Regional Water Quality Control Board
Central Valley Region Board Meeting
20/21 February 2025

Response to Written Comments for the City of Sacramento's 28th Street Landfill Tentative Waste Discharge Requirements and Tentative Monitoring and Reporting Program

At a public hearing scheduled for 20/21 February 2025, the Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) will consider adoption of revised Waste Discharge Requirements (WDRs) and revised Monitoring and Reporting Program (MRP) for the City of Sacramento's (Discharger) 28th Street Landfill (Facility) in Sacramento County. This document contains responses to written comments received in response to the public notice circulated on 26 November 2024 to interested persons regarding the tentative WDRs and MRP. To receive full consideration, written comments to the public notice were required to be received by the Central Valley Water Board by close of business on 27 December 2024.

The only comments received were from the Discharger.

The comments received are summarized below, followed by responses from Central Valley Water Board staff and details of any changes made in response to the comments received. In addition, staff has made minor changes to the tentative WDRs to improve clarity and fix typographical errors which are also shown summarized at the end of these responses to comments.

DISCHARGER COMMENTS

DISCHARGER COMMENT NO. 1: MRP Table 17

MRP Table 17 proposes monthly sampling of landfill gas corrective action extraction wells for VOCs by TO-15. Table 16 lists 245 wells as being in the landfill gas corrective action extraction well network, including Dellar Property wells. The purpose of landfill gas extraction wells are to extract landfill gas so the concentrations at the extraction wells would be expected to have field parameter readings above the presence of landfill gas screening trigger levels of 1 percent methane by volume or 50 ppbv listed in note 1 of MRP Table 17. We would like to note that the requested organic vapors detected above 50 ppbv is likely a typo and should be revised to ppmv. The standard photoionization detector (PID) uses a lamp for detecting total VOCs reports as ppmv. Sampling all of the landfill gas extraction wells listed on Table 16 on a monthly basis would result in 2,940 TO-15 VOC samples being collected per year.

The VOC composition of the landfill gas extracted will be monitored by the semi-annual TO-15 influent sampling under MRP Table 15, which can be used for comparison of landfill gas to any VOCs detected in groundwater. Geosyntec recommends that TO-15

VOC sampling be removed from Table 17 along with the mention of Dellar Property landfill gas extraction wells, as it would not be feasible to sample the extraction wells, nor relevant for the Dellar Property, and the gas influent provides monitoring of the landfill gas composition for evaluation purposes.

RESPONSE: Photoionization detectors (PID) are capable of reading 0.010 parts per million (ppmv) or 10 parts per billion (ppbv). However, the requirement has been changed from 50 ppbv to 1000 ppbv (1 ppmv) to accommodate a wider range of PIDs in industry. Note 1 of Table 17 acknowledges that only those extraction wells listed in Table 16 that have been specifically identified in a corrective action program (CAP) to address VOC exceedances detected in groundwater at point of compliance (POC) wells or beyond the Facility boundary need to be evaluated for methane or VOC concentrations to determine if further TO-15 analysis is required. If the Discharger's CAP identifies certain LFG extraction wells that will be used to address a VOC release to groundwater those LFG extraction wells need to be monitored more closely and at an accelerated monitoring frequency to determine if those LFG extraction wells are affectively removing VOCs. Monitoring VOCs in the influent of the Gas Collection and Control System (GCCS) would not provide localized information as to VOC removal at the LFG extraction wells identified in the CAP to address localize VOC detections in groundwater. Please see Attachment H-3 which shows recent VOC detections in groundwater monitoring wells. Since the Discharger has suggested the landfill gas is one of the causes of VOCs in groundwater the Discharger in its CAP should identify which LFG extraction wells will be used to address the release. To only those LFG extraction wells does section C.4 Table 17 and Note 1 apply. MRP Table 17 and Note 1 remains unchanged except that extraction wells for the Dellar property have been removed.

DISCHARGER COMMENT NO. 2: **MRP Table 7**

Table 7 proposes monthly TO-15 VOC sampling at detection gas probes that exceed a field screening limit of either 1 percent methane by volume if monitored by a gas analyzer and 50 ppmv if monitored by a PID, which could result in 0 to 96 TO-15 VOCs samples being collected per year.

Annual TO-15 VOC sampling of detection gas probes when there is an exceedance is conducted at similar landfill sites in the central valley that have had landfill gas releases. For example, the UC Davis Closed Class III Landfill MRP-2019-0060 has annual TO-15 VOC sampling for both detection and corrective action gas probes.

Geosyntec recommends the sampling frequency on Table 7 be changed from monthly to annually and Note 5 of MRP Table 7 be revised as follows:

A gas analyzer for methane concentrations or a Photo Ionization Detector (PID) for total VOCs concentrations may be used. If methane concentrations exceed 1 percent by volume and organic vapors (total VOCs) exceed 50 ppmv, a gas sample shall be obtained annually during the first month of the annual monitoring period that an exceedance is observed and analyzed for VOCs using Method TO-15. Both the screening results and lab analysis results shall be reported. Otherwise, the methane or

total VOC screening results shall be reported, and no further lab analysis will be required.

RESPONSE: These proposed tentative WDRs address VOCs in groundwater due to the Discharger's finding that VOCs transported by landfill gas is one of the most likely causes. Therefore, monitoring VOC concentrations in landfill gas at the facility boundary is appropriate. From January 2022 to June 2024 monthly monitoring of perimeter gas probes reported methane concentrations above 1% 155 times where 102 of those detections were identified in landfill gas probes S-7 and S-21. These landfill gas probes were also identified in tentative WDRs Attachment H-1. Other landfill gas probes such as S-1, S-4, S-5 and S-18 had intermittent detections of methane above 1% concentration. The Discharger's proposed sampling frequency of annually does not provide sufficient monitoring of the presence of VOCs in landfill gas within the unsaturated zone at the Facility boundary. However, considering the cost associated with this monitoring requirement the frequency for potentially having to sample using the TO-15 method has been changed to semiannually and the VOC trigger on the PID to 1 ppmv.

DISCHARGER COMMENT NO. 3: ***MRP Table 14***

MRP Table 14 proposes sampling the unsaturated zone corrective action monitoring probes on a weekly basis according to the MRP Table 7 parameters which includes TO-15 VOC analysis. The gas probes that are in corrective action have been impacted by a landfill gas release so they would be expected to have field parameter readings above the presence of landfill gas screening trigger levels of 1 percent methane by volume or 50 ppbv listed in MRP Note 5. This would result in 104 VOC samples a year being collected from the corrective action gas probes. Weekly monitoring and TO-15 VOC sampling is not consistent with requirements that are in place at other landfill sites in the central valley with landfill gas releases such at the UC Davis landfill as discussed above.

Geosyntec is recommending that the MRP be changed to have the field parameter readings be taken monthly consistent with the current field parameter monitoring frequency at the Site, and TO-15 VOC sampling be collected annually until the field parameter readings are below 1% by volume methane and 50 ppmv for landfill gas probe well S-21 only. MRP Note 5 will need to be updated as previously discussed. Due to landfill gas probe S-7's close proximity to buried waste from two separate waste locations, S-7 TO-15 VOC sampling will not be able to distinguish between these locations and should not be considered a viable sampling location.

RESPONSE: Table 14 is related to accelerated monitoring at two landfill gas perimeter probes S-7 and S-21 where landfill gas concentrations routinely exceed 5% methane concentrations (Also see tentative WDRs Attachment H-1). With methane migration beyond the Facility boundary the transport of VOCs beyond the Facility boundary is also of concern. The Discharger needs to implement a CAP that effectively addresses a release of waste beyond the Facility boundary in a timely manner in accordance with Title 27 section 20430. With any CAP implementation there is an associated increase in cost to achieve compliance and no longer have to bear those additional costs. The

sooner the Discharger is able to reduce methane concentrations below 1% at S-7 and S-21 the sooner the Discharger is able to request termination of its CAP. In order for the Discharger to not have to sample S-7 the Discharger must show in accordance with Title 27 section 20425(f) that the exceedance of methane at S-7 is solely due to a source of which it is not the responsible party. Finally, in consideration of the Discharge's cost concerns Table 7 sampling frequency has been decreased from weekly to quarterly.

DISCHARGER COMMENT NO. 4: Finding 15

Finding 15 addresses the issue of leachate production at Waste Management Unit (WMU) B of the 28th Street Landfill. The current observation indicates that WMU B does not produce leachate in sufficient quantities to necessitate a repair to the Leachate Collection and Removal System (LCRS) pump control panel. Given that the site historically does not produce leachate, the cost and effort required to repair the pump control panel are high.

Instead, Geosyntec recommends this alternative approach: if during the monthly inspection of the LCRS Sump, enough leachate is observed and reported above the pump, the city will implement the removal process. Landfill personnel will manually pump the leachate into the City of Sacramento's combined storm water/sanitary sewer system. This manual removal process is considered a practical and cost-effective solution given the current low levels of leachate production.

Geosyntec recommends the removal of the work plan requirement for the LCRS pump control panel repair. This recommendation is based on historical data and ongoing monitoring, which consistently shows that leachate is not produced at WMU B and the need is low and does not pose a significant risk that would warrant the repair of the pump control panel.

RESPONSE: Title 27 section 20340(f) requires that Class III MSW landfills using a dendritic LCRS "*shall be sloped towards the subdrain so that ponding is minimized and leachate is removed as quickly as possible from the base of the landfill.*" The WMU-B landfill unit must have a functional LCRS to remove any leachate that collects at the base of the landfill as soon as possible. This is especially important to remove any high concentrations of VOCs and or inorganic compounds that have been detected outside of the WMU-B containment system (Please see tentative WDRs Attachments H-3 through H-5). Furthermore, Title 27 section 20340(h) requires that the Discharger report the monthly amount of leachate collected from any landfill equipped with an LCRS. Therefore, the finding and requirement to provide a functional LCRS in WMU-B remains unchanged.

DISCHARGER COMMENT NO. 5: Finding 35

Finding 35 contains speculative language regarding early disposal practices and procedures with the presence of household hazardous wastes in municipal waste. The language states: "However, typical early (pre-1980s) disposal procedures did not routinely check incoming wastes closely for liquids and/or hazardous wastes. In addition, all municipal wastes contain some portion of household hazardous wastes, mixed in with the non-hazardous garbage, including used oils, paints, lead-acid batteries, pesticides, etc."

Geosyntec recommends removing this language as it is not based on current practices or specific evidence.

RESPONSE: Language for Finding 35 was taken directly from section 3.1.1 of Exhibit J *Concentration Limits Greater Than Background Assessment* (page 13) of the Discharger's 5 June 2020 Joint Technical Document (JTD). Central Valley Water Board staff has relied on many findings in the JTD as factual in preparing the Tentative WDRs. Unless the Discharger can provide evidence otherwise Finding 35 remains unchanged.

DISCHARGER COMMENT NO. 6: Finding 87

Finding 87 references California Code of Regulations, title 22, Section 64449, subdivision (a), which pertains to the secondary Maximum Contaminant Levels (MCLs) for water supplied by community water systems and shall not be exceeded in the water supplied to the public. Finding 58 of the WDR notes the sensitive receptor survey conducted in 2016 found no operating drinking water supply wells within one mile of the Facility. Because CCR Section 64449 was written with regard to water quality supplied by community water systems and there are no water systems in the area, Geosyntec requests applying the upper range MCL values of 1,000 mg/L and 1,600 µS/cm for total dissolved solids (TDS) and specific conductance (EC), respectively.

RESPONSE: As described in in Finding 57 of the tentative WDRs, the Central Valley Water Board's *Water Quality Control Plan for the Sacramento and San Joaquin River Basins* (Basin Plan) designates groundwater at the Facility as suitable for use as a source of municipal and domestic drinking water supply (MUN). The Basin Plan establishes water quality objectives (WQOs) to protect past, present, and *probable future beneficial uses* (such as MUN); thus, the applicability of WQOs, such as those established under section 64449, do not vary based on whether a receiving water is actually, currently being put to a beneficial use for which it is designated. As stated in the Basin Plan and captured by Finding 87, "Constituent concentrations ranging to the "Upper" level in Table 64449-B are acceptable if it is demonstrated that it is not reasonable or feasible to achieve lower levels." At this time, the Discharger has not demonstrated that the Upper Ranges for TDS and EC are appropriate because it is not reasonable or feasible to achieve lower levels. Furthermore, groundwater upgradient of the Facility is a high quality water with respect to TDS and EC in accordance with the State Water Board's *Statement of Policy with Respect to Maintaining High Quality Waters in California*, Resolution 68-16 (Antidegradation Policy). Findings 105 and Finding 106 of the tentative WDRs would not authorize degradation of high-quality waters. To increase concentration limits to the upper range of the secondary MCL would authorize degradation of high quality waters inconsistent with the tentative WDRs and the Antidegradation Policy. Furthermore, increasing the concentration limits to the upper range of the secondary MCL would remove all assimilative capacity of the receiving waters to accept additional discharges of TDS and EC from other sources within the community. Therefore, Central Valley Water Board staff cannot recommend increasing concentration limits to the upper range MCL values of 1,000 mg/L and 1,600 µS/cm for total dissolved solids (TDS) and specific conductance (EC), respectively.

DISCHARGER COMMENT NO. 7: Finding 90

Finding 90 notes that "…at this time, there is insufficient data to determine whether such a release(s) [inorganic parameters] is occurring." Geosyntec points out that there are 28 years of groundwater quality data, including inorganic parameters, that do not indicate any other releases to groundwater. This data is included as Attachment 2.

Finding 90 also notes "This [Accelerated Inorganic Metals Monitoring] plan must gather enough groundwater monitoring data from groundwater monitoring wells along the southern and western edge of the Facility to capture seasonal variation in groundwater elevation and provide enough groundwater quality to determine if inorganic metals are also being released from the Facility."

Quarterly groundwater elevations are currently collected and reported as part of the existing WDR/MRP for 28th Street and Dellar. Metals are currently analyzed for at the site every 5 years (for the last 28 years) and do not show any exceedances of inorganic metals in groundwater and indicate lead has not leached to groundwater. This data is included as Attachment 3. Geosyntec requests the removal of the Accelerated Inorganic Metals Monitoring Plan requirement.

Additionally, it is important to note that well D-13 needs to be removed from the monitoring plan as it is located on Dellar, not 28th Street.

RESPONSE: Current MRP Order No. R5-2004-0039 requires the Discharger to sample for dissolved metals (inorganics) in groundwater once every 5-years. Attachment 1 shows partial results of the monitoring of dissolved/total metals in the years 2021, 2016, and 2011. 5-year monitoring results show arsenic, iron, and manganese in downgradient groundwater monitoring wells exceeding the respective maximum contaminant levels (MCLs), and thus the WQOs, for these constituents. Monitoring wells C-9 and C-10 are background monitoring wells. It is unclear why the Discharger, in the 2021 monitoring event, chose to analyze certain metals as total recoverable concentrations when the current MRP requires the Discharger to analyze and report inorganic metal concentrations as dissolved concentrations. Ingestion of dissolved (soluble) inorganic metal concentrations are of greater risk to human health than insoluble inorganic metal concentrations. The solubility of metals in groundwater is primarily determined by pH levels, redox potential, presence of organic matter, and the type of minerals present. Seasonal groundwater level fluctuations can affect these conditions in groundwater causing the increase and decrease of dissolved inorganics in groundwater. Monitoring results indicated that 5-year sampling for inorganics occurred primarily in the month of June which does not provide monitoring results that captures seasonal groundwater level fluctuations. Therefore, requirements for the Discharger to submit an accelerated inorganic metals monitoring plan is appropriate to determine whether the Discharger is properly characterizing the concentrations of dissolved inorganic metals in groundwater throughout the year. Therefore, the requirement to submit an Accelerated Inorganic Metals Monitoring Plan remains unchanged.

Well D-13 is only referenced in the tentative WDRs and MRP once, in Finding 90, as it relates to soil waste removed during its construction. The tentative MRP for 28th Street Landfill does not require any monitoring associated with LFG extraction well D-13.

DISCHARGER COMMENT NO. 8: MRP Table 3

MRP Table 3 proposes new semi-annual monitoring for calcium, carbonate, magnesium, potassium, and sodium (cations/anions). Collection of these cations/anions is often used for characterizing water chemistry, especially salinity. However, bicarbonate, chloride, nitrate as N, and sulfate are currently collected at the site and account for a significant percentage of TDS on average. The additional proposed cations/anions are not likely to reveal any additional findings not already available from the existing constituents.

Geosyntec requests Regional Board staff provide clarity on the need for additional cations/anions analysis. If additional cations/anions are required, Geosyntec proposes adding them to the five- year COCs (MRP Table 4).

RESPONSE: Title 27 section 20415(b)(1)(A) requires that the Discharger quantify "the quality of ground water that has not been affected by a release from the Unit". Title 27 section 20415(b)(1)(B-C) requires that the Discharger provide means to "to evaluate changes in water quality due to the release from the Unit." Furthermore Title 27 section 20415(b)(1)(D) requires that the Discharger provide means "to evaluate the effectiveness of the corrective action program." Monitoring Parameters used to develop a Stiff diagram, a Piper graph, or a Schoeller plot allow the Discharger as well as Central Valley Water Board staff through visual representation to quickly compare background water quality to downgradient water quality to determine if water quality has changed due to a release from a waste management unit (WMU or Unit) or a subsequent release from a Unit (Title 27 section 20385(c)).

The requirement has been changed to annual monitoring of calcium, magnesium, potassium, and sodium cations. Annual monitoring of cations along with monitoring of anions enables development of visual representations of water quality displayed in Stiff diagram, a Piper graph, or a Schoeller plot. Therefore, annual monitoring of cations is required in the MRP since monitoring of cations on a five-year interval would not be frequent enough to satisfy Title 27 section 20415(b)(1)(B)(2) which requires a monitoring system which shall "provide the best assurance of the earliest possible detection of a release from the Unit."

DISCHARGER COMMENT NO. 9: MRP E.2.b

Geosyntec recommends removing the requirement for plotting groundwater anion/cation data in a Stiff diagram, Piper graph, or Schoeller plot for reasons stated above.

RESPONSE: Please see response to Discharger Comment No. 8. Therefore. MRP E.2.c remains unchanged.

DISCHARGER COMMENT NO. 10: MRP Table 5

MRP Table 5 proposes quarterly monitoring of groundwater for EC and pH including monitoring events when the wells are only being gauged and not sampled. These parameters are already collected/reported during the semi-annual events when the wells

are sampled. The historical data consistently shows stable levels of EC and pH (Attachment 2), indicating that a semi-annual monitoring frequency is sufficient to characterize groundwater quality at the site.

Geosyntec requests clarification on the need for increasing frequency to quarterly and monitoring these parameters during events when groundwater samples are not being collected. Given the extensive historical data and the stable nature of these parameters, Geosyntec recommends maintaining the existing semi-annual monitoring frequency for EC and pH.

RESPONSE: The requirement to monitor EC and pH has been removed at times when only groundwater elevation is needed to determine groundwater flowrate and direction (gradient).

DISCHARGER COMMENT NO. 11: MRP Table 17
Geosyntec proposes semi-annual TO-15 VOC sampling. Geosyntec recommends removing the requirement for monthly TO-15 VOC sampling for the reasons stated above. The historical data and existing monitoring practices have been effective in characterizing the site, and additional monthly sampling is not expected to yield significant new information.

RESPONSE: Please see response to Discharger Comment No. 1.

DISCHARGER COMMENT NO. 12: MRP Table 10
MRP Table 10 proposes new wet season monitoring for calcium, carbonate, magnesium, potassium, and sodium (cations/anions). Geosyntec notes that historical data shows no exceedances of TDS in surface water monitoring, and the additional parameters are not likely to provide any additional benefit. The existing monitoring parameters have been sufficient to characterize the water quality at the site.
Geosyntec recommends removing monitoring parameters calcium, carbonate, magnesium, potassium, and sodium from wet season monitoring for the reasons stated above and in response to MRP Table 3.

RESPONSE: Please see response to Discharger Comment No. 8. The ability to detect changes to water quality is necessary to determine if a release of waste or subsequent release of waste has/is occurring. Therefore, the annual requirement remains unchanged.

DISCHARGER COMMENT NO. 13: MRP E.2.b

Geosyntec recommends removing the monitoring parameters calcium, carbonate, magnesium, potassium, and sodium from wet season monitoring for the reasons stated above and in response to MRP Table 3. The current monitoring practices are adequate and additional parameters are unlikely to yield significant new information. Geosyntec also recommends removing the requirement for plotting surface water anion/cation data in a Stiff diagram, Piper graph, or Schoeller plot for reasons stated above.

RESPONSE: Please see response to Discharger Comment No. 8 and Comment No. 9. The ability to detect changes to water quality is necessary to determine if a release of waste or subsequent release of waste has/is occurring. Therefore, the annual requirement remains unchanged.

DISCHARGER COMMENT NO. 14: MRP Table 20

MRP Table 20 proposes new monitoring parameters for leachate. Geosyntec notes that the comments provided for MRP Table 3 and MRP Table 10 are also applicable to MRP Table 20. The historical data and existing monitoring practices have been effective in characterizing the site, and additional parameters are not expected to provide significant new insights.

Geosyntec recommends removing the proposed new monitoring parameters for leachate in MRP Table 20. The current monitoring practices are sufficient to ensure the protection of water quality and public health.

> **RESPONSE:** Leachate characterization is important in determining the characteristics of the waste in a landfill WMU (see Title 27 section 20200(c)). The constituents in leachate if released may adversely affect receiving water quality. For the reasons stated in the response to Discharger Comment No. 8 it is necessary to measure cations/anions in leachate to be able to compare leachate water quality with background and downgradient water quality. For that reason additional monitoring parameters were added to leachate to be able to make the comparison. Therefore, the added parameters to leachate monitoring remain unchanged.

DISCHARGER COMMENT NO. 15: MRP E.2.b

Geosyntec recommends removing the requirement for plotting leachate anion/cation data in a Stiff diagram, Piper graph, or Schoeller plot for reasons stated above.

> **RESPONSE:** Please see response to Discharger Comment No. 8 and Comment No. 9. The ability to detect changes to water quality is necessary to determine if a release of waste or subsequent release of waste has/is occurring. Therefore, the annual requirement remains unchanged.

CENTRAL VALLEY WATER BOARD CHANGES (FOR CLARITY)

CHANGE NO. 1: MRP Table 12

Table 12 did not include the concentration limit for VOCs in groundwater which is non-detect. This concentration limit consistent with current MRP R5-2004-0039 section C.2.a.ii.1.

CHANGE NO. 2: MRP Table 13

Due to wrapping of Table 13 onto the next page Row 1 (column headings) was repeated which inappropriately applied the column headings of Row 1 to the next row in the table. The column headings for the next row should be as shown below.

TOC (mg/L)	DO (mg/L)	Al (ug/L)	Sb (ug/L)	As (ug/L)	Ba (ug/L)	Be (ug/L)	Cd (ug/L)	Cr (ug/L)	Chrome VI	Co (ug/L)

June 2021	Arsenic, Total	Barium, Dissolved	Iron, Dissolved	Manganese, Dissolved	Nickel, Total	Selenium, Total
CA MCL (mg/L)	**0.010**	**1**	**0.3[1]**	**0.05[1]**	**0.1**	**0.05**
B-1	0.00369	0.175	< 0.0810 R	**0.373**	0.00479	< 0.000115 U
B-3	**0.0174**	0.155	**44.8 J-**	**0.553**	0.00115	< 0.000115 U
B-4	0.00157	0.0586	**15.8 J-**	**0.794**	0.000449	< 0.000115 U
B-6	0.00157	0.0533	< 0.0810 U	**0.694**	0.00267	< 0.000115 U
C-7	**0.0110**	0.185	**8.94 J-**	**0.599**	0.00579	< 0.000115 U
C-8	0.00186	0.130	**13.3 J-**	**0.615**	0.00107	< 0.000115 U
C-9	0.00084 J	0.0623	< 0.0810 U	**1.25**	0.00196	< 0.000115 U
C-10	0.00108	0.0402 J	< 0.0810 U	0.0261 J	0.00184	< 0.000115 U
C-11D	0.00391	0.174	< 0.0810 R	**0.118**	0.00171	< 0.000115 U
C-11S	0.00101	0.188	< 0.0810 R	**0.677**	0.00203	< 0.000115 U
C-12	0.00850	0.150	< 0.0810 U	**0.109**	0.00216	< 0.000115 U
C-13	0.00196	0.107	0.114	**0.215**	0.00161	< 0.000115 U
C-14	**0.0283**	0.600	**5.13**	**0.331**	0.00714	< 0.000115 U
C-15	0.00071 J	0.0542	**0.864**	**0.191**	0.00241	< 0.000115 U
D-16	**0.0129**	0.305	**3.93**	**8.89**	0.00367	< 0.000115 U
D-17	**0.111**	0.196	< 0.0810 U	**0.375**	0.0210	0.000813
D-18	0.00343 J	0.0237 J	< 0.0810 U	< 0.00280 U	0.00196 J	< 0.000115 U
D-19	0.00426	0.201	< 0.0810 U	**4.56**	0.00953	0.00131 J
D-20	0.00248	0.117	< 0.0810 U	**0.634**	0.00430	0.000917 J
June 2016	**Arsenic, Dissolved**	**Barium, Dissolved**	**Iron, Dissolved**	**Manganese, Dissolved**	**Nickel, Dissolved**	**Selenium, Dissolved**
CA MCL (mg/L)	**0.010**	**1**	**0.3[1]**	**0.05[1]**	**0.1**	**0.05**
B-1	0.0026	0.17	**12**	**0.44**	0.0044	ND
B-3	0.0017	0.025	**1.5**	**0.28**	0.00076	ND
B-4	0.0002J	0.058	ND	**2.2**	0.00047 J	ND
B-6	0.0003J	0.029	ND	**0.30**	0.0024	ND
C-7	**0.014**	0.17	**9.6**	**0.36**	0.0067	ND
C-8	0.0004J	0.15	**7.8**	**1.3**	0.0056	ND
C-9	ND	0.032	0.041 J	**0.38**	0.0019 J	ND
C-10	0.0007J	0.21	ND	ND	0.0017	0.0095
C-11D	0.003	0.24	ND	0.0050 J	0.00036 J	ND
C-11S	ND	0.13	ND	**1.1**	0.0028 J	0.0018 J
C-12	0.008	0.18	ND	**0.62**	0.00044 J	0.0018 J
C-13	0.0025	0.20	0.052 J	**0.34**	0.0024	ND
C-14	**0.012**	0.19	0.057 J	**0.38**	0.0047	ND
C-15	0.0002J	0.032	ND	**0.69**	0.0024	0.00044 J
D-16	0.0015	0.14	ND	**4.8**	0.0026	ND
D-17	0.0054	0.044	ND	0.022	0.00085	0.00050 J
D-18	0.0041	0.14	0.11	**0.51**	0.0043	ND
D-19	0.0032	0.15	ND	**4.0**	0.0091	ND
D-20	0.0016	0.15	ND	**1.1**	0.0033	0.0021

June 2011	Arsenic, Dissolved	Barium, Dissolved	Iron, Dissolved	Manganese, Dissolved	Nickel, Dissolved	Selenium, Dissolved
CA MCL (mg/L)	**0.010**	**1**	**0.3[1]**	**0.05[1]**	**0.1**	**0.05**
B-1	**0.073**	0.260	**60.000**	**0.500**	0.0027	ND
B-3	**0.01**	0.110	**41.000**	**0.950**	0.003	ND
B-4	ND	0.073	**12.000**	**1.400**	ND	ND
B-6	0.0019	0.048	**28.000**	**0.440**	ND	ND
C-7	0.0036	0.190	**9.300**	**0.470**	0.0041	ND
C-8	0.0041	0.180	**24.000**	**2.900**	ND	ND
C-9	ND	0.045	**2.000**	**0.290**	0.0044	0.0039
C-10	ND	0.250	ND	ND	0.002J	0.006
C-11D	0.002	0.270	ND	**2.400**	ND	ND
C-11S	0.0061	0.250	**42.000**	**0.980**	ND	ND
C-12	0.0089	0.190	ND	**1.300**	ND	0.0021
C-13	0.0076	0.230	**1.600**	**0.350**	ND	ND
C-14	**0.025**	0.600	**0.840**	**0.430**	0.01	ND
C-15	ND	0.048	0.250	**0.610**	0.0023	ND
D-16	0.0089	0.160	**5.400**	**4.600**	ND	ND
D-17	0.0049	0.250	ND	**1.400**	0.012	0.0043
D-18	0.0026	0.290	ND	**0.710**	0.0057	ND
D-19	0.0036	0.240	ND	**5.400**	0.017	ND
D-20	0.0019	0.130	ND	**0.460**	ND	ND

[1] 2nd Maximum Contaminant Level for Drinking Water Standard (MCL)
Monitoring Wells C-9 and C-10 are designated as background water quality monitoring wells
ND or < value, Analyte was not detected, value is the method detection limit
+ likely biased high
- likely biased low
J estimated value
mg/L milligrams per liter
R due to quality issues, the use of this data is not recommended
U analyte was not detected
UJ analyte was not detected, reporting limits are estimated value