVD-04	12/9/2013	1118.66	223.50	895.16
YVD-04	3/16/2014	1118.66	222.20	896.46
YVD-04	6/1/2014	1118.66	221.04	897.62
YVD-04	9/21/2014	1118.66	220.67	897.99
YVD-04	12/14/2014	1118.66	221.30	897.36
YVD-04	3/5/2015	1118.66	220.72	897.94
YVD-04	6/15/2015	1118.66	221.61	897.05
YVD-04	9/21/2015	1118.66	221.99	896.67
YVD-04	12/13/2015	1118.66	221.71	896.95
YVD-04	3/8/2016	1118.66	220.74	897.92
YVD-04	6/19/2016	1118.66	221.50	897.16
YVD-04	9/25/2016	1118.66	221.05	897.61
YVD-04	12/11/2016	1118.66	221.07	897.59
YVD-04	3/5/2017	1118.66	220.89	897.77

Table 4
Cumulative Groundwater Elevations

Well ID	Date of Measurement	Reference Point Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet NAVD88)
YVD-05	9/16/2013	1051.78	167.50	884.28
YVD-05	12/9/2013	1051.78	166.35	885.43
YVD-05	3/16/2014	1051.78	165.40	886.38
YVD-05	6/1/2014	1051.78	165.58	886.20
YVD-05	9/21/2014	1051.78	166.01	885.77
YVD-05	12/14/2014	1051.78	165.35	886.43
YVD-05	3/5/2015	1051.78	164.86	886.92
YVD-05	6/15/2015	1051.78	166.04	885.74
YVD-05	9/21/2015	1051.78	168.04	883.74
YVD-05	12/13/2015	1051.78	167.75	884.03
YVD-05	3/8/2016	1051.78	167.71	884.07
YVD-05	6/19/2016	1051.78	168.45	883.33
YVD-05	9/25/2016	1051.78	168.97	882.81
YVD-05	12/11/2016	1051.78	168.51	883.27
YVD-05	3/5/2017	1051.78	167.98	883.80
YVD-06	9/16/2013	1053.51	110.65	942.86
YVD-06	12/9/2013	1053.51	108.21	945.30
YVD-06	3/16/2014	1053.51	105.98	947.53
YVD-06	6/1/2014	1053.51	106.49	947.02
YVD-06	9/21/2014	1053.51	108.02	945.49
YVD-06	12/14/2014	1053.51	106.32	947.19
YVD-06	3/5/2015	1053.51	104.68	948.83
YVD-06	6/15/2015	1053.51	106.37	947.14
YVD-06	9/21/2015	1053.51	109.01	944.50
YVD-06	12/13/2015	1053.51	108.72	944.79
YVD-06	3/8/2016	1053.51	108.90	944.61
YVD-06	6/19/2016	1053.51	111.03	942.48
YVD-06	9/25/2016	1053.51	112.05	941.46
YVD-06	12/11/2016	1053.51	NM	
YVD-06	3/5/2017	1053.51	107.89	945.62
YVD-07	9/16/2013	1073.03	157.99	915.04
YVD-07	12/9/2013	1073.03	157.26	915.77
YVD-07	3/16/2014	1073.03	153.95	919.08
YVD-07	6/1/2014	1073.03	153.87	919.16
YVD-07	9/21/2014	1073.03	155.93	917.10
YVD-07	12/14/2014	1073.03	155.40	917.63
YVD-07	3/5/2015	1073.03	153.42	919.61
YVD-07	6/15/2015	1073.03	154.30	918.73
YVD-07	9/21/2015	1073.03	157.09	915.94
YVD-07	12/13/2015	1073.03	158.05	914.98
YVD-07	3/8/2016	1073.03	157.96	915.07
YVD-07	6/19/2016	1073.03	158.75	914.28
YVD-07	9/25/2016	1073.03	160.29	912.74
YVD-07	12/11/2016	1073.03	160.00	913.03
YVD-07	3/5/2017	1073.03	157.59	915.44

Table 4
Cumulative Groundwater Elevations

Well ID	Date of Measurement	Reference Point Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet NAVD88)
YVD-08	9/16/2013	1014.38	170.83	843.55
YVD-08	12/9/2013	1014.38	171.08	843.30
YVD-08	3/16/2014	1014.38	170.66	843.72
YVD-08	6/1/2014	1014.38	170.50	843.88
YVD-08	9/21/2014	1014.38	170.50	843.88
YVD-08	12/14/2014	1014.38	170.22	844.16
YVD-08	3/5/2015	1014.38	169.83	844.55
YVD-08	6/15/2015	1014.38	170.13	844.25
YVD-08	9/21/2015	1014.38	170.67	843.71
YVD-08	12/13/2015	1014.38	170.63	843.75
YVD-08	3/8/2016	1014.38	171.00	843.38
YVD-08	6/19/2016	1014.38	171.51	842.87
YVD-08	9/25/2016	1014.38	171.75	842.63
YVD-08	12/11/2016	1014.38	171.52	842.86
YVD-08	3/5/2017	1014.38	171.16	843.22
YVD-09	9/16/2013	966.81	111.14	855.67
YVD-09	12/9/2013	966.81	109.93	856.88
YVD-09	3/16/2014	966.81	109.65	857.16
YVD-09	6/1/2014	966.81	109.95	856.86
YVD-09	9/21/2014	966.81	110.08	856.73
YVD-09	12/14/2014	966.81	109.90	856.91
YVD-09	3/5/2015	966.81	109.95	856.86
YVD-09	6/15/2015	966.81	110.35	856.46
YVD-09	9/21/2015	966.81	110.83	855.98
YVD-09	12/13/2015	966.81	110.89	855.92
YVD-09	3/8/2016	966.81	111.16	855.65
YVD-09	6/19/2016	966.81	111.41	855.40
YVD-09	9/25/2016	966.81	111.68	855.13
YVD-09	12/11/2016	966.81	111.84	854.97
YVD-09	3/5/2017	966.81	111.92	854.89
YVD-10	9/16/2013	958.00	90.04	867.96
YVD-10	12/9/2013	958.00	89.20	868.80
YVD-10	3/16/2014	958.00	89.39	868.61
YVD-10	6/1/2014	958.00	90.35	867.65
YVD-10	9/21/2014	958.00	90.41	867.59
YVD-10	12/14/2014	958.00	88.76	869.24
YVD-10	3/5/2015	958.00	89.90	868.10
YVD-10	6/15/2015	958.00	91.10	866.90
YVD-10	9/21/2015	958.00	91.85	866.15
YVD-10	12/13/2015	958.00	91.52	866.48
YVD-10	3/8/2016	958.00	91.91	866.09
YVD-10	6/19/2016	958.00	92.92	865.08
YVD-10	9/25/2016	958.00	92.99	865.01
YVD-10	12/11/2016	958.00	93.02	864.98
YVD-10	3/5/2017	958.00	93.24	864.76

Table 4
Cumulative Groundwater Elevations

Well ID	Date of Measurement	Reference Point Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet NAVD88)
YVD-11	9/16/2013	967.91	106.03	861.88
YVD-11	12/9/2013	967.91	105.77	862.14
YVD-11	3/16/2014	967.91	105.72	862.19
YVD-11	6/1/2014	967.91	106.07	861.84
YVD-11	9/21/2014	967.91	106.04	861.87
YVD-11	12/14/2014	967.91	106.08	861.83
YVD-11	3/5/2015	967.91	106.18	861.73
YVD-11	6/15/2015	967.91	106.67	861.24
YVD-11	9/21/2015	967.91	106.52	861.39
YVD-11	12/13/2015	967.91	106.88	861.03
YVD-11	3/8/2016	967.91	107.58	860.33
YVD-11	6/19/2016	967.91	108.52	859.39
YVD-11	9/25/2016	967.91	108.95	858.96
YVD-11	12/11/2016	967.91	108.90	859.01
YVD-11	3/5/2017	967.91	109.08	858.83
YVD-12	9/16/2013	961.91	138.50	823.41
YVD-12	12/9/2013	961.91	138.34	823.57
YVD-12	3/16/2014	961.91	137.55	824.36
YVD-12	6/1/2014	961.91	137.61	824.30
YVD-12	9/21/2014	961.91	137.45	824.46
YVD-12	12/14/2014	961.91	137.25	824.66
YVD-12	3/5/2015	961.91	136.52	825.39
YVD-12	6/15/2015	961.91	137.85	824.06
YVD-12	9/21/2015	961.91	138.95	822.96
YVD-12	12/13/2015	961.91	138.11	823.80
YVD-12	3/8/2016	961.91	138.26	823.65
YVD-12	6/19/2016	961.91	139.23	822.68
YVD-12	9/25/2016	961.91	139.13	822.78
YVD-12	12/11/2016	961.91	138.56	823.35
YVD-12	3/5/2017	961.91	138.02	823.89
YVD-13	9/16/2013	965.59	127.43	838.16
YVD-13	12/9/2013	965.59	127.25	838.34
YVD-13	3/16/2014	965.59	127.58	838.01
YVD-13	6/1/2014	965.59	127.59	838.00
YVD-13	9/21/2014	965.59	127.29	838.30
YVD-13	12/14/2014	965.59	127.20	838.39
YVD-13	3/5/2015	965.59	127.35	838.24
YVD-13	6/15/2015	965.59	127.60	837.99
YVD-13	9/21/2015	965.59	127.36	838.23
YVD-13	12/13/2015	965.59	127.13	838.46
YVD-13	3/8/2016	965.59	127.87	837.72
YVD-13	6/19/2016	965.59	128.17	837.42
YVD-13	9/25/2016	965.59	127.88	837.71
YVD-13	12/11/2016	965.59	127.57	838.02
YVD-13	3/5/2017	965.59	127.92	837.67

Table 4
Cumulative Groundwater Elevations

Well ID	Date of Measurement	Reference Point Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet NAVD88)
YVD-14	9/16/2013	920.19	77.30	842.89
YVD-14	12/9/2013	920.19	76.97	843.22
YVD-14	3/16/2014	920.19	77.45	842.74
YVD-14	6/1/2014	920.19	77.61	842.58
YVD-14	9/21/2014	920.19	77.28	842.91
YVD-14	12/14/2014	920.19	76.90	843.29
YVD-14	3/5/2015	920.19	77.51	842.68
YVD-14	6/17/2015	NM	NM	
YVD-14	9/21/2015	NM	NM	
YVD-14R	12/13/2015	921.41	77.76	843.65
YVD-14R	3/8/2016	921.41	78.53	842.88
YVD-14R	6/19/2016	921.41	79.03	842.38
YVD-14R	9/25/2016	921.41	78.68	842.73
YVD-14R	12/11/2016	921.41	78.57	842.84
YVD-14R	3/5/2017	921.41	79.14	842.27
YVD-15	9/16/2013	940.61	90.34	850.27
YVD-15	12/9/2013	940.61	90.49	850.12
YVD-15	3/16/2014	940.61	91.62	848.99
YVD-15	6/1/2014	940.61	92.57	848.04
YVD-15	9/21/2014	940.61	88.84	851.77
YVD-15	12/14/2014	940.61	90.56	850.05
YVD-15	3/5/2015	940.61	92.03	848.58
YVD-15	6/15/2015	940.61	93.22	847.39
YVD-15	9/21/2015	940.61	93.43	847.18
YVD-15	12/13/2015	940.61	93.21	847.40
YVD-15	3/8/2016	940.61	93.83	846.78
YVD-15	6/19/2016	940.61	94.70	845.91
YVD-15	9/25/2016	940.61	94.70	845.91
YVD-15	12/11/2016	940.61	94.44	846.17
YVD-15	3/5/2017	940.61	94.96	845.65
YVD-16	9/16/2013	975.90	112.95	862.95
YVD-16	12/9/2013	975.90	112.84	863.06
YVD-16	3/16/2014	975.90	112.50	863.40
YVD-16	6/1/2014	975.90	112.62	863.28
YVD-16	9/21/2014	975.90	113.02	862.88
YVD-16	12/14/2014	975.90	112.86	863.04
YVD-16	3/5/2015	975.90	112.42	863.48
YVD-16	6/15/2015	975.90	112.85	863.05
YVD-16	9/21/2015	975.90	113.95	861.95
YVD-16	12/13/2015	975.90	114.04	861.86
YVD-16	3/8/2016	975.90	114.51	861.39
YVD-16	6/19/2016	975.90	115.18	860.72
YVD-16	9/25/2016	975.90	115.67	860.23
YVD-16	12/11/2016	975.90	115.17	860.73
YVD-16	3/5/2017	975.90	114.90	861.00

Table 4
Cumulative Groundwater Elevations

Well ID	Date of Measurement	Reference Point Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet NAVD88)
YVD-17	9/16/2013	866.73	32.07	834.66
YVD-17	12/9/2013	866.73	34.81	831.92
YVD-17	3/16/2014	866.73	37.97	828.76
YVD-17	6/1/2014	866.73	35.50	831.23
YVD-17	9/21/2014	866.73	31.86	834.87
YVD-17	12/14/2014	866.73	34.74	831.99
YVD-17	3/5/2015	866.73	37.79	828.94
YVD-17	6/15/2015	866.73	34.57	832.16
YVD-17	9/21/2015	866.73	31.92	834.81
YVD-17	12/13/2015	866.73	35.16	831.57
YVD-17	3/8/2016	866.73	37.47	829.26
YVD-17	6/19/2016	866.73	35.37	831.36
YVD-17	9/25/2016	866.73	32.31	834.42
YVD-17	12/11/2016	866.73	35.20	831.53
YVD-17	3/5/2017	866.73	37.88	828.85
YVD-18	9/16/2013	965.74	127.49	838.25
YVD-18	12/9/2013	965.74	127.45	838.29
YVD-18	3/16/2014	965.74	127.75	837.99
YVD-18	6/1/2014	965.74	127.69	838.05
YVD-18	9/21/2014	965.74	127.33	838.41
YVD-18	12/14/2014	965.74	127.33	838.41
YVD-18	3/5/2015	965.74	127.46	838.28
YVD-18	6/15/2015	965.74	127.71	838.03
YVD-18	9/21/2015	965.74	127.42	838.32
YVD-18	12/13/2015	965.74	127.24	838.50
YVD-18	3/8/2016	965.74	128.05	837.69
YVD-18	6/19/2016	965.74	128.29	837.45
YVD-18	9/25/2016	965.74	127.92	837.82
YVD-18	12/11/2016	965.74	127.66	838.08
YVD-18	3/5/2017	965.74	128.01	837.73

Notes:

BTOC = below top of casing

NAVD88 = North American Vertical Datum of 1988

NM = Not measured due to well damage.

Table 5
Estimated Possible Average Linear Groundwater Flow Velocities

Material	Hydraulic Conductivity ^(1, 2) [K] (feet per day)	Effective Porosity ⁽³⁾ [n _e]	<u>K/n_e</u>	Estimated Possible Average Linear Groundwater Flow Velocities [V _x] (feet per day)			
				First Quarter 2017 Hydraulic Gradients			
				Site Average I ⁽⁴⁾	Upslope I	Central I	Southern I
				-0.026	-0.048	-0.011	-0.0048
Fine sand	53	0.33	161	4.2	7.7	1.8	0.8
Medium sand to fine gravel	131	0.32	409	10.6	19.7	4.5	2.0
Medium sand to coarse gravel	164	0.30	547	14.2	26.2	6.0	2.6
Fine gravel	267	0.28	954	24.8	45.8	10.5	4.6

Notes:

1. Hydraulic conductivities obtained from EPA Method 9100, Saturated Hydraulic Conductivity, Saturated Leachate Conductivity, and Intrinsic Permeability, Chapter 6 – Properties, Publication SW-846 Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 1986.
2. Hydraulic conductivities presented are for well-sorted (poorly graded) material.
3. Effective porosity obtained from Data Collection Handbook to Support Modeling Impacts of Radioactive Material in Soil, Environmental Assessment and Information Sciences Division, Argonne National Laboratory, Argonne, Illinois. April 1993.
4. Hydraulic gradient [I] in feet per foot (ft/ft)

Table 6
Groundwater Analytical Results

Analyte					Calcium			Magnesium			Potassium			Sodium			Chloride			Fluoride			Nitrate (as N)		
Analytical Method					EPA 200.7			EPA 200.7			EPA 200.7			EPA 200.7			EPA 300			EPA 300.0			EPA 300.0		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
DC-01	YVD-030817-18	3/8/2017	N	K1702324	80.8		-	27		-	5.13		-	37.4		-	32.6		-	0.39		-	9.0		-
DC-03	YVD-030817-13	3/8/2017	N	K1702324	267		-	66		-	2.58		-	159		-	150		-	0.22		-	179		-
DC-03D	YVD-030817-14	3/8/2017	N	K1702324	196		-	43.4		-	2.75		-	61.3		-	59.5		-	0.16	J	-	32.9		-
DC-03D (FD)	YVD-030817-16	3/8/2017	FD	K1702324	194		-	42.7		-	2.69		-	60.2		-	59.1		-	0.17	J	-	32.8		-
DC-04	YVD-031017-31	3/10/2017	N	K1702448	219		-	36.3		-	3.75		-	32.4		-	43.1		-	0.16	J	-	46		-
DC-04 (FD)	YVD-031017-33	3/10/2017	FD	K1702448	219		-	36.3		-	3.74		-	32.3		-	43.2		-	0.16	J	-	45.7		-
DC-05	YVD-030717-09	3/7/2017	N	K1702324	117		-	43.5		-	2.61		-	58.3		-	28.5		-	0.2	J	-	32.9	J	HTQ
DC-05D	YVD-030717-12	3/7/2017	N	K1702324	76.4		-	26.5		-	3.64		-	35.6		-	26.3		-	0.32		-	11.6	J	HTQ
DC-07	YVD-030917-25	3/9/2017	N	K1702448	87.9		-	14.4		-	1.03		-	32.1		-	21.4		-	0.2	U	-	2.58		-
DC-09	YVD-031317-36	3/13/2017	N	K1702489	33.8		-	6.8		-	2.00		-	38.8		-	14.6		-	0.44		-	5.54		-
DC-14	YVD-031317-38	3/14/2017	N	K1702542	91.0		-	24.4		-	4.57		-	68.4		-	49.6		-	0.34		-	4.34		-
YVD-02	YVD-030817-15	3/8/2017	N	K1702324	30.2		-	7.2		-	3.51		-	7.1		-	3.85		-	0.21		-	5.40		-
YVD-03	YVD-030617-02	3/6/2017	N	K1702228	41.6		-	17.3		-	6.53		-	38.5		-	11.4		-	0.6		-	4.42		-
YVD-03 (FD)	YVD-030617-03	3/6/2017	FD	K1702228	41.5		-	17.3		-	6.48		-	38.4		-	11.6		-	0.65		-	4.48		-
YVD-04	YVD-031017-28	3/10/2017	N	K1702448	37.8		-	10.9		-	4.25		-	46.7		-	13.2		-	0.21		-	3.70		-
YVD-05	YVD-031317-32	3/13/2017	N	K1702489	31.4		-	14.1		-	3.44		-	46.0		-	7.89		-	0.49		-	2.88		-
YVD-05 (FD)	YVD-031317-34	3/13/2017	FD	K1702489	31.4		-	14.0		-	3.38		-	45.6		-	7.92		-	0.48		-	2.91		-
YVD-06	YVD-030617-04	3/6/2017	N	K1702228	35.2		-	5.8		-	2.20		-	17.0		-	2.83		-	0.29		-	0.61		-
YVD-07	YVD-030717-07	3/7/2017	N	K1702324	17.6		-	6.5		-	2.83		-	31.4		-	5.34		-	0.43		-	1.74	J	HTQ
YVD-08	YVD-030917-24	3/9/2017	N	K1702448	136.0		-	44.4		-	4.95		-	83.4		-	95.2		-	0.2	J	-	37.3	J	HTQ
YVD-09	YVD-031317-35	3/13/2017	N	K1702489	108.0		-	39.2		-	7.78		-	185.0		-	63.9		-	0.37		-	44.3		-
YVD-10	YVD-030917-27	3/9/2017	N	K1702448	569.0		-	128.0		-	2.89		-	133.0		-	173		-	0.09	J	-	123	J	HTQ
YVD-11	YVD-031317-37	3/13/2017	N	K1702489	235.0		-	62.1		-	3.02		-	25.5		-	102		-	0.21		-	77.3		-
YVD-12	YVD-030917-20	3/9/2017	N	K1702404	97.3		-	35.4		-	2.27		-	67.4		-	91.7		-	0.38		-	13.4		-
YVD-13	YVD-030717-08	3/7/2017	N	K1702324	96.9		-	26.7		-	3.63		-	105.0		-	52.8		-	0.35		-	23.3	J	HTQ
YVD-13 (FD)	YVD-030717-10	3/7/2017	FD	K1702324	97.3		-	27.1		-	3.71		-	107.0		-	53.6		-	0.37		-	23.7	J	HTQ
YVD-14R	YVD-030917-19	3/9/2017	N	K1702404	257.0		-	66.1		-	3.80		-	117.0		-	97		-	0.18	J	-	91.1		-
YVD-14R (FD)	YVD-030917-21	3/9/2017	FD	K1702404	251.0		-	65.2		-	3.75		-	115.0		-	95		-	0.19	J	-	92.2	J	HTQ
YVD-15	YVD-030917-23	3/9/2017	N	K1702404	119.0		-	52.9		-	2.95		-	55.3		-	23		-	0.34		-	25.0	J	HTQ
YVD-16	YVD-030917-22	3/9/2017	N	K1702404	87.1		-	31.2		-	5.16		-	79.8		-	33.9		-	0.25		-	20.1	J	HTQ
YVD-17	YVD-031017-29	3/10/2017	N	K1702448	36.6		-	15.7		-	0.26		-	5.4		-	2.65		-	0.33		-	0.42		-
YVD-18	YVD-030617-05	3/6/2017	N	K1702324	65.4		-	20.5		-	3.39		-	78.8		-	55.9		-	0.40		-	23.7	J	HTQ
Field Blank	YVD-030617-01	3/6/2017	FB	K1702228	0.021	U	MBK	0.0053	U	MBK	0.08	J	-	0.04	J	-	0.2	U	-	0.2	U	-	0.1	U	-
Field Blank	YVD-030717-06	3/7/2017	FB	K1702324	0.021	U	MBK	0.0053	U	MBK	0.21	U	-	0.21	U	-	0.2	U	-	0.2	U	-	0.1	UJ	HTQ
Field Blank	YVD-030817-11	3/8/2017	FB	K1702324	0.021	U	MBK	0.0053	U	MBK	0.21	U	-	0.21	U	-	0.2	U	-	0.2	U	-	0.1	U	-
Field Blank	YVD-030917-17	3/9/2017	FB	K1702404	0.021	U	MBK	0.0053	U	MBK	0.21	U	-	0.21	U	-	0.2	U	-	0.2	U	-	0.1	U	-
Field Blank	YVD-031017-26	3/10/2017	FB	K1702448	0.021	U	MBK	0.0053	U	MBK	0.21	U	-	0.21	U	-	0.2	U	-	0.2	U	-	0.1	U	-
Field Blank	YVD-031317-30	3/13/2017	FB	K1702489	0.021	U	MBK	0.0053	U	MBK	0.21	U	-	0.21	U	-	0.2	U	-	0.2	U	-	0.1	U	-

Table 6
Groundwater Analytical Results

Analyte					Nitrite (as N)			Sulfate			Ammonia (as N)			Total Kjeldahl Nitrogen (TKN)			Phosphorus			Alkalinity, Bicarbonate (as CaCO3)			Alkalinity, Total (as CaCO3)		
Analytical Method					EPA 300.0			EPA 300.0			EPA 350.1			EPA 351.2			EPA 365.3			SM2320B			SM2320B		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
DC-01	YVD-030817-18	3/8/2017	N	K1702324	0.1	U	-	175		-	1	U	-	0.5	U	-	0.008	J	-	148		-	148		-
DC-03	YVD-030817-13	3/8/2017	N	K1702324	0.12		-	104		-	1	U	-	0.5	U	-	0.006		-	381		-	381		-
DC-03D	YVD-030817-14	3/8/2017	N	K1702324	0.05	J	-	80.8		-	1	U	-	0.5	U	-	0.008	J	-	537		-	537		-
DC-03D (FD)	YVD-030817-16	3/8/2017	FD	K1702324	0.04	J	-	79.6		-	1	U	-	0.5	U	-	0.008		-	555		-	555		-
DC-04	YVD-031017-31	3/10/2017	N	K1702448	0.1	U	-	153		-	0.05	U	-	0.5	U	-	0.035	J	FDP	375		-	375		-
DC-04 (FD)	YVD-031017-33	3/10/2017	FD	K1702448	0.1	U	-	152		-	0.05	U	-	0.5	U	-	0.053	J	FDP	383		-	383		-
DC-05	YVD-030717-09	3/7/2017	N	K1702324	0.1	U	-	97.6		-	1	U	-	0.5	U	-	0.026		-	367		-	367		-
DC-05D	YVD-030717-12	3/7/2017	N	K1702324	0.1	U	-	105		-	1	U	-	0.5	U	-	0.041		-	206		-	206		-
DC-07	YVD-030917-25	3/9/2017	N	K1702448	0.1	U	-	59.8		-	0.05	U	-	0.5	U	-	0.093		-	255		-	255		-
DC-09	YVD-031317-36	3/13/2017	N	K1702489	0.1	U	-	28.2		-	0.05	U	-	0.5	U	-	0.024	J	-	124		-	124		-
DC-14	YVD-031317-38	3/14/2017	N	K1702542	0.1	U	-	20.8		-	0.05	U	-	0.5	U	-	0.074	J	-	359		-	359		-
YVD-02	YVD-030817-15	3/8/2017	N	K1702324	0.1	U	-	11.7		-	1	U	-	0.5	U	-	0.099		-	103		-	103		-
YVD-03	YVD-030617-02	3/6/2017	N	K1702228	0.1	U	-	40.7		-	0.05	U	-	0.5	U	-	0.083	J	FDP	190		-	190		-
YVD-03 (FD)	YVD-030617-03	3/6/2017	FD	K1702228	0.1	U	-	40.7		-	0.05	U	-	0.5	U	-	0.061	J	FDP	192		-	192		-
YVD-04	YVD-031017-28	3/10/2017	N	K1702448	0.1	U	-	32.9		-	0.05	U	-	0.5	U	-	0.018		-	167		-	167		-
YVD-05	YVD-031317-32	3/13/2017	N	K1702489	0.1	U	-	41.5		-	0.05	U	-	0.5	U	-	0.03		-	166		-	166		-
YVD-05 (FD)	YVD-031317-34	3/13/2017	FD	K1702489	0.1	U	-	41.4		-	0.05	U	-	0.5	U	-	0.02		-	168		-	168		-
YVD-06	YVD-030617-04	3/6/2017	N	K1702228	0.1	U	-	8.38		-	0.021	J	-	0.5	U	FBK	0.014		-	142		-	142		-
YVD-07	YVD-030717-07	3/7/2017	N	K1702324	0.1	UJ	HTQ	25.4		-	1	U	-	0.5	U	-	0.019		-	107		-	107		-
YVD-08	YVD-030917-24	3/9/2017	N	K1702448	0.1	U	-	203		-	0.05	U	-	0.5	U	-	0.018		-	263		-	263		-
YVD-09	YVD-031317-35	3/13/2017	N	K1702489	0.04	J	-	225		-	0.05	U	-	0.5	U	-	0.025		-	329		-	329		-
YVD-10	YVD-030917-27	3/9/2017	N	K1702448	0.1	U	-	799		-	0.05	U	-	0.5	U	-	0.066		-	637		-	637		-
YVD-11	YVD-031317-37	3/13/2017	N	K1702489	0.06	J	-	99.8		-	0.05	U	-	0.5	U	-	0.016		-	353		-	353		-
YVD-12	YVD-030917-20	3/9/2017	N	K1702404	0.1	U	-	227		-	0.05	U	-	0.5	UJ	MSD	0.008	J	-	132		-	132		-
YVD-13	YVD-030717-08	3/7/2017	N	K1702324	0.05	J	HTQ	277		-	1	U	-	0.5	U	-	0.01	J	-	138		-	138		-
YVD-13 (FD)	YVD-030717-10	3/7/2017	FD	K1702324	0.04	J	HTQ	280		-	1	U	-	0.5	U	-	0.009	J	-	139		-	139		-
YVD-14R	YVD-030917-19	3/9/2017	N	K1702404	0.1	U	-	147		-	0.05	U	-	0.5	U	-	0.02		-	526		-	526		-
YVD-14R (FD)	YVD-030917-21	3/9/2017	FD	K1702404	0.1	U	-	151		-	0.05	U	-	0.5	U	-	0.019		-	514		-	514		-
YVD-15	YVD-030917-23	3/9/2017	N	K1702404	0.1	U	-	125		-	0.05	U	-	0.5	U	-	0.011		-	395		-	395		-
YVD-16	YVD-030917-22	3/9/2017	N	K1702404	0.1	U	-	113		-	0.05	U	-	0.5	U	-	0.045		-	295		-	295		-
YVD-17	YVD-031017-29	3/10/2017	N	K1702448	0.1	U	-	6.3		-	0.05	U	-	0.5	U	-	0.038		-	142		-	156	J	-
YVD-18	YVD-030617-05	3/6/2017	N	K1702324	0.04	J	HTQ	140		-	1	U	-	0.5	U	-	0.024		-	110		-	110		-
Field Blank	YVD-030617-01	3/6/2017	FB	K1702228	0.1	U	-	0.2	U	-	0.05	U	-	0.2	J	-	0.01	U	-	2	U	-	2	U	-
Field Blank	YVD-030717-06	3/7/2017	FB	K1702324	0.1	UJ	HTQ	0.2	U	-	1	U	-	0.5	U	-	0.01	U	-	2	U	-	2	U	-
Field Blank	YVD-030817-11	3/8/2017	FB	K1702324	0.1	U	-	0.03	J	-	1	U	-	0.5	U	-	0.01	U	-	2	U	-	2	U	-
Field Blank	YVD-030917-17	3/9/2017	FB	K1702404	0.1	U	-	0.2	U	-	0.05	U	-	0.5	U	-	0.01	U	-	2	U	-	2	U	-
Field Blank	YVD-031017-26	3/10/2017	FB	K1702448	0.1	U	-	0.26		-	0.05	U	-	0.5	U	-	0.01	U	-	2	U	-	2	U	-
Field Blank	YVD-031317-30	3/13/2017	FB	K1702489	0.1	U	-	0.2	U	-	0.05	U	-	0.5	U	-	0.01	U	-	2	U	-	2	U	-

Table 6
Groundwater Analytical Results

Notes:

Results reported in milligrams per liter (mg/L).

Bold: detected result

(as N): reported as nitrogen

(as CaCO3): reported as calcium carbonate

BC: blank check

DUP: Laboratory duplicate relative percent difference was outside acceptance limits.

EPA: U.S. Environmental Protection Agency

ERL: elevated reporting limit

FB: field blank

FBK: field blank contamination

FD: field duplicate

FDP: Field duplicate relative percent difference exceeded acceptance limits.

HTQ: holding time violation

J: The compound was positively identified; however, the associated numerical value is an estimated concentration.

J-: The result is an estimated quantity, but the result may be biased low.

J+: The result is an estimated quantity, but the result may be biased high.

MBK: method blank contamination

MSD: Matrix spike/matrix spike duplicate percent recoveries were outside acceptance limits.

N: normal sample

R: The sample results are rejected as unusable. The compound may or may not be present in the sample.

RPD: Relative percent difference was outside acceptance limits.

SM: Standard Method

U: The compound was analyzed for but not detected. The associated value is the compound reporting limit, or the compound is considered non-detect at the listed value due to associated blank contamination.

UJ: The compound was not detected above the reported sample reporting limit; however, the reporting limit is approximate and may or may not represent the actual limit of quantitation.

Table 7
Cumulative Groundwater Analytical Results

Analyte					Calcium			Magnesium			Potassium			Sodium			Chloride			Fluoride			Nitrate (as N)			Nitrite (as N)		
Analytical Method					EPA 200.7			EPA 200.7			EPA 200.7			EPA 200.7			EPA 300			EPA 300.0			EPA 300.0			EPA 300.0		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
DC-01	DC-01-130104	01/04/2013	N	EPA01	-		-	-		-	-		-	-		-	-		-	-		-	9.8		-	-		-
DC-01	DC-01-130924	09/24/2013	N	SWI0178	88.9		-	32.5		-	6.10		-	43.0		-	44		-	0.5	U	-	11.1		-	0.2	U	-
DC-01	DC-01-131211	12/11/2013	N	SWL0063	91.4		-	32.6		-	5.94		-	41.9		-	47.8		-	5	U	-	11.5		-	2	U	-
DC-01	DC-01-140318	03/18/2014	N	SXC0095	90.5		-	31.4		-	5.93		-	40.2		-	48.2		-	5	U	-	11.2		-	2	U	-
DC-01	DC-01-140602	06/02/2014	N	SXF0017	88.6		-	31.9		-	6.74		-	41.8		-	41.4		-	2	U	-	9.76		-	0.8	U	-
DC-01	DC-01-140923	09/23/2014	N	SXI0158	89.4		-	31.2		-	6.02		-	44.3	J+	MSD	41.8		-	5	U	-	9		-	2	U	-
DC-01	DC-01-141216	12/16/2014	N	SXL0121	92.8		-	34.0		-	6.18		-	43.1		-	85.7		-	5	U	-	18.9		-	2	U	-
DC-01	DC-01-150316	03/16/2015	N	5904471	91.0		-	32.0		-	6.50		-	44.0		-	44		-	5	U	-	11		-	2	U	-
DC-01	DC-01-150616	06/16/2015	N	59010751	91.0	J+	MSD	33.0	J+	MSD	6.20	J+	MSD	42.0	J+	MSD	42		-	5	U	-	9.5		-	2	U	-
DC-01	DC-01-150923	09/23/2015	N	59020281	83.0		-	32.0		-	6.00		-	43.0		-	37		-	5	U	-	8.6		-	2	U	-
DC-01	YVD-D1-150923	09/23/2015	FD	59020281	85.0		-	33.0		-	6.10		-	43.0		-	43		-	0.5	U	-	10		-	0.2	U	-
DC-01	DC-01-151214	12/14/2015	N	59025431	97.0		-	34.0		-	6.80		-	48.0		-	38		-	5	U	-	8.8		-	2	U	-
DC-01	DC-01-160308	03/08/2016	N	59029711	83.0		-	30.0		-	6.20		-	42.0		-	40		-	5	U	-	8.6		-	2	U	-
DC-01	DC-01-160620	6/20/2016	N	59037101	83.0		-	31.0		-	6.50		-	46.0		-	40		-	5	U	-	9.2		-	2	U	-
DC-01	DC-01-160928	9/28/2016	N	K1611629	80.6		-	28.5		-	5.76		-	41.6		-	34.0		-	0.25		-	9.15		-	0.1	U	-
DC-01	DC-01-161212	12/12/2016	N	K1615045	81.1		-	27.9		-	5.52		-	40.4		-	31.9		-	0.39		-	8.89	J	HTQ	0.1	UJ	HTQ
DC-01	YVD-030817-18	3/8/2017	N	K1702324	80.8		-	27		-	5.13		-	37.4		-	32.6		-	0.39		-	9.0		-	0.1	U	-
DC-03	DC-03-130102	01/02/2013	N	EPA01	-		-	-		-	-		-	-		-	-		-	-		-	190		-	-		-
DC-03	DC-03-130918	09/18/2013	N	SWI0138	284.0		-	73.7		-	2.73		-	173.0		-	176		-	5	U	-	166		-	2	U	-
DC-03	DC-03-131212	12/12/2013	N	SWL0078	280.0		-	75.0		-	3.29		-	172.0		-	172		-	5	U	-	174		-	2	U	-
DC-03	YVD-D3-131212	12/12/2013	FD	SWL0078	292.0		-	77.3		-	3.53		-	181.0		-	142		-	5	U	-	182		-	2	U	-
DC-03	DC-03-140319	03/19/2014	N	SXC0107	261.0		-	66.8		-	2.91		-	165.0		-	159	J	FDP	5	U	-	195		-	2	U	-
DC-03	YVD-D3-140319	03/19/2014	FD	SXC0107	261.0		-	66.7		-	2.81		-	166.0		-	128	J	FDP	5	U	-	164		-	2	U	-
DC-03	DC-03-140604	06/04/2014	N	SXF0025	259.0		-	67.7		-	3.11		-	177.0		-	201		-	10	U	-	234		-	4	U	-
DC-03	DC-03-140924	09/24/2014	N	SXI0173	291.0		-	77.1		-	3.28		-	178.0		-	147		-	5	U	-	170		-	2	U	-
DC-03	DC-03-141217	12/17/2014	N	SXL0144	274.0		-	74.9		-	3.76		-	185.0		-	157		-	10	U	-	193		-	4	U	-
DC-03	YVD-D4-141217	12/17/2014	FD	SXL0144	271.0		-	72.6		-	3.19		-	180.0		-	182		-	5	U	-	156		-	10	U	-
DC-03	DC-03-150318	03/18/2015	N	5904651	260.0		-	73.0		-	3.30	J-	MSD	180.0		-	160		-	5	U	-	180		-	2	U	-
DC-03	YVD-D4-150318	03/18/2015	FD	5904651	270.0		-	74.0		-	3.60	J-	MSD	180.0		-	150		-	2.5	U	-	180		-	1	U	-
DC-03	DC-03-150617	06/17/2015	N	59011021	290.0		-	78.0	J	RPD	3.60	J	RPD	190.0	J	RPD	170		-	5	U	-	180	J-	MSD, FDP	2	U	-
DC-03	YVD-D4-150617	06/17/2015	FD	59011021	290.0		-	77.0	J	RPD	3.60	J	RPD	190.0	J	RPD	180		-	5	U	-	10	J-	MSD, FDP	2	U	-
DC-03	DC-03-150925	09/25/2015	N	59020431	270.0		-	73.0		-	3.30		-	180.0		-	140		-	10	U	-	180		-	4	U	-
DC-03	YVD-D4-150925	09/25/2015	FD	59020431	260.0		-	69.0		-	3.20		-	180.0		-	140		-	0.5	U	-	180		-	4	U	-
DC-03	DC-03-151216	12/16/2015	N	59025501	260.0		-	75.0		-	3.50		-	160.0		-	170		-	5	U	-	200		-	2	U	-
DC-03	YVD-D4-151216	12/16/2015	FD	59025501	250.0		-	75.0		-	3.50		-	160.0		-	160		-	2.5	U	-	170		-	1	U	-
DC-03	DC-03-160310	03/10/2016	N	59029941	270.0		-	72.0		-	3.10		-	180.0		-	150		-	5	U	-	180		-	2	U	-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Sulfate			Ammonia (as N)			Total Kjeldahl Nitrogen (TKN)			Phosphorus			Phosphorus			Phosphorus			Alkalinity, Bicarbonate (as CaCO3)			Alkalinity, Total (as CaCO3)		
Analytical Method					EPA 300.0			EPA 350.1			EPA 351.2			EPA 365.3			EPA 365.4			SM4500-P-E			SM2320B			SM2320B		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
DC-01	DC-01-130104	01/04/2013	N	EPA01	-		-	-		-	-		-	-		-	-		-	-		-	-		-		-	
DC-01	DC-01-130924	09/24/2013	N	SWI0178	223		-	0.1	U	-	0.25	U	-	-		-	0.123		-	-		-	110		-	110		-
DC-01	DC-01-131211	12/11/2013	N	SWL0063	280	J-	MSD	0.02	R	MSD	0.2	U	-	-		-	-		-	0.186		-	159		-	160		-
DC-01	DC-01-140318	03/18/2014	N	SXC0095	250	J-	MSD	0.101		-	0.304		-	0.079		-	-		-	-		-	159		-	160		-
DC-01	DC-01-140602	06/02/2014	N	SXF0017	224	J-	MSD	0.1	U	-	0.45		-	0.81		-	-		-	-		-	164		-	165		-
DC-01	DC-01-140923	09/23/2014	N	SXI0158	216		-	0.1	R	MSD	0.25	U	-	0.12		-	-		-	-		-	154		-	155		-
DC-01	DC-01-141216	12/16/2014	N	SXL0121	463		-	0.1	U	-	0.25	UJ	MSD	0.1	U	-	-		-	-		-	140		-	140		-
DC-01	DC-01-150316	03/16/2015	N	5904471	220		-	0.1	U	-	0.25	UJ	MSD	0.25	UJ	MSD	-		-	-		-	150		-	150		-
DC-01	DC-01-150616	06/16/2015	N	59010751	200	J-	MSD	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	150		-	150		-
DC-01	DC-01-150923	09/23/2015	N	59020281	200		-	0.13		-	0.25	R	MSD	0.25	U	-	-		-	-		-	150		-	150		-
DC-01	YVD-D1-150923	09/23/2015	FD	59020281	210		-	0.1	U	-	0.25	R	MSD	0.25	U	-	-		-	-		-	160		-	160		-
DC-01	DC-01-151214	12/14/2015	N	59025431	220		-	0.1	R	MSD	0.25	R	MSD	0.3	J	FDP	-		-	-		-	170	J	FDP	170	J	FDP
DC-01	DC-01-160308	03/08/2016	N	59029711	210	J+	MSD	0.11	R	FBK, FDP	0.25	R	MSD	0.26		-	-		-	-		-	150		-	150		-
DC-01	DC-01-160620	6/20/2016	N	59037101	220	J-	MSD	0.1	U	-	0.25	UJ	MSD	0.009	J	-	-		-	-		-	150		-	150		-
DC-01	DC-01-160928	9/28/2016	N	K1611629	193		-	0.05	U	MBK	0.5	U	-	0.25	U	-	-		-	-		-	147		-	147		-
DC-01	DC-01-161212	12/12/2016	N	K1615045	191		-	0.05	U	-	0.5	U	-	0.04		-	-		-	-		-	144		-	144		-
DC-01	YVD-030817-18	3/8/2017	N	K1702324	175		-	1	U	-	0.5	U	-	0.008	J	-	-		-	-		-	148		-	148		-
DC-03	DC-03-130102	01/02/2013	N	EPA01	-		-	0.1	U	-	-		-	-		-	-		-	-		-	-		-	-		-
DC-03	DC-03-130918	09/18/2013	N	SWI0138	176		-	0.1	U	-	0.25	U	-	-		-	0.1	U	-	-		-	435		-	435		-
DC-03	DC-03-131212	12/12/2013	N	SWL0078	176		-	0.02	U	-	0.2	U	-	-		-	-		-	0.244		-	474		-	475		-
DC-03	YVD-D3-131212	12/12/2013	FD	SWL0078	160		-	0.02	U	-	0.8311	U	ERL	-		-	-		-	0.221		-	459		-	460		-
DC-03	DC-03-140319	03/19/2014	N	SXC0107	189	J	FDP	0.1	U	-	0.938	J-	MSD	0.057		-	-		-	-		-	459		-	460		-
DC-03	YVD-D3-140319	03/19/2014	FD	SXC0107	150	J	FDP	0.1	U	-	0.718	J-	MSD	0.062		-	-		-	-		-	469		-	470		-
DC-03	DC-03-140604	06/04/2014	N	SXF0025	214		-	0.1	U	-	0.25	UJ	MSD	0.12		-	-		-	-		-	425		-	425		-
DC-03	DC-03-140924	09/24/2014	N	SXI0173	166		-	0.1	U	-	2.27	J+	MSD	0.054	J+	FBK	-		-	-		-	409		-	410		-
DC-03	DC-03-141217	12/17/2014	N	SXL0144	182		-	0.18	J+	FBK, MBK	0.25	R	MSD	0.13	J-	MSD	-		-	-		-	429		-	430		-
DC-03	YVD-D4-141217	12/17/2014	FD	SXL0144	211		-	0.1	U	-	0.25	R	MSD	0.1	UJ	MSD	-		-	-		-	423		-	425		-
DC-03	DC-03-150318	03/18/2015	N	5904651	160		-	0.1	U	-	0.45	J-	MSD	0.25	U	-	-		-	-		-	420		-	420		-
DC-03	YVD-D4-150318	03/18/2015	FD	5904651	160		-	0.12		-	0.53	J-	MSD	0.25	U	-	-		-	-		-	410		-	410		-
DC-03	DC-03-150617	06/17/2015	N	59011021	170		-	0.1	U	-	0.25	R	MSD	0.25	U	-	-		-	-		-	460		-	460		-
DC-03	YVD-D4-150617	06/17/2015	FD	59011021	180		-	0.1	U	-	0.25	R	MSD	0.25	U	-	-		-	-		-	450		-	450		-
DC-03	DC-03-150925	09/25/2015	N	59020431	150		-	0.1		-	0.25	U	-	0.25	U	-	-		-	-		-	390		-	390		-
DC-03	YVD-D4-150925	09/25/2015	FD	59020431	160		-	0.2		-	0.25	U	-	0.25	U	-	-		-	-		-	460		-	460		-
DC-03	DC-03-151216	12/16/2015	N	59025501	130		-	0.18	J-	MSD	0.25	R	MSD	0.25	UJ	MSD	-		-	-		-	400		-	400		-
DC-03	YVD-D4-151216	12/16/2015	FD	59025501	130		-	0.1	R	MSD	0.25	R	MSD	0.25	UJ	MSD	-		-	-		-	380		-	380		-
DC-03	DC-03-160310	03/10/2016	N	59029941	170	J	DUP	0.1	U	-	0.94	J-	FDP, MSD	0.25	U	-	-		-	-		-	460		-	460		-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Calcium			Magnesium			Potassium			Sodium			Chloride			Fluoride			Nitrate (as N)			Nitrite (as N)		
Analytical Method					EPA 200.7			EPA 200.7			EPA 200.7			EPA 200.7			EPA 300			EPA 300.0			EPA 300.0			EPA 300.0		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
DC-03	YVD-D4-160310	03/10/2016	FD	59029941	270.0		-	72.0		-	3.00		-	180.0		-	160		-	5	U	-	190		-	2	U	-
DC-03	YVD-D4-160310	03/10/2016	FD	59029941	270.0		-	72.0		-	3.00		-	180.0		-	160		-	5	U	-	190		-	2	U	-
DC-03	DC-03-160623	6/23/2016	N	59037371	270.0		-	73.0		-	3.50		-	190.0		-	150		-	5	U	-	180		-	2	U	-
DC-03	YVD-D4-160623	6/23/2016	FD	59037371	250.0		-	71.0		-	3.30		-	180.0		-	160		-	2.5	U	-	170		-	1	U	-
DC-03	DC-03-160927	9/27/2016	N	K1611565	265.0		-	72.4		-	2.85		-	182.0		-	136		-	0.2	J	-	163		-	0.1	U	-
DC-03	DC-03-D2-160927	9/27/2016	FD	K1611565	262.0		-	71.9		-	2.87		-	183.0		-	137		-	0.19	J	-	163		-	0.1	U	-
DC-03	DC-03-161212	12/12/2016	N	K1615029	254.0		-	65.7		-	3.05		-	167.0		-	131		-	0.24		-	168	J	HTQ	0.1	U	-
DC-03	YVD-030817-13	3/8/2017	N	K1702324	267		-	66		-	2.58		-	159		-	150		-	0.22		-	179		-	0.12		-
DC-03D	DC-03D-130918	09/18/2013	N	SWI0138	198.0		-	44.0		-	2.71		-	62.1		-	56		-	5	U	-	46.4		-	2	U	-
DC-03D	DC-03D-131212	12/12/2013	N	SWL0073	194.0		-	43.3		-	2.67		-	59.7		-	67.9		-	5	U	-	38.9		-	2	U	-
DC-03D	DC-03D-140319	03/19/2014	N	SXC0107	200.0		-	43.9		-	2.67		-	57.5		-	65.9		-	5	U	-	42.5		-	2	U	-
DC-03D	DC-03D-140603	06/03/2014	N	SXF0017	179.0		-	40.9		-	2.66		-	59.0		-	65.5		-	2	U	-	42		-	0.8	U	-
DC-03D	DC-03D-140923	09/23/2014	N	SXI0173	216.0		-	46.6		-	3.40		-	67.8		-	59.5		-	2.5	U	-	38		-	1	U	-
DC-03D	DC-03D-141217	12/17/2014	N	SXL0121	203.0		-	46.8		-	2.92		-	60.7		-	62.8		-	2.5	U	-	38.6		-	1	U	-
DC-03D	DC-03D-150317	03/17/2015	N	5904651	210.0		-	48.0		-	3.00	J-	MSD	68.0		-	63		-	2.5	U	-	37		-	1	U	-
DC-03D	DC-03D-150617	06/17/2015	N	59011021	210.0		-	48.0	J	RPD	3.20	J	RPD	68.0	J	RPD	71		-	2.5	U	-	42	J-	MSD	1	U	-
DC-03D	DC-03D-150925	09/25/2015	N	59020431	200.0		-	47.0		-	3.00		-	65.0		-	58		-	10	U	-	33		-	4	U	-
DC-03D	DC-03D-151216	12/16/2015	N	59025501	210.0		-	50.0		-	3.20		-	69.0		-	70		-	2.5	U	-	36		-	1	U	-
DC-03D	DC-03D-160310	03/10/2016	N	59029941	200.0		-	47.0		-	3.00		-	68.0		-	65		-	2.5	U	-	37		-	1	U	-
DC-03D	DC-03D-160623	6/23/2016	N	59037371	200.0		-	47.0		-	3.00		-	70.0		-	65		-	5	U	-	36		-	2	U	-
DC-03D	DC-03D-160927	9/27/2016	N	K1611565	188.0		-	47.1		-	2.73		-	63.0		-	58.7		-	0.1	J	-	32.8		-	0.1	U	-
DC-03D	DC-03D-161212	12/12/2016	N	K1615029	200.0		-	44.8		-	2.98		-	65.0		-	57.8		-	0.12	J	-	33.8	J	HTQ	0.1	U	-
DC-03D	YVD-030817-14	3/8/2017	N	K1702324	196		-	43.4		-	2.75		-	61.3		-	59.5		-	0.16	J	-	32.9		-	0.05	J	-
DC-03D (FD)	YVD-030817-16	3/8/2017	FD	K1702324	194		-	42.7		-	2.69		-	60.2		-	59.1		-	0.17	J	-	32.8		-	0.04	J	-
DC-04	DC-04-130103	01/03/2013	N	EPA01	-		-	-		-	-		-	-		-	-		-	-		-	26		-	-		-
DC-04	DC-04-130920	09/20/2013	N	SWI0142	141.0		-	25.5		-	3.45		-	32.1		-	39.4		-	5	U	-	-		-	-		-
DC-04	DC-04-130924	09/24/2013	N	SWI0175	-		-	-		-	-		-	-		-	-		-	-		-	31.7		-	2	U	-
DC-04	DC-04-131212	12/12/2013	N	SWL0073	148.0		-	28.4		-	3.51		-	31.7		-	41.1		-	5	U	-	36.7		-	2	U	-
DC-04	DC-04-140318	03/18/2014	N	SXC0107	153.0		-	28.0		-	3.58		-	30.4		-	42		-	5	U	-	37.3		-	2	U	-
DC-04	DC-04-140603	06/03/2014	N	SXF0017	134.0		-	28.9		-	3.65		-	32.3		-	36.2		-	2	U	-	36.4		-	0.8	U	-
DC-04	DC-04-140923	09/23/2014	N	SXI0173	174.0		-	34.2		-	4.51		-	35.5		-	39.7		-	2.5	U	-	37.8		-	1	U	-
DC-04	DC-04-141217	12/17/2014	N	SXL0121	182.0		-	35.7		-	4.34		-	34.9		-	42.7		-	2.5	U	-	40.8		-	1	U	-
DC-04	DC-04-150317	03/17/2015	N	5904651	180.0		-	34.0		-	3.90	J-	MSD	36.0		-	41		-	2.5	U	-	39		-	1	U	-
DC-04	DC-04-150617	06/17/2015	N	59010961	180.0		-	34.0		-	4.10	J+	MSD	36.0	J+	MSD	46		-	5	U	-	42		-	2	U	-
DC-04	DC-04-150924	09/24/2015	N	59020391	160.0		-	36.0		-	3.90		-	33.0		-	48		-	2.5	U	-	48	J+	MSD	1	U	-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Sulfate			Ammonia (as N)			Total Kjeldahl Nitrogen (TKN)			Phosphorus			Phosphorus			Phosphorus			Alkalinity, Bicarbonate (as CaCO3)			Alkalinity, Total (as CaCO3)		
Analytical Method					EPA 300.0			EPA 350.1			EPA 351.2			EPA 365.3			EPA 365.4			SM4500-P-E			SM2320B			SM2320B		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
DC-03	YVD-D4-160310	03/10/2016	FD	59029941	180	J	DUP	0.1	U	-	0.25	UJ	FDP, MSD	0.25	U	-	-		-	-		-	480		-	480		-
DC-03	YVD-D4-160310	03/10/2016	FD	59029941	180	J	DUP	0.1	U	-	0.25	UJ	FDP, MSD	0.25	U	-	-		-	-		-	480		-	480		-
DC-03	DC-03-160623	6/23/2016	N	59037371	160		-	0.12	J-	MSD	0.25	U	-	0.25	U	-	-		-	-		-	420		-	420		-
DC-03	YVD-D4-160623	6/23/2016	FD	59037371	160		-	0.11	J-	MSD	0.25	U	-	0.25	U	-	-		-	-		-	410		-	410		-
DC-03	DC-03-160927	9/27/2016	N	K1611565	139		-	0.05	U	MBK	0.5	R	MSD	0.006	J	-	-		-	-		-	425		-	425		-
DC-03	DC-03-D2-160927	9/27/2016	FD	K1611565	138		-	0.05	U	MBK	0.5	R	MSD	0.01	U	-	-		-	-		-	427		-	427		-
DC-03	DC-03-161212	12/12/2016	N	K1615029	112		-	0.05	U	-	0.5	U	-	0.199		-	-		-	-		-	371			371		
DC-03	YVD-030817-13	3/8/2017	N	K1702324	104		-	1	U	-	0.5	U	-	0.006		-	-		-	-		-	381			381		
																-												
DC-03D	DC-03D-130918	09/18/2013	N	SWI0138	101		-	0.1	U	-	0.255		-	-		-	0.1	U	-	-		-	509		-	510		-
DC-03D	DC-03D-131212	12/12/2013	N	SWL0073	99.1		-	0.02	UJ	MSD	0.2	UJ	MSD	-			-		0.06	U	-	559		-	560		-	
DC-03D	DC-03D-140319	03/19/2014	N	SXC0107	106		-	0.127		-	0.427	J-	MSD	0.05	U	-	-		-	-		-	564		-	565		-
DC-03D	DC-03D-140603	06/03/2014	N	SXF0017	103	J-	MSD	0.1	U	-	0.468		-	0.074	J+	FBK	-		-	-		-	542		-	543		-
DC-03D	DC-03D-140923	09/23/2014	N	SXI0173	89.4		-	0.1	U	-	0.25	U	-	0.098	-	-	-		-	-		-	514		-	515		-
DC-03D	DC-03D-141217	12/17/2014	N	SXL0121	92.2		-	0.1	U	-	0.282	J-	MSD	0.1	U	-	-		-	-		-	514		-	515		-
DC-03D	DC-03D-150317	03/17/2015	N	5904651	87		-	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	530		-	530		-
DC-03D	DC-03D-150617	06/17/2015	N	59011021	93		-	0.1	U	-	0.25	R	MSD	0.25	U	-	-		-	-		-	530		-	530		-
DC-03D	DC-03D-150925	09/25/2015	N	59020431	86		-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-		-	610		-	610		-
DC-03D	DC-03D-151216	12/16/2015	N	59025501	94		-	0.1	R	MSD	0.25	R	MSD	0.25	UJ	MSD	-		-	-		-	590		-	590		-
DC-03D	DC-03D-160310	03/10/2016	N	59029941	90	J	DUP	0.1	U	-	0.25	UJ	FDP, MSD	0.25	U	-	-		-	-		-	580		-	580		-
DC-03D	DC-03D-160623	6/23/2016	N	59037371	89		-	0.11	J-	MSD	0.25	U	-	0.25	U	-	-		-	-		-	530		-	530		-
DC-03D	DC-03D-160927	9/27/2016	N	K1611565	90.9		-	0.05	U	MBK	0.5	R	MSD	0.006	J	-	-		-	-		-	546		-	546		-
DC-03D	DC-03D-161212	12/12/2016	N	K1615029	90.7		-	0.05	U	-	0.5	U	-	0.085	-	-	-		-	-		-	544		-	544		-
DC-03D	YVD-030817-14	3/8/2017	N	K1702324	80.8		-	1	U	-	0.5	U	-	0.008	J	-	-		-	-		-	537		-	537		-
DC-03D (FD)	YVD-030817-16	3/8/2017	FD	K1702324	79.6		-	1	U	-	0.5	U	-	0.008	-	-	-		-	-		-	555		-	555		-
																-												
DC-04	DC-04-130103	01/03/2013	N	EPA01	-		-	-		-	-		-	-		-	-		-	-		-	-		-	-		-
DC-04	DC-04-130920	09/20/2013	N	SWI0142	93.6		-	0.1	U	-	3.03		-	-		-	0.1	U	-	-		-	305		-	305		-
DC-04	DC-04-130924	09/24/2013	N	SWI0175	-		-	-		-	-		-	-		-	-		-	-		-	-		-	-		-
DC-04	DC-04-131212	12/12/2013	N	SWL0073	110		-	0.02	UJ	MSD	0.2	UJ	MSD	-			-		-	0.104		-	315		-	315		-
DC-04	DC-04-140318	03/18/2014	N	SXC0107	107		-	0.1	U	-	0.707	J-	MSD	0.13		-	-		-	-		-	325		-	325		-
DC-04	DC-04-140603	06/03/2014	N	SXF0017	104	J-	MSD	0.1	U	-	0.645		-	0.24	J+	FBK	-		-	-		-	310		-	310		-
DC-04	DC-04-140923	09/23/2014	N	SXI0173	108		-	0.1	U	-	0.524	J+	MSD	0.29		-	-		-	-		-	317		-	320		-
DC-04	DC-04-141217	12/17/2014	N	SXL0121	120		-	0.1	U	-	0.25	UJ	MSD	0.17		-	-		-	-		-	329		-	330		-
DC-04	DC-04-150317	03/17/2015	N	5904651	110		-	0.1	U	-	0.33	J-	MSD	0.25	U	-	-		-	-		-	340		-	340		-
DC-04	DC-04-150617	06/17/2015	N	59010961	110		-	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	330		-	330		-
DC-04	DC-04-150924	09/24/2015	N	59020391	140	J-	MSD	0.1	UJ	MSD	0.25	J-	MSD	0.25	U		-		-	-		-	400		-	400		-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Calcium			Magnesium			Potassium			Sodium			Chloride			Fluoride			Nitrate (as N)			Nitrite (as N)		
Analytical Method					EPA 200.7			EPA 200.7			EPA 200.7			EPA 200.7			EPA 300			EPA 300.0			EPA 300.0			EPA 300.0		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
DC-04	YVD-D3-150924	09/24/2015	FD	59020391	170.0		-	37.0		-	4.10		-	35.0		-	53		-	2.5	U	-	53	J+	MSD	1	U	-
DC-04	DC-04-151215	12/15/2015	N	59025431	180.0		-	36.0		-	4.20		-	36.0		-	46		-	2.5	U	-	48		-	1	U	-
DC-04	DC-04-160309	03/09/2016	N	59029711	190.0		-	36.0		-	4.00		-	36.0		-	53		-	2.5	U	-	53		-	1	U	-
DC-04	DC-04-160621	6/21/2016	N	59037271	200.0		-	40.0		-	4.40		-	39.0		-	50		-	2.5	U	-	50		-	1	U	-
DC-04	DC-04-160926	9/26/2016	N	K1611506	194.0		-	40.6		-	4.50		-	38.2		-	43.4		-	0.12	J	-	44.1		-	0.1	U	-
DC-04	DC-04-161216	12/12/2016	N	K1615174	214.0		-	39.7		-	4.11		-	36.9		-	44.7		-	0.15	J	-	45.2		-	0.1	U	-
DC-04	YVD-031017-31	3/10/2017	N	K1702448	219		-	36.3		-	3.75		-	32.4		-	43.1		-	0.16	J	-	46.0		-	0.1	U	-
DC-04 (FD)	YVD-031017-33	3/10/2017	FD	K1702448	219		-	36.3		-	3.74		-	32.3		-	43.2		-	0.16	J	-	45.7		-	0.1	U	-
DC-05	DC-05-130104	01/04/2013	N	EPA01	-		-	-		-	-		-	-		-	-		-	-		-	32		-	-		-
DC-05	DC-05-130920	09/20/2013	N	SWI0142	129.0		-	48.5		-	2.88		-	64.2		-	36.7		-	5	U	-	-		-	-		-
DC-05	DC-05-130924	09/24/2013	N	SWI0175	-		-	-		-	-		-	-		-	-		-	-		-	33.6		-	2	U	-
DC-05	DC-05-131212	12/12/2013	N	SWL0073	130.0		-	50.2		-	3.92		-	64.2		-	35.9		-	5	U	-	42.6		-	2	U	-
DC-05	DC-05-140318	03/18/2014	N	SXC0107	133.0		-	49.7		-	2.90		-	59.4		-	33		-	5	U	-	33.1		-	2	U	-
DC-05	DC-05-140603	06/03/2014	N	SXF0017	118.0		-	46.7		-	3.25		-	61.3		-	31.6		-	2	U	-	32.6		-	0.8	U	-
DC-05	DC-05-140923	09/23/2014	N	SXI0173	140.0		-	53.5		-	3.86		-	71.0		-	35		-	2.5	U	-	35.8		-	1	U	-
DC-05	DC-05-141217	12/17/2014	N	SXL0121	147.0		-	58.9		-	3.41		-	59.0		-	34.4		-	2.5	U	-	33.4		-	1	U	-
DC-05	DC-05-150317	03/17/2015	N	5904541	150.0		-	58.0		-	3.00		-	61.0		-	36		-	2		-	38	J-	MSD	0.8	U	-
DC-05	DC-05-150616	06/16/2015	N	59010961	140.0		-	57.0		-	3.00	J+	MSD	64.0	J+	MSD	35		-	2	U	-	37		-	0.8	U	-
DC-05	YVD-D2-150616	06/16/2015	FD	59010961	140.0		-	56.0		-	3.30	J+	MSD	64.0	J+	MSD	35		-	5	U	-	41		-	2	U	-
DC-05	DC-05-150923	09/23/2015	N	59020391	130.0		-	57.0		-	3.10		-	56.0		-	33		-	2	U	-	38	J+	MSD	0.8	U	-
DC-05	DC-05-151215	12/15/2015	N	59025431	140.0		-	55.0		-	2.90		-	51.0		-	29		-	2	U	-	38		-	0.8	U	-
DC-05	DC-05-160309	03/09/2016	N	59029711	140.0		-	54.0		-	2.90		-	53.0		-	35		-	2	U	-	43		-	0.8	U	-
DC-05	DC-05-160621	6/21/2016	N	59037151	130.0		-	54.0		-	2.80		-	53.0		-	34		-	2	U	-	36		-	0.8	U	-
DC-05	DC-05-160926	9/26/2016	N	K1611506	119.0		-	49.7		-	2.89		-	54.9		-	26.5		-	0.15	J	-	32.1		-	0.1	U	-
DC-05	DC-05-D1-160926	9/26/2016	FD	K1611506	124.0		-	52.5		-	3.06		-	58.1		-	26.6		-	0.16	J	-	32.2		-	0.1	U	-
DC-05	DC-05-161216	12/16/2016	N	K1615174	129.0		-	45.4		-	2.60		-	47.9		-	28.6		-	0.19	J	-	33.7		-	0.1	U	-
DC-05	YVD-D5-161216	12/16/2016	FD	K1615174	128.0		-	48.0		-	2.65		-	49.6		-	28.9		-	0.19	J	-	33.3		-	0.1	U	-
DC-05	YVD-030717-09	3/7/2017	N	K1702324	117		-	43.5		-	2.61		-	58.3		-	28.5		-	0.2	J	-	32.9	J	HTQ	0.1	U	-
DC-05D	DC-05D-130920	09/20/2013	N	SWI0142	86.7		-	30.3		-	3.67		-	40.5		-	43.6		-	5	U	-	-		-	-		-
DC-05D	DC-05D-130924	09/24/2013	N	SWI0178	-		-	-		-	-		-	-		-	-		-	-		-	14.6		-	0.2	U	-
DC-05D	DC-05D-131211	12/11/2013	N	SWL0073	81.8		-	28.8		-	3.52		-	37.5		-	32.3		-	5	U	-	16		-	2	U	-
DC-05D	DC-05D-140318	03/18/2014	N	SXC0095	86.2		-	29.4		-	3.73		-	36.7		-	33.4		-	5	U	-	12.8		-	2	U	-
DC-05D	DC-05D-140602	06/02/2014	N	SXF0017	67.4		-	24.6		-	4.99		-	34.3		-	30.6		-	2	U	-	3.36		-	0.8	U	-
DC-05D	DC-05D-140922	09/22/2014	N	SXI0148	83.3		-	30.2		-	3.56		-	37.8		-	30.9		-	2	U	-	11.7		-	0.8	U	-
DC-05D	DC-05D-141216	12/16/2014	N	SXL0121	78.9		-	29.5		-	5.18		-	36.8		-	35.9		-	5	U	-	7.9		-	0.2	U	-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Sulfate			Ammonia (as N)			Total Kjeldahl Nitrogen (TKN)			Phosphorus			Phosphorus			Phosphorus			Alkalinity, Bicarbonate (as CaCO3)			Alkalinity, Total (as CaCO3)		
Analytical Method					EPA 300.0			EPA 350.1			EPA 351.2			EPA 365.3			EPA 365.4			SM4500-P-E			SM2320B			SM2320B		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
DC-04	YVD-D3-150924	09/24/2015	FD	59020391	150	J-	MSD	0.1	UJ	MSD	0.25	UJ	MSD	0.25	U	-	-		-	-		-	380		-	380		-
DC-04	DC-04-151215	12/15/2015	N	59025431	130		-	0.1	R	MSD	0.25	R	MSD	0.25	UJ	FDP	-		-	-		-	400	J	FDP	400	J	FDP
DC-04	DC-04-160309	03/09/2016	N	59029711	150	J+	MSD	0.1	UJ	FDP	0.25	R	MSD	0.25	U	-	-		-	-		-	390		-	390		-
DC-04	DC-04-160621	6/21/2016	N	59037271	150		-	0.1	UJ	MSD	0.25	R	MSD	0.25	U		-		-	-		-	360		-	360		-
DC-04	DC-04-160926	9/26/2016	N	K1611506	142		-	0.05	U	MBK	0.5	R	MSD	0.137		-	-		-	-		-	374		-	374		-
DC-04	DC-04-161216	12/12/2016	N	K1615174	155		-	0.05	U	-	0.5	U	-	0.052		-	-		-	-		-	384		-	384		-
DC-04	YVD-031017-31	3/10/2017	N	K1702448	153		-	0.05	U	-	0.5	U	-	0.035	J	FDP	-			-		-	375		-	375		-
DC-04 (FD)	YVD-031017-33	3/10/2017	FD	K1702448	152		-	0.05	U	-	0.5	U	-	0.053	J	FDP	-			-		-	383		-	383		-
DC-05	DC-05-130104	01/04/2013	N	EPA01	-		-	-		-	-		-	-		-	-		-	-		-	-		-	-		-
DC-05	DC-05-130920	09/20/2013	N	SWI0142	154		-	0.255		-	0.25	U	-	-		-	0.1	U	-	-		-	414		-	415		-
DC-05	DC-05-130924	09/24/2013	N	SWI0175	-		-	-		-	-		-	-		-	-		-	-		-	-		-	-		-
DC-05	DC-05-131212	12/12/2013	N	SWL0073	178		-	0.02	UJ	MSD	0.2	UJ	MSD	-			-		-	0.723		-	424		-	425		-
DC-05	DC-05-140318	03/18/2014	N	SXC0107	150		-	0.131		-	0.558	J-	MSD	0.06		-	-		-	-		-	404		-	405		-
DC-05	DC-05-140603	06/03/2014	N	SXF0017	128	J-	MSD	0.1	U	-	0.581		-	0.28	J+	FBK	-		-	-		-	412		-	413		-
DC-05	DC-05-140923	09/23/2014	N	SXI0173	122		-	0.1	U	-	0.998	J+	MSD	0.16		-	-		-	-		-	408		-	410		-
DC-05	DC-05-141217	12/17/2014	N	SXL0121	141		-	0.1	U	-	0.25	UJ	MSD	0.13		-	-		-	-		-	414		-	415		-
DC-05	DC-05-150317	03/17/2015	N	5904541	140	J-	MSD	0.1	U	-	0.27	J-	MSD	0.25	U	-	-		-	-		-	430		-	430		-
DC-05	DC-05-150616	06/16/2015	N	59010961	120		-	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	410		-	410		-
DC-05	YVD-D2-150616	06/16/2015	FD	59010961	110		-	0.1	U	-	0.25	UJ	MSD	0.25	U		-		-	-		-	410		-	410		-
DC-05	DC-05-150923	09/23/2015	N	59020391	110	J-	MSD	0.1	UJ	MSD	0.25	UJ	MSD	0.25	U	-	-		-	-		-	440		-	440		-
DC-05	DC-05-151215	12/15/2015	N	59025431	120		-	0.1	R	MSD	0.25	R	MSD	0.25	UJ	FDP	-		-	-		-	440	J	FDP	440	J	FDP
DC-05	DC-05-160309	03/09/2016	N	59029711	140	J+	MSD	0.1	UJ	FDP	0.25	R	MSD	0.25	U	-	-		-	-		-	410		-	410		-
DC-05	DC-05-160621	6/21/2016	N	59037151	130		-	0.1	UJ	-	0.25	U	-	0.25	U	-	-		-	-		-	390		-	390		-
DC-05	DC-05-160926	9/26/2016	N	K1611506	114		-	0.05	U	-	0.5	R	MSD	0.031			-		-	-		-	346		-	346		-
DC-05	DC-05-D1-160926	9/26/2016	FD	K1611506	114		-	0.05	U	MBK	0.5	R	MSD	0.028		-	-		-	-		-	364		-	364		-
DC-05	DC-05-161216	12/16/2016	N	K1615174	108		-	0.05	U	-	0.5	U	-	0.048		-	-		-	-		-	348		-	348		-
DC-05	YVD-D5-161216	12/16/2016	FD	K1615174	107		-	0.05	U	-	0.5	U	-	0.040		-	-		-	-		-	340		-	340		-
DC-05	YVD-030717-09	3/7/2017	N	K1702324	97.6		-	1	U	-	0.5	U	-	0.026		-	-		-	-		-	367		-	367		-
DC-05D	DC-05D-130920	09/20/2013	N	SWI0142	167		-	0.1	U	-	0.361		-	-		-	0.163		-	-		-	214		-	215		-
DC-05D	DC-05D-130924	09/24/2013	N	SWI0178	-		-	-		-	-		-	-		-	-		-	-		-	-		-	-		-
DC-05D	DC-05D-131211	12/11/2013	N	SWL0073	145		-	0.02	UJ	MSD	0.2	UJ	MSD	-			-		-	0.06	U	-	209		-	210		-
DC-05D	DC-05D-140318	03/18/2014	N	SXC0095	137	J-	MSD	0.182		-	0.25	U	-	0.072		-	-		-	-		-	209		-	210		-
DC-05D	DC-05D-140602	06/02/2014	N	SXF0017	122	J-	MSD	0.163		-	0.591		-	0.56	J+	FBK	-		-	-		-	214		-	215		-
DC-05D	DC-05D-140922	09/22/2014	N	SXI0148	127		-	0.1	U	-	0.424		-	0.057		-	-		-	-		-	203		-	205		-
DC-05D	DC-05D-141216	12/16/2014	N	SXL0121	140		-	0.1	U	-	0.25	UJ	MSD	0.39		-	-		-	-		-	199		-	200		-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Calcium			Magnesium			Potassium			Sodium			Chloride			Fluoride			Nitrate (as N)			Nitrite (as N)		
Analytical Method					EPA 200.7			EPA 200.7			EPA 200.7			EPA 200.7			EPA 300			EPA 300.0			EPA 300.0			EPA 300.0		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
DC-05D	DC-05D-150317	03/17/2015	N	5904541	78.0		-	29.0		-	4.60		-	39.0		-	31		-	2	U	-	7.7	J-	MSD	0.8	U	-
DC-05D	DC-05D-150616	06/16/2015	N	59010961	79.0		-	30.0		-	4.70	J+	MSD	41.0	J+	MSD	34		-	2	U	-	8.6		-	0.8	U	-
DC-05D	DC-05D-150923	09/23/2015	N	59020391	74.0		-	31.0		-	4.40		-	38.0		-	31		-	2	U	-	8.9	J+	MSD	0.8	U	-
DC-05D	YVD-D2-150923	09/23/2015	FD	59020391	73.0		-	30.0		-	4.40		-	38.0		-	33		-	0.5	U	-	10	J+	MSD	0.2	U	-
DC-05D	DC-05D-151215	12/15/2015	N	59025431	78.0		-	29.0		-	4.40		-	39.0		-	30		-	2	U	-	9.9		-	0.8	U	-
DC-05D	DC-05D-160309	03/09/2016	N	59029711	81.0		-	30.0		-	4.30		-	41.0		-	33		-	2	U	-	13		-	0.8	U	-
DC-05D	DC-05D-160621	6/21/2016	N	59037271	78.0		-	30.0		-	4.10		-	41.0		-	32		-	2	U	-	12		-	0.8	U	-
DC-05D	DC-05D-160926	9/26/2016	N	K1611506	81.4		-	28.4		-	3.93		-	39.4	J	MSD	25.6		-	0.26		-	11.2		-	0.1	U	-
DC-05D	DC-05D-161214	12/14/2016	N	K1615126	78.1		-	27.5		-	3.90		-	38.2		-	25.7		-	0.28		-	11.2		-	0.1	U	-
DC-05D	YVD-030717-12	3/7/2017	N	K1702324	76.4		-	26.5		-	3.64		-	35.6		-	26.3		-	0.32		-	11.6	J	HTQ	0.1	U	-
DC-07	DC-07-130103	01/03/2013	N	EPA01	-		-	-		-	-		-	-		-	-		-	-		-	2.8		-	-		-
DC-07	DC-07-130918	09/18/2013	N	SWI0123	122.0		-	18.4		-	1.00	U	-	45.7		-	30.5		-	5	U	-	4.3		-	2	U	-
DC-07	YVD-D1-130918	09/18/2013	FD	SWI0123	122.0		-	18.5		-	1.00	U	-	46.1		-	32.8		-	5	U	-	4.3		-	2	U	-
DC-07	DC-07-131210	12/10/2013	N	SWL0055	27.5		-	11.5		-	3.82		-	38.4		-	31		-	5	U	-	4.7		-	2	U	-
DC-07	DC-07-140316	03/16/2014	N	SXC0081	88.4		-	15.4		-	1.04		-	33.5		-	26.5		-	2	U	-	4.72		-	0.8	U	-
DC-07	DC-07-140602	06/02/2014	N	SXF0008	93.7		-	16.5		-	1.00	U	-	36.3		-	28.2		-	2	U	-	0.8	U	-	0.8	U	-
DC-07	DC-07-140922	09/22/2014	N	SXI0148	87.1		-	16.1		-	1.00	U	-	33.7		-	29.8		-	2	U	-	4.88		-	0.8	U	-
DC-07	DC-07-141216	12/16/2014	N	SXL0108	83.6		-	15.1		-	1.00	U	-	30.6		-	24.2		-	2	U	-	2.8		-	0.8	U	-
DC-07	YVD-D2-141216	12/16/2014	FD	SXL0108	84.2		-	15.1		-	1.00	U	-	30.8		-	25.6		-	0.5	U	-	2.92		-	0.2	U	-
DC-07	DC-07-150317	03/17/2015	N	5904541	94.0		-	17.0		-	1.00		-	35.0		-	29		-	2	U	-	4.6	J-	MSD	0.8	U	-
DC-07	DC-07-150617	06/17/2015	N	59011021	97.0		-	17.0	J	RPD	1.00	U	-	37.0	J	RPD	32		-	2	U	-	4	J-	MSD	0.8	U	-
DC-07	DC-07-150924	09/24/2015	N	59020391	76.0		-	15.0		-	1.00	U	-	33.0		-	30		-	2	U	-	2.7	J+	MSD	0.8	U	-
DC-07	DC-07-151215	12/15/2015	N	59025501	87.0		-	16.0		-	1.00	U	-	34.0		-	29		-	2	U	-	2.5		-	0.8	U	-
DC-07	DC-07-160309	03/09/2016	N	59029941	91.0		-	17.0		-	1.10		-	36.0		-	31		-	2	U	-	2.2		-	0.8	U	-
DC-07	DC-07-160621	6/21/2016	N	59037271	96.0		-	18.0		-	1.20		-	38.0		-	33		-	2	U	-	4.8		-	0.8	U	-
DC-07	DC-07-160926	9/26/2016	N	K1611565	82.3		-	15.0		-	1.06		-	36.6		-	24.4		-	0.2	U	-	2.74		-	0.1	U	-
DC-07	DC-07-161214	12/14/2016	N	K1615083	77.0		-	13.1		-	1.05		-	32.0		-	19.2		-	0.2	U	-	1.44		-	0.1	U	-
DC-07	YVD-030917-25	3/9/2017	N	K1702448	87.9		-	14.4		-	1.03		-	32.1		-	21.4		-	0.2	U	-	2.58		-	0.1	U	-
DC-09	DC-09-130103	01/03/2013	N	EPA01	-		-	-		-	-		-	-		-	-		-	-		-	6		-	-		-
DC-09	DC-09-130923	09/23/2013	N	SWI0178	34.0		-	8.4		-	2.75		-	39.7		-	-		-	-		-	-		-	-		-
DC-09	DC-09-130926	09/26/2013	N	SWI0190	-		-	-		-	-		-	-		-	16.2		-	0.5	U	-	6.02		-	0.2	U	-
DC-09	DC-09-131211	12/11/2013	N	SWL0063	34.8		-	7.9		-	2.48		-	39.1		-	17.4		-	0.5	U	-	6.78		-	0.2	U	-
DC-09	DC-09-140317	03/17/2014	N	SXC0095	35.4		-	8.4		-	2.88		-	36.5		-	15.6		-	0.82		-	5.85		-	0.2	U	-
DC-09	DC-09-140602	06/02/2014	N	SXF0008	33.9		-	8.3		-	2.92		-	38.1		-	15.9		-	0.5	U	-	6.18		-	0.2	U	-
DC-09	YVD-D3-140602	06/02/2014	FD	SXF0008	34.2		-	8.7		-	3.08		-	37.9		-	15.8		-	0.5	U	-	5.97		-	0.2	U	-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Sulfate			Ammonia (as N)			Total Kjeldahl Nitrogen (TKN)			Phosphorus			Phosphorus			Phosphorus			Alkalinity, Bicarbonate (as CaCO3)			Alkalinity, Total (as CaCO3)		
Analytical Method					EPA 300.0			EPA 350.1			EPA 351.2			EPA 365.3			EPA 365.4			SM4500-P-E			SM2320B			SM2320B		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
DC-05D	DC-05D-150317	03/17/2015	N	5904541	120	J-	MSD	0.1	U	-	0.25	UJ	MSD	0.3		-	-		-	-		-	210		-	210		-
DC-05D	DC-05D-150616	06/16/2015	N	59010961	120		-	0.1	U	-	0.25	UJ	MSD	0.27		-	-		-	-		-	210		-	210		-
DC-05D	DC-05D-150923	09/23/2015	N	59020391	120	J-	MSD	0.1	UJ	MSD	0.25	UJ	MSD	0.25	U		-		-	-		-	200		-	200		-
DC-05D	YVD-D2-150923	09/23/2015	FD	59020391	120	J-	MSD	0.16	J	MSD	0.25	UJ	MSD	0.25	U	-	-		-	-		-	220		-	220		-
DC-05D	DC-05D-151215	12/15/2015	N	59025431	120		-	0.1	R	MSD	0.25	R	MSD	0.25	UJ	FDP	-		-	-		-	230	J	FDP	230	J	FDP
DC-05D	DC-05D-160309	03/09/2016	N	59029711	140	J+	MSD	0.1	UJ	FDP	0.25	R	MSD	0.25	U	-	-		-	-		-	220		-	220		-
DC-05D	DC-05D-160621	6/21/2016	N	59037271	130		-	0.13	J-	MSD	0.25	R	MSD	0.25	U		-		-	-		-	210		-	210		-
DC-05D	DC-05D-160926	9/26/2016	N	K1611506	113		-	0.05	U	-	0.5	R	MSD	0.014		-	-		-	-		-	209		-	209		-
DC-05D	DC-05D-161214	12/14/2016	N	K1615126	114		-	0.05	U	-	0.5	U	-	0.015		-	-		-	-		-	202		-	202		-
DC-05D	YVD-030717-12	3/7/2017	N	K1702324	105		-	1	U	-	0.5	U	-	0.041		-	-		-	-		-	206		-	206		-
DC-07	DC-07-130103	01/03/2013	N	EPA01	-		-	-		-	-		-	-		-	-		-	-		-	-		-	-		-
DC-07	DC-07-130918	09/18/2013	N	SWI0123	168		-	0.1	U	-	0.25	U	-	-		-	0.1	U	-	-		-	315		-	315		-
DC-07	YVD-D1-130918	09/18/2013	FD	SWI0123	179		-	0.1	U	-	0.25	U	-	-		-	0.1	U	-	-		-	295		-	295		-
DC-07	DC-07-131210	12/10/2013	N	SWL0055	117		-	0.02	UJ	MSD	0.4366	UJ	ERL, MSD	-		-	-		-	0.0648		-	260		-	260		-
DC-07	DC-07-140316	03/16/2014	N	SXC0081	78.9		-	0.116		-	0.25	U	-	0.11		-	-		-	-		-	260		-	260		-
DC-07	DC-07-140602	06/02/2014	N	SXF0008	105		-	0.1	U	-	0.34		-	0.12		-	-		-	-		-	245		-	245		-
DC-07	DC-07-140922	09/22/2014	N	SXI0148	98.2		-	0.1	U	-	0.487		-	0.19		-	-		-	-		-	215		-	215		-
DC-07	DC-07-141216	12/16/2014	N	SXL0108	80.4		-	0.1	U	-	0.261		-	0.1	U	-	-		-	-		-	210		-	210		-
DC-07	YVD-D2-141216	12/16/2014	FD	SXL0108	82.1		-	0.1	U	-	0.305		-	0.1	U	-	-		-	-		-	210		-	210		-
DC-07	DC-07-150317	03/17/2015	N	5904541	83	J-	MSD	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	240		-	240		-
DC-07	DC-07-150617	06/17/2015	N	59011021	93		-	0.1	U	-	0.28	J-	MSD	0.25	U		-		-	-		-	230		-	230		-
DC-07	DC-07-150924	09/24/2015	N	59020391	95	J-	MSD	0.1	UJ	MSD	0.25	UJ	MSD	0.25	U	-	-		-	-		-	240		-	240		-
DC-07	DC-07-151215	12/15/2015	N	59025501	70		-	0.1	R	MSD	0.25	R	MSD	0.41	J-	MSD	-		-	-		-	240		-	240		-
DC-07	DC-07-160309	03/09/2016	N	59029941	78	J	DUP	0.1	U	-	0.25	R	FBK, FDP, MSD	0.25	U	-	-		-	-		-	280		-	280		-
DC-07	DC-07-160621	6/21/2016	N	59037271	96		-	0.1	J-	MSD	0.25	R	MSD	0.25	U		-		-	-		-	250		-	250		-
DC-07	DC-07-160926	9/26/2016	N	K1611565	92.3		-	0.05	U	-	0.5	R	MSD	0.057		-	-		-	-		-	204		-	204		-
DC-07	DC-07-161214	12/14/2016	N	K1615083	72.4		-	0.05	U	-	0.5	U	-	0.078		-	-		-	-		-	218		-	218		-
DC-07	YVD-030917-25	3/9/2017	N	K1702448	59.8		-	0.05	U	-	0.5	U	-	0.093		-	-		-	-		-	255		-	255		-
DC-09	DC-09-130103	01/03/2013	N	EPA01	-		-	0.1	U	-	-		-	-		-	-		-	-		-	-		-	-		-
DC-09	DC-09-130923	09/23/2013	N	SWI0178	-		-	0.1	U	-	0.447		-	-		-	0.1	U	-	-		-	44.7		-	45		-
DC-09	DC-09-130926	09/26/2013	N	SWI0190	30.7		-	-		-	-		-	-		-	-		-	-		-	-		-	-		-
DC-09	DC-09-131211	12/11/2013	N	SWL0063	34.4	J-	MSD	0.02	R	MSD	0.2	U	-	-			-		-	0.125		-	129		-	130		-
DC-09	DC-09-140317	03/17/2014	N	SXC0095	28.8	J-	MSD	0.1	U	-	0.251		-	0.18			-		-	-		-	144		-	145		-
DC-09	DC-09-140602	06/02/2014	N	SXF0008	29.4		-	0.106		-	0.279		-	0.16	J	FDP	-		-	-		-	129		-	130		-
DC-09	YVD-D3-140602	06/02/2014	FD	SXF0008	29.1		-	0.1	U	-	0.359		-	0.22	J	FDP	-		-	-		-	129		-	130		-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Calcium			Magnesium			Potassium			Sodium			Chloride			Fluoride			Nitrate (as N)			Nitrite (as N)		
Analytical Method					EPA 200.7			EPA 200.7			EPA 200.7			EPA 200.7			EPA 300			EPA 300.0			EPA 300.0			EPA 300.0		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
DC-09	DC-09-140923	09/23/2014	N	SXI0158	32.2		-	6.8		-	1.94		-	38.9	J+	MSD	15.8		-	0.5	U	-	6.01		-	0.2	U	-
DC-09	DC-09-141216	12/16/2014	N	SXL0108	35.3		-	8.0		-	2.48		-	39.1		-	16.3		-	0.5	U	-	5.94		-	0.2	U	-
DC-09	DC-09-150316	03/16/2015	N	5904541	36.0		-	8.0		-	2.60		-	43.0		-	17		-	0.6		-	5.9	J-	MSD	0.2	U	-
DC-09	DC-09-150616	06/16/2015	N	59010751	34.0	J+	MSD	8.1	J+	MSD	2.30	J+	MSD	38.0	J+	MSD	16		-	0.5	U	-	5.8		-	0.2	U	-
DC-09	DC-09-150923	09/23/2015	N	59020281	33.0		-	8.1		-	2.50		-	40.0		-	16		-	0.5	U	-	5.8		-	0.2	U	-
DC-09	DC-09-151214	12/14/2015	N	59025431	34.0		-	8.2		-	2.70		-	40.0		-	16		-	0.5	U	-	5.9		-	0.2	U	-
DC-09	DC-09-160308	03/08/2016	N	59029711	35.0		-	8.8		-	3.30		-	39.0		-	16		-	0.5	U	-	5.7		-	0.2	U	-
DC-09	YVD-D2-160308	03/08/2016	FD	59029711	34.0		-	8.6		-	3.10		-	39.0		-	16		-	0.5	U	-	5.7		-	0.2	U	-
DC-09	DC-09-160621	6/21/2016	N	59037151	32.0		-	7.5		-	2.20		-	41.0		-	17		-	0.51		-	5.9		-	0.2	U	-
DC-09	DC-09-160929	9/29/2016	N	K1611704	30.6		-	6.3		-	2.00		-	39.3		-	14.8		-	0.38		-	5.53		-	0.1	U	-
DC-09	DC-09-D4-160929	9/29/2016	FD	K1611704	30.4		-	6.2		-	1.98		-	38.8		-	14.9		-	0.38		-	5.53		-	0.1	U	-
DC-09	DC-09-161215	12/15/2016	N	K1615126	33.0		-	6.7		-	1.99		-	38.9		-	15.0		-	0.41		-	5.62		-	0.1	U	-
DC-09	YVD-D4-161215	12/15/2016	FD	K1615126	32.8		-	6.6		-	1.98		-	37.8		-	15.0		-	0.42		-	5.61		-	0.1	U	-
DC-09	YVD-031317-36	3/13/2017	N	K1702489	33.8		-	6.8		-	2.00		-	38.8		-	14.6		-	0.44		-	5.54		-	0.1	U	-
DC-14	DC-14-130103	01/03/2013	N	EPA01	-		-	-		-	-		-	-		-	-		-	-		-	26		-	-		-
DC-14	DC-14-130917	09/17/2013	N	SWI0113	121.0		-	32.3		-	5.85		-	94.9		-	80.2		-	0.5	U	-	12		-	0.2	U	-
DC-14	DC-14-131211	12/11/2013	N	SWL0063	91.2		-	23.9		-	4.71		-	94.0		-	64.4		-	5	U	-	5.8		-	2	U	-
DC-14	DC-14-140318	03/18/2014	N	SXC0095	107.0		-	28.4		-	5.25		-	87.0		-	71.8		-	5	U	-	10.6		-	2	U	-
DC-14	DC-14-140602	06/02/2014	N	SXF0017	95.9		-	26.3		-	5.37		-	83.2		-	56.1		-	1	U	-	6.46		-	0.4	U	-
DC-14	DC-14-140923	09/23/2014	N	SXI0158	106.0		-	27.6		-	4.95		-	88.6	J+	MSD	63.7		-	1	U	-	8.9		-	0.4	U	-
DC-14	DC-14-141216	12/16/2014	N	SXL0108	110.0		-	31.5		-	5.57		-	84.5		-	74.4		-	1	U	-	10.4		-	0.4	U	-
DC-14	DC-14-150316	03/16/2015	N	5904541	140.0		-	38.0		-	6.10		-	100.0		-	80		-	1	U	-	18	J-	MSD	0.4	U	-
DC-14	DC-14-150616	06/16/2015	N	59010961	120.0		-	33.0		-	6.50	J+	MSD	85.0	J+	MSD	76		-	1	U	-	12		-	0.4	U	-
DC-14	DC-14-150924	09/24/2015	N	59020391	130.0		-	42.0		-	6.30		-	92.0		-	96		-	1	U	-	22	J+	MSD	0.4	U	-
DC-14	DC-14-151214	12/14/2015	N	59025351	150.0		-	43.0		-	6.60		-	100.0		-	90		-	1	U	-	21		-	0.4	U	-
DC-14	YVD-D1-151214	12/14/2015	FD	59025351	150.0		-	43.0		-	6.60		-	100.0		-	85		-	0.5	U	-	22		-	0.2	U	-
DC-14	DC-14-160309	03/09/2016	N	59029711	130.0		-	38.0		-	6.60		-	95.0		-	82		-	1	U	-	16		-	0.4	U	-
DC-14	DC-14-160620	6/20/2016	N	59037151	120.0		-	36.0		-	6.00		-	92.0		-	75		-	1	U	-	16		-	0.4	U	-
DC-14	DC-14-160929	9/29/2016	N	K1611704	97.2		-	28.9		-	4.75		-	74.9		-	56.4		-	0.30		-	7.19		-	0.1	U	-
DC-14	DC-14-161216	12/16/2016	N	K1615174	93.3		-	22.3		-	4.37		-	68.8		-	53.9		-	0.36		-	4.45		-	0.1	U	-
DC-14	YVD-031317-38	3/14/2017	N	K1702542	91.0		-	24.4		-	4.57		-	68.4		-	49.6		-	0.34		-	4.34		-	0.1	U	-
YVD-02	YVD-02-130924	09/24/2013	N	SWI0178	20.4		-	5.9		-	3.50		-	8.6		-	3.85		-	0.5	U	-	0.41		-	0.2	U	-
YVD-02	YVD-02-140316	03/16/2014	N	SXC0081	90.8		-	71.7		-	12.60		-	88.6		-	3.93		-	1.02		-	0.2	U	-	0.2	U	-
YVD-02	YVD-02-140602	06/02/2014	N	SXF0008	62.7		-	48.7		-	8.53		-	23.0		-	2.75		-	0.5	U	-	0.2	U	-	0.2	U	-
YVD-02	YVD-02-140921	09/21/2014	N	SXI0148	29.6		-	13.7	J	FDP	4.53		-	11.6	J	FDP	2.64		-	0.5	U	-	0.2	U	-	0.2	U	-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Sulfate			Ammonia (as N)			Total Kjeldahl Nitrogen (TKN)			Phosphorus			Phosphorus			Phosphorus			Alkalinity, Bicarbonate (as CaCO3)			Alkalinity, Total (as CaCO3)		
Analytical Method					EPA 300.0			EPA 350.1			EPA 351.2			EPA 365.3			EPA 365.4			SM4500-P-E			SM2320B			SM2320B		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
DC-09	DC-09-140923	09/23/2014	N	SXI0158	29.6		-	0.1	R	MSD	0.25	U	-	0.05	U	-	-		-	-		-	124		-	125		-
DC-09	DC-09-141216	12/16/2014	N	SXL0108	30.2		-	0.1	U	-	0.25	U	-	0.13		-	-		-	-		-	129		-	130		-
DC-09	DC-09-150316	03/16/2015	N	5904541	29	J-	MSD	0.15		-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	130		-	130		-
DC-09	DC-09-150616	06/16/2015	N	59010751	28	J-	MSD	0.1	U	-	0.25	UJ	MSD	0.25	U		-		-	-		-	130		-	130		-
DC-09	DC-09-150923	09/23/2015	N	59020281	30		-	0.1	U	-	0.25	R	MSD	0.25	U	-	-		-	-		-	140		-	140		-
DC-09	DC-09-151214	12/14/2015	N	59025431	31		-	0.1	R	MSD	0.25	R	MSD	0.3	J	FDP	-		-	-		-	150	J	FDP	150	J	FDP
DC-09	DC-09-160308	03/08/2016	N	59029711	31	J+	MSD	0.25	R	FBK, FDP	0.25	R	MSD	0.25	U	-	-		-	-		-	130		-	130		-
DC-09	YVD-D2-160308	03/08/2016	FD	59029711	31	J+	MSD	0.1	UJ	FDP	0.25	R	MSD	0.25	U	-	-		-	-		-	130		-	130		-
DC-09	DC-09-160621	6/21/2016	N	59037151	32		-	0.1	UJ	-	0.25	U	-	0.25	U	-	-		-	-		-	130		-	130		-
DC-09	DC-09-160929	9/29/2016	N	K1611704	29.8		-	0.05	U	MBK	0.5	U	-	0.016			-		-	-		-	129		-	129		-
DC-09	DC-09-D4-160929	9/29/2016	FD	K1611704	29.6		-	0.05	U	MBK	0.5	U	-	0.013		-	-		-	-		-	128		-	128		-
DC-09	DC-09-161215	12/15/2016	N	K1615126	30.6		-	0.05	U	-	0.5	U	-	0.009	J	-	-		-	-		-	127		-	127		-
DC-09	YVD-D4-161215	12/15/2016	FD	K1615126	30.6		-	0.05	U	-	0.5	U	-	0.007	J	-	-		-	-		-	127		-	127		-
DC-09	YVD-031317-36	3/13/2017	N	K1702489	28.2		-	0.05	U	-	0.5	U	-	0.024	J	-	-		-	-		-	124		-	124		-
DC-14	DC-14-130103	01/03/2013	N	EPA01	-		-	-		-	-		-	-		-	-		-	-		-	-		-	-		-
DC-14	DC-14-130917	09/17/2013	N	SWI0113	34.2		-	0.115		-	0.31		-	-		-	0.199		-	-		-	454		-	455		-
DC-14	DC-14-131211	12/11/2013	N	SWL0063	33.9	J-	MSD	0.02	R	MSD	0.2	U	-	-		-	-		-	0.167		-	434		-	435		-
DC-14	DC-14-140318	03/18/2014	N	SXC0095	35.7	J-	MSD	0.1	U	-	0.25	U	-	0.26		-	-		-	-		-	494		-	495		-
DC-14	DC-14-140602	06/02/2014	N	SXF0017	24.2	J-	MSD	0.1	U	-	0.367		-	0.42	J+	FBK	-		-	-		-	425		-	425		-
DC-14	DC-14-140923	09/23/2014	N	SXI0158	25.9		-	0.1	R	MSD	0.315		-	0.3		-	-		-	-		-	424		-	425		-
DC-14	DC-14-141216	12/16/2014	N	SXL0108	29.8		-	0.1	U	-	0.25	U	-	0.14		-	-		-	-		-	429		-	430		-
DC-14	DC-14-150316	03/16/2015	N	5904541	38	J-	MSD	0.16		-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	490		-	490		-
DC-14	DC-14-150616	06/16/2015	N	59010961	29		-	0.1	U	-	0.25	UJ	MSD	0.3		-	-		-	-		-	430		-	430		-
DC-14	DC-14-150924	09/24/2015	N	59020391	42	J-	MSD	0.1	UJ	MSD	0.25	UJ	MSD	0.31		-	-		-	-		-	470		-	470		-
DC-14	DC-14-151214	12/14/2015	N	59025351	39		-	0.1	R	MSD	0.25	UJ	MSD	0.35		-	-		-	-		-	550		-	550		-
DC-14	YVD-D1-151214	12/14/2015	FD	59025351	41		-	0.1	R	MSD	0.25	UJ	MSD	0.38		-	-		-	-		-	540		-	540		-
DC-14	DC-14-160309	03/09/2016	N	59029711	39	J+	MSD	0.1	UJ	FDP	0.25	R	MSD	0.33		-	-		-	-		-	490		-	490		-
DC-14	DC-14-160620	6/20/2016	N	59037151	38		-	0.1	U	-	0.25	U	-	0.25	U J	-	-		-	-		-	460		-	460		-
DC-14	DC-14-160929	9/29/2016	N	K1611704	23.1		-	0.05	U	MBK	0.5	U	-	0.009		-	-		-	-		-	394		-	394		-
DC-14	DC-14-161216	12/16/2016	N	K1615174	21.9		-	0.05	U	-	0.5	U	-	0.014		-	-		-	-		-	361		-	361		-
DC-14	YVD-031317-38	3/14/2017	N	K1702542	20.8		-	0.05	U	-	0.5	U	-	0.074	J	-	-		-	-		-	359		-	359		-
YVD-02	YVD-02-130924	09/24/2013	N	SWI0178	5.77		-	0.146		-	0.25	U	-	-	-	-	0.124		-	-		-	54.9		-	55		-
YVD-02	YVD-02-140316	03/16/2014	N	SXC0081	66.9		-	0.1	U	-	0.25	U	-	0.54	-	-	-		-	-		-	199		-	200		-
YVD-02	YVD-02-140602	06/02/2014	N	SXF0008	3.12		-	0.1	U	-	0.49		-	3.8	-	-	-		-	-		-	82.2		-	82.5		-
YVD-02	YVD-02-140921	09/21/2014	N	SXI0148	13.8		-	0.1	U	-	0.274		-	0.86	J	FDP	-		-	-		-	89.4		-	90		-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Calcium			Magnesium			Potassium			Sodium			Chloride			Fluoride			Nitrate (as N)			Nitrite (as N)		
Analytical Method					EPA 200.7			EPA 200.7			EPA 200.7			EPA 200.7			EPA 300			EPA 300.0			EPA 300.0			EPA 300.0		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
YVD-02	YVD-D1-140921	09/21/2014	FD	SXI0148	35.8		-	18.2	J	FDP	5.05		-	15.7	J	FDP	2.2		-	0.5	U	-	0.2	U	-	0.2	U	-
YVD-02	YVD-02-141215	12/15/2014	N	SXL0103	35.7		-	17.4		-	5.35		-	16.1		-	2.9	J+	MSD	0.5	U	-	0.22	J	DUP	0.2	U	-
YVD-02	YVD-02-150615	06/15/2015	N	59010751	32.0	J+	MSD	16.0	J+	MSD	4.10	J+	MSD	12.0	J+	MSD	2.6		-	0.5	U	-	0.23		-	0.2	U	-
YVD-02	YVD-02-150923	09/23/2015	N	59020281	28.0		-	17.0		-	4.80		-	14.0		-	2.5		-	0.5	U	-	0.2	U	-	0.2	U	-
YVD-02	YVD-02-151214	12/14/2015	N	59025351	38.0		-	23.0		-	6.30		-	25.0		-	2.6		-	0.5	U	-	0.2	U	-	0.2	U	-
YVD-02	YVD-02-160308	03/08/2016	N	59029521	32.0		-	20.0		-	5.80		-	22.0		-	3		-	0.57		-	0.2	U	-	0.2	U	-
YVD-02	YVD-02-160620	6/20/2016	N	59037101	25.0		-	10.0		-	4.20		-	9.7		-	2.9		-	0.5	U	-	0.31		-	0.2	U	-
YVD-02	YVD-02-160928	9/28/2016	N	K1611629	17.2		-	4.6		-	3.41		-	5.1		-	2.79	J	DUP	0.16	J	-	0.13		-	0.1	U	-
YVD-02	YVD-030817-15	3/8/2017	N	K1702324	30.2		-	7.2		-	3.51		-	7.1		-	3.85		-	0.21		-	5.40		-	0.1	U	-
YVD-03	YVD-03-130916	09/16/2013	N	SWI0113	57.5		-	24.3		-	9.00		-	43.0		-	14		-	0.74		-	4.75		-	0.49		-
YVD-03	YVD-03-131210	12/10/2013	N	SWL0063	48.7		-	20.4		-	6.67		-	40.2		-	14.3		-	1	U	-	5.96		-	0.4	U	-
YVD-03	YVD-03-140317	03/17/2014	N	SXC0081	51.2		-	18.2		-	4.10		-	37.6		-	13.3		-	1.03		-	4.75		-	0.2	U	-
YVD-03	YVD-03-140602	06/02/2014	N	SXF0008	46.4		-	16.8		-	3.93		-	36.8		-	10.7		-	0.5	U	-	3.86		-	0.2	U	-
YVD-03	YVD-03-140923	09/23/2014	N	SXI0158	52.2		-	19.5		-	4.66	J	FDP	40.7	J+	MSD	11.8		-	0.62		-	3.97		-	0.2	U	-
YVD-03	YVD-D3-140923	09/23/2014	FD	SXI0158	45.4		-	16.2		-	3.62	J	FDP	38.0	J+	MSD	12.1		-	0.65		-	4.04		-	0.2	U	-
YVD-03	YVD-03-141215	12/15/2014	N	SXL0108	51.7		-	19.3		-	4.47		-	39.1		-	12.9		-	0.54		-	4.27		-	0.2	U	-
YVD-03	YVD-03-150316	03/16/2015	N	5904541	46.0		-	17.0		-	3.90		-	39.0		-	13		-	0.84		-	4.1	J-	MSD	0.2	U	-
YVD-03	YVD-03-150616	06/16/2015	N	59010751	50.0	J+	MSD	20.0	J+	MSD	6.10	J+	MSD	37.0	J+	MSD	12		-	0.68		-	4		-	0.2	U	-
YVD-03	YVD-03-150922	09/22/2015	N	59020141	43.0		-	19.0		-	6.50		-	40.0		-	14		-	0.66		-	4.9		-	0.2	U	-
YVD-03	YVD-03-151214	12/14/2015	N	59025351	49.0		-	22.0		-	7.80		-	43.0		-	14		-	0.74		-	4.9		-	0.2	U	-
YVD-03	YVD-03-160307	03/07/2016	N	59029521	43.0		-	20.0		-	7.10		-	40.0		-	13		-	0.72		-	4.6		-	0.2	U	-
YVD-03	YVD-03-160620	6/20/2016	N	59037151	46.0		-	21.0		-	7.70		-	40.0		-	14		-	0.76		-	4.6		-	0.2	U	-
YVD-03	YVD-03-160929	9/29/2016	N	K1611758	43.2		-	18.3		-	6.89		-	41.4		-	11.7		-	0.61		-	4.39		-	0.1	U	-
YVD-03	YVD-03-161213	12/13/2016	N	K1615045	40.0		-	17.4		-	6.57		-	38.9		-	11.6		-	0.69		-	4.47		-	0.1	U	-
YVD-03	YVD-030617-02	3/6/2017	N	K1702228	41.6		-	17.3		-	6.53		-	38.5		-	11.4		-	0.6		-	4.42		-	0.1	U	-
YVD-03 (FD)	YVD-030617-03	3/6/2017	FD	K1702228	41.5		-	17.3		-	6.48		-	38.4		-	11.6		-	0.65		-	4.48		-	0.1	U	-
YVD-04	YVD-04-130916	09/16/2013	N	SWI0113	37.4		-	11.2		-	4.23		-	49.2		-	14.9		-	0.5	U	-	4.45		-	0.2	U	-
YVD-04	YVD-04-131210	12/10/2013	N	SWL0063	38.2		-	11.7		-	4.44		-	49.9		-	15		-	1	U	-	4.64		-	0.4	U	-
YVD-04	YVD-04-140317	03/17/2014	N	SXC0081	37.7		-	11.6		-	4.46		-	47.8		-	15.1		-	0.63		-	4.03		-	0.2	U	-
YVD-04	YVD-04-140602	06/02/2014	N	SXF0008	36.8		-	11.5		-	4.41		-	50.5		-	14.3		-	1	U	-	3.78		-	0.4	U	-
YVD-04	YVD-04-140923	09/23/2014	N	SXI0158	37.8		-	11.5		-	4.49		-	52.2	J+	MSD	15.3		-	0.5	U	-	3.87		-	0.2	U	-
YVD-04	YVD-04-141215	12/15/2014	N	SXL0108	38.8		-	12.4		-	4.62		-	50.0		-	15.2		-	0.5	U	-	3.81		-	0.2	U	-
YVD-04	YVD-04-150315	03/15/2015	N	5904471	38.0		-	12.0		-	4.70		-	52.0		-	16		-	0.5	U	-	4.3		-	0.2	U	-
YVD-04	YVD-04-150615	06/15/2015	N	59010751	38.0	J+	MSD	8.5	J+	MSD	4.70	J+	MSD	49.0	J+	MSD	15		-	0.5	U	-	4		-	0.2	U	-
YVD-04	YVD-04-150922	09/22/2015	N	59020141	36.0		-	11.0		-	4.60		-	51.0		-	15		-	0.5	U	-	3.9		-	0.2	U	-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Sulfate			Ammonia (as N)			Total Kjeldahl Nitrogen (TKN)			Phosphorus			Phosphorus			Phosphorus			Alkalinity, Bicarbonate (as CaCO3)			Alkalinity, Total (as CaCO3)		
Analytical Method					EPA 300.0			EPA 350.1			EPA 351.2			EPA 365.3			EPA 365.4			SM4500-P-E			SM2320B			SM2320B		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
YVD-02	YVD-D1-140921	09/21/2014	FD	SXI0148	15.6		-	0.1	U	-	0.25	U	-	1.2	J	FDP	-		-	-		-	89.4		-	90		-
YVD-02	YVD-02-141215	12/15/2014	N	SXL0103	33.6	J+	MSD, DUP	0.1	U	-	0.358		-	0.61		-	-		-	-		-	94.7		-	95		-
YVD-02	YVD-02-150615	06/15/2015	N	59010751	3.2	J-	MSD	0.11		-	0.25	UJ	MSD	1.1		-	-		-	-		-	75	J+	FBK	75	J+	FBK
YVD-02	YVD-02-150923	09/23/2015	N	59020281	9.5		-	0.1	U	-	0.25	J-	MSD	1	J+	FBK	-		-	-		-	95		-	95		-
YVD-02	YVD-02-151214	12/14/2015	N	59025351	24		-	0.1	R	MSD	0.76	J-	MSD	0.68		-	-		-	-		-	100		-	100		-
YVD-02	YVD-02-160308	03/08/2016	N	59029521	54		-	0.1	UJ	RPD	0.25	J-	MSD	0.59		-	-		-	-		-	110	J	FDP	110	J	FDP
YVD-02	YVD-02-160620	6/20/2016	N	59037101	8	J-	MSD	0.1	U	-	0.35	J-	MSD	0.52		-	-		-	-		-	75		-	75		-
YVD-02	YVD-02-160928	9/28/2016	N	K1611629	3.13		-	0.05	U	MBK	0.5	U	-	0.092		-	-		-	-		-	72		-	72		-
YVD-02	YVD-030817-15	3/8/2017	N	K1702324	11.7		-	1	U	-	0.5	U	-	0.099		-	-		-	-		-	103		-	103		-
YVD-03	YVD-03-130916	09/16/2013	N	SWI0113	70.7		-	0.1	U	-	0.488		-	-		-	0.89		-	-		-	209		-	210		-
YVD-03	YVD-03-131210	12/10/2013	N	SWL0063	54.8	J-	MSD	0.02	R	MSD	0.2	U	-	-		-	-		-	1.02		-	214		-	215		-
YVD-03	YVD-03-140317	03/17/2014	N	SXC0081	38		-	0.249		-	0.25	U	-	0.23		-	-		-	-		-	219		-	220		-
YVD-03	YVD-03-140602	06/02/2014	N	SXF0008	36		-	0.1	U	-	0.261		-	0.3		-	-		-	-		-	206		-	208		-
YVD-03	YVD-03-140923	09/23/2014	N	SXI0158	34.7		-	0.1	R	MSD	0.25	U	-	0.33	J	FDP	-		-	-		-	199		-	200		-
YVD-03	YVD-D3-140923	09/23/2014	FD	SXI0158	34.4		-	0.1	R	MSD	0.25	U	-	0.24	J	FDP	-		-	-		-	199		-	200		-
YVD-03	YVD-03-141215	12/15/2014	N	SXL0108	37		-	0.1	U	-	0.4		-	0.76		-	-		-	-		-	199		-	200		-
YVD-03	YVD-03-150316	03/16/2015	N	5904541	33	J-	MSD	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	210		-	210		-
YVD-03	YVD-03-150616	06/16/2015	N	59010751	41	J-	MSD	0.12		-	0.25	UJ	MSD	0.59		-	-		-	-		-	200		-	200		-
YVD-03	YVD-03-150922	09/22/2015	N	59020141	51		-	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	220		-	220		-
YVD-03	YVD-03-151214	12/14/2015	N	59025351	51		-	0.1	R	MSD	0.25	UJ	MSD	0.78		-	-		-	-		-	230		-	230		-
YVD-03	YVD-03-160307	03/07/2016	N	59029521	47		-	0.1	UJ	RPD	0.25	UJ	MSD	0.34		-	-		-	-		-	150	J	FDP	150	J	FDP
YVD-03	YVD-03-160620	6/20/2016	N	59037151	61		-	0.1	U	-	0.25	U	-	0.47		-	-		-	-		-	190		-	190		-
YVD-03	YVD-03-160929	9/29/2016	N	K1611758	44.4		-	0.05	U	MBK	0.5	U	-	0.047		-	-		-	-		-	196		-	196		-
YVD-03	YVD-03-161213	12/13/2016	N	K1615045	43.3		-	0.05	U	-	0.5	U	-	0.11		-	-		-	-		-	189		-	189		-
YVD-03	YVD-030617-02	3/6/2017	N	K1702228	40.7		-	0.05	U	-	0.5	U	-	0.083	J	FDP	-		-	-		-	190		-	190		-
YVD-03 (FD)	YVD-030617-03	3/6/2017	FD	K1702228	40.7		-	0.05	U	-	0.5	U	-	0.061	J	FDP	-		-	-		-	192		-	192		-
YVD-04	YVD-04-130916	09/16/2013	N	SWI0113	39.1		-	0.1	U	-	0.25	U	-	-		-	0.1	U		-		-	184		-	185		-
YVD-04	YVD-04-131210	12/10/2013	N	SWL0063	42.2	J-	MSD	0.02	R	MSD	0.2	U	-	-		-	-		-	0.112		-	203		-	205		-
YVD-04	YVD-04-140317	03/17/2014	N	SXC0081	35.2		-	0.1	U	-	0.25	U	-	0.078		-	-		-	-		-	209		-	210		-
YVD-04	YVD-04-140602	06/02/2014	N	SXF0008	36.2		-	0.113		-	0.25	U	-	0.053		-	-		-	-		-	191		-	193		-
YVD-04	YVD-04-140923	09/23/2014	N	SXI0158	35.8		-	0.1	R	MSD	0.25	U	-	0.061		-	-		-	-		-	188		-	190		-
YVD-04	YVD-04-141215	12/15/2014	N	SXL0108	35.8		-	0.1	U	-	0.25	U	-	0.1	U	-	-		-	-		-	188		-	190		-
YVD-04	YVD-04-150315	03/15/2015	N	5904471	34		-	0.1	U	-	0.25	UJ	MSD	0.25	UJ	MSD	-		-	-		-	190		-	190		-
YVD-04	YVD-04-150615	06/15/2015	N	59010751	34	J-	MSD	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	190		-	190		-
YVD-04	YVD-04-150922	09/22/2015	N	59020141	35		-	0.13		-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	200		-	200		-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Calcium			Magnesium			Potassium			Sodium			Chloride			Fluoride			Nitrate (as N)			Nitrite (as N)		
Analytical Method					EPA 200.7			EPA 200.7			EPA 200.7			EPA 200.7			EPA 300			EPA 300.0			EPA 300.0			EPA 300.0		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
YVD-04	YVD-04-151213	12/13/2015	N	59025351	39.0		-	12.0		-	4.90		-	53.0		-	15		-	0.5	U	-	4.1		-	0.2	U	-
YVD-04	YVD-04-160307	03/07/2016	N	59029521	36.0		-	12.0		-	4.60		-	51.0		-	14		-	0.5	U	-	3.7		-	0.2	U	-
YVD-04	YVD-04-160620	6/20/2016	N	59037101	36.0		-	12.0		-	4.80		-	53.0		-	15		-	0.5	U	-	4		-	0.2	U	-
YVD-04	YVD-D1-160620	6/20/2016	FD	59037101	35.0		-	12.0		-	4.50		-	51.0		-	15		-	0.5	U	-	4		-	0.2	U	-
YVD-04	YVD-04-160928	9/28/2016	N	K1611629	34.7		-	10.7		-	4.42		-	48.5		-	13.2		-	0.21		-	3.67		-	0.1	U	-
YVD-04	YVD-04-D3-160928	9/28/2016	FD	K1611629	34.7		-	10.9		-	4.49		-	49.9		-	13.2		-	0.20		-	3.68		-	0.1	U	-
YVD-04	YVD-04-161213	12/13/2016	N	K1615045	35.2		-	10.9		-	4.43		-	47.5		-	13.2		-	0.23		-	3.74		-	0.1	U	-
YVD-04	YVD-031017-28	3/10/2017	N	K1702448	37.8		-	10.9		-	4.25		-	46.7		-	13.2		-	0.21		-	3.7		-	0.1	U	-
YVD-05	YVD-05-130917	09/17/2013	N	SWI0113	66.0		-	31.0		-	6.95		-	46.2		-	10.2		-	0.5	U	-	4.9		-	0.2	U	-
YVD-05	YVD-05-131211	12/11/2013	N	SWL0063	41.5		-	17.0		-	3.33		-	45.5		-	10		-	1	U	-	4.36		-	0.4	U	-
YVD-05	YVD-05-140317	03/17/2014	N	SXC0081	33.7		-	13.5		-	2.75		-	43.1		-	8.4		-	1.3		-	3.3		-	0.4	U	-
YVD-05	YVD-05-140601	06/01/2014	N	SXF0008	30.8		-	13.2		-	2.84		-	43.9		-	8.4		-	1	U	-	3		-	0.4	U	-
YVD-05	YVD-05-140922	09/22/2014	N	SXI0148	31.6		-	13.7		-	2.75		-	45.1		-	7.6		-	1	U	-	2.82		-	0.4	U	-
YVD-05	YVD-05-141215	12/15/2014	N	SXL0103	36.9		-	17.0		-	4.21		-	45.5		-	4.56	J+	MSD, FDP	1	U	-	1.5	J	FDP, DUP	0.4	U	-
YVD-05	YVD-D1-141215	12/15/2014	FD	SXL0103	34.2		-	15.0		-	3.54		-	44.9		-	7.8	J+	MSD, FDP	0.5	U	-	2.65	J	FDP, DUP	0.2	U	-
YVD-05	YVD-05-150316	03/16/2015	N	5904471	33.0		-	15.0		-	3.60		-	47.0		-	8		-	1	U	-	2.8		-	0.4	U	-
YVD-05	YVD-05-150616	06/16/2015	N	59010751	35.0	J+	MSD	16.0	J+	MSD	4.00	J+	MSD	47.0	J+	MSD	8.9		-	1	U	-	3.1		-	0.4	U	-
YVD-05	YVD-05-150922	09/22/2015	N	59020281	42.0		-	20.0		-	4.90		-	51.0		-	8.8		-	1	U	-	3		-	0.4	U	-
YVD-05	YVD-05-151214	12/14/2015	N	59025351	37.0		-	17.0		-	4.30		-	52.0		-	7.9		-	1	U	-	2.8		-	0.4	U	-
YVD-05	YVD-05-160307	03/07/2016	N	59029521	32.0		-	15.0		-	3.60		-	48.0		-	8.3		-	1	U	-	2.7		-	0.4	U	-
YVD-05	YVD-D1-160307	03/07/2016	FD	59029521	32.0		-	15.0		-	3.60		-	48.0		-	8.7		-	0.59		-	2.9		-	0.2	U	-
YVD-05	YVD-05-160620	6/20/2016	N	59037151	31.0		-	14.0		-	3.40		-	48.0		-	9.1		-	1	U	-	3		-	0.4	U	-
YVD-05	YVD-05-160928	9/28/2016	N	K1611698	32.1		-	13.8		-	3.54		-	48.5		-	8.37		-	0.44		-	3.12		-	0.1	U	-
YVD-05	YVD-05-161215	12/15/2016	N	K1615174	33.3		-	13.1		-	3.37		-	46.5		-	8.30		-	0.48		-	3.15		-	0.1	U	-
YVD-05	YVD-031317-32	3/13/2017	N	K1702489	31.4		-	14.1		-	3.44		-	46.0		-	7.89		-	0.49		-	2.88		-	0.1	U	-
YVD-05 (FD)	YVD-031317-34	3/13/2017	FD	K1702489	31.4		-	14.0		-	3.38		-	45.6		-	7.92		-	0.48		-	2.91		-	0.1	U	-
YVD-06	YVD-06-130917	09/17/2013	N	SWI0113	46.0		-	12.8		-	4.07		-	17.6		-	3.13		-	0.5	U	-	0.51		-	0.2	U	-
YVD-06	YVD-06-131209	12/09/2013	N	SWL0055	31.2	J	FDP	5.3	J	FDP	1.76		-	13.0	J	FDP	2.73		-	0.5	U	-	0.49	J	FDP	0.2	U	-
YVD-06	YVD-D1-131209	12/09/2013	FD	SWL0055	38.9	J	FDP	6.6	J	FDP	2.24		-	16.5	J	FDP	8	U	-	5	U	-	6.4	J	FDP	2	U	-
YVD-06	YVD-06-140316	03/16/2014	N	SXC0081	40.1		-	7.6		-	2.68		-	16.2		-	3.47		-	0.58		-	0.61		-	0.2	U	-
YVD-06	YVD-D1-140316	03/16/2014	FD	SXC0081	40.5		-	7.8		-	2.74		-	16.6		-	3.16		-	0.55		-	0.62		-	0.2	U	-
YVD-06	YVD-06-140601	06/01/2014	N	SXF0008	37.8		-	6.5		-	2.28		-	16.7		-	2.88	J	DUP	0.5	U	-	0.51		-	0.2	U	-
YVD-06	YVD-D1-140601	06/01/2014	FD	SXF0008	38.3		-	6.6		-	2.30		-	16.9		-	2.95		-	0.5	U	-	0.56		-	0.2	U	-
YVD-06	YVD-06-140921	09/21/2014	N	SXI0148	41.3		-	8.5		-	2.69		-	17.4		-	2.45		-	0.5	U	-	0.44		-	0.2	U	-
YVD-06	YVD-06-141215	12/15/2014	N	SXL0103	40.3		-	7.8		-	2.58		-	16.9		-	2.5	J+	MSD	0.5	U	-	0.45	J	DUP	0.2	U	-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Sulfate			Ammonia (as N)			Total Kjeldahl Nitrogen (TKN)			Phosphorus			Phosphorus			Phosphorus			Alkalinity, Bicarbonate (as CaCO3)			Alkalinity, Total (as CaCO3)			
Analytical Method					EPA 300.0			EPA 350.1			EPA 351.2			EPA 365.3			EPA 365.4			SM4500-P-E			SM2320B			SM2320B			
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	
YVD-04	YVD-04-151213	12/13/2015	N	59025351	36		-	0.1	R	MSD	0.25	UJ	MSD	0.39		-	-		-	-	-		-	200		-	200		-
YVD-04	YVD-04-160307	03/07/2016	N	59029521	34		-	0.1	UJ	RPD	0.25	UJ	MSD	0.25	U	-	-		-	-	-		-	250	J	FDP	250	J	FDP
YVD-04	YVD-04-160620	6/20/2016	N	59037101	35	J-	MSD	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-	-		-	190		-	190		-
YVD-04	YVD-D1-160620	6/20/2016	FD	59037101	36	J-	MSD	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-	-		-	180		-	180		-
YVD-04	YVD-04-160928	9/28/2016	N	K1611629	31.4		-	0.05	U	-	0.5	U	-	0.014		-	-		-	-	-		-	187		-	187		-
YVD-04	YVD-04-D3-160928	9/28/2016	FD	K1611629	32.2		-	0.05	U	MBK	0.5	U	-	0.008	J	-	-		-	-	-		-	185		-	185		-
YVD-04	YVD-04-161213	12/13/2016	N	K1615045	31.7		-	0.05	U	-	0.5	U	-	0.026		-	-		-	-	-		-	181		-	181		-
YVD-04	YVD-031017-28	3/10/2017	N	K1702448	32.9		-	0.05	U	-	0.5	U	-	0.018		-	-		-	-	-		-	167		-	167		-
YVD-05	YVD-05-130917	09/17/2013	N	SWI0113	76.8		-	0.112			0.435			-			1.62			-			184			185			
YVD-05	YVD-05-131211	12/11/2013	N	SWL0063	68.4	J-	MSD	0.02	R	MSD	0.2	U		-			-		0.462			174			175				
YVD-05	YVD-05-140317	03/17/2014	N	SXC0081	52.7		-	0.1	U	-	0.25	U	-	0.14		-	-		-	-	-		-	174		-	175		-
YVD-05	YVD-05-140601	06/01/2014	N	SXF0008	50.5		-	0.1	U	-	0.25	U	-	0.15		-	-		-	-	-		-	164		-	165		-
YVD-05	YVD-05-140922	09/22/2014	N	SXI0148	48.1		-	0.1	U	-	0.259		-	0.2		-	-		-	-	-		-	159		-	160		-
YVD-05	YVD-05-141215	12/15/2014	N	SXL0103	27.7	J+	MSD, FDP, DUP	0.1	U	-	0.272		-	0.44	J	FDP	-		-	-	-		-	154		-	155		-
YVD-05	YVD-D1-141215	12/15/2014	FD	SXL0103	46	J+	MSD, FDP, DUP	0.1	U	-	0.264		-	0.29	J	FDP	-		-	-	-		-	153		-	155		-
YVD-05	YVD-05-150316	03/16/2015	N	5904471	47		-	0.1	U	-	0.25	UJ	-	0.25	UJ	MSD	-		-	-	-		-	160		-	160		-
YVD-05	YVD-05-150616	06/16/2015	N	59010751	49	J-	MSD	0.1	U	-	0.25	UJ	-	0.51			-		-	-	-		-	170		-	170		-
YVD-05	YVD-05-150922	09/22/2015	N	59020281	51		-	0.1	U	-	0.25	R	MSD	0.8			-		-	-	-		-	160		-	160		-
YVD-05	YVD-05-151214	12/14/2015	N	59025351	48		-	0.1	R	MSD	0.6	J-	MSD	0.65		-	-		-	-	-		-	180		-	180		-
YVD-05	YVD-05-160307	03/07/2016	N	59029521	47		-	0.1	UJ	RPD	0.25	UJ	MSD	0.25	U	-	-		-	-	-		-	160	J	FDP	160	J	FDP
YVD-05	YVD-D1-160307	03/07/2016	FD	59029521	48		-	0.1	UJ	RPD	0.25	UJ	MSD	0.25	U	-	-		-	-	-		-	170	J	FDP	170	J	FDP
YVD-05	YVD-05-160620	6/20/2016	N	59037151	49		-	0.1	U	-	0.25	U	MSD	0.25	U	-	-		-	-	-		-	170			170		
YVD-05	YVD-05-160928	9/28/2016	N	K1611698	46.7		-	0.05	U	MBK	0.5	R	MSD	0.01		-	-		-	-	-		-	171			171		
YVD-05	YVD-05-161215	12/15/2016	N	K1615174	49.0		-	0.05	U	-	0.5	U	-	0.04		-	-		-	-	-		-	163		-	163		-
YVD-05	YVD-031317-32	3/13/2017	N	K1702489	41.5		-	0.05	U	-	0.5	U	-	0.03		-	-		-	-	-		-	166		-	166		-
YVD-05 (FD)	YVD-031317-34	3/13/2017	FD	K1702489	41.4		-	0.05	U	-	0.5	U	-	0.02		-	-		-	-	-		-	168		-	168		-
YVD-06	YVD-06-130917	09/17/2013	N	SWI0113	8.14		-	0.1	U	-	0.4		-	-		-	0.41		-	-	-		-	149		-	150		-
YVD-06	YVD-06-131209	12/09/2013	N	SWL0055	8.53		-	0.02	UJ	MSD	0.62	J	FBK,MSD,FDP	-		-	-		0.06	U	-		-	154		-	155		-
YVD-06	YVD-D1-131209	12/09/2013	FD	SWL0055	9.1		-	0.02	UJ	MSD	0.4	J	FBK,MSD,FDP	-		-	-		0.06	U	-		-	159		-	160		-
YVD-06	YVD-06-140316	03/16/2014	N	SXC0081	8.33		-	0.1	U	-	0.297		-	0.13		-	-		-	-	-		-	174		-	175		-
YVD-06	YVD-D1-140316	03/16/2014	FD	SXC0081	8.18		-	0.1	U	-	0.25	U	-	0.14		-	-		-	-	-		-	159		-	160		-
YVD-06	YVD-06-140601	06/01/2014	N	SXF0008	7.59		-	0.172		-	0.25	U	-	0.057		-	-		-	-	-		-	156		-	158		-
YVD-06	YVD-D1-140601	06/01/2014	FD	SXF0008	7.63		-	0.1	U	-	0.25	U	-	0.064		-	-		-	-	-		-	153		-	155		-
YVD-06	YVD-06-140921	09/21/2014	N	SXI0148	7.98		-	0.139		-	0.359		-	0.18		-	-		-	-	-		-	149		-	150		-
YVD-06	YVD-06-141215	12/15/2014	N	SXL0103	7.47	J+	MSD, DUP	0.1	U	-	0.25	U	-	0.1	U	-	-		-	-	-		-	149		-	150		-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Calcium			Magnesium			Potassium			Sodium			Chloride			Fluoride			Nitrate (as N)			Nitrite (as N)		
Analytical Method					EPA 200.7			EPA 200.7			EPA 200.7			EPA 200.7			EPA 300			EPA 300.0			EPA 300.0			EPA 300.0		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
YVD-06	YVD-06-150316	03/16/2015	N	5904471	38.0		-	6.8		-	2.20		-	17.0		-	2.8		-	0.5	U	-	0.99		-	0.2	U	-
YVD-06	YVD-06-150616	06/16/2015	N	59010751	40.0	J+	MSD	7.0	J+	MSD	2.20	J+	MSD	17.0	J+	MSD	2.7		-	0.5	U	-	0.53		-	0.2	U	-
YVD-06	YVD-06-150922	09/22/2015	N	59020141	41.0		-	9.8		-	3.10		-	17.0		-	2.8		-	0.5	U	-	0.51		-	0.2	U	-
YVD-06	YVD-06-151214	12/14/2015	N	59025351	42.0		-	7.3		-	2.40		-	18.0		-	2.4		-	0.5	U	-	0.51		-	0.2	U	-
YVD-06	YVD-06-160307	03/07/2016	N	59029521	38.0		-	7.2		-	2.50		-	17.0		-	2.8		-	0.5	U	-	0.51		-	0.2	U	-
YVD-06	YVD-06-160620	6/20/2016	N	59037151	37.0		-	6.6		-	2.30		-	17.0		-	3.1		-	0.5	U	-	0.53		-	0.2	U	-
YVD-06	YVD-06-160929	9/29/2016	N	K1611704	35.7		-	6.1		-	2.26		-	17.1		-	2.64		-	0.20		-	0.55		-	0.1	U	-
YVD-06	YVD-06-161215	12/15/2016	N	K1615126	33.5		-	5.7		-	2.12		-	17.1		-	3.14		-	0.23		-	0.70		-	0.1	U	-
YVD-06	YVD-030617-04	3/6/2017	N	K1702228	35.2		-	5.8		-	2.20		-	17.0		-	2.83		-	0.29		-	0.61		-	0.1	U	-
YVD-07	YVD-07-130923	09/23/2013	N	SWI0178	27.7		-	16.2		-	5.03		-	37.7		-	-		-	-		-	-		-	-		-
YVD-07	YVD-07-130926	09/26/2013	N	SWI0190	-		-	-		-	-		-	-		-	7.53		-	0.5	U	-	4.4		-	0.2	U	-
YVD-07	YVD-07-131210	12/10/2013	N	SWL0055	99.2		-	16.0		-	1.00	U	-	40.4		-	8.46		-	0.55		-	5.3		-	0.2	U	-
YVD-07	YVD-07-140316	03/16/2014	N	SXC0081	33.4		-	14.1		-	4.45		-	42.5		-	11.6		-	0.83		-	3.9		-	0.2	U	-
YVD-07	YVD-07-140604	06/04/2014	N	SXF0025	38.4		-	18.3		-	5.57		-	44.5		-	9.74		-	1	U	-	3.36		-	0.4	U	-
YVD-07	YVD-07-140922	09/22/2014	N	SXI0158	31.4		-	12.7		-	4.05		-	42.7	J+	MSD	10.3		-	1	U	-	5.52		-	0.4	U	-
YVD-07	YVD-07-141216	12/16/2014	N	SXL0108	29.9		-	12.2		-	3.83		-	40.6		-	8.76		-	1	U	-	2.92		-	0.4	U	-
YVD-07	YVD-07-150316	03/16/2015	N	5904541	37.0		-	15.0		-	4.30		-	50.0		-	15		-	1	U	-	4	J-	MSD	0.4	U	-
YVD-07	YVD-D2-150316	03/16/2015	FD	5904541	35.0		-	14.0		-	4.30		-	48.0		-	16		-	0.65		-	4.2	J-	MSD	0.2	U	-
YVD-07	YVD-07-150616	06/16/2015	N	59010751	34.0	J+	MSD	14.0	J+	MSD	4.20	J+	MSD	43.0	J+	MSD	13		-	0.5	U	-	3.3		-	0.4	U	-
YVD-07	YVD-D1-150616	06/16/2015	FD	59010751	35.0	J+	MSD	14.0	J+	MSD	4.20	J+	MSD	44.0	J+	MSD	14		-	0.5	U	-	3.5		-	0.2	U	-
YVD-07	YVD-07-150923	09/23/2015	N	59020281	33.0		-	14.0		-	4.20		-	48.0		-	9.9		-	1	U	-	4.7		-	0.4	U	-
YVD-07	YVD-07-151214	12/14/2015	N	59025431	30.0		-	13.0		-	4.50		-	48.0		-	6.7		-	1	U	-	2.4		-	0.4	U	-
YVD-07	YVD-07-160308	03/08/2016	N	59029711	25.0		-	11.0		-	4.00		-	42.0		-	6.7		-	1	U	-	1.8		-	0.4	U	-
YVD-07	YVD-07-160621	6/21/2016	N	59037151	19.0		-	9.0		-	3.50		-	37.0		-	6.2		-	1	U	-	1.2		-	0.4	U	-
YVD-07	YVD-07-160929	9/29/2016	N	K1611704	17.8		-	7.1		-	3.31		-	34.0		-	5.3		-	0.4		-	1.37		-	0.1	U	-
YVD-07	YVD-07-161213	12/13/2016	N	K1615083	25.9		-	10.2		-	3.59		-	36.6		-	6.38		-	0.4		-	2.15		-	0.1	U	-
YVD-07	YVD-030717-07	3/7/2017	N	K1702324	17.6		-	6.5		-	2.83		-	31.4		-	5.34		-	0.43		-	1.74	J	HTQ	0.1	UJ	HTQ

Table 7
Cumulative Groundwater Analytical Results

Analyte					Sulfate			Ammonia (as N)			Total Kjeldahl Nitrogen (TKN)			Phosphorus			Phosphorus			Phosphorus			Alkalinity, Bicarbonate (as CaCO3)			Alkalinity, Total (as CaCO3)		
Analytical Method					EPA 300.0			EPA 350.1			EPA 351.2			EPA 365.3			EPA 365.4			SM4500-P-E			SM2320B			SM2320B		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
YVD-06	YVD-06-150316	03/16/2015	N	5904471	10		-	0.1	U	-	0.25	UJ	MSD	0.25	UJ	MSD	-		-	-		-	150		-	150		-
YVD-06	YVD-06-150616	06/16/2015	N	59010751	7.9	J-	MSD	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	150		-	150		-
YVD-06	YVD-06-150922	09/22/2015	N	59020141	7.9		-	0.11		-	0.25	UJ	MSD	0.25	U		-		-	-		-	170		-	170		-
YVD-06	YVD-06-151214	12/14/2015	N	59025351	8		-	0.1	R	MSD	0.57	J-	MSD	0.25	U	-	-		-	-		-	170		-	170		-
YVD-06	YVD-06-160307	03/07/2016	N	59029521	7.8		-	0.1	UJ	RPD	0.25	UJ	MSD	0.25	U	-	-		-	-		-	160	J	FDP	160	J	FDP
YVD-06	YVD-06-160620	6/20/2016	N	59037151	8.1		-	0.1	U	-	0.42		-	0.25	U	-	-		-	-		-	150		-	150		-
YVD-06	YVD-06-160929	9/29/2016	N	K1611704	8.55		-	0.05	U	MBK	0.5	U	-	0.022		-	-		-	-		-	145		-	145		-
YVD-06	YVD-06-161215	12/15/2016	N	K1615126	10.2		-	0.05	U	-	0.5	U	-	0.01		-	-		-	-		-	136		-	136		-
YVD-06	YVD-030617-04	3/6/2017	N	K1702228	8.38		-	0.021	J	-	0.5	U	FBK	0.014		-	-		-	-		-	142		-	142		-
YVD-07	YVD-07-130923	09/23/2013	N	SWI0178	-		-	0.1	U	-	0.395		-	-		-	0.516		-	-		-	79.4		-	80		-
YVD-07	YVD-07-130926	09/26/2013	N	SWI0190	37.4		-	-		-	-		-	-		-	-		-	-		-	-		-	-		-
YVD-07	YVD-07-131210	12/10/2013	N	SWL0055	50		-	0.02	UJ	MSD	0.2	UJ	MSD	-		-	-		-	0.06	U	-	135		-	135		-
YVD-07	YVD-07-140316	03/16/2014	N	SXC0081	69.2		-	0.116		-	0.25	U	-	0.22		-	-		-	-		-	134		-	135		-
YVD-07	YVD-07-140604	06/04/2014	N	SXF0025	57		-	0.1	U	-	0.348	J-	MSD	0.69		-	-		-	-		-	137		-	138		-
YVD-07	YVD-07-140922	09/22/2014	N	SXI0158	51.8		-	0.1	R	MSD	0.25	U	-	0.2		-	-		-	-		-	134		-	135		-
YVD-07	YVD-07-141216	12/16/2014	N	SXL0108	51.2		-	0.1	U	-	0.25	U	-	0.1	U	-	-		-	-		-	133		-	135		-
YVD-07	YVD-07-150316	03/16/2015	N	5904541	73	J-	MSD	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	140		-	140		-
YVD-07	YVD-D2-150316	03/16/2015	FD	5904541	70	J-	MSD	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	140		-	140		-
YVD-07	YVD-07-150616	06/16/2015	N	59010751	74	J-	MSD	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	150		-	150		-
YVD-07	YVD-D1-150616	06/16/2015	FD	59010751	74	J-	MSD	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	140		-	140		-
YVD-07	YVD-07-150923	09/23/2015	N	59020281	68		-	0.22		-	0.25	R	MSD	0.25	U	-	-		-	-		-	160		-	160		-
YVD-07	YVD-07-151214	12/14/2015	N	59025431	59		-	0.1	R	MSD	0.25	R	MSD	0.97	J	FDP	-		-	-		-	140	J	FDP	140	J	FDP
YVD-07	YVD-07-160308	03/08/2016	N	59029711	49	J+	MSD	1.1	J+	FBK, FDP	0.25	U	-	0.25	U	-	-		-	-		-	140		-	140		-
YVD-07	YVD-07-160621	6/21/2016	N	59037151	31		-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-		-	100		-	100		-
YVD-07	YVD-07-160929	9/29/2016	N	K1611704	37.1		-	0.05	U	MBK	0.5	U	-	0.02		-	-		-	-		-	113		-	113		-
YVD-07	YVD-07-161213	12/13/2016	N	K1615083	64.0		-	0.05	U	-	0.5	U	-	0.01	J	-	-		-	-		-	120		-	120		-
YVD-07	YVD-030717-07	3/7/2017	N	K1702324	25.4		-	1	U	-	0.5	U	-	0.019		-	-		-	-		-	107		-	107		-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Calcium			Magnesium			Potassium			Sodium			Chloride			Fluoride			Nitrate (as N)			Nitrite (as N)		
Analytical Method					EPA 200.7			EPA 200.7			EPA 200.7			EPA 200.7			EPA 300			EPA 300.0			EPA 300.0			EPA 300.0		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
YVD-08	YVD-08-130919	09/19/2013	N	SWI0138	126.0		-	43.8		-	6.03		-	88.3		-	145		-	5	U	-	8		-	2	U	-
YVD-08	YVD-08-131211	12/11/2013	N	SWL0063	134.0		-	53.8		-	7.55		-	82.2		-	123		-	5	U	-	22.5		-	2	U	-
YVD-08	YVD-08-140317	03/17/2014	N	SXC0095	122.0		-	42.0		-	5.30		-	75.1		-	128		-	5	U	-	14.3		-	2	U	-
YVD-08	YVD-08-140602	06/02/2014	N	SXF0017	138.0		-	64.6		-	11.20		-	78.3		-	118		-	2	U	-	14.7		-	0.8	U	-
YVD-08	YVD-08-140923	09/23/2014	N	SXI0173	103.0		-	36.3		-	5.87		-	76.9		-	122		-	2.5	U	-	8.1		-	1	U	-
YVD-08	YVD-08-141216	12/16/2014	N	SXL0108	111.0		-	41.4		-	5.92		-	77.2		-	126		-	2.5	U	-	14		-	1	U	-
YVD-08	YVD-08-150317	03/17/2015	N	5904541	110.0		-	40.0		-	5.90		-	77.0		-	120		-	2.5	U	-	13	J-	MSD	1	U	-
YVD-08	YVD-D3-150317	03/17/2015	FD	5904541	100.0		-	39.0		-	5.70		-	76.0		-	130		-	0.5	U	-	14	J-	MSD	0.2	U	-
YVD-08	YVD-08-150617	06/17/2015	N	59010961	110.0		-	40.0		-	6.00	J+	MSD	82.0	J+	MSD	120		-	2.5	U	-	19		-	1	U	-
YVD-08	YVD-D3-150617	06/17/2015	FD	59010961	110.0		-	39.0		-	5.70	J+	MSD	77.0	J+	MSD	140		-	5	U	-	19		-	0.2	U	-
YVD-08	YVD-08-150924	09/24/2015	N	59020391	110.0		-	44.0		-	5.60		-	82.0		-	120		-	2.5	U	-	20	J+	MSD	1	U	-
YVD-08	YVD-08-151215	12/15/2015	N	59025501	120.0		-	44.0		-	6.20		-	85.0		-	120		-	2.5	U	-	26		-	1	U	-
YVD-08	YVD-D3-151215	12/15/2015	FD	59025501	120.0		-	46.0		-	6.20		-	85.0		-	110		-	5	U	-	26		-	0.2	U	-
YVD-08	YVD-08-160310	03/10/2016	N	59029941	120.0		-	44.0		-	5.60		-	87.0		-	120		-	2.5	U	-	32		-	1	U	-
YVD-08	YVD-08-160622	6/22/2016	N	59037271	120.0		-	46.0		-	5.90		-	87.0		-	110		-	2.5	U	-	34		-	1	U	-
YVD-08	YVD-D3-160622	6/22/2016	FD	59037271	120.0		-	46.0		-	6.00		-	88.0		-	120		-	0.5	U	-	34		-	0.2	U	-
YVD-08	YVD-08-160927	9/27/2016	N	K1611565	120.0		-	47.0		-	4.95		-	84.7		-	96.0		-	0.18	J	-	30.6		-	0.1	U	-
YVD-08	YVD-08-161213	12/13/2016	N	K1615045	122.0		-	41.9		-	5.10		-	84.5		-	89.3		-	0.23		-	34.5	J	HTQ	0.1	U	-
YVD-08	YVD-030917-24	3/9/2017	N	K1702448	136.0		-	44.4		-	4.95		-	83.4		-	95.2		-	0.2	J	-	37.3	J	HTQ	0.1	U	-
YVD-09	YVD-09-130919	09/19/2013	N	SWI0138	107.0		-	39.3		-	8.21		-	189.0		-	96.3		-	5	U	-	74.7		-	2	U	-
YVD-09	YVD-09-131212	12/12/2013	N	SWL0078	109.0		-	42.0		-	9.21		-	176.0		-	87.2		-	5	U	-	64.4		-	2	U	-
YVD-09	YVD-09-140319	03/19/2014	N	SXC0107	109.0		-	40.8		-	9.33		-	173.0		-	104		-	5.5		-	62.4		-	2	U	-
YVD-09	YVD-09-140603	06/03/2014	N	SXF0025	113.0		-	44.5		-	10.10		-	193.0		-	89.8		-	5	U	-	57.1		-	2	U	-
YVD-09	YVD-09-140924	09/24/2014	N	SXI0173	118.0		-	41.7		-	8.88		-	203.0		-	68.2		-	5	U	-	48		-	2	U	-
YVD-09	YVD-09-141217	12/17/2014	N	SXL0121	130.0		-	56.3		-	12.90		-	187.0		-	85		-	5	U	-	53.9		-	2	U	-
YVD-09	YVD-09-150318	03/18/2015	N	5904651	110.0		-	46.0		-	9.30	J-	MSD	190.0		-	74		-	5	U	-	47		-	2	U	-
YVD-09	YVD-09-150617	06/17/2015	N	59010961	110.0		-	43.0		-	9.80	J+	MSD	190.0	J+	MSD	89		-	5	U	-	54		-	2	U	-
YVD-09	YVD-09-150923	09/23/2015	N	59020391	110.0		-	46.0		-	9.60		-	180.0		-	78		-	0.5	U	-	56	J+	MSD	0.2	U	-
YVD-09	YVD-09-151215	12/15/2015	N	59025501	110.0		-	42.0		-	9.60		-	190.0		-	77		-	5	U	-	52		-	2	U	-
YVD-09	YVD-09-160310	03/10/2016	N	59029941	110.0		-	42.0		-	9.20		-	190.0		-	72		-	5	U	-	48		-	2	U	-
YVD-09	YVD-09-160622	6/22/2016	N	59037271	100.0		-	42.0		-	8.90		-	190.0		-	76		-	5	U	-	49		-	2	U	-
YVD-09	YVD-09-160929	9/29/2016	N	K1611704	103.0		-	41.2		-	7.62		-	184.0		-	66.7		-	0.34		-	43.2		-	0.1	U	-
YVD-09	YVD-09-161213	12/13/2016	N	K1615045	107.0		-	38.1		-	8.42		-	185.0		-	59.8		-	0.4		-	42.8	J	HTQ	0.1	U	-
YVD-09	YVD-D2-161213	12/13/2016	FD	K1615045	108.0		-	37.1		-	8.04		-	181.0		-	61.4		-	0.4		-	43.3	J	HTQ	0.1	U	-
YVD-09	YVD-031317-35	3/13/2017	N	K1702489	108.0		-	39.2		-	7.78		-	185.0		-	63.9		-	0.37		-	44.3		-	0.04	J	-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Sulfate			Ammonia (as N)			Total Kjeldahl Nitrogen (TKN)			Phosphorus			Phosphorus			Phosphorus			Alkalinity, Bicarbonate (as CaCO3)			Alkalinity, Total (as CaCO3)		
Analytical Method					EPA 300.0			EPA 350.1			EPA 351.2			EPA 365.3			EPA 365.4			SM4500-P-E			SM2320B			SM2320B		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
YVD-08	YVD-08-130919	09/19/2013	N	SWI0138	105		-	0.1	U	-	0.935	J+	FBK	-		-	0.1	U	-	-		-	354		-	355		-
YVD-08	YVD-08-131211	12/11/2013	N	SWL0063	273	J-	MSD	0.02	R	MSD	0.75	U	ERL	-		-	-		-	1.46		-	259		-	260		-
YVD-08	YVD-08-140317	03/17/2014	N	SXC0095	173	J-	MSD	0.146		-	0.702		-	0.13		-	-		-	-		-	294		-	295		-
YVD-08	YVD-08-140602	06/02/2014	N	SXF0017	175	J-	MSD	0.1	U	-	1.12		-	2.7		-	-		-	-		-	279		-	280		-
YVD-08	YVD-08-140923	09/23/2014	N	SXI0173	107		-	0.1	U	-	0.867	J+	MSD	0.35		-	-		-	-		-	249		-	250		-
YVD-08	YVD-08-141216	12/16/2014	N	SXL0108	140		-	0.1	U	-	0.369		-	0.34		-	-		-	-		-	264		-	265		-
YVD-08	YVD-08-150317	03/17/2015	N	5904541	130	J-	MSD	0.1	U	-	0.39	J-	MSD	0.67		-	-		-	-		-	230		-	230		-
YVD-08	YVD-D3-150317	03/17/2015	FD	5904541	150	J-	MSD	0.1	U	-	0.25	UJ	MSD	0.49		-	-		-	-		-	240		-	240		-
YVD-08	YVD-08-150617	06/17/2015	N	59010961	140		-	0.14		-	0.26	J-	MSD, FDP	0.53		-	-		-	-		-	280	J	FDP	280	J	FDP
YVD-08	YVD-D3-150617	06/17/2015	FD	59010961	170		-	0.1	U	-	0.86	J-	MSD, FDP	0.39		-	-		-	-		-	220	J	FDP	220	J	FDP
YVD-08	YVD-08-150924	09/24/2015	N	59020391	170	J-	MSD	0.1	UJ	MSD	0.25	UJ	MSD	0.31		-	-		-	-		-	260		-	260		-
YVD-08	YVD-08-151215	12/15/2015	N	59025501	190		-	0.1	R	MSD	0.25	R	MSD	0.33	J-	MSD	-		-	-		-	260		-	260		-
YVD-08	YVD-D3-151215	12/15/2015	FD	59025501	180		-	0.15	J-	MSD	0.25	R	MSD	0.27	J-	MSD	-		-	-		-	250		-	250		-
YVD-08	YVD-08-160310	03/10/2016	N	59029941	210	J	DUP	0.1	U	-	0.25	UJ	FDP, MSD	0.25	U	-	-		-	-		-	240		-	240		-
YVD-08	YVD-08-160622	6/22/2016	N	59037271	200		-	0.1	UJ	MSD	0.25	R	MSD	0.31		-	-		-	-		-	230		-	230		-
YVD-08	YVD-D3-160622	6/22/2016	FD	59037271	200		-	0.1	UJ	FBK, MSD	0.25	R	MSD	0.28		-	-		-	-		-	230		-	230		-
YVD-08	YVD-08-160927	9/27/2016	N	K1611565	193		-	0.05	U	MBK	0.5	R	MSD	0.049		-	-		-	-		-	239		-	239		-
YVD-08	YVD-08-161213	12/13/2016	N	K1615045	182		-	0.05	U	-	0.5	U	-	0.058		-	-		-	-		-	222		-	222		-
YVD-08	YVD-030917-24	3/9/2017	N	K1702448	203		-	0.05	U	-	0.5	U	-	0.018		-	-		-	-		-	263		-	263		-
YVD-09	YVD-09-130919	09/19/2013	N	SWI0138	236		-	0.1	U	-	0.533	R	FBK	-		-	0.232	R	FBK	-		-	369		-	370		-
YVD-09	YVD-09-131212	12/12/2013	N	SWL0078	193		-	0.02	U	-	0.661	U	ERL	-		-	-		-	0.647		-	384		-	385		-
YVD-09	YVD-09-140319	03/19/2014	N	SXC0107	214		-	0.1	U	-	0.653	J-	MSD	0.53		-	-		-	-		-	388		-	390		-
YVD-09	YVD-09-140603	06/03/2014	N	SXF0025	214		-	0.1	U	-	0.613	J-	MSD	0.72		-	-		-	-		-	367		-	368		-
YVD-09	YVD-09-140924	09/24/2014	N	SXI0173	166		-	0.1	U	-	0.502	J+	MSD	0.054	J+	FBK	-		-	-		-	359		-	360		-
YVD-09	YVD-09-141217	12/17/2014	N	SXL0121	223		-	0.1	U	-	0.25	UJ	MSD	1.3		-	-		-	-		-	359		-	360		-
YVD-09	YVD-09-150318	03/18/2015	N	5904651	190		-	0.14		-	0.25	UJ	MSD	0.38		-	-		-	-		-	350		-	350		-
YVD-09	YVD-09-150617	06/17/2015	N	59010961	230		-	0.14		-	0.37	J-	MSD	0.36		-	-		-	-		-	350		-	350		-
YVD-09	YVD-09-150923	09/23/2015	N	59020391	270	J-	MSD	0.21	J	MSD	0.26	J-	MSD	0.27		-	-		-	-		-	330		-	330		-
YVD-09	YVD-09-151215	12/15/2015	N	59025501	250		-	0.1	R	MSD	0.25	R	MSD	0.25	J-	MSD	-		-	-		-	340		-	340		-
YVD-09	YVD-09-160310	03/10/2016	N	59029941	250	J	DUP	0.12		-	0.25	UJ	FDP, MSD	0.33		-	-		-	-		-	360		-	360		-
YVD-09	YVD-09-160622	6/22/2016	N	59037271	260		-	0.1	UJ	MSD	0.25	R	MSD	0.29		-	-		-	-		-	350		-	350		-
YVD-09	YVD-09-160929	9/29/2016	N	K1611704	243		-	0.05	U	MBK	0.5	U	-	0.016		-	-		-	-		-	347		-	347		-
YVD-09	YVD-09-161213	12/13/2016	N	K1615045	238		-	0.05	U	-	0.5	U	-	0.048		-	-		-	-		-	340		-	340		-
YVD-09	YVD-D2-161213	12/13/2016	FD	K1615045	240		-	0.05	U	-	0.5	U	-	0.078		-	-		-	-		-	340		-	340		-
YVD-09	YVD-031317-35	3/13/2017	N	K1702489	225		-	0.05	U	-	0.5	U	-	0.025		-	-		-	-		-	329		-	329		-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Calcium			Magnesium			Potassium			Sodium			Chloride			Fluoride			Nitrate (as N)			Nitrite (as N)		
Analytical Method					EPA 200.7			EPA 200.7			EPA 200.7			EPA 200.7			EPA 300			EPA 300.0			EPA 300.0			EPA 300.0		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
YVD-10	YVD-10-130917	09/17/2013	N	SWI0123	216.0		-	51.8		-	3.28		-	104.0		-	95.4		-	5	U	-	95		-	2	U	-
YVD-10	YVD-10-131212	12/12/2013	N	SWL0078	202.0		-	55.6		-	4.49		-	102.0		-	91.4		-	5	U	-	86.9		-	2	U	-
YVD-10	YVD-10-140319	03/19/2014	N	SXC0107	218.0		-	54.0		-	3.93		-	96.8		-	86.8		-	5	U	-	77.6		-	2	U	-
YVD-10	YVD-10-140603	06/03/2014	N	SXF0025	232.0		-	58.6		-	4.07		-	103.0		-	94.3		-	5	U	-	86.1		-	2	U	-
YVD-10	YVD-10-140924	09/24/2014	N	SXI0173	276.0		-	65.8		-	3.86		-	116.0		-	115		-	5	U	-	97.2		-	2	U	-
YVD-10	YVD-10-141217	12/17/2014	N	SXL0144	248.0		-	60.4		-	3.88		-	110.0		-	97.9		-	5	U	-	78.7		-	2	U	-
YVD-10	YVD-10-150318	03/18/2015	N	5904651	400.0		-	92.0		-	4.00	J-	MSD	130.0		-	180		-	5	U	-	120		-	2	U	-
YVD-10	YVD-10-150617	06/17/2015	N	59010961	390.0		-	95.0		-	4.60	J+	MSD	130.0	J+	MSD	39		-	5	U	-	20		-	2	U	-
YVD-10	YVD-10-150923	09/23/2015	N	59020391	330.0		-	89.0		-	4.30		-	120.0		-	160		-	5	U	-	120	J+	MSD	2	U	-
YVD-10	YVD-10-151214	12/14/2015	N	59025351	350.0		-	84.0		-	4.30		-	120.0		-	150		-	5	U	-	120		-	2	U	-
YVD-10	YVD-10-160309	03/09/2016	N	59029711	310.0		-	73.0		-	4.10		-	120.0		-	140		-	5	U	-	98		-	2	U	-
YVD-10	YVD-10-160621	6/21/2016	N	59037271	270.0		-	73.0		-	4.50		-	110.0		-	120		-	5	U	-	96		-	2	U	-
YVD-10	YVD-10-160929	9/29/2016	N	K1611698	286.0		-	63.1		-	2.48		-	114.0		-	105		-	0.2	U	MBK	84		-	0.1	U	-
YVD-10	YVD-10-161212	12/12/2016	N	K1615029	303.0		-	66.9		-	2.68		-	118.0		-	141		-	0.1	J	-	109	J	HTQ	0.1	U	-
YVD-10	YVD-030917-27	3/9/2017	N	K1702448	569.0		-	128.0		-	2.89		-	133.0		-	173		-	0.09	J	-	123	J	HTQ	0.1	U	-
YVD-11	YVD-11-130923	09/23/2013	N	SWI0178	183.0		-	51.9		-	5.44	J	FDP	23.2		-	-		-	-		-	-		-	-		-
YVD-11	YVD-D2-130923	09/23/2013	FD	SWI0178	175.0		-	46.0		-	3.60	J	FDP	23.0		-	-		-	-		-	-		-	-		-
YVD-11	YVD-11-130926	09/26/2013	N	SWI0190	-		-	-		-	-		-	-		-	54.7		-	5	U	-	38.4		-	2	U	-
YVD-11	YVD-D3-130926	09/26/2013	FD	SWI0190	-		-	-		-	-		-	-		-	61.4		-	5	U	-	46.2		-	2	U	-
YVD-11	YVD-11-131212	12/12/2013	N	SWL0073	171.0		-	43.4		-	3.37		-	23.2		-	58.7		-	5	U	-	49.9		-	2	U	-
YVD-11	YVD-11-140318	03/18/2014	N	SXC0107	183.0		-	44.4		-	3.15		-	22.2		-	61.6		-	5	U	-	43.7		-	2	U	-
YVD-11	YVD-11-140603	06/03/2014	N	SXF0017	176.0		-	50.3		-	5.38		-	26.1		-	67.2		-	5	U	-	49.1		-	2	U	-
YVD-11	YVD-11-140924	09/24/2014	N	SXI0173	193.0		-	47.9		-	3.86		-	25.6		-	67.2		-	2.5	U	-	46.6		-	1	U	-
YVD-11	YVD-11-141217	12/17/2014	N	SXL0121	198.0		-	53.6		-	4.77		-	25.6		-	72.1		-	5	U	-	49.1		-	2	U	-
YVD-11	YVD-11-150317	03/17/2015	N	5904651	190.0		-	51.0		-	4.30	J-	MSD	26.0		-	76		-	5	U	-	52		-	2	U	-
YVD-11	YVD-11-150616	06/16/2015	N	59010961	200.0		-	50.0		-	3.20	J+	MSD	27.0	J+	MSD	86		-	5	U	-	56		-	2	U	-
YVD-11	YVD-11-150923	09/23/2015	N	59020281	200.0		-	55.0		-	3.40		-	25.0		-	90		-	5	U	-	66		-	2	U	-
YVD-11	YVD-11-151215	12/15/2015	N	59025431	210.0		-	60.0		-	5.20		-	25.0		-	100		-	5	U	-	74		-	2	U	-
YVD-11	YVD-D2-151215	12/15/2015	FD	59025431	210.0		-	58.0		-	4.90		-	25.0		-	98		-	0.5	U	-	70		-	0.2	U	-
YVD-11	YVD-11-160309	03/09/2016	N	59029711	200.0		-	53.0		-	3.30		-	25.0		-	99		-	5	U	-	65		-	2	U	-
YVD-11	YVD-11-160621	6/21/2016	N	59037151	200.0		-	56.0		-	3.50		-	27.0		-	120		-	5	U	-	71		-	2	U	-
YVD-11	YVD-11-160927	9/27/2016	N	K1611629	204.0		-	52.6		-	3.13		-	26.1		-	82.0		-	0.18	J	-	48.9	J	HTQ	0.1	U	-
YVD-11	YVD-11-161214	12/14/2016	N	K1615126	209.0		-	57.8		-	4.82		-	25.6		-	82.5		-	0.19	J	-	55.5		-	0.1	U	-
YVD-11	YVD-031317-37	3/13/2017	N	K1702489	235.0		-	62.1		-	3.02		-	25.5		-	102		-	0.21		-	77.3		-	0.06	J	-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Sulfate			Ammonia (as N)			Total Kjeldahl Nitrogen (TKN)			Phosphorus			Phosphorus			Phosphorus			Alkalinity, Bicarbonate (as CaCO3)			Alkalinity, Total (as CaCO3)		
Analytical Method					EPA 300.0			EPA 350.1			EPA 351.2			EPA 365.3			EPA 365.4			SM4500-P-E			SM2320B			SM2320B		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
YVD-10	YVD-10-130917	09/17/2013	N	SWI0123	199		-	0.1	U	-	0.25	U	-	-		-	0.148		-	-		-	464		-	465		-
YVD-10	YVD-10-131212	12/12/2013	N	SWL0078	174		-	0.02	U	-	0.6495	U	ERL	-		-	-		-	1.4		-	459		-	460		-
YVD-10	YVD-10-140319	03/19/2014	N	SXC0107	163		-	0.109		-	0.507	J-	MSD	0.77		-	-		-	-		-	489		-	490		-
YVD-10	YVD-10-140603	06/03/2014	N	SXF0025	188		-	0.105		-	0.577	J-	MSD	0.8		-	-		-	-		-	487		-	488		-
YVD-10	YVD-10-140924	09/24/2014	N	SXI0173	217		-	0.1	U	-	0.443	J+	MSD	0.054	J+	FBK	-		-	-		-	523		-	525		-
YVD-10	YVD-10-141217	12/17/2014	N	SXL0144	180		-	0.5	U	-	0.25	R	MSD	0.69	J-	MSD	-		-	-		-	503		-	505		-
YVD-10	YVD-10-150318	03/18/2015	N	5904651	370		-	0.1	U	-	0.25	UJ	MSD	0.42		-	-		-	-		-	590		-	590		-
YVD-10	YVD-10-150617	06/17/2015	N	59010961	110		-	0.12		-	0.44	J-	MSD	0.72		-	-		-	-		-	600		-	600		-
YVD-10	YVD-10-150923	09/23/2015	N	59020391	370	J-	MSD	0.72	J	MSD	0.25	UJ	MSD	0.56		-	-		-	-		-	620		-	620		-
YVD-10	YVD-10-151214	12/14/2015	N	59025351	360		-	0.1	R	MSD	0.25	UJ	MSD	0.58		-	-		-	-		-	600		-	600		-
YVD-10	YVD-10-160309	03/09/2016	N	59029711	280	J+	MSD	0.1	UJ	FDP	0.25	R	MSD	0.42		-	-		-	-		-	520		-	520		-
YVD-10	YVD-10-160621	6/21/2016	N	59037271	240		-	0.11	J-	MSD	0.25	R	MSD	0.71		-	-		-	-		-	510		-	510		-
YVD-10	YVD-10-160929	9/29/2016	N	K1611698	223		-	0.05	U	MBK	0.5	R	MSD	0.028		-	-		-	-		-	513		-	513		-
YVD-10	YVD-10-161212	12/12/2016	N	K1615029	191		-	0.05	U	-	0.5	U	-	0.074		-	-		-	-		-	524		-	524		-
YVD-10	YVD-030917-27	3/9/2017	N	K1702448	799		-	0.05	U	-	0.5	U	-	0.066		-	-		-	-		-	637		-	637		-
YVD-11	YVD-11-130923	09/23/2013	N	SWI0178	-		-	0.1	U	-	0.25	U	-	-		-	0.753	J	FDP	-		-	254	J	FDP	255	J	FDP
YVD-11	YVD-D2-130923	09/23/2013	FD	SWI0178	-		-	0.1	U	-	0.25	U	-	-		-	0.1	UJ	FDP	-		-	199	J	FDP	200	J	FDP
YVD-11	YVD-11-130926	09/26/2013	N	SWI0190	207		-	-		-	-		-	-		-	-		-	-		-	-		-	-		-
YVD-11	YVD-D3-130926	09/26/2013	FD	SWI0190	228		-	-		-	-		-	-		-	-		-	-		-	-		-	-		-
YVD-11	YVD-11-131212	12/12/2013	N	SWL0073	208		-	0.02	UJ	MSD	0.2	UJ	MSD	-		-	-		-	0.245		-	294		-	295		-
YVD-11	YVD-11-140318	03/18/2014	N	SXC0107	193		-	0.1	U	-	0.503	J-	MSD	0.17		-	-		-	-		-	324		-	325		-
YVD-11	YVD-11-140603	06/03/2014	N	SXF0017	203	J-	MSD	0.1	U	-	0.564		-	0.84		-	-		-	-		-	312		-	313		-
YVD-11	YVD-11-140924	09/24/2014	N	SXI0173	159		-	0.1	U	-	0.453	J+	MSD	0.054	J+	FBK	-		-	-		-	294		-	295		-
YVD-11	YVD-11-141217	12/17/2014	N	SXL0121	158		-	0.1	U	-	0.25	UJ	MSD	0.46		-	-		-	-		-	289		-	290		-
YVD-11	YVD-11-150317	03/17/2015	N	5904651	150		-	0.1	U	-	0.25	UJ	MSD	0.3		-	-		-	-		-	290		-	290		-
YVD-11	YVD-11-150616	06/16/2015	N	59010961	140		-	0.1	U	-	0.31	J-	MSD	0.25	U	-	-		-	-		-	290		-	290		-
YVD-11	YVD-11-150923	09/23/2015	N	59020281	130		-	0.12		-	0.25	R	MSD	0.25	U	-	-		-	-		-	310		-	310		-
YVD-11	YVD-11-151215	12/15/2015	N	59025431	140		-	0.1	R	MSD	0.25	R	MSD	0.59	J	FDP	-		-	-		-	110	J	FDP	110	J	FDP
YVD-11	YVD-D2-151215	12/15/2015	FD	59025431	130		-	0.1	R	MSD	0.25	R	MSD	1.5	J	FDP	-		-	-		-	360	J	FDP	360	J	FDP
YVD-11	YVD-11-160309	03/09/2016	N	59029711	140	J+	MSD	0.14	J	FDP	0.25	R	MSD	0.25	U	-	-		-	-		-	340		-	340		-
YVD-11	YVD-11-160621	6/21/2016	N	59037151	130		-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-		-	340		-	340		-
YVD-11	YVD-11-160927	9/27/2016	N	K1611629	100		-	0.05	U	MBK	0.5	U	-	0.071		-	-		-	-		-	375		-	375		-
YVD-11	YVD-11-161214	12/14/2016	N	K1615126	104		-	0.05	U	-	0.5	U	-	0.421		-	-		-	-		-	352		-	352		-
YVD-11	YVD-031317-37	3/13/2017	N	K1702489	99.8		-	0.05	U	-	0.5	U	-	0.016		-	-		-	-		-	353		-	353		-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Calcium			Magnesium			Potassium			Sodium			Chloride			Fluoride			Nitrate (as N)			Nitrite (as N)		
Analytical Method					EPA 200.7			EPA 200.7			EPA 200.7			EPA 200.7			EPA 300			EPA 300.0			EPA 300.0			EPA 300.0		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
YVD-12	YVD-12-130919	09/19/2013	N	SWI0142	98.6		-	37.5		-	3.14		-	77.3		-	98.2		-	5	U	-	-		-	-		-
YVD-12	YVD-12-130925	09/25/2013	N	SWI0175	-		-	-		-	-		-	-		-	-		-	-		-	15		-	2	U	-
YVD-12	YVD-12-131211	12/11/2013	N	SWL0073	93.5		-	36.2		-	3.63		-	73.2		-	97		-	5	U	-	20.1		-	2	U	-
YVD-12	YVD-12-140318	03/18/2014	N	SXC0095	92.9		-	35.9		-	3.27		-	73.4		-	95.2		-	5	U	-	17		-	2	U	-
YVD-12	YVD-12-140603	06/03/2014	N	SXF0017	92.6		-	34.9		-	2.96		-	70.7		-	8.33		-	0.5	U	-	1.44		-	0.2	U	-
YVD-12	YVD-12-140922	09/22/2014	N	SXI0148	98.4		-	39.1		-	3.13		-	77.9		-	78.5		-	5	U	-	13.3		-	2	U	-
YVD-12	YVD-D2-140922	09/22/2014	FD	SXI0148	99.3		-	39.0		-	3.00		-	77.8		-	82.4		-	2	U	-	15.5		-	0.8	U	-
YVD-12	YVD-12-141216	12/16/2014	N	SXL0121	99.3		-	39.6		-	3.23		-	71.8		-	84.1		-	5	U	-	15.1		-	2	U	-
YVD-12	YVD-12-150317	03/17/2015	N	5904541	93.0		-	37.0		-	3.60		-	73.0		-	75		-	5	U	-	14	J-	MSD	2	U	-
YVD-12	YVD-12-150617	06/17/2015	N	59010961	90.0		-	35.0		-	2.60	J+	MSD	83.0	J+	MSD	84		-	5	U	-	12		-	2	U	-
YVD-12	YVD-12-150924	09/24/2015	N	59020391	92.0		-	39.0		-	3.50		-	73.0		-	78		-	5	U	-	15	J+	MSD	2	U	-
YVD-12	YVD-12-151216	12/16/2015	N	59025501	95.0		-	37.0		-	3.10		-	74.0		-	76		-	5	U	-	14		-	2	U	-
YVD-12	YVD-12-160309	03/09/2016	N	59029941	95.0		-	35.0		-	2.60		-	73.0		-	73		-	5	U	-	13		-	2	U	-
YVD-12	YVD-D3-160309	03/09/2016	FD	59029941	95.0		-	36.0		-	2.50		-	72.0		-	79		-	0.5	U	-	15		-	0.2	U	-
YVD-12	YVD-12-160622	6/22/2016	N	59037271	89.0		-	36.0		-	2.90		-	72.0		-	90		-	5	U	-	14		-	2	U	-
YVD-12	YVD-12-160929	9/29/2016	N	K1611704	88.9		-	37.2		-	2.28		-	67.7		-	83.5		-	0.33		-	13.5		-	0.1	U	-
YVD-12	YVD-12-161213	12/13/2016	N	K1615083	93.4		-	33.6		-	2.29		-	67.9		-	81.7		-	0.33		-	12.2		-	0.1	U	-
YVD-12	YVD-030917-20	3/9/2017	N	K1702404	97.3		-	35.4		-	2.27		-	67.4		-	91.7		-	0.38		-	13.4		-	0.1	U	-
YVD-13	YVD-13-130919	09/19/2013	N	SWI0138	102.0		-	29.9		-	4.30		-	114.0		-	90.3		-	5	U	-	27.6		-	2	U	-
YVD-13	YVD-13-131211	12/11/2013	N	SWL0073	101.0		-	29.4		-	4.16		-	110.0		-	77.8		-	5	U	-	21.7		-	2	U	-
YVD-13	YVD-13-140318	03/18/2014	N	SXC0095	102.0		-	29.3		-	4.27		-	106.0		-	80.3		-	5	U	-	24.2		-	2	U	-
YVD-13	YVD-13-140603	06/03/2014	N	SXF0017	94.8		-	27.7		-	3.70		-	113.0		-	39.7		-	2	U	-	12.4		-	0.8	U	-
YVD-13	YVD-13-140923	09/23/2014	N	SXI0173	104.0		-	29.0		-	4.40		-	118.0		-	81.7		-	5	U	-	26.7		-	2	U	-
YVD-13	YVD-13-141217	12/17/2014	N	SXL0121	114.0		-	33.1		-	4.74		-	119.0		-	86.5		-	5	U	-	27.3		-	2	U	-
YVD-13	YVD-13-150317	03/17/2015	N	5904541	100.0		-	30.0		-	4.00		-	120.0		-	72		-	5	U	-	24	J-	MSD	2	U	-
YVD-13	YVD-13-150617	06/17/2015	N	59010961	110.0		-	30.0		-	4.40	J+	MSD	120.0	J+	MSD	81		-	5	U	-	27		-	2	U	-
YVD-13	YVD-13-150924	09/24/2015	N	59020391	98.0		-	31.0		-	4.10		-	110.0		-	70		-	5	U	-	26	J+	MSD	2	U	-
YVD-13	YVD-13-151216	12/16/2015	N	59025501	100.0		-	30.0		-	4.30		-	120.0		-	69		-	5	U	-	26		-	2	U	-
YVD-13	YVD-13-160309	03/09/2016	N	59029941	100.0		-	29.0		-	4.20		-	120.0		-	85		-	5	U	-	32		-	2	U	-
YVD-13	YVD-13-160622	6/22/2016	N	59037271	100.0		-	30.0		-	4.20		-	120.0		-	76		-	5	U	-	28		-	2	U	-
YVD-13	YVD-13-160928	9/28/2016	N	K1611698	101.0		-	28.1		-	3.91		-	113.0		-	60.0		-	0.30		-	23.5	J	HTQ	0.1	U	-
YVD-13	YVD-13-161214	12/13/2016	N	K1615083	100.0		-	27.5		-	4.02		-	111.0		-	57.3		-	0.33		-	23.1		-	0.1	U	-
YVD-13	YVD-030717-08	3/7/2017	N	K1702324	96.9		-	26.7		-	3.63		-	105.0		-	52.8		-	0.35		-	23.3	J	HTQ	0.05	J	HTQ
YVD-13 (FD)	YVD-030717-10	3/7/2017	FD	K1702324	97.3		-	27.1		-	3.71		-	107.0		-	53.6		-	0.37		-	23.7	J	HTQ	0.04	J	HTQ

Table 7
Cumulative Groundwater Analytical Results

Analyte					Sulfate			Ammonia (as N)			Total Kjeldahl Nitrogen (TKN)			Phosphorus			Phosphorus			Phosphorus			Alkalinity, Bicarbonate (as CaCO3)			Alkalinity, Total (as CaCO3)		
Analytical Method					EPA 300.0			EPA 350.1			EPA 351.2			EPA 365.3			EPA 365.4			SM4500-P-E			SM2320B			SM2320B		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
YVD-12	YVD-12-130919	09/19/2013	N	SWI0142	245		-	0.1	U	-	0.608	R	FBK	-		-	0.356	J+	FBK	-		-	204		-	205		-
YVD-12	YVD-12-130925	09/25/2013	N	SWI0175	-		-	-		-	-		-	-		-	-		-	-		-	-		-	-		-
YVD-12	YVD-12-131211	12/11/2013	N	SWL0073	262		-	0.02	UJ	MSD	0.23	R	MSD, FBK	-		-	-		-	0.218		-	194		-	195		-
YVD-12	YVD-12-140318	03/18/2014	N	SXC0095	236	J-	MSD	0.248		-	0.564		-	0.22		-	-		-	-		-	204		-	205		-
YVD-12	YVD-12-140603	06/03/2014	N	SXF0017	21.3	J-	MSD	0.1	U	-	0.415		-	0.28	J+	FBK	-		-	-		-	199		-	200		-
YVD-12	YVD-12-140922	09/22/2014	N	SXI0148	200		-	0.1	U	-	0.669		-	0.25		-	-		-	-		-	189		-	190		-
YVD-12	YVD-D2-140922	09/22/2014	FD	SXI0148	200		-	0.1	U	-	0.653		-	0.2		-	-		-	-		-	194		-	195		-
YVD-12	YVD-12-141216	12/16/2014	N	SXL0121	228		-	0.1	U	-	0.25	UJ	MSD	0.25		-	-		-	-		-	194		-	195		-
YVD-12	YVD-12-150317	03/17/2015	N	5904541	190	J-	MSD	0.1	U	-	0.56	J-	MSD	0.31		-	-		-	-		-	190		-	190		-
YVD-12	YVD-12-150617	06/17/2015	N	59010961	180		-	0.1	U	-	0.35	J-	MSD	0.25	U	-	-		-	-		-	190		-	190		-
YVD-12	YVD-12-150924	09/24/2015	N	59020391	210	J-	MSD	0.1	UJ	MSD	0.25	UJ	MSD	0.25	U	-	-		-	-		-	190		-	190		-
YVD-12	YVD-12-151216	12/16/2015	N	59025501	180		-	0.1	R	MSD	0.58	J-	MSD	0.25	UJ	MSD	-		-	-		-	210		-	210		-
YVD-12	YVD-12-160309	03/09/2016	N	59029941	170	J	DUP	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	210		-	210		-
YVD-12	YVD-D3-160309	03/09/2016	FD	59029941	180	J	DUP	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	200		-	200		-
YVD-12	YVD-12-160622	6/22/2016	N	59037271	180		-	0.1	UJ	MSD	0.25	R	MSD	0.25	U	-	-		-	-		-	190		-	190		-
YVD-12	YVD-12-160929	9/29/2016	N	K1611704	158		-	0.05	U	MBK	0.5	U	-	0.026		-	-		-	-		-	188		-	188		-
YVD-12	YVD-12-161213	12/13/2016	N	K1615083	150		-	0.05	U	-	0.5	U	-	0.018		-	-		-	-		-	183		-	183		-
YVD-12	YVD-030917-20	3/9/2017	N	K1702404	227		-	0.05	U	-	0.5	UJ	MSD	0.008	J	-	-		-	-		-	132		-	132		-
YVD-13	YVD-13-130919	09/19/2013	N	SWI0138	365		-	0.1	U	-	0.395	R	FBK	-		-	0.175	R	FBK	-		-	134		-	135		-
YVD-13	YVD-13-131211	12/11/2013	N	SWL0073	278		-	0.02	UJ	MSD	0.2	UJ	MSD	-		-	-		-	0.11		-	139		-	140		-
YVD-13	YVD-13-140318	03/18/2014	N	SXC0095	312	J-	MSD	0.288		-	0.613		-	0.17		-	-		-	-		-	134		-	135		-
YVD-13	YVD-13-140603	06/03/2014	N	SXF0017	151	J-	MSD	0.103		-	0.727		-	0.078	J+	FBK	-		-	-		-	129		-	130		-
YVD-13	YVD-13-140923	09/23/2014	N	SXI0173	328		-	0.1	U	-	9.13	J+	MSD	0.05	U	-	-		-	-		-	124		-	125		-
YVD-13	YVD-13-141217	12/17/2014	N	SXL0121	355		-	0.1	U	-	0.25	UJ	MSD	0.1	U	-	-		-	-		-	124		-	125		-
YVD-13	YVD-13-150317	03/17/2015	N	5904541	290	J-	MSD	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	130		-	130		-
YVD-13	YVD-13-150617	06/17/2015	N	59010961	310		-	0.1	U	-	0.68	J-	MSD	0.25	U	-	-		-	-		-	140		-	140		-
YVD-13	YVD-13-150924	09/24/2015	N	59020391	330	J-	MSD	0.1	UJ	MSD	0.25	UJ	MSD	0.25	U	-	-		-	-		-	150		-	150		-
YVD-13	YVD-13-151216	12/16/2015	N	59025501	310		-	0.1	R	MSD	0.25	R	MSD	0.25	UJ	MSD	-		-	-		-	140		-	140		-
YVD-13	YVD-13-160309	03/09/2016	N	59029941	390	J	DUP	0.1	U	-	0.25	UJ	FDP, MSD	0.25	U	-	-		-	-		-	140		-	140		-
YVD-13	YVD-13-160622	6/22/2016	N	59037271	390		-	0.1	UJ	MSD	0.25	R	MSD	0.25	U	-	-		-	-		-	130		-	130		-
YVD-13	YVD-13-160928	9/28/2016	N	K1611698	321		-	0.05	U	MBK	0.5	R	MSD	0.014		-	-		-	-		-	133		-	133		-
YVD-13	YVD-13-161214	12/13/2016	N	K1615083	313		-	0.05	U	-	0.5	U	-	0.047		-	-		-	-		-	132		-	132		-
YVD-13	YVD-030717-08	3/7/2017	N	K1702324	277		-	1	U	-	0.5	U	-	0.01	J	-	-		-	-		-	138		-	138		-
YVD-13 (FD)	YVD-030717-10	3/7/2017	FD	K1702324	280		-	1	U	-	0.5	U	-	0.009	J	-	-		-	-		-	139		-	139		-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Calcium			Magnesium			Potassium			Sodium			Chloride			Fluoride			Nitrate (as N)			Nitrite (as N)		
Analytical Method					EPA 200.7			EPA 200.7			EPA 200.7			EPA 200.7			EPA 300			EPA 300.0			EPA 300.0			EPA 300.0		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
YVD-14	YVD-14-130918	09/18/2013	N	SWI0123	260.0		-	65.4		-	3.45		-	110.0		-	118		-	5	U	-	112		-	2	U	-
YVD-14	YVD-14-131212	12/12/2013	N	SWL0078	249.0		-	65.6		-	3.29		-	108.0		-	104		-	5	U	-	105		-	2	U	-
YVD-14	YVD-14-140319	03/19/2014	N	SXC0107	248.0		-	64.5		-	3.37		-	102.0		-	108		-	5	U	-	101		-	2	U	-
YVD-14	YVD-14-140604	06/04/2014	N	SXF0025	240.0		-	63.2		-	3.46		-	112.0		-	109		-	5	U	-	102		-	2	U	-
YVD-14	YVD-14-140924	09/24/2014	N	SXI0173	268.0		-	72.0		-	4.10		-	124.0		-	110		-	5	U	-	96.7		-	2	U	-
YVD-14	YVD-14-141217	12/17/2014	N	SXL0121	252.0		-	70.9		-	3.83		-	113.0		-	110		-	5	U	-	96.1		-	2	U	-
YVD-14	YVD-14-150318	03/18/2015	N	5904651	260.0		-	70.0		-	3.60	J- MSD		130.0		-	110		-	5	U	-	91		-	2	U	-
YVD-14R	YVD-14R-151216	12/16/2015	N	59025501	250.0		-	69.0		-	4.40		-	120.0		-	110		-	5	U	-	98		-	2	U	-
YVD-14R	YVD-14R-160309	03/09/2016	N	59029941	250.0		-	67.0		-	4.40		-	130.0		-	110		-	5	U	-	100		-	2	U	-
YVD-14R	YVD-14R-160622	6/22/2016	N	59037271	230.0		-	67.0		-	4.30		-	130.0		-	110		-	5	U	-	110		-	2	U	-
YVD-14R	YVD-14R-160928	9/28/2016	N	K1611698	252.0		-	65.9		-	4.05		-	126.0		-	95.7		-	0.16	J	-	92.1	J	HTQ	0.1	U	-
YVD-14R	YVD-14R-161212	12/12/2016	N	K1615029	251.0		-	65.7		-	4.09		-	119.0		-	94.7		-	0.24		-	92.3	J	HTQ	0.1	UJ	HTQ
YVD-14R	YVD-D1-161212	12/12/2016	FD	K1615029	255.0		-	66.5		-	4.17		-	121.0		-	93.3		-	0.19		-	92.3	J	HTQ	0.1	UJ	HTQ
YVD-14R	YVD-030917-19	3/9/2017	N	K1702404	257.0		-	66.1		-	3.80		-	117.0		-	97		-	0.18	J	-	91.1		-	0.1	U	-
YVD-14R (FD)	YVD-030917-21	3/9/2017	FD	K1702404	251.0		-	65.2		-	3.75		-	115.0		-	95		-	0.19	J	-	92.2	J	HTQ	0.1	U	-
YVD-15	YVD-15-130917	09/17/2013	N	SWI0123	125.0		-	51.6		-	2.73		-	127.0		-	62.8		-	5	U	-	72.5		-	2	U	-
YVD-15	YVD-15-131212	12/12/2013	N	SWL0078	131.0		-	59.4		-	4.48		-	114.0		-	120		-	5	U	-	71.2		-	2	U	-
YVD-15	YVD-15-140319	03/19/2014	N	SXC0107	124.0		-	57.9		-	5.23		-	93.5		-	54.9		-	5	U	-	47.4		-	2	U	-
YVD-15	YVD-15-140603	06/03/2014	N	SXF0025	138.0		-	64.7		-	5.20		-	110.0		-	82.5		-	5	U	-	88.1		-	2	U	-
YVD-15	YVD-15-140924	09/24/2014	N	SXI0173	132.0		-	56.9		-	3.11		-	135.0		-	58.7		-	5	U	-	54.8		-	2	U	-
YVD-15	YVD-15-141217	12/17/2014	N	SXL0121	175.0		-	81.6		-	3.67		-	60.3		-	57.6		-	5	U	-	66.9		-	2	U	-
YVD-15	YVD-15-150317	03/17/2015	N	5904651	280.0		-	130.0		-	8.40	J- MSD		160.0		-	65		-	5	U	-	67		-	2	U	-
YVD-15	YVD-15-150617	06/17/2015	N	59011021	140.0		-	66.0	J	RPD	4.60	J	RPD	110.0	J	RPD	42		-	0.5	U	-	39	J-	MSD, HTQ	0.2	U	-
YVD-15	YVD-15-150925	09/25/2015	N	59020431	98.0		-	46.0		-	3.90		-	80.0		-	22		-	5	U	-	14		-	2	U	-
YVD-15	YVD-15-151215	12/15/2015	N	59025431	120.0		-	59.0		-	4.10		-	80.0		-	37		-	5	U	-	38		-	2	U	-
YVD-15	YVD-15-160309	03/09/2016	N	59029711	120.0		-	60.0		-	4.20		-	75.0		-	32		-	5	U	-	36		-	2	U	-
YVD-15	YVD-15-160621	6/21/2016	N	59037271	110.0		-	56.0		-	3.50		-	74.0		-	26		-	5	U	-	31		-	2	U	-
YVD-15	YVD-15-160928	9/28/2016	N	K1611629	112.0		-	50.9		-	3.15		-	66.2		-	22.5		-	0.29		-	26.6		-	0.1	U	-
YVD-15	YVD-15-161215	12/15/2016	N	K1615126	113.0		-	50.4		-	3.40		-	59.1		-	22.1		-	0.32		-	25.5		-	0.1	U	-
YVD-15	YVD-030917-23	3/9/2017	N	K1702404	119.0		-	52.9		-	2.95		-	55.3		-	23		-	0.34		-	25.0	J	HTQ	0.1	U	-
YVD-16	YVD-16-130923	09/23/2013	N	SWI0178	85.0		-	32.9		-	6.16		-	81.7		-	-		-	-		-	-		-	-		-
YVD-16	YVD-16-130926	09/26/2013	N	SWI0190	-		-	-		-	-		-	-		-	44.1		-	5	U	-	28.8		-	2	U	-
YVD-16	YVD-16-131212	12/12/2013	N	SWL0073	87.7		-	32.1		-	5.25		-	79.8		-	46.7		-	5	U	-	28.8		-	2	U	-
YVD-16	YVD-16-140318	03/18/2014	N	SXC0107	105.0		-	53.2		-	15.00		-	75.5		-	46.1		-	5	U	-	23.5		-	2	U	-
YVD-16	YVD-16-140603	06/03/2014	N	SXF0017	86.3		-	37.0		-	8.47		-	78.4		-	36.7		-	2	U	-	21.9		-	0.8	U	-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Sulfate			Ammonia (as N)			Total Kjeldahl Nitrogen (TKN)			Phosphorus			Phosphorus			Phosphorus			Alkalinity, Bicarbonate (as CaCO3)			Alkalinity, Total (as CaCO3)		
Analytical Method					EPA 300.0			EPA 350.1			EPA 351.2			EPA 365.3			EPA 365.4			SM4500-P-E			SM2320B			SM2320B		
			Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
Well ID	Sample Name	Sample Date																										
YVD-14	YVD-14-130918	09/18/2013	N	SWI0123	213		-	0.1	U	-	0.25	U	-	-		-	0.1	U	-	-		-	605		-	605		-
YVD-14	YVD-14-131212	12/12/2013	N	SWL0078	186		-	0.02	U	-	0.7957	U	ERL	-		-	-		-	0.06	U	-	544		-	545		-
YVD-14	YVD-14-140319	03/19/2014	N	SXC0107	190		-	0.1	U	-	0.562	J-	MSD	0.05	U	-	-		-	-		-	634		-	635		-
YVD-14	YVD-14-140604	06/04/2014	N	SXF0025	191		-	0.1	U	-	0.25	UJ	MSD	0.078		-	-		-	-		-	569		-	570		-
YVD-14	YVD-14-140924	09/24/2014	N	SXI0173	178		-	0.107		-	0.25	U	-	0.054	J+	FBK	-		-	-		-	554		-	555		-
YVD-14	YVD-14-141217	12/17/2014	N	SXL0121	185		-	0.1	U	-	0.25	UJ	MSD	0.1	U	-	-		-	-		-	539		-	540		-
YVD-14	YVD-14-150318	03/18/2015	N	5904651	180		-	0.11		-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	530		-	530		-
YVD-14R	YVD-14R-151216	12/16/2015	N	59025501	160		-	0.1	R	MSD	0.25	R	MSD	0.25	UJ	MSD	-		-	-		-	550		-	550		-
YVD-14R	YVD-14R-160309	03/09/2016	N	59029941	180	J	DUP	0.1	U	-	0.25	UJ	FDP, MSD	0.25	U	-	-		-	-		-	600		-	600		-
YVD-14R	YVD-14R-160622	6/22/2016	N	59037271	150		-	0.1	UJ	MSD	0.25	R	MSD	0.25	U	-	-		-	-		-	490		-	490		-
YVD-14R	YVD-14R-160928	9/28/2016	N	K1611698	140		-	0.05	U	MBK	0.5	R	MSD	0.015		-	-		-	-		-	535		-	535		-
YVD-14R	YVD-14R-161212	12/12/2016	N	K1615029	158		-	0.05	U	-	0.5	U	-	0.058		-	-		-	-		-	578		-	578		-
YVD-14R	YVD-D1-161212	12/12/2016	FD	K1615029	155		-	0.05	U	-	0.5	U	-	0.092		-	-		-	-		-	571		-	571		-
YVD-14R	YVD-030917-19	3/9/2017	N	K1702404	147		-	0.05	U	-	0.5	U	-	0.02		-	-		-	-		-	526		-	526		-
YVD-14R (FD)	YVD-030917-21	3/9/2017	FD	K1702404	151		-	0.05	U	-	0.5	U	-	0.019		-	-		-	-		-	514		-	514		-
YVD-15	YVD-15-130917	09/17/2013	N	SWI0123	51.5		-	0.1	U	-	0.25	U	-	-		-	0.1	U	-	-		-	514		-	515		-
YVD-15	YVD-15-131212	12/12/2013	N	SWL0078	114		-	0.02	U	-	0.2	U	-	-		-	-		-	0.238		-	494		-	495		-
YVD-15	YVD-15-140319	03/19/2014	N	SXC0107	44.7		-	0.112		-	0.553	J-	MSD	0.22		-	-		-	-		-	534		-	535		-
YVD-15	YVD-15-140603	06/03/2014	N	SXF0025	39		-	0.1	U	-	0.475	J-	MSD	0.31		-	-		-	-		-	509		-	510		-
YVD-15	YVD-15-140924	09/24/2014	N	SXI0173	50.7		-	0.246		-	1.19	J+	MSD	0.054	J+	FBK	-		-	-		-	541		-	545		-
YVD-15	YVD-15-141217	12/17/2014	N	SXL0121	53.4		-	0.1	U	-	0.414	J-	MSD	0.17		-	-		-	-		-	518		-	520		-
YVD-15	YVD-15-150317	03/17/2015	N	5904651	53		-	0.1	U	-	0.25	UJ	MSD	0.27		-	-		-	-		-	550		-	550		-
YVD-15	YVD-15-150617	06/17/2015	N	59011021	59		-	0.1	U	-	0.25	R	MSD	0.25	U	-	-		-	-		-	550		-	550		-
YVD-15	YVD-15-150925	09/25/2015	N	59020431	47		-	0.1	U	-	2.5	U	-	0.25	U	-	-		-	-		-	480		-	480		-
YVD-15	YVD-15-151215	12/15/2015	N	59025431	40		-	0.1	R	MSD	0.25	R	MSD	0.25	UJ	FDP	-		-	-		-	540	J	FDP	540	J	FDP
YVD-15	YVD-15-160309	03/09/2016	N	59029711	65	J+	MSD	0.1	UJ	FDP	0.25	R	MSD	0.25	U	-	-		-	-		-	520		-	520		-
YVD-15	YVD-15-160621	6/21/2016	N	59037271	86		-	0.13	J-	MSD	0.25	R	MSD	0.25	U	-	-		-	-		-	430		-	430		-
YVD-15	YVD-15-160928	9/28/2016	N	K1611629	108		-	0.05	U	MBK	0.5	U	-	0.023		-	-		-	-		-	401		-	401		-
YVD-15	YVD-15-161215	12/15/2016	N	K1615126	108		-	0.05	U	-	0.5	U	-	0.095		-	-		-	-		-	395		-	395		-
YVD-15	YVD-030917-23	3/9/2017	N	K1702404	125		-	0.05	U	-	0.5	U	-	0.011		-	-		-	-		-	395		-	395		-
YVD-16	YVD-16-130923	09/23/2013	N	SWI0178	-		-	0.1	U	-	0.375		-	-		-	0.1	U	-	-		-	189		-	190		-
YVD-16	YVD-16-130926	09/26/2013	N	SWI0190	140		-	-		-	-		-	-		-	-		-	-		-	-		-	-		-
YVD-16	YVD-16-131212	12/12/2013	N	SWL0073	163		-	0.02	UJ	MSD	0.2	UJ	MSD	-		-	-		-	0.06	U	-	309		-	310		-
YVD-16	YVD-16-140318	03/18/2014	N	SXC0107	130		-	0.1	U	-	1.01	J-	MSD	1.4		-	-		-	-		-	298		-	300		-
YVD-16	YVD-16-140603	06/03/2014	N	SXF0017	131	J-	MSD	0.1	U	-	0.741		-	0.83		-	-		-	-		-	287		-	288		-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Calcium			Magnesium			Potassium			Sodium			Chloride			Fluoride			Nitrate (as N)			Nitrite (as N)		
Analytical Method					EPA 200.7			EPA 200.7			EPA 200.7			EPA 200.7			EPA 300			EPA 300.0			EPA 300.0			EPA 300.0		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
YVD-16	YVD-16-140923	09/23/2014	N	SXI0173	99.2		-	38.9		-	7.48		-	94.1		-	38		-	2.5	U	-	21.4		-	1	U	-
YVD-16	YVD-16-141217	12/17/2014	N	SXL0121	94.9		-	37.1		-	6.77		-	83.7		-	37.9		-	2.5	U	-	20.6		-	1	U	-
YVD-16	YVD-D3-141217	12/17/2014	FD	SXL0121	92.9		-	36.2		-	6.27		-	81.7		-	39.9		-	0.5	U	-	22.4		-	0.2	U	-
YVD-16	YVD-16-150317	03/17/2015	N	5904651	93.0		-	34.0		-	6.10	J-	MSD	87.0		-	39		-	2.5	U	-	22		-	1	U	-
YVD-16	YVD-16-150616	06/16/2015	N	59010961	96.0		-	35.0		-	6.20	J+	MSD	91.0	J+	MSD	43		-	2.5	U	-	23		-	1	U	-
YVD-16	YVD-16-150923	09/23/2015	N	59020281	88.0		-	37.0		-	6.50		-	85.0		-	39		-	2.5	U	-	23		-	1	U	-
YVD-16	YVD-16-151215	12/15/2015	N	59025431	89.0		-	34.0		-	5.70		-	85.0		-	38		-	2.5	U	-	22		-	1	U	-
YVD-16	YVD-16-160309	03/09/2016	N	59029711	90.0		-	36.0		-	7.40		-	86.0		-	39		-	2.5	U	-	23		-	1	U	-
YVD-16	YVD-16-160621	6/21/2016	N	59037151	85.0		-	33.0		-	5.90		-	86.0		-	42		-	2.5	U	-	22		-	1	U	-
YVD-16	YVD-D2-160621	6/21/2016	FD	59037151	86.0		-	34.0		-	6.00		-	88.0		-	40		-	0.5	U	-	22		-	0.2	U	-
YVD-16	YVD-16-160928	9/28/2016	N	K1611629	92.4		-	33.2		-	5.69		-	90.2		-	33.3		-	0.22		-	19.7		-	0.1	U	-
YVD-16	YVD-16-161215	12/15/2016	N	K1615126	88.4		-	31.1		-	5.59		-	82.5		-	33.7		-	0.24		-	19.7		-	0.1	U	-
YVD-16	YVD-030917-22	3/9/2017	N	K1702404	87.1		-	31.2		-	5.16		-	79.8		-	33.9		-	0.25		-	20.1	J	HTQ	0.1	U	-
YVD-17	YVD-17-130919	09/19/2013	N	SWI0142	72.7		-	35.8		-	8.32		-	12.2		-	3.1		-	0.5	U	-	-		-	-		-
YVD-17	YVD-17-130924	09/24/2013	N	SWI0175	-		-	-		-	-		-	-		-	-		-	-		-	0.8		-	0.2	U	-
YVD-17	YVD-17-131210	12/10/2013	N	SWL0055	54.2		-	28.4		-	5.25		-	7.9		-	2.98		-	0.5	U	-	0.68		-	0.2	U	-
YVD-17	YVD-17-140316	03/16/2014	N	SXC0081	36.0		-	17.6		-	1.73		-	6.1		-	3.45		-	0.65		-	1.07		-	0.2	U	-
YVD-17	YVD-17-140601	06/01/2014	N	SXF0008	42.3		-	18.5		-	2.22		-	8.7		-	3.17		-	0.5	U	-	0.67		-	0.2	U	-
YVD-17	YVD-17-140922	09/22/2014	N	SXI0148	47.5		-	21.2		-	2.91		-	9.9		-	2.87		-	0.5	U	-	0.96		-	0.2	U	-
YVD-17	YVD-17-141215	12/15/2014	N	SXL0103	42.1		-	17.8		-	1.84		-	9.2		-	2.99	J+	MSD	0.5	U	-	0.66	J	DUP	0.2	U	-
YVD-17	YVD-17-150316	03/16/2015	N	5904471	33.0		-	17.0		-	1.40		-	6.3		-	3.5		-	0.5		-	1.1		-	0.2	U	-
YVD-17	YVD-D1-150316	03/16/2015	FD	5904471	33.0		-	17.0		-	1.50		-	6.2		-	3.5		-	0.51		-	1.2		-	0.2	U	-
YVD-17	YVD-17-150617	06/17/2015	N	59010961	41.0		-	18.0		-	1.80	J+	MSD	8.7	J+	MSD	3		-	0.5	U	-	0.59		-	0.2	U	-
YVD-17	YVD-17-150924	09/24/2015	N	59020391	40.0		-	18.0		-	2.00		-	9.0		-	3.1		-	0.6		-	0.2	U	-	1.2		-
YVD-17	YVD-17-151216	12/16/2015	N	59025501	38.0		-	17.0		-	1.40		-	8.0		-	2.6		-	0.5	U	-	0.55		-	0.2	U	-
YVD-17	YVD-17-160310	03/10/2016	N	59029941	35.0		-	16.0		-	1.20		-	6.4		-	2.8		-	0.5	U	-	0.32		-	0.2	U	-
YVD-17	YVD-17-160623	6/23/2016	N	59037371	39.0		-	18.0		-	1.60		-	8.3		-	3.4		-	0.5	U	-	0.55		-	0.2	U	-
YVD-17	YVD-17-160926	9/26/2016	N	K1611565	40.8		-	17.3		-	1.59		-	8.3		-	2.91		-	0.32		-	1.16		-	0.1	U	-
YVD-17	YVD-17-161215	12/15/2016	N	K1615174	39.6		-	15.8		-	1.46		-	7.4		-	2.42		-	0.34		-	0.59		-	0.1	U	-
YVD-17	YVD-031017-29	3/10/2017	N	K1702448	36.6		-	15.7		-	0.26		-	5.4		-	2.65		-	0.33		-	0.42		-	0.1	U	-
YVD-18	YVD-18-130919	09/19/2013	N	SWI0142	42.9		-	13.7		-	3.22		-	78.3		-	61.4		-	5	U	-	-		-	-		-
YVD-18	YVD-18-130925	09/25/2013	N	SWI0175	-		-	-		-	-		-	-		-	-		-	-		-	13.6		-	2	U	-
YVD-18	YVD-18-131211	12/11/2013	N	SWL0073	50.4		-	17.1		-	3.02		-	71.3		-	62.9		-	5	U	-	14.2	J	FDP	2	U	-
YVD-18	YVD-D2-131211	12/11/2013	FD	SWL0073	50.2		-	16.7		-	3.06		-	70.9		-	66.5		-	5	U	-	23.5	J	FDP	2	U	-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Sulfate			Ammonia (as N)			Total Kjeldahl Nitrogen (TKN)			Phosphorus			Phosphorus			Phosphorus			Alkalinity, Bicarbonate (as CaCO3)			Alkalinity, Total (as CaCO3)		
Analytical Method					EPA 300.0			EPA 350.1			EPA 351.2			EPA 365.3			EPA 365.4			SM4500-P-E			SM2320B			SM2320B		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
YVD-16	YVD-16-140923	09/23/2014	N	SXI0173	114		-	0.1	U	-	0.747	J+	MSD	0.22		-	-		-	-		-	303		-	305		-
YVD-16	YVD-16-141217	12/17/2014	N	SXL0121	118		-	0.1	U	-	0.25	UJ	MSD	0.25	J	FDP	-		-	-		-	298		-	300		-
YVD-16	YVD-D3-141217	12/17/2014	FD	SXL0121	130		-	0.1	U	-	0.29	J-	MSD	0.1	J	FDP	-		-	-		-	308		-	310		-
YVD-16	YVD-16-150317	03/17/2015	N	5904651	120		-	0.11		-	0.29	J-	MSD	0.25	U	-	-		-	-		-	310		-	310		-
YVD-16	YVD-16-150616	06/16/2015	N	59010961	120		-	0.1		-	0.25	UJ	MSD	0.25	U	-	-		-	-		-	310		-	310		-
YVD-16	YVD-16-150923	09/23/2015	N	59020281	130		-	0.1	U	-	0.25	R	MSD	0.25	U	-	-		-	-		-	330		-	330		-
YVD-16	YVD-16-151215	12/15/2015	N	59025431	120		-	0.1	R	MSD	0.25	R	MSD	0.25	UJ	FDP	-		-	-		-	350	J	FDP	350	J	FDP
YVD-16	YVD-16-160309	03/09/2016	N	59029711	130	J+	MSD	0.15	J	FDP	0.25	R	MSD	0.27		-	-		-	-		-	300		-	300		-
YVD-16	YVD-16-160621	6/21/2016	N	59037151	120		-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-		-	300		-	300		-
YVD-16	YVD-D2-160621	6/21/2016	FD	59037151	120		-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-		-	300		-	300		-
YVD-16	YVD-16-160928	9/28/2016	N	K1611629	110		-	0.05	U	MBK	0.5	U	-	0.016		-	-		-	-		-	301		-	301		-
YVD-16	YVD-16-161215	12/15/2016	N	K1615126	112		-	0.05	U	-	0.5	U	-	0.068		-	-		-	-		-	298		-	298		-
YVD-16	YVD-030917-22	3/9/2017	N	K1702404	113		-	0.05	U	-	0.5	U	-	0.045		-	-		-	-		-	295		-	295		-
YVD-17	YVD-17-130919	09/19/2013	N	SWI0142	6.48		-	0.1	U	-	2.5	U	-	-		-	3.64		-	-		-	213		-	215		-
YVD-17	YVD-17-130924	09/24/2013	N	SWI0175	-		-	-		-	-		-	-		-	-		-	-		-	-		-	-		-
YVD-17	YVD-17-131210	12/10/2013	N	SWL0055	6.64		-	0.02	UJ	MSD	0.29	R	FBK, MSD	-		-	-		-	1.61		-	169		-	170		-
YVD-17	YVD-17-140316	03/16/2014	N	SXC0081	6.42		-	0.166		-	0.25	U	-	0.3		-	-		-	-		-	144		-	145		-
YVD-17	YVD-17-140601	06/01/2014	N	SXF0008	5.74		-	0.1	U	-	0.287		-	0.52		-	-		-	-		-	169		-	170		-
YVD-17	YVD-17-140922	09/22/2014	N	SXI0148	5.08		-	0.1	U	-	0.293		-	0.36		-	-		-	-		-	183		-	185		-
YVD-17	YVD-17-141215	12/15/2014	N	SXL0103	6.01	J+	MSD, DUP	0.1	U	-	0.25	U	-	0.19		-	-		-	-		-	168		-	170		-
YVD-17	YVD-17-150316	03/16/2015	N	5904471	5.7		-	0.1	U	-	0.25	UJ	MSD	0.25	UJ	MSD	-		-	-		-	130		-	130		-
YVD-17	YVD-D1-150316	03/16/2015	FD	5904471	5.7		-	0.1	U	-	0.25	UJ	MSD	0.25	UJ	MSD	-		-	-		-	130		-	130		-
YVD-17	YVD-17-150617	06/17/2015	N	59010961	5.4		-	0.1	U	-	0.25	UJ	MSD	0.25		-	-		-	-		-	160		-	160		-
YVD-17	YVD-17-150924	09/24/2015	N	59020391	5.6	J-	MSD	0.1	UJ	MSD	0.25	UJ	MSD	0.26		-	-		-	-		-	170		-	170		-
YVD-17	YVD-17-151216	12/16/2015	N	59025501	5.4		-	0.1	R	MSD	0.25	R	MSD	0.25	UJ	MSD	-		-	-		-	180		-	180		-
YVD-17	YVD-17-160310	03/10/2016	N	59029941	4.8	J	DUP	0.1	U	-	0.25	UJ	FDP	0.25	U	-	-		-	-		-	150		-	150		-
YVD-17	YVD-17-160623	6/23/2016	N	59037371	5.3		-	0.1	R	MSD	0.25	U	-	0.25	U	-	-		-	-		-	170		-	170		-
YVD-17	YVD-17-160926	9/26/2016	N	K1611565	7.9		-	0.05	U	MBK	0.5	R	MSD	0.095		-	-		-	-		-	182		-	182		-
YVD-17	YVD-17-161215	12/15/2016	N	K1615174	6.0		-	0.05	U	-	0.5	U	-	0.103		-	-		-	-		-	154		-	157	J	-
YVD-17	YVD-031017-29	3/10/2017	N	K1702448	6.3		-	0.05	U	-	0.5	U	-	0.038		-	-		-	-		-	142		-	156	J	-
YVD-18	YVD-18-130919	09/19/2013	N	SWI0142	122		-	0.1	U	-	0.456	R	FBK	-		-	0.1	U	-	-		-	119		-	120		-
YVD-18	YVD-18-130925	09/25/2013	N	SWI0175	-		-	-		-	-		-	-		-	-		-	-		-	-		-	-		-
YVD-18	YVD-18-131211	12/11/2013	N	SWL0073	116		-	0.02	UJ	MSD	1.5	UJ	MSD	-		-	-		-	0.06	U	-	109		-	110		-
YVD-18	YVD-D2-131211	12/11/2013	FD	SWL0073	129		-	0.02	UJ	MSD	0.2	UJ	MSD	-		-	-		-	0.06	U	-	114		-	115		-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Calcium			Magnesium			Potassium			Sodium			Chloride			Fluoride			Nitrate (as N)			Nitrite (as N)		
Analytical Method					EPA 200.7			EPA 200.7			EPA 200.7			EPA 200.7			EPA 300			EPA 300.0			EPA 300.0			EPA 300.0		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
YVD-18	YVD-18-140318	03/18/2014	N	SXC0095	51.7		-	16.5		-	3.30		-	77.5		-	66.7		-	5	U	-	18.8		-	2	U	-
YVD-18	YVD-D2-140318	03/18/2014	FD	SXC0095	52.0		-	16.6		-	3.26		-	78.0		-	62.1		-	5	U	-	17.1		-	2	U	-
YVD-18	YVD-18-140603	06/03/2014	N	SXF0017	46.8		-	15.4		-	3.24		-	77.7		-	64		-	2	U	-	16.9		-	0.8	U	-
YVD-18	YVD-18-140923	09/23/2014	N	SXI0173	48.5		-	15.6		-	3.80		-	81.6		-	54.7		-	2.5	U	-	13.8		-	1	U	-
YVD-18	YVD-18-141216	12/16/2014	N	SXL0121	52.7		-	17.7		-	3.63		-	81.8		-	59.6		-	2.5	U	-	16.5		-	1	U	-
YVD-18	YVD-18-150317	03/17/2015	N	5904541	56.0		-	19.0		-	3.50		-	87.0		-	64		-	2.5	U	-	20	J-	MSD	1	U	-
YVD-18	YVD-18-150617	06/17/2015	N	59010961	55.0		-	18.0		-	4.10	J+	MSD	86.0	J+	MSD	65		-	2.5	U	-	17		-	1	U	-
YVD-18	YVD-18-150924	09/24/2015	N	59020391	52.0		-	19.0		-	3.50		-	77.0		-	63		-	2.5	U	-	20	J+	MSD	1	U	-
YVD-18	YVD-18-151216	12/16/2015	N	59025501	60.0		-	20.0		-	4.00		-	91.0		-	66		-	2.5	U	-	23		-	1	U	-
YVD-18	YVD-18-160309	03/09/2016	N	59029941	62.0		-	21.0		-	3.80		-	89.0		-	63		-	2.5	U	-	22		-	1	U	-
YVD-18	YVD-18-160622	6/22/2016	N	59037271	55.0		-	19.0		-	3.70		-	86.0		-	61		-	2.5	U	-	21		-	1	U	-
YVD-18	YVD-18-160928	9/28/2016	N	K1611629	58.2		-	19.7		-	3.75		-	83.8		-	56.8		-	0.36		-	20.5		-	0.1	U	-
YVD-18	YVD-18-161214	12/14/2016	N	K1615083	62.5		-	19.6		-	3.69		-	82.5		-	56.3		-	0.38		-	21.5		-	0.1	U	-
YVD-18	YVD-D3-161214	12/14/2016	FD	K1615083	60.6		-	20.1		-	3.82		-	84.0		-	56.4		-	0.37		-	21.5		-	0.1	U	-
YVD-18	YVD-030617-05	3/6/2017	N	K1702324	65.4		-	20.5		-	3.39		-	78.8		-	55.9		-	0.40		-	23.7	J	HTQ	0.04	J	HTQ
Equipment Blank	YVD-EB-130918	09/18/2013	EB	SWI0123	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Equipment Blank	YVD-EB-130925	09/25/2013	EB	SWI0175	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Equipment Blank	YVD-EB-131212	12/12/2013	EB	SWL0078	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Equipment Blank	YVD-EB-140317	03/17/2014	EB	SXC0081	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Equipment Blank	YVD-EB-140318	03/18/2014	EB	SXC0095	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Equipment Blank	YVD-EB-140319	03/19/2014	EB	SXC0107	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Equipment Blank	YVD-EB-140604	06/04/2014	EB	SXF0025	1	U	-	0.5	U	-	1	U	-	0.5	U	-	1.46		-	0.5	U	-	0.2	U	-	0.2	U	-
Equipment Blank	YVD-EB-140924	09/24/2014	EB	SXI0173	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Equipment Blank	YVD-EB-141217	12/17/2014	EB	SXL0144	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.9		-	0.5	U	-	0.2	U	-	0.2	U	-
Equipment Blank	YVD-EB-150617	06/17/2015	EB	59011021	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Equipment Blank	YVD-EB-150925	09/25/2015	EB	59020431	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Equipment Blank	YVD-EB-151216	12/16/2015	EB	59025501	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Equipment Blank	YVD-EB-160310	03/10/2016	EB	59029941	1	U	-	0.5	U	-	1	U	-	1.1		-	1.1		-	0.67		-	0.2	U	-	0.2	U	-
Equipment Blank	YVD-EB-160623	6/23/2016	EB	59037371	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Equipment Blank	YVD-EB-160926	9/26/2016	EB	K1611506	0.097		-	0.0346		-	0.1	J	-	0.13	J	-	0.2	U	-	0.2	U	-	0.1	U	-	0.1	U	-
Equipment Blank	YVD-EB-160927	9/27/2016	EB	K1611629	0.011	J	-	0.0004	J	-	0.2	U	-	0.04	J	-	0.1	U	-	0.1	U	-	0.05	UJ	HTQ	0.05	UJ	HTQ
Equipment Blank	YVD-EB-160928	9/28/2016	EB	K1611629	0.05	J	-	0.05	U	-	0.2	U	-	0.04	J	-	0.03	J	-	0.1	U	-	0.05	U	-	0.05	U	-
Equipment Blank	YVD-EB1-161214	12/14/2016	EB	K1615083	0.021	U	MBK	0.0053	U	MBK	0.21	U	-	0.21	U	-	0.2	U	-	0.2	U	-	0.1	U	-	0.1	U	-
Equipment Blank	YVD-EB2-161215	12/15/2016	EB	K1615126	0.021	U	MBK	0.0053	U	MBK	0.21	U	-	0.21	U	MBK	0.2	U	-	0.2	U	-	0.1	U	-	0.1	U	-
Equipment Blank	YVD-EB3-161216	12/16/2016	EB	K1615174	0.035	U	MBK	0.0053	U	MBK	0.21	U	-	0.21	U	MBK	0.2	U	-	0.2	U	-	0.1	U	-	0.1	U	-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Sulfate			Ammonia (as N)			Total Kjeldahl Nitrogen (TKN)			Phosphorus			Phosphorus			Phosphorus			Alkalinity, Bicarbonate (as CaCO3)			Alkalinity, Total (as CaCO3)			
Analytical Method					EPA 300.0			EPA 350.1			EPA 351.2			EPA 365.3			EPA 365.4			SM4500-P-E			SM2320B			SM2320B			
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	
YVD-18	YVD-18-140318	03/18/2014	N	SXC0095	147	J-	MSD	0.134	J	FDP	0.358		-	0.068		-	-		-	-	-		-	119		-	120		-
YVD-18	YVD-D2-140318	03/18/2014	FD	SXC0095	140	J-	MSD	0.28	J	FDP	0.342		-	0.082		-	-		-	-	-		-	124		-	125		-
YVD-18	YVD-18-140603	06/03/2014	N	SXF0017	135	J-	MSD	0.1	U	-	0.796		-	0.071	J+	FBK	-		-	-	-		-	117		-	118		-
YVD-18	YVD-18-140923	09/23/2014	N	SXI0173	111		-	0.1	U	-	0.335	J+	MSD	0.086		-	-		-	-	-		-	114		-	115		-
YVD-18	YVD-18-141216	12/16/2014	N	SXL0121	131		-	0.1	U	-	0.25	UJ	MSD	0.1	U	-	-		-	-	-		-	114		-	115		-
YVD-18	YVD-18-150317	03/17/2015	N	5904541	140	J-	MSD	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-	-		-	110		-	110		-
YVD-18	YVD-18-150617	06/17/2015	N	59010961	120		-	0.1	U	-	0.25	UJ	MSD	0.25	U	-	-		-	-	-		-	110		-	110		-
YVD-18	YVD-18-150924	09/24/2015	N	59020391	140	J-	MSD	0.1	UJ	MSD	0.25	UJ	MSD	0.25	U	-	-		-	-	-		-	120		-	120		-
YVD-18	YVD-18-151216	12/16/2015	N	59025501	150		-	0.1	R	MSD	0.25	R	MSD	0.25	UJ	MSD	-		-	-	-		-	120		-	120		-
YVD-18	YVD-18-160309	03/09/2016	N	59029941	150	J	DUP	0.1	U	-	0.25	UJ	FDP, MSD	0.25	U	-	-		-	-	-		-	120		-	120		-
YVD-18	YVD-18-160622	6/22/2016	N	59037271	140		-	0.1	UJ	MSD	0.25	R	MSD	0.25	U	-	-		-	-	-		-	130		-	130		-
YVD-18	YVD-18-160928	9/28/2016	N	K1611629	135		-	0.05	U	MBK	0.5	U	-	0.013		-	-		-	-	-		-	114		-	114		-
YVD-18	YVD-18-161214	12/14/2016	N	K1615083	139		-	0.05	U	-	0.5	U	-	0.043		-	-		-	-	-		-	111		-	111		-
YVD-18	YVD-D3-161214	12/14/2016	FD	K1615083	142		-	0.115		-	0.5	U	-	0.019		-	-		-	-	-		-	111		-	111		-
YVD-18	YVD-030617-05	3/6/2017	N	K1702324	140		-	1	U	-	0.5	U	-	0.024		-	-		-	-	-		-	110		-	110		-
Equipment Blank	YVD-EB-130918	09/18/2013	EB	SWI0123	0.5	U	-	0.1	U	-	0.25	U	-	-		-	0.1	U	-	-		-	4	U	-	4	U	-	
Equipment Blank	YVD-EB-130925	09/25/2013	EB	SWI0175	0.5	U	-	0.1	U	-	0.25	U	-	-		-	0.1	U	-	-		-	4	U	-	4	U	-	
Equipment Blank	YVD-EB-131212	12/12/2013	EB	SWL0078	0.5	U	-	0.02	U	-	0.2	U	-	-		-	-		0.06	U	-	4	U	-	4	U	-		
Equipment Blank	YVD-EB-140317	03/17/2014	EB	SXC0081	0.5	U	-	0.124		-	0.25	U	-	0.05	U	-	-		-	-	-		-	4	U	-	4	U	-
Equipment Blank	YVD-EB-140318	03/18/2014	EB	SXC0095	0.5	U	-	0.13		-	0.25	U	-	0.05		-	-		-	-	-		-	4	U	-	4	U	-
Equipment Blank	YVD-EB-140319	03/19/2014	EB	SXC0107	0.5	U	-	0.1	U	-	0.25	U	-	0.05	U	-	-		-	-	-		-	4	U	-	4	U	-
Equipment Blank	YVD-EB-140604	06/04/2014	EB	SXF0025	1.24		-	0.1	U	-	0.25	U	-	0.05	U	-	-		-	-	-		-	4	U	-	4	U	-
Equipment Blank	YVD-EB-140924	09/24/2014	EB	SXI0173	0.5	U	-	0.1	U	-	1.2		-	0.062		-	-		-	-	-		-	4	U	-	4	U	-
Equipment Blank	YVD-EB-141217	12/17/2014	EB	SXL0144	0.5	U	-	0.1	U	-	0.25	U	-	0.1	U	-	-		-	-	-		-	4	U	-	4	U	-
Equipment Blank	YVD-EB-150617	06/17/2015	EB	59011021	0.5	U	-	0.1	U	-	0.37		-	0.25	U	-	-		-	-	-		-	5		-	5		-
Equipment Blank	YVD-EB-150925	09/25/2015	EB	59020431	0.5	U	-	0.1		-	0.38		-	0.25	U	-	-		-	-	-		-	4	U	-	4	U	-
Equipment Blank	YVD-EB-151216	12/16/2015	EB	59025501	0.5	U	-	0.12	J-	MSD	0.25	U	-	0.25	U	-	-		-	-	-		-	5		-	5		-
Equipment Blank	YVD-EB-160310	03/10/2016	EB	59029941	0.5	U	-	0.1	U	-	1.9		-	0.25	U	-	-		-	-	-		-	15		-	15		-
Equipment Blank	YVD-EB-160623	6/23/2016	EB	59037371	0.5	U	-	0.1	U	-	0.43		-	0.25	U	-	-		-	-	-		-	5		-	5		-
Equipment Blank	YVD-EB-160926	9/26/2016	EB	K1611506	0.2	U	-	0.05	U	MBK	0.5	R	MSD	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Equipment Blank	YVD-EB-160927	9/27/2016	EB	K1611629	0.08	J	-	0.05	U	MBK	0.5	U	-	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Equipment Blank	YVD-EB-160928	9/28/2016	EB	K1611629	0.51		-	0.05	U	MBK	0.5	U	-	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Equipment Blank	YVD-EB1-161214	12/14/2016	EB	K1615083	0.2	U	-	0.05	U	-	0.5	U	-	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Equipment Blank	YVD-EB2-161215	12/15/2016	EB	K1615126	0.2	U	-	0.05	U	-	0.5	U	-	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Equipment Blank	YVD-EB3-161216	12/16/2016	EB	K1615174	0.4		-	0.05	U	-	0.5	U	-	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Calcium			Magnesium			Potassium			Sodium			Chloride			Fluoride			Nitrate (as N)			Nitrite (as N)		
Analytical Method					EPA 200.7			EPA 200.7			EPA 200.7			EPA 200.7			EPA 300			EPA 300.0			EPA 300.0			EPA 300.0		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
Field Blank	YVD-F1-130916	09/16/2013	FB	SWI0113	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F2-130917	09/17/2013	FB	SWI0113	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F3-130918	09/18/2013	FB	SWI0123	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F4-130918	09/18/2013	FB	SWI0138	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F5-130919	09/19/2013	FB	SWI0142	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	-	-	-	-	-	-
Field Blank	YVD-F6-130923	09/23/2013	FB	SWI0178	1	U	-	0.5	U	-	1	U	-	0.5	U	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Blank	YVD-F7-130924	09/24/2013	FB	SWI0175	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F7-130926	09/26/2013	FB	SWI0190	-	-	-	-	-	-	-	-	-	-	-	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F1-131209	12/09/2013	FB	SWL0055	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F2-131210	12/10/2013	FB	SWL0063	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F3-131211	12/11/2013	FB	SWL0073	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F4-131212	12/12/2013	FB	SWL0078	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F1-140316	03/16/2014	FB	SXC0081	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F2-140317	03/17/2014	FB	SXC0095	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F3-140318	03/18/2014	FB	SXC0107	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F4-140319	03/19/2014	FB	SXC0107	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F1-140601	06/01/2014	FB	SXF0008	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F2-140602	06/02/2014	FB	SXF0017	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F3-140603	06/03/2014	FB	SXF0025	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F1-140921	09/21/2014	FB	SXI0148	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F2-140922	09/22/2014	FB	SXI0148	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F3-140923	09/23/2014	FB	SXI0158	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F4-140924	09/24/2014	FB	SXI0173	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F1-141215	12/15/2014	FB	SXL0103	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	UJ	DUP	0.2	U	-
Field Blank	YVD-F2-141215	12/15/2014	FB	SXL0108	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F3-141216	12/16/2014	FB	SXL0121	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F4-141217	12/17/2014	FB	SXL0144	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	R	HTQ	0.2	R	HTQ
Field Blank	YVD-F1-150315	03/15/2015	FB	5904471	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F2-150316	03/16/2015	FB	5904541	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F3-150317	03/17/2015	FB	5904651	1.2	-	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F1-150615	06/15/2015	FB	59010751	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F2-150616	06/16/2015	FB	59010961	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F3-150617	06/17/2015	FB	59011021	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F1-150922	09/22/2015	FB	59020141	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F2-150923	09/23/2015	FB	59020281	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F3-150923	09/23/2015	FB	59020391	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F4-150924	09/24/2015	FB	59020391	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Sulfate			Ammonia (as N)			Total Kjeldahl Nitrogen (TKN)			Phosphorus			Phosphorus			Phosphorus			Alkalinity, Bicarbonate (as CaCO3)			Alkalinity, Total (as CaCO3)		
Analytical Method					EPA 300.0			EPA 350.1			EPA 351.2			EPA 365.3			EPA 365.4			SM4500-P-E			SM2320B			SM2320B		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
Field Blank	YVD-F1-130916	09/16/2013	FB	SWI0113	0.53		-	0.1	U	-	0.25	U	-	-		-	0.1	U	-	-		-	4	U	-	4	U	-
Field Blank	YVD-F2-130917	09/17/2013	FB	SWI0113	0.51		-	0.1	U	-	0.25	U	-	-		-	0.1	U	-	-		-	4	U	-	4	U	-
Field Blank	YVD-F3-130918	09/18/2013	FB	SWI0123	0.5	U	-	0.1	U	-	0.25	U	-	-		-	0.1	U	-	-		-	4	U	-	4	U	-
Field Blank	YVD-F4-130918	09/18/2013	FB	SWI0138	0.5	U	-	0.12		-	0.25	U	-	-		-	0.1	U	-	-		-	4	U	-	4	U	-
Field Blank	YVD-F5-130919	09/19/2013	FB	SWI0142	0.5	U	-	0.1	U	-	0.373		-	-		-	0.243		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F6-130923	09/23/2013	FB	SWI0178	-		-	0.1	U	-	0.25	U	-	-		-	0.1	U	-	-		-	4	U	-	4	U	-
Field Blank	YVD-F7-130924	09/24/2013	FB	SWI0175	0.5	U	-	0.1	U	-	0.25	U	-	-		-	0.1	U	-	-		-	4	U	-	4	U	-
Field Blank	YVD-F7-130926	09/26/2013	FB	SWI0190	0.5	U	-	-		-	-		-	-		-	-		-	-		-	-		-	-		-
Field Blank	YVD-F1-131209	12/09/2013	FB	SWL0055	0.5	U	-	0.02	U	-	0.33		-	-		-	-		-	0.06	U	-	4	U	-	4	U	-
Field Blank	YVD-F2-131210	12/10/2013	FB	SWL0063	0.5	U	-	0.02	U	-	3.7		-	-		-	-		-	0.06	U	-	4	U	-	4	U	-
Field Blank	YVD-F3-131211	12/11/2013	FB	SWL0073	0.5	U	-	0.02	U	-	0.43		-	-		-	-		-	0.06	U	-	4	U	-	4	U	-
Field Blank	YVD-F4-131212	12/12/2013	FB	SWL0078	0.5	U	-	0.02	U	-	0.2	U	-	-		-	-		-	0.06	U	-	4	U	-	4	U	-
Field Blank	YVD-F1-140316	03/16/2014	FB	SXC0081	0.5	U	-	0.1	U	-	0.25	U	-	0.05	U	-	-		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F2-140317	03/17/2014	FB	SXC0095	0.5	U	-	0.1	U	-	0.25	U	-	0.05	U	-	-		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F3-140318	03/18/2014	FB	SXC0107	0.5	U	-	0.1	U	-	0.25	U	-	0.05	U	-	-		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F4-140319	03/19/2014	FB	SXC0107	0.5	U	-	0.1	U	-	0.25	U	-	0.05	U	-	-		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F1-140601	06/01/2014	FB	SXF0008	0.5	U	-	0.1	U	-	0.25	U	-	0.05	U	-	-		-	-		-	4.25		-	4.25		-
Field Blank	YVD-F2-140602	06/02/2014	FB	SXF0017	0.5	U	-	0.1	U	-	0.25	U	-	0.061		-	-		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F3-140603	06/03/2014	FB	SXF0025	0.5	U	-	0.1	U	-	0.25	U	-	0.05	U	-	-		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F1-140921	09/21/2014	FB	SXI0148	0.5	U	-	0.1	U	-	0.25	U	-	0.05	U	-	-		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F2-140922	09/22/2014	FB	SXI0148	0.5	U	-	0.1	U	-	0.25	U	-	0.05	U	-	-		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F3-140923	09/23/2014	FB	SXI0158	0.5	U	-	0.128		-	0.25	U	-	0.05	U	-	-		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F4-140924	09/24/2014	FB	SXI0173	0.5	U	-	0.1	U	-	0.25	U	-	0.054		-	-		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F1-141215	12/15/2014	FB	SXL0103	0.5	UJ	DUP	0.1	U	-	0.25	U	-	0.1	U	-	-		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F2-141215	12/15/2014	FB	SXL0108	0.5	U	-	0.1	U	-	0.25	U	-	0.1	U	-	-		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F3-141216	12/16/2014	FB	SXL0121	0.5	U	-	0.1	U	-	0.25	U	-	0.1	U	-	-		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F4-141217	12/17/2014	FB	SXL0144	0.5	U	-	0.101		-	0.25	U	-	0.1	U	-	-		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F1-150315	03/15/2015	FB	5904471	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-		-	15		-	15		-
Field Blank	YVD-F2-150316	03/16/2015	FB	5904541	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-		-	7.5		-	7.5		-
Field Blank	YVD-F3-150317	03/17/2015	FB	5904651	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-		-	4.5		-	4.5		-
Field Blank	YVD-F1-150615	06/15/2015	FB	59010751	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-		-	10		-	10		-
Field Blank	YVD-F2-150616	06/16/2015	FB	59010961	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-		-	5		-	5		-
Field Blank	YVD-F3-150617	06/17/2015	FB	59011021	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-		-	5		-	5		-
Field Blank	YVD-F1-150922	09/22/2015	FB	59020141	0.5	U	-	0.1	U	-	0.26		-	0.25	U	-	-		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F2-150923	09/23/2015	FB	59020281	0.5	U	-	0.1	U	-	0.25	U	-	0.26		-	-		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F3-150923	09/23/2015	FB	59020391	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-		-	4	U	-	4	U	-
Field Blank	YVD-F4-150924	09/24/2015	FB	59020391	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-		-	4	U	-	4	U	-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Calcium			Magnesium			Potassium			Sodium			Chloride			Fluoride			Nitrate (as N)			Nitrite (as N)		
Analytical Method					EPA 200.7			EPA 200.7			EPA 200.7			EPA 200.7			EPA 300			EPA 300.0			EPA 300.0			EPA 300.0		
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code
Field Blank	YVD-F5-150925	09/25/2015	FB	59020431	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F1-151213	12/13/2015	FB	59025351	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F2-151214	12/14/2015	FB	59025431	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F3-151215	12/15/2015	FB	59025501	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F4-151216	12/16/2015	FB	59025501	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F1-160307	03/07/2016	FB	59029521	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F2-160308	03/08/2016	FB	59029711	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F3-160309	03/09/2016	FB	59029941	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F4-160310	03/10/2016	FB	59029941	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F1-160620	6/20/2016	FB	59037101	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F2-160621	6/21/2016	FB	59037151	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F3-160622	6/22/2016	FB	59037271	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-F4-160623	6/23/2016	FB	59037371	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Field Blank	YVD-FB-160926	9/26/2016	FB	K1611506	0.02	U	MBK	0.0025	J	-	0.08	J	-	0.03	J	-	0.2	U	-	0.2	U	-	0.1	U	-	0.1	U	-
Field Blank	YVD-FB-160927	9/27/2016	FB	K1611565	0.02	U	MBK	0.05	U	-	0.2	U	-	0.2	U	-	0.2	U	-	0.2	U	-	0.1	U	-	0.1	U	-
Field Blank	YVD-FB-160928	9/28/2016	FB	K1611629	0.05	J	-	0.05	U	-	0.2	U	-	0.05	J	-	0.1	U	-	0.1	U	-	0.05	U	-	0.05	U	-
Field Blank	YVD-FB-160929	9/29/2016	FB	K1611698	0.07	J	-	0.05	U	-	0.2	U	-	0.05	J	-	0.2	U	-	0.2	U	-	0.1	U	-	0.1	U	-
Field Blank	YVD-FB1-161212	12/12/2016	FB	K1615029	0.021	U	MBK	0.0053	U	MBK	0.21	U	-	0.21	U	MBK	0.2	U	-	0.2	U	-	0.1	U	HTQ	0.1	UJ	HTQ
Field Blank	YVD-FB2-161213	12/13/2016	FB	K1615045	0.021	U	MBK	0.0053	U	MBK	0.21	U	-	0.21	U	MBK	0.2	U	-	0.2	U	-	0.1	U	-	0.1	U	-
Field Blank	YVD-FB3-161214	12/14/2016	FB	K1615083	0.021	U	MBK	0.0053	U		0.21	U	-	0.21	U	MBK	0.2	U	-	0.2	U	-	0.1	U	-	0.1	U	-
Field Blank	YVD-FB4-161215	12/15/2016	FB	K1615126	0.021	U	MBK	0.0053	U	MBK	0.21	U	-	0.21	U	MBK	0.2	U	-	0.2	U	-	0.1	U	-	0.1	U	-
Field Blank	YVD-FB5-161216	12/16/2016	FB	K1615174	0.021	U	MBK	0.0053	U	MBK	0.21	U	-	0.21	U	MBK	0.2	U	-	0.2	U	-	0.1	U	-	0.1	U	-
Field Blank	YVD-030617-01	3/6/2017	FB	K1702228	0.021	U	MBK	0.0053	U	MBK	0.08	J	-	0.04	J	-	0.2	U	-	0.2	U	-	0.1	U	-	0.1	U	-
Field Blank	YVD-030717-06	3/7/2017	FB	K1702324	0.021	U	MBK	0.0053	U	MBK	0.21	U	-	0.21	U	-	0.2	U	-	0.2	U	-	0.1	UJ	HTQ	0.1	UJ	HTQ
Field Blank	YVD-030817-11	3/8/2017	FB	K1702324	0.021	U	MBK	0.0053	U	MBK	0.21	U	-	0.21	U	-	0.2	U	-	0.2	U	-	0.1	U	-	0.1	U	-
Field Blank	YVD-030917-17	3/9/2017	FB	K1702404	0.021	U	MBK	0.0053	U	MBK	0.21	U	-	0.21	U	-	0.2	U	-	0.2	U	-	0.1	U	-	0.1	U	-
Field Blank	YVD-031017-26	3/10/2017	FB	K1702448	0.021	U	MBK	0.0053	U	MBK	0.21	U	-	0.21	U	-	0.2	U	-	0.2	U	-	0.1	U	-	0.1	U	-
Field Blank	YVD-031317-30	3/13/2017	FB	K1702489	0.021	U	MBK	0.0053	U	MBK	0.21	U	-	0.21	U	-	0.2	U	-	0.2	U	-	0.1	U	-	0.1	U	-
Blank Check	WW-1	4/25/2016	BC	59032861	1.7	U	-	0.83	U	-	190		-	400		-	160	U	-	100	U	-	40	U	-	40	U	-
Blank Check	DW-1	4/25/2016	BC	59032861	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-
Blank Check	DI-1	4/25/2016	BC	59032861	1	U	-	0.5	U	-	1	U	-	0.5	U	-	0.8	U	-	0.5	U	-	0.2	U	-	0.2	U	-

Table 7
Cumulative Groundwater Analytical Results

Analyte					Sulfate			Ammonia (as N)			Total Kjeldahl Nitrogen (TKN)			Phosphorus			Phosphorus			Phosphorus			Alkalinity, Bicarbonate (as CaCO3)			Alkalinity, Total (as CaCO3)			
Analytical Method					EPA 300.0			EPA 350.1			EPA 351.2			EPA 365.3			EPA 365.4			SM4500-P-E			SM2320B			SM2320B			
Well ID	Sample Name	Sample Date	Sample Type	Sample Group	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	Result	Qualifier	Validation Code	
Field Blank	YVD-F5-150925	09/25/2015	FB	59020431	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-	-		-	4	U	-	4	U	-
Field Blank	YVD-F1-151213	12/13/2015	FB	59025351	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-	-		-	5		-	5		-
Field Blank	YVD-F2-151214	12/14/2015	FB	59025431	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-	-		-	5		-	5		-
Field Blank	YVD-F3-151215	12/15/2015	FB	59025501	0.5	U	-	0.1	R	MSD	0.25	U	-	0.25	U	-	-		-	-	-		-	5		-	5		-
Field Blank	YVD-F4-151216	12/16/2015	FB	59025501	0.5	U	-	0.1	R	MSD	0.25	U	-	0.25	U	-	-		-	-	-		-	5		-	5		-
Field Blank	YVD-F1-160307	03/07/2016	FB	59029521	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-	-		-	4	U	-	4	U	-
Field Blank	YVD-F2-160308	03/08/2016	FB	59029711	0.5	U	-	0.19		-	0.25	U	-	0.25	U	-	-		-	-	-		-	4	U	-	4	U	-
Field Blank	YVD-F3-160309	03/09/2016	FB	59029941	0.5	U	-	0.1	U	-	0.3		-	0.25	U	-	-		-	-	-		-	4	U	-	4	U	-
Field Blank	YVD-F4-160310	03/10/2016	FB	59029941	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-	-		-	13		-	13		-
Field Blank	YVD-F1-160620	6/20/2016	FB	59037101	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-	-		-	5		-	5		-
Field Blank	YVD-F2-160621	6/21/2016	FB	59037151	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-	-		-	4	U	-	4	U	-
Field Blank	YVD-F3-160622	6/22/2016	FB	59037271	0.5	U	-	0.22		-	0.36		-	0.25	U	-	-		-	-	-		-	5		-	5		-
Field Blank	YVD-F4-160623	6/23/2016	FB	59037371	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-	-		-	10		-	10		-
Field Blank	YVD-FB-160926	9/26/2016	FB	K1611506	0.2	U	-	0.05	U	MBK	0.5	R	MSD	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Field Blank	YVD-FB-160927	9/27/2016	FB	K1611565	0.2	U	-	0.05	U	MBK	0.5	R	MSD	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Field Blank	YVD-FB-160928	9/28/2016	FB	K1611629	3.61		-	0.05	U	MBK	0.5	U	-	0.01	U	-	-		-	-	-		-	15	U	-	15	U	-
Field Blank	YVD-FB-160929	9/29/2016	FB	K1611698	0.2	U	-	0.05	U	MBK	0.5	R	MSD	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Field Blank	YVD-FB1-161212	12/12/2016	FB	K1615029	0.2	U	MBK	0.05	U	-	0.5	U	-	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Field Blank	YVD-FB2-161213	12/13/2016	FB	K1615045	0.2	U	-	0.05	U	-	0.5	U	-	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Field Blank	YVD-FB3-161214	12/14/2016	FB	K1615083	0.35		-	0.05	U	-	0.5	U	-	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Field Blank	YVD-FB4-161215	12/15/2016	FB	K1615126	0.2	U	-	0.05	U	-	0.5	U	-	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Field Blank	YVD-FB5-161216	12/16/2016	FB	K1615174	0.2	U	-	0.05	U	-	0.5	U	-	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Field Blank	YVD-030617-01	3/6/2017	FB	K1702228	0.2	U	-	0.05	U	-	0.2	J	-	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Field Blank	YVD-030717-06	3/7/2017	FB	K1702324	0.2	U	-	1	U	-	0.5	U	-	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Field Blank	YVD-030817-11	3/8/2017	FB	K1702324	0.03	J	-	1	U	-	0.5	U	-	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Field Blank	YVD-030917-17	3/9/2017	FB	K1702404	0.2	U	-	0.05	U	-	0.5	U	-	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Field Blank	YVD-031017-26	3/10/2017	FB	K1702448	0.26		-	0.05	U	-	0.5	U	-	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Field Blank	YVD-031317-30	3/13/2017	FB	K1702489	0.2	U	-	0.05	U	-	0.5	U	-	0.01	U	-	-		-	-	-		-	2	U	-	2	U	-
Blank Check	WW-1	4/25/2016	BC	59032861	100	U	-	0.33		-	1.4		-	0.25	U	-	-		-	-	-		-	110			110		
Blank Check	DW-1	4/25/2016	BC	59032861	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-	-		-	4	U		4	U	
Blank Check	DI-1	4/25/2016	BC	59032861	0.5	U	-	0.1	U	-	0.25	U	-	0.25	U	-	-		-	-	-		-	4	U		4	U	

Table 7
Cumulative Groundwater Analytical Results

Notes:

Results reported in milligrams per liter (mg/L).

Bold: detected result

(as N): reported as nitrogen

(as CaCO3): reported as calcium carbonate

BC: blank check

DUP: Laboratory duplicate relative percent difference was outside acceptance limits.

EPA: U.S. Environmental Protection Agency

ERL: elevated reporting limit

FB: field blank

FBK: field blank contamination

FD: field duplicate

FDP: Field duplicate relative percent difference exceeded acceptance limits.

HTQ: holding time violation

J: The compound was positively identified; however, the associated numerical value is an estimated concentration.

J-: The result is an estimated quantity, but the result may be biased low.

J+: The result is an estimated quantity, but the result may be biased high.

MBK: method blank contamination

MSD: Matrix spike/matrix spike duplicate percent recoveries were outside acceptance limits.

N: normal sample

R: The sample results are rejected as unusable. The compound may or may not be present in the sample.

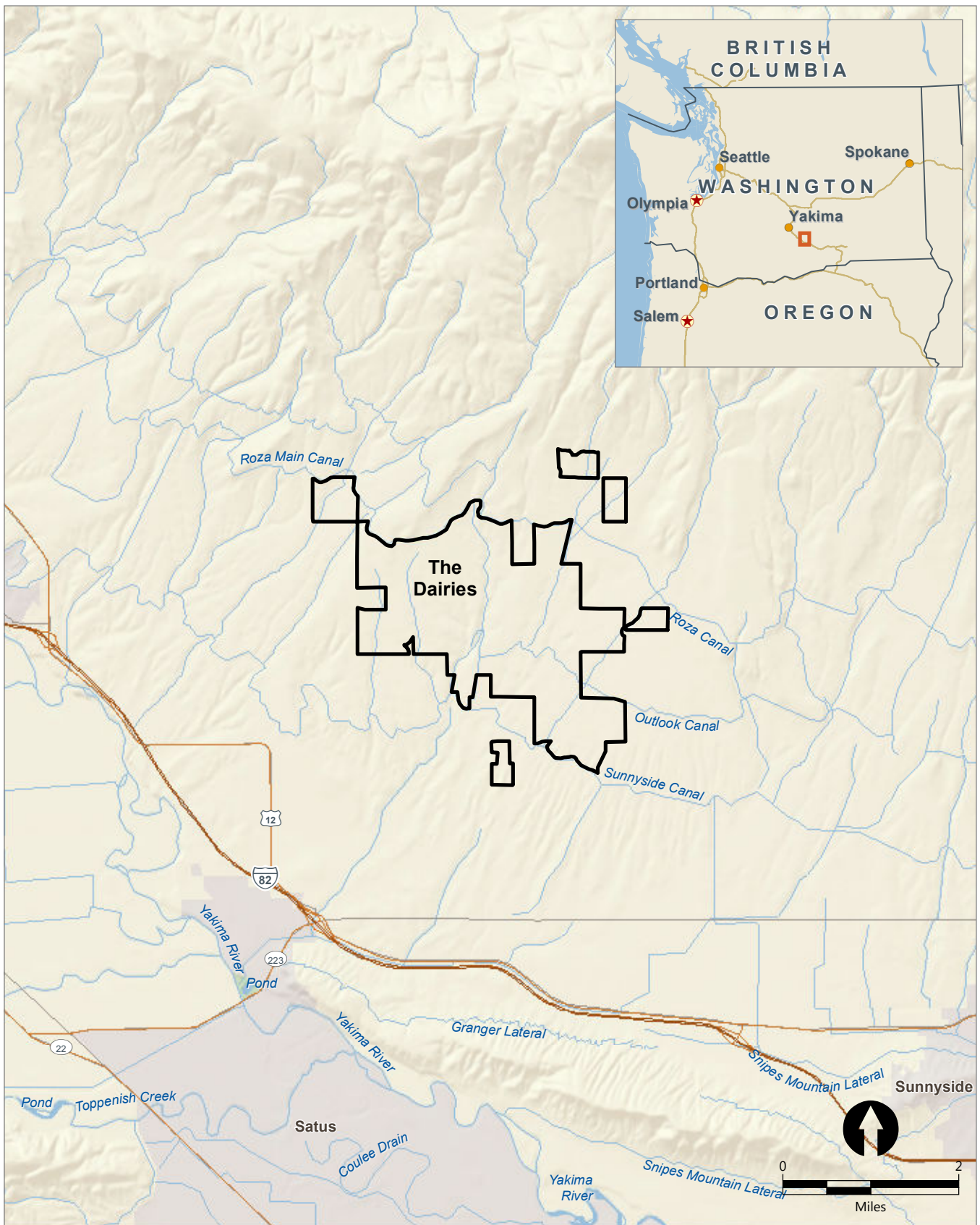
RPD: Relative percent difference was outside acceptance limits.

SM: Standard Method

U: The compound was analyzed for but not detected. The associated value is the compound reporting limit, or the compound is considered non-detect at the listed value due to associated blank contamination.

UJ: The compound was not detected above the reported sample reporting limit; however, the reporting limit is approximate and may or may not represent the actual limit of quantitation.

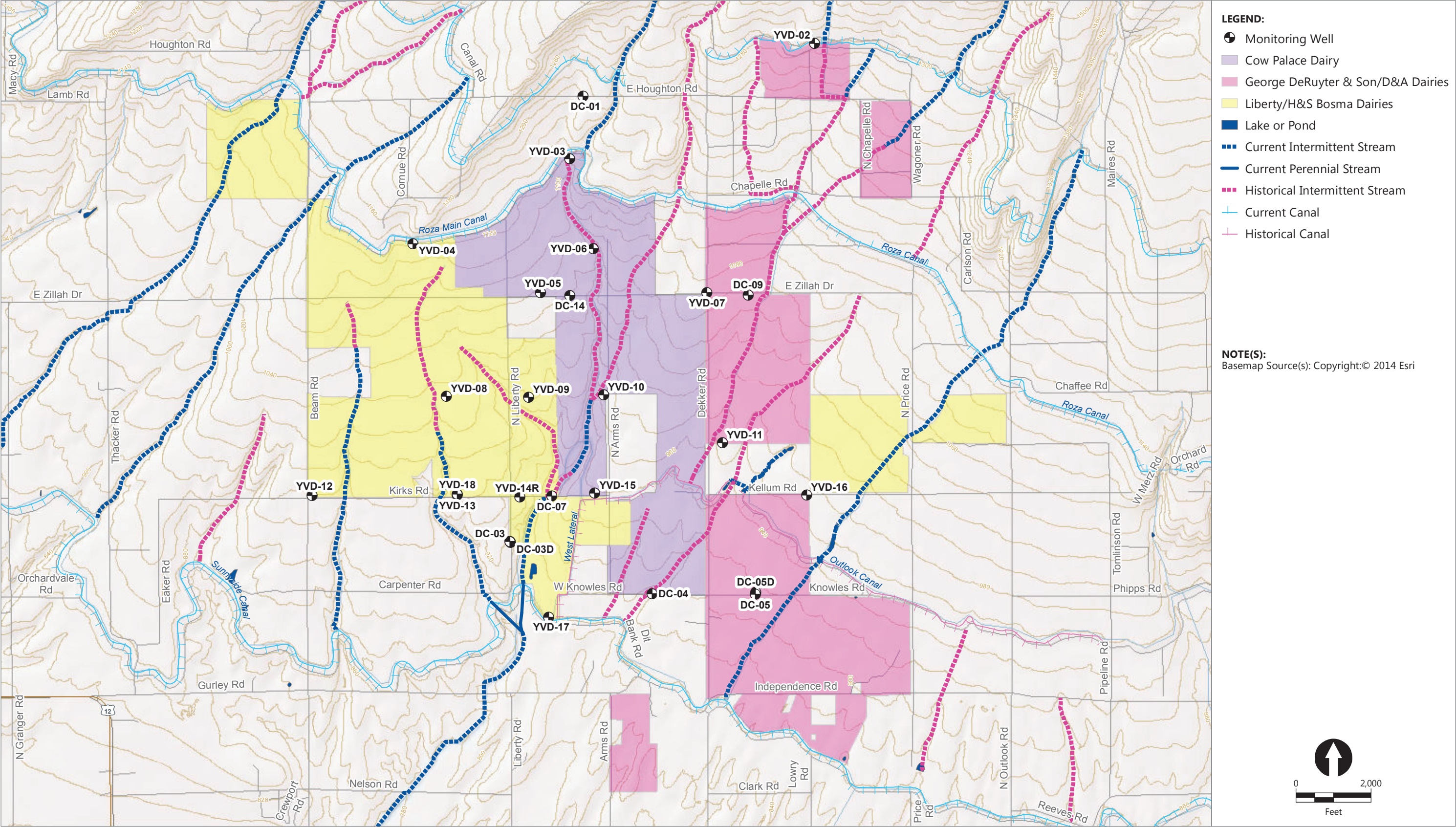
Figures



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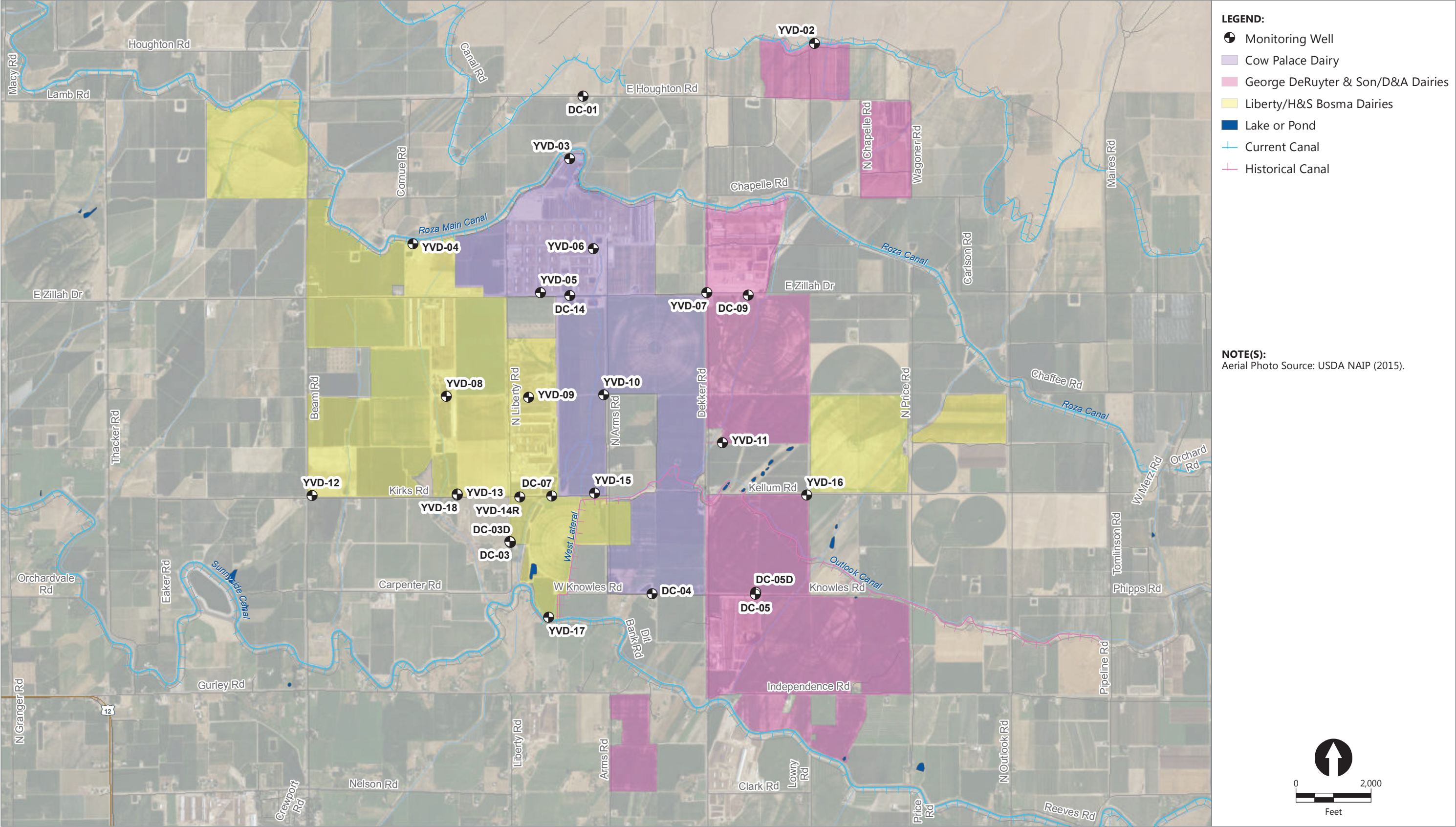
Figure 1
Site Vicinity Map
 Groundwater Monitoring Data Report First Quarter 2017
 Yakima Valley Dairies



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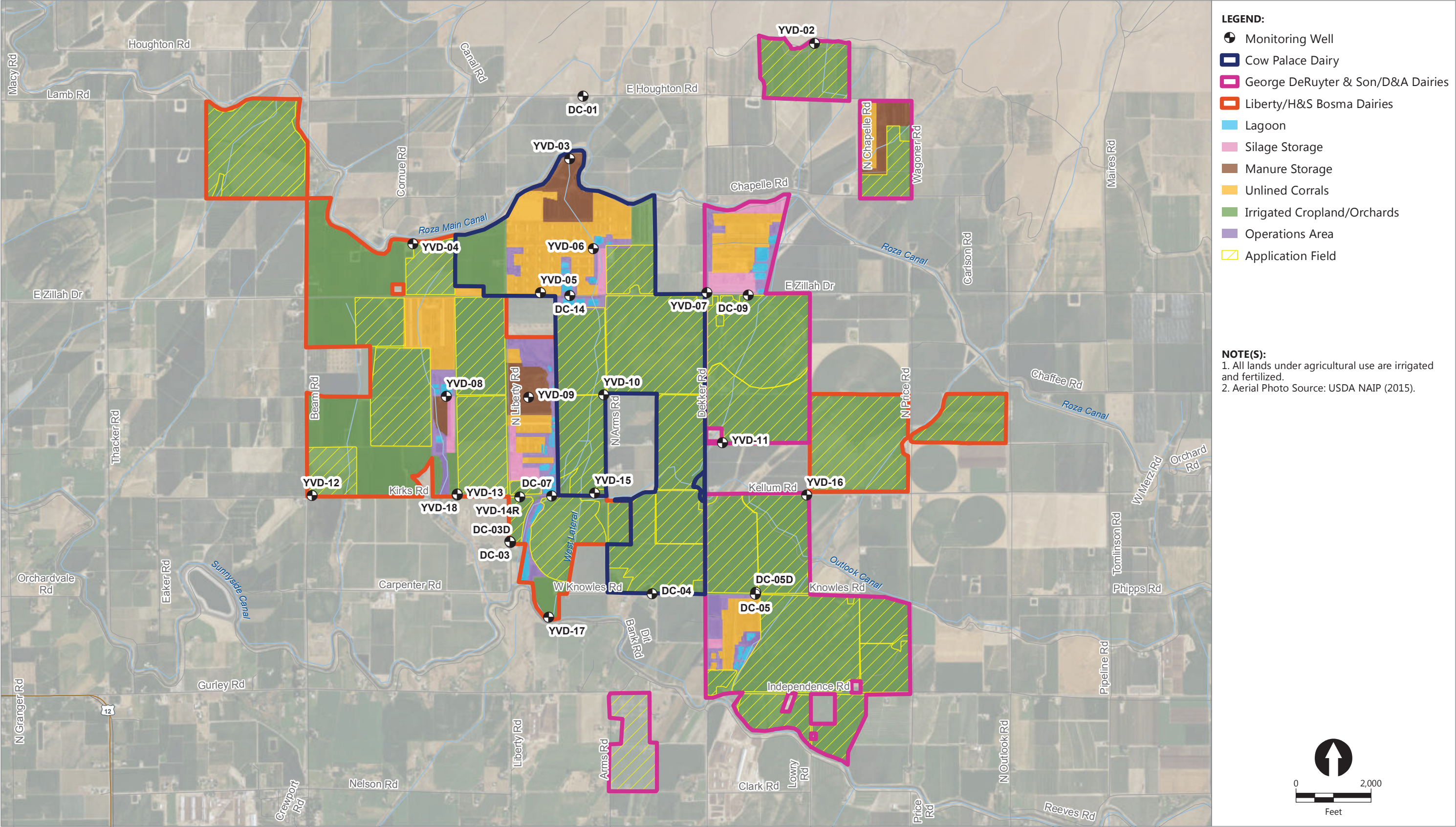
Figure 2A
Site Map
Groundwater Monitoring Data Report First Quarter 2017
Yakima Valley Dairies



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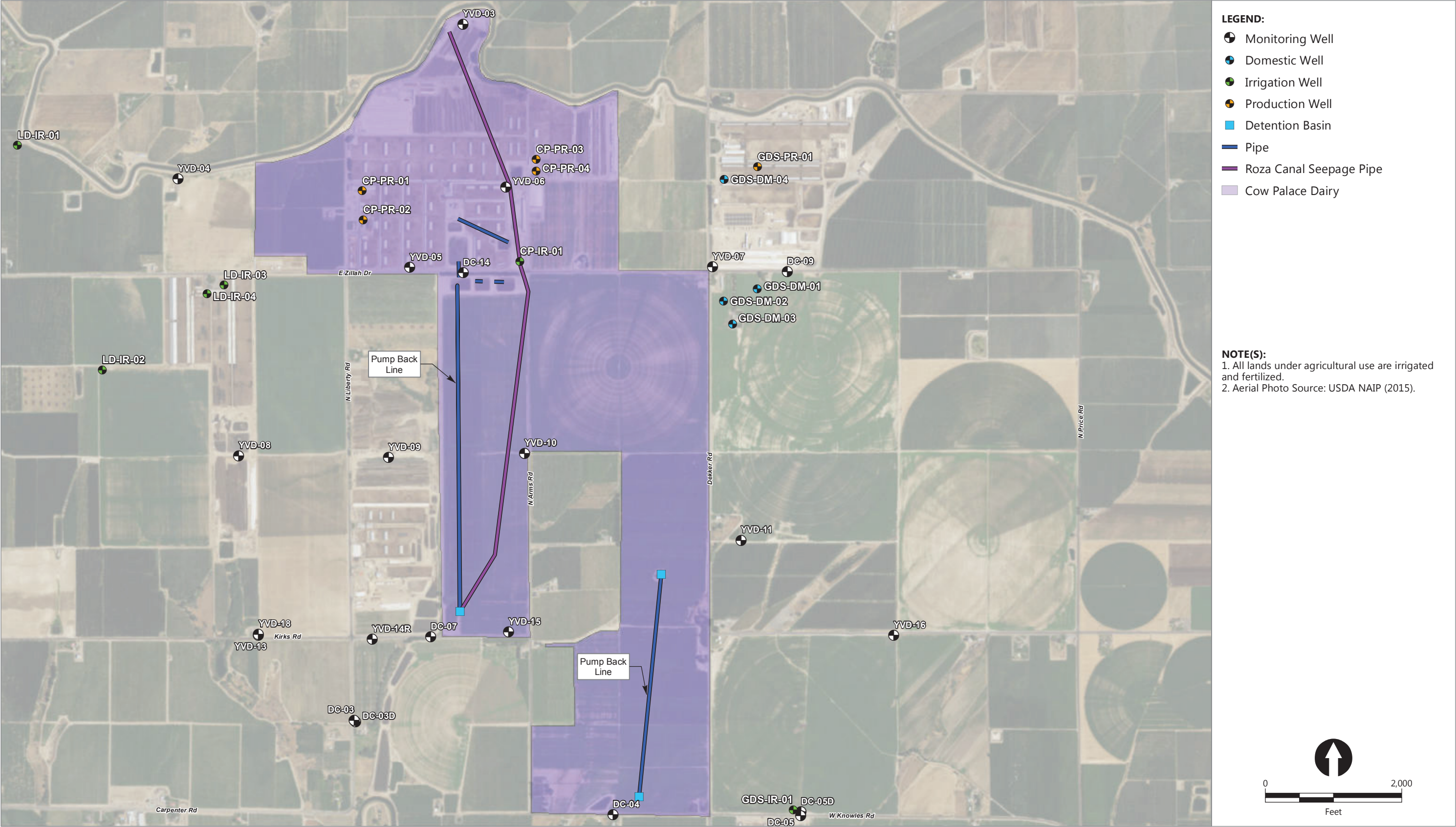
Figure 2B
Aerial Photograph
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Yakima Valley Dairies



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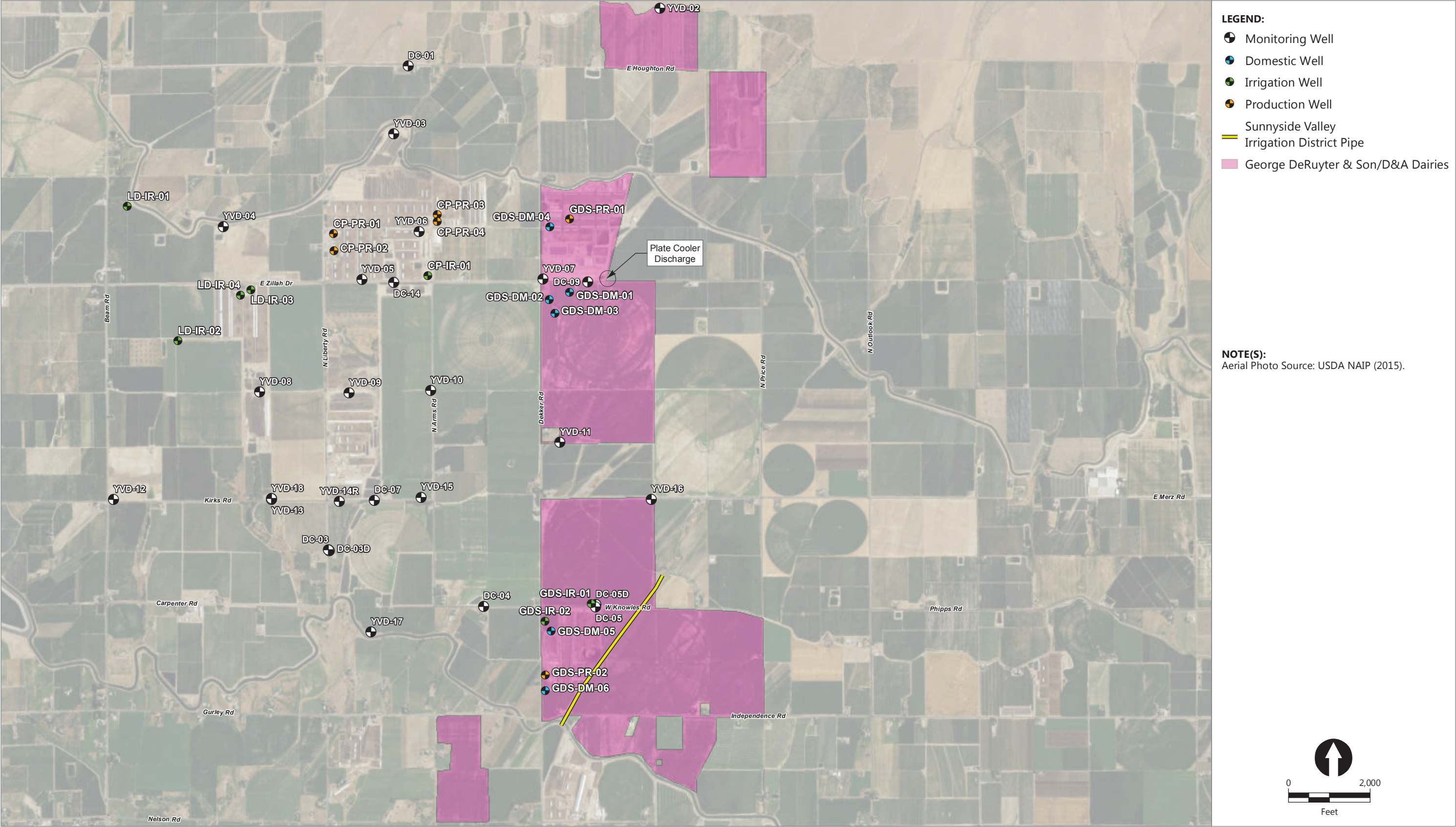
Figure 3A
General Facility Plan
Groundwater Monitoring Data Report First Quarter 2017
Yakima Valley Dairies



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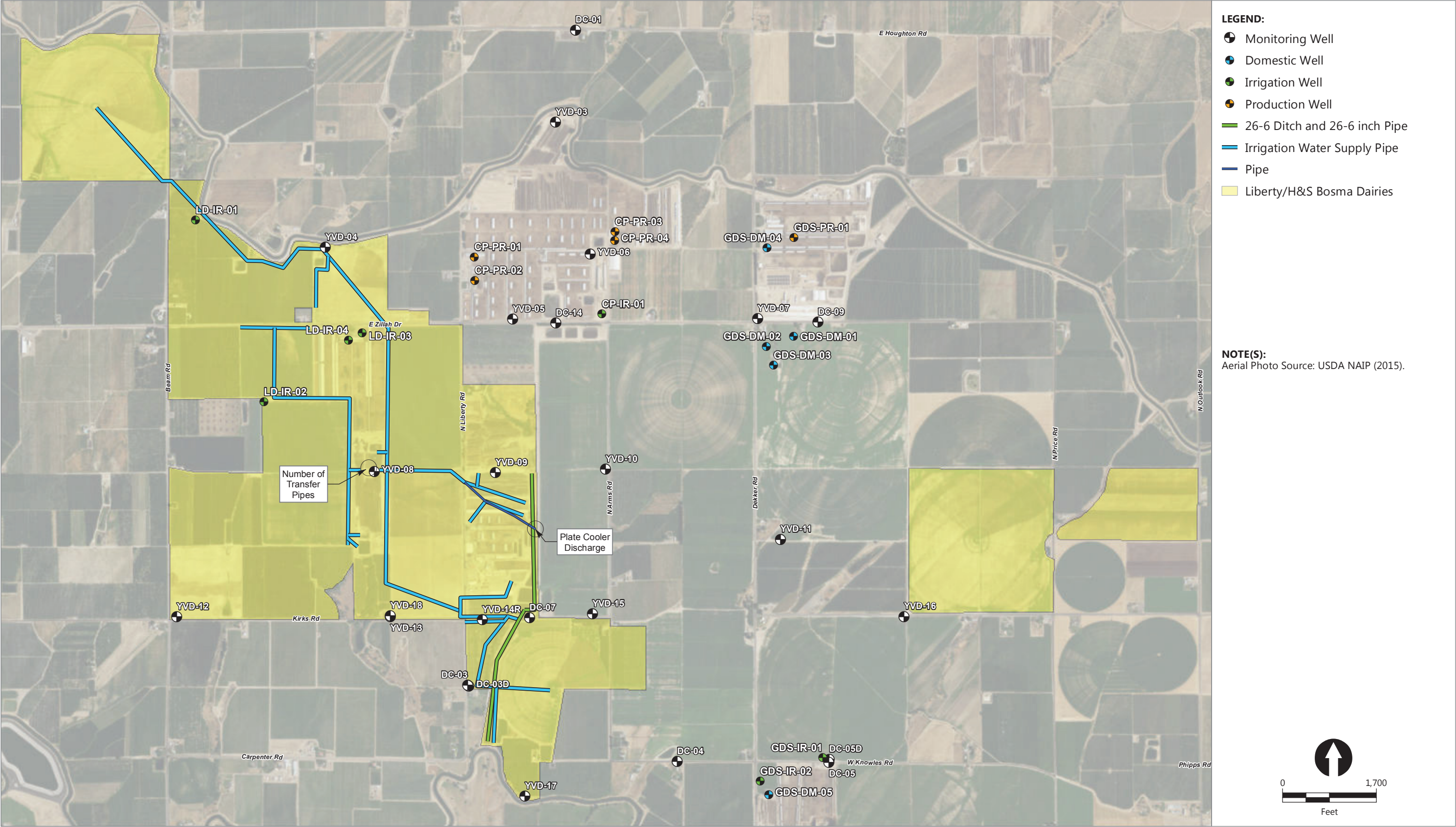
Figure 3B
Facility Plan – Cow Palace Dairy
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Yakima Valley Dairies



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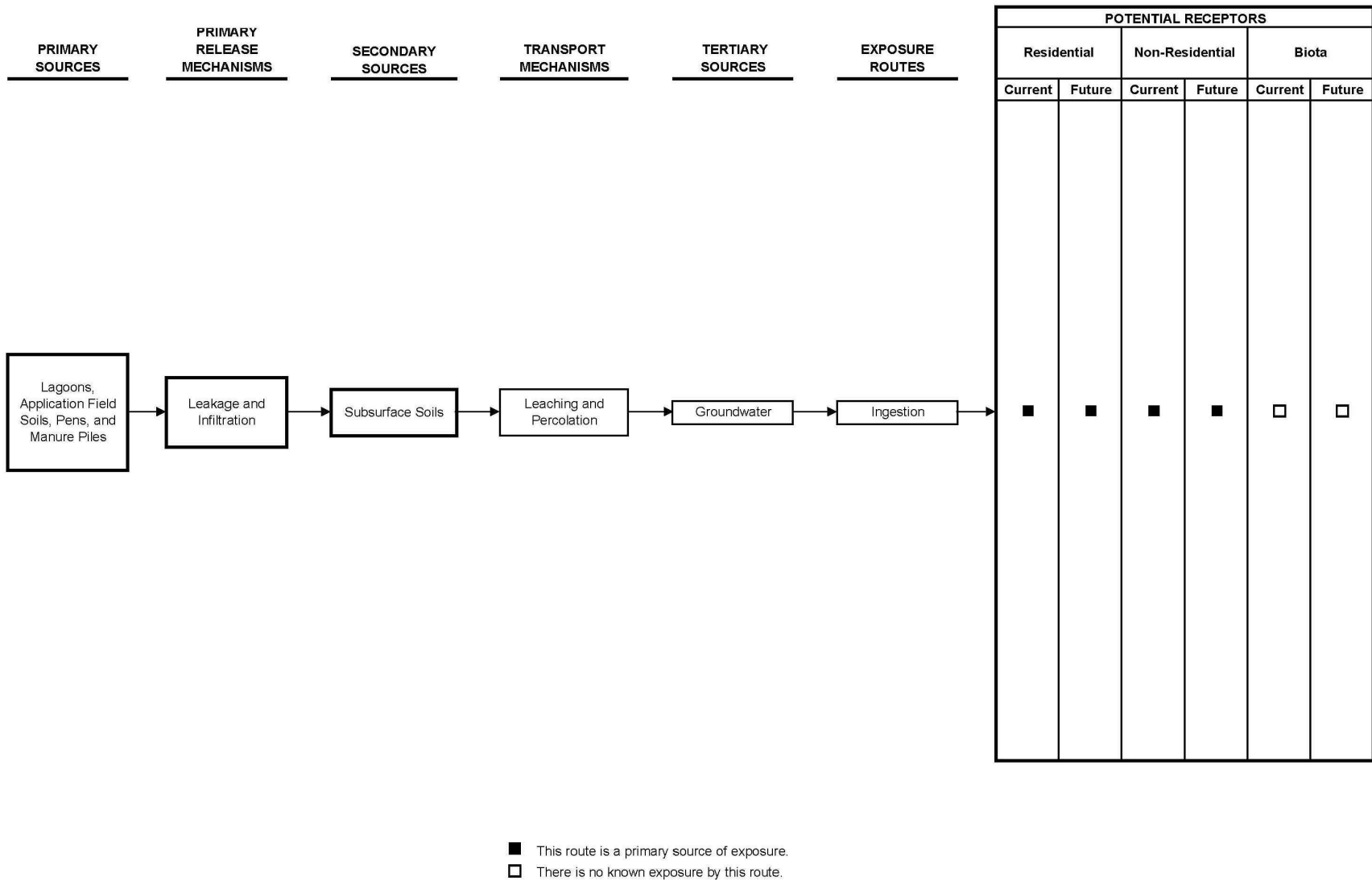
Figure 3C
Facility Plan – George DeRuyter & Son/D&A Dairies
Groundwater Monitoring Data Report First Quarter 2017
Yakima Valley Dairies



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Figure 3D
Facility Plan – Liberty/H&S Bosma Dairies
Groundwater Monitoring Data Report First Quarter 2017
Yakima Valley Dairies

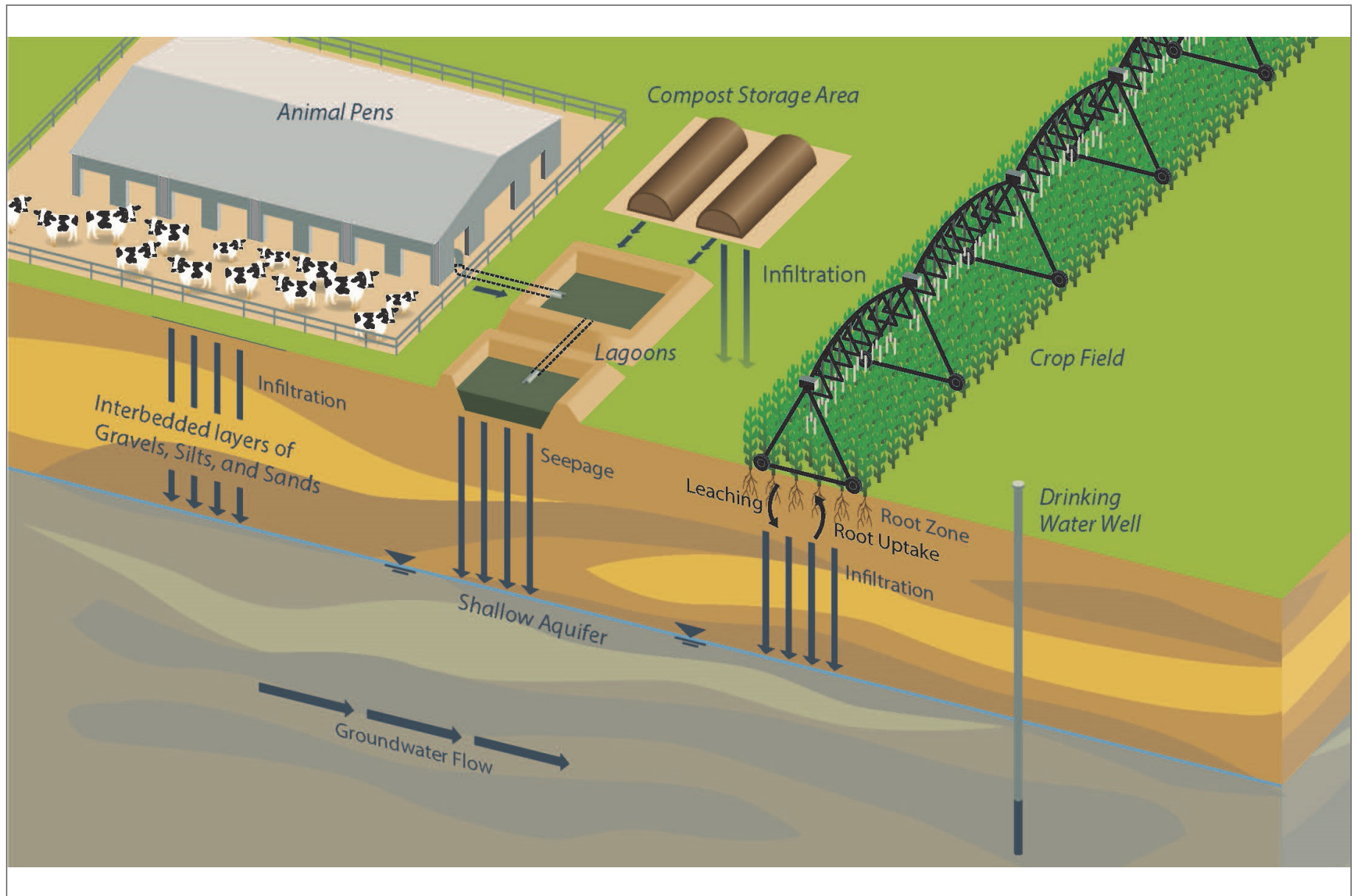


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Figure 4
Conceptual Site Model Flow Chart
 Groundwater Monitoring Data Report First Quarter 2017
 Yakima Valley Dairies

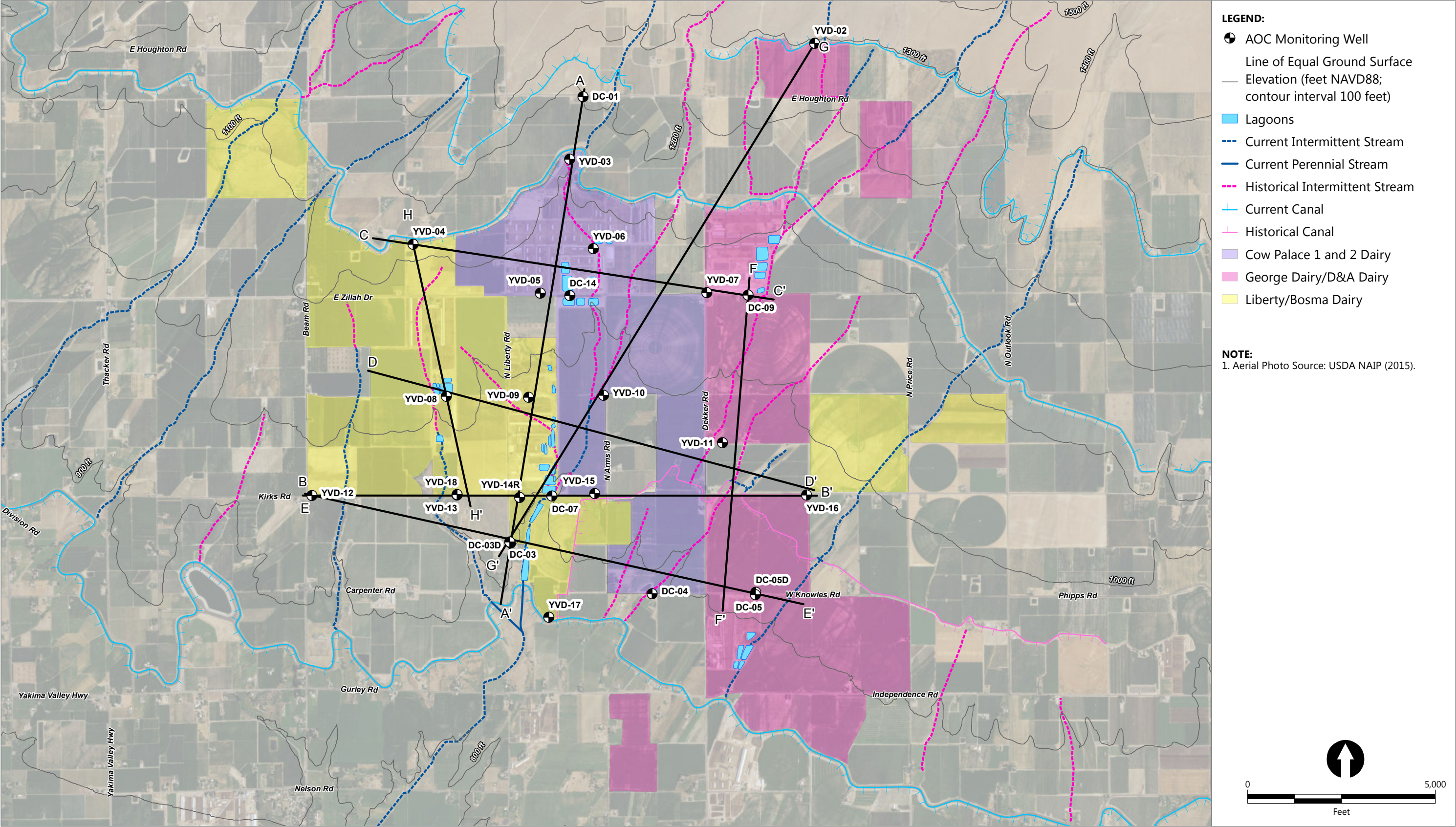


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Figure 5
Conceptual Site Model

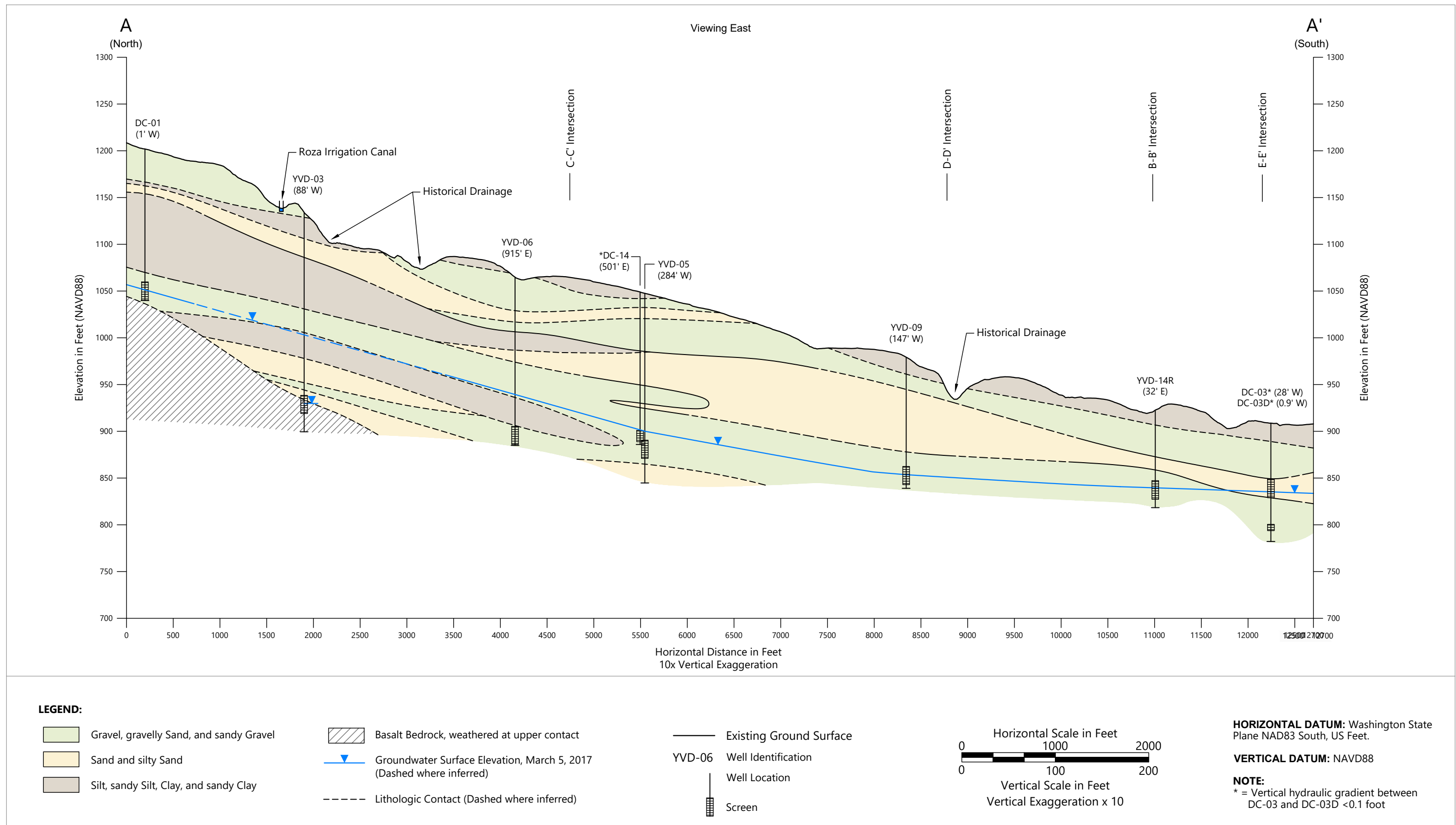
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Figure 6
Cross Section Location Map
Groundwater Monitoring Data Report First Quarter 2017
Yakima Valley Dairies

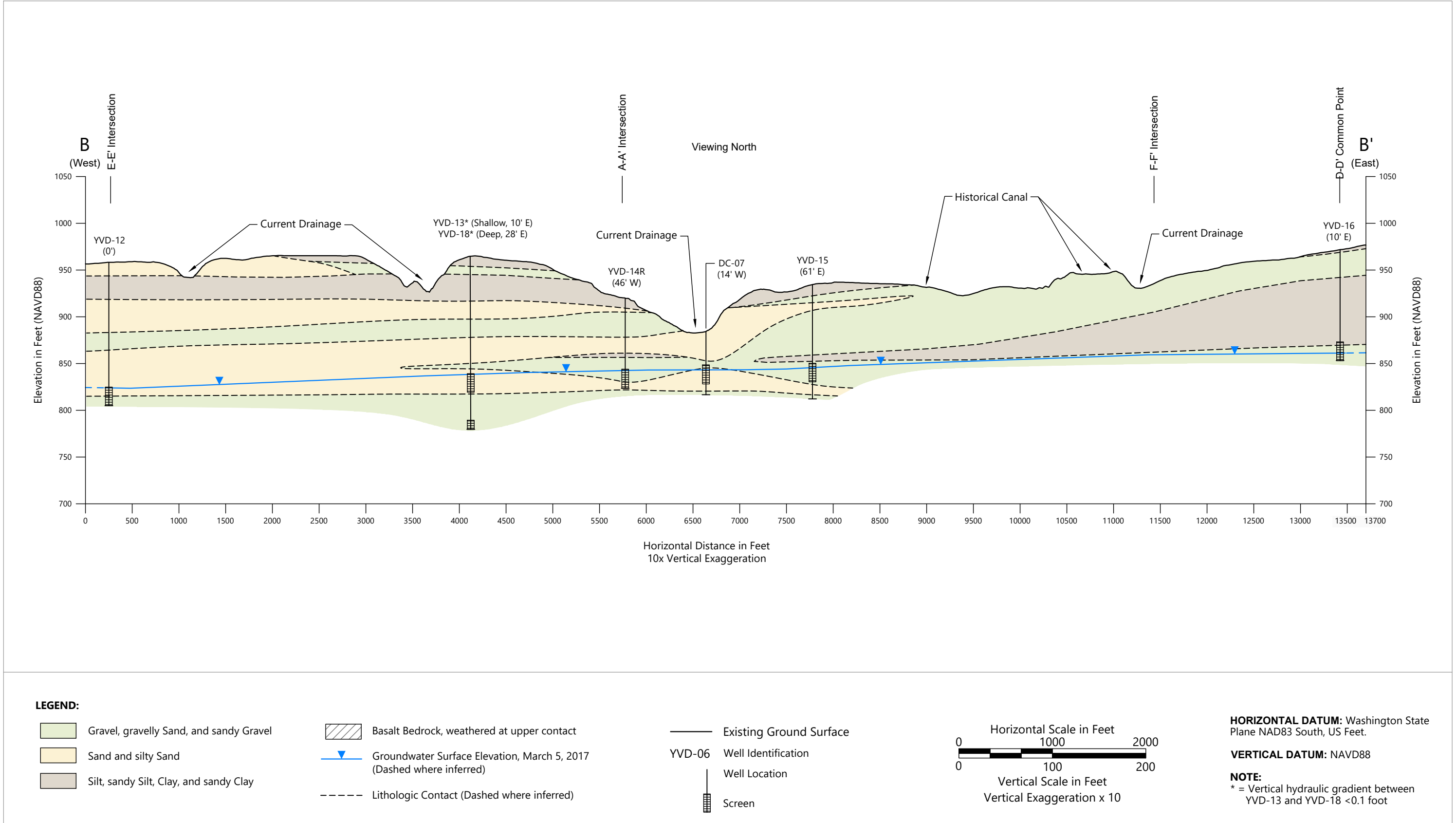


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Figure 7
Geologic Cross Section A-A'

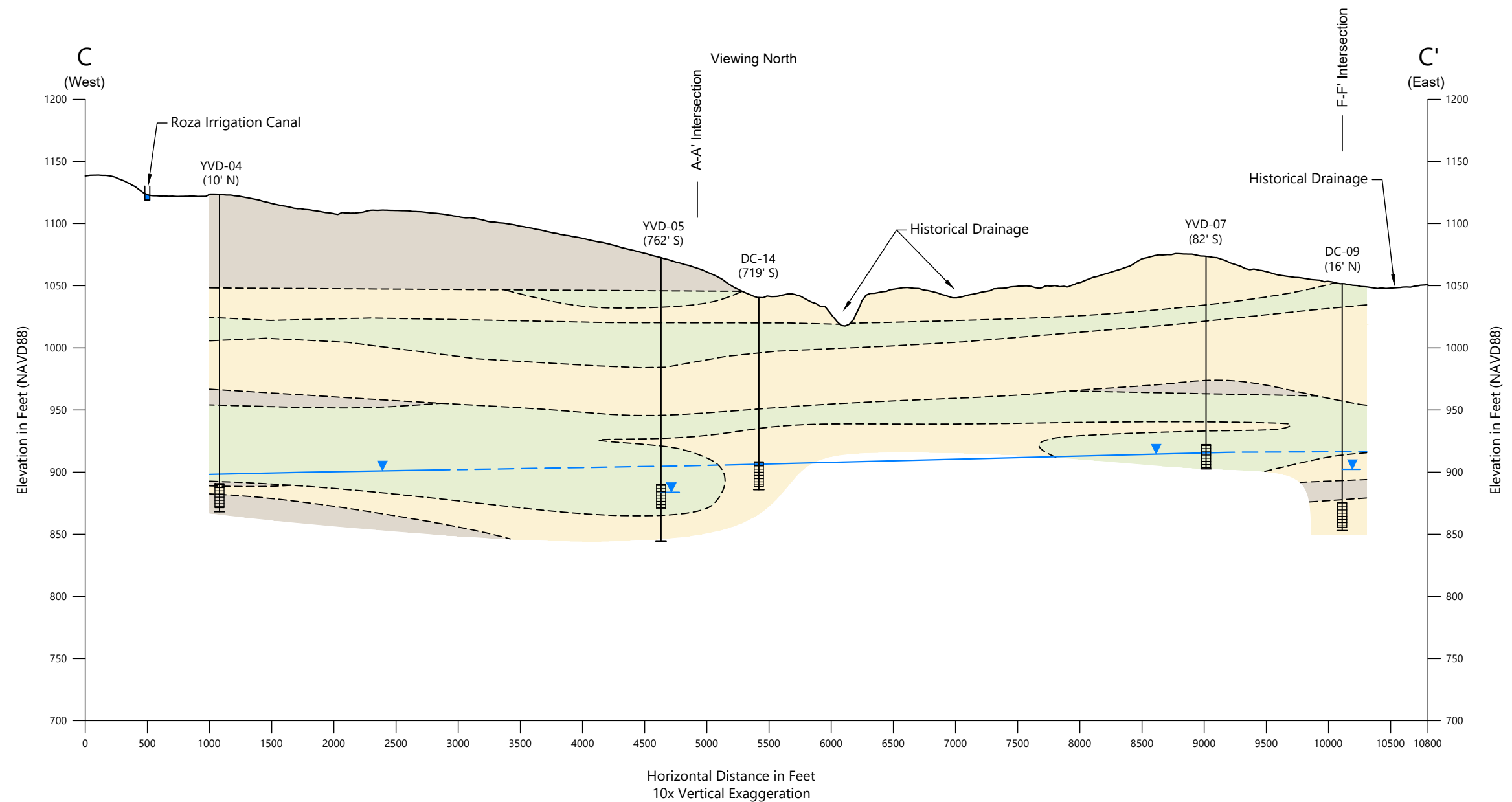
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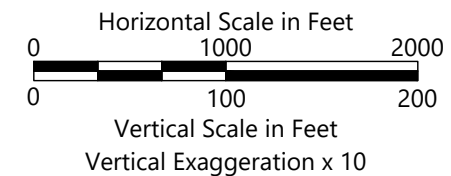
Figure 8
Geologic Cross Section B-B'



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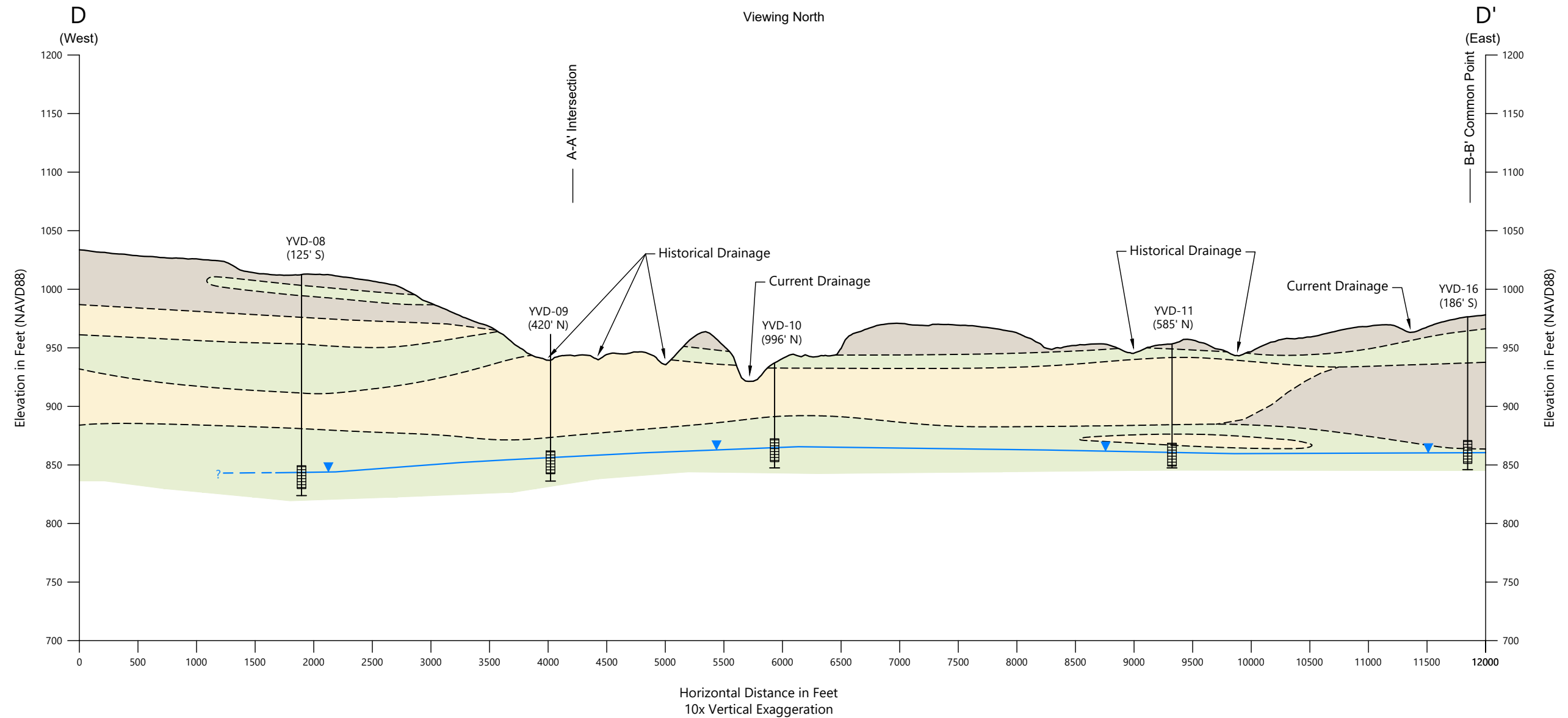
- | | |
|---|---|
|  Gravel, gravelly Sand, and sandy Gravel |  Basalt Bedrock, weathered at upper contact |
|  Sand and silty Sand |  Groundwater Surface Elevation, March 5, 2017
(Dashed where inferred) |
|  Silt, sandy Silt, Clay, and sandy Clay |  Lithologic Contact (Dashed where inferred) |

- Existing Ground Surface
- YVD-06 Well Identification
- Well Location
-  Screen



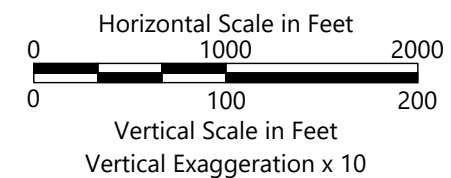
HORIZONTAL DATUM: Washington State
Plane NAD83 South, US Feet.

VERTICAL DATUM: NAVD88



LEGEND:

- | | | |
|---|---|---|
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|  Sand and silty Sand |  Groundwater Surface Elevation, March 5, 2017
(Dashed where inferred) | YVD-06 Well Identification |
|  Silt, sandy Silt, Clay, and sandy Clay |  Lithologic Contact (Dashed where inferred) |  Well Location |
| | |  Screen |



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Plane NAD83 South, US Feet.

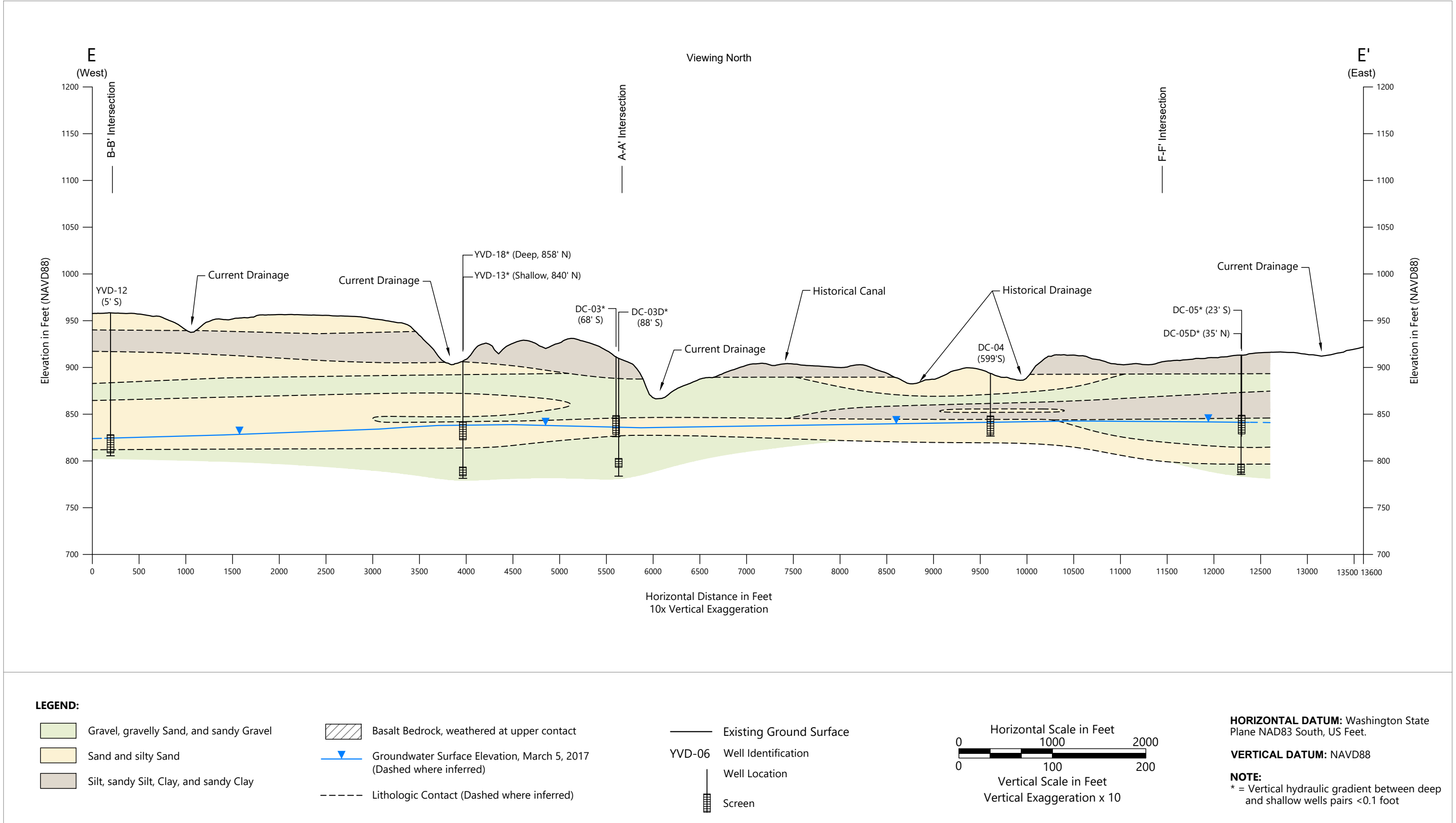
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Figure 10
Geologic Cross Section D-D'

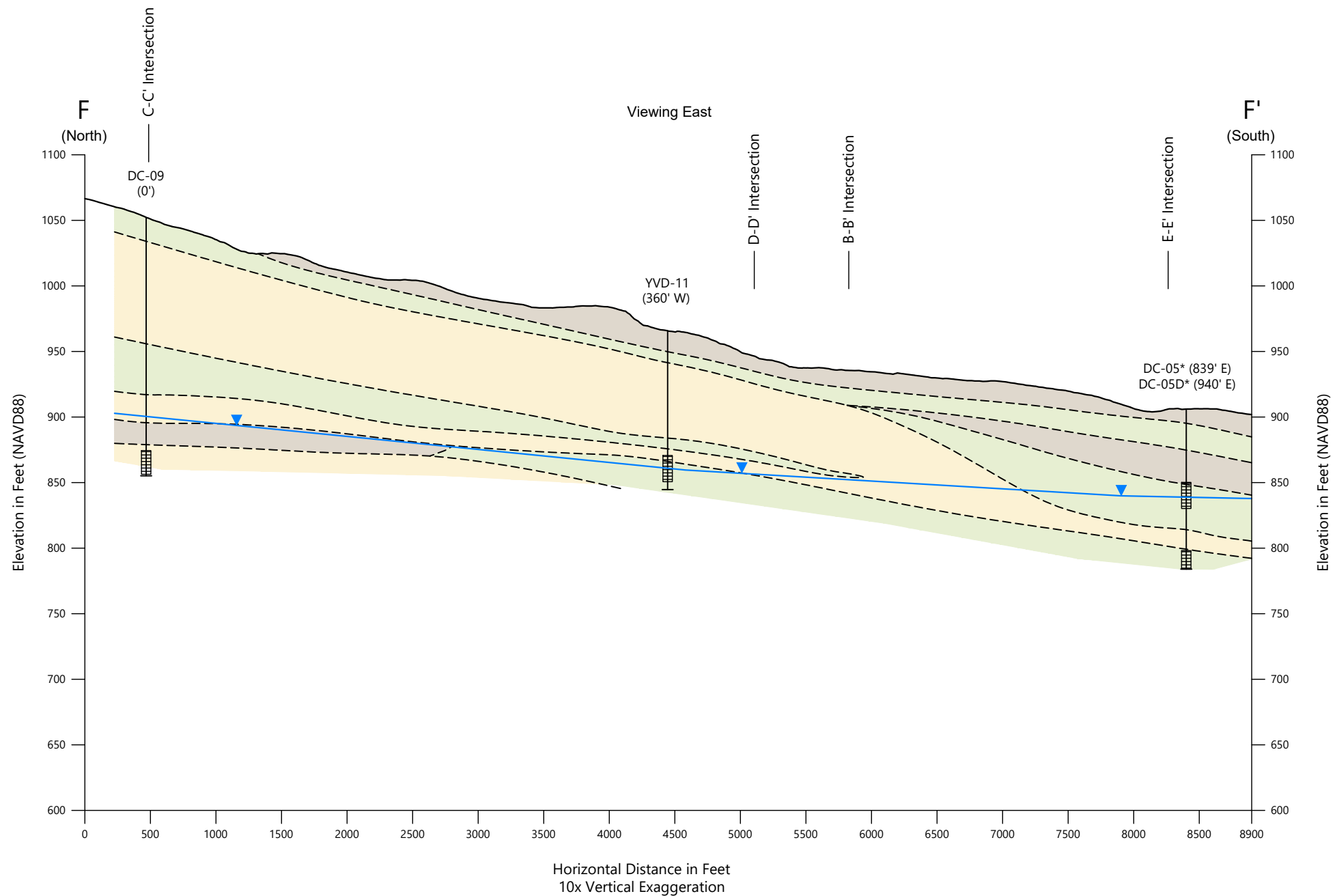
Groundwater Monitoring Data Report First Quarter 2017
Yakima Valley Dairies



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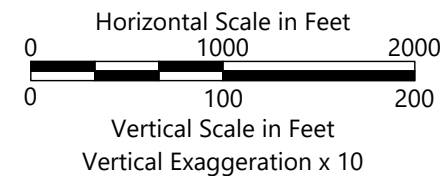
Figure 11
Geologic Cross Section E-E'



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|  Sand and silty Sand |  Groundwater Surface Elevation, March 5, 2017
(Dashed where inferred) |
|  Silt, sandy Silt, Clay, and sandy Clay |  Lithologic Contact (Dashed where inferred) |

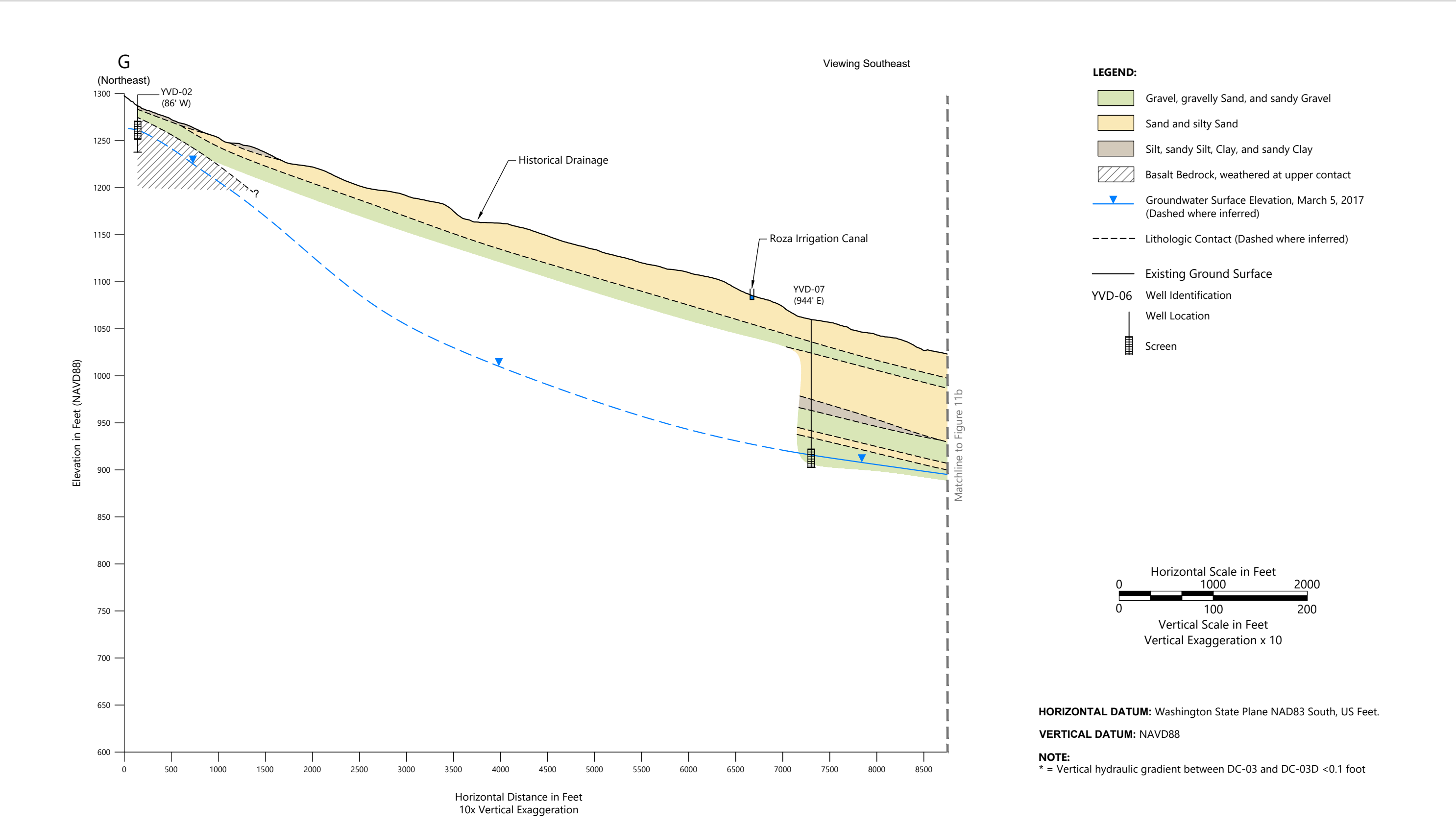
- | |
|--|
|  Existing Ground Surface |
| YVD-06  Well Identification |
|  Well Location |
|  Screen |



HORIZONTAL DATUM: Washington State Plane NAD83 South, US Feet.

VERTICAL DATUM: NAVD88

NOTE:
* = Vertical hydraulic gradient between DC-05 and DC-05D <0.1 foot

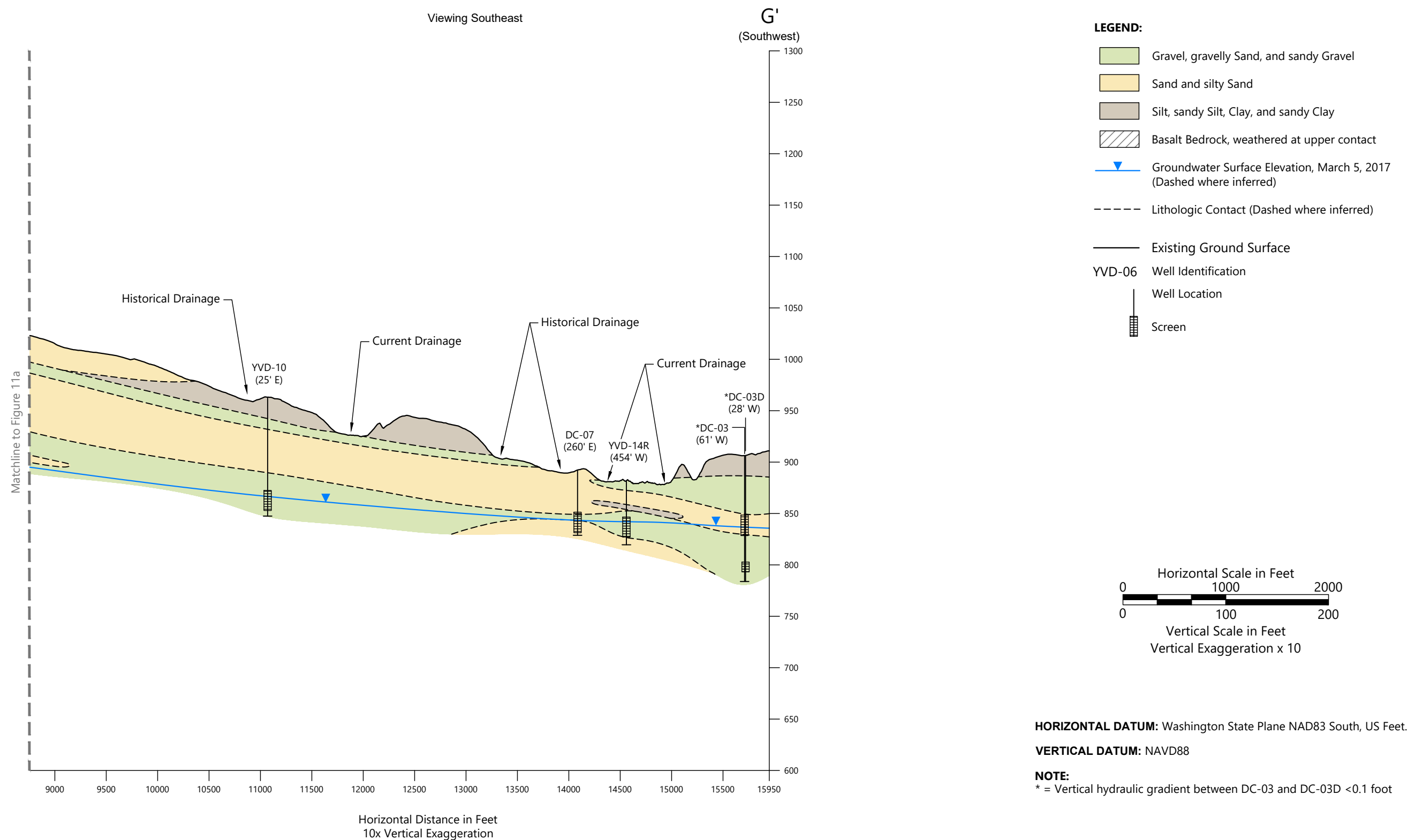


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Figure 13a
Geologic Cross Section G-G'

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Yakima Valley Dairies

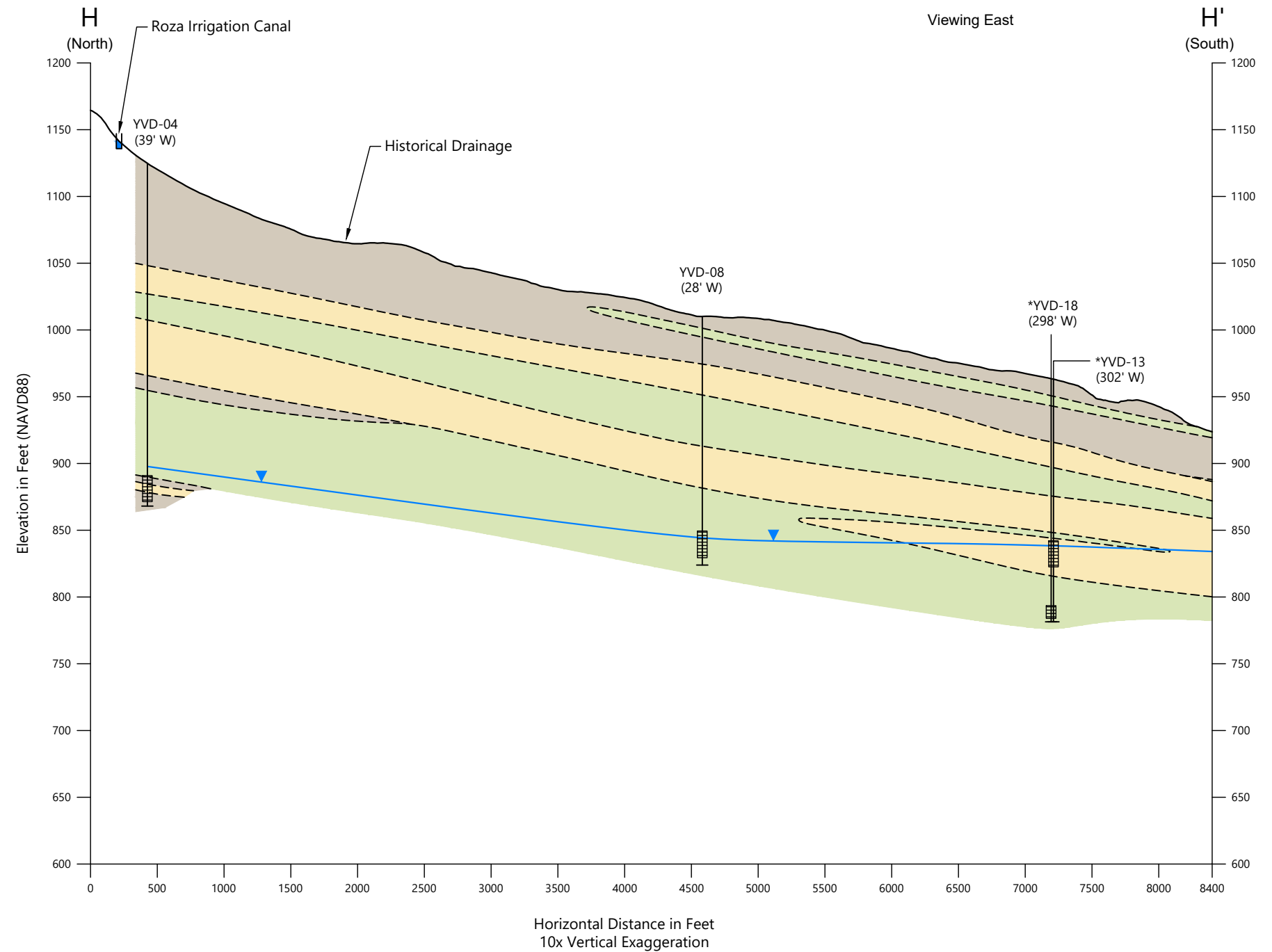


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Figure 13b
Geologic Cross Section G-G'

Groundwater Monitoring Data Report First Quarter 2017
Yakima Valley Dairies

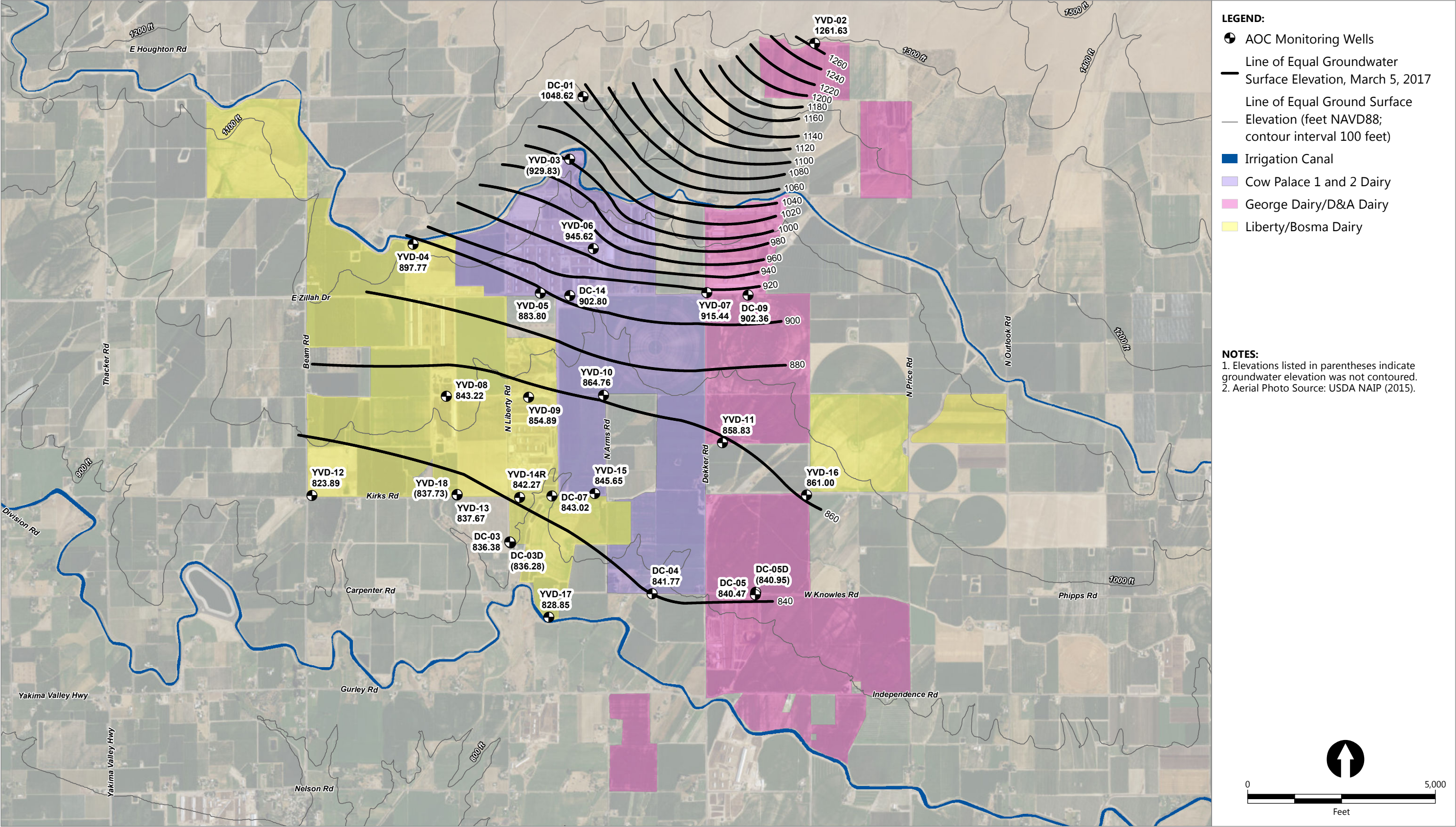


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Figure 14
Geologic Cross Section H-H'

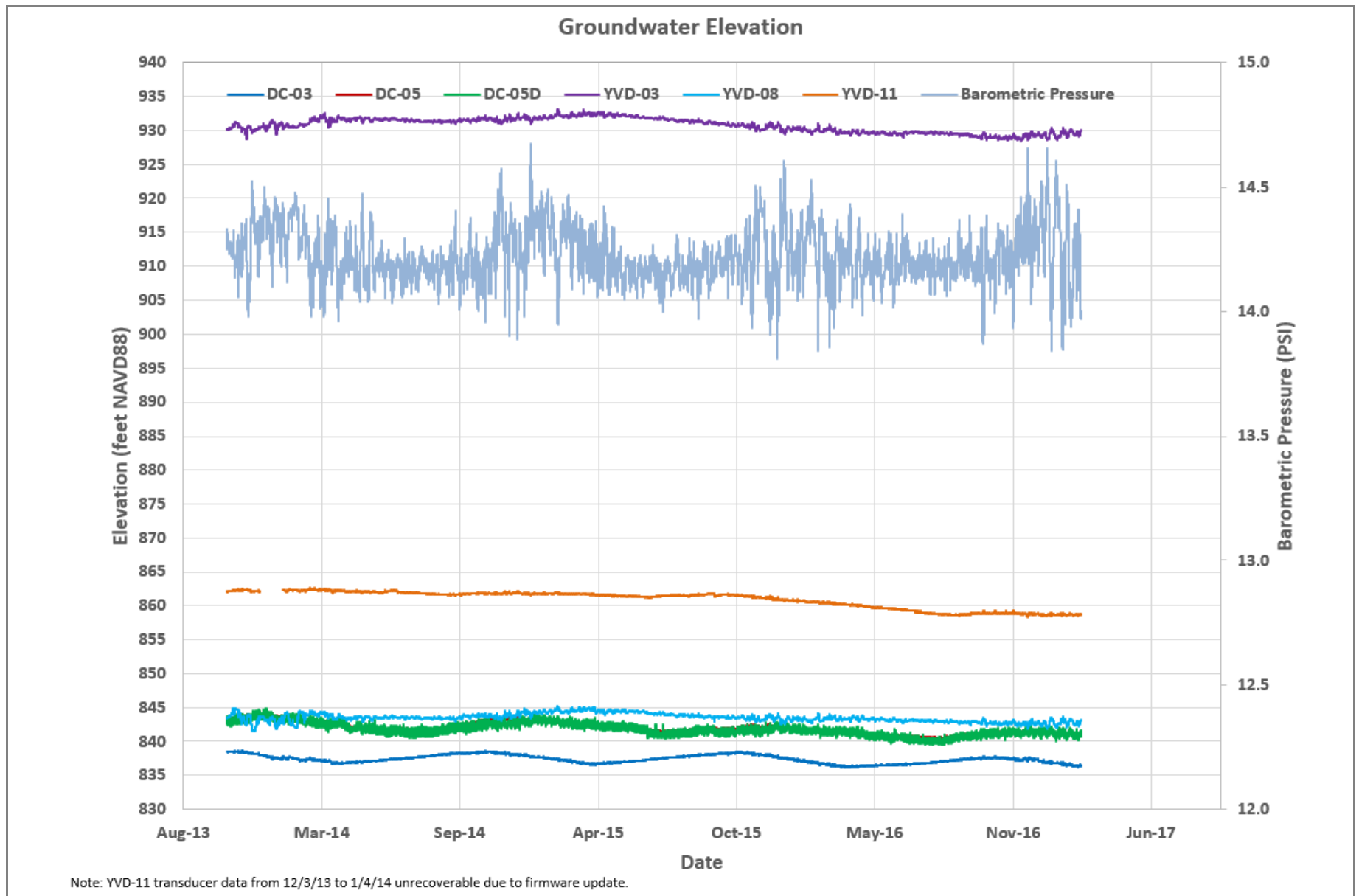
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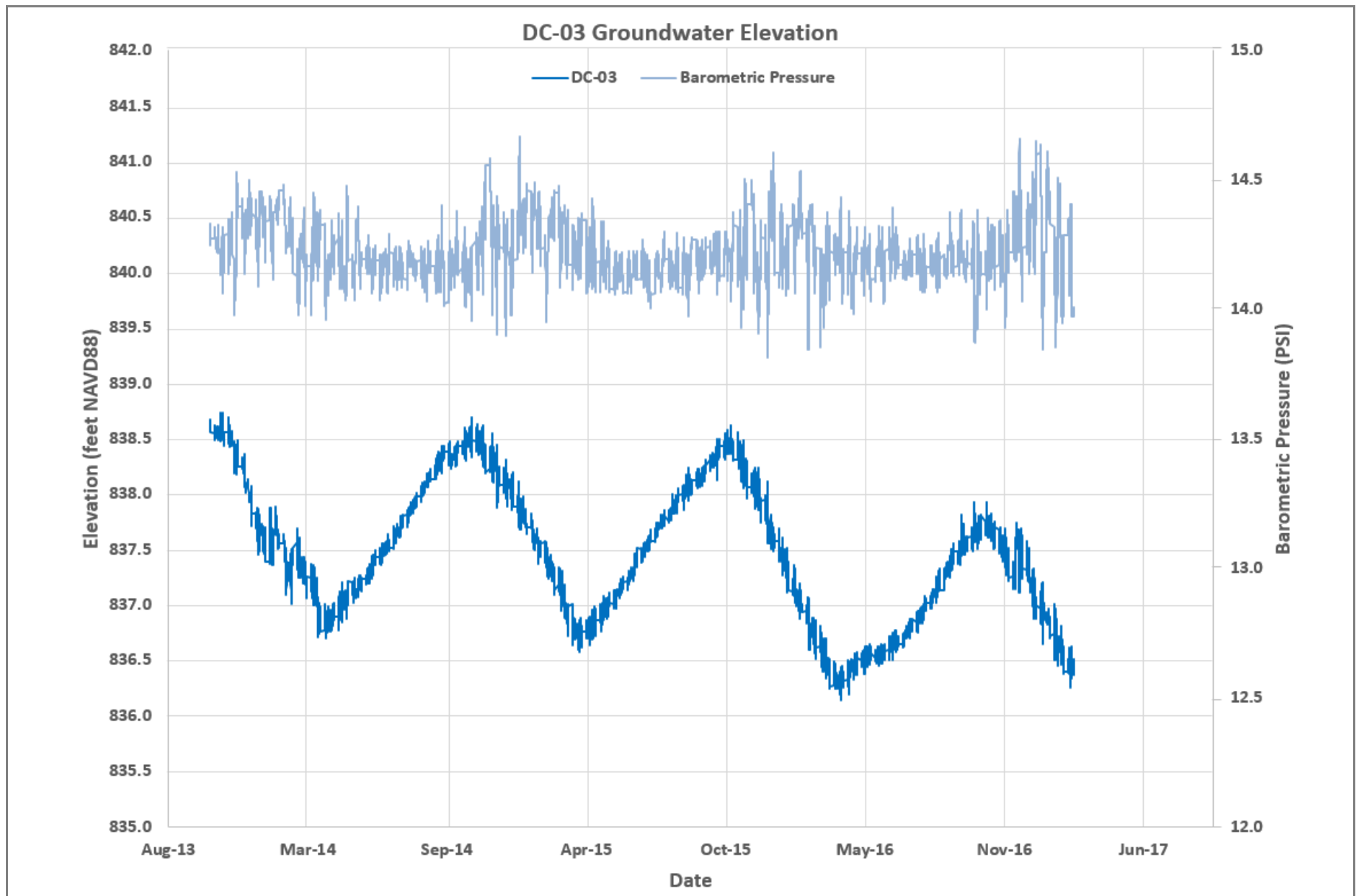
Figure 15
Surficial Aquifer Groundwater Elevation Contour Map
Groundwater Monitoring Data Report First Quarter 2017
Yakima Valley Dairies



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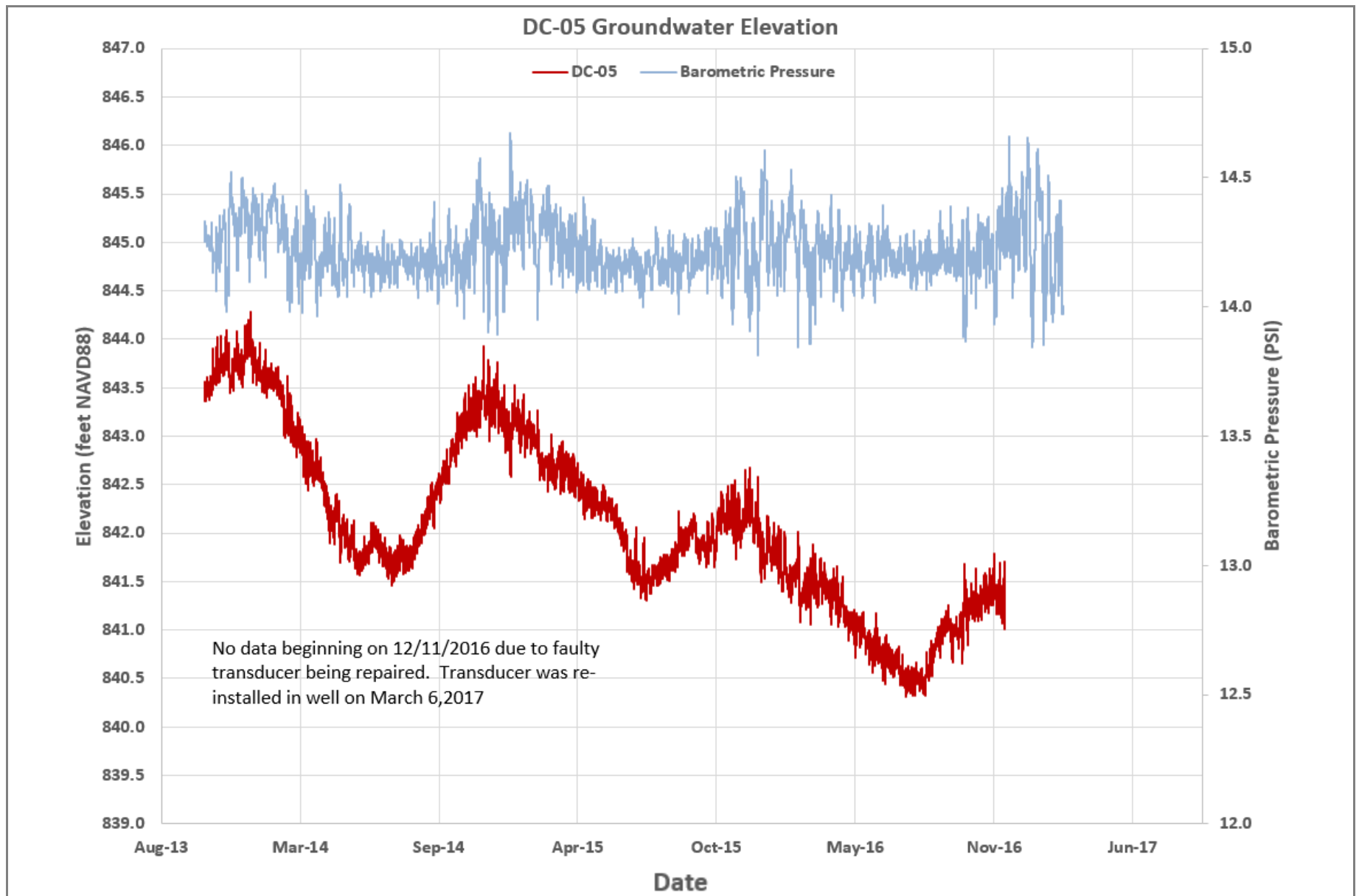
Figure 16A
Groundwater Hydrographs – All Transducers
 Groundwater Monitoring Data Report First Quarter 2017
 Yakima Valley Dairies



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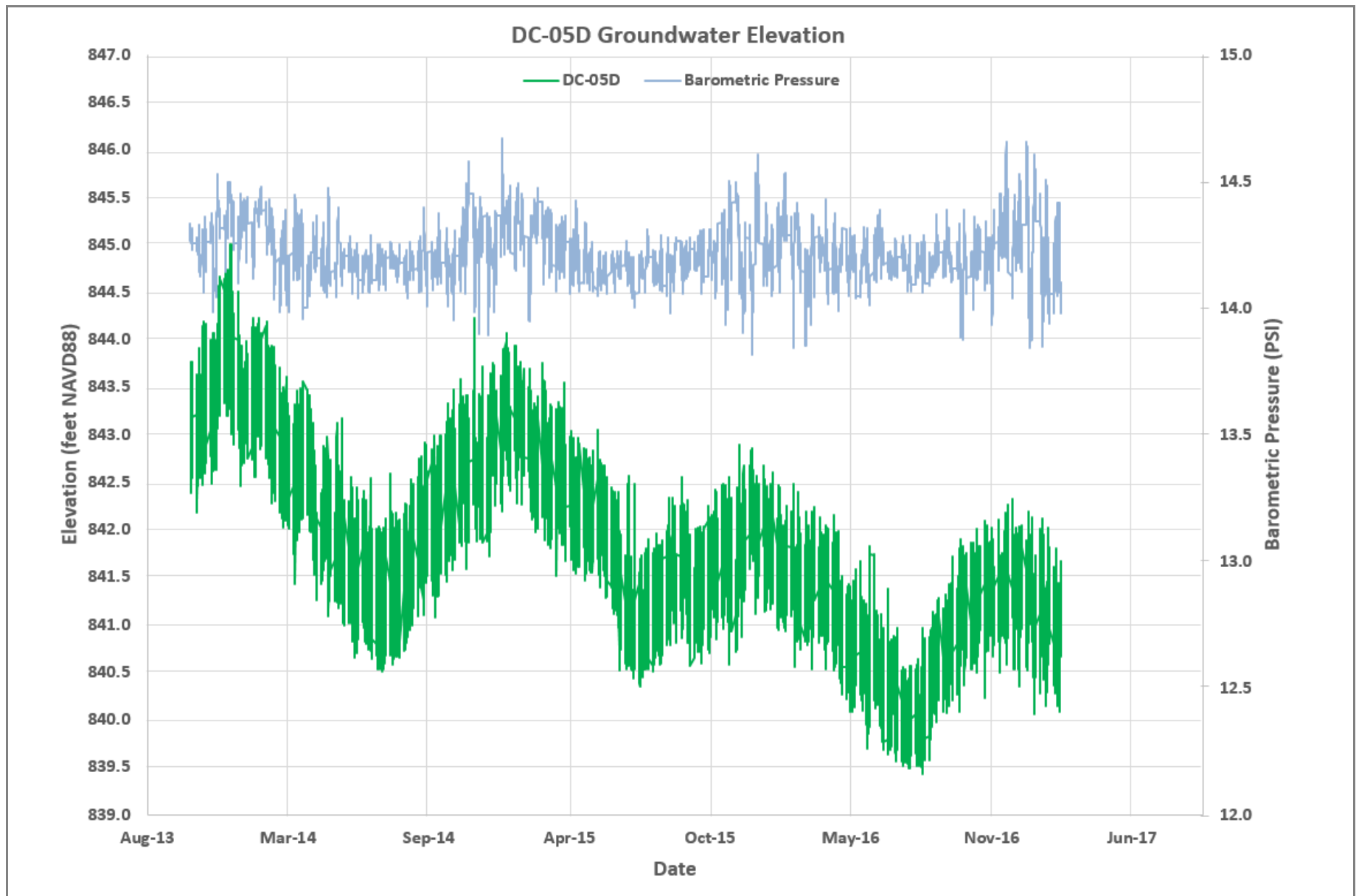
Figure 16B
Groundwater Hydrographs – DC-03
 Groundwater Monitoring Data Report First Quarter 2017
 Yakima Valley Dairies



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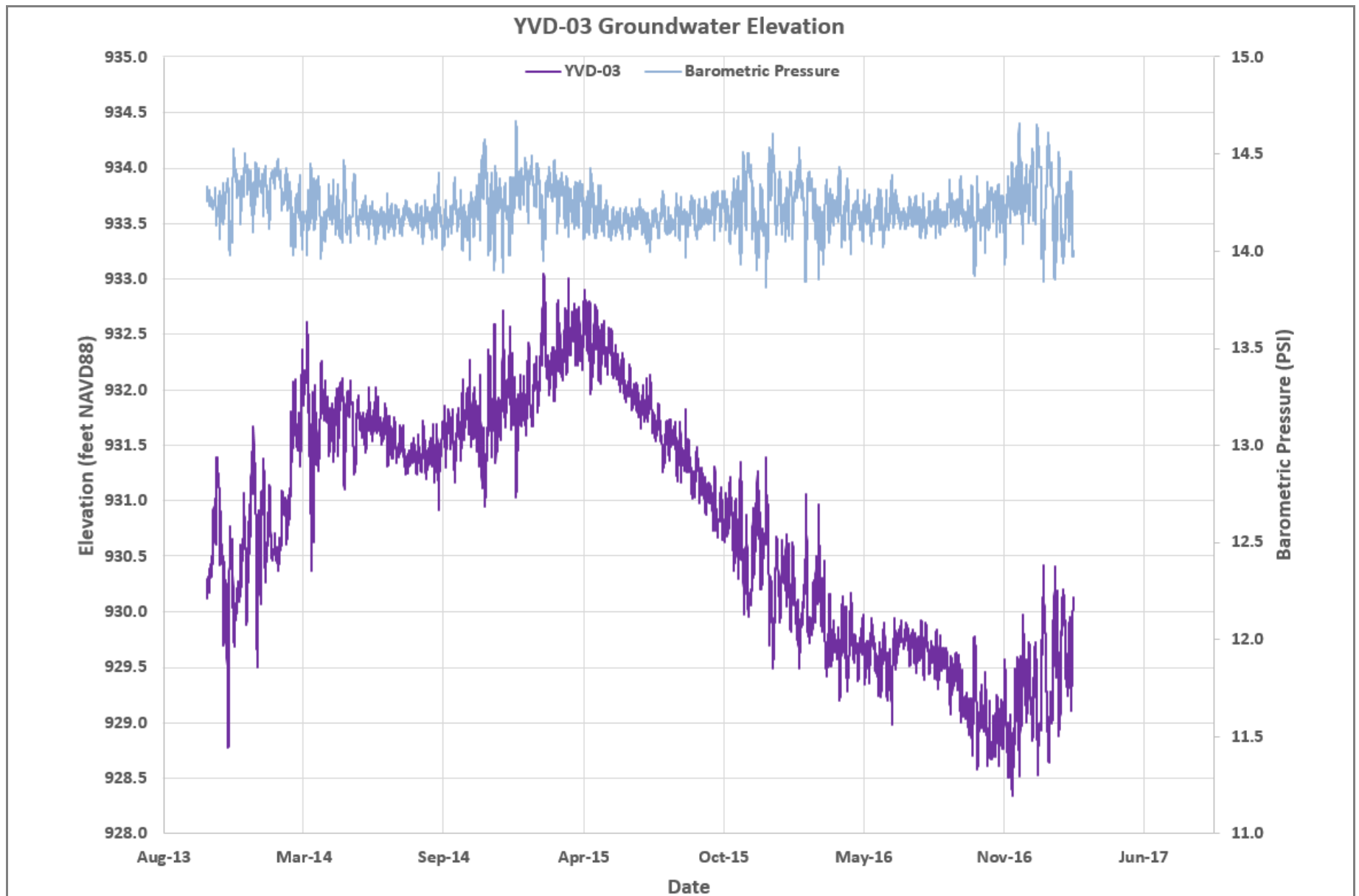
Figure 16C
Groundwater Hydrographs – DC-05
 Groundwater Monitoring Data Report First Quarter 2017
 Yakima Valley Dairies



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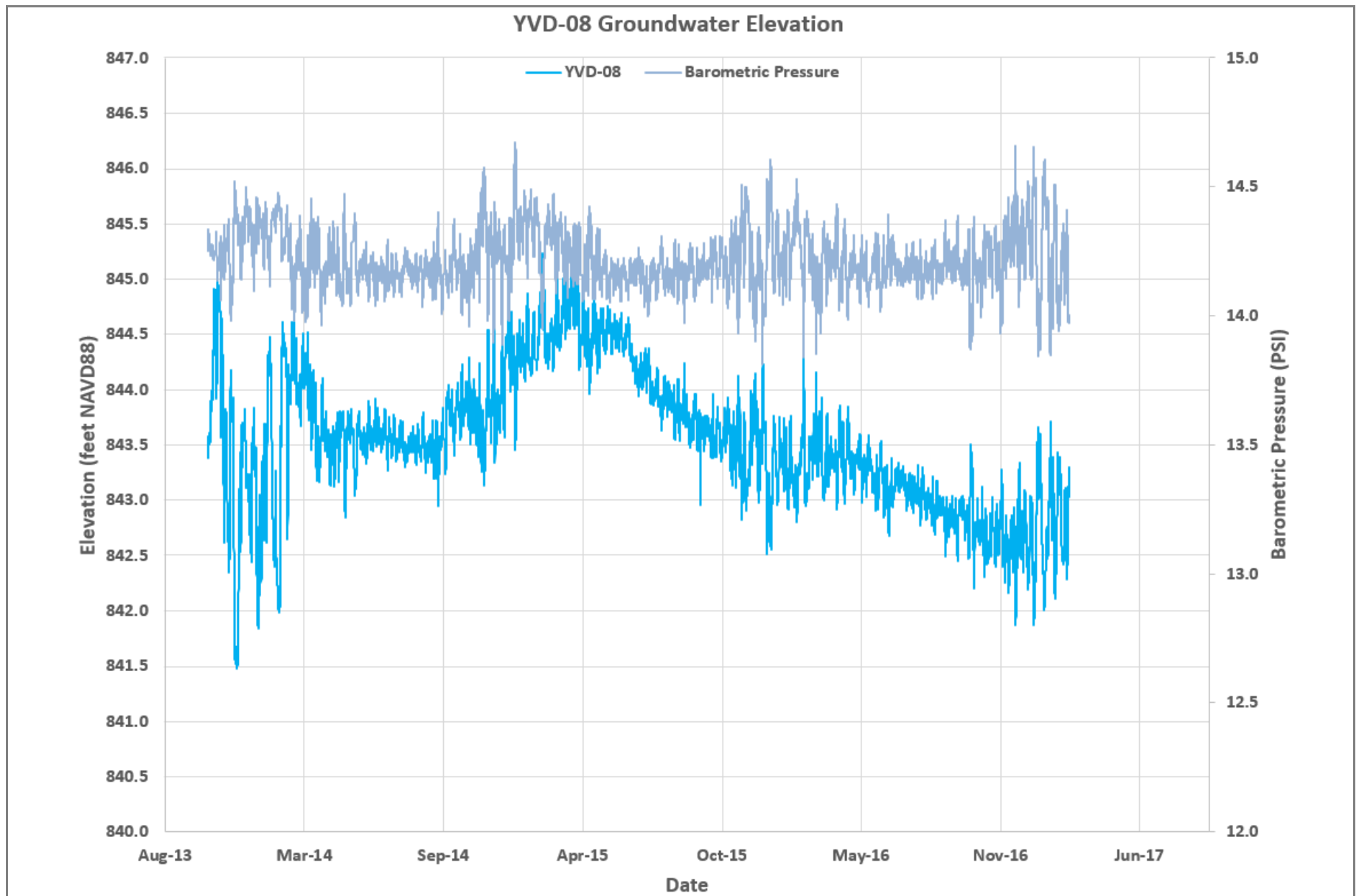
Figure 16D
Groundwater Hydrographs – DC-05D
 Groundwater Monitoring Data Report First Quarter 2017
 Yakima Valley Dairies



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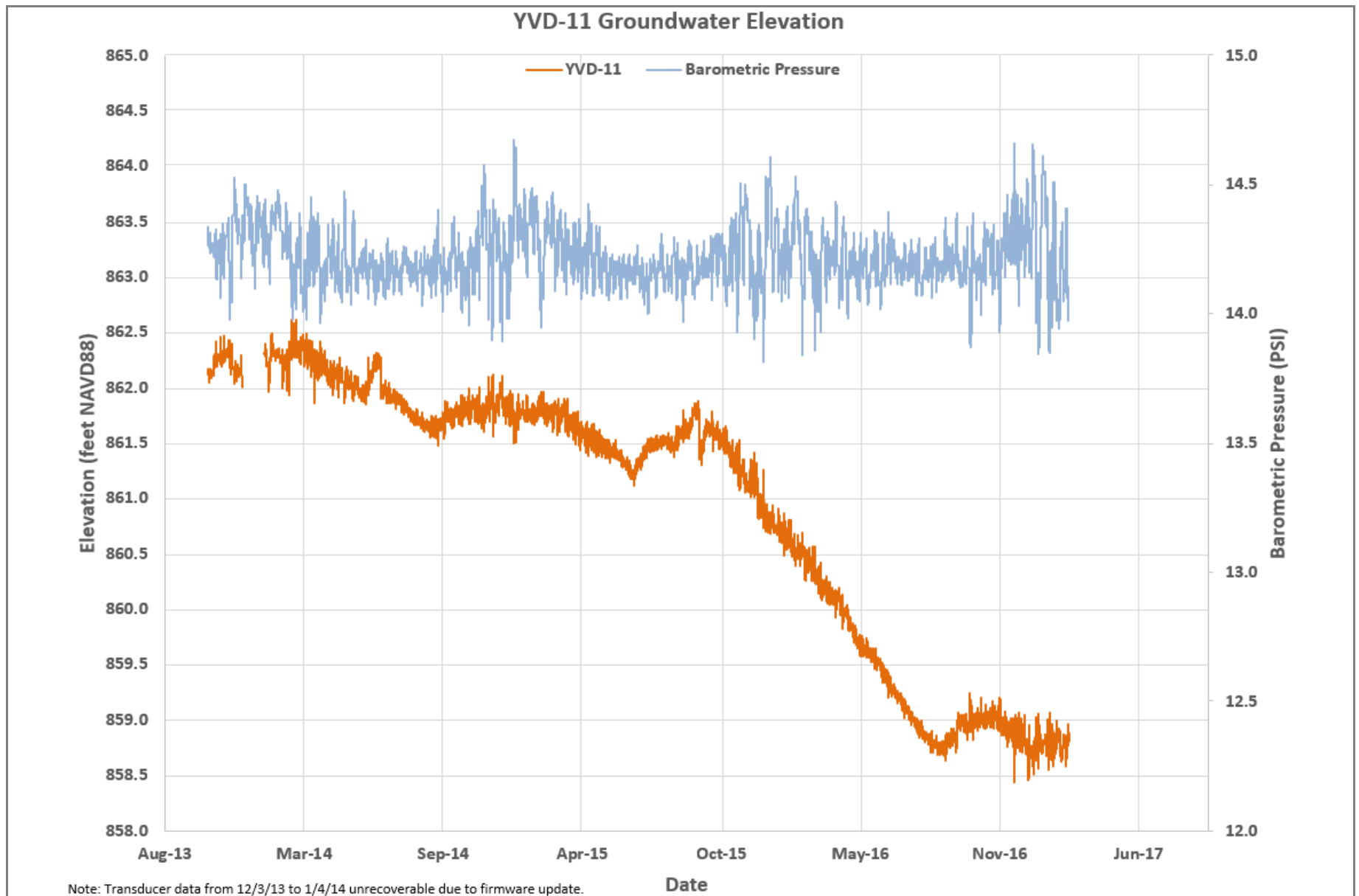
Figure 16E
Groundwater Hydrographs – YVD-03
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 Yakima Valley Dairies



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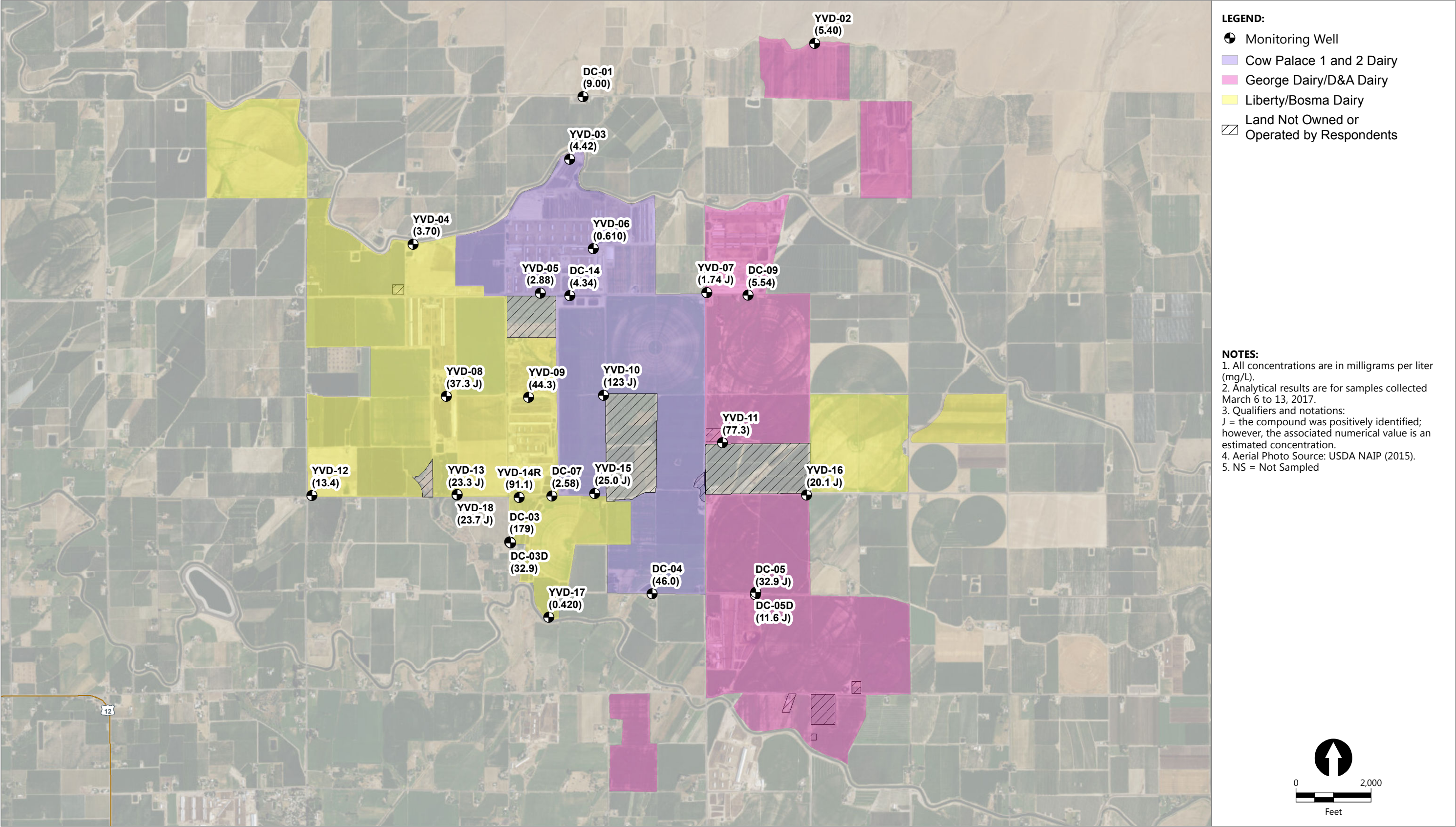
Figure 16F
Groundwater Hydrographs – YVD-08
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 Yakima Valley Dairies



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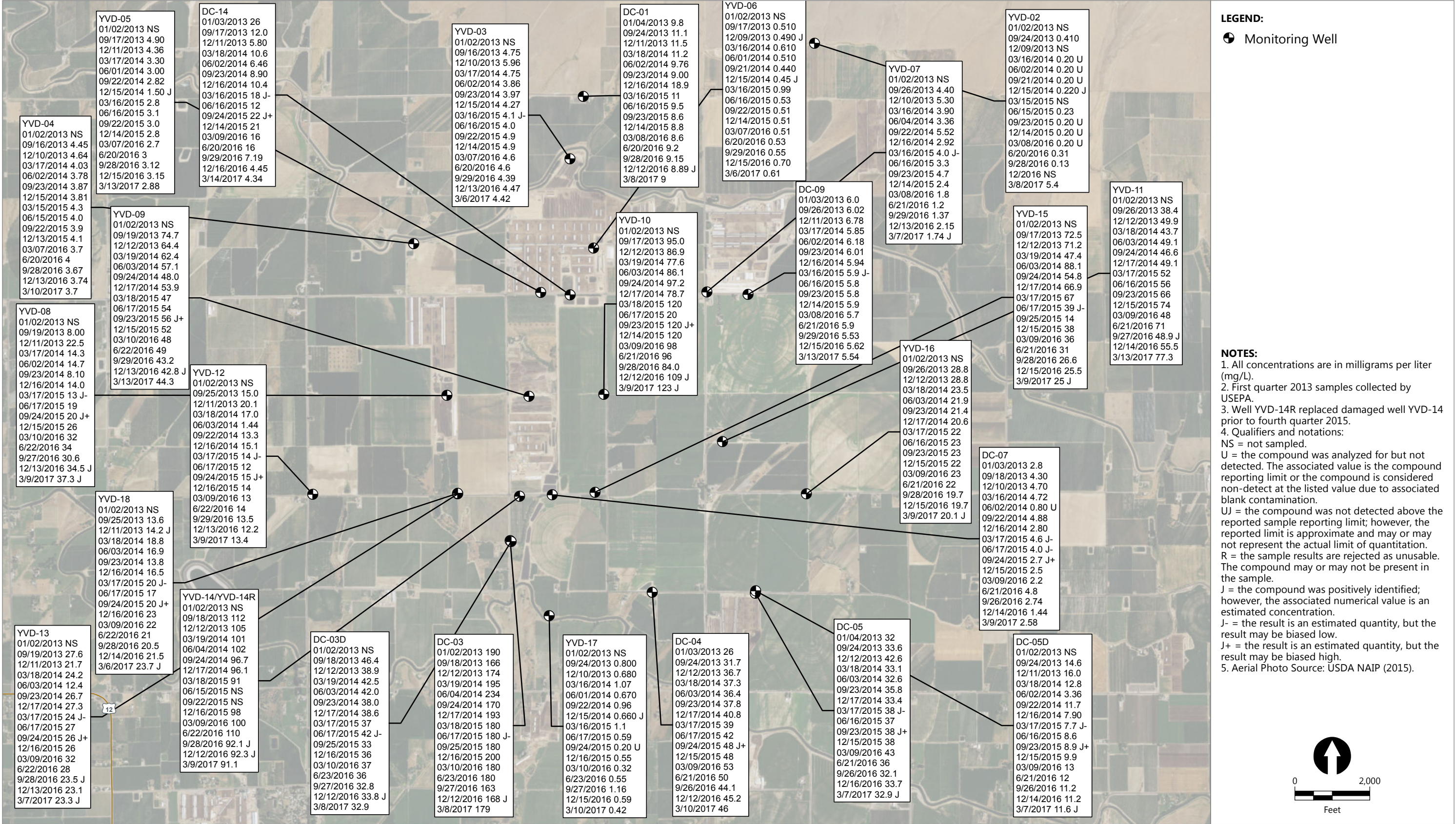
Figure 16G
Groundwater Hydrographs – YVD-11
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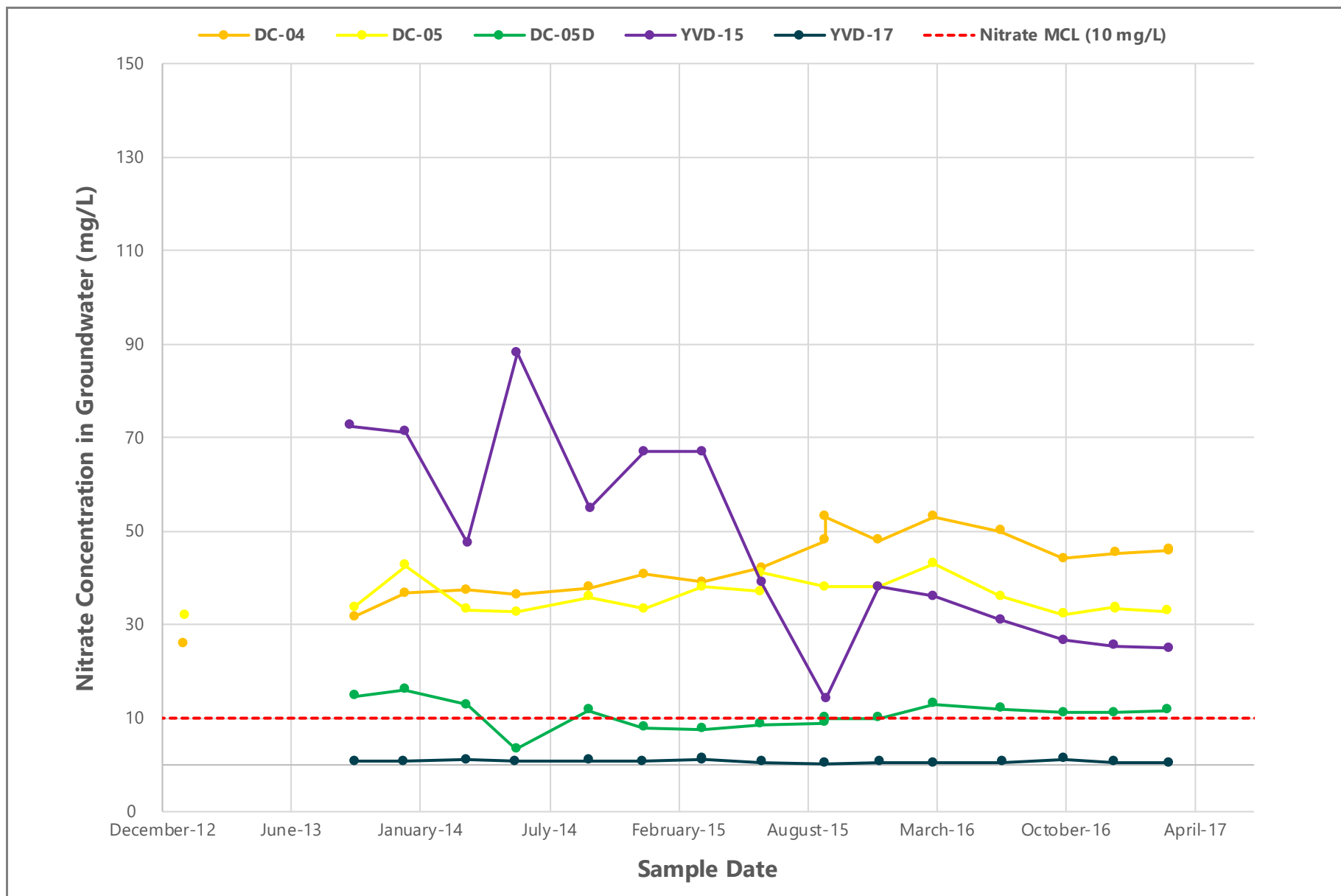
Figure 17A
Nitrate Concentrations in Groundwater First Quarter 2017
Groundwater Monitoring Data Report First Quarter 2017
Yakima Valley Dairies



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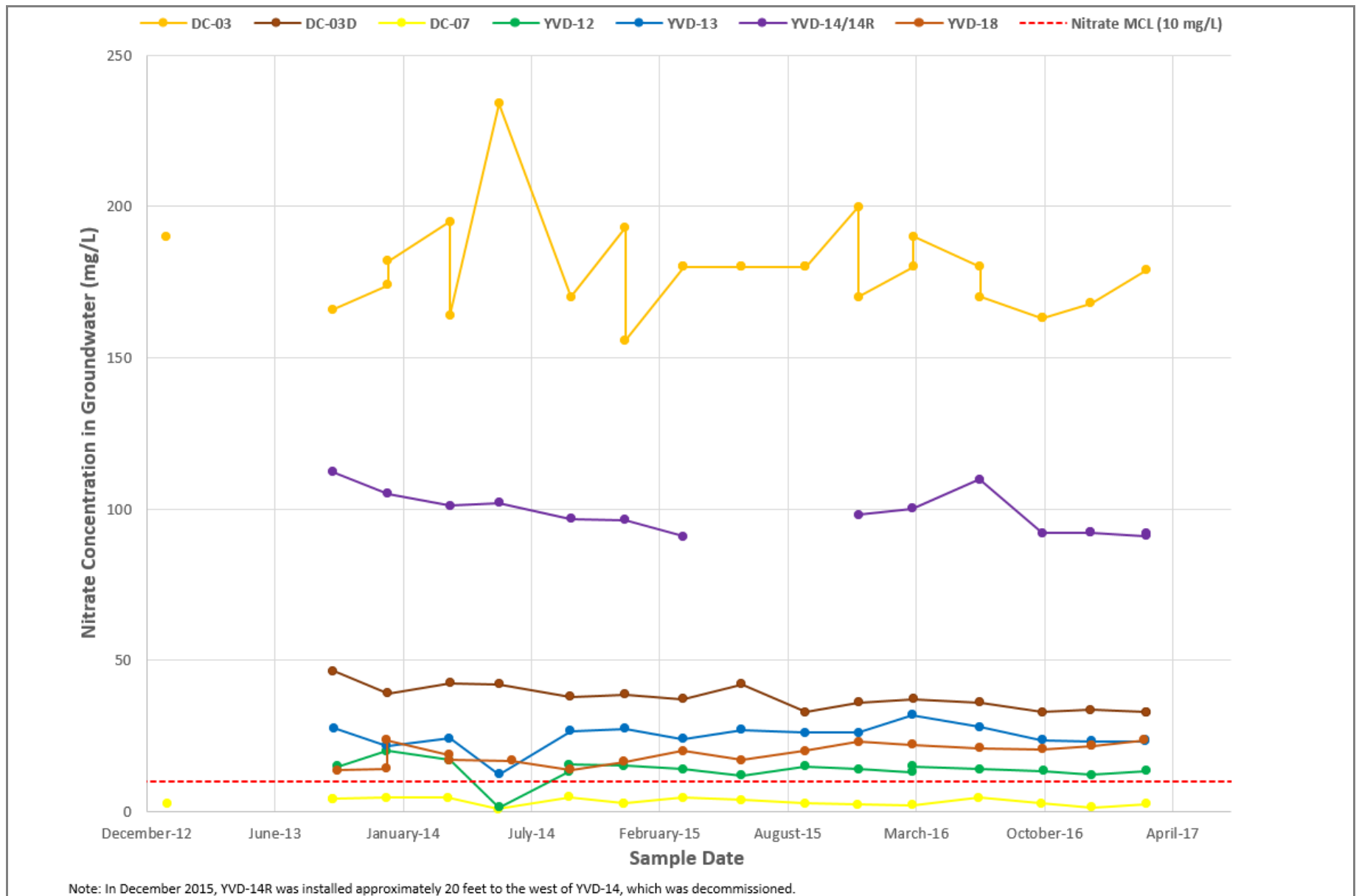
Figure 17B
Historical Nitrate Concentrations in Groundwater
Groundwater Monitoring Data Report First Quarter 2017
Yakima Valley Dairies



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Figure 18
Nitrate Concentrations – East Downgradient Wells
 Groundwater Monitoring Data Report First Quarter 2017
 Yakima Valley Dairies

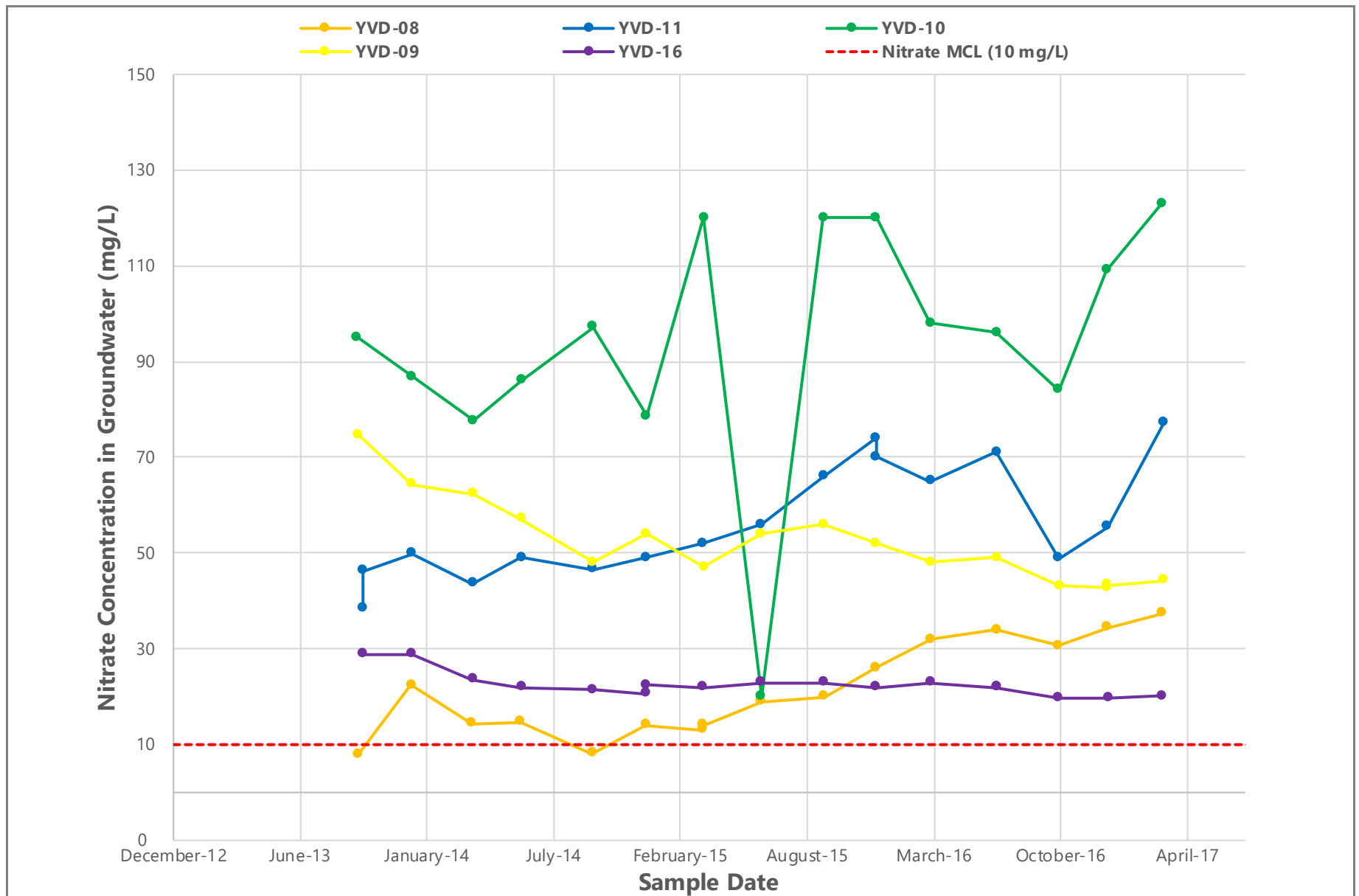




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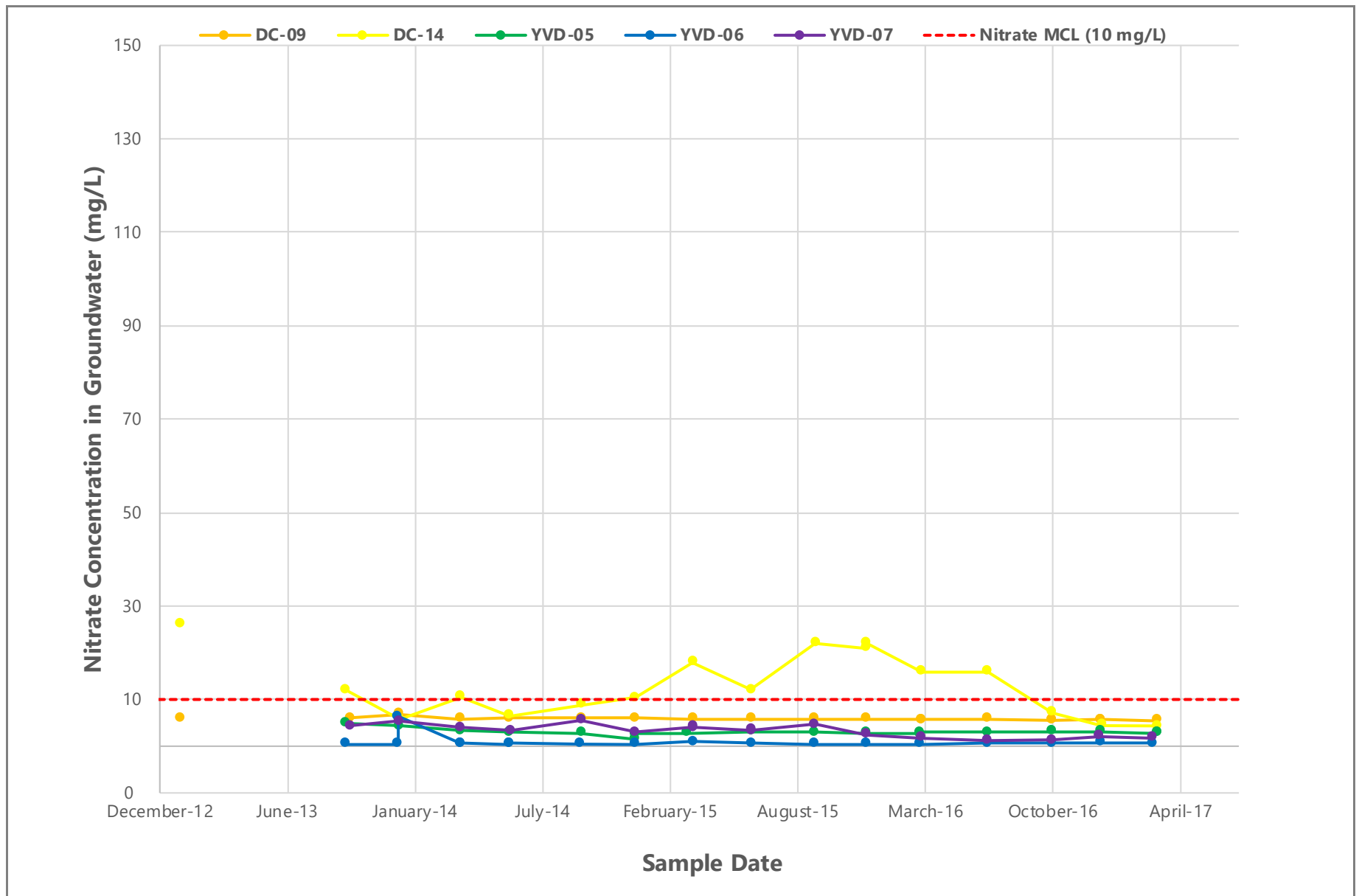
Figure 19
Nitrate Concentrations – West Downgradient Wells
 Groundwater Monitoring Data Report First Quarter 2017
 Yakima Valley Dairies



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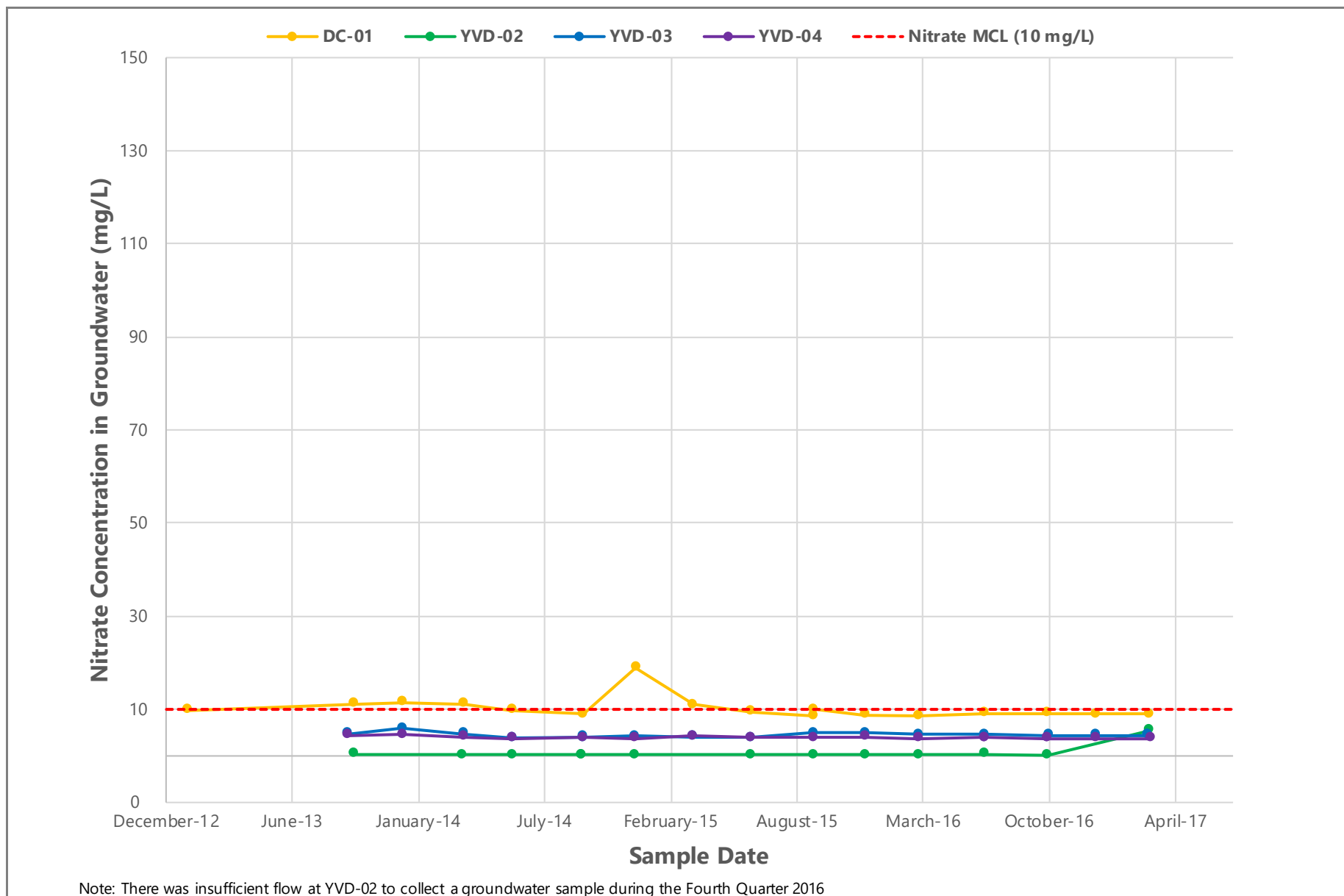
Figure 20
Nitrate Concentrations – Central Wells
 Groundwater Monitoring Data Report First Quarter 2017
 Yakima Valley Dairies



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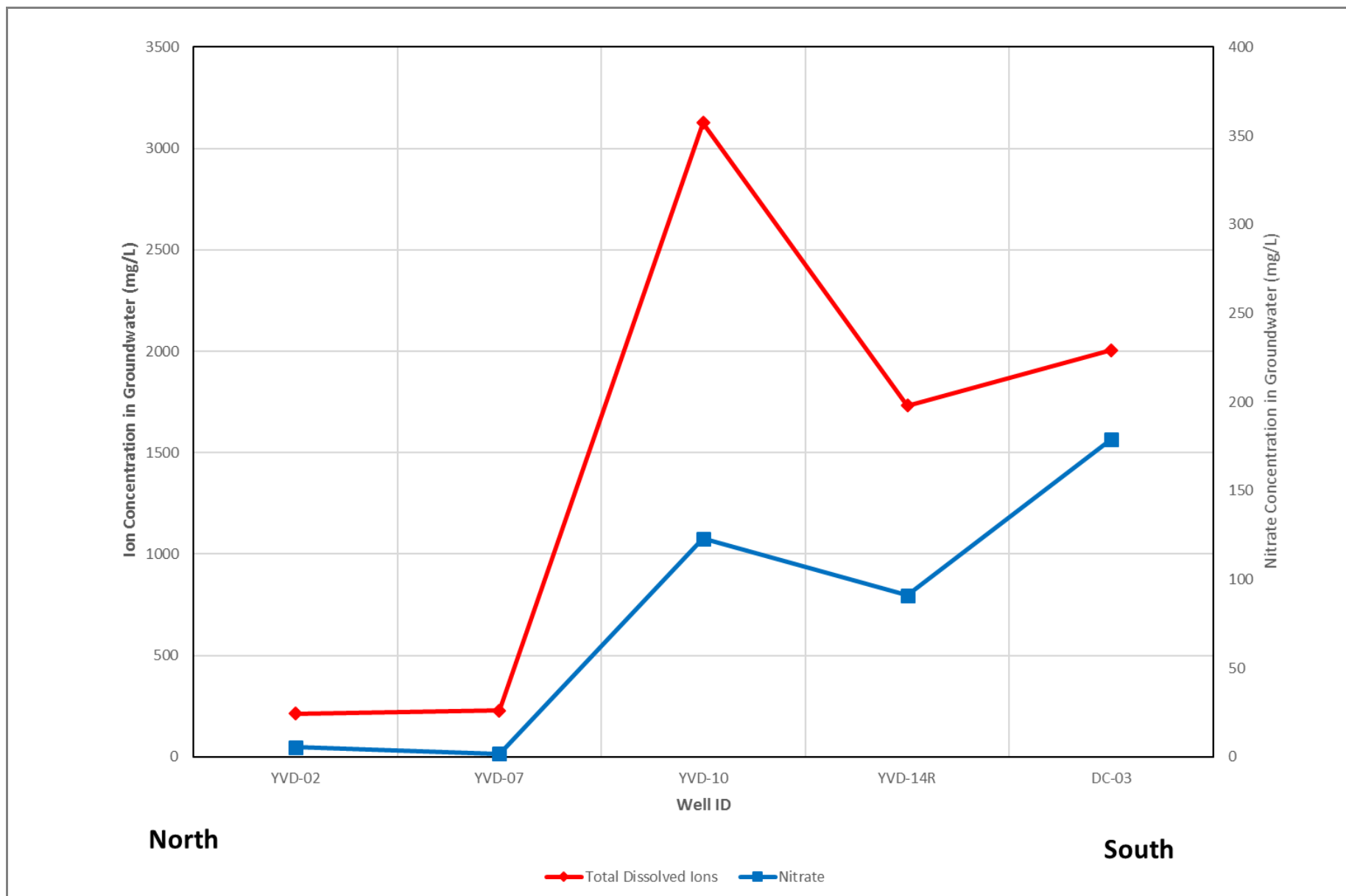
Figure 21
Nitrate Concentrations – Northern Wells
 Groundwater Monitoring Data Report First Quarter 2017
 Yakima Valley Dairies



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Figure 22
Nitrate Concentrations – Upgradient Wells
 Groundwater Monitoring Data Report First Quarter 2017
 Yakima Valley Dairies

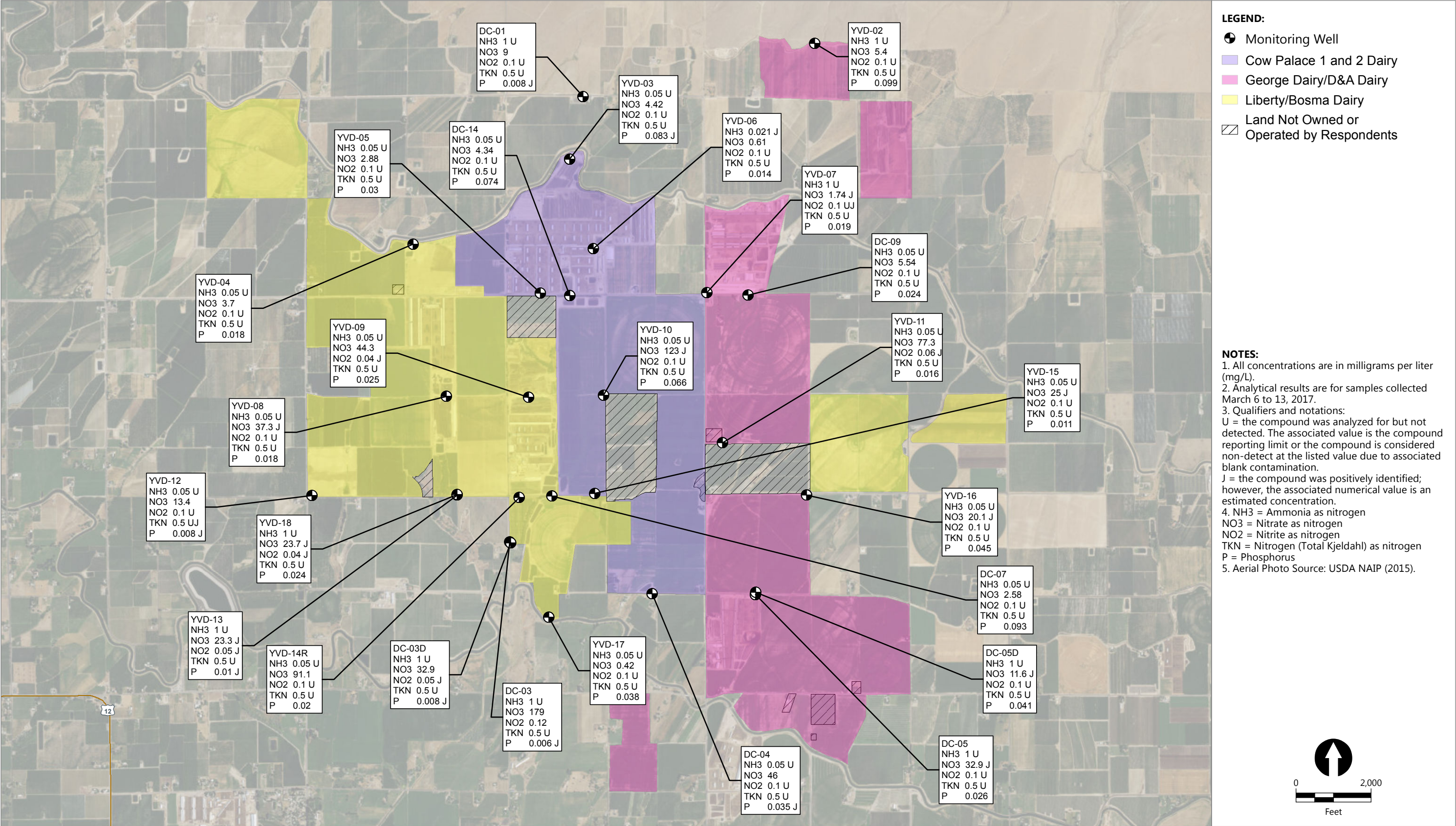


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Figure 23
Nitrate and Total Dissolved Ion Concentration along Cross Section G-G' Transect

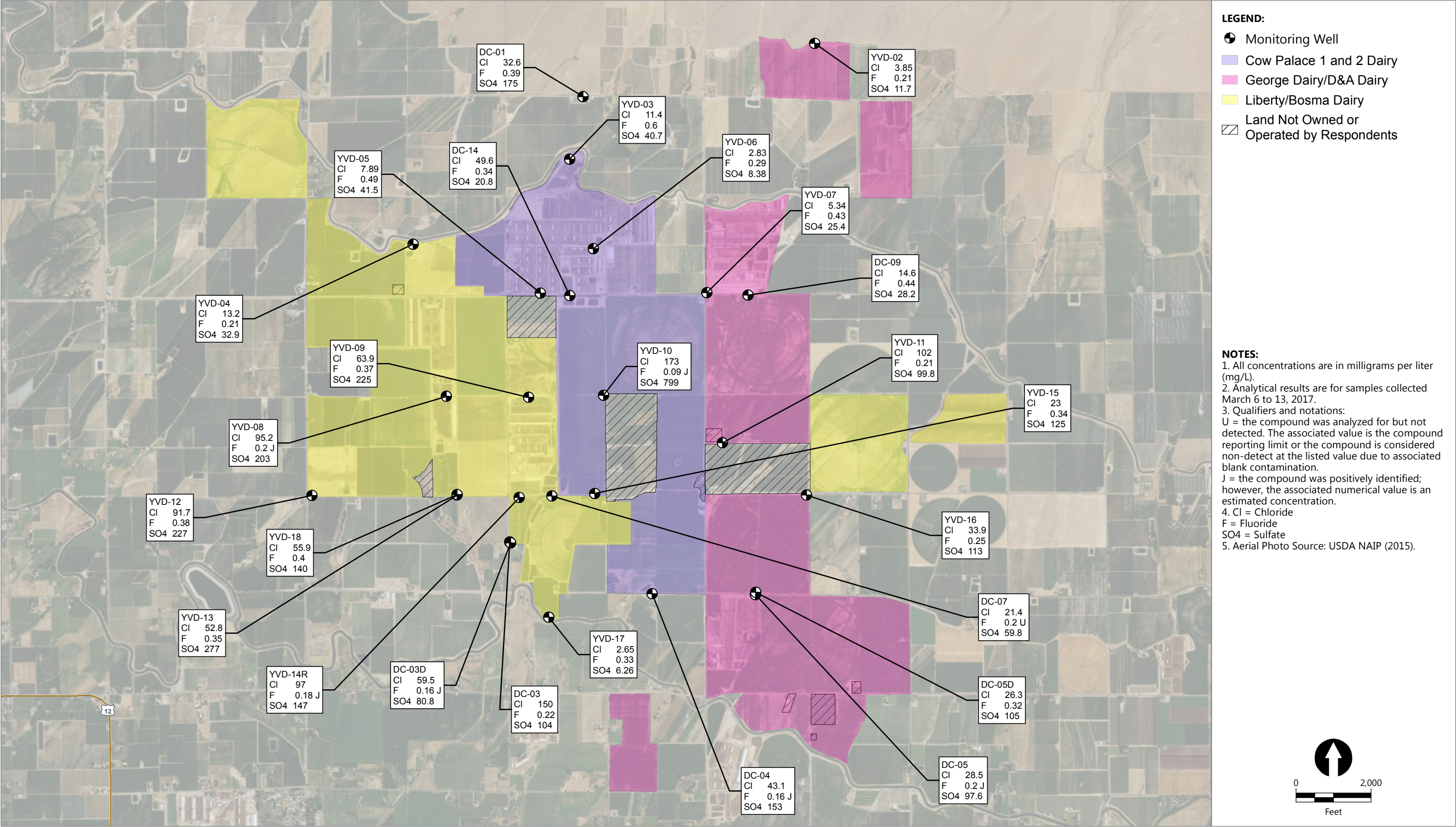
Groundwater Monitoring Data Report First Quarter 2017
Yakima Valley Dairies



Publish Date: 2017/04/28, 10:38 AM | User: ckiblinger
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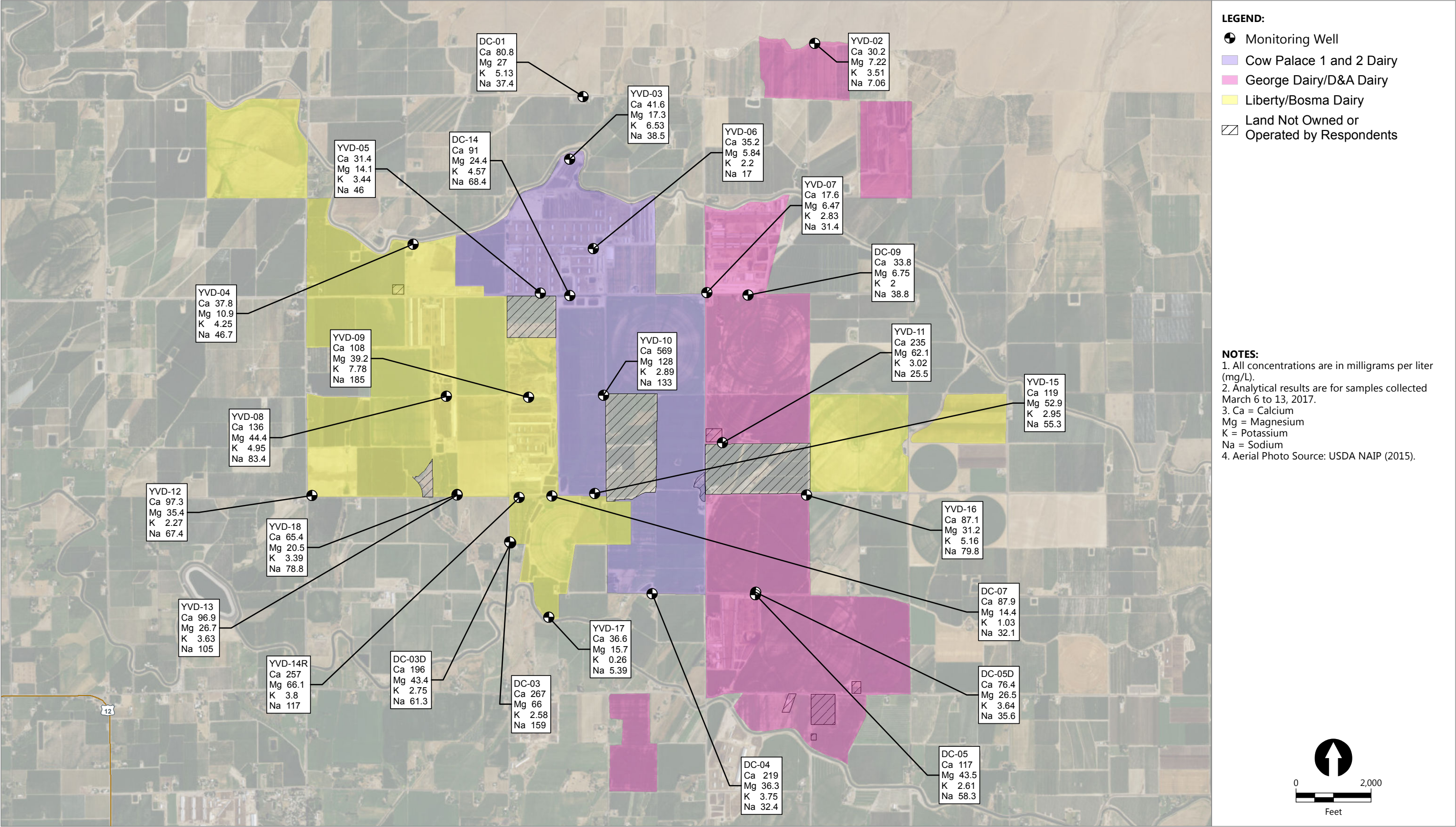
Figure 24
Nutrient Concentrations in Groundwater First Quarter 2017
Groundwater Monitoring Data Report First Quarter 2017
Yakima Valley Dairies



Publish Date: 2017/05/10, 11:03 AM | User: ckiblinger
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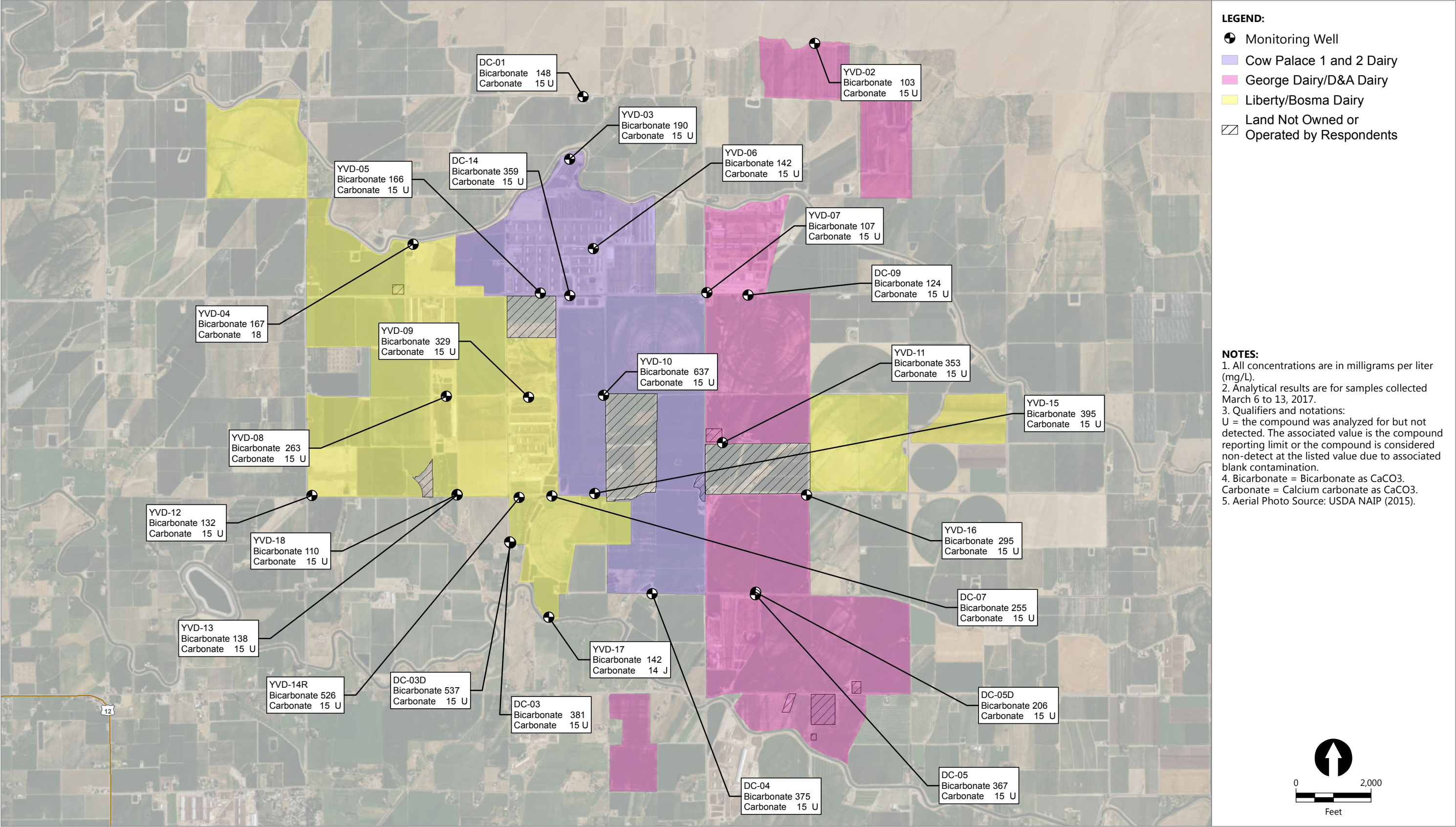
Figure 25
Anion Concentrations in Groundwater First Quarter 2017
Groundwater Monitoring Data Report First Quarter 2017
Yakima Valley Dairies



Publish Date: 2017/04/26, 5:07 PM | User: ckiblinger
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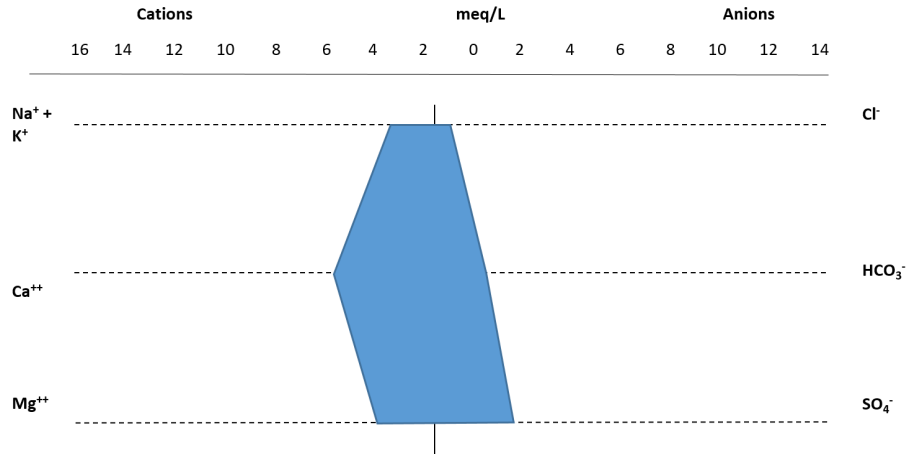
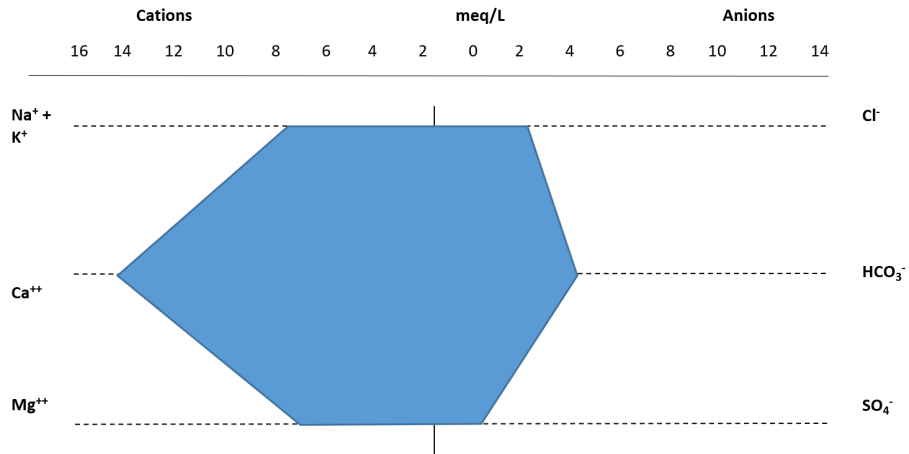
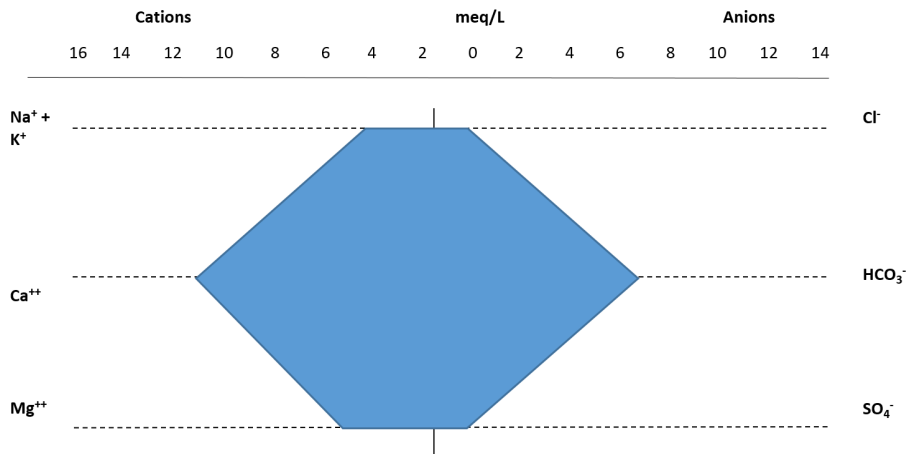
Figure 26
Metals Concentrations in Groundwater First Quarter 2017
Groundwater Monitoring Data Report First Quarter 2017
Yakima Valley Dairies



Publish Date: 2017/04/26, 4:31 PM | User: ckiblinger
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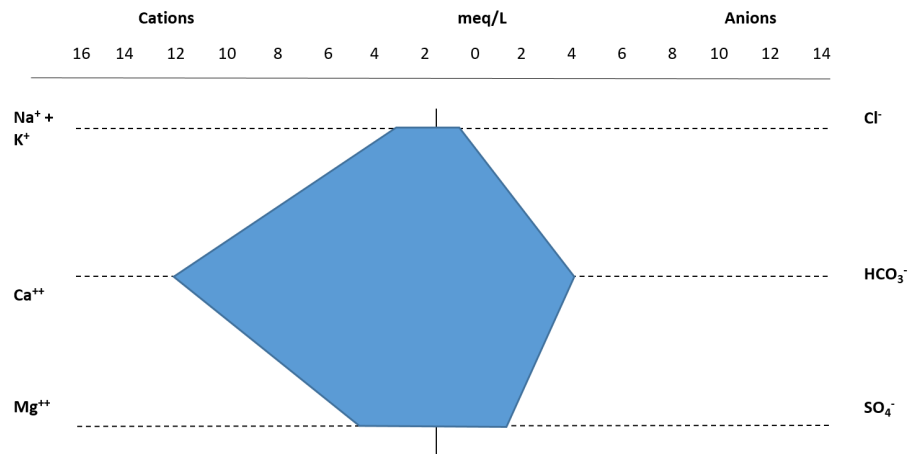
Figure 27
Alkalinity Concentrations in Groundwater First Quarter 2017
Groundwater Monitoring Data Report First Quarter 2017
Yakima Valley Dairies

DC-01**DC-03****DC-03D**

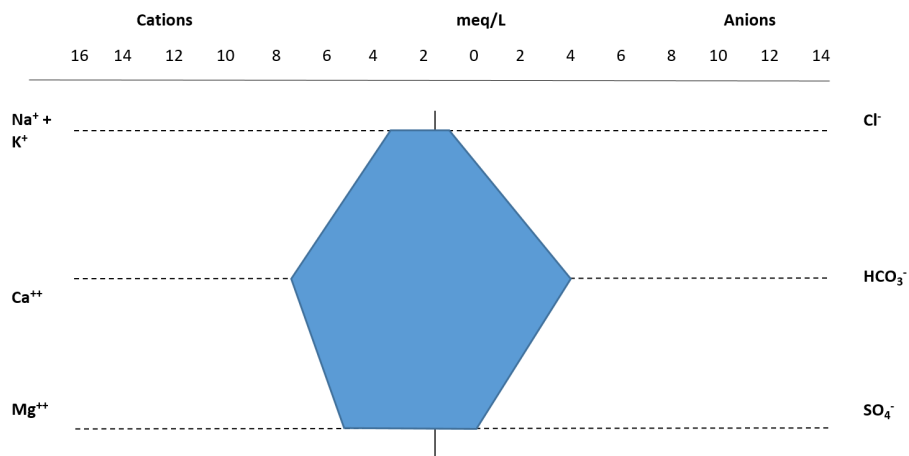
NOTE: meq/l = milliequivalents per liter

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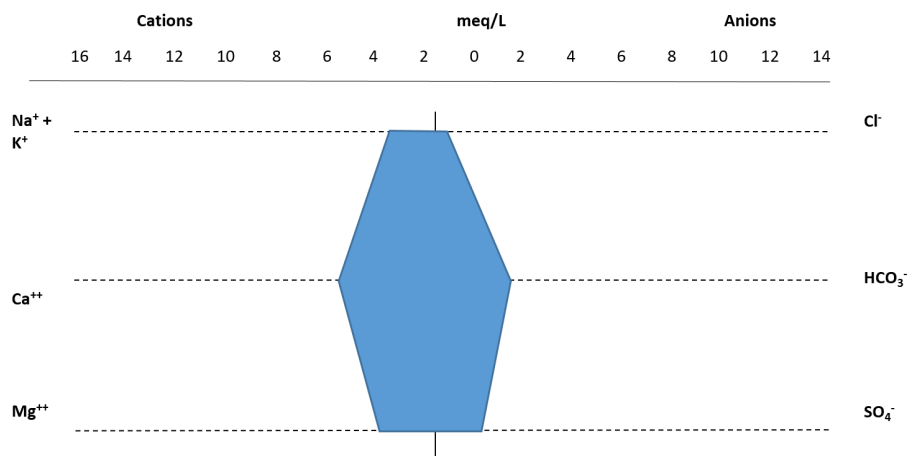
DC-04



DC-05

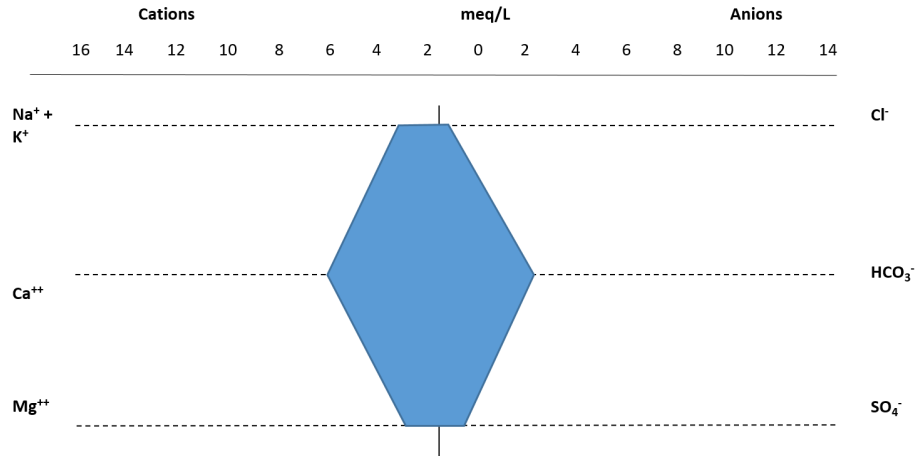
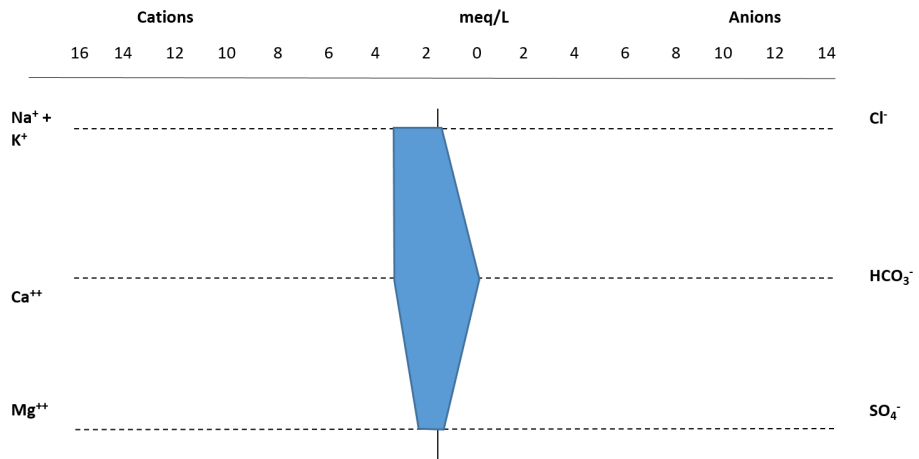
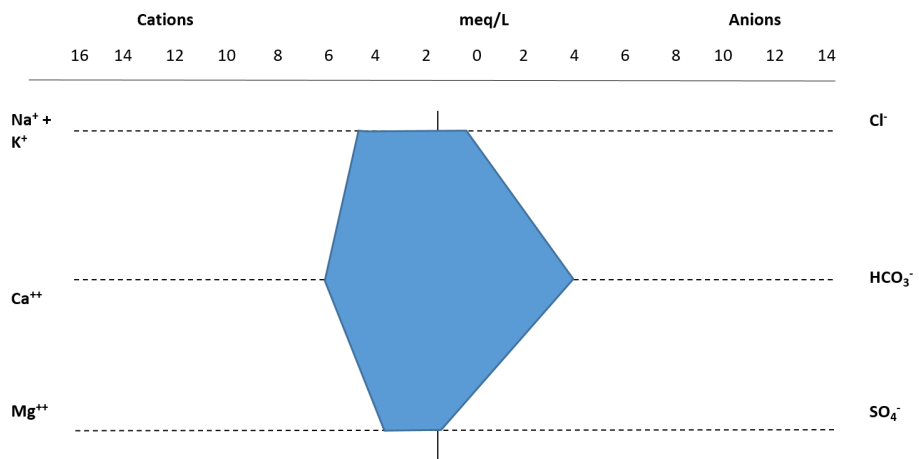


DC-05D



NOTE: meq/l = milliequivalents per liter

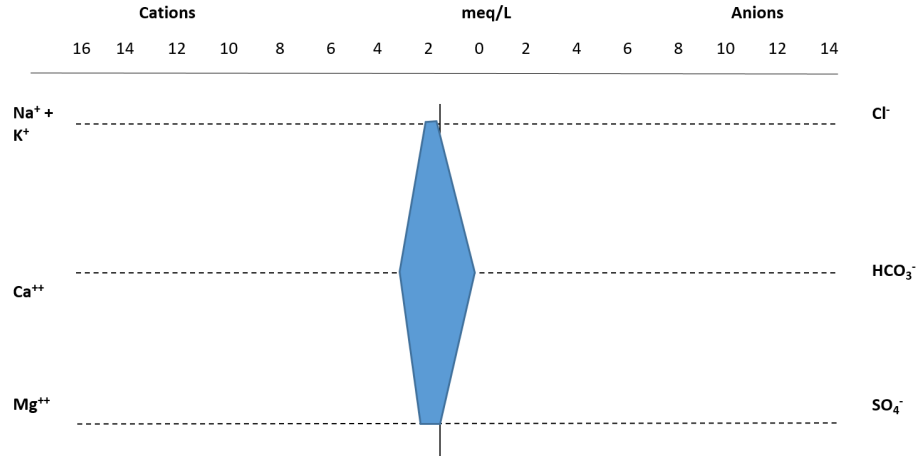
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DC-07**DC-09****DC-14**

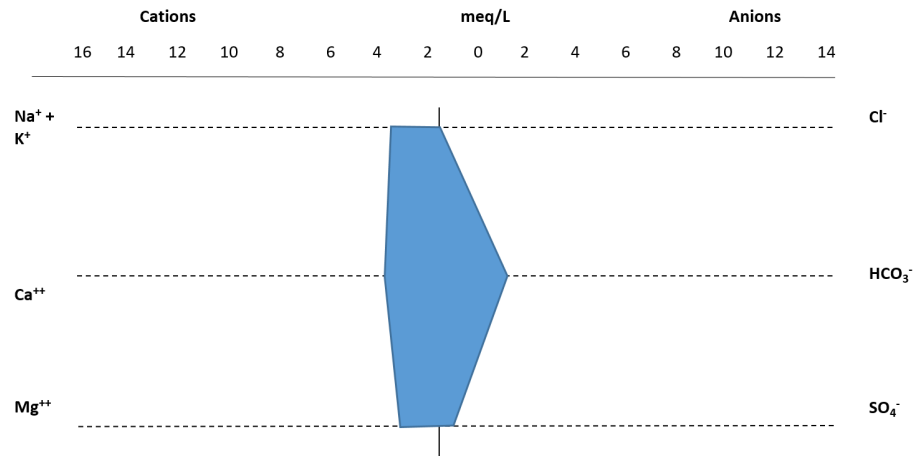
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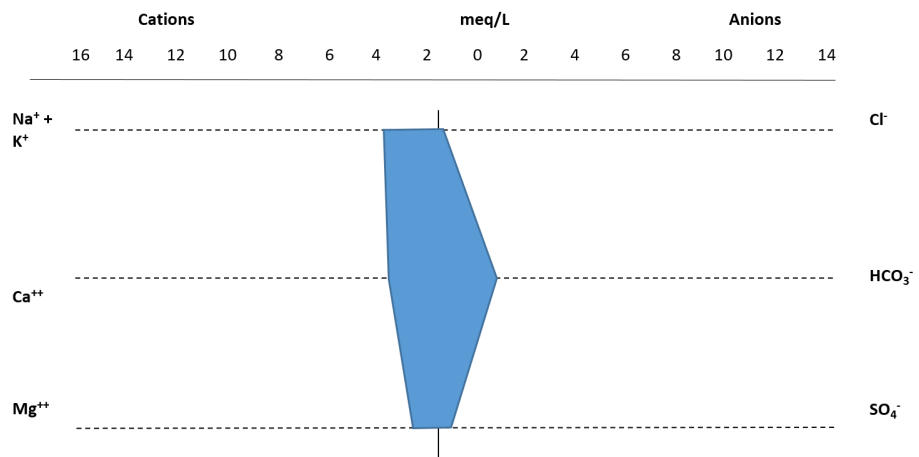
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YVD-03



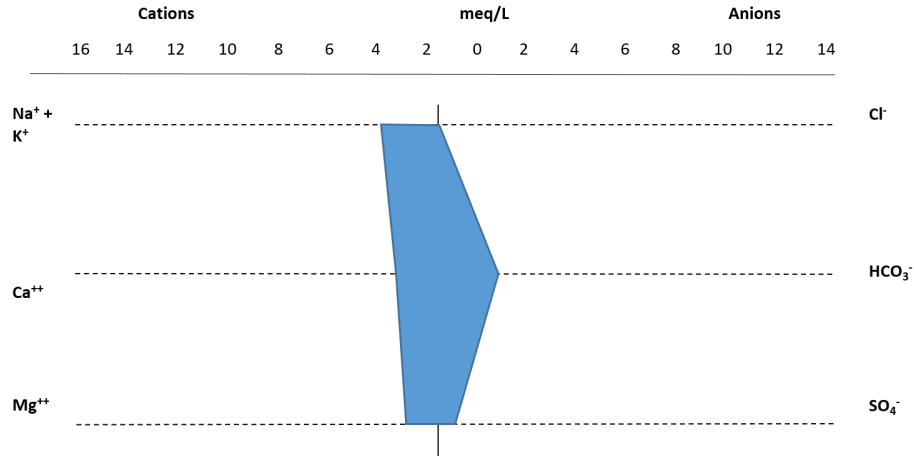
YVD-04



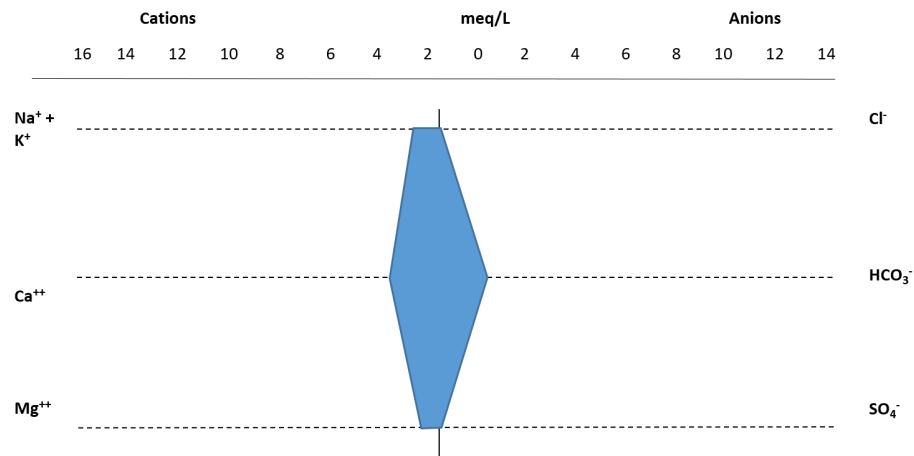
NOTE: meq/l = milliequivalents per liter

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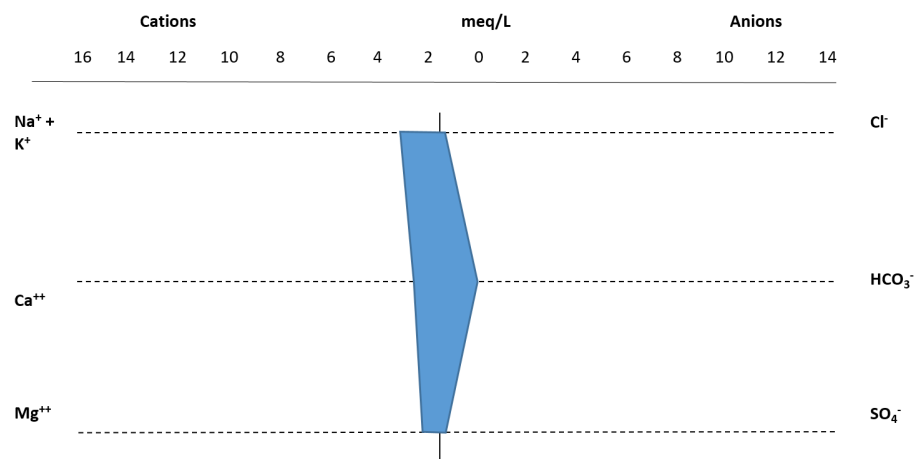
YVD-05



YVD-06



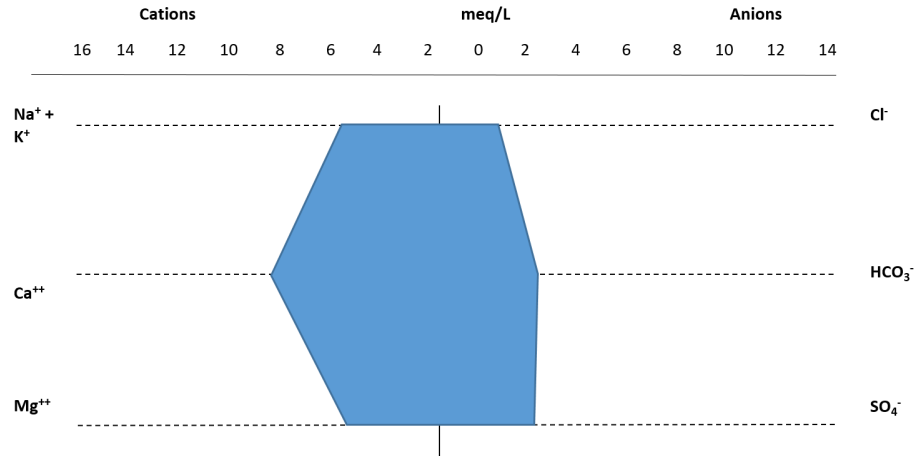
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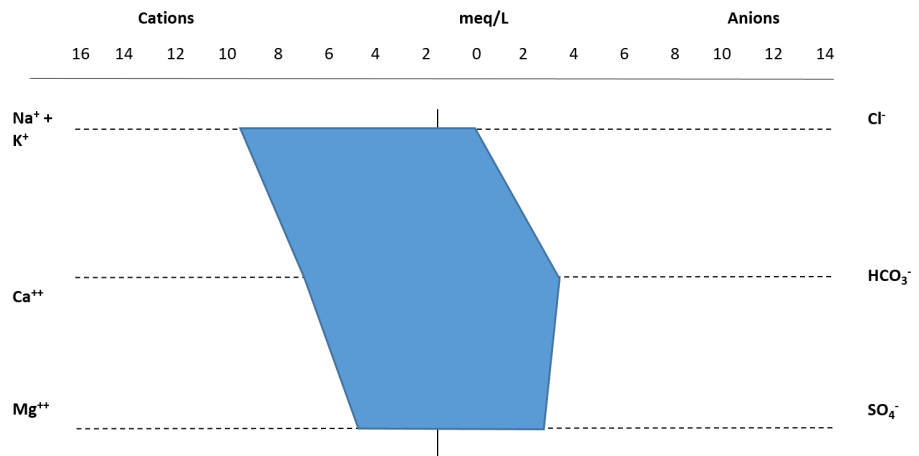
NOTE: meq/l = milliequivalents per liter

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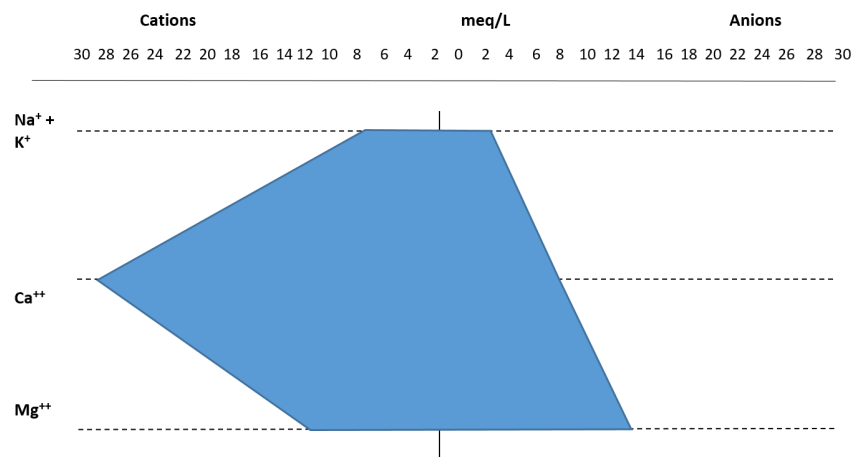
YVD-08



YVD-09



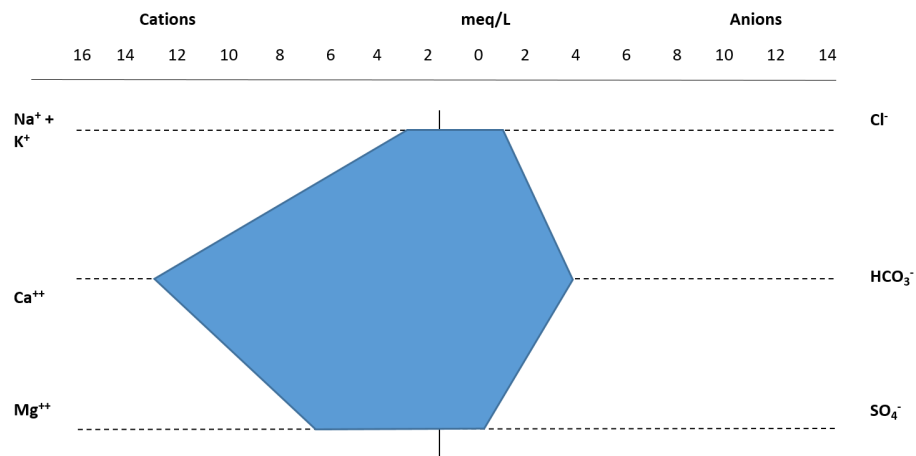
YVD-10



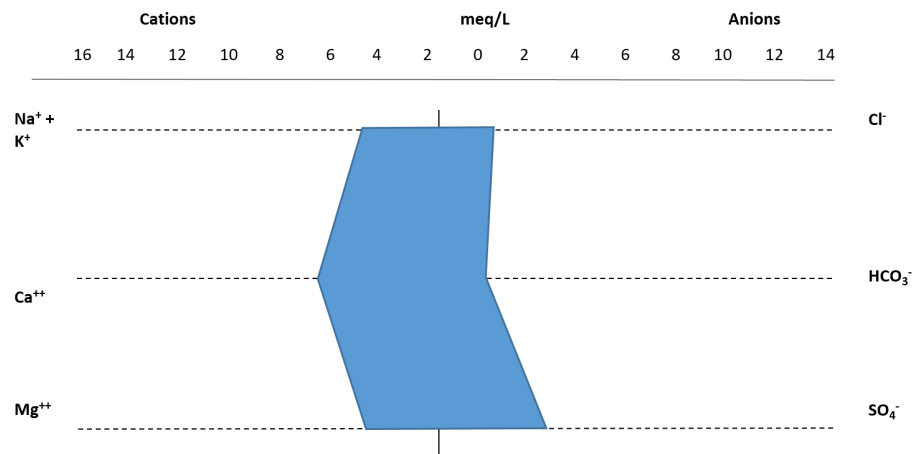
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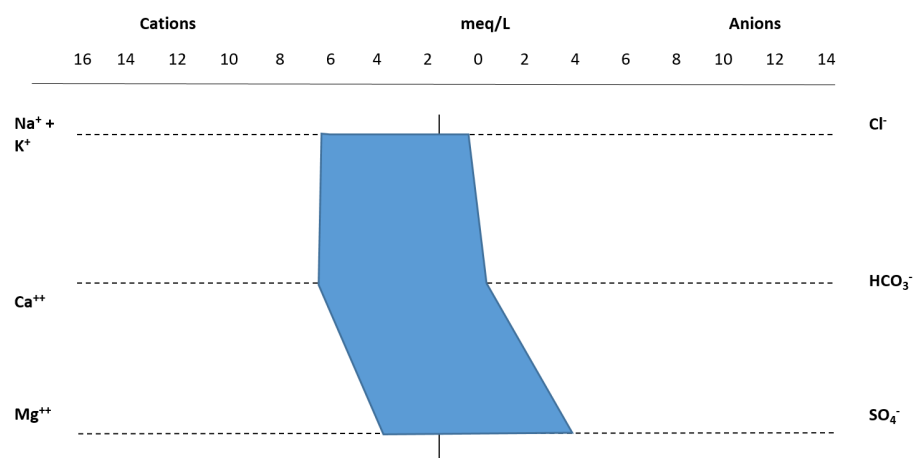
YVD-11



YVD-12



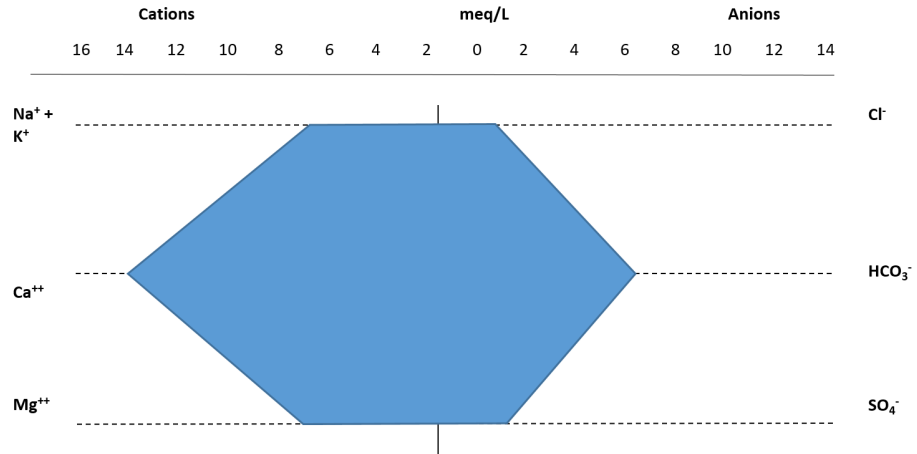
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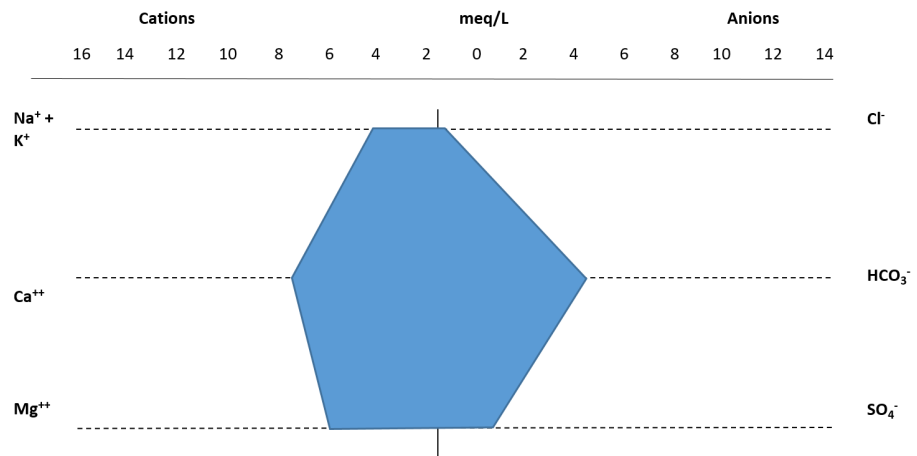
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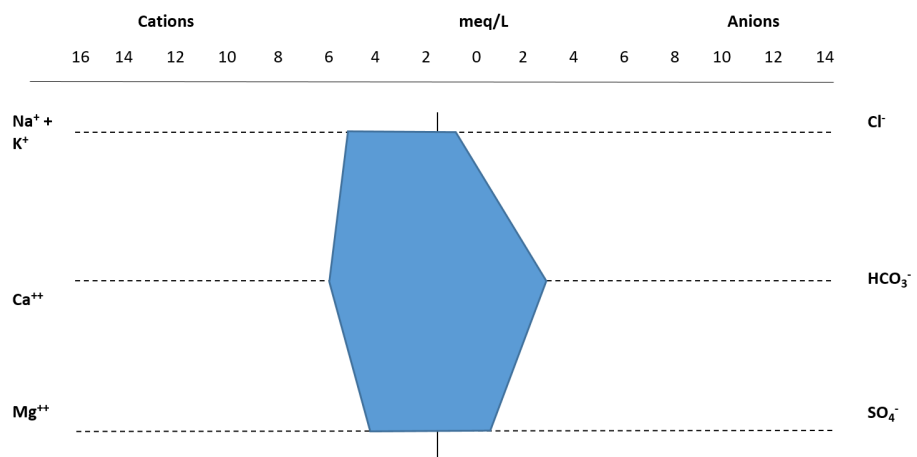
YVD-14R



YVD-15



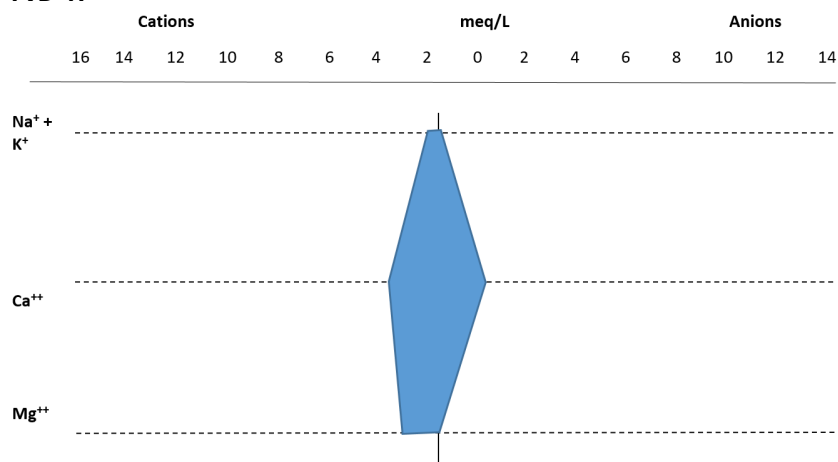
YVD-16



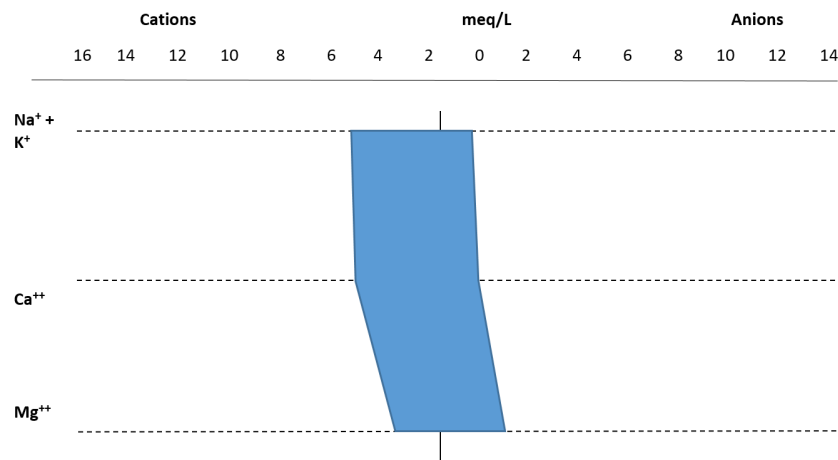
NOTE: meq/l = milliequivalents per liter

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YVD-17

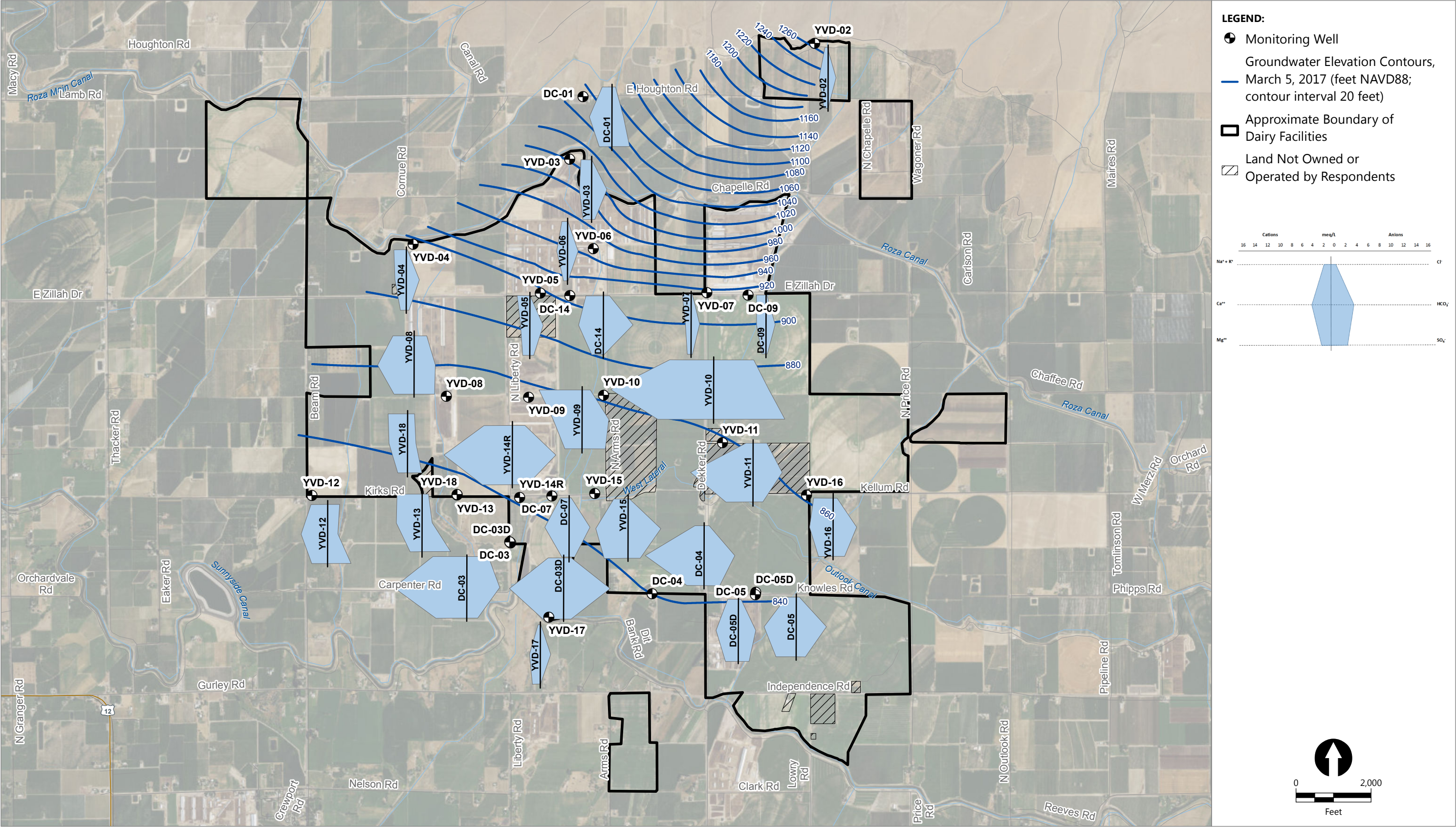


YVD-18



NOTE: meq/l = milliequivalents per liter

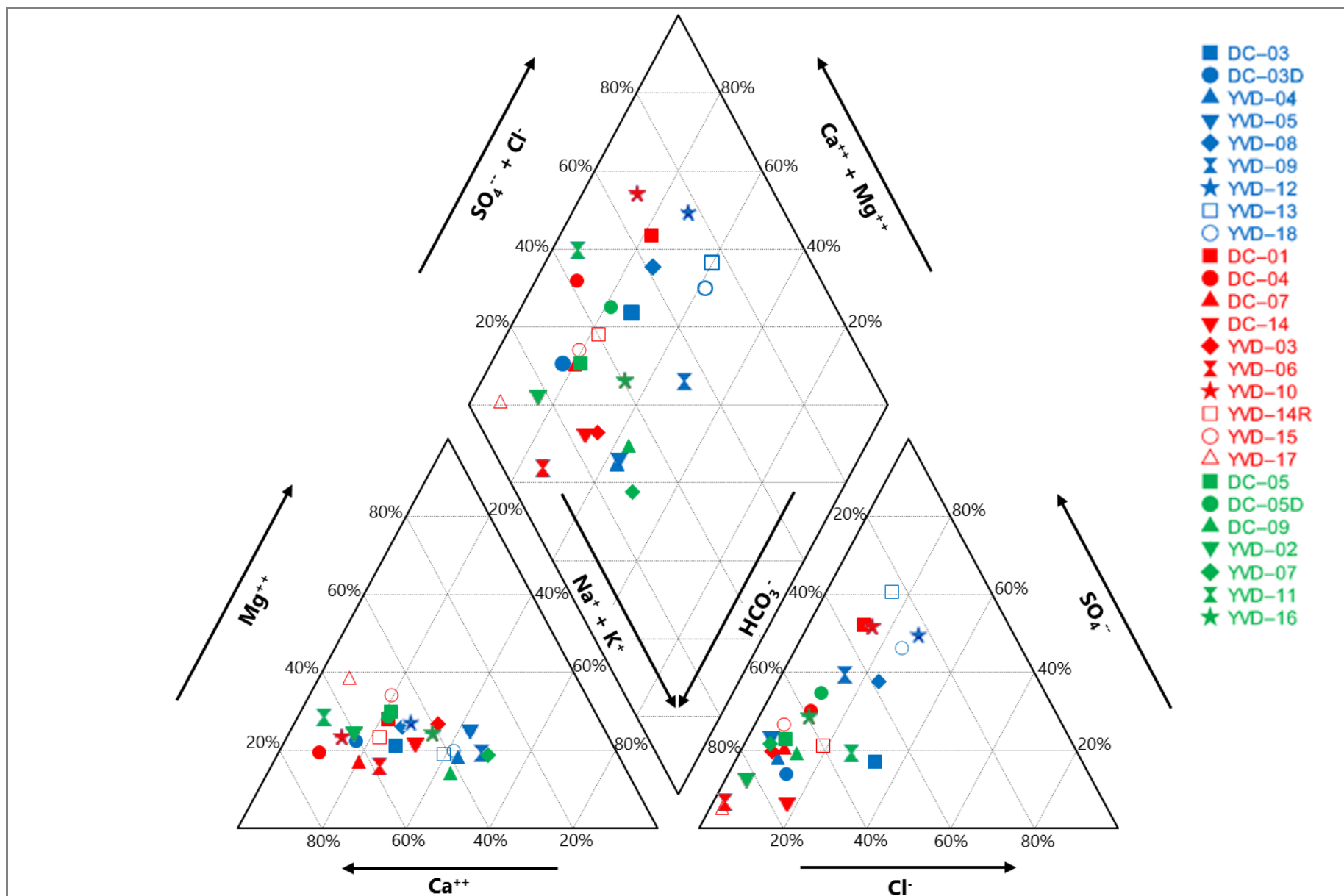
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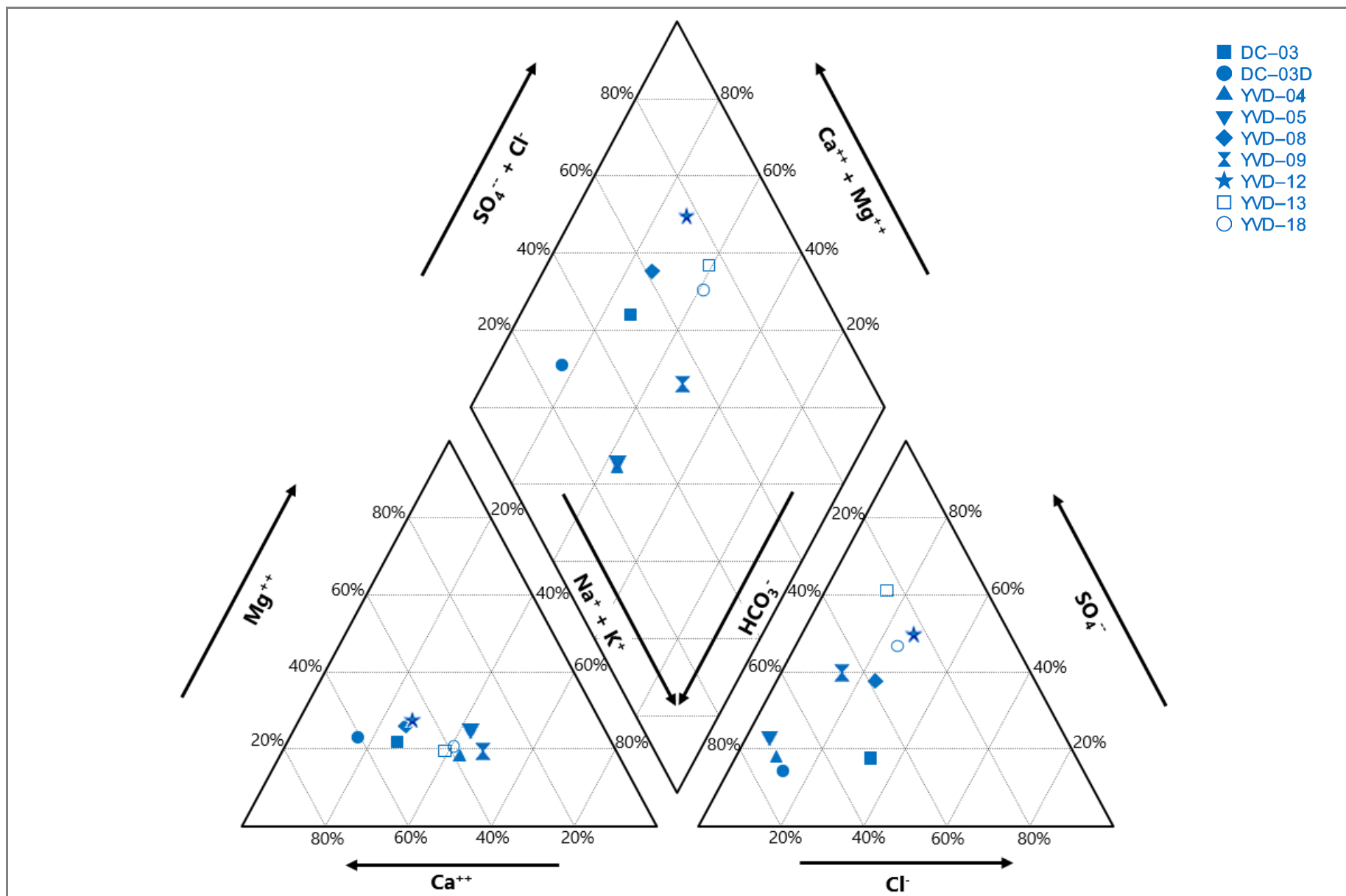
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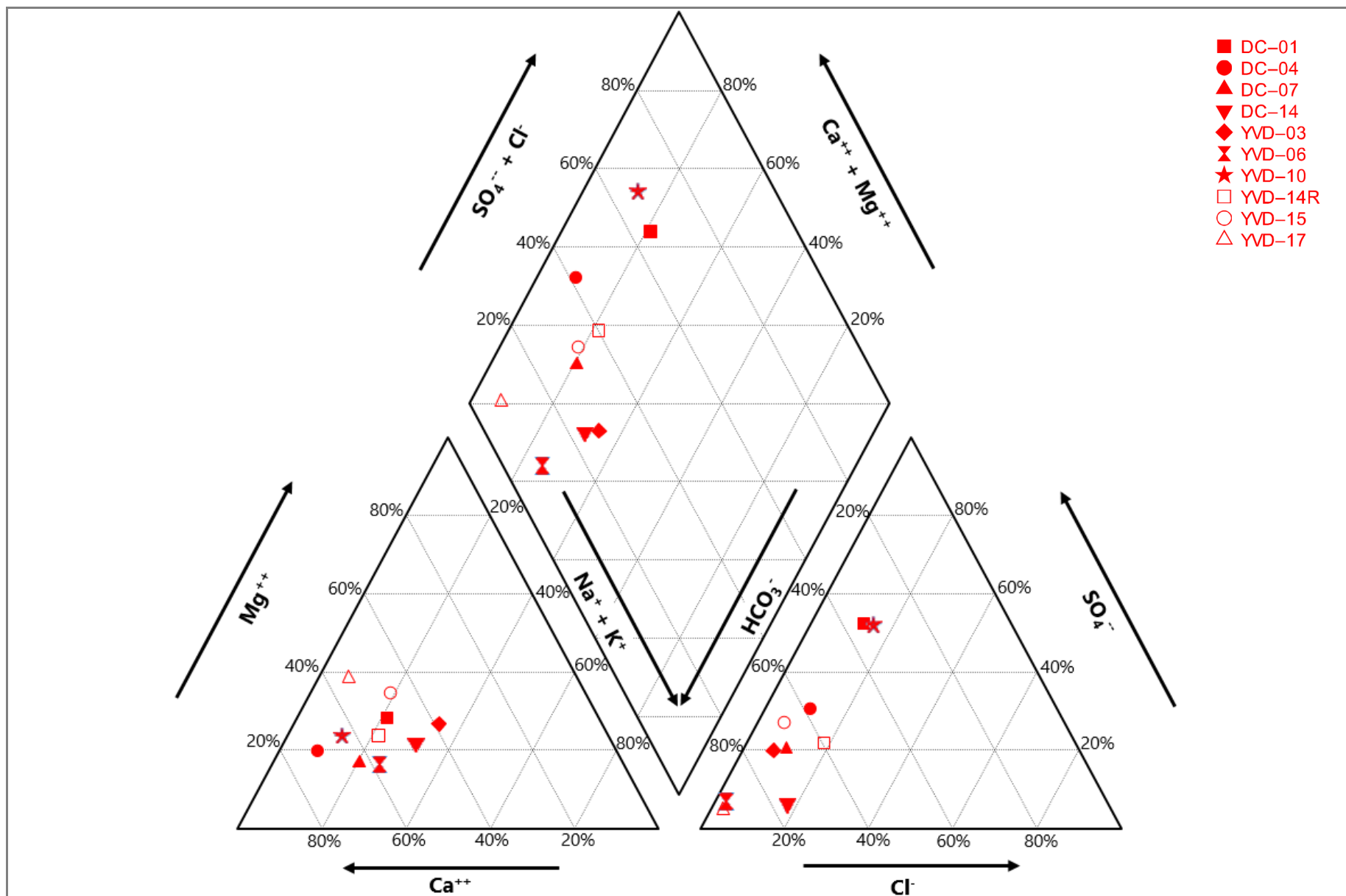
Figure 29
Stiff Diagrams and Groundwater Elevation Contour Map
Groundwater Monitoring Data Report First Quarter 2017
Yakima Valley Dairies



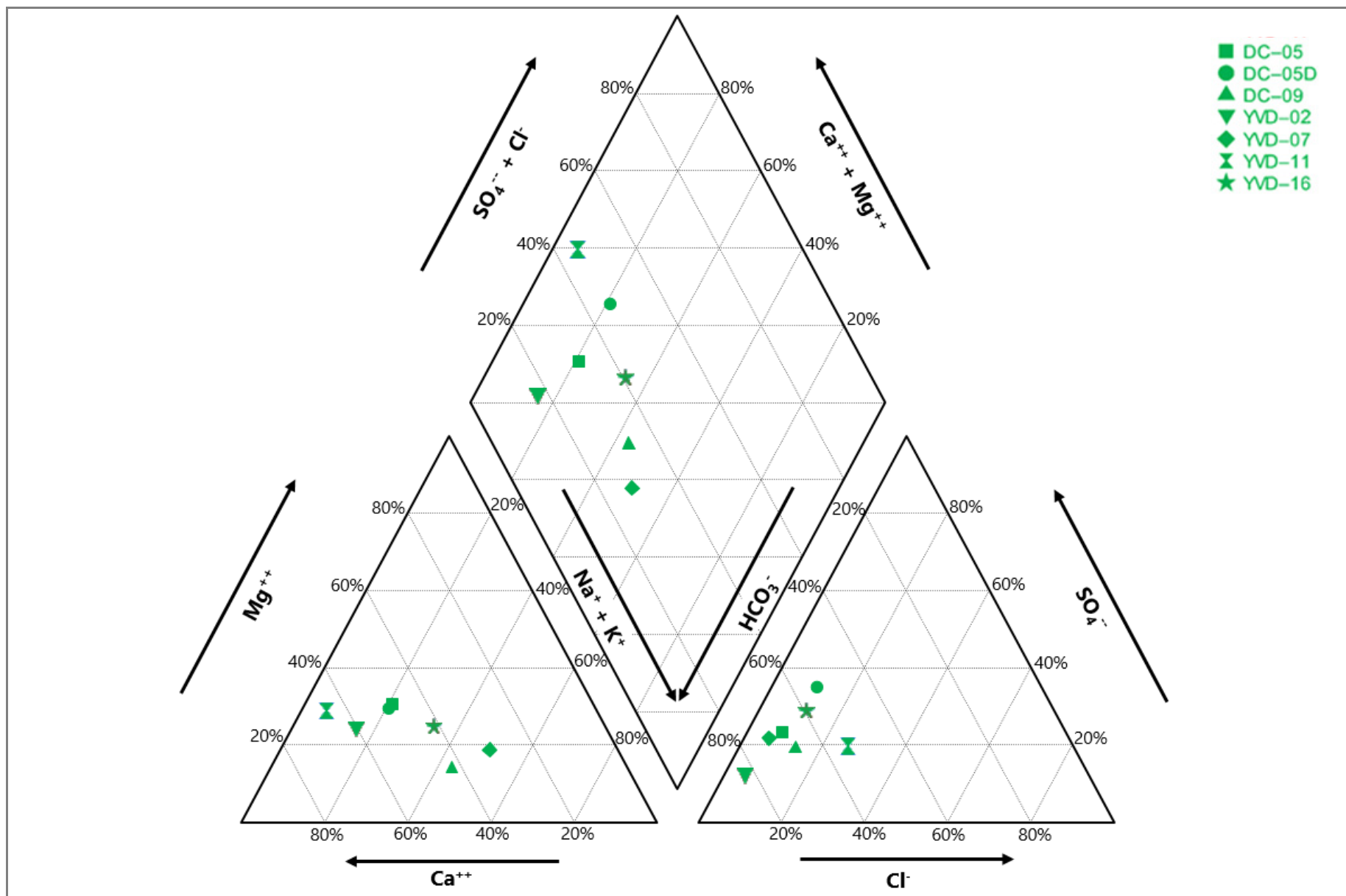
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