Annual Report on Groundwater Monitoring, Area IV, 2024

Santa Susana Field Laboratory Ventura County, California

Prepared for:
United States Department of Energy

Prepared by:
North Wind Portage, Inc.

March 2025

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PROFESSIONAL CERTIFICATION

Annual Report on Groundwater Monitoring, Area IV, 2024
January 1 through December 31, 2024
Santa Susana Field Laboratory
Ventura County, California

March 2025

This Annual Groundwater Monitoring Report has been prepared by a team of qualified professionals under the supervision of the senior staff whose seal and signatures appear below.

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EXECUTIVE SUMMARY

This report summarizes the United States Department of Energy (DOE) groundwater monitoring activities conducted during 2024 at Area IV within the Santa Susana Field Laboratory (SSFL), located in Ventura County, California. This report is prepared by DOE to satisfy the California Environmental Protection Agency (EPA) and Department of Toxic Substances Control (DTSC) requirements to report on annual groundwater monitoring at SSFL. The report has been developed by North Wind Portage, Inc., (North Wind) in collaboration and with contributions from CDM Federal Programs Corporation (CDM Smith), and includes water quality data collected from administrative Area IV, Northern Buffer Zone, and off-site wells. For simplicity, data from these areas reported herein are referred to as "Area IV." DOE has gone above and beyond meeting the groundwater requirements outlined in the Site-Wide Groundwater Water Quality Sampling and Analysis Plan (WQSAP) by including additional water quality samples in support of the Groundwater Resource Conservation and Recovery Act Facility Investigations (RFI) Program (CDM Smith 2015a).

Water quality samples were collected in Q1 2024 pursuant to the Site-Wide Groundwater Monitoring Program (Haley & Aldrich 2010b) and the RFI Program (CDM Smith 2015a) with water levels measured quarterly. The Q1 2024 sampling event was conducted during a period of higher-than-normal rainfall across the region. Based on results in the Q1 2024 report, stakeholders agreed to an off-normal round of groundwater sample collection in Q3 2024 to address possible groundwater impacts from the high rainfall during Q1 2024. All results are considered sufficient to meet project requirements. Six wells installed in December 2023 by CDM Smith were included in the Q3 2024 sampling round. The data are included in this report and future results from these wells will be evaluated for trends and extent.

Sample Results Evaluation

Some analytes were reported for the first time and above the associated SSFL screening criteria in wells during Q1 2024 and Q3 2024:

Q1 2024

- Diesel-range organics (DRO) in wells DS-43 (295 µg/L Q/J-), DD-140 (114 µg/L JQ/J-) and PZ-109 (176 µg/L JQ/J-).
- Gasoline-range organics (GRO) in well PZ-109 (17.6 µg/L J/J).
- Mercury in well DS-46 (0.231 µg/L).
- 1,4-dioxane in wells RD-90 (9.15 µg/L B/) and RD-95 (4.77 µg/L B/).
- Gross alpha in wells PZ-124 (49.3 pCi/L) and RD-95 (22.6 pCi/L).
- Potassium-40 in well RD-93 (79.9 pCi/L).
- Uranium-233/234 in well PZ-124 (38.3 pCi/L).
- Uranium-238 in well PZ-124 (36.9 pCi/L total).

Q3 2024

- 1,4-dioxane in well PZ-165 (2.93 µg/L total).
- Arsenic in well PZ-166 (9.46 µg/L dissolved and 9.34 µg/L total).
- Barium in well PZ-164 (159 µg/L total).

- Beryllium in wells PZ-164 (0.517 µg/L total), PZ-167 (0.214 µg/L J/J total), and PZ-168 (0.234 µg/L J/J total).
- Cadmium in well PZ-164 (0.331 µg/L J/J total).
- Chromium in well PZ-164 (39.4 µg/L total).
- Cobalt in wells PZ-164 (5.9 µg/L total), PZ-167 (1.99 µg/L total), and PZ-168 (2.23 µg/L total).
- Copper in wells PZ-164 (11.9 µg/L total) and PZ-167 (4.75 µg/L total).
- Nickel in well PZ-166 (61.4 µg/L dissolved and 62.2 µg/L total).
- Selenium in wells DD-158 (3.63 µg/L J/J total), DD-159 (6.12 µg/L dissolved and 5.37 µg/L total), and PZ-168 (2.58 µg/L J/J total).
- Tin in well PZ-164 (3.03 µg/L J/J total).
- Vanadium in wells PZ-164 (31 µg/L total), PZ-165 (4.06 µg/L J/J dissolved and 4.55 µg/L J/J total), PZ-166 (8.13 µg/L J/J dissolved and 9.11 µg/L J/J total), PZ-167 (5.86 µg/L J/J dissolved and 16.6 µg/L J/J total), PZ-168 (5.53 µg/L J/J dissolved and 16.5 µg/L J/J total), and PZ-169 (4.28 µg/L J/J dissolved and 11.3 µg/L J/J total).
- Trichloroethene (TCE) in well PZ-165 (9.75 µg/L total).
- DRO in wells DS-44 (141 µg/L J/J total) and PZ-124 (323 µg/L total).
- GRO in well RD-07 (21.8 µg/L J/J total).

Eighty-two percent of these first-time detections/maximum detections in Q3 2024 above the relevant screening levels are from the six new wells installed in 2023. The balance of first-time maximum detections in Q1 2024 and Q3 2024 results from statistical variability. Data from future sampling rounds will be used to evaluate potential trends.

Some analytes were reported at a new maximum concentration and above the associated SSFL screening criteria in wells with established historical data during Q1 2024 and Q3 2024:

<u>Q1 2024</u>

- 1,4-dioxane in wells DD-140 (2.36 µg/L H/J), DS-46 (3.96 µg/L), and PZ-098 (1.76 µg/L).
- Various dissolved and total metals in wells RD-20, RD-64, RD-74, RD-96, DD-159, PZ-098, PZ-102, PZ-116, PZ-121, and PZ-124. Data from future sampling rounds will be used to evaluate potential trends.
- DRO in well PZ-098 (362 µg/L).
- Various dissolved and total metals in wells RD-20, RD-64, RD-74, RD-96, DD-159, PZ-098, PZ-102, PZ-116, PZ-121, and PZ-124.
- Uranium-238 in well PZ-124 at 30.3 pCi/L(dissolved).

<u>Q3 2024</u>

- 1,4-dioxane in well PZ-120 (3.5 µg/L).
- Cadmium in well PZ-103 (1.8 µg/L).
- Cobalt in wells PZ-116 (2.2 µg/L dissolved and 4.25 µg/L total) and PZ-121 (2.69 µg/L dissolved).

- Copper in well PZ-098 (6.38 µg/L total).
- GRO in wells PZ-163 (54.6 µg/L J/J) and RD-64 (51.5 µg/L J/J).
- Selenium in wells DD-158 (4.24 µg/L J/J dissolved), PZ-005 (2.12 µg/L J/J dissolved and 2.36 µg/L J/J total), and PZ-105 (2.97 µg/L J/J total).
- Vanadium in wells DD-159 (6.01 µg/L J/J total), DS-44 (4.25 µg/L J/J dissolved and 5.58 µg/L J/J total), and PZ-116 (3.62 µg/L J/J dissolved and 3.63 µg/L J/J total).

Off-site wells RD-59A and RD-59B were not sampled in Q1 2024 due to dangerous access conditions caused by significant rainfall events across the region. Additionally, the two off-site wells were not selected for sampling in Q3 2024.

Analytes that were above associated SSFL screening criteria in Site-Wide Monitoring Program wells will be considered for sampling in 2025. New first-time detected analytes in Site-Wide wells will also be considered for sampling in 2025.

Conclusions

The 2024 sampling activities met the objectives stated in the Site-Wide Groundwater Monitoring Program and Site-Wide WQSAP except where noted above and in the body of this report. Areas of impact to groundwater from contaminants of concern remained consistent and will be further evaluated with the 2024 results to see if any changes are required. Newly detected sample results will be considered for additional sampling in future sampling events.

Heavy seasonal rainfall in the spring of 2024 resulted in an overall increase in the static groundwater level across Area IV. With few exceptions, the largest increases in static water levels were measured between the Q1 2024 and Q2 2024 well gaging events. Continued increases were much more subdued between the Q2 2024 and Q3 2024 water level gaging events. The range in water level increases and the rapid response to rainfall events are a result of the complex topographic, stratigraphic, and structural features present in and around Area IV.

In general, chemical sample results were consistent with historical results and increases or decreases in concentrations may have been influenced by seasonal rains, statistical variability, and/or movement of groundwater caused by pumping of wells in the Former Sodium Disposal Facility area as part of the groundwater interim measure. Data from future sampling rounds will be used to evaluate extent and potential trends.

Recommendations

In the Annual Report for 2023, some outstanding issues were identified, and recommendations were made for potential follow-up work. These recommendations and how they were addressed during the Q1 2024 and Q3 2024 sampling events are as follows:

- Update the WQSAP (Haley & Aldrich 2010b) to include contaminants of concern (COCs), including tritium, to further evaluate potential trends in wells such as RD-90 and RD-95. **This recommendation is being evaluated**.
- Continue to monitor the increased number of wells across Area IV with detections of DRO and GRO above the screening criteria to evaluate potential trends related to the rainfall and percolation that occurred in Spring 2023. **DRO and GRO were analyzed in Q1 and Q3 2024 in multiple wells**

across Area IV. The number of reported detections above the screening criteria decreased from the 2023 results.

- Continue to monitor TCE in the Former Sodium Disposal Facility (FSDF) Groundwater Impact Area. There was noticeable increase in TCE from 2022 to 2023 in several wells (RD-65, RD-54A) due to the high seasonal rainfall in Spring 2023. **Wells RD-65 and RD-54A were not selected for sampling in Q3 2024 and will be considered for sampling in 2025. Well PZ-098 at 8.04 µg/L in Q3 2024 and 6.62 µg/L in Q1 2024 continue to increase from the Q3 2023 result of 3.77 µg/L. PZ-098 is downgradient from well RS-18, and the increasing concentrations indicate that TCE levels above the screening levels are migrating. RD-54A was sampled in 2024 by CDM Smith.**
- Continue to monitor TCE in the Hazardous Materials Storage Area (HMSA) Groundwater Impact Area. Though less pronounced than the impact to FSDF, TCE levels increased noticeably in several wells (DD-144 and PZ-163) in this area also. **Wells DD-144 and PZ-163 were not selected for sampling in Q1 2024. In Q3 2024, well DD-144 at 62.4 µg/L decreased from the 2023 results of 108 µg/L (Q1 2023) and 79 µg/L (Q3 2023); well PZ-163 at 121 H/J µg/L increased from the Q1 2023 result of 77.2 µg/L and decreased from the Q3 2023 result of 129 µg/L. New wells installed in December 2023 provide additional fidelity to TCE plume extent toward the southwest. Additional sampling rounds will help to confirm these data.**
- Continue to monitor reportable metals concentrations across the site. The number of new maximum detections for metals in 2023 was increased due to increased precipitation and infiltration. Continued monitoring will support extent and trend analysis. **Metals were analyzed in groundwater from selected wells in in Q1 2024 and Q3 2024.**
- In 2023, new detections (maximum detection) of the COCs in the Site-Wide Groundwater Monitoring Program above the SSFL screening value were reported in the following 16 wells: DD-139, DD-144, DD-157, DS-48, PZ-005, PZ-098, PZ-104, PZ-108, PZ-109, PZ-120, PZ-121, PZ-162, PZ-163, RD-54A, RD-64, and RD-65. These wells are recommended for sampling in 2024 to evaluate potential extent and trends. **In Q1 2024 Well DD-139 was selected for sampling but could not be sampled due to poor access conditions. Wells DD-144, DD-157, DS-48, PZ-005, PZ-104, PZ-108, PZ-120, PZ-162, PZ-163, RD-54A, and RD-65 were not selected for sampling in Q1 2024 and will be considered for sampling in 2025. Of the wells that were selected for sampling in Q1 2024 (PZ-098, PZ-109, PZ-121, and RD-64), only PZ-098 had a repeat new maximum (1,4-dioxane at 1.38 µg/L in 2023 to 1.76 µg/L in Q1 2024). In Q3 2024, three of the 16 wells from 2023 were sampled. All three had repeat new maximums; 1,4-dioxane in well PZ-120 increased from 1.38 µg/L in 2023 to 3.5 µg/L in Q3 2024, GRO in well PZ-163 increased from 50.8 µg/L in 2023 to 54.6 µg/L J/J in Q3 2024, and GRO in well RD-64 increased from 42.9 µg/L J/J in 2023 to 51.5 µg/L J/J in Q3 2024.**

Recommendations for follow-up in 2025 include:

- Update the WQSAP (Haley & Aldrich 2010b) to include sampling locations and COCs that support trend and extent evaluation.
- Continue to monitor the wells across Area IV with detections of DRO and GRO above the screening criteria to evaluate potential trends related to the rainfall and subsequent percolation.
- Continue to monitor TCE in the FSDF Groundwater Impact Area. There was an increase in TCE in 2023 and 2024 in several wells including (RD-65, PZ-098) due to the higher-than-normal seasonal rainfall events. Additionally, detections above the screening criteria have been identified in downgradient well PZ-098.

- Continue to monitor TCE in the HMSA Groundwater Impact Area. Though less pronounced than the impact to FSDF, TCE levels increased noticeably in several wells (including DD-144 and PZ-163) in this area also.
- Continue to monitor reportable metals concentrations across the site. The number of new maximum detections for reportable metals in 2023 was increased due to increased precipitation and infiltration. The new maximums were generally not repeated in 2024. Continued monitoring will support extent and trend analysis.
- New detections of COCs in the Site-Wide Groundwater Monitoring Program above the SSFL screening value were reported in the following 17 wells: DD-140, DD-158, DD-159, DS-43, DS-44, DS-46, PZ-109, PZ-124, PZ-164 through PZ-169, RD-07, RD-90, and RD-95. These wells are recommended for future sampling rounds to evaluate potential extent and trends.
- New maximum detections (not first detections) of COCs in the Site-Wide Groundwater Monitoring Program above the SSFL screening value were reported in the following 19 wells: DD-140, DD-158, DD-159, DS-44, DS-46, PZ-005, PZ-098, PZ-102, PZ-103, PZ-105, PZ-116, PZ-120, PZ-121, PZ-124, PZ-163, RD-20, RD-64, RD-74, and RD-96. These wells are recommended for future sampling rounds to evaluate potential extent and trends.

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FIGURES

TABLES

ACRONYMS AND ABBREVIATIONS

µg/L	micrograms per liter
1,1-DCA	1,1-dichloroethane
1,1-DCE	1,1-dichloroethene
1,2,3-TCP	1,2,3-trichloropropane
1,2-DCA	1,2-dichloroethane
22 CCR	Title 22 of California Code of Regulations
Boeing	The Boeing Company
BTOC	below top of casing
CDM Smith	CDM Federal Programs Corporation
cis-1,2-DCE	cis-1,2-dichloroethene
COC	contaminant of concern
DOE	United States Department of Energy
DPH	Department of Public Health
DQO	data quality objective
DRO	diesel-range organics
DTSC	Department of Toxic Substances Control
EPA	United States Environmental Protection Agency
FSDF	Former Sodium Disposal Facility
GRO	gasoline-range organics
GWIM	groundwater interim measure
GWRC	Groundwater Resources Consultants
HMSA	Hazardous Materials Storage Area
HSA	hollow-stem auger
IDW	investigation-derived waste
LUFT	leaking underground fuel tank
MCL	maximum contaminant level
MDL	method detection limit
mg/L	milligrams per liter
mrem/yr	millirems per year
MSL	mean sea level
MWH	Montgomery Watson Harza
NASA	National Aeronautics and Space Administration
NDMA	n-nitrosodimethylamine

North Wind	North Wind Portage, Inc.
OCY	Old Conservation Yard
PCE	tetrachloroethene
pCi/L	picocuries per liter
PCP	Post-Closure Permit
PDU	Coal Gasification Process Development Unit
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RMHF	Radioactive Materials Handling Facility
RI	Remedial Investigation
RWQCB	Regional Water Quality Control Board
SMCL	secondary maximum contaminant level
SSFL	Santa Susana Field Laboratory
SWGW RBSL	site-wide groundwater risk-based screening level
TCE	trichloroethene
TPH	total petroleum hydrocarbons
trans-1,2-DCE	trans-1,2-dichloroethene
VOC	volatile organic compound
WQSAP	Water Quality Sampling and Analysis Plan

Annual Report on Groundwater Monitoring, Area IV, 2024

Santa Susana Field Laboratory Ventura County, California

1. INTRODUCTION

This report summarizes the groundwater monitoring activities conducted during 2024 by the United States Department of Energy (DOE) within Area IV of the Santa Susana Field Laboratory (SSFL) located in Ventura County, California (Figure 1). Historical annual reports prior to 2014 reported groundwater monitoring activities performed for the entirety of SSFL, including areas administered by The Boeing Company (Boeing) and the National Aeronautics and Space Administration (NASA) at administrative Areas I, II, III, IV, and undeveloped land both to the north and south. Beginning in 2014, DOE has been submitting annual reports for wells within Area IV for which it has responsibility under the 2007 Consent Order for Corrective Action (Department of Toxic Substances Control [DTSC] 2007). This report describes groundwater monitoring activities that occurred from January 1, 2024, through December 31, 2024, within administrative Area IV, the Northern Buffer Zone, and off-site wells located to the north and west of Area IV. For simplicity, administrative Area IV, Northern Buffer Zone, and off-site wells associated with Area IV are termed "Area IV" in this report.

In typical years, groundwater samples are collected during the first quarter (Q1) of the calendar year. The Q1 2024 sampling event was conducted during a period of higher-than-normal rainfall across the region. Based on results in the Q1 2024 report, stakeholders agreed to an off-normal round of groundwater sample collection in Q3 2024 to address possible groundwater impacts from the high rainfall during Q1 2024. This annual report discusses the analytical results of the two quarters and provides additional information on the impacts of the historical rainfall on the groundwater levels within Area IV. This report contains Area IV information relative to DOE activities only and as such has been modified to reflect regulatory compliance requirements for Area IV. There are currently no Post-Closure Permit (PCP) Regulated Unit Monitoring Program requirements or leaking underground fuel tank (LUFT) requirements for Area IV.

Area IV groundwater monitoring activities described in this report were the result of implementation of the December 2010 Site-Wide Water Quality Sampling and Analysis Plan (WQSAP; Haley & Aldrich 2010b), and site-wide activities in support of the DOE Area IV Groundwater Resource Conservation and Recovery Act (RCRA) Facility Investigations (RFI) Program (CDM Smith 2015a).

1.1 Site Description

The SSFL is located approximately 29 miles northwest of downtown Los Angeles, California, in the southeast corner of Ventura County (Figure 1). The SSFL occupies approximately 2,850 acres of hilly terrain, with approximately 1,100 feet of topographic relief near the crest of the Simi Hills. Figure 1 shows the geographic location and property boundaries of the site, as well as surrounding areas. The site is divided into four administrative areas (Areas I, II, III, and IV) and includes undeveloped land to the north and south. Most of Area I and all of Areas III and IV are owned by Boeing. The United States Environmental Protection Agency (EPA) Identification Number for Areas I and III is CAD093365435. Area II is owned by the federal government and administered by NASA along with a portion of Area I. The EPA Identification Number for Area II is CA1800090010. Boeing owns the entirety of Area IV. The

EPA Identification Numbers for Area IV are CAD000629972 and CA389009001. Ninety acres of Area IV were leased to the DOE, which also owns facilities in Area IV. The northern and southern undeveloped lands of SSFL were not used for industrial activities and are owned by Boeing.

1.2 Regulatory Background

Prior to 2014, groundwater sampling activities for Area IV were reported along with results from Areas I, II, and III. As a result, previous annual reports were intended to fulfill the requirements of multiple regulatory programs being implemented at SSFL. These include requirements addressed in the PCP monitoring programs (Regulated Unit Programs) for Areas I, II, and III approved by the California EPA DTSC, the Site-Wide Groundwater Monitoring Program approved by DTSC, and LUFT monitoring program overseen by DTSC. There are no Regulated Unit or LUFT requirements for Area IV and thus they are not addressed in this document.

The content of this report complies with the December 2010 Site-Wide WQSAP (Haley & Aldrich 2010b). The Site-Wide Groundwater Monitoring Program is prescribed by the Site-Wide WQSAP.

1.3 Objectives

Area IV groundwater compliance requirements are presented in the Site-Wide Groundwater Monitoring Program. The objective of this report is to document compliance with that program. The scope of this report includes the following:

- Executive summary of significant findings;
- Summary of monitoring programs and activities conducted during the calendar year;
- Summary of maintenance and inspections of monitored wells, if any;
- Summary of modifications made to monitoring equipment during the calendar year, if any;
- Summary of deviations from the Site-Wide WQSAP, if any;
- Discussion of significant events that may influence the occurrence and movement of groundwater;
- Summary of results of laboratory analyses of water samples;
- Summary tables indicating monitoring parameter results that lie outside of historical range for each monitoring location;
- Summary of constituent concentrations at wells that exceed SSFL groundwater screening reference values (SSFL screening criteria);
- Summary of outstanding issues and/or follow-up work;
- Contaminant plume maps with isoconcentration contours for specific regulated units or areas;
- Water level data, hydrographs, and groundwater elevation contour maps;
- Contaminant concentration versus time plots and a discussion of evident trends; and
- Results of quality assurance/quality control sampling and analysis and assessment of data quality, including accuracy, precision, and completeness with associated laboratory and data validation reports.

1.4 Report Organization

The remainder of this report is organized as follows:

- Section 2 provides a description of the site geology and hydrogeology;
- Section 3 provides a summary of the activities performed during this reporting period;
- Section 4 presents the results of field work and analytical testing;
- Section 5 presents planned activities for 2025; and
- Section 6 provides references.

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2. SITE GEOLOGY AND HYDROGEOLOGY

2.1 Geology

The SSFL is in the Western Transverse Ranges physiographic province of southern California. The province's geology and physiography reflect at least 70 million years of geologic history. The sedimentary rocks in the portion encompassing SSFL range from coarse-grained conglomerates and sandstones to fine-grained siltstones and shale. The geologic history of the Western Transverse Ranges is complex and involves several distinct episodes of structural deformation involving tectonic extension, rotation, compression, and shearing. Near SSFL, this has caused the Western Transverse Ranges to rotate more than 90 degrees clockwise. This complex geologic history is reflected in multiple fold, fault, and fracture orientations in the vicinity of SSFL.

The Chatsworth Formation underlies much of the province and is exposed across most of SSFL (Figure 2). It is a turbidic sandstone with interbedded shale, siltstone, and conglomerate approximately 6,000 feet thick and more than 65 million years old. As a result of geologic folding, the Chatsworth Formation dips moderately (typically 25 to 35 degrees) to the northwest at SSFL, along the south limb of the Simi Valley syncline. Detailed geologic mapping in the site vicinity was performed to augment published geologic maps, resulting in the subdivision of the Chatsworth Formation into upper and lower units (Montgomery Watson Harza [MWH] 2009). The lower formation is exposed in southeastern SSFL and dips northwest beneath the remainder of the site. The upper Chatsworth Formation is exposed across much of the remainder of the site and has been subdivided further into stratigraphic packages consisting of coarse- and fine-grained members. Numerous steeply dipping to near-vertical faults offset this stratigraphy. Fault gouge and fracturing, ancillary to faults, are observed at some locations.

Unconsolidated deposits at SSFL include alluvium, artificial fill, and thin soils over the Chatsworth Formation (bedrock). The alluvium generally consists of silty sand and occurs in topographic lows and along ephemeral drainages. Areas with 5 to 30 feet of alluvium cover more than 300 acres of SSFL, or about 11 percent of the site.

2.2 Hydrogeology

Groundwater occurs at SSFL in alluvium and weathered and unweathered bedrock (Montgomery Watson 2000; MWH 2009). First-encountered groundwater may be observed in any of these media under water table conditions. For regulatory purposes, near-surface groundwater is defined to occur within the site's unconsolidated deposits (e.g., alluvium) and shallow weathered bedrock, whereas deep groundwater, referred to as "Chatsworth Formation groundwater," occurs in the unweathered bedrock. The near-surface groundwater may be perched or vertically continuous with deeper groundwater.

The boundaries of the mountain groundwater system encompassing SSFL include where the Simi Hills meet the floor of the Simi and San Fernando valleys, and where groundwater tends to discharge to seeps and phreatophytes along several surrounding canyons. The base of the active groundwater flow system occurs at the boundary between fresh and connate groundwater, assumed to occur at approximately sea level. The upper boundary of the mountain groundwater flow system is the regional water table and localized perched water tables. Hydrogeologic boundaries internal to the groundwater flow system include areas of groundwater discharge to seeps and phreatophytes, pumped wells, and various boundary effects along faults and geologic contacts.

Portions of the Chatsworth Formation comprise locally transmissive aquifer units. These units generally consist of the fractured sandstone members of the upper Chatsworth Formation, many of which are

several hundred feet thick. Separating the major sandstone units are a series of relatively thin shale and siltstone members that typically behave as aquitards.

The arrangement and geometry of the hydrogeologic units are controlled by geologic contacts, folding, and faulting. Faults truncate permeable zones and fractures, juxtapose different units and fold orientations, and form low-permeability boundaries and zones of enhanced fracturing. Together, these structures result in a complex three-dimensional distribution of hydrogeologic units and anisotropic permeability that influence directions and rates of groundwater flow. Major faults subdivide SSFL into several large blocks, which are further subdivided by shale beds.

The SSFL water table is a subdued reflection of the topography, which, relative to the surrounding valleys, presents as a large groundwater mound that is maintained by rainfall recharge. Distinct differences in groundwater head are observed across fine-grained units and faults that impede groundwater flow. Groundwater moves from areas of recharge toward pumping wells and downward and outward toward hill slope seeps and the surrounding lowlands. The direction of vertical flow is downward at most site locations. Insight into the pattern of SSFL groundwater flow has been provided through the development and use of a representative three-dimensional groundwater flow model (CDM Smith 2018).

3. REPORTING PERIOD ACTIVITIES

The reporting period for this report covers the 2024 calendar year, from January 1, 2024, to December 31, 2024. Groundwater samples were collected as part of the Area IV Site-Wide Groundwater Monitoring Program and to support the DOE Groundwater RFI Program. All data collection activities reported herein were performed by North Wind Portage, Inc. (North Wind), the prime contractor, and CDM Federal Programs Corporation (CDM Smith), a subcontractor to North Wind under DOE contract 89303324DEM000108, Task Order 89303324FEM400407. North Wind completed groundwater monitoring and sampling activities and CDM Smith completed groundwater investigation and remediation activities during the reporting period.

The Site-Wide Groundwater Monitoring Program – December 2010 Site-Wide WQSAP (Haley & Aldrich 2010b) was implemented to fulfill the groundwater monitoring program specific to Area IV at SSFL, with exceptions to the WQSAP described in Section 3.5. The following activities stipulated by the Site-Wide WQSAP were conducted during the reporting period:

- Measurement of groundwater levels at all accessible program wells.
- Collection and submission of groundwater samples from select wells for laboratory analysis.
- Data validation, data analysis, and database management.

The activities of Groundwater RFI (CDM Smith 2015a) sampling conducted during 2024 consisted of:

- Collecting water levels and groundwater samples from monitoring wells not sampled as part of the Site-Wide Groundwater Monitoring Program.
- Closing the remaining groundwater data gaps for existing wells through additional chemical analyses from those stated in the Site-Wide WQSAP.
- Sampling to support groundwater investigations and interim measures, as described in Section 3.1.

Table 1 lists the wells present within Area IV during the sampling and identifies those wells that were sampled under the WQSAP or sampled to address groundwater RFI data needs.

Well, piezometer, and seep locations are shown on Figure 3. Figure 4 identifies the wells that were sampled in Q1 2024 and Q3 2024 with discussions included in this report. Well construction details are provided in Appendix A.

3.1 DOE Groundwater Investigation and Remediation Activities

3.1.1 Groundwater Elevation Monitoring

Water level measurements were collected monthly at the Former Sodium Disposal Facility (FSDF) and Hazardous Materials Storage Area (HMSA). The measurements are used to identify the effects of precipitation recharging near-surface groundwater and the decline in water levels following precipitation events.

The above-average winter rainfall in Q1 2024 resulted in rising water levels followed by a decline in water levels in Q2, Q3, and Q4 2024. Annual rainfall data are presented in Appendix B.

3.1.2 New Well Installations

No new monitoring wells were installed in Area IV in 2024.

3.1.3 FSDF Groundwater Interim Action

The FSDF groundwater interim measure (GWIM) continued in calendar year 2024. Seven wells (C-21, C-24, C-25, C-28, C-29, RS-18, and RS-54) exhibiting elevated volatile organic compound (VOC) groundwater concentrations were routinely pumped.

Installation of Automated Extraction System – CDM Smith teamed with Sustainable Technologies to design and install an automated groundwater extraction system for the GWIM during Q2 2024. Construction of the system started in late March 2024 and finished in May 2024. The automated extraction system was constructed to replace manual pumping from three coreholes (C-21, C-24, and C-29) and one near-surface well (RS-54) to enhance VOC-impacted water extraction and mass removal from the near-surface water-bearing sandstone fractures.

The system is powered by solar panels and operates (unattended) during daylight hours when sufficient electricity is generated. Volumes of water pumped from each extraction well are automatically recorded by totalizers and a web-based control for each well. The extraction pumps are controlled by water level switches in the wells through low-level sensors and can turn on only if water is available and no system alarm has triggered. Extracted water extracted is transmitted via aboveground and underground piping to a 5,000-gallon water storage tank.

Near-Surface Water Extraction – A total of 35,752 gallons of near-surface water was extracted in 2024 by a combination of manual and automated pumping at the seven wells in the GWIM extraction network. The largest volume of water was extracted from C-24 (22,324 gallons), followed by C-21 (7,589 gallons), RS-54 (4,166 gallons), RS-18 (1,288 gallons), C-29 (305 gallons), C-28 (75 gallons), and C-25 (7 gallons). The differences in extraction volumes between the wells reflect the individual water productivity of each well. Wells C-25 and C-28 may be included in the automated GWIM system in the future.

GWIM Sampling – During GWIM operation in 2024, water samples from extraction wells were collected and analyzed on a near monthly schedule for VOCs and 1,4-dioxane and semi-annually for metals and mercury (total and dissolved). The FSDF GWIM will continue in 2025 because 2024 sample results showed that groundwater VOC concentrations remained above the 1,000 micrograms per liter (µg/L) VOC threshold in several samples. Data for the FSDF GWIM are regularly reported in quarterly GWIM status reports and the FSDF GWIM 2024 annual report scheduled for submission in March 2025.

Investigation-Derived Waste – In 2024, water generated from GWIM pumping and monitoring well sampling was stored in a 5,000-gallon water storage tank at the FSDF. Groundwater investigation-derived waste (IDW) stored at the FSDF was profiled and disposed of as non-hazardous waste by American Integrated Services, Inc. (Star Resources). This water was removed from the site 12 times (once each in February, March, May, August, October, and November, and twice each in April, June, and July). IDW management will be documented in the appropriate activities reports.

3.1.4 Other Groundwater Sampling Activities

CDM Smith collected samples from various locations in Area IV for specific data quality objectives (DQOs) during 2024. Each sampling activity is summarized in the following paragraphs.

Supplemental First-Quarter Water Quality Sampling – On February 23, 2024, DTSC requested major ion composition sampling (total dissolved solids [TDS], chloride, fluoride, sulfate, total alkalinity, carbonate alkalinity, and bicarbonate alkalinity) at one well at Buildings 4059/4057/4626 (PCE Plume) (PZ-109) and three wells at the HMSA (PZ-108, PZ-120, and PZ-163) for use as a baseline before pilot testing of in situ biological and chemical reduction begins at the HMSA. Samples were collected in March 2024 and analyzed for the requested analytes. The results of the sampling event are provided in *First Quarter 2024 Groundwater Sampling of Area IV Wells* (CDM Smith 2024a), submitted to DTSC on October 1, 2024.

Seep Sampling – From May 13 to May 17, 2024, seep wells SP-T02A, SP-T02B, SP-T02C, SP-T02D, SP-19A, SP-19B, SP-424A, SP-424B, SP-424C, SP-900B, and SP-900C were sampled (Q2 2024). Samples were analyzed for VOCs, 1,4-dioxane, metals and mercury (total and dissolved), perchlorate, tritium, and gross alpha/gross beta. The results of the sampling event are provided in the report, *2024 Sampling Results for Near-Surface Seep Monitoring Wells* (CDM Smith 2024b), submitted to DOE in August 2024.

FSDF GWIM Monitoring Data – In addition to the GWIM water samples collected from the extraction wells discussed in Section 3.1.3, water samples were collected in Q1 and Q4 2024 to monitor the FSDF groundwater investigation area. Seven monitoring wells (C-20, C-22, C-23, C-26, C-27, C-30, and RD-23) were sampled twice in 2024, and three monitoring wells (C-08, C-31, and C-32) were sampled once in 2024 (Q1). All samples were analyzed for VOCs, 1,4-dioxane, and metals and mercury (total and dissolved). Selected samples were also analyzed for gasoline-range organics (GRO), extractable fuel hydrocarbons (EFH), and/or perchlorate. The results of the Q1 sampling event are provided in the report *First Quarter 2024 Groundwater Sampling of Area IV Wells* (CDM Smith 2024a), submitted to DTSC in October 2024. The results of the Q4 sampling event will be provided along with data from FSDF GWIM extraction wells in the FSDF GWIM 2024 annual report scheduled for submission in March 2025.

FSDF Borehole Isolation – Following implementation of borehole isolation activities at C-08, RD-23, RD-54A, and RD-65, groundwater samples were collected in Q1 and Q2 2024 at the four deep bedrock wells and each of their accompanying vadose zone sumps. Each deep groundwater well was sampled twice, and each vadose zone sump was sampled three times, except for C-08S (sampled once) due to a lack of water in that sump. Samples were analyzed for VOCs and 1,4-dioxane. Selected samples were analyzed for metals and mercury (total and dissolved), GRO, EFH, and perchlorate. The results of the borehole isolation sampling, including sampling completed in Q4 2023, are provided in the *Borehole Interval Isolation Report, FSDF*, which is scheduled for submission in February 2025.

HMSA Data Gap Well Sampling – Following the installation and development of six new monitoring wells in November and December 2023 to better characterize the horizontal extent of VOCs in the shallow groundwater at the HMSA, 16 groundwater monitoring wells at the HMSA, the nearby Process Development Unit, and PCE Plume were sampled in January 2024. Newly installed wells PZ-164 through PZ-169 were sampled and analyzed for VOCs, 1,4-dioxane, metals and mercury (total and dissolved), GRO, EFH, and gross alpha/beta and tritium (radionuclides). Selected existing wells (PZ-108, PZ-120, PZ-162, PZ-163, DD-144, DD-146, DD-157, and DS-48) were sampled and analyzed for VOCs and 1,4-dioxane.

Following heavy rain in late January and February 2024, the six newly installed wells (PZ-164 through PZ-169) and six selected existing wells (PZ-041, PZ-108, PZ-120, PZ-122, PZ-162, and PZ-163) were sampled in February 2024 to assess the effect of precipitation on VOC concentrations. Samples from these 12 wells were analyzed for VOCs, 1,4-dioxane, and metals and mercury (total and dissolved). In total, 10 wells that were sampled in January 2024 were sampled again in February 2024. Results of this sampling are reported in the *HMSA Groundwater Data Gap Report*, submitted in January 2025.

3.2 Modifications to Well Network and Equipment

No well modifications activities occurred in Area IV, except for the installation of the GWIM automated system described in Section 3.1.3.

3.3 Water Level Gauging

Area IV static water levels were gauged at accessible program wells. Depths to water were measured from the top of each well casing. Conditions of the well (e.g., loose caps, damaged casing) were recorded in field logs. Wells were gauged using an electronic water-level meter. Portions of the cable and meter or probe that were in contact with groundwater were decontaminated before use at each well. Water levels were gauged in the first, second, third, and fourth quarters of 2024 and are summarized in Table 3.

3.4 Groundwater Sampling and Analysis

Area IV monitoring wells are scheduled to be sampled annually in accordance with the Site-Wide WQSAP. DOE is responsible for 21 wells in the Area IV Site-Wide Groundwater Monitoring Sampling Program. In Q1 2024, 12 of the 21 wells were not sampled. Wells PZ-097, RD-33A, RD-57, and RD-59A were not sampled because they could not be accessed. Wells PZ-108, RD-33B, RD-33C, RD-34C, RD-54A, RD-59B, RD-59C, and RS-18 were not scheduled to be sampled. Thus, a total of nine Site-wide Program wells were sampled. An additional 61 wells are subject to groundwater sampling under the RFI Program, and 34 were scheduled to be sampled. Well RS-25 was dry and wells DD-139, DD-142, DD-143, RD-30, RD-97, RD-98, RS-16, and RS-28 could not be accessed. The other 25 wells under the RFI Program were sampled during this reporting period. Thus, a total of 34 DOE wells were sampled during Q1 2024.

In Q3 2024, only five of the Site-wide wells were scheduled to be sampled. PZ-097 was scheduled to be sampled but was dry. Thus, a total of four Site-wide Program wells were sampled (PZ-108, PZ-124, RD-07, and RD-63). Sixteen of the 21 Site-wide wells were not selected to be sampled (RD-14, RD-19, RD-20, RD-33A, RD-33B, RD-33C, RD-34A, RD-34B, RD-34C, RD-54A, RD-57, RD-59A, RD-59B, RD-59C, RD-96, and RS-18). Thirty-nine of the 61 wells subject to groundwater sampling under the RFI Program were selected to be sampled during this reporting period. Of those 39 wells, four were dry (PZ-102, RS-16, RS-25, and RS-27). Thus, a total of 44 DOE wells were scheduled to be sampled but samples could be collected from only 39 wells (four Site-wide and 35 RFI wells), during Q3 2024.

Four clusters of groundwater seep probes are monitored by DOE. One cluster is in the Northern Buffer Zone and the other three are on Brandeis property north of SSFL Area IV. None of the seep clusters were sampled during the 2024 reporting periods. The locations of all wells, piezometers, and seeps are presented on Figure 3. The Site-Wide Groundwater Monitoring Program wells sampled in Q1 2024 and Q3 2024 are presented in Table 1 and shown on Figure 4. Figure 4 also shows the wells that could not be sampled and the alternative wells that were selected in Q1 2024 to be sampled. Wells that could not be sampled in Q1 2024 and Q3 2024 and the associated reasons are discussed in Table 4. Groundwater field parameters collected during purging, prior to sample collection, are presented in Table 5. Tables 6 and 7 present the samples analyzed and analytical methods, respectively.

3.5 Deviations from Water Quality Sampling and Analysis Plans

Exceptions to the Site-Wide WQSAP (Haley & Aldrich 2010b) are presented in Table 4. Stabilization readings for some wells were collected at intervals greater than 5 minutes based on giving enough time to exchange water in the flow-through cell due to the flow rate. Low-flow stabilization criteria for some

wells were not met based on the water level drawdown exceeding 0.3 feet. Table 4 also includes wells that could not be sampled in Q1 2024 and Q3 2024 and, where appropriate, identifies the alternate wells selected that support the overall DQOs.

Data Quality issues are presented below for Q1 2024 and Q3 2024.

Q1 2024

The reporting limits for vinyl chloride, 1,2-dichloroethane, carbon tetrachloride, and cis-1,3-dichloropropene (0.666 µg/L) were above the SSFL groundwater screening level reference value (i.e., SSFL screening criterion) maximum contaminant level (MCL) criterion of 0.5 µg/L; however, the method detection limit (MDL) was 0.333 µg/L so the reporting limit is considered sufficient for project purposes. If analytes are detected between the MDL and reporting limit, they are reported as detected estimated results. Also, there were instances where the reporting limits for these analytes were elevated due to laboratory dilutions that needed to remain within instrument calibration limits when high concentrations of other target analytes were encountered. All these sample reporting limits are considered sufficient and meet project requirements.

Q3 2024

The reporting limits for 1,2-dichloroethane, carbon tetrachloride, vinyl chloride, and cis-1,3-dichloropropene (0.666 µg/L) were above or at the SSFL groundwater screening level reference value (i.e., SSFL screening criterion) MCL criterion of 0.5 µg/L; however, the MDLs were 0.333 µg/L so the 0.666 µg/L reporting limits are considered sufficient for project purposes. If analytes are detected between the MDL and reporting limit, they are reported as detected estimated results. All these sample reporting limits are considered sufficient and meet project requirements.

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4. MONITORING RESULTS

This section provides a review of Area IV 2024 groundwater levels, and groundwater quality results and trends. Historical data were summarized in previous reports by:

- Groundwater Resources Consultants (GWRC 2000);
- Haley & Aldrich (2001 through 2009; 2010a);
- MWH (2011a, 2011b, 2012, 2013, 2014);
- CDM Smith (2015b, 2016a, 2016b, 2016c, 2018, 2022); and
- North Wind (2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024).

Groundwater screening reference values used to evaluate results are presented in Table 8. First-time detections of analytes and new historical maximum results are presented in Table 9. The purpose of Table 9 is to help identify changes from established trends to support decision-making processes.

4.1 Groundwater Elevations and Flow Conditions

Groundwater elevations measured in SSFL Chatsworth Formation monitoring wells during Q1 2024 ranged from a low of approximately 1,517 feet above mean sea level (MSL) at well RD-33C to a high of approximately 1,807 feet above MSL at well DD-146 (Table 3, Figure 5). The shallow zone elevations ranged from a low of 1,738 feet above MSL at PZ-124 to a high of 1,850 feet above MSL at RS-25.

Groundwater elevations measured in SSFL Chatsworth Formation monitoring wells during Q3 2024 ranged from a low of approximately 1,313 feet above MSL at well RD-59A to a high of approximately 1,813 feet above MSL at well RD-17 (Table 3, Figure 5). The shallow zone elevations ranged from a low of 1,744 feet above MSL at PZ-124 to a high of 1,814 feet above MSL at PZ-116.

In a quarter-over quarter comparison, static water level measurements in Q4 2023, Q1 2024, Q2 2024, Q3 2024, and Q4 2024 show a generally consistent increase in water levels from Q4 2023 to Q1 2024 and Q2 2024. With some exceptions, water levels generally stabilized or decreased between Q2 2024 and Q4 2024. The difference between static water levels was calculated by well for each time interval. The average increase or decrease and maximum increase and maximum decrease of static water levels by time interval are presented in the text box below.

Time Interval	Average Increase / (Decrease)	Maximum Increase	Maximum (Decrease)
Q4 2023 to Q1 2024	2.26 ft	16.12 ft	(8.29) ft
Q1 2024 to Q2 2024	6.65 ft	38.95 ft	(8.59) ft
Q2 2024 to Q3 2024	(2.05) ft	3.36 ft	(16.19) ft
Q3 2024 to Q4 2024	(2.04) ft	1.58 ft	(8.69) ft

As noted in the data above, even with the 6.65-foot average increase in water levels from Q1 2024 to Q2 2024, there were several wells where the static water level decreased. The data also show that the average static water level increases due to the heavy rains during Q1 2024 occurred primarily between Q1 2024

and Q2 2024. The range of static water level changes across the site are indicative of the various types of recharge mechanisms and geologic conditions present, including topographic (surface terrain), stratigraphic (bedding orientation and grain size), and structural (faults, fractures, and lineaments) as discussed previously in Section 2, Site Geology and Hydrogeology. Hydrographs for selected wells are presented in Appendix C.

Figure 5 presents contours of first-encountered, non-perched groundwater elevations, as determined from water levels measured during Q3 2024. Additional information that helped constrain the contouring included topography, the approximate elevations of identified seeps, historical water level data for wells and piezometers not gauged during 2024, and the understanding that groundwater level discontinuities coincide with certain fault segments and other geologic structures. In the case of well clusters, water levels from the shallowest wells were used. The data represent water levels primarily within the Chatsworth Formation but include levels in younger deposits where the zone of saturation is continuous with the underlying formations.

The groundwater elevation contour maps are provided to satisfy, in part, the requirements of Title 22 of California Code of Regulations (22 CCR), Section 66264.97, for determining groundwater flow rates and directions. A groundwater elevation contour map can be used in simple hydrogeologic settings to depict variations in the elevation of the water table surface, which in turn can be used to interpret apparent relative directions of groundwater flow. However, the groundwater elevation contours depicted in Figure 5 are not used to infer groundwater flow directions or rates of groundwater movement due to the hydrogeologic complexities at SSFL, as described in Section 2.2. Mountain-scale estimates of groundwater flow rates and three-dimensional groundwater flow directions from areas within SSFL were made and are presented in the draft groundwater remedial investigation (RI) report (MWH 2009). While DOE acknowledges the significant effort that has been spent calibrating the mountain-scale model, DOE believes that the model does not characterize the flow paths in Area IV with sufficient accuracy to make important investigation and remediation decisions. As part of the RFI Program, local-scale flow and transport modeling was performed for DOE by Dr. Scott James of Baylor University and Dr. Bill Arnold to reflect Area IV groundwater conditions. The results of the model revisions are reported in the Draft RCRA Facility Groundwater RI Report (CDM Smith 2018).

4.2 Groundwater Quality

Laboratory analytical results for groundwater Q1 2024 and Q3 2024 samples are tabulated in Tables 10 through 15. Constituents detected for the first time in groundwater sampled from individual locations are presented in Table 9. The purpose of Table 9 is to help identify changes from established trends to support decision-making processes. Aside from these exceptions listed in Table 9, the analytical results were within historical ranges (GWRC 2000; Haley & Aldrich 2001 through 2009 and 2010b; MWH 2003, 2011a, 2011b, 2012, 2013, 2014), as presented in the 2014 through 2024 Annual Reports (CDM Smith 2015b, 2016c; North Wind 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024). Time series plots of analytical data for select wells and analytes are provided in Appendix D.

Groundwater chemical concentration data from the Q1 2024 reporting period are presented on chemical extent maps illustrating areas of impacted groundwater for 13 chemicals on Figures 6 through 18. These chemicals were selected for mapping because they are contaminants of concern (COCs) in the Site-Wide Groundwater Monitoring Program and were selected for presentation on chemical extent maps in the Groundwater RI Report (MWH 2009).

4.2.1 Quality Assurance and Quality Control

Completeness goals regarding the Q1 2024 and Q3 2024 data quality were met, and the data are suitable for the intended uses (Appendix E).

Per the Site-Wide WQSAP (Haley & Aldrich 2010b), the quality assurance assessment provides an assessment of data quality, including precision, accuracy, representativeness, comparability, completeness, and sensitivity. The quality assurance assessment also includes results of the data validation process, and a summary of the field sampling and analytical program, data management review procedure, and data verification process.

4.2.2 Groundwater Screening Reference Values

Groundwater screening reference values are presented in Table 8. The groundwater sampling results for individual chemicals are compared for discussion purposes to the following screening values, listed in approximate descending order of importance and/or relevance:

- Site-specific values developed by DTSC (i.e., groundwater comparison concentrations for metals) (listed as SSFL Comparison in report tables);
- Isotope-specific activity limits for individual beta/photon emitters based on the effective dose equivalent of 4 millirems per year (mrem/yr) (Federal Register 2000);
- Primary MCLs established by the EPA and promulgated by the Safe Drinking Water Act, and by the California Department of Public Health (DPH) promulgated by 22 CCR, sections 64431 through 64449 and 64672 (Regional Water Quality Control Board [RWQCB] 2008; DPH 2008) (listed as Primary MCL and Cal MCL in report tables);
- Notification Levels/Advisory Levels established by the California DPH (RWQCB 2008; DPH 2010);
- Secondary maximum contaminant levels (SMCLs), which address aesthetics such as taste and odor (RWQCB 2008; DPH 2006) (listed as Secondary MCL in report tables);
- Taste and Odor Threshold (RWQCB 2008) (listed as Taste/Odor in report tables); and
- Site-specific values developed for SSFL using risk assessment procedures assuming direct ingestion of groundwater (listed as site-wide groundwater risk-based screening level [SWGW RBSL] in report tables).

For chemicals with more than one screening value, the lower value is used to be more conservative. When EPA and California DPH values for MCLs differ, the lower value is used. In cases where the SMCL is lower than the primary MCL, the SMCL is used.

The methodology used to develop the risk-based screening values for chemicals that are not metallic elements and where there are no agency-published values is described in a technical memorandum included in Appendix 7-C of the Groundwater RI Report (MWH 2009).

4.2.3 Areas of Impacted Groundwater

Chemical concentration data from the 2024 reporting period are posted on chemical extent maps showing areas of impacted groundwater for 13 chemicals on Figures 6 through 18. The figures present the current (2024) or most recent sample results (within the past 3 years). The 13 chemicals were selected for mapping because: they are COCs in the Site-Wide Groundwater Monitoring Program; they generally exhibit more than solitary spatially isolated detects; they were presented on chemical extent maps in the

Groundwater RI Report (MWH 2009) and the RFI Work Plan (CDM Smith 2015a); and they were selected based on a comprehensive site-wide evaluation of their extent in groundwater.

The COC figures presented in this report reflect data for:

- trichloroethene (TCE)
- tetrachloroethene (PCE)
- cis-1,2-dichloroethene (cis-1,2-DCE)
- trans-1,2-dichloroethene (trans-1,2-DCE)
- vinyl chloride
- 1,1-dichloroethene (1,1-DCE)
- 1,2-DCA
- 1,1-dichloroethane (1,1-DCA)
- 1,4-dioxane
- carbon tetrachloride
- total petroleum hydrocarbons (TPH)
- nitrate
- and tritium.

Perchlorate is a COC but current conditions indicate that no areas of impacted groundwater are present. No figure is presented for this analyte. Analytes 1,2,3-trichloropropene (1,2,3-TCP), formaldehyde, n-nitrosodimethylamine (NDMA), and fluoride are discussed in this section because they were analytes identified as needing further evaluation.

Chemicals with concentrations historically exceeding screening values at five or more locations but having adequate sampling coverage in current (2024) and recent data to indicate the chemicals are no longer present at concentrations above the SSFL screening criteria (e.g., 1,1,1-trichloroethane, chloroform, and benzene) were not included. Chemicals that are common laboratory contaminants (e.g., methylene chloride and bis [2-ethylhexyl] phthalate) and those that are naturally occurring and for which there is no known site-related anthropogenic source (e.g., sulfate) were also not included, even if they had concentrations exceeding screening values at five or more locations.

The 2024 analytical results were evaluated to identify any additional chemicals for which a chemical extent map was warranted according to the criteria used in the Groundwater RI Report (MWH 2009). No additional chemicals were identified for generation of a chemical extent map.

Areas of impacted groundwater from the Groundwater RFI Report (CDM Smith 2018) form the basis of those shown in the chemical extent maps in this report. Adjustments to the areas of impacted groundwater are made each year, as new data are collected. The chemical extent boundaries for each chemical are defined by the groundwater screening reference values listed in Table 8. The maximum concentrations at each location from samples collected in 2024 are posted for each chemical and the locations are color-coded to indicate whether the result exceeded the screening value, was detected below the screening value, or was not detected. For locations that were not sampled in 2024, the most recent historical result is posted along with the date the sample was collected.

Isoconcentration lines equal to screening values for selected chemicals in groundwater are depicted in Figures 6 through 18 and are based on the 2024 results and consideration for historical sampling results as well as professional judgment, particularly for chemicals that are transformation or daughter products from either the biological or abiotic decay of a parent (e.g., cis-1,2-DCE produced from the biological transformation of TCE). The screening-value isoconcentration lines represent the interpreted map-view extent of impacted groundwater based on all available data, not just the most recent reporting period. Screening-value isoconcentration lines are adjusted after a concentration at a well increases above or decreases below the screening value for two or more consecutive years.

The areas of impacted groundwater for each of the chemicals plotted are discussed below and have been adjusted based on the results from 2024. In general, sample results were consistent with historical results, and reported concentrations will be further evaluated by comparing 2024 results to results from one or more future sampling rounds and performing trend analysis.

Contaminant detections are reported as a concentration followed by the laboratory qualifier and the data validation qualifier. The qualifiers are defined in Tables 10 through 15 and in Appendix E. Concentrations with a J qualifier are considered estimated due to uncertainty in the reported value. This uncertainty is due to not meeting accuracy criteria (Appendix E) and/or the reported value was above the MDL (i.e., lowest concentration that can be detected) but below the quantitation limit (i.e., lowest concentration that can be quantitatively detected with accuracy and precision).

Trichloroethene (Figure 6 and Table 10)

FSDF Area

TCE concentrations detected above the MCL of 5 µg/L for this area in 2024 include wells:

- RD-54A showed an increasing trend from 2018 (2.3 µg/L), 2019 (9.4 µg/L), and 2020 (23.7 µg/L). The Q1 2021 result decreased to 7.59 µg/L, and further decreased in Q1 2022 to 3.3 µg/L. The TCE concentration increased in Q1 2023 to 4.9 µg/L and above the screening criterion in Q3 2023 to 47.8 µg/L. The 2023 increasing results in this well are influenced by shallow impacted groundwater migrating downward from near-surface bedrock fractures. Data from future sampling rounds will be used to evaluate the current increasing trend. RD-54A was not sampled in Q1 or Q3 2024.
- RD-21 showed a decreasing trend from Q1 2022 (97.6 µg/L) to Q1 2023 (63.9 µg/L). RD-21 was not sampled in Q3 2023, Q1 2024, or Q3 2024.
- RD-65 was not selected to be sampled in Q1 or Q3 2024. In Q1 2023, RD-65 at 276 µg/L increased from the Q1 2022 result of 5.38 µg/L. The Q3 2023 result continued to increase to 354 µg/L. The increases in TCE concentration in 2023 were influenced by high seasonal rainfall recharging near-surface bedrock fractures. Data from future sampling rounds will be used to evaluate potential trends.
- RD-64 at 38.3 µg/L in Q1 2024 was decreased from the Q3 2023 result of 76.8 µg/L; however, the Q3 2024 result at 124 µg/L /J was increased. Each of these detections increased from the previous reported detection of 15.6 µg/L in 2020. The variability in reported detections is influenced by seasonal rainfall and statistical variability. Data from future sampling rounds will be used to evaluate potential trends.
- PZ-098 has shown an increasing trend in reported detections elevating above the MCL in Q1 and Q3 2024. The Q1 2023 result (2.24 µg/L) increased to 3.37 µg/L in Q3 2023 and continued to increase to 6.62 µg/L in Q1 2024 and 8.04 µg/L in Q3 2024. The increase is influenced by above-average seasonal rainfall. Data from future sampling rounds will be used to evaluate potential trends.

Metals Clarifier Area

TCE concentration detected above the MCL of 5 µg/L for this area in 2024 includes well:

- PZ-105 at 5.11 µg/L in Q3 2024 is decreased from the Q1 2023 result (6.37 µg/L), the Q3 2023 result (6.87 µg/L), the Q1 2022 result (5.55 µg/L), and the 2020 result (8.34 µg/L). PZ-105 was not sampled in 2021. Fluctuating TCE concentrations are influenced by seasonal rainfall recharging near-surface fractures. Data from future sampling rounds will be used to evaluate potential trends.

Building 4057/59/626

TCE concentrations detected above the MCL of 5 µg/L for this area in 2024 include well:

- PZ-109 at 5.65 µg/L in Q3 2024 is decreased from the Q1 2024 result of 8.73 µg/L. These results are decreased from the Q1 2023 result of 10 µg/L and decreased and increased, respectively, from the Q3 2023 result (6.19 µg/L). The 2024 results are decreased and increased, respectively, from the Q1 2022 result of 7.58 µg/L. Fluctuating TCE concentrations are influenced by seasonal rainfall recharging near-surface fractures. Data from future sampling rounds will be used to evaluate potential trends.

Building 4100 / Building 56 Landfill Area

TCE concentrations detected above the MCL of 5 µg/L for this area in 2024 include wells:

- RD-07 at 28 µg/L in Q1 2024 and 48.2 µg/L in Q3 2024 decreased and increased, respectively, from Q1 2023 (43.7 µg/L) and decreased in both from Q3 2023 (55.3 µg/L). The 2024 results are decreased and increased, respectively, from the Q1 2022 result (45.1 µg/L) and both are decreased from 2021 (60.2 µg/L). The results remain above the result detected in 2019 (22.2 µg/L). Fluctuating TCE concentrations are influenced by seasonal rainfall recharging near-surface fractures. Data from future sampling rounds will be used to evaluate potential trends.
- RD-91 was not selected for sampling in Q1 or Q3 2024. RD-91 at 87.8 µg/L in Q1 2023 decreased from the 2022 result (91.4 µg/L). RD-91 was not sampled in Q3 2023. This well supports extent and trend analysis in the area, particularly near well RD-07, and may be evaluated in future sampling rounds for confirmation of extent and trend analysis.

HMSA Area

TCE concentrations detected above the MCL of 5 µg/L for this area in Q1 2024 include wells:

- DD-157 at 9.96 µg/L (Q1 2023) was not selected for sampling in 2024. DS-48 at 16.2 µg/L (Q3 2024) is decreased from Q1 2023 (41.4 µg/L) and Q3 2023 (41.7 µg/L). Neither of these wells were sampled in Q1 2022. Both of the results are increased from the 2021 results (DD-157 non-detect and DS-48 at 4.89 µg/L), which was the first year these two wells were sampled after installation. Data from future sampling rounds will be used to evaluate potential trends.
- PZ-108 at 114 µg/L in Q3 2024 is decreased from the reported detection of 119 µg/L in Q1 2023 and 130 µg/L in Q3 2023. The 2024 and 2023 reported detections are decreased from the Q1 2022 result of 141 µg/L.
- PZ-162 at 3.44 µg/L in Q3 2024 is decreased from the reported detections of 12.8 µg/L in Q1 2023, 5.61 µg/L in Q3 2023, and 9.56 µg/L in Q1 2022.
- PZ-163 at 121 H/J µg/L in Q3 2024 is increased from the reported result of 77.2 µg/L in Q1 2023 and decreased from 129 µg/L reported in in Q3 2023. The Q3 2024 result is increased from the Q1 2022 result of 78.4 µg/L.
- DD-144 at 62.4 µg/L in Q3 2024 is decreased from the reported result of 108 µg/L in Q1 2023 and 79 µg/L in Q3 2023. The Q3 2024 result is increased from the Q1 2022 result (14.3 µg/L) and decreased from the 2020 result (168 µg/L).
- PZ-165 at 9.75 µg/L in Q3 2024 is a first-time new detection above the MCL. PZ-165 is one of five new wells installed in this area in December 2023. None of the other wells installed at the same time

had reported detections above the notification level. Data from future sampling rounds will be used to evaluate potential trends.

- PZ-120 at 11.1 µg/L in Q3 2024 is increased from the Q3 2023 result of 1.19 µg/L in Q3 2023.
- DS-48 at 16.2 µg/L in Q3 2024 is decreased from the reported result of 41.4 µg/L in Q1 2023 and 41.7 µg/L in Q3 2023.

The fluctuations in TCE concentrations are influenced by seasonal rainfall impacting near-surface conditions. Data from future sampling rounds will be used to evaluate potential trends.

Radioactive Materials Handling Facility (RMHF) Area

TCE concentrations detected above the MCL of 5 µg/L for this area in Q1 2024 include wells:

- RS-28 at 6.03 µg/L in Q3 2024 is decreased from the reported detection of 7.01 µg/L in Q1 2023 and increased from the reported detection of 1.53 µg/L in Q3 2023. RS-28 was not sampled in 2022 or 2021.

Tetrachloroethene (Figure 7 and Table 10)

Tetrachloroethene concentrations detected above the MCL of 5 µg/L for this area in 2024 include:

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- PZ-109 at 22.5 µg/L in Q1 2024 and 22 µg/L in Q3 2024 are decreased from the reported results of 29.7 µg/L in Q1 2023, 29.1 µg/L in Q3 2023, and 33.8 J/J µg/L in Q1 2022. PZ-109 was the only well with reported detections of tetrachloroethene above the MCL in samples collected and analyzed in Q1 and Q3 2024. While the results for tetrachloroethene have been decreasing, the PCE/TCE ratio in this well have varied ranging from a high of 4.46 in Q1 2022 to a low of 2.58 in Q1 2024.

cis-1,2-Dichloroethene (Figure 8 and Table 10)

cis-1,2-DCE concentrations detected above the MCL of 6 µg/L for this area in 2024 include:

HMSA Area

- DD-144 at 7.75 µg/L in Q3 2024 is decreased from the reported results at 10.4 µg/L in Q1 2023 and 10.7 µg/L in Q3 2023. The Q3 2024 result is increased from the 2022 result of 1.24 µg/L, and decreased from the 2020 result of 12.6 µg/L.
- DS-48 at 6.12 µg/L in Q3 2024 is decreased from the reported results at 17.1 µg/L in Q1 2023 and 12.5 µg/L in Q3 2023. The 2023 and 2024 results are decreased from the 2021 result of 25 µg/L.
- PZ-108 at 11.3 µg/L in Q3 2024 is decreased from the reported results at 16.5 µg/L in Q1 2023 and 11.9 µg/L in Q3 2023. The Q3 2024 result was decreased from the 2022 result (13.6 µg/L) and the 2021 result (19.2 µg/L).
- PZ-109 at 9.45 µg/L in Q1 2024 and 7.77 µg/L in Q3 2024 are decreased from the 2023 results (36.3 µg/L in Q1 2023 and 9.5 µg/L in Q3 2023) and the 2022 result (11.9 µg/L).
- PZ-163 at 9.36 µg/L in Q3 2024 is increased from the Q1 2023 result (7.12 µg/L) and the Q1 2022 result (6.5 µg/L) and decreased from the Q3 2023 result (10.2 µg/L).

The fluctuation in cis-1,2-DCE concentrations is influenced by seasonal rainfall impacting near-surface conditions. Data from future sampling rounds will be used to evaluate potential trends.

FSDF Area

- RD-65 was not selected for sampling in 2024. RD-65 at 9.38 µg/L in Q1 2023 and 10.2 µg/L in Q3 2023 increased from the 2022 result (7.93 µg/L) and decreased from the 2020 result (11.4 µg/L).
- RD-64 at 6.41 µg/L in Q1 2024 and 15.4 µg/L in Q3 2024 are decreased and increased, respectively, from the reported detection of 10.1 µg/L in Q1 2023.

Building 4100 / Building 56 Landfill Area

- RD-91 was not selected for sampling in 2024. RD-91 at 7.68 µg/L in Q1 2023 was the only detection above the screening criterion in this area and increased from the 2022 result (3.69 µg/L).

trans-1,2-Dichloroethene (Figure 9 and Table 10)

There were no reported 2024 detections of trans-1,2-DCE above the MCL of 10 µg/L. For samples collected and analyzed in Q1 and Q3 2023, there was one well with reported detections of trans-1,2-DCE above the MCL of 10 µg/L. Well RD-65 near FSDF had reported detections of 21.2 µg/L in Q1 and 12.9 µg/L in Q3 2023. The Q1 result increased from 2022 and the Q3 result decreased from the 2022 result (17.4 µg/L).

Vinyl Chloride (Figure 10 and Table 10)

Vinyl chloride results were non-detect for all wells sampled during the Site-Wide events in Q1 and Q3 2024. The MDL for all vinyl chloride results was 0.333 µg/L and is considered sufficient for project purposes. The MCL for vinyl chloride is 0.5 µg/L.

1,1-Dichloroethene (Figure 11 and Table 10)

There were no reported 2024 detections of 1,1-DCE above the MCL of 6 µg/L. For samples collected and analyzed in Q1 and Q3 2023, there was one well with reported detections of 1,1-DCE above the MCL of 6 µg/L. RD-65 near FSDF had a reported detection of 23.4 µg/L in Q1 and 26.8 µg/L in Q3 2023. These were increased from the Q1 2022 result of 5.23 µg/L.

1,2-Dichloroethane (Figure 12 and Table 10)

There were no reported detections of 1,2-DCA above the MCL (0.5 µg/L) in samples collected and analyzed in Q1 or Q3 2024.

- 1,2-DCA was detected in FSDF coreholes at concentrations ranging from 2.5 µg/L to 5.2 µg/L during GWIM sampling events conducted in 2020 (CDM Smith 2022). There were no detections in 2023.

1,1-Dichloroethane (Figure 13 and Table 10)

For samples collected and analyzed in Q1 and Q3 2024, there were no reported detections of 1,1-DCA above the MCL of 5 µg/L.

1,4-Dioxane (Figure 14 and Table 10)

During 2019, 1,4-dioxane was analyzed for in wells DD-140, RD-33A, RD-63, and RS-54 following a recommendation in the 2018 annual report and it was detected above the screening value of 1 µg/L. Based on a 2019 recommendation, 1,4-dioxane was added to Site-Wide wells scheduled for VOC analysis. The 2024 results for 1,4-dioxane above the screening value (notification level; 1 µg/L) are discussed below.

FSDF Area

- DS-46 at 3.96 µg/L in Q2 2024 is increased from the reported results of 3.6 µg/L in Q1 2023 and 3.28 µg/L in Q3 2023.
- PZ-098 at 1.76 µg/L in Q1 2024 and 1.35 µg/L in Q3 2024 are consistent with the reported detections of 1.38 µg/L in Q1 2023 and 1.06 µg/L in Q3 2023.
- DD-140 at 2.36 µg/L H/J in Q2 2024 is increased above the notification level and above the reported result of 0.952 µg/L J/h in Q1 2022.
- RD-64 at 1.41 µg/L in Q1 2024 and 2.85 µg/L in Q3 2024 decreased and increased, respectively, from the reported result of 2.54 µg/L in Q3 2023. RD-64 was not sampled in 2022 or Q1 2023.
- RD-33A was not selected for sampling in 2024. RD-33A at 2.31 µg/L in Q1 2023 increased from the 2021 result (1.97 µg/L).

Data from future sampling rounds will be used to evaluate potential trends.

HMSA Area

- PZ-163 at 0.97 µg/L in Q3 2024 is decreased below the notification level and decreased from the reported results of 2.21 µg/L in Q1 2023 and 1.35 µg/L in Q3 2023. The 2024 result is also decreased from the Q1 2022 estimated result of 1.3 J/J- µg/L.
- PZ-120 at 3.5 µg/L in Q3 2024 is increased from the reported detection of 1.12 µg/L in Q1 2023. The Q1 2023 detection was the first detection and new maximum detection for this well. The Q3 2023 result of 1.55 µg/L was slightly increased from the Q1 2023 reported detection.
- DD-144 at 0.53 µg/L in Q3 2024 is below the notification level. In Q1 2023, 1,4-dioxane was detected for the first time at 2.18 µg/L. The Q3 2023 result of 0.893 µg/L was decreased from the Q1 2023 reported detection and below the notification level.
- PZ-165 at 2.93 µg/L in Q3 2024 is a new detection and above the notification level. PZ-165 is one of five new wells installed in this area in December 2023. None of the other wells installed at the same time had reported detections above the notification level. Data from future sampling rounds will be used to evaluate potential trends.

Tritium Plume

- RD-88 was non-detect in Q1 2024 which is below the notification level and the reported detection of 5.69 µg/L in Q3 2023. The 2023 result was lower than the previous reported detection in this well, 19 µg/L in Q3 2013. RD-88 was not sampled in Q3 2024. Data from future sampling rounds will be used to evaluate extent and trends.
- RD-90 at 9.15 µg/L B/ in Q1 2024 is the first detection at this well. RD-90 was not sampled in Q3 2024. Data from future sampling rounds will be used to evaluate extent and trends.
- RD-95 at 4.77 µg/L B/ in Q1 2024 is the first detection at this well. RD-95 was not sampled in Q3 2024. Data from future sampling rounds will be used to evaluate extent and trends.

RMHF Area

- RD-63 at 1.09 µg/L in Q1 2024 and 1.16 µg/L in Q3 2024 are consistent with the results of 0.943 µg/L in Q1 2023 and 1.19 µg/L in Q3 2024.

Data from future sampling rounds will be used to evaluate extent and trends.

Carbon Tetrachloride (Figure 15 and Table 10)

There was one reported detection of carbon tetrachloride above the MDL (0.333 µg/L) and the MCL (0.5 µg/L) in samples collected and analyzed in Q1 2023. Well RD-21 had a reported detection of 12 µg/L, an increase from the 2022 result (11.1 µg/L). RD-21 was not sampled in Q3 2023, Q1 2024, or Q3 2024. Data from future sampling rounds will be used to evaluate extent and potential trends.

Total Petroleum Hydrocarbons (DRO and GRO) (Figure 16 and Table 12)

Total petroleum hydrocarbons consist of many constituents broken into three categories: diesel-range organics (DRO), gasoline-range organics (GRO), and residual-range organics (RRO). DRO and GRO are the most common constituents tested for and contaminants found on site.

In Q1 2024, DRO were detected above the screening criterion of 100 µg/L in four wells: DD-140 (114 µg/L JQ/J-), DS-43 (295 µg/L Q/J-), PZ-098 (362 µg/L), and PZ-109 (176 µg/L JQ/J-). There were two detections of GRO above the MDL of 16.7 µg/L: PZ-109 (17.6 µg/L J/J) and RD-64 (22.4 µg/L J/J).

In Q3 2024, DRO was detected above the screening criteria in four wells: DS-44 (141 µg/L J/J), PZ-104 (105 µg/L J/J), PZ-109 (141 µg/L J/J), and PZ-124 (323 µg/L). There were six detections of GRO above the MDL of 16.7 µg/L: PZ-109 (17 µg/L J/J), RD-07 (21.8 µg/L J/J), DD-144 (30.4 µg/L J/J), PZ-108 (50.5 µg/L J/J), RD-64 (51.5 µg/L J/J), and PZ-163 (54.6 µg/L J/J). Data from future sampling rounds will be used to evaluate extent and potential trends.

Nitrate as N (Figure 17 and Table 13)

In Q1 2024, Nitrate-N was detected above the screening criterion of 10 mg/L in RD-20 at 16.2 J/J mg/L. In Q1 2023, Nitrate-N was detected above the screening criterion of 10 mg/L in PZ-005 at 14.3 J/QH mg/L.

Tritium (Figure 18 and Table 14)

Tritium Plume Area

- In Q1 2024, the concentrations of tritium were reported for well RD-90 at the MCL of 20,000 picocuries per liter (pCi/L). Well RD-90 was not selected for tritium analysis in Q3 2024. In Q1 2023 and Q3 2023, there were no detections of tritium above the MCL. In Q1 2022, the concentrations of tritium were above the MCL for well RD-90 at 27,100 pCi/L, and below the MCL for well RD-95 at 14,700 pCi/L. Neither RD-90 nor RD-95 was selected for sampling in Q1 2023 or Q3 2023. Based on the WQSAP, tritium was not required to be sampled, and no samples were collected in 2021. In 2020, the concentrations of tritium were above the MCL for well RD-90 at 26,000 pCi/L, and for well RD-95 at 23,300 pCi/L. The concentrations decreased from the results detected in 2019 (37,900 pCi/L and 33,000 pCi/L, respectively). Tritium concentration versus time graphs presented in Appendix D illustrate overall decreasing trends for these wells. The graphs include trendlines generated from both actual tritium detections and projected tritium half-life decay from the highest historical detection. Based on the detection trendlines, tritium was expected to decrease to below the MCL by 2024 in RD-90 and by 2022 in RD-95. The 2024 data confirm these expectations. The decay trendlines indicate a much longer timeframe with tritium decaying below the MCL by 2032 in RD-90 and by 2040 in RD-95. The Groundwater RFI Report notes that the rate of diminishing tritium concentrations is faster than the half-life decay predictions due to dispersion and dilution factors (CDM Smith 2018).

Other Analytes of Interest

The following analytes are not considered COCs but are of potential interest.

Perchlorate (Table 11)

In the past there was one area of impacted groundwater for perchlorate, FSDF. Current conditions indicate that there are no areas of impacted groundwater from perchlorate since all 2024 sample results are below the MCL of 6 µg/L. Sample results are discussed below for the former area of impacted groundwater.

FSDF Area

- Perchlorate was reported in well PZ-098 in Q3 2024 at 0.915 µg/L J/J, which is below the Q1 2023 result (1.02 µg/L) and above the Q3 2023 result (0.793 µg/L). The Q3 2024 result was also above the Q2 2022 result (0.86 µg/L). Perchlorate was also reported in well RD-21 in Q1 2023 at 2.42 µg/L, which was decreased from the 2022 result (3.64 µg/L).

No figure is required for this analyte.

Formaldehyde

Areas of groundwater impacted by formaldehyde are not present in Area IV. Formaldehyde was not analyzed for in 2024. No figure is required for this analyte.

N-Nitrosodimethylamine

NDMA was not analyzed in any Area IV wells since there have been no previous detections in Area IV. No figure is required for this analyte.

Fluoride (Table 13)

The previous area of impact for fluoride was in the vicinity and south of the Systems Nuclear Auxiliary Power Facility. Since fluoride was not detected above the screening value (800 mg/L) for any Area IV wells in 2014, this area of impact was removed at that time. The 2023 fluoride results reported in Area IV wells ranged from 0.235 J/ mg/L to 1 mg/L with only one reported detection above the SSFL comparison value of 0.8 mg/L.

In 2024, no samples had reported detections of fluoride above the comparison value of 0.8 mg/L. In Q1 2023, fluoride was detected in RD-34B at 1 mg/L, above the comparison value of 0.8 mg/L. This was an increase from the 2022 result of 0.87 mg/L in well RD-34B. No other detections above the comparison value were reported in Q1 2023 samples. Fluoride was not analyzed for in Q3 2023. In 2022, fluoride was detected in well RD-59A at 0.797 mg/L, just below the SSFL comparison value of 0.8 mg/L. This was an increase from the 2021 result (0.75 mg/L).

4.2.4 Analytical Results

For the Q1 2024 and Q3 2024 sampling periods, analytes in groundwater samples collected in Area IV that were detected for the first time at a particular well, and/or were analyzed for the first time, are shown in Table 9. Table 9 also shows whether the Q1 or Q3 2024 detected result is a new maximum value for that analyte at that well. The following items depict the process of identifying the analytes shown in Table 9:

- Analytes that were detected for the first time in a well in 2024.
- Analytes that were analyzed for the first time ever for that well (none for 2024).

- Of these analytes, the detected values are compared to all data to see if the 2024 value is the new maximum value for that well.

4.2.4.1 On-Site Detections

Constituent concentrations (except for radiochemical constituents, which are discussed separately in Section 4.2.5) detected in groundwater samples collected from on-site wells in Q1 2024 and Q3 2024 and presented in Table 9 are discussed below.

First-Time Analyses of an Analyte at a Particular Well

Groundwater samples from the six new wells — PZ-164, PZ-165, PZ-166, PZ-167, PZ168, and PZ-169 — were collected and analyzed for the first time in 2024. Data from these wells are incorporated into the discussions below; however, future results from these wells will be evaluated for trends and extent.

First-Time Detection of the Analyte and New Maximum Value

As shown in Table 9, reportable analytes were detected above the respective screening criteria for the first time during Q1 2024 and Q3 2024 in various wells, and those concentrations are also now the new maximum values for those analytes at these wells. New maximum concentrations in this category above the associated SSFL screening criteria values are described below.

Q1 2024

- DRO in wells DS-43 (295 µg/L Q/J-), DD-140 (114 µg/L JQ/J-) and PZ-109 (176 µg/L JQ/J-).
- GRO in well PZ-109 (17.6 µg/L J/J).
- Mercury in well DS-46 (0.231 µg/L).
- 1,4-dioxane in wells RD-90 (9.15 µg/L B/) and RD-95 (4.77 µg/L B/).

Q3 2024

- 1,4-dioxane in well PZ-165 (2.93 µg/L total).
- Arsenic in well PZ-166 (9.46 µg/L dissolved and 9.34 µg/L total).
- Barium in well PZ-164 (159 µg/L total).
- Beryllium in wells PZ-164 (0.517 µg/L total), PZ-167 (0.214 µg/L J/J total), and PZ-168 (0.234 µg/L J/J total).
- Cadmium in well PZ-164 (0.331 µg/L J/J total).
- Chromium in well PZ-164 (39.4 µg/L total).
- Cobalt in wells PZ-164 (5.9 µg/L total), PZ-167 (1.99 µg/L total), and PZ-168 (2.23 µg/L total).
- Copper in wells PZ-164 (11.9 µg/L total) and PZ-167 (4.75 µg/L total).
- DRO in wells DS-44 (141 µg/L J/J total) and PZ-124 (323 µg/L total).
- GRO in well RD-07 (21.8 µg/L J/J total).
- Nickel in well PZ-166 (61.4 µg/L dissolved and 62.2 µg/L total).

- Selenium in wells DD-158 (3.63 µg/L J/J total), DD-159 (6.12 µg/L dissolved and 5.37 µg/L total), and PZ-168 (2.58 µg/L J/J total).
- Tin in well PZ-164 (3.03 µg/L J/J total).
- Trichloroethene (TCE) in well PZ-165 (9.75 µg/L total).
- Vanadium in wells PZ-164 (31 µg/L total), PZ-165 (4.06 µg/L J/J dissolved and 4.54 µg/L J/J total), PZ-166 (8.13 µg/L J/J dissolved and 9.11 µg/L J/J total), PZ-167 (5.86 µg/L J/J dissolved and 16.6 µg/L J/J total), PZ-168 (5.53 µg/L J/J dissolved and 16.5 µg/L J/J total), and PZ-169 (4.28 µg/L J/J dissolved and 11.3 µg/L J/J total).

Eighty-two percent of these first-time detections in Q3 2024 above the relevant screening levels are from the six new wells installed in 2023. The balance of first-time detections in Q1 2024 and Q3 2024 are due to statistical variability. Data from future sampling rounds will be used to evaluate potential trends.

In this category in Q3 2023, first-time detections were limited to various metals and DRO and GRO in multiple wells. In contrast, the Q1 2023 first-time detections were limited to 1,4-dioxane in one well and TCE in one well. These first-time detections may result from natural variability and may be influenced by seasonal rainfall impacting near-surface conditions. Data from future sampling rounds will be used to evaluate trends.

Not a First-Time Detection but Analyte Concentration is New Maximum Value

As shown in Table 9, reportable analytes were detected as new maximum values in various wells during Q1 2023 and Q3 2023. Each detected concentration was not the first time each analyte was seen in the well; however, the value is now a new maximum concentration. New maximum values for previously detected analytes exceeding the associated SSFL screening criteria values are discussed below.

Q1 2024

- 1,4-dioxane in wells DD-140 (2.36 µg/L H/J), DS-46 (3.96 µg/L), and PZ-098 (1.76 µg/L).
- DRO in well PZ-098 (362 µg/L).
- Various dissolved and total metals in wells RD-20, RD-64, RD-74, RD-96, DD-159, PZ-098, PZ-102, PZ-116, PZ-121, and PZ-124. Data from future sampling rounds will be used to evaluate potential trends.

Q3 2024

- 1,4-dioxane in well PZ-120 (3.5 µg/L).
- Cadmium in well PZ-103 (1.8 µg/L).
- Cobalt in wells PZ-116 (2.2 µg/L dissolved and 4.25 µg/L total) and PZ-121 (2.69 µg/L dissolved).
- Copper in well PZ-098 (6.38 µg/L total).
- GRO in wells PZ-163 (54.6 µg/L J/J) and RD-64 (51.5 µg/L J/J).
- Selenium in wells DD-158 (4.24 µg/L J/J dissolved), PZ-005 (2.12 µg/L J/J dissolved and 2.36 µg/L J/J total), and PZ-105 (2.97 µg/L J/J total).
- Vanadium in wells DD-159 (6.01 µg/L J/J total), DS-44 (4.25 µg/L J/J dissolved and 5.58 µg/L J/J total), and PZ-116 (3.62 µg/L J/J dissolved and 3.63 µg/L J/J total).

These new maximum detections may result from natural variability. Data from future sampling rounds will be used to evaluate potential trends.

4.2.4.2 Off-Site Detections

Off-site wells RD-59A and RD-59B were not sampled in Q1 2024 due to dangerous access conditions caused by significant rainfall events across the region. The off-site wells were not selected for sampling/analysis in Q3 2024.

4.2.5 Radiochemistry Results

Radiochemistry analyses were performed for samples collected during the 2024 reporting period under the Site-Wide and RFI programs, and results are presented in Table 14 and discussed further below. Radiochemistry analyses included both total (non-filtered water) and dissolved (filtered water) results.

Radiochemistry analytes reported for the first time in groundwater at individual locations, as well as any new maximum concentrations, are presented in Table 9.

First-Time Analyses of an Analyte at a Particular Well

There were no new analytical suites included in the Q1 2024 or Q3 2024 sampling events.

First-Time Detection of the Analyte and the New Maximum Value

As shown in Table 9, in Q1 2024, there were several first-time and new maximum reported detections exceeding the respective screening limits in the following wells:

Q1 2024

- Gross alpha in wells PZ-124 (49.3 pCi/L total) and RD-95 (22.6 pCi/L total).
- Potassium-40 in well RD-93 (79.9 pCi/L total). Note that there is no SSFL screening criterion for potassium-40.
- Uranium-233/234 in well PZ-124 (38.3 pCi/L total).
- Uranium-238 in well PZ-124 (36.9 pCi/L total).

Q3 2024

Q3 2024 analyses were limited to strontium-90 and tritium for selected wells. As shown on Table 9, there were no first-time detections for strontium-90 or tritium resulting in a new maximum detection.

Results from future sampling rounds will be used to confirm extent and establish trends.

Not a First-Time Detection but Analyte Concentration is New Maximum Value

Q1 2024

As shown in Table 9, the following constituents were reported as new maximum values in various wells during Q1 2024. Each reported concentration was not the first time each analyte was seen in the well; however, the value is now a new maximum concentration.

- Uranium-238 was reported as a new maximum detection in well PZ-124 at 30.3 pCi/L(dissolved), which was above the screening level of 20 pCi/L.

Q3 2024

Q3 2024 analyses were limited to strontium-90 and tritium on selected wells. As shown on Table 9, there were no new maximum reported detections for strontium-90 or tritium in wells with previous detections.

Results from the future sampling rounds will be used to confirm if increasing trends are established.

Previous investigations have determined that radium-226 and radium-228 are naturally occurring in Area IV (EPA 2012).

4.2.5.1 Off-Site Detections

Off-site wells RD-59A and RD-59B were not sampled in Q1 2024 due to dangerous access conditions caused by significant rainfall events across the region. The off-site wells were not selected for sampling/analysis in Q3 2024.

4.2.6 2023 Results Follow-up

This section evaluates whether or not sampling and analyses performed during 2024 are sufficient to resolve documented follow-up sampling issues from the previous annual report (North Wind 2023), and assesses the need for changes to the groundwater monitoring program.

4.2.6.1 2023 Outstanding Issues

Follow-up for 2023 Recommendations

In the Annual Report for 2023, some outstanding issues were identified, and recommendations were made for potential follow-up work. These recommendations and how they were addressed during the Q1 2024 and Q3 2024 sampling events are as follows:

- Update the WQSAP (Haley & Aldrich 2010b) to include contaminants of concern (COCs), including tritium, to further evaluate potential trends in wells such as RD-90 and RD-95. **This recommendation is being evaluated**.
- Continue to monitor the increased number of wells across Area IV with detections of DRO and GRO above the screening criteria to evaluate potential trends related to the rainfall and percolation that occurred in Spring 2023. **DRO and GRO were analyzed in Q1 and Q3 2024 in multiple wells across Area IV. The number of reported detections above the screening criteria were decreased from the 2023 results.**
- Continue to monitor TCE in the Former Sodium Disposal Facility (FSDF) Groundwater Impact Area. There was noticeable increase in TCE from 2022 to 2023 in several wells (RD-65, RD-54A) due to the high seasonal rainfall in Spring 2023. **Wells RD-65 and RD-54A were not selected for sampling in Q3 2024 and will be considered for sampling in 2025. Well PZ-098 at 8.04 µg/L in Q3 2024 and 6.62 µg/L in Q1 2024 continue to increase from the Q3 2023 result of 3.77 µg/L. PZ-098 is downgradient from well RS-18, and the increasing concentrations indicate TCE levels above the screening levels are moving in the downgradient direction. RD-54A was sampled in 2024 by CDM Smith.**

- Continue to monitor TCE in the HMSA Groundwater Impact Area. Though less pronounced than the impact to FSDF, TCE levels increased noticeably in several wells (DD-144 and PZ-163) in this area also. **Wells DD-144 and PZ-163 were not selected for sampling in Q1 2024. In Q3 2024, well DD-144 at 62.4 µg/L decreased from the 2023 results of 108 µg/L (Q1 2023) and 79 µg/L (Q3 2023); well PZ-163 at 121 H/J µg/L increased from the Q1 2023 result of 77.2 µg/L (Q1 2023) and decreased from the Q3 2023 result of 129 µg/L. New wells installed in December 2023 provide additional fidelity to TCE plume extent toward the southwest. Additional sampling rounds will help to confirm these data.**
- Continue to monitor reportable metals concentrations across the site. The number of new maximum detections for metals in 2023 was increased due to increased precipitation and infiltration. Continued monitoring will support extent and trend analysis. **Metals were analyzed in groundwater from selected wells in Q1 2024 and Q3 2024.**
- In 2023, new detections (maximum detection) of the COCs in the Site-Wide Groundwater Monitoring Program above the SSFL screening value were reported in the following 16 wells: DD-139, DD-144, DD-157, DS-48, PZ-005, PZ-098, PZ-104, PZ-108, PZ-109, PZ-120, PZ-121, PZ-162, PZ-163, RD-54A, RD-64, and RD-65. These wells are recommended for sampling in 2024 to evaluate potential extent and trends. **In Q1 2024 well DD-139 was selected for sampling but could not be sampled due to poor access conditions. Wells DD-144, DD-157, DS-48, PZ-005, PZ-104, PZ-108, PZ-120, PZ-162, PZ-163, RD-54A, and RD-65 were not selected for sampling in Q1 2024 and will be considered for sampling in 2025. Of the wells that were selected for sampling in Q1 2024 (PZ-098, PZ-109, PZ-121, and RD-64), only PZ-098 had a repeat new maximum (1,4-dioxane at 1.38 µg/L in 2023 to 1.76 µg/L in Q1 2024). In Q3 2024, three of the 16 wells from 2023 were sampled. All three had repeat new maximums; 1,4-dioxane in well PZ-120 increased from 1.38 µg/L in 2023 to 3.5 µg/L in Q3 2024, GRO in well PZ-163 increased from 50.8 µg/L in 2023 to 54.6 µg/L J/J in Q3 2024, and GRO in well RD-64 increased from 42.9 µg/L J/J in 2023 to 51.5 µg/L J/J in Q3 2024.**

Follow-up for 2023 First-Time and New Maximum Results

In Q1 2023, TCE was detected at a new maximum in wells DD-157 (9.96 µg/L), DS-48 (41.4 µg/L), and PZ-109 (10 µg//L). In Q3 2023 TCE was again detected at a new maximum in DS-48 at 41.7 µg/L. TCE decreased to 16.2 µg/L in DS-48 in Q3 2024. In Q1 2024, TCE was detected at a new maximum in well DD-140 (1.65 µg/L) and in Q3 2024 in well PZ-165 (9.75 µg/L). Additional sample results from these wells may be used to evaluate lateral and vertical extent and support trend analysis.

In Q1 2023, 1,4-dioxane was detected at a new maximum above the screening value in wells DD-144 at 2.18 µg/L, PZ-098 at 1.38 µg/L, PZ-120 at 1.12 µg/L, and PZ-163 at 2.21 µg/L. In Q3 2023 1,4-dioxane was detected at a new maximum above the screening value in one well: PZ-120 at 1.55 µg/L. In Q1 2024, 1,4-dioxane was detected at a new maximum above the screening value in wells DD-140 at 2.36 µg/L H/J, DS-46 at 3.96 µg/L, PZ-098 at 1.76 µg/L, RD-90 at 9.15 µg/L B/B, and RD-95 at 4.77 µg/L B/B. In Q3 2024 1,4-dioxane was detected at a new maximum above the screening value in two wells: PZ-120 at 3.5 µg/L and PZ-165 at 2.93 µg/L. Beginning in 2021, 1,4-dioxane was added as an analyte to all wells analyzed for VOCs. Additional sample results from this well may be used to evaluate lateral and vertical extent and support trend analysis.

Various dissolved and total metal concentrations reported annually have not been consistent. The variability in metals concentrations across Area IV is assumed to be naturally occurring.

In Q1 2023, cis-1,2-dichloroethene was detected at a new maximum above the screening value in well PZ-109 at 36.3 µg/L. The result decreased to 9.5 µg/L in Q3 2023, and further decreased to 7.7 µg/L in

Q3 2024. In Q3 2023, cis-1,2-dichloroethene was detected at a new maximum above the screening value in well PZ-163 at 10.2 µg/L. The Q3 2024 result decreased to 9.36 µg/L. Additional sample results from these wells may be used to evaluate lateral and vertical extent and support trend analysis.

In Q1 2023, gross beta was reported at a new maximum above the screening value in well DD-158 at 118 pCi/L /J total. DD-158 was not selected for gross beta analysis in 2024. There were two new maximum gross alpha detections above the screening value in Q1 in 2024: well PZ-124 at 49.3 pCi/L total and well RD-95 at 22.6 pCi/L total. Gross alpha detections may be transitory and attributed to decay of radium and/or uranium isotopes detected in groundwater. Future sampling rounds may be used to evaluate extent and support trend analysis.

In Q1 2023, radium-226 was reported at a new maximum above the screening value in wells RD-98 at 6.45 pCi/L dissolved and RS-28 at 7.17 pCi/L dissolved. These wells were not selected for analysis of radium-226 in Q1 or Q3 2024. There were no new maximum radium-228 detections above the screening criterion in 2023 or 2024. Additional results from future sampling rounds may be used to evaluate extent and support trend analysis.

Follow-up for Potentially Increasing Trends Identified during 2023

TCE in RD-54A showed an increasing trend from 3.3 µg/L in Q1 2022 to 4.9 µg/L in Q1 2023 and above the screening criterion in Q3 2023 to 47.8 µg/L. RD-54A was not selected for sampling in 2024. At the FSDF, TCE has also showed a steadily increasing trend in downgradient well PZ-098 from 2.24 µg/L in Q1 2023, 3.77 µg/L in Q3 2023, 6.62 µg/L in Q1 2024, to 8.04 µg/L in Q3 2024. TCE in well DD-144 increased from 14.3 µg/L in Q1 2022 to 108 µg/L in Q1 2023. Since then, the reported detections decreased to 79 µg/L in Q3 2023 and further decreased to 62.4 µg/L in Q3 2024. The fluctuating results may be influenced by seasonal rains and shallow impacted groundwater migrating downward from near-surface bedrock fractures. Future sampling data will be used to evaluate extent and trend analysis.

In Q1 2021, cis-1,2-DCE was detected in well PZ-108 at 19.2 µg/L and in Q1 2022 at 13.6 µg/L. Cis-1,2-DCE increased to 16.5 µg/L in Q1 2023 and decreased to 11.9 µg/L in Q3 2023. The Q3 2024 result of 11.3 µg/L is generally consistent with the Q3 2023 result. The fluctuating results may be influenced by seasonal rains and shallow impacted groundwater migrating downward from near-surface bedrock fractures. Future sampling data will be used to evaluate extent and trend analysis.

In Q1 2023, 1,4-dioxane was detected at a new maximum above the screening value in PZ-098 at 1.38 µg/L total and increased to 1.76 µg/L total in Q1 2024. Additionally, in Q1 2023, 1,4-dioxane was detected at a new maximum above the screening value in well PZ-120 at 1.12 µg/L total, which increased to 1.55 µg/L total in Q3 2023 and further increased to 3.5 µg/L total in Q3 2024. Continued analysis of 1,4-dioxane in all Area IV wells analyzed for VOCs will help to evaluate lateral and vertical extent and support trend analysis.

4.2.6.2 2023 On-site Detects

For on-site reported sample results included in the 2023 annual report, Section 4.2.4 (North Wind 2024), all analytes were analyzed accordingly unless the well had insufficient sample volume or was dry.

4.2.6.3 2023 Off-site Detects

For off-site reported sample results included in the 2023 annual report, Section 4.2.4 (North Wind 2024), all analytes were analyzed accordingly unless the well had insufficient sample volume or was dry.

4.2.6.4 2023 Radiochemistry Results

For radiochemistry sample results reported in the 2023 annual report, Section 4.2.4 (North Wind 2024), all required methods were analyzed accordingly unless the well had insufficient sample volume or was dry.

5. 2025 PLANNED ACTIVITIES

The monitoring frequency for the Site-Wide Program will be quarterly for water level monitoring and annually for sampling and analysis, with sampling to be performed in the first calendar quarter of 2025.

5.1 Outstanding Issues and/or Follow-Up Work

After review of the 2024 sampling, the following outstanding issues were identified, and recommendations have been made for potential follow-up work:

- Update the WQSAP (Haley & Aldrich 2010b) to include sampling locations and COCs that support trend and extent evaluation.
- Continue to monitor the wells across Area IV with detections of DRO and GRO above the screening criteria to evaluate potential trends related to the rainfall and subsequent percolation.
- Continue to monitor TCE in the FSDF Groundwater Impact Area. There was an increase in TCE in 2023 and 2024 in several wells (RD-65, PZ-098) due to the higher-than-normal seasonal rainfall events. Additionally, detections above the screening criteria have been identified in downgradient well PZ-098.
- Continue to monitor TCE in the HMSA Groundwater Impact Area. Though less pronounced than the impact to FSDF, TCE levels increased in several wells (including DD-144 and PZ-163) in this area.
- Continue to monitor reportable metals concentrations across the site. The number of new maximum detections for reportable metals increased in 2023 due to increased precipitation and infiltration, but the new maximums were generally not repeated in 2024. Continued monitoring will support extent and trend analysis.
- New detections of COCs in the Site-Wide Groundwater Monitoring Program above the SSFL screening value were reported in the following 17 wells: DD-140, DD-158, DD-159, DS-43, DS-44, DS-46, PZ-109, PZ-124, PZ-164 through PZ-169, RD-07, RD-90, and RD-95. These wells are recommended for future sampling rounds to evaluate potential extent and trends.
- New maximum detections (not first detections) of COCs in the Site-Wide Groundwater Monitoring Program above the SSFL screening value were reported in the following 19 wells: DD-140, DD-158, DD-159, DS-44, DS-46, PZ-005, PZ-098, PZ-102, PZ-103, PZ-105, PZ-116, PZ-120, PZ-121, PZ-124, PZ-163, RD-20, RD-64, RD-74, and RD-96. These wells are recommended for future sampling rounds to evaluate potential extent and trends.

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TABLES

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TABLE 1
LIST OF DOE WELLS - 2024 ANNUAL SITE-WIDE GROUNDWATER MONITORING PROGRAM
DOE AREA IV GROUNDWATER RFI
SANTA SUSANA FIELD LABORATORY, VENTURA COUNTY, CALIFORNIA

Well ID	Sampling Program[1]	Water Level Monitoring Program	Groundwater Impact Area
C-08	RFI	---	FSDF B4886
PZ-005	RFI	---	MC/DOE LF3
PZ-041	RFI	---	HMSA
PZ-097	S	W	FSDF B4886
PZ-098	RFI	---	FSDF B4886
PZ-100	RFI	---	FSDF B4886
PZ-102	RFI	---	MC/DOE LF2
PZ-103	RFI	---	MC/DOE LF3
PZ-104	RFI	---	MC/DOE LF3
PZ-105	RFI	---	MC/DOE LF3
PZ-108	S	W	B4457 HMSA
PZ-109	RFI	---	B4057/4059/4626
PZ-116	RFI	---	RMHF
PZ-120	RFI	---	B4457 HMSA
PZ-121	RFI	---	B4457 HMSA
PZ-122	RFI	---	B4457 HMSA
PZ-124	S	W	B56 Landfill
PZ-162	RFI	---	HMSA
PZ-163	RFI	---	HMSA
RD-07	S	W	B56 Landfill
RD-14	S	W	Old Conservation Yard
RD-17	RFI	W	B4030/4093 Leachfields
RD-19	S	W	B4133
RD-20	S	W	B4100 Trench
RD-21	RFI	W	FSDF B4886
RD-22	RFI	W	FSDF B4886
RD-23	RFI	W	FSDF B4886
RD-24	RFI	W	B4057/4059/4626
RD-27	RFI	W	RMHF
RD-29	RFI	W	B4457 HMSA
RD-30	RFI	W	RMHF
RD-33A	S	W	FSDF B4886
RD-33B	S	W	FSDF B4886
RD-33C	S	W	FSDF B4886
RD-34A	S	W	RMHF
RD-34B	S	W	RMHF
RD-34C	S	W	RMHF
RD-54A	S	W	FSDF B4886
RD-54B	RFI	W	FSDF B4886
RD-54C	RFI	W	FSDF B4886
RD-59A	S	W	Offsite
RD-59B	S	W	Offsite
RD-59C	S	W	Offsite
RD-63	S	W	RMHF
RD-64	RFI	W	FSDF B4886
RD-65	RFI	W	FSDF B4886
RD-74	RFI	W	B56 Landfill
RD-87	RFI	W	Tritium Plume
RD-88	RFI	W	Tritium Plume
RD-90	RFI	W	Tritium Plume
RD-91	S	W	B4100
RD-93	RFI	W	Tritium Plume
RD-94	RFI	W	Tritium Plume
RD-95	RFI	W	Tritium Plume
RD-96	S	W	B4057/4059/4626
RD-97	RFI	W	B4057/4059/4626
RD-98	RFI	W	RMHF
RS-16	RFI	W	B56 Landfill
RS-18	S	W	FSDF B4886
RS-23	RFI	---	FSDF B4886
RS-25	RFI	W	B133
RS-27	RFI	W	B4457 HMSA
RS-28	RFI	W	RMHF
RS-54	RFI	W	FSDF B4886
DS-43	RFI	---	B4057/4059/4626
DS-44	RFI	---	B4030/4093 Leachfields
DS-45	RFI	---	B4064
DS-46	RFI	---	FSDF B4886
DS-47	RFI	---	B4064
DS-48	RFI	---	B4457 HMSA
DD-139	RFI	---	FSDF B4886
DD-140	RFI	---	FSDF B4886
DD-141	RFI	---	B56 Landfill
DD-142	RFI	---	B4057/4059/4626
DD-143	RFI	---	RMHF
DD-144	RFI	---	B4457 HMSA
DD-145	RFI	---	MC/DOE LF3
DD-146	RFI	---	B4457 HMSA
DD-147[2] (Formerly RD-89)	RFI	W	Tritium Plume

TABLE 1
LIST OF DOE WELLS - 2024 ANNUAL SITE-WIDE GROUNDWATER MONITORING PROGRAM
DOE AREA IV GROUNDWATER RFI
SANTA SUSANA FIELD LABORATORY, VENTURA COUNTY, CALIFORNIA

Well ID	Sampling Program[1]	Water Level Monitoring Program	Groundwater Impact Area
DD-157	RFI	---	B4457 HMSA
DD-158	RFI	---	Old Conservation Yard
DD-159	RFI	---	Old Conservation Yard
Seeps and Springs[3]	**Sampling Program**[1]	**Water Level Monitoring Program**	**Nearest Impact Area**
SP-900A	N/A	N/A	FSDF B4886
SP-900B	N/A	N/A	FSDF B4886
SP-900C	N/A	N/A	FSDF B4886
SP-19A	N/A	N/A	Tritium Plume
SP-19B	N/A	N/A	Tritium Plume
SP-T02A	N/A	N/A	Tritium Plume
SP-T02B	N/A	N/A	Tritium Plume
SP-T02C	N/A	N/A	Tritium Plume
SP-T02D	N/A	N/A	Tritium Plume
SP-424A	N/A	N/A	RMHF
SP-424B	N/A	N/A	RMHF
SP-424C	N/A	N/A	RMHF

Notes and Abbreviations:

[1] Haley & Aldrich, 2010. Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Simi Hills, Ventura County, California, Revision 1, File No. 20090-456/556/656/M489. December.

[2] RD-89 was drilled to a deeper depth in May 2018. The well ID is now DD-147 and is 257 feet deep.

[3] Seeps and springs are monitored under a separate program.

FSDF - Former Sodium Disposal Facility

HMSA - Hazardous Materials Storage Area

MC/DOE LF3 - Metals Clarifier / DOE Leach Fields 3

N/A - not applicable

RMHF - Radioactive Materials Handling Facility

RFI - Resource Conservation and Recovery Act Facility Investigation (Collected as part of DOE Area IV GW RFI)

S - Included in Site-Wide Sampling Program

W - Included in Site-Wide Water Level Monitoring Program

--- - Water level only collected during a sampling event

TABLE 2
MODIFICATIONS TO MONITORING WELL NETWORK AND EQUIPMENT, Annual 2024 - DOE AREA IV
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

WELL MAINTENANCE

Well ID	Monitoring Program	Quarter Identified	Issue Identification Date	Issue	Issue Resolution	Quarter Resolved	Issue Resolution Date
RD-34B	SW	2010/2011	2010/2011	Borehole obstruction at 167 feet below ground surface.	Groundwater samples have been collected using a pump placed immediately above the obstruction.	---	---
RD-57	SW	2016Q1	3/10/2016	FLUTe was only partially removed due to an obstruction. Well cap welded shut.	Plan to remove FLUTe from well and redevelop well in 4th quarter of 2023.	---	---
RD-74	SW	2014Q1	2/4/2014	Obstruction at about 95 ft bgs due to pump left in well. Total well depth is 101 feet.	Plan to remove obstruction, redrill and redevelop well during 4th Quarter 2023.	---	---
RD-17	SW	2019Q1	3/1/2019	Removed electric submersible pump (230V;1/3HP). Had problem with the pump shutting off while sampling during 2019Q1 sampling event.	In the future the well will be sampled using a non-dedicated low-flow bladder pump.	2019Q3	7/16/2019
RD-24	SW	2019Q1	2/27/2019	Removed electric submersible pump (230V;1/3HP). Removed proactively to support future sampling with non-dedicated pumps.	In the future the well will be sampled using a non-dedicated low-flow bladder pump.	2019Q3	7/16/2019
RD-29	SW	2019Q1	2/27/2019	Removed electric submersible pump (230V;1/2HP). Had problem with the pump shutting off while sampling during 2019Q1 sampling event.	In the future the well will be sampled using a non-dedicated low-flow bladder pump.	2019Q3	7/16/2019

EQUIPMENT MODIFICATIONS

Well ID	Monitoring Program	Quarter	Modification Date	Description
None	None	None	None	None

WELL CONSTRUCTION

Well ID	Monitoring Program	Quarter	Completion Date	Description
None	None	None	None	None

WELL DEVELOPMENT

Well ID	Monitoring Program	Quarter	Development Date	Description
None	None	None	None	None

Notes and Abbreviations:
SW - Well monitored under Site-Wide Program
--- - no data

TABLE 3
WATER LEVEL DATA, ANNUAL 2024 - DOE AREA IV
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY CALIFORNIA

Quarter	Well Identifier	Geological Unit	Reference Point Elevation (feet above MSL)	Date of Measurement	Depth to Water (feet BTOC)	Static Water Level Elevation (feet above MSL)	Notes
Q1	C-8	Chatsworth	1842.23	2/8/24	216.81	1625.42	none
Q2	C-8	Chatsworth	1845.17	6/7/2024	215.11	1630.06	none
Q3	C-8	Chatsworth	1845.17	8/20/2024	213.69	1631.48	none
Q4	C-8	Chatsworth	1845.17	10/10/2024	213.39	1631.78	none
Q1	DD-139	Chatsworth	1793.01	2/8/24	130.33	1662.68	none
Q2	DD-139	Chatsworth	1793.01	6/7/2024	91.38	1701.63	none
Q3	DD-139	Chatsworth	1793.01	8/19/2024	88.46	1704.55	none
Q4	DD-139	Chatsworth	1793.01	10/10/2024	97.15	1695.86	none
Q1	DD-140	Chatsworth	1798.16	2/8/24	142.28	1655.88	none
Q2	DD-140	Chatsworth	1798.16	6/7/2024	134.91	1663.25	none
Q3	DD-140	Chatsworth	1798.16	8/19/2024	134.38	1663.78	none
Q4	DD-140	Chatsworth	1798.16	10/10/2024	137.76	1660.40	none
Q1	DD-141	Chatsworth	1762.79	2/9/24	66.02	1696.77	none
Q2	DD-141	Chatsworth	1762.79	6/6/2024	55.47	1707.32	none
Q3	DD-141	Chatsworth	1762.79	8/19/2024	56.68	1706.11	none
Q4	DD-141	Chatsworth	1762.79	10/11/2024	58.50	1704.29	none
Q1	DD-142	Chatsworth	1812.22	2/9/24	53.06	1759.16	none
Q2	DD-142	Chatsworth	1812.22	6/6/2024	48.42	1763.80	none
Q3	DD-142	Chatsworth	1812.22	8/19/2024	46.97	1765.25	none
Q4	DD-142	Chatsworth	1812.22	10/10/2024	46.11	1766.11	none
Q1	DD-143	Chatsworth	1789.74	2/8/24	22.25	1767.49	none
Q2	DD-143	Chatsworth	1789.74	6/7/2024	14.83	1774.91	none
Q3	DD-143	Chatsworth	1789.74	8/19/2024	20.43	1769.31	none
Q4	DD-143	Chatsworth	1789.74	10/11/2024	24.20	1765.54	none
Q1	DD-144	Chatsworth	1810.69	2/9/24	14.32	1796.37	none
Q2	DD-144	Chatsworth	1810.69	6/6/2024	8.65	1802.04	none
Q3	DD-144	Chatsworth	1810.69	8/19/2024	11.21	1799.48	none
Q4	DD-144	Chatsworth	1810.69	10/11/2024	12.80	1797.89	none
Q1	DD-145	Chatsworth	1798.90	2/9/24	16.35	1782.55	none
Q2	DD-145	Chatsworth	1798.90	6/6/2024	11.57	1787.33	none
Q3	DD-145	Chatsworth	1798.90	8/19/2024	14.10	1784.80	none
Q4	DD-145	Chatsworth	1798.90	10/11/2024	15.98	1782.92	none
Q1	DD-146	Chatsworth	1812.72	2/9/24	5.73	1806.99	none
Q2	DD-146	Chatsworth	1812.72	6/6/2024	10.01	1802.71	none
Q3	DD-146	Chatsworth	1812.72	8/19/2024	12.61	1800.11	none
Q4	DD-146	Chatsworth	1812.72	10/11/2024	14.20	1798.52	none
Q1	DD-147	Chatsworth	1814.18	2/9/24	36.11	1778.07	(1)

TABLE 3
WATER LEVEL DATA, ANNUAL 2024 - DOE AREA IV
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY CALIFORNIA

Quarter	Well Identifier	Geological Unit	Reference Point Elevation (feet above MSL)	Date of Measurement	Depth to Water (feet BTOC)	Static Water Level Elevation (feet above MSL)	Notes
Q2	DD-147	Chatsworth	1818.30	6/6/2024	25.30	1793.00	(1)
Q3	DD-147	Chatsworth	1818.30	8/19/2024	28.03	1790.27	(1)
Q4	DD-147	Chatsworth	1818.30	10/11/2024	30.86	1787.44	(1)
Q1	DD-158	Chatsworth	1832.09	2/9/24	120.6	1711.49	none
Q3	DD-158	Chatsworth	1832.09	8/19/2024	117.36	1714.73	none
Q1	DD-159	Chatsworth	1838.35	2/9/24	71.46	1766.89	none
Q3	DD-159	Chatsworth	1838.35	8/19/2024	57.10	1781.25	none
Q1	DS-43	Shallow	1809.52	2/9/24	12.37	1797.15	none
Q2	DS-43	Shallow	1809.52	6/6/2024	8.34	1801.18	none
Q3	DS-43	Shallow	1809.52	8/19/2024	10.00	1799.52	none
Q4	DS-43	Shallow	1809.52	10/10/2024	11.09	1798.43	none
Q1	DS-44	Shallow	1851.21	2/9/24	52.54	1798.67	none
Q2	DS-44	Shallow	1851.21	6/6/2024	38.22	1812.99	none
Q3	DS-44	Shallow	1851.21	8/19/2024	45.34	1805.87	none
Q4	DS-44	Shallow	1851.21	10/11/2024	50.21	1801.00	none
Q1	DS-45	Shallow	1866.58	2/9/24	50.30	1816.28	none
Q2	DS-45	Shallow	1866.58	6/6/2024	58.89	1807.69	none
Q3	DS-45	Shallow	1866.58	8/19/2024	58.64	1807.94	none
Q4	DS-45	Shallow	1866.58	10/11/2024	59.95	1806.63	none
Q1	DS-46	Shallow	1797.79	2/8/24	33.57	1764.22	none
Q2	DS-46	Shallow	1797.79	6/7/2024	26.28	1771.51	none
Q3	DS-46	Shallow	1797.79	8/19/2024	34.88	1762.91	none
Q4	DS-46	Shallow	1797.79	10/10/2024	40.89	1756.90	none
Q1	DS-47	Shallow	1867.94	2/9/24	96.39	1771.55	none
Q2	DS-47	Shallow	1867.94	6/6/2024	89.91	1778.03	none
Q3	DS-47	Shallow	1867.94	8/19/2024	87.52	1780.42	none
Q4	DS-47	Shallow	1867.94	10/11/2024	86.17	1781.77	none
Q3	DS-48	Shallow	1814.46	8/19/2024	11.50	1802.96	none
Q3	PZ-005	Shallow	1800.97	8/19/2024	10.60	1790.37	none
Q3	PZ-041	Shallow	1809.10	8/19/2024	10.81	1798.29	none
Q1	PZ-097	Shallow	1761.87	2/9/24	Dry	---	none
Q2	PZ-097	Shallow	1761.87	6/7/2024	Dry	---	none
Q3	PZ-097	Shallow	1761.87	8/19/2024	Dry	---	none
Q4	PZ-097	Shallow	1761.87	10/10/2024	Dry	---	none
Q1	PZ-098	Shallow	1797.78	2/9/24	23.10	1774.68	none
Q3	PZ-098	Shallow	1797.78	8/19/2024	26.87	1770.91	none
Q1	PZ-102	Shallow	1827.78	2/9/24	59.48	1768.30	none

TABLE 3
WATER LEVEL DATA, ANNUAL 2024 - DOE AREA IV
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY CALIFORNIA

Quarter	Well Identifier	Geological Unit	Reference Point Elevation (feet above MSL)	Date of Measurement	Depth to Water (feet BTOC)	Static Water Level Elevation (feet above MSL)	Notes
Q3	PZ-102	Shallow	1827.78	8/19/2024	Dry	---	none
Q3	PZ-103	Shallow	1815.93	8/19/2024	12.32	1803.61	none
Q3	PZ-104	Shallow	1797.47	8/19/2024	11.91	1785.56	none
Q3	PZ-105	Shallow	1803.87	8/19/2024	8.27	1795.60	none
Q1	PZ-108	Shallow	1809.36	2/9/24	10.92	1798.44	none
Q2	PZ-108	Shallow	1809.36	6/6/2024	5.85	1803.51	none
Q3	PZ-108	Shallow	1809.36	8/19/2024	8.87	1800.49	none
Q4	PZ-108	Shallow	1809.36	10/10/2024	10.61	1798.75	none
Q1	PZ-109	Shallow	1809.51	2/9/24	12.30	1797.21	none
Q3	PZ-109	Shallow	1809.51	8/19/2024	10.51	1799.00	none
Q1	PZ-116	Shallow	1827.78	2/8/24	14.32	1813.46	none
Q3	PZ-116	Shallow	1827.78	8/19/2024	14.13	1813.65	none
Q3	PZ-120	Shallow	1810.96	8/19/2024	12.08	1798.88	none
Q1	PZ-121	Shallow	1808.98	2/9/24	15.17	1793.81	none
Q3	PZ-121	Shallow	1808.98	8/19/2024	9.74	1799.24	none
Q3	PZ-122	Shallow	1810.80	8/19/2024	14.18	1796.62	none
Q1	PZ-124	Shallow	1764.11	2/9/24	26.45	1737.66	none
Q2	PZ-124	Shallow	1764.11	6/6/2024	16.97	1747.14	none
Q3	PZ-124	Shallow	1764.11	8/19/2024	20.53	1743.58	none
Q4	PZ-124	Shallow	1764.11	10/10/2024	Dry	---	none
Q3	PZ-162	Shallow	1814.26	8/19/2024	11.67	1802.59	none
Q3	PZ-163	Shallow	1814.03	8/19/2024	12.12	1801.91	none
Q3	PZ-164	Shallow	1813.33	8/19/2024	9.99	1803.34	none
Q3	PZ-165	Shallow	1814.45	8/19/2024	12.65	1801.80	none
Q3	PZ-166	Shallow	1814.66	8/19/2024	14.46	1800.20	none
Q3	PZ-167	Shallow	1813.41	8/19/2024	12.16	1801.25	none
Q3	PZ-168	Shallow	1812.23	8/19/2024	12.27	1799.96	none
Q3	PZ-169	Shallow	1813.02	8/19/2024	13.16	1799.86	none
Q1	RD-07	Chatsworth	1812.82	2/9/24	86.94	1725.88	none
Q2	RD-07	Chatsworth	1812.82	6/6/2024	81.53	1731.29	none
Q3	RD-07	Chatsworth	1812.82	8/19/2024	79.17	1733.65	none
Q4	RD-07	Chatsworth	1812.82	10/11/2024	77.59	1735.23	none
Q1	RD-14	Chatsworth	1824.18	2/9/24	71.50	1752.68	none
Q2	RD-14	Chatsworth	1824.18	6/6/2024	54.45	1769.73	none
Q3	RD-14	Chatsworth	1824.18	8/19/2024	51.09	1773.09	none
Q4	RD-14	Chatsworth	1824.18	10/11/2024	52.90	1771.28	none
Q1	RD-17	Chatsworth	1836.30	2/9/24	30.78	1805.52	none

TABLE 3
WATER LEVEL DATA, ANNUAL 2024 - DOE AREA IV
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY CALIFORNIA

Quarter	Well Identifier	Geological Unit	Reference Point Elevation (feet above MSL)	Date of Measurement	Depth to Water (feet BTOC)	Static Water Level Elevation (feet above MSL)	Notes
Q2	RD-17	Chatsworth	1836.30	6/6/2024	23.03	1813.27	none
Q3	RD-17	Chatsworth	1836.30	8/19/2024	23.51	1812.79	none
Q4	RD-17	Chatsworth	1836.30	10/11/2024	25.08	1811.22	none
Q1	RD-19	Chatsworth	1853.16	2/8/24	73.54	1779.62	none
Q2	RD-19	Chatsworth	1853.16	6/6/2024	49.35	1803.81	none
Q3	RD-19	Chatsworth	1853.16	8/19/2024	65.54	1787.62	none
Q4	RD-19	Chatsworth	1853.16	10/11/2024	71.41	1781.75	none
Q1	RD-20	Chatsworth	1819.52	2/8/24	35.54	1783.98	none
Q2	RD-20	Chatsworth	1819.52	6/6/2024	30.51	1789.01	none
Q3	RD-20	Chatsworth	1819.52	8/19/2024	32.40	1787.12	none
Q4	RD-20	Chatsworth	1819.52	10/11/2024	34.07	1785.45	none
Q1	RD-21	Chatsworth	1866.96	2/8/24	83.17	1783.79	none
Q2	RD-21	Chatsworth	1866.96	6/7/2024	78.63	1788.33	none
Q3	RD-21	Chatsworth	1866.96	8/20/2024	77.32	1789.64	none
Q4	RD-21	Chatsworth	1866.96	10/10/2024	78.44	1788.52	none
Q1	RD-22	Chatsworth	1853.41	2/8/24	297.79	1555.62	none
Q2	RD-22	Chatsworth	1853.41	6/7/2024	297.05	1556.36	none
Q3	RD-22	Chatsworth	1853.41	8/20/2024	296.46	1556.95	none
Q4	RD-22	Chatsworth	1853.41	10/10/2024	296.36	1557.05	none
Q1	RD-23	Chatsworth	1838.19	2/8/24	242.42	1595.77	none
Q2	RD-23	Chatsworth	1841.35	6/7/2024	240.72	1600.63	none
Q3	RD-23	Chatsworth	1841.35	8/20/2024	239.50	1601.85	none
Q4	RD-23	Chatsworth	1841.35	10/10/2024	239.16	1602.19	none
Q1	RD-24	Chatsworth	1809.93	2/8/24	35.73	1774.20	none
Q2	RD-24	Chatsworth	1809.93	6/6/2024	29.75	1780.18	none
Q3	RD-24	Chatsworth	1809.93	8/19/2024	30.04	1779.89	none
Q4	RD-24	Chatsworth	1809.93	10/10/2024	29.73	1780.20	none
Q1	RD-27	Chatsworth	1841.67	2/8/24	44.97	1796.70	none
Q2	RD-27	Chatsworth	1841.67	6/6/2024	38.56	1803.11	none
Q3	RD-27	Chatsworth	1841.67	8/19/2024	41.49	1800.18	none
Q4	RD-27	Chatsworth	1841.67	10/10/2024	44.91	1796.76	none
Q1	RD-29	Chatsworth	1806.29	2/8/24	8.42	1797.87	none
Q2	RD-29	Chatsworth	1806.29	6/6/2024	9.40	1796.89	none
Q3	RD-29	Chatsworth	1806.29	8/19/2024	12.72	1793.57	none
Q4	RD-29	Chatsworth	1806.29	10/10/2024	14.38	1791.91	none
Q1	RD-30	Chatsworth	1768.69	2/8/24	0.73	1767.96	none
Q2	RD-30	Chatsworth	1768.69	6/6/2024	---	---	(2)

TABLE 3
WATER LEVEL DATA, ANNUAL 2024 - DOE AREA IV
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY CALIFORNIA

Quarter	Well Identifier	Geological Unit	Reference Point Elevation (feet above MSL)	Date of Measurement	Depth to Water (feet BTOC)	Static Water Level Elevation (feet above MSL)	Notes
Q3	RD-30	Chatsworth	1768.69	8/19/2024	1.30	1767.39	none
Q4	RD-30	Chatsworth	1768.69	10/10/2024	4.03	1764.66	none
Q1	RD-33A	Chatsworth	1792.97	2/9/24	205.86	1587.11	none
Q2	RD-33A	Chatsworth	1792.97	6/7/2024	204.27	1588.70	none
Q3	RD-33A	Chatsworth	1792.97	8/19/2024	203.34	1589.63	none
Q4	RD-33A	Chatsworth	1792.97	10/10/2024	203.88	1589.09	none
Q1	RD-33B	Chatsworth	1793.72	2/9/24	275.11	1518.61	none
Q2	RD-33B	Chatsworth	1793.72	6/7/2024	273.22	1520.50	none
Q3	RD-33B	Chatsworth	1793.72	8/19/2024	272.30	1521.42	none
Q4	RD-33B	Chatsworth	1793.72	10/10/2024	272.16	1521.56	none
Q1	RD-33C	Chatsworth	1793.61	2/9/24	277.01	1516.60	none
Q2	RD-33C	Chatsworth	1793.61	6/7/2024	275.06	1518.55	none
Q3	RD-33C	Chatsworth	1793.61	8/19/2024	274.23	1519.38	none
Q4	RD-33C	Chatsworth	1793.61	10/10/2024	274.13	1519.48	none
Q1	RD-34A	Chatsworth	1761.91	2/8/24	22.68	1739.23	none
Q2	RD-34A	Chatsworth	1761.91	6/6/2024	5.19	1756.72	none
Q3	RD-34A	Chatsworth	1761.91	8/19/2024	16.04	1745.87	none
Q4	RD-34A	Chatsworth	1761.91	10/11/2024	21.16	1740.75	none
Q1	RD-34B	Chatsworth	1762.51	2/8/24	29.80	1732.71	none
Q2	RD-34B	Chatsworth	1762.51	6/6/2024	10.57	1751.94	none
Q3	RD-34B	Chatsworth	1762.51	8/19/2024	22.55	1739.96	none
Q4	RD-34B	Chatsworth	1762.51	10/11/2024	27.76	1734.75	none
Q1	RD-34C	Chatsworth	1762.79	2/8/24	9.07	1753.72	none
Q2	RD-34C	Chatsworth	1762.79	6/6/2024	0.00	1762.79	none
Q3	RD-34C	Chatsworth	1762.79	8/19/2024	2.09	1760.70	none
Q4	RD-34C	Chatsworth	1762.79	10/11/2024	4.63	1758.16	none
Q1	RD-54A	Chatsworth	1841.72	2/9/24	184.97	1656.75	none
Q2	RD-54A	Chatsworth	1844.35	6/7/2024	183.41	1660.94	none
Q3	RD-54A	Chatsworth	1844.35	8/20/2024	181.79	1662.56	none
Q4	RD-54A	Chatsworth	1844.35	10/10/2024	181.07	1663.28	none
Q1	RD-54B	Chatsworth	1842.54	2/9/24	237.14	1605.40	none
Q2	RD-54B	Chatsworth	1842.54	6/7/2024	235.21	1607.33	none
Q3	RD-54B	Chatsworth	1842.54	8/20/2024	233.84	1608.70	none
Q4	RD-54B	Chatsworth	1842.54	10/10/2024	233.45	1609.09	none
Q1	RD-54C	Chatsworth	1843.77	2/9/24	219.35	1624.42	none
Q2	RD-54C	Chatsworth	1843.77	6/7/2024	216.05	1627.72	none
Q3	RD-54C	Chatsworth	1843.77	8/20/2024	213.12	1630.65	none

TABLE 3
WATER LEVEL DATA, ANNUAL 2024 - DOE AREA IV
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY CALIFORNIA

Quarter	Well Identifier	Geological Unit	Reference Point Elevation (feet above MSL)	Date of Measurement	Depth to Water (feet BTOC)	Static Water Level Elevation (feet above MSL)	Notes
Q4	RD-54C	Chatsworth	1843.77	10/10/2024	212.95	1630.82	none
Q1	RD-59A	Chatsworth	1340.59	2/7/2024	---	---	(3)
Q2	RD-59A	Chatsworth	1340.59	6/7/2024	25.16	1315.43	none
Q3	RD-59A	Chatsworth	1340.59	8/19/2024	27.26	1313.33	none
Q4	RD-59A	Chatsworth	1340.59	8/19/2024	27.11	1313.48	none
Q1	RD-59B	Chatsworth Artesian	1342.49	2/7/2024	---	---	(3)
Q2	RD-59B	Chatsworth Artesian	1342.49	6/7/2024	22.00	---	(4)
Q3	RD-59B	Chatsworth Artesian	1342.49	8/19/2024	21.00	---	(4)
Q4	RD-59B	Chatsworth Artesian	1342.49	10/11/2024	21.00	---	(4)
Q1	RD-59C	Chatsworth Artesian	1345.41	2/7/24	---	---	(3)
Q2	RD-59C	Chatsworth Artesian	1345.41	6/7/2024	22.00	---	(4)
Q3	RD-59C	Chatsworth Artesian	1345.41	8/19/2024	21.00	---	(4)
Q4	RD-59C	Chatsworth	1345.41	10/11/2024	21.00	---	(4)
Q1	RD-63	Chatsworth	1764.83	2/8/24	14.25	1750.58	none
Q2	RD-63	Chatsworth	1764.83	6/6/2024	3.65	1761.18	none
Q3	RD-63	Chatsworth	1764.83	8/19/2024	11.00	1753.83	none
Q4	RD-63	Chatsworth	1764.83	10/11/2024	15.72	1749.11	none
Q1	RD-64	Chatsworth	1857.04	2/9/24	246.00	1611.04	none
Q2	RD-64	Chatsworth	1857.04	6/7/2024	230.32	1626.72	none
Q3	RD-64	Chatsworth	1857.04	8/19/2024	233.03	1624.01	none
Q4	RD-64	Chatsworth	1857.04	10/10/2024	238.06	1618.98	none
Q1	RD-65	Chatsworth	1819.14	2/9/24	226.09	1593.05	none
Q2	RD-65	Chatsworth	1822.26	6/7/2024	224.82	1597.44	none
Q3	RD-65	Chatsworth	1822.26	8/20/2024	224.30	1597.96	none
Q4	RD-65	Chatsworth	1822.26	10/10/2024	224.20	1598.06	none
Q1	RD-74	Chatsworth	1810.90	2/9/24	87.69	1723.21	(5)
Q2	RD-74	Chatsworth	1810.90	6/6/2024	82.23	1728.67	(5)
Q3	RD-74	Chatsworth	1810.90	8/19/2024	81.66	1729.24	(5)
Q4	RD-74	Chatsworth	1810.90	10/11/2024	82.67	1728.23	(5)
Q1	RD-87	Chatsworth	1789.09	2/9/24	36.94	1752.15	none
Q2	RD-87	Chatsworth	1789.09	6/6/2024	31.14	1757.95	none
Q3	RD-87	Chatsworth	1789.09	8/19/2024	39.62	1749.47	none
Q4	RD-87	Chatsworth	1789.09	10/11/2024	43.00	1746.09	none
Q1	RD-88	Chatsworth	1774.62	2/9/24	14.97	1759.65	none
Q2	RD-88	Chatsworth	1774.62	6/6/2024	14.09	1760.53	none
Q3	RD-88	Chatsworth	1774.62	8/19/2024	17.45	1757.17	none
Q4	RD-88	Chatsworth	1774.62	10/11/2024	19.73	1754.89	none

TABLE 3
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SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY CALIFORNIA

Quarter	Well Identifier	Geological Unit	Reference Point Elevation (feet above MSL)	Date of Measurement	Depth to Water (feet BTOC)	Static Water Level Elevation (feet above MSL)	Notes
Q1	RD-90	Chatsworth	1784.75	2/9/24	26.24	1758.51	none
Q2	RD-90	Chatsworth	1784.75	6/6/2024	16.11	1768.64	none
Q3	RD-90	Chatsworth	1784.75	8/19/2024	21.17	1763.58	none
Q4	RD-90	Chatsworth	1784.75	10/11/2024	24.11	1760.64	none
Q1	RD-91	Chatsworth	1818.04	2/8/24	15.92	1802.12	none
Q2	RD-91	Chatsworth	1818.04	6/6/2024	7.13	1810.91	none
Q3	RD-91	Chatsworth	1818.04	8/19/2024	9.46	1808.58	none
Q4	RD-91	Chatsworth	1818.04	10/11/2024	12.01	1806.03	none
Q1	RD-92	Chatsworth	1833.74	2/9/24	61.51	1772.23	none
Q2	RD-92	Chatsworth	1833.74	6/6/2024	55.74	1778.00	none
Q3	RD-92	Chatsworth	1833.74	8/19/2024	53.54	1780.20	none
Q4	RD-92	Chatsworth	1833.74	10/11/2024	52.63	1781.11	none
Q1	RD-93	Chatsworth	1810.48	2/8/24	31.63	1778.85	none
Q2	RD-93	Chatsworth	1810.48	6/6/2024	23.99	1786.49	none
Q3	RD-93	Chatsworth	1810.48	8/19/2024	25.96	1784.52	none
Q4	RD-93	Chatsworth	1810.48	10/11/2024	28.16	1782.32	none
Q1	RD-94	Chatsworth	1744.38	2/9/24	9.32	1735.06	none
Q2	RD-94	Chatsworth	1744.38	6/6/2024	6.03	1738.35	none
Q3	RD-94	Chatsworth	1744.38	8/19/2024	8.71	1735.67	none
Q4	RD-94	Chatsworth	1744.38	10/11/2024	12.32	1732.06	none
Q1	RD-95	Chatsworth	1811.36	2/9/24	51.97	1759.39	none
Q2	RD-95	Chatsworth	1811.36	6/6/2024	42.13	1769.23	none
Q3	RD-95	Chatsworth	1811.36	8/19/2024	43.00	1768.36	none
Q4	RD-95	Chatsworth	1811.36	10/11/2024	45.15	1766.21	none
Q1	RD-96	Chatsworth	1805.49	2/9/24	65.39	1740.10	none
Q2	RD-96	Chatsworth	1805.49	6/6/2024	56.87	1748.62	none
Q3	RD-96	Chatsworth	1805.49	8/19/2024	55.97	1749.52	none
Q4	RD-96	Chatsworth	1805.49	10/11/2024	57.40	1748.09	none
Q1	RD-97	Chatsworth	1792.22	2/9/24	51.68	1740.54	none
Q2	RD-97	Chatsworth	1792.22	6/6/2024	39.67	1752.55	none
Q3	RD-97	Chatsworth	1792.22	8/19/2024	42.83	1749.39	none
Q4	RD-97	Chatsworth	1792.22	10/11/2024	44.68	1747.54	none
Q1	RD-98	Chatsworth	1808.73	2/8/24	25.51	1783.22	none
Q2	RD-98	Chatsworth	1808.73	6/7/2024	23.34	1785.39	none
Q3	RD-98	Chatsworth	1808.73	8/19/2024	31.68	1777.05	none
Q4	RD-98	Chatsworth	1808.73	10/11/2024	35.88	1772.85	none
Q1	RS-16	Shallow	1811.05	2/9/24	14.91	1796.14	none

TABLE 3
WATER LEVEL DATA, ANNUAL 2024 - DOE AREA IV
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY CALIFORNIA

Quarter	Well Identifier	Geological Unit	Reference Point Elevation (feet above MSL)	Date of Measurement	Depth to Water (feet BTOC)	Static Water Level Elevation (feet above MSL)	Notes
Q2	RS-16	Shallow	1811.05	6/6/2024	16.45	1794.60	none
Q3	RS-16	Shallow	1811.05	8/19/2024	Dry	---	none
Q4	RS-16	Shallow	1811.05	10/11/2024	Dry	---	none
Q1	RS-18	Shallow	1802.86	2/9/24	1.51	1801.35	none
Q2	RS-18	Shallow	1802.86	6/7/2024	5.57	1797.29	none
Q3	RS-18	Shallow	1802.86	8/19/2024	9.35	1793.51	none
Q4	RS-18	Shallow	1802.86	10/10/2024	13.77	1789.09	none
Q1	RS-25	Shallow	1862.71	2/9/24	12.41	1850.30	none
Q2	RS-25	Shallow	1862.71	6/6/2024	14.30	1848.41	none
Q3	RS-25	Shallow	1862.71	8/19/2024	Dry	---	none
Q4	RS-25	Shallow	1862.71	10/11/2024	Dry	---	none
Q1	RS-27	Shallow	1804.78	2/8/24	4.41	1800.37	none
Q2	RS-27	Shallow	1804.78	6/6/2024	7.64	1797.14	none
Q3	RS-27	Shallow	1804.78	8/19/2024	Dry	---	none
Q4	RS-27	Shallow	1804.78	10/11/2024	Dry	---	none
Q1	RS-28	Shallow	1768.59	2/8/24	0.58	1768.01	none
Q2	RS-28	Shallow	1768.59	6/6/2024	---	---	(2)
Q3	RS-28	Shallow	1768.59	8/19/2024	1.20	1767.39	none
Q4	RS-28	Shallow	1768.59	10/11/2024	3.87	1764.72	none
Q1	RS-54	Shallow	1846.66	2/9/24	17.52	1829.14	none
Q2	RS-54	Shallow	1846.66	6/7/2024	---	---	(6)
Q3	RS-54	Shallow	1846.66	8/19/2024	---	---	(6)
Q4	RS-54	Shallow	1846.66	10/10/2024	---	---	(6)

Notes and Abbreviations:

(1) - RD-89 was drilled to a deeper depth in May 2018. The well ID is now DD-147 and is 257 feet deep.

(2) - Well is artesian

(3) - Well could not be accessed

(4) - Pressure transducers installed on artesian well

(5) - Obstruction at 95.1 feet bgs; prior investigators left pump in well

(6) - Well is part of the GWIM system now, could not be accessed

--- - No data available or not applicable

BTOC - below top of casing

Chatsworth - Chatsworth Formation groundwater unit.

Chatsworth Artesian - Chatsworth Formation groundwater unit - Artesian with hydrostatic head above land surface

GWIM - Ground Water Interim Measure

MSL - mean sea level

PSI - pounds per square inch

Shallow - Near Surface groundwater unit

TABLE 4
EXCEPTIONS TO PLANNED SITE-WIDE WATER QUALITY AND RFI SAMPLING
ANNUAL 2024 - DOE AREA IV
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Q1 2024 WELLS SCHEDULED BUT NOT SAMPLED	
Sitewide Well Identifier	**Notes**
PZ-097, RD-33A, RD-57, RD-59A	Wells could not be accessed.
PZ-108, RD-33B, RD-33C, RD-34C, RD-54A, RD-59B, RD-59C, RS-18	Wells were not scheduled to be sampled.
RFI Well Identifier	**Notes**
RS-25	Well was dry.
DD-139, DD-142, DD-143, RD-30, RD-97, RD-98, RS-16, RS-28	Wells could not be accessed.
Q3 2024 WELLS SCHEDULED BUT NOT SAMPLED	
Sitewide Well Identifier	**Notes**
PZ-097	Well was dry.
RD-14, RD-19, RD-20, RD-33A, RD-33B, RD-33C, RD-34A, RD-34B, RD-34C, RD-54A, RD-57, RD-59A, RD-59B, RD-59C, RD-96, RS-18	Wells were not scheduled to be sampled.
RFI Well Identifier	**Notes**
PZ-102, RS-16, RS-25, RS-27	Wells were dry.
STABILIZATION CRITERIA COLLECTED AT FIXED INTERVALS GREATER THAN 5 MINUTES	
Well Identifier	**Notes**
Q1 2024 : PZ-102, PZ-109, PZ-116, PZ-121, PZ-124, RD-20, RD-90, RD-95, RD-96, DD-147, DS-46	Readings were collected every 6 minutes to give enough time to exchange water in the flow through cell due to 50 mL/min flow rate.
Q3 2024 : PZ-005, PZ-041, PZ-103, PZ-104, PZ-105, PZ-108, PZ-109, PZ-116, PZ-121, PZ-122, PZ-124, PZ-163, PZ-164, PZ-165, PZ-166, PZ-167, PZ-168,PZ-169, DS-45, DS-48	Readings were collected every 6 minutes to give enough time to exchange water in the flow through cell due to 50 mL/min flow rate.
PURGE VOLUME REQUIREMENTS NOT MET	
Q1 2024 : Purge volume was met on all wells sampled.	
Q3 2024 : Purge volume was met on all wells sampled.	
LOW-FLOW STABILIZATION CRITERIA NOT MET	
Well Identifier	**Notes**
Q1 2024 : All wells sampled met the low-flow stabilization criteria.	None
Q3 2024 : PZ-041, PZ-105, PZ-166, PZ-169	Water level drawdown exceeded 0.3 feet.
QUALITY ASSURANCE PROJECT PLAN (QAPP) REQUIREMENTS Q1 and Q3 2024	
Requirement	**Exceptions**
Trip Blanks submitted daily with samples analyzed for volatile organic compounds (VOCs) and gasoline-range organics.	None
Quality control (QC) samples collected	See Appendix E
Precision/Accuracy requirements met	See Appendix E
OTHER	
Well Identifier	**Notes**
Q1 2024 : RD-34B	The pump was placed immediately above an obstruction at 169 feet bgs (variance from intake placed halfway between the depth to water and the bottom of the saturated open interval of the well).

TABLE 4
EXCEPTIONS TO PLANNED SITE-WIDE WATER QUALITY AND RFI SAMPLING
ANNUAL 2024 - DOE AREA IV
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

ELEVATED REPORTING LIMITS AND ANALYTES NOT ANALYZED				
The below analytes had reporting limits (RLs) above values listed in WQSAP Table B-II that are based on SSFL screening criteria. However, the method detection limits (MDLs) were below the applicable screening criterias and are considered sufficent for project purposes.				
Analyte Q1 2024	**WQSAP RL**	**2022 RL**	**2022 MDL**	**Notes**
1,1,2-trichloro-1,2,2-trifluoroethane (µg/L)	5	5.96	2.98	MDL below respective screening criterion.
1,2-dichloroethane (µg/L)	0.5	0.666	0.333	MDL below respective screening criterion.
Benzene (µg/L)	0.5	0.666	0.333	MDL below respective screening criterion.
Carbon tetrachloride (µg/L)	0.5	0.666	0.333	MDL below respective screening criterion.
cis-1,3-Dichloropropene	0.5	0.666	0.333	MDL below respective screening criterion.
m-xylene & p-xylene (µg/L)	1	1	0.5	MDL below respective screening criterion.
Vinyl chloride (µg/L)	0.5	0.666	0.333	MDL below respective screening criterion.
Analyte Q3 2024	**WQSAP RL**	**2022 RL**	**2022 MDL**	**Notes**
1,2-dichloroethane (µg/L)	0.5	0.666	0.333	MDL below respective screening criterion.
Benzene (µg/L)	0.5	0.666	0.333	MDL below respective screening criterion.
Carbon tetrachloride (µg/L)	0.5	0.666	0.333	MDL below respective screening criterion.
cis-1,3-Dichloropropene	0.5	0.666	0.333	MDL below respective screening criterion.
m-xylene & p-xylene (µg/L)	1	1	0.5	MDL below respective screening criterion.
Vinyl chloride (µg/L)	0.5	0.666	0.333	MDL below respective screening criterion.
Analyte Not Analyzed				
None				

Notes and Abbreviations:

bgs - below ground surface
MDL - method detection limit
mL/min - milliliter per minute
QC - quality control
RL - reporting limit
µg/L - microgram per liter
VOC - volatile organic compound
WQSAP - Water Quality Sampling and Analysis Plan

TABLE 5
GROUNDWATER FIELD PARAMETERS, ANNUAL 2024 - DOE AREA IV
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well Identifier	Date	Temperature (° C)	pH	Conductivity (mmhos)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Comments
DD-139	2/15/2024	---	---	---	---	---	---	No Access
DD-139	8/29/2024	17.95	7.14	0.82	0.49	4.00	73.30	None
DD-140	2/29/2024	16.82	7.15	0.831	1.48	1.0	110.0	None
DD-141	2/13/2024	16.23	7.62	0.857	1.55	31.0	-61.1	None
DD-142	2/15/2024	---	---	---	---	---	---	No Access
DD-143	2/15/2024	---	---	---	---	---	---	No Access
DD-143	8/29/2024	21.20	7.02	1.407	0.57	33.00	-76.90	None
DD-144	8/27/2024	26.30	6.92	1.109	0.25	62.00	43.00	None
DD-147	2/23/2024	18.30	6.76	1.255	2.80	3.0	49.7	None
DD-158	2/14/2024	17.10	7.30	0.855	4.25	35.0	130.7	None
DD-158	8/19/2024	22.50	7.02	0.894	2.38	9.0	96.8	None
DD-159	2/15/2024	17.40	7.21	0.787	0.61	4.0	125.6	None
DD-159	8/19/2024	37.10	7.06	1.037	1.58	7.0	80.4	None
DS-43	2/19/2024	15.80	7.42	0.821	0.26	46.0	-42.2	None
DS-44	2/15/2024	20.10	7.01	1.037	0.26	21.0	95.4	None
DS-44	8/20/2024	23.20	6.72	1.260	0.80	14.0	159.6	None
DS-45	2/12/2024	17.60	7.47	0.626	2.93	6.0	130.7	None
DS-45	8/19/2024	25.28	7.07	0.833	0.64	11.0	50.1	None
DS-46	2/29/2024	16.38	6.76	0.879	0.37	65.0	-71.8	None
DS-47	2/12/2024	18.26	7.08	0.655	1.94	5.0	95.7	None
DS-47	8/19/2024	22.48	6.95	0.766	1.68	4.0	55.3	None
DS-48	8/26/2024	22.38	7.93	0.668	0.67	7.0	-57.2	None
PZ-005	8/28/2024	27.8	6.88	1.221	2.4	12.0	127.9	None
PZ-041	8/22/2024	31.3	7.05	0.979	0.63	8.0	80.1	None
PZ-097	2/12/2024	---	---	---	---	---	---	No Access
PZ-097	8/19/2024	---	---	---	---	---	---	Dry
PZ-098	3/1/2024	14.45	7.04	0.823	2.61	4.0	54.2	None
PZ-098	8/21/2024	23.40	6.53	0.938	1.78	32.0	136.7	None
PZ-102	2/28/2024	16.62	7.37	0.228	3.83	73.0	39.9	None
PZ-102	8/19/2024	---	---	---	---	---	---	Dry
PZ-103	8/20/2024	26.22	7.09	1.175	3.58	34.00	72.20	None
PZ-104	8/20/2024	30.20	6.87	1.828	0.31	15.00	-145.80	None
PZ-105	8/21/2024	25.90	7.21	1.052	0.25	16.00	25.50	None
PZ-108	8/26/2024	24.93	7.18	1.118	2.26	16.00	-14.80	None
PZ-109	2/19/2024	11.80	7.49	1.188	0.81	4.0	96.8	None
PZ-109	8/20/2024	26.40	7.09	0.960	1.81	5.0	52.1	None
PZ-116	2/26/2024	13.78	7.14	1.479	0.85	8.0	-78.0	None
PZ-116	8/27/2024	20.11	6.68	1.602	1.10	9.0	-47.3	None
PZ-120	8/26/2024	23.70	7.01	0.926	0.57	11.0	99.7	None
PZ-121	2/20/2024	13.01	6.22	0.566	0.72	4.0	-15.0	None
PZ-121	8/26/2024	31.20	6.44	1.590	0.29	6.0	-43.0	None
PZ-122	8/27/2024	23.50	6.76	1.192	0.56	6.0	169.5	None
PZ-124	2/13/2024	16.63	7.16	2.455	1.14	9.00	-26.30	None
PZ-124	8/30/2024	20.92	6.91	2.302	0.75	5.00	-58.10	None
PZ-162	8/21/2024	24.34	7.19	0.886	0.52	32.00	-22.30	None
PZ-163	8/21/2024	26.85	6.73	1.016	1.92	8.00	62.20	None
PZ-164	8/22/2024	24.16	7.07	1.265	2.82	8.00	-17.90	None
PZ-165	8/22/2024	24.74	7.07	1.092	3.17	5.00	-16.20	None
PZ-166	8/23/2024	25.10	8.18	0.965	0.65	29.00	98.00	None
PZ-167	8/23/2024	22.54	7.35	0.588	0.52	12.00	43.60	None
PZ-168	8/23/2024	20.80	7.37	1.050	2.17	57.00	67.10	None
PZ-169	8/23/2024	20.00	7.03	0.977	0.64	116.00	148.00	None
RD-07	2/14/2024	13.60	7.59	0.658	1.55	3.0	-39.4	None
RD-07	8/27/2024	22.61	7.12	0.646	1.51	5.0	-18.8	None
RD-14	2/14/2024	13.20	6.95	0.851	1.10	1.0	169.1	None
RD-19	2/20/2024	13.90	6.70	1.472	3.02	9.0	164.1	None
RD-20	2/27/2024	17.96	7.22	1.527	2.25	1.0	52.7	None
RD-24	2/12/2024	17.70	7.01	1.302	3.14	9.0	152.4	None
RD-27	2/21/2024	14.00	7.04	5.323	1.04	13.0	128.4	None
RD-27	8/29/2024	21.90	7.41	0.598	0.83	18.0	55.3	None
RD-30	2/15/2024	---	---	---	---	---	---	No Access
RD-30	8/29/2024	21.70	6.81	1.05	0.37	11.00	100.20	None
RD-33A	2/15/2024	---	---	---	---	---	---	No Access
RD-34A	2/22/2024	15.61	6.96	1.188	1.01	4.0	-98.0	None
RD-34B	2/21/2024	14.14	7.93	0.227	0.52	11.0	-91.3	None
RD-57	2/15/2024	---	---	---	---	---	---	No Access
RD-59A	2/15/2024	---	---	---	---	---	---	No Access
RD-63	2/23/2024	14.59	7.25	0.993	0.50	5.0	-24.4	None
RD-63	8/28/2024	16.91	6.94	1.030	0.34	8.0	-13.1	None
RD-64	2/13/2024	15.50	7.19	0.907	1.53	2.0	125.2	None
RD-64	8/22/2024	22.30	7.09	0.943	1.26	4.0	129.7	None
RD-74	2/27/2024	18.35	7.07	0.919	1.94	30.0	65.0	None
RD-74	8/27/2024	22.11	6.75	0.908	4.52	19.0	41.1	None
RD-87	2/23/2024	19.09	7.17	0.944	1.42	3.0	-15.0	None
RD-88	2/16/2024	13.79	7.16	0.569	0.60	42.0	-75.2	None
RD-90	2/16/2024	17.15	7.21	1.127	1.40	3.0	34.0	None
RD-93	2/22/2024	17.00	6.46	1.143	3.25	29.0	190.4	None

TABLE 5
GROUNDWATER FIELD PARAMETERS, ANNUAL 2024 - DOE AREA IV
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well Identifier	Date	Temperature (° C)	pH	Conductivity (mmhos)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Comments
RD-94	2/23/2024	15.10	6.88	1.242	2.32	126.0	-25.1	None
RD-94	8/28/2024	20.80	6.85	1.449	0.36	102.0	-78.6	None
RD-95	2/16/2024	17.30	6.55	1.532	3.01	3.0	120.7	None
RD-96	2/15/2024	16.35	7.36	0.924	1.65	1.0	72.0	None
RD-97	2/15/2024	---	---	---	---	---	---	No Access
RD-98	2/15/2024	---	---	---	---	---	---	No Access
RD-98	8/30/2024	22.60	7.00	0.671	2.81	95.00	194.30	None
RS-16	2/15/2024	---	---	---	---	---	---	No Access
RS-16	8/19/2024	---	---	---	---	---	---	Dry
RS-25	2/15/2024	---	---	---	---	---	---	Dry
RS-25	8/19/2024	---	---	---	---	---	---	Dry
RS-27	8/19/2024	---	---	---	---	---	---	Dry
RS-28	2/15/2024	---	---	---	---	---	---	No Access
RS-28	8/30/2024	18.60	6.53	1.027	0.67	3.00	181.10	None

Notes and Abbreviations:
° C - degrees Celsius
mmhos - millimhos
mg/L - milligrams per liter
mV - millivolt
NTU - nephelometric turbidity unit
--- - no data

TABLE 6
SAMPLES ANALYZED, 1Q and 3Q 2024 - DOE
AREA IV SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Location	Sample Date	Method
DD-139	8/29/2024	DRO and/or GRO Metals Volatile Organic Compounds
DD-140	2/29/2024	DRO and/or GRO Metals Volatile Organic Compounds
DD-141	2/13/2024	Metals Volatile Organic Compounds
DD-143	8/29/2024	DRO and/or GRO Metals Radiochemical Volatile Organic Compounds
DD-144	8/27/2024	DRO and/or GRO Metals Volatile Organic Compounds
DD-147	2/23/2024	Radiochemical Volatile Organic Compounds
DD-158	2/14/2024	DRO and/or GRO Metals Volatile Organic Compounds
DD-158	8/19/2024	DRO and/or GRO Metals Volatile Organic Compounds
DD-159	2/15/2024	DRO and/or GRO Metals Volatile Organic Compounds
DD-159	8/19/2024	DRO and/or GRO Metals Volatile Organic Compounds
DS-43	2/19/2024	DRO and/or GRO Metals Volatile Organic Compounds
DS-44	2/15/2024	DRO and/or GRO Radiochemical
DS-44	8/20/2024	DRO and/or GRO Metals Volatile Organic Compounds
DS-45	2/12/2024	Radiochemical
DS-45	8/19/2024	DRO and/or GRO Metals Volatile Organic Compounds
DS-46	2/29/2024	DRO and/or GRO Metals Volatile Organic Compounds
DS-47	2/12/2024	Radiochemical
DS-47	8/19/2024	DRO and/or GRO Metals Volatile Organic Compounds

TABLE 6
SAMPLES ANALYZED, 1Q and 3Q 2024 - DOE
AREA IV SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Location	Sample Date	Method
DS-48	8/26/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-005	8/28/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-041	8/22/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-098	3/1/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-098	8/21/2024	DRO and/or GRO Metals Perchlorate Volatile Organic Compounds
PZ-102	2/28/2024	Metals Volatile Organic Compounds
PZ-103	8/20/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-104	8/20/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-105	8/21/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-108	8/26/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-109	2/19/2024	DRO and/or GRO Fluoride & Nitrate Metals Volatile Organic Compounds
PZ-109	8/20/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-116	2/26/2024	Metals Radiochemical Volatile Organic Compounds
PZ-116	8/28/2024	DRO and/or GRO Metals Radiochemical Volatile Organic Compounds
PZ-120	8/26/2024	DRO and/or GRO Metals Volatile Organic Compounds

TABLE 6
SAMPLES ANALYZED, 1Q and 3Q 2024 - DOE
AREA IV SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Location	Sample Date	Method
PZ-121	2/20/2024	Metals Radiochemical Volatile Organic Compounds
PZ-121	8/26/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-122	8/27/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-124	2/13/2024	Metals Volatile Organic Compounds
PZ-124	3/1/2024	Radiochemical
PZ-124	8/30/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-162	8/21/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-163	8/21/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-164	8/22/2024	DRO and/or GRO Metals Perchlorate Volatile Organic Compounds
PZ-165	8/22/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-166	8/23/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-167	8/23/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-168	8/23/2024	DRO and/or GRO Metals Volatile Organic Compounds
PZ-169	8/23/2024	DRO and/or GRO Metals Volatile Organic Compounds
RD-07	2/14/2024	Metals Radiochemical Volatile Organic Compounds
RD-07	8/27/2024	DRO and/or GRO Metals Volatile Organic Compounds
RD-14	2/14/2024	DRO and/or GRO Metals Volatile Organic Compounds

TABLE 6
SAMPLES ANALYZED, 1Q and 3Q 2024 - DOE
AREA IV SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Location	Sample Date	Method
RD-19	2/20/2024	Radiochemical
RD-20	2/27/2024	Fluoride & Nitrate Metals Volatile Organic Compounds
RD-24	2/12/2024	Radiochemical
RD-27	2/21/2024	Metals Radiochemical Volatile Organic Compounds
RD-27	8/29/2024	DRO and/or GRO Metals Radiochemical Volatile Organic Compounds
RD-30	8/29/2024	DRO and/or GRO Metals Radiochemical Volatile Organic Compounds
RD-34A	2/22/2024	DRO and/or GRO Metals Radiochemical Volatile Organic Compounds
RD-34B	2/21/2024	Metals Radiochemical Volatile Organic Compounds
RD-63	2/23/2024	Metals Radiochemical Volatile Organic Compounds
RD-63	8/28/2024	DRO and/or GRO Metals Radiochemical Volatile Organic Compounds
RD-64	2/13/2024	DRO and/or GRO Metals Volatile Organic Compounds
RD-64	8/22/2024	DRO and/or GRO Metals Volatile Organic Compounds
RD-74	2/27/2024	Metals Volatile Organic Compounds
RD-74	8/27/2024	DRO and/or GRO Metals Volatile Organic Compounds
RD-87	2/23/2024	Radiochemical Volatile Organic Compounds
RD-88	2/16/2024	Radiochemical Volatile Organic Compounds
RD-90	2/16/2024	Metals Radiochemical Volatile Organic Compounds

TABLE 6
SAMPLES ANALYZED, 1Q and 3Q 2024 - DOE
AREA IV SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Location	Sample Date	Method
RD-93	2/22/2024	Radiochemical Volatile Organic Compounds
RD-94	2/23/2024	Radiochemical Volatile Organic Compounds
RD-94	8/28/2024	DRO and/or GRO Metals Radiochemical Volatile Organic Compounds
RD-95	2/16/2024	Radiochemical Volatile Organic Compounds
RD-96	2/15/2024	DRO and/or GRO Metals Radiochemical Volatile Organic Compounds
RD-98	8/30/2024	DRO and/or GRO Metals Radiochemical Volatile Organic Compounds
RS-28	8/30/2024	DRO and/or GRO Metals Radiochemical Volatile Organic Compounds

NOTES AND ABBREVIATIONS
DRO - Diesel Range Organics
GRO - Gasoline Range Organics

TABLE 7
GROUNDWATER MONITORING PROGRAM ANALYSES, 1Q and 3Q 2024 - DOE
AREA IV SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Analyte	Analytical Method
DRO and/or GRO	
Diesel Range Organics	SW8015D
Gasoline Range Organics	SW8015D
Fluoride & Nitrate	
Fluoride	E300
Nitrate	E300
Metals	
Antimony	SW6020
Arsenic	SW6020
Barium	SW6020
Beryllium	SW6020
Cadmium	SW6020
Chromium	SW6020
Cobalt	SW6020
Copper	SW6020
Lead	SW6020
Mercury	SW7470A
Nickel	SW6020
Selenium	SW6020
Silver	SW6020
Sodium	SW6020
Thallium	SW6020
Tin	SW6020
Vanadium	SW6020
Zinc	SW6020
Perchlorate	
Perchlorate	SW6850
Radiochemical	
Actinium-228	E901.1
Americium-241	E901.1
Antimony-125	E901.1
Barium-133	E901.1
Cesium-134	E901.1
Cesium-137	E901.1
Cobalt-57	E901.1
Cobalt-60	E901.1
Europium-152	E901.1
Europium-154	E901.1
Europium-155	E901.1
Gross Alpha	E900
Gross Beta	E900
Manganese-54	E901.1
Potassium-40	E901.1
Ra-226 - total	E903.1
Ra-228 - total	E904
Sodium-22	E901.1

TABLE 7
GROUNDWATER MONITORING PROGRAM ANALYSES, 1Q and 3Q 2024 - DOE
AREA IV SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Analyte	Analytical Method
Strontium-90	905.0 M
Tritium (hydrogen-3)	E906.0
Uranium-233/234	EML300_U02MOD
Uranium-235/236	EML300_U02MOD
Uranium-238	EML300_U02MOD
Volatile Organic Compounds	
1,1,1-Trichloroethane	SW8260D
1,1,2-trichloro-1,2,2-trifluoroethane	SW8260D
1,1,2-trichloroethane	SW8260D
1,1-Dichloroethane	SW8260D
1,1-Dichloroethene	SW8260D
1,2-Dichloroethane	SW8260D
1,4-Dioxane	SW8270E SIM
2-butanone	SW8260D
Acetone	SW8260D
Benzene	SW8260D
Carbon tetrachloride	SW8260D
Chloroform	SW8260D
cis-1,2-Dichloroethene	SW8260D
Ethylbenzene	SW8260D
Methylene chloride	SW8260D
m-xylene & p-xylene	SW8260D
o-Xylene (1,2-dimethyl-benzene)	SW8260D
Tetrachloroethene	SW8260D
Toluene	SW8260D
trans-1,2-Dichloroethene	SW8260D
Trichloroethene	SW8260D
Trichlorofluoromethane	SW8260D
Vinyl chloride	SW8260D

NOTES AND ABBREVIATIONS

Metal and Radiochemical Analyses include both Total and Dissolved fractions.

TABLE 8
GROUNDWATER SCREENING REFERENCE VALUES, SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Analyte Group	Chemical Analyte	Screening Value	Units	Screening Type
Radiochemistry	Actinium-228	N/A	N/A	N/A
Radiochemistry	Antimony-125	300	pCi/L	Primary MCL [a]
Radiochemistry	Barium-133	1520	pCi/L	Primary MCL [b]
Radiochemistry	Barium-137m	2150000	pCi/L	Primary MCL [b]
Radiochemistry	Bismuth-212	N/A	N/A	N/A
Radiochemistry	Bismuth-214	N/A	N/A	N/A
Radiochemistry	Carbon-14	2000	pCi/L	Primary MCL [a]
Radiochemistry	Cesium-134	80	pCi/L	Primary MCL [a]
Radiochemistry	Cesium-137	200	pCi/L	Primary MCL [a]
Radiochemistry	Cobalt-57	1000	pCi/L	Primary MCL [a]
Radiochemistry	Cobalt-60	100	pCi/L	Primary MCL [a]
Radiochemistry	Europium-152	200	pCi/L	Primary MCL [a]
Radiochemistry	Gross alpha	15	pCi/L	Primary MCL
Radiochemistry	Gross beta	50	pCi/L	Cal MCL
Radiochemistry	Gross beta	4	mrem/yr	Primary MCL
Radiochemistry	Iodine-129	1	pCi/L	Primary MCL [a]
Radiochemistry	Lead-210	N/A	N/A	N/A
Radiochemistry	Lead-212	N/A	N/A	N/A
Radiochemistry	Lead-214	N/A	N/A	N/A
Radiochemistry	Potassium-40	N/A	N/A	N/A
Radiochemistry	Manganese-54	300	pCi/L	Primary MCL [a]
Radiochemistry	Neptunium-236	5960	pCi/L	Primary MCL [b]
Radiochemistry	Niobium-94	707	pCi/L	Primary MCL [b]
Radiochemistry	Radium-226/228	5	pCi/L	Primary MCL
Radiochemistry	Sodium-22	400	pCi/L	Primary MCL [a]
Radiochemistry	Strontium-90	8	pCi/L	Primary MCL
Radiochemistry	Thallium-208	N/A	N/A	N/A
Radiochemistry	Thorium-234	N/A	N/A	N/A
Radiochemistry	Thulium-171	1000	pCi/L	Primary MCL [a]
Radiochemistry	Tin-126	293	pCi/L	Primary MCL [b]
Radiochemistry	Tritium	20000	pCi/L	Primary MCL
Radiochemistry	Uranium-233/234	20	pCi/L	Cal MCL
Radiochemistry	Uranium-235	20	pCi/L	Cal MCL
Radiochemistry	Uranium-238	20	pCi/L	Cal MCL
Halogenated Ethenes	1,2-Dichloroethene	130	ug/L	SWGW RBSL
Halogenated Ethenes	Chlorotrifluoroethylene	N/A	N/A	N/A
Halogenated Ethenes	Tetrachloroethene	5	ug/L	Primary MCL
Halogenated Ethenes	Trichloroethene	5	ug/L	Primary MCL
Halogenated Ethenes	cis-1,2-Dichloroethene	6	ug/L	Cal MCL
Halogenated Ethenes	trans-1,2-Dichloroethene	10	ug/L	Cal MCL
Halogenated Ethenes	1,1-Dichloroethene	6	ug/L	Cal MCL
Halogenated Ethenes	Vinyl chloride	0.5	ug/L	Cal MCL
Halogenated Ethanes	1,1,1,2-Tetrachloroethane	N/A	N/A	N/A
Halogenated Ethanes	1,1,2,2-Tetrachloroethane	1	ug/L	Cal MCL
Halogenated Ethanes	1,1,2-Trichloroethane	5	ug/L	Primary MCL
Halogenated Ethanes	1,1,1-Trichloroethane	200	ug/L	Primary MCL
Halogenated Ethanes	1,2-Dichloroethane	0.5	ug/L	Cal MCL
Halogenated Ethanes	1,1-Dichloroethane	5	ug/L	Cal MCL
Halogenated Ethanes	Chloroethane	16	ug/L	Taste/Odor
Halogenated Ethanes	2-Chloro-1,1,1-trifluoroethane	N/A	N/A	N/A
Halogenated Ethanes	1,2-Dibromoethane	0.05	ug/L	Primary MCL
Halogenated Ethanes	Dichlorodifluoroethane	N/A	N/A	N/A
Halogenated Ethanes	1,1,2-Trichloro-1,2,2-trifluoroethane	1200	ug/L	Cal MCL
Halogenated Ethanes	1,2-Dichloro-1,1,2-trifluoroethane	190000	ug/L	SWGW RBSL
Halogenated Ethanes	Dichlorotrifluoroethane	N/A	N/A	N/A

TABLE 8
GROUNDWATER SCREENING REFERENCE VALUES, SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Analyte Group	Chemical Analyte	Screening Value	Units	Screening Type
Halogenated Ethanes	2,2-Dichloro-1,1,1-trifluoroethane	190000	ug/L	SWGW RBSL
Halogenated Ethanes	Trichlorotrifluorethane	N/A	N/A	N/A
Halogenated Methanes	Dichlorofluoromethane	N/A	N/A	N/A
Halogenated Methanes	Isocyanomethane	N/A	N/A	N/A
Halogenated Methanes	Carbon Tetrachloride	0.5	ug/L	Cal MCL
Halogenated Methanes	Chloroform	80	ug/L	Primary MCL
Halogenated Methanes	Methylene chloride	5	ug/L	Primary MCL
Halogenated Methanes	Chloromethane	5.7	ug/L	SWGW RBSL
Halogenated Methanes	Trichlorofluoromethane	150	ug/L	Cal MCL
Halogenated Methanes	Dichlorodifluoromethane	1000	ug/L	Notification Level
Halogenated Methanes	Bromochloromethane	34000	ug/L	Taste/Odor
Halogenated Methanes	Bromodichloromethane	80	ug/L	Primary MCL
Halogenated Methanes	Bromoform	80	ug/L	Primary MCL
Halogenated Methanes	Bromomethane	8.8	ug/L	SWGW RBSL
Halogenated Methanes	Dibromochloromethane	80	ug/L	Primary MCL
Halogenated Methanes	Dibromomethane	N/A	N/A	N/A
Halogenated Methanes	Iodomethane	N/A	N/A	N/A
Non-Halogenated VOCs	Total Complex Matrix	N/A	N/A	N/A
Non-Halogenated VOCs	1-Chlorohexane	N/A	N/A	N/A
Non-Halogenated VOCs	1-Hexanol	N/A	N/A	N/A
Non-Halogenated VOCs	1-Octanol	N/A	N/A	N/A
Non-Halogenated VOCs	2-Heptanone	280	ug/L	Taste/Odor
Non-Halogenated VOCs	2-Naphthaleneethanol	N/A	N/A	N/A
Non-Halogenated VOCs	Acetic Acid Ester	N/A	N/A	N/A
Non-Halogenated VOCs	Acetic Acid, 2-Methylpropyl Ester	N/A	N/A	N/A
Non-Halogenated VOCs	Acetic Acid, Butyl Ester	N/A	N/A	N/A
Non-Halogenated VOCs	Acetic Acid, Hexyl Ester	N/A	N/A	N/A
Non-Halogenated VOCs	Benzene, 1-Bromo-3-fluoro-	N/A	N/A	N/A
Non-Halogenated VOCs	Benzyl chloride	12	ug/L	Taste/Odor
Non-Halogenated VOCs	Butanoic Acid, Ethyl Ester	N/A	N/A	N/A
Non-Halogenated VOCs	Butyl Cyclooctane	N/A	N/A	N/A
Non-Halogenated VOCs	Cumene	770	ug/L	Notification Level
Non-Halogenated VOCs	Ethanol	760000	ug/L	Taste/Odor
Non-Halogenated VOCs	Ethanone, 1-(2,4,6-Trihydroxyphenyl)-	N/A	N/A	N/A
Non-Halogenated VOCs	Ethyl acetate	2600	ug/L	Taste/Odor
Non-Halogenated VOCs	Ethyl cyanide	N/A	N/A	N/A
Non-Halogenated VOCs	Ethyl ether	750	ug/L	Taste/Odor
Non-Halogenated VOCs	Formic acid, octyl ester	N/A	N/A	N/A
Non-Halogenated VOCs	Heptanal	N/A	N/A	N/A
Non-Halogenated VOCs	Hexanoic Acid, Ethyl Ester	N/A	N/A	N/A
Non-Halogenated VOCs	Methanol	740000	ug/L	Taste/Odor
Non-Halogenated VOCs	Methyl sulfide	N/A	N/A	N/A
Non-Halogenated VOCs	m-Xylene & p-Xylene	1750	ug/L	Cal MCL
Non-Halogenated VOCs	Naphthalene, 1-(2-Propenyl)-	N/A	N/A	N/A
Non-Halogenated VOCs	n-Hexane	6.4	ug/L	Taste/Odor
Non-Halogenated VOCs	Octanal	N/A	N/A	N/A
Non-Halogenated VOCs	p-Cymene	N/A	N/A	N/A
Non-Halogenated VOCs	Pentanal	17	ug/L	Taste/Odor
Non-Halogenated VOCs	Propanoic Acid, 2-Methyl-, ethyl ester	N/A	N/A	N/A
Non-Halogenated VOCs	sec-Butyl alcohol	19000	ug/L	Taste/Odor
Non-Halogenated VOCs	tert-Butyl alcohol	12	ug/L	Notification Level
Non-Halogenated VOCs	tert-Butyl ethyl ether	N/A	N/A	N/A
Non-Halogenated VOCs	Tetrahydrofuran	N/A	N/A	N/A
Non-Halogenated VOCs	Tetramethylurea	N/A	N/A	N/A
Non-Halogenated VOCs	Trimethylcyclopentane Isomer	N/A	N/A	N/A

TABLE 8
GROUNDWATER SCREENING REFERENCE VALUES, SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Analyte Group	Chemical Analyte	Screening Value	Units	Screening Type
Non-Halogenated VOCs	1,3,5-Trimethylbenzene	330	ug/L	Notification Level
Non-Halogenated VOCs	Biphenyl	N/A	N/A	N/A
Non-Halogenated VOCs	1,2,4-Trimethylbenzene	330	ug/L	Notification Level
Non-Halogenated VOCs	2-Hexanone	250	ug/L	Taste/Odor
Non-Halogenated VOCs	Acetone	20000	ug/L	Taste/Odor
Non-Halogenated VOCs	Acetonitrile	300000	ug/L	Taste/Odor
Non-Halogenated VOCs	Acrolein	110	ug/L	Taste/Odor
Non-Halogenated VOCs	Acrylonitrile	910	ug/L	Taste/Odor
Non-Halogenated VOCs	Benzene	1	ug/L	Cal MCL
Non-Halogenated VOCs	Carbon Disulfide	160	ug/L	Notification Level
Non-Halogenated VOCs	Diisopropyl ether	N/A	N/A	N/A
Non-Halogenated VOCs	Ethane	7500	ug/L	Taste/Odor
Non-Halogenated VOCs	Ethyl methacrylate	N/A	N/A	N/A
Non-Halogenated VOCs	Ethylbenzene	300	ug/L	Cal MCL
Non-Halogenated VOCs	Ethylene	39	ug/L	Taste/Odor
Non-Halogenated VOCs	Isobutanol	N/A	N/A	N/A
Non-Halogenated VOCs	Isopropanol	160000	ug/L	Taste/Odor
Non-Halogenated VOCs	m-Xylene	1750	ug/L	Cal MCL
Non-Halogenated VOCs	Methacrylonitrile	2100	ug/L	Taste/Odor
Non-Halogenated VOCs	Methane	3100	ug/L	SWGW RBSL
Non-Halogenated VOCs	Methyl ethyl ketone	3800	ug/L	SWGW RBSL
Non-Halogenated VOCs	Methyl isobutyl ketone (MIBK)	120	ug/L	Notification Level
Non-Halogenated VOCs	Methyl methacrylate	25	ug/L	Taste/Odor
Non-Halogenated VOCs	Methyl tert-butyl ether	5	ug/L	Secondary MCL
Non-Halogenated VOCs	n-Butylbenzene	260	ug/L	Notification Level
Non-Halogenated VOCs	n-Propylbenzene	260	ug/L	Notification Level
Non-Halogenated VOCs	Naphthalene	17	ug/L	Notification Level
Non-Halogenated VOCs	o + p Xylene	1750	ug/L	Cal MCL
Non-Halogenated VOCs	o-Xylene	1750	ug/L	Cal MCL
Non-Halogenated VOCs	sec-Butylbenzene	260	ug/L	Notification Level
Non-Halogenated VOCs	Styrene	100	ug/L	Primary MCL
Non-Halogenated VOCs	tert-Amyl methyl ether	N/A	N/A	N/A
Non-Halogenated VOCs	tert-Butylbenzene	260	ug/L	Notification Level
Non-Halogenated VOCs	Toluene	150	ug/L	Cal MCL
Non-Halogenated VOCs	Vinyl acetate	88	ug/L	Taste/Odor
Non-Halogenated VOCs	Xylenes, Total	1750	ug/L	Cal MCL
Halogenated Benzenes	1,4-Dichlorobenzene-d4	N/A	N/A	N/A
Halogenated Benzenes	1,2,3-Trichlorobenzene	2.1	ug/L	SWGW RBSL
Halogenated Benzenes	1,2,4-Trichlorobenzene	5	ug/L	Cal MCL
Halogenated Benzenes	1,2-Dichlorobenzene	600	ug/L	Primary MCL
Halogenated Benzenes	1,3-Dichlorobenzene	600	ug/L	Archived Advisory Level
Halogenated Benzenes	1,4-Dichlorobenzene	5	ug/L	Cal MCL
Halogenated Benzenes	Bromobenzene	N/A	N/A	N/A
Halogenated Benzenes	Chlorobenzene	70	ug/L	Cal MCL
Halogenated Benzenes	Dichlorobenzenes	N/A	N/A	N/A
Halogenated Propene/Propanes	cis-1,4-Dichloro-2-butene	N/A	N/A	N/A
Halogenated Propene/Propanes	Dichloropropane	N/A	N/A	N/A
Halogenated Propene/Propanes	sec-Dichloropropane	N/A	N/A	N/A
Halogenated Propene/Propanes	1,1-Dichloropropene	N/A	N/A	N/A
Halogenated Propene/Propanes	1,2,3-Trichloropropane	0.005	ug/L	Notification Level
Halogenated Propene/Propanes	3-Chloro-2(Chloromethyl)-1-Propene	N/A	N/A	N/A
Halogenated Propene/Propanes	1,2-Dibromo-3-chloropropane	0.2	ug/L	Primary MCL
Halogenated Propene/Propanes	1,2-Dichloropropane	5	ug/L	Primary MCL
Halogenated Propene/Propanes	1,3-Dichloropropane	130	ug/L	SWGW RBSL
Halogenated Propene/Propanes	1,3-Dichloropropene	0.5	ug/L	Cal MCL

TABLE 8
GROUNDWATER SCREENING REFERENCE VALUES, SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Analyte Group	Chemical Analyte	Screening Value	Units	Screening Type
Halogenated Propene/Propanes	Allyl chloride	8.9	ug/L	Taste/Odor
Halogenated Propene/Propanes	cis-1,3-Dichloropropene	0.5	ug/L	Cal MCL
Halogenated Propene/Propanes	trans-1,3-Dichloropropene	0.81	ug/L	SWGW RBSL
Other Halogenated VOCs	1,1-Dichlorobutane	N/A	N/A	N/A
Other Halogenated VOCs	o-Chlorotoluene	140	ug/L	Notification Level
Other Halogenated VOCs	p-Chlorotoluene	140	ug/L	Notification Level
Other Halogenated VOCs	Total Organic Halogens	N/A	N/A	N/A
Other Halogenated VOCs	trans-1,4-Dichloro-2-butene	N/A	N/A	N/A
Other Halogenated VOCs	Hexachlorobutadiene	N/A	N/A	N/A
Other Halogenated VOCs	Chloroprene	N/A	N/A	N/A
Other Halogenated VOCs	2-Chloroethylvinyl ether	N/A	N/A	N/A
1,4-Dioxane	1,4-Dioxane	1	ug/L	Notification Level
SVOC	2-n-Butoxyethanol	N/A	N/A	N/A
SVOC	Amino Hexanoic Acid	N/A	N/A	N/A
SVOC	Benzene Alcohol	N/A	N/A	N/A
SVOC	Benzophenone	N/A	N/A	N/A
SVOC	Carboxylic Acid	N/A	N/A	N/A
SVOC	Decanol	N/A	N/A	N/A
SVOC	Dibenzyl Ether	N/A	N/A	N/A
SVOC	Dichloro Alkene	N/A	N/A	N/A
SVOC	Dichloromethylpropene	N/A	N/A	N/A
SVOC	Dichloropropene, NOS	N/A	N/A	N/A
SVOC	Dimethyl Decene	N/A	N/A	N/A
SVOC	Dimethyl Undecane	N/A	N/A	N/A
SVOC	Diphenyl ether	630	ug/L	SWGW RBSL
SVOC	Molecular Sulfur	N/A	N/A	N/A
SVOC	p-Cresol	63	ug/L	SWGW RBSL
SVOC	p-Dinitrobenzene	1.3	ug/L	SWGW RBSL
SVOC	Trimethyl Decane	N/A	N/A	N/A
SVOC	1,1-Dimethylhydrazine	N/A	N/A	N/A
SVOC	1,2-Dinitrobenzene	N/A	N/A	N/A
SVOC	1-Chloronaphthalene	N/A	N/A	N/A
SVOC	1-Nitronaphthalene	N/A	N/A	N/A
SVOC	2,3,4-Trichlorophenol	N/A	N/A	N/A
SVOC	4-Am-2,6-DNT	N/A	N/A	N/A
SVOC	4-Nitroquinoline-1-oxide	N/A	N/A	N/A
SVOC	Acetamidofluorene	N/A	N/A	N/A
SVOC	alpha, alpha-Dimethylphenethylamine	N/A	N/A	N/A
SVOC	alpha-Naphthylamine	N/A	N/A	N/A
SVOC	alpha-Picoline	N/A	N/A	N/A
SVOC	beta-Naphthylamine	N/A	N/A	N/A
SVOC	Carbazole	N/A	N/A	N/A
SVOC	Decamethylcyclopentasiloxane	N/A	N/A	N/A
SVOC	Diazinon	1.2	ug/L	Notification Level
SVOC	Dibenz(a,j)acridine	N/A	N/A	N/A
SVOC	Diethyl phthalate	10000	ug/L	SWGW RBSL
SVOC	Ethylene glycol	14000	ug/L	Notification Level
SVOC	Formaldehyde	100	ug/L	Notification Level
SVOC	Hydrazine	160000	ug/L	Taste/Odor
SVOC	m+p Cresol	N/A	N/A	N/A
SVOC	m-Cresol	37	ug/L	Taste/Odor
SVOC	Monomethylhydrazine	N/A	N/A	N/A
SVOC	o-Cresol	630	ug/L	SWGW RBSL
SVOC	p-Chloroaniline	N/A	N/A	N/A
SVOC	p-Nitroaniline	N/A	N/A	N/A

TABLE 8
GROUNDWATER SCREENING REFERENCE VALUES, SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Analyte Group	Chemical Analyte	Screening Value	Units	Screening Type
SVOC	Surfactants	N/A	N/A	N/A
SVOC	sym-Trinitrobenzene	N/A	N/A	N/A
SVOC	Zinophos	N/A	N/A	N/A
SVOC	1,1'-Phenylene-Bis-Ethanone	N/A	N/A	N/A
SVOC	1,2,3-Trichloropropene	0.005	ug/L	Notification Level
SVOC	1,2,4,5-Tetrachlorobenzene	N/A	N/A	N/A
SVOC	1,2-Diphenylhydrazine	N/A	N/A	N/A
SVOC	1,3-Dinitrobenzene	1.3	ug/L	SWGW RBSL
SVOC	1,4-Naphthoquinone	N/A	N/A	N/A
SVOC	2,3,4,6-Tetrachlorophenol	N/A	N/A	N/A
SVOC	2,4,5-Trichlorophenol	N/A	N/A	N/A
SVOC	2,4,6-Trichlorophenol	2.1	ug/L	SWGW RBSL
SVOC	2,4-Dichlorophenol	N/A	N/A	N/A
SVOC	2,4-Dimethylphenol	100	ug/L	Archived Advisory Level
SVOC	2,4-Dinitrophenol	N/A	N/A	N/A
SVOC	2,4-Dinitrotoluene	N/A	N/A	N/A
SVOC	2,6-Dichlorophenol	N/A	N/A	N/A
SVOC	2,6-Dinitrotoluene	0.22	ug/L	SWGW RBSL
SVOC	2-Butoxyethoxyethanol	N/A	N/A	N/A
SVOC	2-Chloronaphthalene	N/A	N/A	N/A
SVOC	2-Chlorophenol	63	ug/L	SWGW RBSL
SVOC	2-Nitroaniline	N/A	N/A	N/A
SVOC	2-Nitrophenol	N/A	N/A	N/A
SVOC	3,3'-Dichlorobenzidine	0.12	ug/L	SWGW RBSL
SVOC	3-Methylcholanthrene	N/A	N/A	N/A
SVOC	3-Nitroaniline	N/A	N/A	N/A
SVOC	4,6-Dinitro-o-cresol	1.3	ug/L	SWGW RBSL
SVOC	4-Aminobiphenyl	N/A	N/A	N/A
SVOC	4-Bromophenyl phenyl ether	N/A	N/A	N/A
SVOC	4-Chlorophenylphenyl ether	N/A	N/A	N/A
SVOC	4-Nitrophenol	N/A	N/A	N/A
SVOC	5-Nitro-o-toluidine	N/A	N/A	N/A
SVOC	7,12-Dimethylbenz(a)anthracene	N/A	N/A	N/A
SVOC	Acetophenone	N/A	N/A	N/A
SVOC	Alkene	N/A	N/A	N/A
SVOC	Aniline	65000	ug/L	Taste/Odor
SVOC	Aramite	N/A	N/A	N/A
SVOC	Azobenzene	N/A	N/A	N/A
SVOC	Benzidine	0.0003	ug/L	SWGW RBSL
SVOC	Benzo (b+k) fluoranthene (Total)	N/A	N/A	N/A
SVOC	Benzoic acid	50000	ug/L	SWGW RBSL
SVOC	Benzyl alcohol	N/A	N/A	N/A
SVOC	bis(2-Chloroethoxy)methane	38	ug/L	SWGW RBSL
SVOC	bis(2-Chloroethyl) ether	360	ug/L	Taste/Odor
SVOC	bis(2-Chloroisopropyl) ether	N/A	N/A	N/A
SVOC	bis(2-Ethylhexyl) phthalate	4	ug/L	Cal MCL
SVOC	Butyl benzyl phthalate	78	ug/L	SWGW RBSL
SVOC	Di-n-butyl phthalate	1300	ug/L	SWGW RBSL
SVOC	Di-n-octyl phthalate	500	ug/L	SWGW RBSL
SVOC	Dibenzofuran	N/A	N/A	N/A
SVOC	Dimethyl phthalate	130000	ug/L	SWGW RBSL
SVOC	Diphenylamine	N/A	N/A	N/A
SVOC	Ethyl methanesulfonate	N/A	N/A	N/A
SVOC	Hexachlorobenzene	1	ug/L	Primary MCL
SVOC	Hexachlorocyclopentadiene	50	ug/L	Primary MCL

TABLE 8
GROUNDWATER SCREENING REFERENCE VALUES, SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Analyte Group	Chemical Analyte	Screening Value	Units	Screening Type
SVOC	Hexachloroethane	10	ug/L	Taste/Odor
SVOC	Hexachlorophene	N/A	N/A	N/A
SVOC	Hexachloropropene	N/A	N/A	N/A
SVOC	Isodrin	N/A	N/A	N/A
SVOC	Isophorone	5400	ug/L	Taste/Odor
SVOC	Isosafrole	N/A	N/A	N/A
SVOC	Methapyrilene	N/A	N/A	N/A
SVOC	Methyl methanesulfonate	N/A	N/A	N/A
SVOC	n-Nitrosodi-n-butylamine	N/A	N/A	N/A
SVOC	n-Nitrosodi-n-propylamine	0.01	ug/L	Notification Level
SVOC	n-Nitrosodiethylamine	0.01	ug/L	Notification Level
SVOC	n-Nitrosodiphenylamine	16	ug/L	SWGW RBSL
SVOC	n-Nitrosomethylethylamine	N/A	N/A	N/A
SVOC	n-Nitrosomorpholine	N/A	N/A	N/A
SVOC	n-Nitrosopiperidine	N/A	N/A	N/A
SVOC	n-Nitrosopyrrolidine	N/A	N/A	N/A
SVOC	Nitrobenzene	110	ug/L	Taste/Odor
SVOC	o,o,o-Triethylphosphorothioate	N/A	N/A	N/A
SVOC	o-Tolidine	N/A	N/A	N/A
SVOC	o-Toluidine	11000	ug/L	Taste/Odor
SVOC	p-Chloro-m-cresol	N/A	N/A	N/A
SVOC	p-Dimethylaminoazobenzene	N/A	N/A	N/A
SVOC	p-Phenylenediamine	N/A	N/A	N/A
SVOC	Pentachlorobenzene	N/A	N/A	N/A
SVOC	Pentachloroethane	N/A	N/A	N/A
SVOC	Pentachloronitrobenzene	20	ug/L	Archived Advisory Level
SVOC	Pentachlorophenol	1	ug/L	Primary MCL
SVOC	Phenacetin	N/A	N/A	N/A
SVOC	Phenol	4200	ug/L	Archived Advisory Level
SVOC	Pronamide	N/A	N/A	N/A
SVOC	Pyridine	950	ug/L	Taste/Odor
SVOC	Safrole	N/A	N/A	N/A
SVOC	Tetrachloropropene	N/A	N/A	N/A
PAH	1-Methyl naphthalene	N/A	N/A	N/A
PAH	2-Methylnaphthalene	50	ug/L	SWGW RBSL
PAH	Acenaphthene	N/A	N/A	N/A
PAH	Acenaphthylene	N/A	N/A	N/A
PAH	Anthracene	3800	ug/L	SWGW RBSL
PAH	Benzo(a)anthracene	N/A	N/A	N/A
PAH	Benzo(a)pyrene	0.2	ug/L	Primary MCL
PAH	Benzo(b)fluoranthene	N/A	N/A	N/A
PAH	Benzo(ghi)perylene	N/A	N/A	N/A
PAH	Benzo(k)fluoranthene	N/A	N/A	N/A
PAH	Chrysene	N/A	N/A	N/A
PAH	Dibenzo(a,h)anthracene	N/A	N/A	N/A
PAH	Fluoranthene	N/A	N/A	N/A
PAH	Fluorene	N/A	N/A	N/A
PAH	Indeno(1,2,3-cd)pyrene	N/A	N/A	N/A
PAH	Phenanthrene	3800	ug/L	SWGW RBSL
PAH	Pyrene	380	ug/L	SWGW RBSL
NDMA	n-Nitrosodimethylamine	0.01	ug/L	Notification Level
Energetics	Perchlorate	6	ug/L	Cal MCL
Energetics	2-Amino-4,6-Dinitrotoluene	N/A	N/A	N/A
Energetics	2-Nitrotoluene	N/A	N/A	N/A
Energetics	3-Nitrotoluene	N/A	N/A	N/A

TABLE 8
GROUNDWATER SCREENING REFERENCE VALUES, SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Analyte Group	Chemical Analyte	Screening Value	Units	Screening Type
Energetics	4-Nitrotoluene	N/A	N/A	N/A
Energetics	Nitroglycerin	N/A	N/A	N/A
Energetics	PETN	N/A	N/A	N/A
Energetics	Tetryl	N/A	N/A	N/A
Energetics	2,4,6-Trinitrotoluene	1	ug/L	Notification Level
Energetics	HMX	350	ug/L	Notification Level
Energetics	RDX	0.3	ug/L	Notification Level
TPH	Fuel Hydrocarbons, C4-C12, as heavy	500	ug/L	SWGW RBSL
TPH	Fuel Hydrocarbons, C6-C14, as JP-4	1800	ug/L	SWGW RBSL
TPH	Fuel Hydrocarbons, C6-C15, as JP-4	1800	ug/L	SWGW RBSL
TPH	Fuel Hydrocarbons, C6-C16, as JP-4	1800	ug/L	SWGW RBSL
TPH	Fuel Hydrocarbons, C6-C16, C21-C24, as JP-4	1800	ug/L	SWGW RBSL
TPH	Fuel Hydrocarbons, C6-C7	500	ug/L	SWGW RBSL
TPH	Fuel Hydrocarbons, C6-C7, C10-C16, as	N/A	N/A	N/A
TPH	Fuel Hydrocarbons, C7-C10, as gasoline	5	ug/L	Taste/Odor
TPH	Fuel Hydrocarbons, C7-C14, as JP-4	1800	ug/L	SWGW RBSL
TPH	Fuel Hydrocarbons, C7-C16, as JP-4	1800	ug/L	SWGW RBSL
TPH	Fuel Hydrocarbons, C8-C10, as gasoline	5	ug/L	Taste/Odor
TPH	Fuel Hydrocarbons, C8-C12, as heavy	1800	ug/L	SWGW RBSL
TPH	Fuel Hydrocarbons, C8-C14, as heavy	1800	ug/L	SWGW RBSL
TPH	Gasoline Range Organics (C4-C12)	5	ug/L	Taste/Odor
TPH	Gasoline Range Organics (C6-C14)	5	ug/L	Taste/Odor
TPH	Gasoline Range Organics (C6-C7)	N/A	N/A	N/A
TPH	Gasoline Range Organics (C7-C12)	5	ug/L	Taste/Odor
TPH	Total Extractable Hydrocarbons C10-C18	N/A	N/A	N/A
TPH	Total Hydrocarbons C8-C18	N/A	N/A	N/A
TPH	Diesel Range Organics	100	ug/L	Taste/Odor
TPH	Diesel Range Organics (C12-C14)	100	ug/L	Taste/Odor
TPH	Diesel Range Organics (C13-C22)	100	ug/L	Taste/Odor
TPH	Diesel Range Organics (C14-C20)	100	ug/L	Taste/Odor
TPH	Diesel Range Organics (C15-C20)	100	ug/L	Taste/Odor
TPH	Diesel Range Organics (C20-C30)	100	ug/L	Taste/Odor
TPH	Diesel Range Organics (C21-C24)	100	ug/L	Taste/Odor
TPH	Diesel Range Organics (C21-C30)	100	ug/L	Taste/Odor
TPH	Diesel Range Organics (C8-C11)	100	ug/L	Taste/Odor
TPH	Diesel Range Organics (C8-C30)	100	ug/L	Taste/Odor
TPH	Fuel Hydrocarbons, C6-C17, as JP-4	1800	ug/L	SWGW RBSL
TPH	Gasoline Range Organics (C8-C11)	1800	ug/L	SWGW RBSL
TPH	Jet Fuel 4 (C6-C13)	1800	ug/L	SWGW RBSL
TPH	Kerosene (C10-C12)	1800	ug/L	SWGW RBSL
TPH	Kerosene (C10-C14)	1800	ug/L	SWGW RBSL
TPH	Kerosene (C6-C14)	N/A	N/A	N/A
TPH	Kerosene Range Organics (C11-C14)	1800	ug/L	SWGW RBSL
TPH	Oil Range Organics (C23-C32)	N/A	N/A	N/A
TPH	Total Petroleum Hydrocarbons	N/A	N/A	N/A
TPH	Total Petroleum Hydrocarbons (as Kerosene)	1800	ug/L	SWGW RBSL
TPH	Total Volatile Hydrocarbons	N/A	N/A	N/A
TPH	Gasoline Range Organics	5	ug/L	Taste/Odor
TPH	Gasoline Range Organics (C6-C12)	5	ug/L	Taste/Odor
TPH	TRPH	N/A	N/A	N/A
TPH	Total Extractable Hydrocarbons C16-C25	N/A	N/A	N/A
TPH	Petroleum Hydrocarbons	N/A	N/A	N/A
PCB	Aroclor 1016	0.5	ug/L	Primary MCL
PCB	Polychlorinated biphenyls	0.5	ug/L	Primary MCL
PCB	Aroclor 1254	0.5	ug/L	Primary MCL

TABLE 8
GROUNDWATER SCREENING REFERENCE VALUES, SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Analyte Group	Chemical Analyte	Screening Value	Units	Screening Type
PCB	Aroclor 1260	0.5	ug/L	Primary MCL
PCB	Aroclor 1221	0.5	ug/L	Primary MCL
PCB	Aroclor 1232	0.5	ug/L	Primary MCL
PCB	Aroclor 1242	0.5	ug/L	Primary MCL
PCB	Aroclor 1248	0.5	ug/L	Primary MCL
Herbicides	2,4,5-Trichlorophenoxypropionic acid (Silvex)	50	ug/L	Cal MCL
Herbicides	2,4-Dichlorophenoxyacetic Acid (2,4-D)	130	ug/L	SWGW RBSL
Herbicides	2,4,5-T	130	ug/L	SWGW RBSL
Herbicides	Dalapon	200	ug/L	Cal MCL
Herbicides	Dinoseb	7	ug/L	Primary MCL
Herbicides	MCPP	N/A	N/A	N/A
Herbicides	Propachlor	90	ug/L	Notification Level
Pesticides	4,4'-DDT	N/A	N/A	N/A
Pesticides	a-Chlordane	N/A	N/A	N/A
Pesticides	Chlorobenzilate	N/A	N/A	N/A
Pesticides	Diallate	N/A	N/A	N/A
Pesticides	Famphur	N/A	N/A	N/A
Pesticides	Kepone	0.0093	ug/L	SWGW RBSL
Pesticides	Endosulfan I	75	ug/L	SWGW RBSL
Pesticides	Endosulfan II	75	ug/L	SWGW RBSL
Pesticides	Endrin ketone	N/A	N/A	N/A
Pesticides	gamma-BHC	0.2	ug/L	Primary MCL
Pesticides	gamma-Chlordane	N/A	N/A	N/A
Pesticides	Methyl parathion	2	ug/L	Archived Advisory Level
Pesticides	p,p'-Methoxychlor	30	ug/L	Cal MCL
Pesticides	Parathion	40	ug/L	Archived Advisory Level
Pesticides	Tetra ethyldithiopyrophosphate	N/A	N/A	N/A
Pesticides	y-Chlordane	N/A	N/A	N/A
Pesticides	Endosulfan sulfate	75	ug/L	SWGW RBSL
Pesticides	4,4'-DDE	0.44	ug/L	SWGW RBSL
Pesticides	Aldrin	0.002	ug/L	Archived Advisory Level
Pesticides	alpha-BHC	0.015	ug/L	Archived Advisory Level
Pesticides	beta-BHC	0.025	ug/L	Archived Advisory Level
Pesticides	Chlordane	0.1	ug/L	Cal MCL
Pesticides	delta-BHC	N/A	N/A	N/A
Pesticides	Dieldrin	0.002	ug/L	Archived Advisory Level
Pesticides	Dimethoate	1	ug/L	Archived Advisory Level
Pesticides	Dimethoate	N/A	N/A	N/A
Pesticides	Disulfoton	N/A	N/A	N/A
Pesticides	4,4'-DDD	0.62	ug/L	SWGW RBSL
Pesticides	Toxaphene	3	ug/L	Primary MCL
Pesticides	Endrin	2	ug/L	Primary MCL
Pesticides	Endrin aldehyde	N/A	N/A	N/A
Pesticides	Heptachlor	0.01	ug/L	Cal MCL
Pesticides	Heptachlor epoxide	0.01	ug/L	Cal MCL
Pesticides	Phorate	N/A	N/A	N/A
Dioxins/Furans	1,2,3,4,6,7,8-Heptachlorodibenzofuran	N/A	N/A	N/A
Dioxins/Furans	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	N/A	N/A	N/A
Dioxins/Furans	1,2,3,4,7,8,9-Heptachlorodibenzofuran	N/A	N/A	N/A
Dioxins/Furans	1,2,3,4,7,8-Hexachlorodibenzofuran	N/A	N/A	N/A
Dioxins/Furans	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	N/A	N/A	N/A
Dioxins/Furans	1,2,3,6,7,8-Hexachlorodibenzofuran	N/A	N/A	N/A
Dioxins/Furans	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	N/A	N/A	N/A
Dioxins/Furans	1,2,3,7,8,9-Hexachlorodibenzofuran	N/A	N/A	N/A
Dioxins/Furans	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	N/A	N/A	N/A

TABLE 8
GROUNDWATER SCREENING REFERENCE VALUES, SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Analyte Group	Chemical Analyte	Screening Value	Units	Screening Type
Dioxins/Furans	1,2,3,7,8-Pentachlorodibenzofuran	N/A	N/A	N/A
Dioxins/Furans	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	N/A	N/A	N/A
Dioxins/Furans	2,3,4,6,7,8-Hexachlorodibenzofuran	N/A	N/A	N/A
Dioxins/Furans	2,3,4,7,8-Pentachlorodibenzofuran	N/A	N/A	N/A
Dioxins/Furans	2,3,7,8-Tetrachlorodibenzofuran	N/A	N/A	N/A
Dioxins/Furans	Heptachlorodibenzofurans	N/A	N/A	N/A
Dioxins/Furans	Heptachlorodibenzo-p-dioxins	N/A	N/A	N/A
Dioxins/Furans	Hexachlorodibenzofurans	N/A	N/A	N/A
Dioxins/Furans	Hexachlorodibenzo-p-dioxins	N/A	N/A	N/A
Dioxins/Furans	Octachlorodibenzofuran	N/A	N/A	N/A
Dioxins/Furans	Octachlorodibenzo-p-dioxin	N/A	N/A	N/A
Dioxins/Furans	PCDFs (Furans)	N/A	N/A	N/A
Dioxins/Furans	Pentachlorodibenzofurans	N/A	N/A	N/A
Dioxins/Furans	Pentachlorodibenzo-p-dioxins	N/A	N/A	N/A
Dioxins/Furans	Tetrachlorodibenzofurans	N/A	N/A	N/A
Dioxins/Furans	Tetrachlorodibenzo-p-dioxins	N/A	N/A	N/A
Dioxins/Furans	1,3,4,7,8-PeCDF	N/A	N/A	N/A
Dioxins/Furans	PCDDs (Dioxins)	N/A	N/A	N/A
Dioxins/Furans	2,3,7,8-TCDD	0.00003	ug/L	Primary MCL
Metals	Aluminum, Dissolved	13000	ug/L	SWGW RBSL
Metals	Boron, Dissolved	340	ug/L	SSFL Comparison
Metals	Tin, Dissolved	2.4	ug/L	SSFL Comparison
Metals	Antimony, Dissolved	2.5	ug/L	SSFL Comparison
Metals	Arsenic, Dissolved	7.7	ug/L	SSFL Comparison
Metals	Barium, Dissolved	150	ug/L	SSFL Comparison
Metals	Beryllium, Dissolved	0.14	ug/L	SSFL Comparison
Metals	Cadmium, Dissolved	0.2	ug/L	SSFL Comparison
Metals	Chromium, Dissolved	14	ug/L	SSFL Comparison
Metals	Cobalt, Dissolved	1.9	ug/L	SSFL Comparison
Metals	Copper, Dissolved	4.7	ug/L	SSFL Comparison
Metals	Hexavalent Chromium, Dissolved	38	ug/L	SWGW RBSL
Metals	Iron, Dissolved	4100	ug/L	SSFL Comparison
Metals	Lead, Dissolved	11	ug/L	SSFL Comparison
Metals	Magnesium, Dissolved	77000	ug/L	SSFL Comparison
Metals	Manganese, Dissolved	150	ug/L	SSFL Comparison
Metals	Mercury, Dissolved	0.063	ug/L	SSFL Comparison
Metals	Molybdenum, Dissolved	2.2	ug/L	SSFL Comparison
Metals	Nickel, Dissolved	17	ug/L	SSFL Comparison
Metals	Potassium, Dissolved	9600	ug/L	SSFL Comparison
Metals	Selenium, Dissolved	1.6	ug/L	SSFL Comparison
Metals	Silver, Dissolved	0.17	ug/L	SSFL Comparison
Metals	Sodium, Dissolved	190000	ug/L	SSFL Comparison
Metals	Strontium, Dissolved	800	ug/L	SSFL Comparison
Metals	Thallium, Dissolved	0.13	ug/L	SSFL Comparison
Metals	Vanadium, Dissolved	2.6	ug/L	SSFL Comparison
Metals	Zinc, Dissolved	6300	ug/L	SSFL Comparison
Metals	Zirconium	N/A	N/A	N/A
Metals	Zirconium, dissolved	N/A	N/A	N/A
Metals	Aluminum	200	ug/L	Secondary MCL
Metals	Antimony	2.5	ug/L	SSFL Comparison
Metals	Arsenic	7.7	ug/L	SSFL Comparison
Metals	Barium	150	ug/L	SSFL Comparison
Metals	Beryllium	0.14	ug/L	SSFL Comparison
Metals	Boron	340	ug/L	SSFL Comparison
Metals	Cadmium	0.2	ug/L	SSFL Comparison

TABLE 8
GROUNDWATER SCREENING REFERENCE VALUES, SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Analyte Group	Chemical Analyte	Screening Value	Units	Screening Type
Metals	Chromium	14	ug/L	SSFL Comparison
Metals	Cobalt	1.9	ug/L	SSFL Comparison
Metals	Copper	4.7	ug/L	SSFL Comparison
Metals	Hexavalent Chromium	14	ug/L	SSFL Comparison
Metals	Iron	4100	ug/L	SSFL Comparison
Metals	Lead	11	ug/L	SSFL Comparison
Metals	Magnesium	77000	ug/L	SSFL Comparison
Metals	Manganese	150	ug/L	SSFL Comparison
Metals	Mercury	0.063	ug/L	SSFL Comparison
Metals	Molybdenum	2.2	ug/L	SSFL Comparison
Metals	Nickel	17	ug/L	SSFL Comparison
Metals	Potassium	9600	ug/L	SSFL Comparison
Metals	Selenium	1.6	ug/L	SSFL Comparison
Metals	Silver	0.17	ug/L	SSFL Comparison
Metals	Sodium	190000	ug/L	SSFL Comparison
Metals	Strontium	800	ug/L	SSFL Comparison
Metals	Thallium	0.13	ug/L	SSFL Comparison
Metals	Tin	2.4	ug/L	SSFL Comparison
Metals	Vanadium	2.6	ug/L	SSFL Comparison
Metals	Zinc	6300	ug/L	SSFL Comparison
Inorganics	Carbon Dioxide	N/A	N/A	N/A
Inorganics	Dissolved Organic Carbon	N/A	N/A	N/A
Inorganics	Phosphite (PO3)	N/A	N/A	N/A
Inorganics	Bicarbonate	N/A	N/A	N/A
Inorganics	Calcium, Dissolved	N/A	N/A	N/A
Inorganics	Carbonate	N/A	N/A	N/A
Inorganics	Chlorine	4000	ug/L	Primary MCL
Inorganics	Iron Oxide	N/A	N/A	N/A
Inorganics	Redox Potential	N/A	N/A	N/A
Inorganics	Silica, Dissolved	N/A	N/A	N/A
Inorganics	Silicon, Dissolved	N/A	N/A	N/A
Inorganics	Specific gravity	N/A	N/A	N/A
Inorganics	Sulfide, Dissolved	N/A	N/A	N/A
Inorganics	Alkalinity	N/A	N/A	N/A
Inorganics	Alkalinity as CaCO3	N/A	N/A	N/A
Inorganics	Ammonia-N	N/A	N/A	N/A
Inorganics	Bicarbonate Alkalinity as CaCO3	N/A	N/A	N/A
Inorganics	Bromide	N/A	N/A	N/A
Inorganics	Carbonate Alkalinity as CaCO3	N/A	N/A	N/A
Inorganics	Calcium	N/A	N/A	N/A
Inorganics	Cation/Anion Balance (%)	N/A	N/A	N/A
Inorganics	Chloride	250000	ug/L	Secondary MCL
Inorganics	Chlorate	800	ug/L	Notification Level
Inorganics	Dissolved oxygen	N/A	N/A	N/A
Inorganics	Cyanides	150	ug/L	Cal MCL
Inorganics	Fluoride	800	ug/L	SSFL Comparison
Inorganics	Nitrate-NO3	44628	ug/L	Primary MCL
Inorganics	Nitrate-N	10	mg/L	Primary MCL
Inorganics	Nitrite-N	10000	ug/L	Primary MCL
Inorganics	Phosphate	N/A	N/A	N/A
Inorganics	Sulfate	376000	ug/L	SSFL Comparison
Inorganics	Sulfide	N/A	N/A	N/A
Inorganics	Total Dissolved Solids	500000	ug/L	Recommended SMCL
Inorganics	Total Dissolved Solids	1000000	ug/L	Upper SMCL
Inorganics	Total Dissolved Solids	1500000	ug/L	Short-Term SMCL

TABLE 8
GROUNDWATER SCREENING REFERENCE VALUES, SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Analyte Group	Chemical Analyte	Screening Value	Units	Screening Type
Inorganics	Total Kjeldahl nitrogen	N/A	N/A	N/A
Inorganics	Total Organic Carbon	N/A	N/A	N/A
Inorganics	Total Suspended Solids	N/A	N/A	N/A
General Parameters	Ammonium	N/A	N/A	N/A
General Parameters	Bulk Density	N/A	N/A	N/A
General Parameters	Deuterium	N/A	N/A	N/A
General Parameters	Formic Acid	1700000	ug/L	Taste/Odor
General Parameters	Hydraulic Conductivity	N/A	N/A	N/A
General Parameters	Moisture	N/A	N/A	N/A
General Parameters	Oxygen-18	N/A	N/A	N/A
General Parameters	pH	N/A	N/A	N/A
General Parameters	Porosity, Total	N/A	N/A	N/A
General Parameters	Total Non-Volatile Solids	N/A	N/A	N/A
General Parameters	Total Solids	N/A	N/A	N/A
General Parameters	volumetric saturation (air)	N/A	N/A	N/A
General Parameters	Turbidity	5	NTU	Secondary MCL
General Parameters	Specific conductivity	900	umhos/cm	Recommended SMCL
General Parameters	Specific conductivity	1600	umhos/cm	Upper SMCL
General Parameters	Specific conductivity	2200	umhos/cm	Short-Term SMCL
General Parameters	Hardness	N/A	N/A	N/A
General Parameters	Coliform bacteria	N/A	N/A	N/A

Notes and Abbreviations:

(a) - isotope-specific MCL for beta emitters based on Primary MCL of 4 mrem/yr critical organ dose limit for gross beta (EPA, 2000)
(b) - isotope-specific MCL for beta emitters based on the 4 mrem/yr effective dose equivalent for gross beta (EPA, 2000)
Cal MCL - California Primary Maximum Contaminant Level
mrem/yr - millirem per year
N/A - not applicable
NDMA - n-Nitrosodimethylamine
NTU - nephelometric turbidity units
PAH - polycyclic aromatic hydrocarbon
PCB - polychlorinated biphenyl
pCi/L - picocuries per liter
Primary MCL - Primary Maximum Contaminant Level
Secondary MCL - Secondary Maximum Contaminant Level
SMCL - Secondary Maximum Contaminant Level
SSFL Comparison - site-specific values for metals developed by DTSC
SVOC - semi volatile organic compound
SWGW RBSL - Site-Wide Groundwater Risk-Based Screening Level proposed in GW RI Report (MWH, 2009)
Taste/Odor - Taste/Odor Threshold
TPH - total petroleum hydrocarbons
ug/L - micrograms per liter
umhos/cm - micromhos per centimeter
VOCs - volatile organic compounds

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TABLE 9
FIRST TIME DETECTS AND NEW MAXIMUM CONCENTRATONS, ANNUAL 2024 - DOE AREA IV

Analyte	Well ID	GW Impacted Area	Fraction	Sample Date	Result	Units	Qualifiers	New Detection	New Max Detection	Screening Value	Units	Exceeds SV
1,4-Dioxane	DD-140	FSDF	Total	02/29/2024	2.36	ug/L	H/J	No	Yes	1	ug/L	Yes
1,4-Dioxane	DD-147	HMSA/PDU	Total	02/23/2024	0.762	ug/L	---	Yes	Yes	1	ug/L	No
1,4-Dioxane	DS-46	FSDF	Total	02/29/2024	3.96	ug/L	---	No	Yes	1	ug/L	Yes
1,4-Dioxane	PZ-098	FSDF	Total	03/01/2024	1.76	ug/L	---	No	Yes	1	ug/L	Yes
1,4-Dioxane	PZ-116	RMHF	Total	02/26/2024	0.133	ug/L	J/J	Yes	Yes	1	ug/L	No
1,4-Dioxane	RD-20	B4100 Trench	Total	02/27/2024	0.104	ug/L	J/J	Yes	Yes	1	ug/L	No
1,4-Dioxane	RD-74	Bldg 56 Landfill	Total	02/27/2024	0.107	ug/L	J/J	Yes	Yes	1	ug/L	No
1,4-Dioxane	RD-87	Tritium Plume	Total	02/23/2024	0.238	ug/L	J/J	Yes	Yes	1	ug/L	No
1,4-Dioxane	RD-90	Tritium Plume	Total	02/16/2024	9.15	ug/L	B/	Yes	Yes	1	ug/L	Yes
1,4-Dioxane	RD-93	Tritium Plume	Total	02/22/2024	0.754	ug/L	---	Yes	Yes	1	ug/L	No
1,4-Dioxane	RD-94	Tritium Plume	Total	02/23/2024	0.523	ug/L	---	No	Yes	1	ug/L	No
1,4-Dioxane	RD-95	Tritium Plume	Total	02/16/2024	4.77	ug/L	B/	Yes	Yes	1	ug/L	Yes
Antimony	PZ-098	FSDF	Total	03/01/2024	1.16	ug/L	J/J	Yes	Yes	2.5	ug/L	No
Arsenic	DD-141	Bldg 56 Landfill	Dissolved	02/13/2024	2.54	ug/L	J/J	No	Yes	7.7	ug/L	No
Arsenic	DD-141	Bldg 56 Landfill	Total	02/13/2024	2.68	ug/L	J/J	No	Yes	7.7	ug/L	No
Arsenic	DD-159	OCY	Total	02/15/2024	2.97	ug/L	J/J	No	Yes	7.7	ug/L	No
Arsenic	DS-46	FSDF	Total	02/29/2024	3.04	ug/L	J/J	No	Yes	7.7	ug/L	No
Arsenic	PZ-098	FSDF	Dissolved	03/01/2024	2.35	ug/L	J/J	No	Yes	7.7	ug/L	No
Arsenic	PZ-098	FSDF	Total	03/01/2024	3	ug/L	J/J	No	Yes	7.7	ug/L	No
Arsenic	PZ-102	B4009 Leachfield	Dissolved	02/28/2024	2.91	ug/L	J/J	No	Yes	7.7	ug/L	No
Arsenic	PZ-102	B4009 Leachfield	Total	02/28/2024	3.88	ug/L	J/J	No	Yes	7.7	ug/L	No
Arsenic	PZ-116	RMHF	Dissolved	02/26/2024	3.54	ug/L	J/J	No	Yes	7.7	ug/L	No
Arsenic	PZ-116	RMHF	Total	02/26/2024	5.51	ug/L	---	No	Yes	7.7	ug/L	No
Arsenic	PZ-121	HMSA/PDU	Dissolved	02/20/2024	4.59	ug/L	J/J	No	Yes	7.7	ug/L	No
Arsenic	PZ-124	Bldg 56 Landfill	Dissolved	02/13/2024	11.4	ug/L	---	No	Yes	7.7	ug/L	Yes
Arsenic	PZ-124	Bldg 56 Landfill	Total	02/13/2024	13.5	ug/L	---	No	Yes	7.7	ug/L	Yes
Arsenic	RD-64	FSDF	Dissolved	02/13/2024	4.03	ug/L	J/J	No	Yes	7.7	ug/L	No
Arsenic	RD-64	FSDF	Total	02/13/2024	4.25	ug/L	J/J	No	Yes	7.7	ug/L	No
Arsenic	RD-74	Bldg 56 Landfill	Total	02/27/2024	2.67	ug/L	J/J	Yes	Yes	7.7	ug/L	No
Arsenic	RD-90	Tritium Plume	Total	02/16/2024	2.72	ug/L	J/J	No	Yes	7.7	ug/L	No
Arsenic	RD-96	B4057/59/626	Dissolved	02/15/2024	3.12	ug/L	J/J	No	Yes	7.7	ug/L	No
Arsenic	RD-96	B4057/59/626	Total	02/15/2024	2.79	ug/L	J/J	No	Yes	7.7	ug/L	No
Barium	DD-140	FSDF	Dissolved	02/29/2024	27.6	ug/L	---	No	Yes	150	ug/L	No
Barium	PZ-098	FSDF	Total	03/01/2024	64.4	ug/L	J/	No	Yes	150	ug/L	No
Barium	PZ-102	B4009 Leachfield	Total	02/28/2024	36.4	ug/L	---	No	Yes	150	ug/L	No
Barium	PZ-124	Bldg 56 Landfill	Dissolved	02/13/2024	18.4	ug/L	---	No	Yes	150	ug/L	No
Barium	PZ-124	Bldg 56 Landfill	Total	02/13/2024	37.5	ug/L	---	No	Yes	150	ug/L	No
Barium	RD-27	RMHF	Total	02/21/2024	71.6	ug/L	---	No	Yes	150	ug/L	No
Barium	RD-74	Bldg 56 Landfill	Total	02/27/2024	91.2	ug/L	---	No	Yes	150	ug/L	No
Barium	RD-90	Tritium Plume	Dissolved	02/16/2024	67.2	ug/L	---	No	Yes	150	ug/L	No
Cadmium	PZ-121	HMSA/PDU	Total	02/20/2024	7.61	ug/L	---	No	Yes	0.2	ug/L	Yes
Chromium	PZ-098	FSDF	Total	03/01/2024	10.2	ug/L	---	No	Yes	14	ug/L	No
Chromium	PZ-102	B4009 Leachfield	Total	02/28/2024	22.1	ug/L	---	No	Yes	14	ug/L	Yes
Chromium	PZ-124	Bldg 56 Landfill	Total	02/13/2024	11.5	ug/L	---	No	Yes	14	ug/L	No
Chromium	RD-74	Bldg 56 Landfill	Total	02/27/2024	6.37	ug/L	J/J	Yes	Yes	14	ug/L	No

TABLE 9
FIRST TIME DETECTS AND NEW MAXIMUM CONCENTRATONS, ANNUAL 2024 - DOE AREA IV

Analyte	Well ID	GW Impacted Area	Fraction	Sample Date	Result	Units	Qualifiers	New Detection	New Max Detection	Screening Value	Units	Exceeds SV
Cobalt	DD-158	OCY	Dissolved	02/14/2024	0.484	ug/L	J/J	No	Yes	1.9	ug/L	No
Cobalt	PZ-098	FSDF	Dissolved	03/01/2024	0.688	ug/L	J/J	No	Yes	1.9	ug/L	No
Cobalt	PZ-116	RMHF	Dissolved	02/26/2024	1.22	ug/L	---	No	Yes	1.9	ug/L	No
Cobalt	PZ-116	RMHF	Total	02/26/2024	2.83	ug/L	---	No	Yes	1.9	ug/L	Yes
Cobalt	PZ-124	Bldg 56 Landfill	Dissolved	02/13/2024	2.41	ug/L	---	No	Yes	1.9	ug/L	Yes
Cobalt	PZ-124	Bldg 56 Landfill	Total	02/13/2024	3.4	ug/L	---	No	Yes	1.9	ug/L	Yes
Cobalt	RD-34B	RMHF	Total	02/21/2024	0.935	ug/L	J/J	No	Yes	1.9	ug/L	No
Cobalt	RD-64	FSDF	Total	02/13/2024	2.64	ug/L	/J	No	Yes	1.9	ug/L	Yes
Cobalt	RD-74	Bldg 56 Landfill	Total	02/27/2024	1.15	ug/L	---	No	Yes	1.9	ug/L	No
Copper	DD-158	OCY	Dissolved	02/14/2024	2.32	ug/L	---	No	Yes	4.7	ug/L	No
Copper	PZ-098	FSDF	Total	03/01/2024	2.34	ug/L	---	No	Yes	4.7	ug/L	No
Copper	PZ-116	RMHF	Total	02/26/2024	2.19	ug/L	---	No	Yes	4.7	ug/L	No
Copper	PZ-124	Bldg 56 Landfill	Total	02/13/2024	14.4	ug/L	---	No	Yes	4.7	ug/L	Yes
Copper	RD-20	B4100 Trench	Dissolved	02/27/2024	0.755	ug/L	J/J	No	Yes	4.7	ug/L	No
Copper	RD-20	B4100 Trench	Total	02/27/2024	0.602	ug/L	J/J	No	Yes	4.7	ug/L	No
Copper	RD-27	RMHF	Dissolved	02/21/2024	2.19	ug/L	---	No	Yes	4.7	ug/L	No
Copper	RD-74	Bldg 56 Landfill	Dissolved	02/27/2024	1.15	ug/L	J/J	No	Yes	4.7	ug/L	No
Copper	RD-74	Bldg 56 Landfill	Total	02/27/2024	3.44	ug/L	---	No	Yes	4.7	ug/L	No
Copper	RD-90	Tritium Plume	Total	02/16/2024	0.805	ug/L	J/J	Yes	Yes	4.7	ug/L	No
Diesel Range Organics	DD-140	FSDF	Total	02/29/2024	114	ug/L	JQ/J-	Yes	Yes	100	ug/L	Yes
Diesel Range Organics	DS-43	DOE Leachfield	Total	02/19/2024	295	ug/L	Q/J-	Yes	Yes	100	ug/L	Yes
Diesel Range Organics	DS-46	FSDF	Total	02/29/2024	96.5	ug/L	J/J	No	Yes	100	ug/L	No
Diesel Range Organics	PZ-098	FSDF	Total	03/01/2024	362	ug/L	---	No	Yes	100	ug/L	Yes
Diesel Range Organics	PZ-109	B4057/59/626	Total	02/19/2024	176	ug/L	JQ/J-	Yes	Yes	100	ug/L	Yes
Gasoline Range Organics	PZ-109	B4057/59/626	Total	02/19/2024	17.6	ug/L	J/J	Yes	Yes	5	ug/L	Yes
Gross Alpha	PZ-124	Bldg 56 Landfill	Total	03/01/2024	49.3	pCi/L	---	Yes	Yes	15	pCi/L	Yes
Gross Alpha	RD-93	Tritium Plume	Total	02/22/2024	9.92	pCi/L	---	Yes	Yes	15	pCi/L	No
Gross Alpha	RD-95	Tritium Plume	Total	02/16/2024	22.6	pCi/L	---	Yes	Yes	15	pCi/L	Yes
Gross Beta	DS-44	DOE Leachfield	Dissolved	02/15/2024	7.26	pCi/L	/J	No	Yes	50	pCi/L	No
Gross Beta	DS-45	B4064 Leachfield	Dissolved	02/12/2024	5.61	pCi/L	/J	No	Yes	50	pCi/L	No
Gross Beta	DS-47	B4064 Leachfield	Dissolved	02/12/2024	5.54	pCi/L	/J	No	Yes	50	pCi/L	No
Gross Beta	PZ-116	RMHF	Total	02/26/2024	25.1	pCi/L	/J	No	Yes	50	pCi/L	No
Gross Beta	PZ-121	HMSA/PDU	Dissolved	02/20/2024	4.14	pCi/L	/J	No	Yes	50	pCi/L	No
Gross Beta	PZ-121	HMSA/PDU	Total	02/20/2024	6.28	pCi/L	/J	Yes	Yes	50	pCi/L	No
Gross Beta	PZ-124	Bldg 56 Landfill	Dissolved	03/01/2024	36.1	pCi/L	/J	No	Yes	50	pCi/L	No
Gross Beta	PZ-124	Bldg 56 Landfill	Total	03/01/2024	37.5	pCi/L	/J	Yes	Yes	50	pCi/L	No
Gross Beta	RD-63	RMHF	Total	02/23/2024	16.5	pCi/L	/J	No	Yes	50	pCi/L	No
Gross Beta	RD-93	Tritium Plume	Total	02/22/2024	9.86	pCi/L	/J	Yes	Yes	50	pCi/L	No
Gross Beta	RD-95	Tritium Plume	Dissolved	02/16/2024	12	pCi/L	/J	No	Yes	50	pCi/L	No
Gross Beta	RD-95	Tritium Plume	Total	02/16/2024	14.7	pCi/L	/J	Yes	Yes	50	pCi/L	No
Gross Beta	RD-96	B4057/59/626	Dissolved	02/15/2024	17.4	pCi/L	/J	No	Yes	50	pCi/L	No
Lead	PZ-098	FSDF	Total	03/01/2024	1.01	ug/L	J/J	Yes	Yes	11	ug/L	No
Lead	PZ-102	B4009 Leachfield	Total	02/28/2024	1.75	ug/L	J/J	No	Yes	11	ug/L	No
Lead	PZ-124	Bldg 56 Landfill	Total	02/13/2024	3.31	ug/L	---	No	Yes	11	ug/L	No
Lead	RD-64	FSDF	Total	02/13/2024	2.93	ug/L	/J	No	Yes	11	ug/L	No
Lead	RD-74	Bldg 56 Landfill	Total	02/27/2024	1.52	ug/L	J/J	No	Yes	11	ug/L	No
Mercury	DS-46	FSDF	Total	02/29/2024	0.231	ug/L	---	Yes	Yes	0.063	ug/L	Yes
Nickel	DD-158	OCY	Dissolved	02/14/2024	2.45	ug/L	---	No	Yes	17	ug/L	No

TABLE 9
FIRST TIME DETECTS AND NEW MAXIMUM CONCENTRATONS, ANNUAL 2024 - DOE AREA IV

Analyte	Well ID	GW Impacted Area	Fraction	Sample Date	Result	Units	Qualifiers	New Detection	New Max Detection	Screening Value	Units	Exceeds SV
Nickel	DD-159	OCY	Dissolved	02/15/2024	1.36	ug/L	J/J	No	Yes	17	ug/L	No
Nickel	DD-159	OCY	Total	02/15/2024	1.48	ug/L	J/J	No	Yes	17	ug/L	No
Nickel	DS-46	FSDF	Total	02/29/2024	9.37	ug/L	---	No	Yes	17	ug/L	No
Nickel	PZ-109	B4057/59/626	Dissolved	02/19/2024	3.71	ug/L	---	No	Yes	17	ug/L	No
Nickel	PZ-116	RMHF	Dissolved	02/26/2024	4	ug/L	---	No	Yes	17	ug/L	No
Nickel	PZ-116	RMHF	Total	02/26/2024	7.77	ug/L	---	No	Yes	17	ug/L	No
Nickel	PZ-121	HMSA/PDU	Total	02/20/2024	5.64	ug/L	---	No	Yes	17	ug/L	No
Nickel	PZ-124	Bldg 56 Landfill	Total	02/13/2024	7.04	ug/L	---	No	Yes	17	ug/L	No
Nickel	RD-14	OCY	Dissolved	02/14/2024	2.29	ug/L	---	No	Yes	17	ug/L	No
Nickel	RD-20	B4100 Trench	Total	02/27/2024	0.875	ug/L	J/J	No	Yes	17	ug/L	No
Nickel	RD-27	RMHF	Dissolved	02/21/2024	1.81	ug/L	J/J	No	Yes	17	ug/L	No
Nickel	RD-27	RMHF	Total	02/21/2024	1.26	ug/L	J/J	No	Yes	17	ug/L	No
Nickel	RD-34B	RMHF	Total	02/21/2024	0.646	ug/L	J/J	Yes	Yes	17	ug/L	No
Nickel	RD-74	Bldg 56 Landfill	Total	02/27/2024	5.25	ug/L	---	No	Yes	17	ug/L	No
Nickel	RD-90	Tritium Plume	Dissolved	02/16/2024	1.07	ug/L	J/J	Yes	Yes	17	ug/L	No
Nickel	RD-90	Tritium Plume	Total	02/16/2024	0.752	ug/L	J/J	Yes	Yes	17	ug/L	No
Nitrate	RD-20	B4100 Trench	Total	02/27/2024	16.2	ug/L	J/J	Yes	Yes	10000	ug/L	No
Potassium-40	RD-93	Tritium Plume	Total	02/22/2024	79.9	pci/l	---	Yes	Yes	N/A	N/A	N/A
Radium-226	DS-44	DOE Leachfield	Dissolved	02/15/2024	0.583	pCi/L	---	No	Yes	5	pCi/L	No
Radium-226	DS-44	DOE Leachfield	Total	02/15/2024	2.06	pCi/L	---	No	Yes	5	pCi/L	No
Radium-226	DS-47	B4064 Leachfield	Dissolved	02/12/2024	1.09	pCi/L	---	No	Yes	5	pCi/L	No
Radium-226	PZ-116	RMHF	Dissolved	02/26/2024	0.711	pCi/L	---	Yes	Yes	5	pCi/L	No
Radium-226	PZ-124	Bldg 56 Landfill	Total	03/01/2024	0.532	pCi/L	---	Yes	Yes	5	pCi/L	No
Radium-226	RD-07	Bldg 56 Landfill	Dissolved	02/14/2024	2.11	pCi/L	---	No	Yes	5	pCi/L	No
Radium-226	RD-24	B4057/59/626	Total	02/12/2024	0.41	pCi/L	---	Yes	Yes	5	pCi/L	No
Radium-226	RD-93	Tritium Plume	Dissolved	02/22/2024	1.22	pCi/L	---	Yes	Yes	5	pCi/L	No
Radium-226	RD-93	Tritium Plume	Total	02/22/2024	0.862	pCi/L	---	Yes	Yes	5	pCi/L	No
Radium-226	RD-95	Tritium Plume	Dissolved	02/16/2024	1.62	pCi/L	---	Yes	Yes	5	pCi/L	No
Radium-226	RD-95	Tritium Plume	Total	02/16/2024	0.822	pCi/L	---	Yes	Yes	5	pCi/L	No
Radium-226	RD-96	B4057/59/626	Total	02/15/2024	2.26	pCi/L	---	No	Yes	5	pCi/L	No
Radium-228	DS-44	DOE Leachfield	Dissolved	02/15/2024	1.85	pCi/L	---	No	Yes	5	pCi/L	No
Radium-228	DS-45	B4064 Leachfield	Dissolved	02/12/2024	4.53	pCi/L	---	Yes	Yes	5	pCi/L	No
Radium-228	DS-45	B4064 Leachfield	Total	02/12/2024	1.54	pCi/L	---	Yes	Yes	5	pCi/L	No
Selenium	DD-158	OCY	Dissolved	02/14/2024	1.54	ug/L	J/J	Yes	Yes	1.6	ug/L	No
Selenium	PZ-098	FSDF	Total	03/01/2024	2.03	ug/L	J/J	No	Yes	1.6	ug/L	Yes
Selenium	RD-20	B4100 Trench	Dissolved	02/27/2024	4.06	ug/L	J/J	No	Yes	1.6	ug/L	Yes
Selenium	RD-20	B4100 Trench	Total	02/27/2024	4.14	ug/L	J/J	No	Yes	1.6	ug/L	Yes
Sodium	DD-140	FSDF	Dissolved	02/29/2024	48200	ug/L	---	No	Yes	190000	ug/L	No
Sodium	DD-140	FSDF	Total	02/29/2024	47000	ug/L	---	No	Yes	190000	ug/L	No
Sodium	DS-46	FSDF	Dissolved	02/29/2024	66400	ug/L	---	No	Yes	190000	ug/L	No
Sodium	DS-46	FSDF	Total	02/29/2024	67600	ug/L	---	No	Yes	190000	ug/L	No
Sodium	RD-90	Tritium Plume	Dissolved	02/16/2024	57600	ug/L	---	No	Yes	190000	ug/L	No
Sodium	RD-90	Tritium Plume	Total	02/16/2024	55800	ug/L	---	Yes	Yes	190000	ug/L	No
Tin	PZ-102	B4009 Leachfield	Total	02/28/2024	1.31	ug/L	J/J	Yes	Yes	2.4	ug/L	No
Tin	PZ-124	Bldg 56 Landfill	Total	02/13/2024	1.86	ug/L	J/J	Yes	Yes	2.4	ug/L	No
Trichloroethene	DD-140	FSDF	Total	02/29/2024	1.65	ug/L	---	No	Yes	5	ug/L	No
Uranium-233/234	DS-44	DOE Leachfield	Dissolved	02/15/2024	3.51	pCi/L	---	No	Yes	20	pCi/L	No
Uranium-233/234	PZ-116	RMHF	Total	02/26/2024	12.6	pCi/L	---	Yes	Yes	20	pCi/L	No

TABLE 9
FIRST TIME DETECTS AND NEW MAXIMUM CONCENTRATONS, ANNUAL 2024 - DOE AREA IV

Analyte	Well ID	GW Impacted Area	Fraction	Sample Date	Result	Units	Qualifiers	New Detection	New Max Detection	Screening Value	Units	Exceeds SV
Uranium-233/234	PZ-121	HMSA/PDU	Total	02/20/2024	0.462	pCi/L	---	Yes	Yes	20	pCi/L	No
Uranium-233/234	PZ-124	Bldg 56 Landfill	Total	03/01/2024	38.3	pCi/L	---	Yes	Yes	20	pCi/L	Yes
Uranium-233/234	RD-27	RMHF	Total	02/21/2024	1.4	pCi/L	---	Yes	Yes	20	pCi/L	No
Uranium-233/234	RD-93	Tritium Plume	Total	02/22/2024	2.03	pCi/L	---	Yes	Yes	20	pCi/L	No
Uranium-233/234	RD-95	Tritium Plume	Dissolved	02/16/2024	14	pCi/L	---	No	Yes	20	pCi/L	No
Uranium-233/234	RD-95	Tritium Plume	Total	02/16/2024	18.3	pCi/L	---	Yes	Yes	20	pCi/L	No
Uranium-235/236	PZ-116	RMHF	Total	02/26/2024	1.01	pCi/L	---	Yes	Yes	20	pCi/L	No
Uranium-235/236	PZ-124	Bldg 56 Landfill	Dissolved	03/01/2024	2.13	pCi/L	---	No	Yes	20	pCi/L	No
Uranium-235/236	PZ-124	Bldg 56 Landfill	Total	03/01/2024	2.29	pCi/L	---	Yes	Yes	20	pCi/L	No
Uranium-235/236	RD-19	B4133	Total	02/20/2024	1.14	pCi/L	---	No	Yes	20	pCi/L	No
Uranium-235/236	RD-27	RMHF	Dissolved	02/21/2024	0.57	pCi/L	---	No	Yes	20	pCi/L	No
Uranium-235/236	RD-34A	RMHF	Dissolved	02/22/2024	0.846	pCi/L	---	No	Yes	20	pCi/L	No
Uranium-235/236	RD-63	RMHF	Dissolved	02/23/2024	0.547	pCi/L	---	No	Yes	20	pCi/L	No
Uranium-235/236	RD-95	Tritium Plume	Total	02/16/2024	1.16	pCi/L	---	Yes	Yes	20	pCi/L	No
Uranium-238	DS-45	B4064 Leachfield	Dissolved	02/12/2024	3.26	pCi/L	---	Yes	Yes	20	pCi/L	No
Uranium-238	DS-45	B4064 Leachfield	Total	02/12/2024	3.28	pCi/L	---	Yes	Yes	20	pCi/L	No
Uranium-238	DS-47	B4064 Leachfield	Dissolved	02/12/2024	1.97	pCi/L	---	No	Yes	20	pCi/L	No
Uranium-238	PZ-116	RMHF	Total	02/26/2024	13.9	pCi/L	---	Yes	Yes	20	pCi/L	No
Uranium-238	PZ-121	HMSA/PDU	Total	02/20/2024	0.366	pCi/L	/J	Yes	Yes	20	pCi/L	No
Uranium-238	PZ-124	Bldg 56 Landfill	Dissolved	03/01/2024	30.3	pCi/L	---	No	Yes	20	pCi/L	Yes
Uranium-238	PZ-124	Bldg 56 Landfill	Total	03/01/2024	36.9	pCi/L	---	Yes	Yes	20	pCi/L	Yes
Uranium-238	RD-27	RMHF	Dissolved	02/21/2024	1.27	pCi/L	---	No	Yes	20	pCi/L	No
Uranium-238	RD-27	RMHF	Total	02/21/2024	1.26	pCi/L	---	Yes	Yes	20	pCi/L	No
Uranium-238	RD-93	Tritium Plume	Dissolved	02/22/2024	2.69	pCi/L	---	Yes	Yes	20	pCi/L	No
Uranium-238	RD-93	Tritium Plume	Total	02/22/2024	2.04	pCi/L	---	Yes	Yes	20	pCi/L	No
Uranium-238	RD-95	Tritium Plume	Dissolved	02/16/2024	13.4	pCi/L	---	Yes	Yes	20	pCi/L	No
Uranium-238	RD-95	Tritium Plume	Total	02/16/2024	14.8	pCi/L	---	Yes	Yes	20	pCi/L	No
Uranium-238	RD-96	B4057/59/626	Total	02/15/2024	7.21	pCi/L	---	No	Yes	20	pCi/L	No
Vanadium	DD-159	OCY	Dissolved	02/15/2024	5.22	ug/L	J/J	No	Yes	2.6	ug/L	Yes
Vanadium	DD-159	OCY	Total	02/15/2024	5.42	ug/L	J/J	No	Yes	2.6	ug/L	Yes
Vanadium	PZ-098	FSDF	Total	03/01/2024	10.2	ug/L	J/J	No	Yes	2.6	ug/L	Yes
Vanadium	PZ-102	B4009 Leachfield	Dissolved	02/28/2024	13.2	ug/L	J/J	No	Yes	2.6	ug/L	Yes
Vanadium	PZ-102	B4009 Leachfield	Total	02/28/2024	15.3	ug/L	J/J	No	Yes	2.6	ug/L	Yes
Vanadium	PZ-124	Bldg 56 Landfill	Total	02/13/2024	7.58	ug/L	J/J	No	Yes	2.6	ug/L	Yes
Vanadium	RD-74	Bldg 56 Landfill	Total	02/27/2024	9.03	ug/L	J/J	No	Yes	2.6	ug/L	Yes
Vanadium	RD-96	B4057/59/626	Dissolved	02/15/2024	3.93	ug/L	J/J	No	Yes	2.6	ug/L	Yes
Zinc	DD-158	OCY	Dissolved	02/14/2024	7.87	ug/L	J/J	Yes	Yes	6300	ug/L	No
Zinc	PZ-098	FSDF	Total	03/01/2024	15.8	ug/L	J/J	No	Yes	6300	ug/L	No
Zinc	PZ-102	B4009 Leachfield	Total	02/28/2024	23.7	ug/L	---	No	Yes	6300	ug/L	No
Zinc	PZ-116	RMHF	Dissolved	02/26/2024	4.25	ug/L	J/J	Yes	Yes	6300	ug/L	No
Zinc	PZ-116	RMHF	Total	02/26/2024	11.3	ug/L	J/J	No	Yes	6300	ug/L	No
Zinc	PZ-121	HMSA/PDU	Dissolved	02/20/2024	138	ug/L	---	No	Yes	6300	ug/L	No
Zinc	PZ-121	HMSA/PDU	Total	02/20/2024	505	ug/L	---	No	Yes	6300	ug/L	No
Zinc	RD-14	OCY	Total	02/14/2024	278	ug/L	---	No	Yes	6300	ug/L	No
Zinc	RD-27	RMHF	Dissolved	02/21/2024	652	ug/L	---	No	Yes	6300	ug/L	No
Zinc	RD-64	FSDF	Dissolved	02/13/2024	810	ug/L	---	No	Yes	6300	ug/L	No
Zinc	RD-64	FSDF	Total	02/13/2024	874	ug/L	---	No	Yes	6300	ug/L	No
Zinc	RD-74	Bldg 56 Landfill	Total	02/27/2024	88.1	ug/L	---	No	Yes	6300	ug/L	No

TABLE 9
FIRST TIME DETECTS AND NEW MAXIMUM CONCENTRATONS, ANNUAL 2024 - DOE AREA IV

Analyte	Well ID	GW Impacted Area	Fraction	Sample Date	Result	Units	Qualifiers	New Detection	New Max Detection	Screening Value	Units	Exceeds SV
Zinc	RD-90	Tritium Plume	Total	02/16/2024	7.01	ug/L	J/J	Yes	Yes	6300	ug/L	No
1,1-Dichloroethane	PZ-165	HMSA/PDU	Total	08/22/2024	0.56	ug/L	J/J	Yes	Yes	5	ug/L	No
1,4-Dioxane	DS-48	HMSA/PDU	Total	08/26/2024	0.231	ug/L	J/J	No	Yes	1	ug/L	No
1,4-Dioxane	PZ-120	HMSA/PDU	Total	08/26/2024	3.5	ug/L	---	No	Yes	1	ug/L	Yes
1,4-Dioxane	PZ-162	HMSA/PDU	Total	08/21/2024	0.537	ug/L	---	No	Yes	1	ug/L	No
1,4-Dioxane	PZ-164	HMSA/PDU	Total	08/22/2024	0.0674	ug/L	J/J	Yes	Yes	1	ug/L	No
1,4-Dioxane	PZ-165	HMSA/PDU	Total	08/22/2024	2.93	ug/L	---	Yes	Yes	1	ug/L	Yes
1,4-Dioxane	PZ-166	HMSA/PDU	Total	08/23/2024	0.294	ug/L	J/J	Yes	Yes	1	ug/L	No
1,4-Dioxane	PZ-167	HMSA/PDU	Total	08/23/2024	0.132	ug/L	J/J	Yes	Yes	1	ug/L	No
1,4-Dioxane	PZ-168	HMSA/PDU	Total	08/23/2024	0.064	ug/L	J/J	Yes	Yes	1	ug/L	No
1,4-Dioxane	PZ-169	HMSA/PDU	Total	08/23/2024	0.201	ug/L	J/J	Yes	Yes	1	ug/L	No
1,4-Dioxane	RD-27	RMHF	Total	08/29/2024	0.0476	ug/L	J/J	Yes	Yes	1	ug/L	No
2-butanone	PZ-124	Bldg 56 Landfill	Total	08/30/2024	3.8	ug/L	J/J	Yes	Yes	3800	ug/L	No
2-butanone	PZ-166	HMSA/PDU	Total	08/23/2024	2.25	ug/L	J/J	Yes	Yes	3800	ug/L	No
2-butanone	PZ-167	HMSA/PDU	Total	08/23/2024	2.02	ug/L	J/J	Yes	Yes	3800	ug/L	No
Acetone	PZ-041	HMSA/PDU	Total	08/22/2024	3.41	ug/L	J/J	No	Yes	20000	ug/L	No
Acetone	PZ-124	Bldg 56 Landfill	Total	08/30/2024	4.11	ug/L	J/J	Yes	Yes	20000	ug/L	No
Acetone	PZ-164	HMSA/PDU	Total	08/22/2024	2.02	ug/L	J/J	Yes	Yes	20000	ug/L	No
Acetone	PZ-165	HMSA/PDU	Total	08/22/2024	2.3	ug/L	J/J	Yes	Yes	20000	ug/L	No
Acetone	PZ-166	HMSA/PDU	Total	08/23/2024	2.6	ug/L	J/J	Yes	Yes	20000	ug/L	No
Acetone	PZ-167	HMSA/PDU	Total	08/23/2024	2.05	ug/L	J/J	Yes	Yes	20000	ug/L	No
Acetone	PZ-169	HMSA/PDU	Total	08/23/2024	3.3	ug/L	J/J	Yes	Yes	20000	ug/L	No
Arsenic	PZ-164	HMSA/PDU	Dissolved	08/22/2024	3.51	ug/L	J/J	Yes	Yes	7.7	ug/L	No
Arsenic	PZ-164	HMSA/PDU	Total	08/22/2024	7.33	ug/L	---	Yes	Yes	7.7	ug/L	No
Arsenic	PZ-165	HMSA/PDU	Dissolved	08/22/2024	3.31	ug/L	J/J	Yes	Yes	7.7	ug/L	No
Arsenic	PZ-165	HMSA/PDU	Total	08/22/2024	3.22	ug/L	J/J	Yes	Yes	7.7	ug/L	No
Arsenic	PZ-166	HMSA/PDU	Dissolved	08/23/2024	9.46	ug/L	---	Yes	Yes	7.7	ug/L	Yes
Arsenic	PZ-166	HMSA/PDU	Total	08/23/2024	9.34	ug/L	---	Yes	Yes	7.7	ug/L	Yes
Arsenic	PZ-167	HMSA/PDU	Dissolved	08/23/2024	3.53	ug/L	J/J	Yes	Yes	7.7	ug/L	No
Arsenic	PZ-167	HMSA/PDU	Total	08/23/2024	4.95	ug/L	J/J	Yes	Yes	7.7	ug/L	No
Arsenic	PZ-168	HMSA/PDU	Dissolved	08/23/2024	2.67	ug/L	J/J	Yes	Yes	7.7	ug/L	No
Arsenic	PZ-168	HMSA/PDU	Total	08/23/2024	4.37	ug/L	J/J	Yes	Yes	7.7	ug/L	No
Arsenic	PZ-169	HMSA/PDU	Dissolved	08/23/2024	2.1	ug/L	J/J	Yes	Yes	7.7	ug/L	No
Arsenic	PZ-169	HMSA/PDU	Total	08/23/2024	3.15	ug/L	J/J	Yes	Yes	7.7	ug/L	No
Barium	DS-44	DOE Leachfield	Dissolved	08/20/2024	74.1	ug/L	---	No	Yes	150	ug/L	No
Barium	DS-44	DOE Leachfield	Total	08/20/2024	80	ug/L	---	No	Yes	150	ug/L	No
Barium	PZ-116	RMHF	Dissolved	08/28/2024	24.8	ug/L	---	No	Yes	150	ug/L	No
Barium	PZ-121	HMSA/PDU	Dissolved	08/26/2024	95.4	ug/L	---	No	Yes	150	ug/L	No
Barium	PZ-121	HMSA/PDU	Total	08/26/2024	93.4	ug/L	---	No	Yes	150	ug/L	No
Barium	PZ-164	HMSA/PDU	Dissolved	08/22/2024	70	ug/L	---	Yes	Yes	150	ug/L	No
Barium	PZ-164	HMSA/PDU	Total	08/22/2024	159	ug/L	---	Yes	Yes	150	ug/L	Yes
Barium	PZ-165	HMSA/PDU	Dissolved	08/22/2024	14	ug/L	---	Yes	Yes	150	ug/L	No
Barium	PZ-165	HMSA/PDU	Total	08/22/2024	16.2	ug/L	---	Yes	Yes	150	ug/L	No
Barium	PZ-166	HMSA/PDU	Dissolved	08/23/2024	6.18	ug/L	---	Yes	Yes	150	ug/L	No
Barium	PZ-166	HMSA/PDU	Total	08/23/2024	9.72	ug/L	---	Yes	Yes	150	ug/L	No
Barium	PZ-167	HMSA/PDU	Dissolved	08/23/2024	8.64	ug/L	---	Yes	Yes	150	ug/L	No
Barium	PZ-167	HMSA/PDU	Total	08/23/2024	41.5	ug/L	---	Yes	Yes	150	ug/L	No
Barium	PZ-168	HMSA/PDU	Dissolved	08/23/2024	15.5	ug/L	---	Yes	Yes	150	ug/L	No

TABLE 9
FIRST TIME DETECTS AND NEW MAXIMUM CONCENTRATONS, ANNUAL 2024 - DOE AREA IV

Analyte	Well ID	GW Impacted Area	Fraction	Sample Date	Result	Units	Qualifiers	New Detection	New Max Detection	Screening Value	Units	Exceeds SV
Barium	PZ-168	HMSA/PDU	Total	08/23/2024	50	ug/L	---	Yes	Yes	150	ug/L	No
Barium	PZ-169	HMSA/PDU	Dissolved	08/23/2024	29.4	ug/L	---	Yes	Yes	150	ug/L	No
Barium	PZ-169	HMSA/PDU	Total	08/23/2024	46.4	ug/L	---	Yes	Yes	150	ug/L	No
Barium	RD-27	RMHF	Total	08/29/2024	73.2	ug/L	---	No	Yes	150	ug/L	No
Barium	RD-94	Tritium Plume	Dissolved	08/28/2024	29.5	ug/L	---	No	Yes	150	ug/L	No
Barium	RD-94	Tritium Plume	Total	08/28/2024	30.4	ug/L	---	No	Yes	150	ug/L	No
Beryllium	PZ-164	HMSA/PDU	Total	08/22/2024	0.517	ug/L	---	Yes	Yes	0.14	ug/L	Yes
Beryllium	PZ-167	HMSA/PDU	Total	08/23/2024	0.214	ug/L	J/J	Yes	Yes	0.14	ug/L	Yes
Beryllium	PZ-168	HMSA/PDU	Total	08/23/2024	0.234	ug/L	J/J	Yes	Yes	0.14	ug/L	Yes
Cadmium	PZ-103	MC/DOE Leach	Total	08/20/2024	1.8	ug/L	---	No	Yes	0.2	ug/L	Yes
Cadmium	PZ-164	HMSA/PDU	Total	08/22/2024	0.331	ug/L	J/J	Yes	Yes	0.2	ug/L	Yes
Chromium	PZ-108	HMSA/PDU	Dissolved	08/26/2024	3.51	ug/L	J/J	No	Yes	14	ug/L	No
Chromium	PZ-162	HMSA/PDU	Total	08/21/2024	4.07	ug/L	J/J	No	Yes	14	ug/L	No
Chromium	PZ-164	HMSA/PDU	Total	08/22/2024	39.4	ug/L	---	Yes	Yes	14	ug/L	Yes
Chromium	PZ-167	HMSA/PDU	Total	08/23/2024	11.2	ug/L	---	Yes	Yes	14	ug/L	No
Chromium	PZ-168	HMSA/PDU	Total	08/23/2024	11.4	ug/L	---	Yes	Yes	14	ug/L	No
Chromium	PZ-169	HMSA/PDU	Total	08/23/2024	5.59	ug/L	J/J	Yes	Yes	14	ug/L	No
cis-1,2-Dichloroethene	PZ-165	HMSA/PDU	Total	08/22/2024	0.46	ug/L	J/J	Yes	Yes	6	ug/L	No
Cobalt	DD-159	OCY	Dissolved	08/19/2024	0.354	ug/L	J/J	No	Yes	1.9	ug/L	No
Cobalt	DD-159	OCY	Total	08/19/2024	1.19	ug/L	---	No	Yes	1.9	ug/L	No
Cobalt	DS-44	DOE Leachfield	Total	08/20/2024	1.52	ug/L	---	No	Yes	1.9	ug/L	No
Cobalt	PZ-116	RMHF	Dissolved	08/28/2024	2.2	ug/L	---	No	Yes	1.9	ug/L	Yes
Cobalt	PZ-116	RMHF	Total	08/28/2024	4.25	ug/L	---	No	Yes	1.9	ug/L	Yes
Cobalt	PZ-121	HMSA/PDU	Dissolved	08/26/2024	2.69	ug/L	---	No	Yes	1.9	ug/L	Yes
Cobalt	PZ-164	HMSA/PDU	Dissolved	08/22/2024	1.06	ug/L	---	Yes	Yes	1.9	ug/L	No
Cobalt	PZ-164	HMSA/PDU	Total	08/22/2024	5.9	ug/L	---	Yes	Yes	1.9	ug/L	Yes
Cobalt	PZ-166	HMSA/PDU	Dissolved	08/23/2024	0.896	ug/L	J/J	Yes	Yes	1.9	ug/L	No
Cobalt	PZ-166	HMSA/PDU	Total	08/23/2024	1.2	ug/L	---	Yes	Yes	1.9	ug/L	No
Cobalt	PZ-167	HMSA/PDU	Total	08/23/2024	1.99	ug/L	---	Yes	Yes	1.9	ug/L	Yes
Cobalt	PZ-168	HMSA/PDU	Total	08/23/2024	2.23	ug/L	---	Yes	Yes	1.9	ug/L	Yes
Cobalt	PZ-169	HMSA/PDU	Total	08/23/2024	1.46	ug/L	---	Yes	Yes	1.9	ug/L	No
Cobalt	RD-94	Tritium Plume	Dissolved	08/28/2024	0.481	ug/L	J/J	No	Yes	1.9	ug/L	No
Copper	DD-159	OCY	Dissolved	08/19/2024	1.81	ug/L	J/J	No	Yes	4.7	ug/L	No
Copper	DD-159	OCY	Total	08/19/2024	1.49	ug/L	J/J	No	Yes	4.7	ug/L	No
Copper	PZ-098	FSDF	Total	08/21/2024	6.38	ug/L	---	No	Yes	4.7	ug/L	Yes
Copper	PZ-103	MC/DOE Leach Field 3	Dissolved	08/20/2024	2.42	ug/L	---	No	Yes	4.7	ug/L	No
Copper	PZ-104	DOE Leachfield 3	Total	08/20/2024	0.447	ug/L	J/J	Yes	Yes	4.7	ug/L	No
Copper	PZ-108	HMSA/PDU	Dissolved	08/26/2024	1.64	ug/L	J/J	No	Yes	4.7	ug/L	No
Copper	PZ-162	HMSA/PDU	Dissolved	08/21/2024	0.75	ug/L	J/J	No	Yes	4.7	ug/L	No
Copper	PZ-162	HMSA/PDU	Total	08/21/2024	1.89	ug/L	J/J	No	Yes	4.7	ug/L	No
Copper	PZ-163	HMSA/PDU	Dissolved	08/21/2024	1.4	ug/L	J/J	No	Yes	4.7	ug/L	No
Copper	PZ-164	HMSA/PDU	Dissolved	08/22/2024	0.357	ug/L	J/J	Yes	Yes	4.7	ug/L	No
Copper	PZ-164	HMSA/PDU	Total	08/22/2024	11.9	ug/L	---	Yes	Yes	4.7	ug/L	Yes
Copper	PZ-165	HMSA/PDU	Dissolved	08/22/2024	1.77	ug/L	J/J	Yes	Yes	4.7	ug/L	No
Copper	PZ-165	HMSA/PDU	Total	08/22/2024	1.83	ug/L	J/J	Yes	Yes	4.7	ug/L	No
Copper	PZ-166	HMSA/PDU	Dissolved	08/23/2024	1.52	ug/L	J/J	Yes	Yes	4.7	ug/L	No
Copper	PZ-166	HMSA/PDU	Total	08/23/2024	1.95	ug/L	J/J	Yes	Yes	4.7	ug/L	No

TABLE 9
FIRST TIME DETECTS AND NEW MAXIMUM CONCENTRATONS, ANNUAL 2024 - DOE AREA IV

Analyte	Well ID	GW Impacted Area	Fraction	Sample Date	Result	Units	Qualifiers	New Detection	New Max Detection	Screening Value	Units	Exceeds SV
Copper	PZ-167	HMSA/PDU	Dissolved	08/23/2024	1.18	ug/L	J/J	Yes	Yes	4.7	ug/L	No
Copper	PZ-167	HMSA/PDU	Total	08/23/2024	4.75	ug/L	---	Yes	Yes	4.7	ug/L	Yes
Copper	PZ-168	HMSA/PDU	Dissolved	08/23/2024	1.94	ug/L	J/J	Yes	Yes	4.7	ug/L	No
Copper	PZ-168	HMSA/PDU	Total	08/23/2024	4.52	ug/L	---	Yes	Yes	4.7	ug/L	No
Copper	PZ-169	HMSA/PDU	Dissolved	08/23/2024	0.911	ug/L	J/J	Yes	Yes	4.7	ug/L	No
Copper	PZ-169	HMSA/PDU	Total	08/23/2024	2.84	ug/L	---	Yes	Yes	4.7	ug/L	No
Copper	RD-74	Bldg 56 Landfill	Dissolved	08/27/2024	1.41	ug/L	J/J	No	Yes	4.7	ug/L	No
Copper	RS-28	RMHF	Dissolved	08/30/2024	1.15	ug/L	J/J	No	Yes	4.7	ug/L	No
Diesel Range Organics	DD-158	OCY	Total	08/19/2024	71.8	ug/L	J/J	Yes	Yes	100	ug/L	No
Diesel Range Organics	DD-159	OCY	Total	08/19/2024	86.9	ug/L	J/J	Yes	Yes	100	ug/L	No
Diesel Range Organics	DS-44	DOE Leachfield	Total	08/20/2024	141	ug/L	J/J	Yes	Yes	100	ug/L	Yes
Diesel Range Organics	PZ-116	RMHF	Total	08/28/2024	74.3	ug/L	J/J	Yes	Yes	100	ug/L	No
Diesel Range Organics	PZ-124	Bldg 56 Landfill	Total	08/30/2024	323	ug/L	---	Yes	Yes	100	ug/L	Yes
Diesel Range Organics	RD-27	RMHF	Total	08/29/2024	89.9	ug/L	J/J	Yes	Yes	100	ug/L	No
Gasoline Range Organics	PZ-163	HMSA/PDU	Total	08/21/2024	54.6	ug/L	J/J	No	Yes	5	ug/L	Yes
Gasoline Range Organics	RD-07	Bldg 56 Landfill	Total	08/27/2024	21.8	ug/L	J/J	Yes	Yes	5	ug/L	Yes
Gasoline Range Organics	RD-64	FSDF	Total	08/22/2024	51.5	ug/L	J/J	No	Yes	5	ug/L	Yes
Lead	PZ-162	HMSA/PDU	Total	08/21/2024	0.528	ug/L	J/J	Yes	Yes	11	ug/L	No
Lead	PZ-164	HMSA/PDU	Total	08/22/2024	4.3	ug/L	---	Yes	Yes	11	ug/L	No
Lead	PZ-167	HMSA/PDU	Total	08/23/2024	2.04	ug/L	---	Yes	Yes	11	ug/L	No
Lead	PZ-168	HMSA/PDU	Total	08/23/2024	2.37	ug/L	---	Yes	Yes	11	ug/L	No
Lead	PZ-169	HMSA/PDU	Total	08/23/2024	1.1	ug/L	J/J	Yes	Yes	11	ug/L	No
Nickel	DD-159	OCY	Dissolved	08/19/2024	2.34	ug/L	---	No	Yes	17	ug/L	No
Nickel	DD-159	OCY	Total	08/19/2024	2.78	ug/L	---	No	Yes	17	ug/L	No
Nickel	PZ-041	HMSA/PDU	Dissolved	08/22/2024	1.08	ug/L	J/J	No	Yes	17	ug/L	No
Nickel	PZ-103	MC/DOE Leach Field 3	Total	08/20/2024	12.1	ug/L	---	No	Yes	17	ug/L	No
Nickel	PZ-108	HMSA/PDU	Dissolved	08/26/2024	9.16	ug/L	---	No	Yes	17	ug/L	No
Nickel	PZ-116	RMHF	Dissolved	08/28/2024	6.72	ug/L	---	No	Yes	17	ug/L	No
Nickel	PZ-116	RMHF	Total	08/28/2024	8.18	ug/L	---	No	Yes	17	ug/L	No
Nickel	PZ-162	HMSA/PDU	Dissolved	08/21/2024	1.43	ug/L	J/J	No	Yes	17	ug/L	No
Nickel	PZ-162	HMSA/PDU	Total	08/21/2024	2.77	ug/L	---	No	Yes	17	ug/L	No
Nickel	PZ-163	HMSA/PDU	Dissolved	08/21/2024	1.38	ug/L	J/J	No	Yes	17	ug/L	No
Nickel	PZ-164	HMSA/PDU	Dissolved	08/22/2024	5.5	ug/L	---	Yes	Yes	17	ug/L	No
Nickel	PZ-164	HMSA/PDU	Total	08/22/2024	16.2	ug/L	---	Yes	Yes	17	ug/L	No
Nickel	PZ-165	HMSA/PDU	Dissolved	08/22/2024	1.7	ug/L	J/J	Yes	Yes	17	ug/L	No
Nickel	PZ-165	HMSA/PDU	Total	08/22/2024	1.96	ug/L	J/J	Yes	Yes	17	ug/L	No
Nickel	PZ-166	HMSA/PDU	Dissolved	08/23/2024	61.4	ug/L	---	Yes	Yes	17	ug/L	Yes
Nickel	PZ-166	HMSA/PDU	Total	08/23/2024	62.2	ug/L	---	Yes	Yes	17	ug/L	Yes
Nickel	PZ-167	HMSA/PDU	Dissolved	08/23/2024	3.27	ug/L	---	Yes	Yes	17	ug/L	No
Nickel	PZ-167	HMSA/PDU	Total	08/23/2024	8.3	ug/L	---	Yes	Yes	17	ug/L	No
Nickel	PZ-168	HMSA/PDU	Dissolved	08/23/2024	0.963	ug/L	J/J	Yes	Yes	17	ug/L	No
Nickel	PZ-168	HMSA/PDU	Total	08/23/2024	5.72	ug/L	---	Yes	Yes	17	ug/L	No

TABLE 9
FIRST TIME DETECTS AND NEW MAXIMUM CONCENTRATONS, ANNUAL 2024 - DOE AREA IV

Analyte	Well ID	GW Impacted Area	Fraction	Sample Date	Result	Units	Qualifiers	New Detection	New Max Detection	Screening Value	Units	Exceeds SV
Nickel	PZ-169	HMSA/PDU	Dissolved	08/23/2024	1.7	ug/L	J/J	Yes	Yes	17	ug/L	No
Nickel	PZ-169	HMSA/PDU	Total	08/23/2024	4.67	ug/L	---	Yes	Yes	17	ug/L	No
Nickel	RD-07	Bldg 56 Landfill	Total	08/27/2024	0.889	ug/L	J/J	No	Yes	17	ug/L	No
Nickel	RD-74	Bldg 56 Landfill	Dissolved	08/27/2024	9.72	ug/L	---	No	Yes	17	ug/L	No
Nickel	RD-94	Tritium Plume	Dissolved	08/28/2024	0.895	ug/L	J/J	Yes	Yes	17	ug/L	No
Nickel	RD-94	Tritium Plume	Total	08/28/2024	0.997	ug/L	J/J	Yes	Yes	17	ug/L	No
Selenium	DD-158	OCY	Dissolved	08/19/2024	4.24	ug/L	J/J	No	Yes	1.6	ug/L	Yes
Selenium	DD-158	OCY	Total	08/19/2024	3.63	ug/L	J/J	Yes	Yes	1.6	ug/L	Yes
Selenium	DD-159	OCY	Dissolved	08/19/2024	6.12	ug/L	---	Yes	Yes	1.6	ug/L	Yes
Selenium	DD-159	OCY	Total	08/19/2024	5.37	ug/L	---	Yes	Yes	1.6	ug/L	Yes
Selenium	PZ-005	DOE Leachfield 3	Dissolved	08/28/2024	2.12	ug/L	J/J	No	Yes	1.6	ug/L	Yes
Selenium	PZ-005	DOE Leachfield 3	Total	08/28/2024	2.36	ug/L	J/J	No	Yes	1.6	ug/L	Yes
Selenium	PZ-105	DOE Leachfield 3	Total	08/21/2024	2.97	ug/L	J/J	No	Yes	1.6	ug/L	Yes
Selenium	PZ-168	HMSA/PDU	Dissolved	08/23/2024	1.52	ug/L	J/J	Yes	Yes	1.6	ug/L	No
Selenium	PZ-168	HMSA/PDU	Total	08/23/2024	2.58	ug/L	J/J	Yes	Yes	1.6	ug/L	Yes
Sodium	DD-143	RMHF	Total	08/29/2024	65100	ug/L	---	No	Yes	190000	ug/L	No
Sodium	DD-159	OCY	Dissolved	08/19/2024	41600	ug/L	---	No	Yes	190000	ug/L	No
Sodium	DD-159	OCY	Total	08/19/2024	40300	ug/L	---	No	Yes	190000	ug/L	No
Sodium	PZ-121	HMSA/PDU	Dissolved	08/26/2024	168000	ug/L	---	No	Yes	190000	ug/L	No
Sodium	PZ-121	HMSA/PDU	Total	08/26/2024	177000	ug/L	---	No	Yes	190000	ug/L	No
Sodium	PZ-162	HMSA/PDU	Total	08/21/2024	64000	ug/L	---	No	Yes	190000	ug/L	No
Sodium	PZ-164	HMSA/PDU	Dissolved	08/22/2024	137000	ug/L	---	Yes	Yes	190000	ug/L	No
Sodium	PZ-164	HMSA/PDU	Total	08/22/2024	148000	ug/L	---	Yes	Yes	190000	ug/L	No
Sodium	PZ-165	HMSA/PDU	Dissolved	08/22/2024	80600	ug/L	---	Yes	Yes	190000	ug/L	No
Sodium	PZ-165	HMSA/PDU	Total	08/22/2024	81200	ug/L	---	Yes	Yes	190000	ug/L	No
Sodium	PZ-166	HMSA/PDU	Dissolved	08/23/2024	83900	ug/L	---	Yes	Yes	190000	ug/L	No
Sodium	PZ-166	HMSA/PDU	Total	08/23/2024	87600	ug/L	---	Yes	Yes	190000	ug/L	No
Sodium	PZ-167	HMSA/PDU	Dissolved	08/23/2024	59900	ug/L	---	Yes	Yes	190000	ug/L	No
Sodium	PZ-167	HMSA/PDU	Total	08/23/2024	60000	ug/L	---	Yes	Yes	190000	ug/L	No
Sodium	PZ-168	HMSA/PDU	Dissolved	08/23/2024	66100	ug/L	---	Yes	Yes	190000	ug/L	No
Sodium	PZ-168	HMSA/PDU	Total	08/23/2024	66400	ug/L	---	Yes	Yes	190000	ug/L	No
Sodium	PZ-169	HMSA/PDU	Dissolved	08/23/2024	57600	ug/L	---	Yes	Yes	190000	ug/L	No
Sodium	PZ-169	HMSA/PDU	Total	08/23/2024	58300	ug/L	---	Yes	Yes	190000	ug/L	No
Sodium	RD-30	RMHF	Dissolved	08/29/2024	61500	ug/L	---	No	Yes	190000	ug/L	No
Sodium	RD-30	RMHF	Total	08/29/2024	58100	ug/L	---	Yes	Yes	190000	ug/L	No
Sodium	RD-94	Tritium Plume	Dissolved	08/28/2024	53700	ug/L	---	Yes	Yes	190000	ug/L	No
Sodium	RD-94	Tritium Plume	Total	08/28/2024	53700	ug/L	---	Yes	Yes	190000	ug/L	No
Sodium	RD-98	RMHF	Dissolved	08/30/2024	52300	ug/L	---	No	Yes	190000	ug/L	No
Sodium	RD-98	RMHF	Total	08/30/2024	51400	ug/L	---	No	Yes	190000	ug/L	No
Tin	PZ-164	HMSA/PDU	Total	08/22/2024	3.03	ug/L	J/J	Yes	Yes	2.4	ug/L	Yes
Tin	PZ-167	HMSA/PDU	Total	08/23/2024	1.34	ug/L	J/J	Yes	Yes	2.4	ug/L	No
Tin	PZ-168	HMSA/PDU	Total	08/23/2024	1.51	ug/L	J/J	Yes	Yes	2.4	ug/L	No
Tin	RD-74	Bldg 56 Landfill	Dissolved	08/27/2024	1.03	ug/L	J/J	Yes	Yes	2.4	ug/L	No
Trichloroethene	PZ-122	HMSA/PDU	Total	08/27/2024	3.08	ug/L	---	No	Yes	5	ug/L	No
Trichloroethene	PZ-165	HMSA/PDU	Total	08/22/2024	9.75	ug/L	---	Yes	Yes	5	ug/L	Yes
Trichloroethene	PZ-166	HMSA/PDU	Total	08/23/2024	0.67	ug/L	J/J	Yes	Yes	5	ug/L	No
Trichloroethene	PZ-168	HMSA/PDU	Total	08/23/2024	1.71	ug/L	---	Yes	Yes	5	ug/L	No

TABLE 9
FIRST TIME DETECTS AND NEW MAXIMUM CONCENTRATONS, ANNUAL 2024 - DOE AREA IV

Analyte	Well ID	GW Impacted Area	Fraction	Sample Date	Result	Units	Qualifiers	New Detection	New Max Detection	Screening Value	Units	Exceeds SV
Trichloroethene	PZ-169	HMSA/PDU	Total	08/23/2024	2.84	ug/L	---	Yes	Yes	5	ug/L	No
Vanadium	DD-159	OCY	Total	08/19/2024	6.01	ug/L	J/J	No	Yes	2.6	ug/L	Yes
Vanadium	DS-44	DOE Leachfield	Dissolved	08/20/2024	4.25	ug/L	J/J	No	Yes	2.6	ug/L	Yes
Vanadium	DS-44	DOE Leachfield	Total	08/20/2024	5.58	ug/L	J/J	No	Yes	2.6	ug/L	Yes
Vanadium	PZ-116	RMHF	Dissolved	08/28/2024	3.62	ug/L	J/J	No	Yes	2.6	ug/L	Yes
Vanadium	PZ-116	RMHF	Total	08/28/2024	3.63	ug/L	J/J	No	Yes	2.6	ug/L	Yes
Vanadium	PZ-164	HMSA/PDU	Total	08/22/2024	31	ug/L	---	Yes	Yes	2.6	ug/L	Yes
Vanadium	PZ-165	HMSA/PDU	Dissolved	08/22/2024	4.06	ug/L	J/J	Yes	Yes	2.6	ug/L	Yes
Vanadium	PZ-165	HMSA/PDU	Total	08/22/2024	4.54	ug/L	J/J	Yes	Yes	2.6	ug/L	Yes
Vanadium	PZ-166	HMSA/PDU	Dissolved	08/23/2024	8.13	ug/L	J/J	Yes	Yes	2.6	ug/L	Yes
Vanadium	PZ-166	HMSA/PDU	Total	08/23/2024	9.11	ug/L	J/J	Yes	Yes	2.6	ug/L	Yes
Vanadium	PZ-167	HMSA/PDU	Dissolved	08/23/2024	5.86	ug/L	J/J	Yes	Yes	2.6	ug/L	Yes
Vanadium	PZ-167	HMSA/PDU	Total	08/23/2024	16.6	ug/L	J/J	Yes	Yes	2.6	ug/L	Yes
Vanadium	PZ-168	HMSA/PDU	Dissolved	08/23/2024	5.53	ug/L	J/J	Yes	Yes	2.6	ug/L	Yes
Vanadium	PZ-168	HMSA/PDU	Total	08/23/2024	16.5	ug/L	J/J	Yes	Yes	2.6	ug/L	Yes
Vanadium	PZ-169	HMSA/PDU	Dissolved	08/23/2024	4.28	ug/L	J/J	Yes	Yes	2.6	ug/L	Yes
Vanadium	PZ-169	HMSA/PDU	Total	08/23/2024	11.3	ug/L	J/J	Yes	Yes	2.6	ug/L	Yes
Zinc	DD-159	OCY	Dissolved	08/19/2024	4.23	ug/L	J/J	Yes	Yes	6300	ug/L	No
Zinc	DD-159	OCY	Total	08/19/2024	5.86	ug/L	J/J	No	Yes	6300	ug/L	No
Zinc	PZ-116	RMHF	Dissolved	08/28/2024	7.25	ug/L	J/J	No	Yes	6300	ug/L	No
Zinc	PZ-163	HMSA/PDU	Dissolved	08/21/2024	5.9	ug/L	J/J	No	Yes	6300	ug/L	No
Zinc	PZ-164	HMSA/PDU	Total	08/22/2024	65.9	ug/L	---	Yes	Yes	6300	ug/L	No
Zinc	PZ-165	HMSA/PDU	Dissolved	08/22/2024	3.91	ug/L	J/J	Yes	Yes	6300	ug/L	No
Zinc	PZ-165	HMSA/PDU	Total	08/22/2024	5.05	ug/L	J/J	Yes	Yes	6300	ug/L	No
Zinc	PZ-166	HMSA/PDU	Total	08/23/2024	4.04	ug/L	J/J	Yes	Yes	6300	ug/L	No
Zinc	PZ-167	HMSA/PDU	Total	08/23/2024	20.7	ug/L	---	Yes	Yes	6300	ug/L	No
Zinc	PZ-168	HMSA/PDU	Dissolved	08/23/2024	4.13	ug/L	J/J	Yes	Yes	6300	ug/L	No
Zinc	PZ-168	HMSA/PDU	Total	08/23/2024	25.8	ug/L	---	Yes	Yes	6300	ug/L	No
Zinc	PZ-169	HMSA/PDU	Total	08/23/2024	15.8	ug/L	J/J	Yes	Yes	6300	ug/L	No

Notes and Abbreviations:

Results from wells installed after 2017 are not included in this table due to insufficient data for establishing baseline trends.
--- - none
/ - separates lab qualifiers from data validation flags
B - Blank contamination
H - Analytical holding time exceeded
J - Result is an estimated quantity. Associated numerical value is approximate concentration of analyte in sample
mrem/yr - millirem per year
N/A - not applicable
pCi/L - picocuries per liter
Q - LCS recovery not within control limits
SV - screening value
U - Analyzed for, but not detected above reported sample quantitation limit. Result shown is the Method Detection Limit.
ug/L - micrograms per liter

Table 10
Volatile Organic Compounds Analytical Results, 1Q and 3Q 2024 -
AreaIV Santa Susana Field Laboratory, Ventura County, CA

				Analyte	1,1,1-Trichloroethane	1,1,2-trichloro-1,2,2-trifluoroethane	1,1,2-trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	1,4-Dioxane	2-butanone	Acetone	Benzene	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethene	Ethylbenzene	Methylene chloride	m-xylene & p-xylene	o-Xylene (1,2-dimethyl-benzene)
				Method	SW8260D	SW8260D	SW8260D	SW8260D	SW8260D	SW8260D	SW8270E SIM	SW8260D	SW8260D	SW8260D	SW8260D	SW8260D	SW8260D	SW8260D	SW8260D	SW8260D	SW8260D
				Units	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Well Identifier	**GW Impact**	**Sample Name**	**Sample Date**	**Fraction**																	
DD-139	FSDF	DD-139_082924_01_L	08/29/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 J / U	0.5 U / U	0.333 U / U
DD-140	FSDF	DD-140_022924_01_L	02/29/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**2.36 h / J**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
DD-141	Bldg 56 Landfill	DD-141_021324_01_L	02/13/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 J / U	1.67 U / U	1.74 JB / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
DD-143	RMHF	DD-143_082924_01_L	08/29/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.134 J / J**	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 J / U	0.5 U / U	0.333 U / U
DD-144	HMSA	DD-144_082724_01_L	08/27/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.53 /**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**7.75 /**	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
DD-147	HMSA	DD-147_022324_01_L	02/23/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.762 /**	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 / U	0.5 U / U	0.333 U / U
DD-158	OCY	DD-158_021424_01_L	02/14/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 J / U	0.5 U / U	0.333 U / U
DD-158	OCY	DD-158_081924_01_L	08/19/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
DD-159	OCY	DD-159_021524_01_L	02/15/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 J / U	0.5 U / U	0.333 U / U
DD-159	OCY	DD-159_081924_01_L	08/19/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
DS-43	B4057/59/626	DS-43_021924_01_L	02/19/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.0400 J / U	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 UJ / UJ	0.500 U / U	0.500 UJ / UJ	0.333 U / U
DS-44	DOE Leachfield	DS-44_082024_01_L	08/20/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
DS-45	B4064 Leachfield	DS-45_081924_01_L	08/19/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
DS-46	FSDF	DS-46_022924_01_L	02/29/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**3.96 /**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
DS-47	B4064 Leachfield	DS-47_081924_01_L	08/19/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
DS-48	HMSA	DS-48_082624_01_L	08/26/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.231 J / J**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**6.12 /**	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-005	Bldg 65 Metals Clarifier	PZ-005_082824_01_L	08/28/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-041	HMSA	PZ-041_082224_01_L	08/22/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	1.67 U / U	**3.41 J / J**	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-098	FSDF	PZ-098_030124_01_L	03/01/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	**0.39 J / J**	0.333 U / U	**1.76 /**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-098	FSDF	PZ-098_082124_01_L	08/21/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	**0.54 J / J**	0.333 U / U	**1.35 /**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-102	B4009 Leachfield	PZ-102_022824_01_L	02/28/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-103	Bldg 65 Metals Clarifier	PZ-103_082024_01_L	08/20/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.137 J / J**	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-104	Bldg 65 Metals Clarifier	PZ-104_082024_01_L	08/20/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.0876 J / J**	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-105	Bldg 65 Metals Clarifier	PZ-105_082124_01_L	08/21/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-108	HMSA	PZ-108_082624_01_L	08/26/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.191 J / J**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**11.3 /**	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-109	B4057/59/626	PZ-109_021924_01_L	02/19/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.0400 J / U	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	**9.45 /**	0.333 U / U	0.500 U / U	0.500 U / U	0.333 U / U
PZ-109	B4057/59/626	PZ-109_082024_01_L	08/20/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.053 J / J**	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	**7.77 /**	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-116	RMHF	PZ-116_022624_01_L	02/26/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.133 J / J**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-116	RMHF	PZ-116_082824_01_L	08/28/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.0592 J / J**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-120	HMSA	PZ-120_082624_01_L	08/26/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	**0.7 J / J**	0.333 U / U	0.333 U / U	**3.5 /**	1.67 U / U	**1.96 J / J**	0.333 U / U	0.333 U / U	0.333 U / U	**1.42 /**	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-121	HMSA	PZ-121_022024_01_L	02/20/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 J / U	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-121	HMSA	PZ-121_082624_01_L	08/26/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-122	HMSA	PZ-122_082724_01_L	08/27/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.0944 J / J**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-124	Bldg 56 Landfill	PZ-124_021324_01_L	02/13/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 J / U	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-124	Bldg 56 Landfill	PZ-124_083024_01_L	08/30/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	**3.8 J / J**	**4.11 J / J**	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-162	HMSA	PZ-162_082124_01_L	08/21/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.537 /**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-163	HMSA	PZ-163_082124_01_L	08/21/2024	NA	0.333 U / U	**11.1 /**	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.97 /**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**9.36 /**	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-164	HMSA	PZ-164_082224_01_L	08/22/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.0674 J / J**	1.67 U / U	**2.02 J / J**	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-165	HMSA	PZ-165_082224_01_L	08/22/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	**0.56 J / J**	0.333 U / U	0.333 U / U	**2.93 /**	1.67 U / U	**2.3 J / J**	0.333 U / U	0.333 U / U	0.333 U / U	**0.46 J / J**	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-166	HMSA	PZ-166_082324_01_L	08/23/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.294 J / J**	**2.25 J / J**	**2.6 J / J**	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-167	HMSA	PZ-167_082324_01_L	08/23/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.132 J / J**	**2.02 J / J**	**2.05 J / J**	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-168	HMSA	PZ-168_082324_01_L	08/23/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.064 J / J**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
PZ-169	HMSA	PZ-169_082324_01_L	08/23/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.201 J / J**	1.67 U / U	**3.3 J / J**	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
RD-07	Bldg 56 Landfill	RD-07_021424_01_L	02/14/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	**2.27 /**	0.333 U / U	0.5 J / U	0.5 U / U	0.333 U / U
RD-07	Bldg 56 Landfill	RD-07_082724_01_L	08/27/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**3.77 /**	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
RD-14	OCY	RD-14_021424_01_L	02/14/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 J / U	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 J / U	0.5 U / U	0.333 U / U
RD-20	B4100 Trench	RD-20_022724_01_L	02/27/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.104 J / J**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
RD-27	RMHF	RD-27_022124_01_L	02/21/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 J / U	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
RD-27	RMHF	RD-27_082924_01_L	08/29/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.0476 J / J**	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 J / U	0.5 U / U	0.333 U / U
RD-30	RMHF	RD-30_082924_01_L	08/29/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.285 J /**	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 J / U	0.5 U / U	0.333 U / U
RD-34A	RMHF	RD-34A_022224_01_L	02/22/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 J / U	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
RD-34B	RMHF	RD-34B_022124_01_L	02/21/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 J / U	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
RD-63	RMHF	RD-63_022324_01_L	02/23/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	**0.38 J / J**	0.333 U / U	**1.09 /**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**2.48 /**	0.333 U / U	0.5 / U	0.5 U / U	0.333 U / U
RD-63	RMHF	RD-63_082824_01_L	08/28/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	**0.36 J / J**	**0.38 J / J**	0.333 U / U	**1.16 /**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**2.6 /**	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
RD-64	FSDF	RD-64_021324_01_L	02/13/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**1.41 /**	1.67 U / U	1.74 JB / U	0.333 U / U	0.333 U / U	0.333 U / U	**6.41 /**	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
RD-64	FSDF	RD-64_082224_01_L	08/22/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	**0.51 J / J**	**2.08 /**	0.333 U / U	**2.85 /**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**15.4 /**	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
RD-74	Bldg 56 Landfill	RD-74_022724_01_L	02/27/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.107 J / J**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
RD-74	Bldg 56 Landfill	RD-74_082724_01_L	08/27/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
RD-87	Tritium Plume	RD-87_022324_01_L	02/23/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.238 J / J**	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
RD-88	Tritium Plume	RD-88_021624_01_L	02/16/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.2 U / U	1.67 U / U	1.74 / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 J / U	0.5 U / U	0.333 U / U
RD-90	Tritium Plume	RD-90_021624_01_L	02/16/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	**0.49 J / J**	**3.48 /**	0.333 U / U	**9.15 B /**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 J / U	0.5 U / U	0.333 U / U
RD-93	Tritium Plume	RD-93_022224_01_L	02/22/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.754 /**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
RD-94	Tritium Plume	RD-94_022324_01_L	02/23/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.523 /**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 J / U	0.5 U / U	0.333 U / U
RD-94	Tritium Plume	RD-94_082824_01_L	08/28/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.48 /**	1.67 U / U	1.74 J / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
RD-95	Tritium Plume	RD-95_021624_01_L	02/16/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**4.77 B /**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 J / U	0.5 U / U	0.333 U / U
RD-96	B4057/59/626	RD-96_021524_01_L	02/15/2024	NA	0.333 U / U	2.98 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.04 U / U	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
RD-98	RMHF	RD-98_083024_01_L	08/30/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.0988 J / J**	1.67 U / U	**2.18 J / J**	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U
RS-28	RMHF	RS-28_083024_01_L	08/30/2024	NA	0.333 U / U	1.67 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.437 /**	1.67 U / U	1.74 U / U	0.333 U / U	0.333 U / U	0.333 U / U	**0.49 J / J**	0.333 U / U	0.5 U / U	0.5 U / U	0.333 U / U

NOTES AND ABBREVIATIONS
/ - separates lab qualifiers from data validation flags
All non-detection values are reported using the Method Detection Limit (MDL)
ug/l - micrograms/liter
---- - Not analyzed
LAB / VALIDATION QUALIFIERS
B - Blank Contamination
h - Sample preparation or preservation holding time exceeded.
J - Result is an estimated quantity. Associated numerical value is approximate concentration of analyte in sample.
U - Analyzed for, but not detected above reported sample quantitation limit.
UJ- The result is estimated non-detect at the reported concentration

Table 10
Volatile Organic Compounds Analytical Results, 1Q and 3Q 2024 - AreaIV Santa Susana Field Laboratory, Ventura County, CA

				Analyte	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	Trichloroethene	Trichlorofluoromethane	Vinyl chloride
				Method	SW8260D	SW8260D	SW8260D	SW8260D	SW8260D	SW8260D
				Units	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Well Identifier	**GW Impact**	**Sample Name**	**Sample Date**	**Fraction**						
DD-139	FSDF	DD-139_082924_01_L	08/29/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
DD-140	FSDF	DD-140_022924_01_L	02/29/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**1.65 /**	0.333 U / U	0.333 U / U
DD-141	Bldg 56 Landfill	DD-141_021324_01_L	02/13/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
DD-143	RMHF	DD-143_082924_01_L	08/29/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
DD-144	HMSA	DD-144_082724_01_L	08/27/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**62.4 /**	0.333 U / U	0.333 U / U
DD-147	HMSA	DD-147_022324_01_L	02/23/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
DD-158	OCY	DD-158_021424_01_L	02/14/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
DD-158	OCY	DD-158_081924_01_L	08/19/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
DD-159	OCY	DD-159_021524_01_L	02/15/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
DD-159	OCY	DD-159_081924_01_L	08/19/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
DS-43	B4057/59/626	DS-43_021924_01_L	02/19/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
DS-44	DOE Leachfield	DS-44_082024_01_L	08/20/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
DS-45	B4064 Leachfield	DS-45_081924_01_L	08/19/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
DS-46	FSDF	DS-46_022924_01_L	02/29/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**0.98 J / J**	0.333 U / U	0.333 U / U
DS-47	B4064 Leachfield	DS-47_081924_01_L	08/19/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
DS-48	HMSA	DS-48_082624_01_L	08/26/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**16.2 /**	0.333 U / U	0.333 U / U
PZ-005	Bldg 65 Metals Clarifier	PZ-005_082824_01_L	08/28/2024	NA	**0.4 J / J**	0.333 U / U	0.333 U / U	**1.88 /**	0.333 U / U	0.333 U / U
PZ-041	HMSA	PZ-041_082224_01_L	08/22/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
PZ-098	FSDF	PZ-098_030124_01_L	03/01/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**6.62 /**	0.333 U / U	0.333 U / U
PZ-098	FSDF	PZ-098_082124_01_L	08/21/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**8.04 /**	0.333 U / U	0.333 U / U
PZ-102	B4009 Leachfield	PZ-102_022824_01_L	02/28/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
PZ-103	Bldg 65 Metals Clarifier	PZ-103_082024_01_L	08/20/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
PZ-104	Bldg 65 Metals Clarifier	PZ-104_082024_01_L	08/20/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
PZ-105	Bldg 65 Metals Clarifier	PZ-105_082124_01_L	08/21/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**5.11 /**	0.333 U / U	0.333 U / U
PZ-108	HMSA	PZ-108_082624_01_L	08/26/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**114 /**	0.333 U / U	0.333 U / U
PZ-109	B4057/59/626	PZ-109_021924_01_L	02/19/2024	NA	**22.5 /**	0.333 U / U	0.333 U / U	**8.73 /**	0.333 U / U	0.333 U / U
PZ-109	B4057/59/626	PZ-109_082024_01_L	08/20/2024	NA	**22 /**	0.333 U / U	0.333 U / U	**5.65 /**	0.333 U / U	0.333 U / U
PZ-116	RMHF	PZ-116_022624_01_L	02/26/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
PZ-116	RMHF	PZ-116_082824_01_L	08/28/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
PZ-120	HMSA	PZ-120_082624_01_L	08/26/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**11.1 /**	0.333 U / U	0.333 U / U
PZ-121	HMSA	PZ-121_022024_01_L	02/20/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
PZ-121	HMSA	PZ-121_082624_01_L	08/26/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
PZ-122	HMSA	PZ-122_082724_01_L	08/27/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**3.08 /**	0.333 U / U	0.333 U / U
PZ-124	Bldg 56 Landfill	PZ-124_021324_01_L	02/13/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
PZ-124	Bldg 56 Landfill	PZ-124_083024_01_L	08/30/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
PZ-162	HMSA	PZ-162_082124_01_L	08/21/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**3.44 /**	0.333 U / U	0.333 U / U
PZ-163	HMSA	PZ-163_082124_01_L	08/21/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**121 H / J**	0.333 U / U	0.333 U / U
PZ-164	HMSA	PZ-164_082224_01_L	08/22/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
PZ-165	HMSA	PZ-165_082224_01_L	08/22/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**9.75 /**	0.333 U / U	0.333 U / U
PZ-166	HMSA	PZ-166_082324_01_L	08/23/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**0.67 J / J**	0.333 U / U	0.333 U / U
PZ-167	HMSA	PZ-167_082324_01_L	08/23/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
PZ-168	HMSA	PZ-168_082324_01_L	08/23/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**1.71 /**	0.333 U / U	0.333 U / U
PZ-169	HMSA	PZ-169_082324_01_L	08/23/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**2.84 /**	0.333 U / U	0.333 U / U
RD-07	Bldg 56 Landfill	RD-07_021424_01_L	02/14/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**28 /**	0.333 U / U	0.333 U / U
RD-07	Bldg 56 Landfill	RD-07_082724_01_L	08/27/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**48.2 /**	0.333 U / U	0.333 U / U
RD-14	OCY	RD-14_021424_01_L	02/14/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**1.87 /**	0.333 U / U	0.333 U / U
RD-20	B4100 Trench	RD-20_022724_01_L	02/27/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
RD-27	RMHF	RD-27_022124_01_L	02/21/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
RD-27	RMHF	RD-27_082924_01_L	08/29/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
RD-30	RMHF	RD-30_082924_01_L	08/29/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**2.85 /**	0.333 U / U	0.333 U / U
RD-34A	RMHF	RD-34A_022224_01_L	02/22/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**0.35 J / J**	0.333 U / U	0.333 U / U
RD-34B	RMHF	RD-34B_022124_01_L	02/21/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
RD-63	RMHF	RD-63_022324_01_L	02/23/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**3.75 /**	0.333 U / U	0.333 U / U
RD-63	RMHF	RD-63_082824_01_L	08/28/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**3.51 /**	0.333 U / U	0.333 U / U
RD-64	FSDF	RD-64_021324_01_L	02/13/2024	NA	0.333 U / U	0.333 U / U	**0.79 J / J**	**38.3 /**	0.333 U / U	0.333 U / U
RD-64	FSDF	RD-64_082224_01_L	08/22/2024	NA	0.333 U / U	0.333 U / U	**0.92 J / J**	**124 / J**	0.333 U / U	0.333 U / U
RD-74	Bldg 56 Landfill	RD-74_022724_01_L	02/27/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
RD-74	Bldg 56 Landfill	RD-74_082724_01_L	08/27/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
RD-87	Tritium Plume	RD-87_022324_01_L	02/23/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
RD-88	Tritium Plume	RD-88_021624_01_L	02/16/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
RD-90	Tritium Plume	RD-90_021624_01_L	02/16/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
RD-93	Tritium Plume	RD-93_022224_01_L	02/22/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
RD-94	Tritium Plume	RD-94_022324_01_L	02/23/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
RD-94	Tritium Plume	RD-94_082824_01_L	08/28/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
RD-95	Tritium Plume	RD-95_021624_01_L	02/16/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
RD-96	B4057/59/626	RD-96_021524_01_L	02/15/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U	0.333 U / U
RD-98	RMHF	RD-98_083024_01_L	08/30/2024	NA	0.333 U / U	0.333 U / U	0.333 U / U	**0.37 J / J**	0.333 U / U	0.333 U / U
RS-28	RMHF	RS-28_083024_01_L	08/30/2024	NA	**0.64 J / J**	0.333 U / U	0.333 U / U	**6.03 /**	0.333 U / U	0.333 U / U

NOTES AND ABBREVIATIONS
/ - separates lab qualifiers from data validation flags
All non-detection values are reported using the Method Detection Limit (MDL)
ug/l - micrograms/liter
---- - Not analyzed

LAB / VALIDATION QUALIFIERS
B - Blank Contamination
h - Sample preparation or preservation holding time exceeded.
J - Result is an estimated quantity. Associated numerical value is approximate concentration of analyte in sample.
U - Analyzed for, but not detected above reported sample quantitation limit.
UJ- The result is estimated non-detect at the reported concentration

Table 11
Perchlorate Analytical Results, 1Q and 3Q 2024 -
Area IV Santa Susana Field Laboratory, Ventura County, CA

				Analyte	Perchlorate
				Method	SW6850
				Units	ug/l
Well Identifier	**GW Impact**	**Sample Name**	**Sample Date**	**Fraction**	
PZ-098	FSDF	PZ-098_082124_01_L	08/21/2024	NA	**0.915 J / J**
PZ-164	HMSA	PZ-164_082224_01_L	08/22/2024	NA	0.05 U / U

NOTES AND ABBREVIATIONS

/ - separates lab qualifiers from data validation flags
All non-detection values are reported using the Method Detection Limit (MDL)
ug/l - micrograms/liter
---- - Not analyzed

LAB / VALIDATION QUALIFIERS

J - Result is an estimated quantity. Associated numerical value is approximate concentration of analyte in sample.
U - Analyzed for, but not detected above reported sample quantitation limit.

Table 12
DRO and/or GRO Analytical Results, 1Q and 3Q 2024 - AreaIV Santa Susana Field Laboratory, Ventura County, CA

				Analyte	Diesel Range Organics	Gasoline Range Organics
				Method	SW8015D	SW8015D
				Units	ug/l	ug/l
Well Identifier	**GW Impact**	**Sample Name**	**Sample Date**	**Fraction**		
DD-139	FSDF	DD-139_082924_01_L	08/29/2024	NA	71.4 UQ / UJ	16.7 U / U
DD-140	FSDF	DD-140_022924_01_L	02/29/2024	NA	**114 JQ / J-**	16.7 U / U
DD-143	RMHF	DD-143_082924_01_L	08/29/2024	NA	71.3 UQ / UJ	16.7 U / U
DD-144	HMSA	DD-144_082724_01_L	08/27/2024	NA	71.3 U / U	**30.4 J / J**
DD-158	OCY	DD-158_021424_01_L	02/14/2024	NA	71.3 B / U	16.7 U / U
DD-158	OCY	DD-158_081924_01_L	08/19/2024	NA	**71.8 J / J**	16.7 U / U
DD-159	OCY	DD-159_021524_01_L	02/15/2024	NA	70.9 B / U	16.7 U / U
DD-159	OCY	DD-159_081924_01_L	08/19/2024	NA	**86.9 J / J**	16.7 U / U
DS-43	B4057/59/626	DS-43_021924_01_L	02/19/2024	NA	**295 Q / J-**	16.7 U / U
DS-44	DOE Leachfield	DS-44_021524_01_L	02/15/2024	NA	70.1 JB / U	16.7 U / U
DS-44	DOE Leachfield	DS-44_082024_01_L	08/20/2024	NA	**141 J / J**	16.7 U / U
DS-45	B4064 Leachfield	DS-45_081924_01_L	08/19/2024	NA	71.2 U / UJ	16.7 U / U
DS-46	FSDF	DS-46_022924_01_L	02/29/2024	NA	**96.5 J / J**	16.7 U / U
DS-47	B4064 Leachfield	DS-47_081924_01_L	08/19/2024	NA	71.7 U / UJ	16.7 U / U
DS-48	HMSA	DS-48_082624_01_L	08/26/2024	NA	**82.1 J / J**	16.7 U / U
PZ-005	Bldg 65 Metals Clarifier	PZ-005_082824_01_L	08/28/2024	NA	72.8 U / U	16.7 U / U
PZ-041	HMSA	PZ-041_082224_01_L	08/22/2024	NA	71.3 J / U	16.7 U / U
PZ-098	FSDF	PZ-098_030124_01_L	03/01/2024	NA	**362 /**	16.7 U / U
PZ-098	FSDF	PZ-098_082124_01_L	08/21/2024	NA	75.1 J / U	16.7 U / U
PZ-103	Bldg 65 Metals Clarifier	PZ-103_082024_01_L	08/20/2024	NA	**87.2 J / J**	16.7 U / U
PZ-104	Bldg 65 Metals Clarifier	PZ-104_082024_01_L	08/20/2024	NA	**105 J / J**	16.7 U / U
PZ-105	Bldg 65 Metals Clarifier	PZ-105_082124_01_L	08/21/2024	NA	71.2 J / U	16.7 U / U
PZ-108	HMSA	PZ-108_082624_01_L	08/26/2024	NA	**77.9 J / J**	**50.5 J / J**
PZ-109	B4057/59/626	PZ-109_021924_01_L	02/19/2024	NA	**176 JQ / J-**	**17.6 J / J**
PZ-109	B4057/59/626	PZ-109_082024_01_L	08/20/2024	NA	**141 J / J**	**17 J / J**
PZ-116	RMHF	PZ-116_082824_01_L	08/28/2024	NA	**74.3 J / J**	16.7 U / U
PZ-120	HMSA	PZ-120_082624_01_L	08/26/2024	NA	**94.8 J / J**	16.7 U / U
PZ-121	HMSA	PZ-121_082624_01_L	08/26/2024	NA	**85.7 J / J**	16.7 U / U
PZ-122	HMSA	PZ-122_082724_01_L	08/27/2024	NA	71.2 U / U	16.7 U / U
PZ-124	Bldg 56 Landfill	PZ-124_083024_01_L	08/30/2024	NA	**323 /**	16.7 U / U
PZ-162	HMSA	PZ-162_082124_01_L	08/21/2024	NA	71.3 U / U	16.7 U / U
PZ-163	HMSA	PZ-163_082124_01_L	08/21/2024	NA	71.3 UQ / UJ	**54.6 J / J**
PZ-164	HMSA	PZ-164_082224_01_L	08/22/2024	NA	71.2 JQ / UJ	16.7 U / U
PZ-165	HMSA	PZ-165_082224_01_L	08/22/2024	NA	72.4 J / U	16.7 U / U
PZ-166	HMSA	PZ-166_082324_01_L	08/23/2024	NA	72 J / U	16.7 U / U
PZ-167	HMSA	PZ-167_082324_01_L	08/23/2024	NA	71.3 J / U	16.7 U / U
PZ-168	HMSA	PZ-168_082324_01_L	08/23/2024	NA	71.3 Q / UJ	16.7 U / U
PZ-169	HMSA	PZ-169_082324_01_L	08/23/2024	NA	71.1 J / U	16.7 U / U
RD-07	Bldg 56 Landfill	RD-07_082724_01_L	08/27/2024	NA	71.3 U / U	**21.8 J / J**
RD-14	OCY	RD-14_021424_01_L	02/14/2024	NA	70.1 JB / U	16.7 U / U
RD-27	RMHF	RD-27_082924_01_L	08/29/2024	NA	**89.9 J / J**	16.7 U / U
RD-30	RMHF	RD-30_082924_01_L	08/29/2024	NA	72 U / U	16.7 U / U
RD-34A	RMHF	RD-34A_022224_01_L	02/22/2024	NA	70.5 U / U	16.7 U / U
RD-63	RMHF	RD-63_082824_01_L	08/28/2024	NA	71.3 U / U	16.7 U / U
RD-64	FSDF	RD-64_021324_01_L	02/13/2024	NA	71.5 JB / U	**22.4 J / J**
RD-64	FSDF	RD-64_082224_01_L	08/22/2024	NA	70.9 UQ / UJ	**51.5 J / J**
RD-74	Bldg 56 Landfill	RD-74_082724_01_L	08/27/2024	NA	72.2 U / U	16.7 U / U
RD-94	Tritium Plume	RD-94_082824_01_L	08/28/2024	NA	71.1 U / U	16.7 U / U
RD-96	B4057/59/626	RD-96_021524_01_L	02/15/2024	NA	71.3 JB / U	16.7 U / U
RD-98	RMHF	RD-98_083024_01_L	08/30/2024	NA	71.4 U / U	16.7 U / U
RS-28	RMHF	RS-28_083024_01_L	08/30/2024	NA	72 UQ / UJ	16.7 U / U

NOTES AND ABBREVIATIONS

/ - separates lab qualifiers from data validation flags

All non-detection values are reported using the Method Detection Limit (MDL)

ug/l - micrograms/liter

---- - Not analyzed

LAB / VALIDATION QUALIFIERS

B - Blank Contamination

J - Result is an estimated quantity. Associated numerical value is approximate concentration of analyte in sample.

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

Q - LCS recovery not within control limits

U - Analyzed for, but not detected above reported sample quantitation limit.

UJ- The result is estimated non-detect at the reported concentration

Table 13
Fluoride and Nitrate Analytical Results, 1Q and 3Q 2024 - Area IV Santa Susana Field Laboratory, Ventura County, CA

				Analyte	Fluoride	Nitrate
				Method	E300	E300
				Units	mg/l	mg/l
Well Identifier	**GW Impact**	**Sample Name**	**Sample Date**	**Fraction**		
PZ-109	B4057/59/626	PZ-109_021924_01_L	02/19/2024	NA	**0.625 /**	--
RD-20	B4100 Trench	RD-20_022724_01_L	02/27/2024	NA	--	**16.2 J / J**

NOTES AND ABBREVIATIONS

/ - separates lab qualifiers from data validation flags
All non-detection values are reported using the Method Detection Limit (MDL)
mg/l - milligrams per liter
---- - Not analyzed

LAB / VALIDATION QUALIFIERS

J - Result is an estimated quantity. Associated numerical value is approximate concentration of analyte in sample.

Table 14
Radio Chemical Analytical Results, 1Q and 3Q 2024 - AreaIV Santa Susana Field Laboratory, Ventura County, CA

				Analyte	Actinium-228	Americium-241	Antimony-125	Barium-133	Cesium-134	Cesium-137	Cobalt-57	Cobalt-60	Europium-152	Europium-154	Europium-155	Gross Alpha	Gross Beta	Manganese-54	Potassium-40	Ra-226 - total	Ra-228 - total	Sodium-22
				Method	E901.1	E901.1	E901.1	E901.1	E901.1	E901.1	E901.1	E901.1	E901.1	E901.1	E901.1	E900	E900	E901.1	E901.1	E903.1	E904	E901.1
				Units	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
Well Identifier	**GW Impact**	**Sample Name**	**Sample Date**	**Fraction**																		
DD-143	RMHF	DD-143_082924_01_L	08/29/2024	Total	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
DD-143	RMHF	DD-143_082924_01_L Dissolve	08/29/2024	Dissolved	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
DD-147	HMSA	DD-147_022324_01_L	02/23/2024	Total	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
DS-44	DOE Leachfield	DS-44_021524_01_L	02/15/2024	Total	31.7 U / U	33.4 U / U	16.1 U / U	7.30 U / U	6.26 U / U	7.17 U / U	4.20 U / U	7.57 U / U	15.1 U / U	16.5 U / U	17.8 U / U	**7.17 /**	**9.85 / J**	6.44 U / U	94.9 U / U	**2.06 /**	1.63 U / U	5.81 U / U
DS-44	DOE Leachfield	DS-44_021524_01_L Dissolved	02/15/2024	Dissolved	31.7 U / U	51.5 U / U	16.8 U / U	7.18 U / U	6.52 U / U	5.82 U / U	5.11 U / U	9.01 U / U	16.7 U / U	19.2 U / U	20.9 U / U	**4.84 /**	**7.26 / J**	6.36 U / U	86.2 U / U	**0.583 /**	**1.85 /**	6.68 U / U
DS-45	B4064 Leachfield	DS-45_021224_01_L	02/12/2024	Total	31.9 U / U	43.3 U / U	16.8 U / U	7.27 U / U	7.44 U / U	6.81 U / U	4.33 U / U	7.86 U / U	17.9 U / U	20.2 U / U	21.9 U / U	**8.74 /**	**4.59 / J**	6.60 U / U	64.3 U / U	**0.336 /**	**1.54 /**	7.05 U / U
DS-45	B4064 Leachfield	DS-45_021224_01_L Dissolved	02/12/2024	Dissolved	34.0 U / U	7.48 U / U	16.5 U / U	6.88 U / U	7.28 U / U	7.65 U / U	3.42 U / U	7.91 U / U	16.9 U / U	22.4 U / U	12.9 U / U	**7.73 /**	**5.61 / J**	6.23 U / U	75.0 U / U	0.342 U / U	**4.53 /**	7.86 U / U
DS-47	B4064 Leachfield	DS-47_021224_01_L	02/12/2024	Total	26.9 U / U	27.3 U / U	14.1 U / U	6.47 U / U	8.38 U / U	6.45 U / U	4.11 U / U	7.96 U / U	15.7 U / U	21.6 U / U	19.0 U / U	**3.34 /**	**5.56 / J**	5.62 U / U	118 U / U	**0.849 /**	1.73 U / U	7.54 U / U
DS-47	B4064 Leachfield	DS-47_021224_01_L Dissolved	02/12/2024	Dissolved	26.3 U / U	57.3 U / U	16.0 U / U	8.00 U / U	8.57 U / U	6.71 U / U	5.07 U / U	7.64 U / U	17.1 U / U	18.2 U / U	26.2 U / U	**5.34 /**	**5.54 / J**	7.36 U / U	111 U / UJ	**1.09 /**	1.26 U / U	6.34 U / U
PZ-116	RMHF	PZ-116_022624_01_L	02/26/2024	Total	39.2 U / U	44.1 U / U	17.0 U / U	8.68 U / U	7.62 U / U	6.62 U / U	5.43 U / U	9.51 U / U	19.0 U / U	20.6 U / U	24.1 U / U	**26.4 /**	**25.1 / J**	8.02 U / U	120 U / U	0.627 U / U	1.47 U / U	7.44 U / U
PZ-116	RMHF	PZ-116_022624_01_L Dissolved	02/26/2024	Dissolved	29.0 U / U	56.0 U / U	17.8 U / U	8.03 U / U	8.00 U / U	7.01 U / U	5.70 U / U	8.93 U / U	18.7 U / U	21.1 U / U	22.9 U / U	**18.0 /**	**7.77 / J**	5.88 U / U	115 U / U	**0.711 /**	1.60 U / U	7.46 U / U
PZ-116	RMHF	PZ-116-082824_01_L	08/28/2024	Total	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PZ-116	RMHF	PZ-116-082824_01_L Dissolve	08/28/2024	Dissolved	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PZ-121	HMSA	PZ-121_022024_01_L	02/20/2024	Total	32.4 U / U	42.9 U / U	19.9 U / U	7.10 U / U	8.05 U / U	8.51 U / U	5.49 U / U	8.49 U / U	19.4 U / U	21.0 U / U	20.9 U / U	2.39 U / U	**6.28 / J**	5.70 U / U	81.3 U / U	0.549 U / U	3.36 U / U	7.46 U / U
PZ-121	HMSA	PZ-121_022024_01_L Dissolved	02/20/2024	Dissolved	26.1 U / U	17.5 U / U	13.8 U / U	6.82 U / U	6.59 U / U	6.58 U / U	4.06 U / U	7.00 U / U	14.8 U / U	16.4 U / U	15.0 U / U	1.43 U / U	**4.14 / J**	4.96 U / U	54.6 U / U	0.497 U / U	2.16 U / U	5.83 U / U
PZ-124	Bldg 56 Landfill	PZ-124_030124_01_L	03/01/2024	Total	34.1 U / U	7.60 U / U	14.5 U / U	7.21 U / U	7.23 U / U	6.51 UI / UJ	3.52 U / U	7.91 U / U	14.5 U / U	23.7 U / U	12.1 U / U	**49.3 /**	**37.5 / J**	7.61 U / U	110 U / U	**0.532 /**	2.36 U / U	8.27 U / U
PZ-124	Bldg 56 Landfill	PZ-124_030124_01_L_DISSOLVED	03/01/2024	Dissolved	35.1 U / U	17.2 U / U	21.0 U / U	8.91 U / U	8.37 U / U	9.85 U / U	5.87 U / U	9.72 U / U	20.9 U / U	23.2 U / U	22.3 U / U	**36.6 /**	**36.1 / J**	10.5 U / U	103 U / U	0.679 U / U	1.89 U / U	8.19 U / U
RD-07	Bldg 56 Landfill	RD-07_021424_01_L	02/14/2024	Total	36.4 U / U	64.9 U / U	22.0 U / U	9.14 U / U	9.65 U / U	7.83 U / U	6.06 U / U	11.6 U / U	23.5 U / U	25.3 U / U	25.5 U / U	**6.50 /**	**6.60 / J**	5.63 UI / UJ	103 U / U	**0.641 /**	1.11 U / U	8.95 U / U
RD-07	Bldg 56 Landfill	RD-07_021424_01_L Dissolved	02/14/2024	Dissolved	42.5 U / U	13.6 U / U	22.3 U / U	10.5 U / U	10.5 U / U	9.88 U / U	5.11 U / U	8.66 U / U	24.5 U / U	30.0 U / U	17.3 U / U	**6.01 /**	**9.26 / J**	9.90 U / U	124 U / U	**2.11 /**	0.890 U / U	10.6 U / U
RD-19	B4133	RD-19_022024_01_L	02/20/2024	Total	30.9 U / U	34.2 U / U	19.8 U / U	8.28 U / U	7.54 U / U	5.43 U / U	4.62 U / U	7.30 U / U	19.4 U / U	19.3 U / U	20.4 U / U	**20.2 /**	**16.2 / J**	7.06 U / U	85.7 U / U	0.411 U / UJ	2.75 U / U	6.63 U / U
RD-19	B4133	RD-19_022024_01_L Dissolved	02/20/2024	Dissolved	31.2 U / U	23.5 U / U	17.5 U / U	7.13 U / U	7.38 U / U	6.13 U / U	4.56 U / U	7.54 U / U	16.7 U / U	19.0 U / U	18.3 U / U	**18.6 /**	**15.7 / J**	6.74 U / U	94.4 U / U	**0.825 /**	2.35 U / U	6.64 U / U
RD-24	B4057/59/626	RD-24_021224_01_L	02/12/2024	Total	28.3 U / U	14.4 U / U	15.8 U / U	6.22 U / U	6.89 U / U	5.25 U / U	3.99 U / U	5.64 U / U	15.4 U / U	15.2 U / U	15.6 U / U	3.21 U / U	**5.74 / J**	6.08 U / U	48.5 U / U	**0.410 /**	1.66 U / U	5.34 U / U
RD-24	B4057/59/626	RD-24_021224_01_L Dissolved	02/12/2024	Dissolved	28.9 U / U	12.9 U / U	14.8 U / U	6.65 U / U	6.25 U / U	6.49 U / U	3.80 U / U	6.43 U / U	13.7 U / U	12.3 U / U	15.1 U / U	2.07 U / U	**2.52 / J**	5.12 U / U	65.6 U / U	0.754 U / U	1.52 U / U	4.16 U / U
RD-27	RMHF	RD-27_022124_01_L	02/21/2024	Total	39.6 U / U	55.8 U / U	17.7 U / U	8.94 U / U	9.69 UI / UJ	7.53 U / U	4.78 U / U	8.91 U / U	21.0 U / U	24.1 U / U	22.2 U / U	**6.03 /**	**8.22 / J**	7.92 U / U	143 U / U	**0.825 /**	1.84 U / U	8.59 U / U
RD-27	RMHF	RD-27_022124_01_L Dissolved	02/21/2024	Dissolved	29.2 U / U	30.1 U / U	19.0 U / U	8.04 U / U	6.31 U / U	7.05 U / U	4.38 U / U	9.09 U / U	18.4 U / U	24.8 U / U	18.5 U / U	3.40 U / U	3.87 U / UJ	7.22 U / U	79.9 U / U	**1.53 /**	1.68 U / U	8.84 U / U
RD-27	RMHF	RD-27_082924_01_L	08/29/2024	Total	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RD-27	RMHF	RD-27_082924_01_L Dissolve	08/29/2024	Dissolved	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RD-30	RMHF	RD-30_082924_01_L	08/29/2024	Total	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RD-30	RMHF	RD-30_082924_01_L Dissolve	08/29/2024	Dissolved	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RD-34A	RMHF	RD-34A_022224_01_L	02/22/2024	Total	31.2 U / U	29.2 U / U	16.2 U / U	6.56 U / U	6.47 U / U	6.42 U / U	4.37 U / U	6.28 U / U	16.1 U / U	18.0 U / U	19.9 U / U	**21.8 /**	**10.8 / J**	5.42 U / U	84.8 U / U	0.489 U / U	1.18 U / U	6.40 U / U
RD-34A	RMHF	RD-34A_022224_01_L Dissolved	02/22/2024	Dissolved	33.6 U / U	55.5 U / U	20.8 U / U	8.17 U / U	9.55 U / U	7.11 U / U	5.25 U / U	9.73 U / U	20.5 U / U	23.9 U / U	21.3 U / U	**17.9 /**	**11.5 / J**	6.46 U / U	120 U / U	**1.81 /**	1.38 U / U	8.27 U / U
RD-34B	RMHF	RD-34B_022124_01_L	02/21/2024	Total	29.0 U / U	26.4 U / U	15.9 U / U	6.56 U / U	6.51 U / U	6.78 U / U	3.97 UI / UJ	9.35 U / U	17.3 U / U	13.2 U / U	16.2 U / U	3.48 U / U	4.33 U / UJ	6.51 U / U	91.5 U / U	0.547 U / U	2.30 U / UJ	4.75 U / U
RD-34B	RMHF	RD-34B_022124_01_L Dissolved	02/21/2024	Dissolved	31.1 U / U	52.6 U / U	18.6 U / U	8.02 U / U	7.57 U / U	7.43 U / U	5.32 U / U	6.46 U / U	20.5 U / U	24.9 U / U	23.5 U / U	3.26 U / U	3.61 U / UJ	7.44 U / U	89.8 U / U	0.588 U / U	1.28 U / U	8.73 U / U
RD-63	RMHF	RD-63_022324_01_L	02/23/2024	Total	41.0 U / U	60.6 U / U	21.3 U / U	7.75 U / U	8.97 U / U	7.64 U / U	5.74 U / U	9.28 U / U	20.3 U / U	19.2 U / U	25.3 U / U	**16.3 /**	**16.5 / J**	8.44 U / U	70.0 U / U	**2.24 /**	**1.80 /**	6.61 U / U
RD-63	RMHF	RD-63_022324_01_L Dissolved	02/23/2024	Dissolved	30.1 U / U	26.6 U / U	17.1 U / U	6.80 U / U	6.99 U / U	5.33 U / U	3.96 U / U	7.19 U / U	16.8 U / U	21.4 U / U	18.4 U / U	**7.06 /**	**10.1 / J**	7.45 U / U	120 U / U	**1.02 /**	**2.33 /**	7.79 U / U
RD-63	RMHF	RD-63_082824_01_L	08/28/2024	Total	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RD-63	RMHF	RD-63_082824_01_L Dissolve	08/28/2024	Dissolved	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RD-87	Tritium Plume	RD-87_022324_01_L	02/23/2024	Total	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RD-88	Tritium Plume	RD-88_021624_01_L	02/16/2024	Total	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RD-90	Tritium Plume	RD-90_021624_01_L	02/16/2024	Total	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RD-93	Tritium Plume	RD-93_022224_01_L	02/22/2024	Total	31.2 U / U	20.9 U / U	16.5 U / U	7.27 U / U	7.41 U / U	5.69 U / U	4.35 U / U	7.97 U / U	15.6 U / U	19.4 U / U	17.0 U / U	**9.92 /**	**9.86 / J**	6.11 U / U	**79.9 /**	**0.862 /**	2.24 U / UJ	6.84 U / U
RD-93	Tritium Plume	RD-93_022224_01_L Dissolved	02/22/2024	Dissolved	23.7 U / U	25.4 U / U	13.2 U / U	6.86 U / U	5.51 U / U	5.84 U / U	4.31 U / U	6.24 U / U	15.8 U / U	17.1 U / U	17.2 U / U	**5.16 /**	**3.81 / J**	5.80 U / U	86.7 U / U	**1.22 /**	1.45 U / U	5.91 U / U
RD-94	Tritium Plume	RD-94_022324_01_L	02/23/2024	Total	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RD-94	Tritium Plume	RD-94_082824_01_L	08/28/2024	Total	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RD-95	Tritium Plume	RD-95_021624_01_L	02/16/2024	Total	37.5 U / U	8.76 U / U	16.8 U / U	7.01 U / U	7.81 U / U	8.56 U / U	3.40 U / U	7.17 U / U	17.6 U / U	23.0 U / U	13.4 U / U	**22.6 /**	**14.7 / J**	6.20 U / U	124 U / U	**0.822 /**	2.43 U / U	8.12 U / U
RD-95	Tritium Plume	RD-95_021624_01_L Dissolved	02/16/2024	Dissolved	38.9 U / U	57.3 U / U	21.1 U / U	8.40 U / U	7.54 U / U	6.33 U / U	5.99 U / U	10.6 U / U	20.6 U / U	18.1 U / U	23.4 U / U	**17.6 /**	**12.0 / J**	8.76 U / U	65.8 U / U	**1.62 /**	2.50 U / U	6.66 U / U
RD-96	B4057/59/626	RD-96_021524_01_L	02/15/2024	Total	28.1 U / U	18.5 U / U	14.6 U / U	7.04 U / U	6.92 U / U	6.65 U / U	4.08 U / U	7.76 U / U	15.1 U / U	23.2 U / U	14.6 U / U	**14.1 /**	**13.3 / J**	6.23 U / U	87.8 U / U	**2.26 /**	1.74 U / U	8.05 U / U
RD-96	B4057/59/626	RD-96_021524_01_L Dissolved	02/15/2024	Dissolved	27.3 U / U	24.3 U / U	14.0 U / U	6.32 U / U	6.49 U / U	6.29 U / U	4.21 U / U	4.88 U / U	13.9 U / U	19.4 U / U	16.4 U / U	**15.9 /**	**17.4 / J**	5.13 U / U	63.7 U / U	**1.82 /**	1.57 U / U	6.87 U / U
RD-98	RMHF	RD-98_083024_01_L	08/30/2024	Total	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RD-98	RMHF	RD-98_083024_01_L Dissolve	08/30/2024	Dissolved	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RS-28	RMHF	RS-28_083024_01_L	08/30/2024	Total	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RS-28	RMHF	RS-28_083024_01_L Dissolve	08/30/2024	Dissolved	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

NOTES AND ABBREVIATIONS

/ - separates lab qualifiers from data validation flags
All non-detection values are reported using the Method Detection Limit (MDL)
pci/l - picocuries per liter
---- - Not analyzed

LAB / VALIDATION QUALIFIERS

J - Result is an estimated quantity. Associated numerical value is approximate concentration of analyte in sample.
U - Analyzed for, but not detected above reported sample quantitation limit.
UI - Results are considered a false positive due to low abundance.
UJ- The result is estimated non-detect at the reported concentration

Table 14
Radio Chemical Analytical Results, 1Q and 3Q 2024 - AreaIV Santa Susana Field Laboratory, Ventura County, CA

				Analyte	Strontium-90	Tritium (hydrogen-3)	Uranium-233/234	Uranium-235/236	Uranium-238
				Method	905.0 M	E906.0	EML300_U02MOD	EML300_U02MOD	EML300_U02MOD
				Units	pci/l	pci/l	pci/l	pci/l	pci/l
Well Identifier	**GW Impact**	**Sample Name**	**Sample Date**	**Fraction**					
DD-143	RMHF	DD-143_082924_01_L	08/29/2024	Total	1.23 U / U	---	---	---	---
DD-143	RMHF	DD-143_082924_01_L Dissolve	08/29/2024	Dissolved	1.24 U / U	---	---	---	---
DD-147	HMSA	DD-147_022324_01_L	02/23/2024	Total	---	574 U / U	---	---	---
DS-44	DOE Leachfield	DS-44_021524_01_L	02/15/2024	Total	1.79 U / U	---	**3.18 /**	0.329 U / U	**2.30 /**
DS-44	DOE Leachfield	DS-44_021524_01_L Dissolved	02/15/2024	Dissolved	1.47 U / U	---	**3.51 /**	0.413 U / U	**2.94 /**
DS-45	B4064 Leachfield	DS-45_021224_01_L	02/12/2024	Total	1.63 U / U	---	**4.47 /**	0.338 U / U	**3.28 /**
DS-45	B4064 Leachfield	DS-45_021224_01_L Dissolved	02/12/2024	Dissolved	1.90 U / U	---	**4.00 /**	0.407 U / U	**3.26 /**
DS-47	B4064 Leachfield	DS-47_021224_01_L	02/12/2024	Total	1.97 U / U	---	**2.29 /**	0.224 U / U	**1.88 /**
DS-47	B4064 Leachfield	DS-47_021224_01_L Dissolved	02/12/2024	Dissolved	1.94 U / U	---	**1.53 /**	0.398 U / U	**1.97 /**
PZ-116	RMHF	PZ-116_022624_01_L	02/26/2024	Total	1.74 U / U	---	**12.6 /**	**1.01 /**	**13.9 /**
PZ-116	RMHF	PZ-116_022624_01_L Dissolved	02/26/2024	Dissolved	1.60 U / U	---	**14.9 /**	**1.05 /**	**13.4 /**
PZ-116	RMHF	PZ-116-082824_01_L	08/28/2024	Total	1.16 U / U	---	---	---	---
PZ-116	RMHF	PZ-116-082824_01_L Dissolve	08/28/2024	Dissolved	1.33 U / U	---	---	---	---
PZ-121	HMSA	PZ-121_022024_01_L	02/20/2024	Total	1.55 U / U	563 U / U	**0.462 /**	0.278 U / U	**0.366 / J**
PZ-121	HMSA	PZ-121_022024_01_L Dissolved	02/20/2024	Dissolved	1.60 U / U	---	0.332 U / U	0.160 U / U	0.302 U / U
PZ-124	Bldg 56 Landfill	PZ-124_030124_01_L	03/01/2024	Total	1.08 U / U	---	**38.3 /**	**2.29 /**	**36.9 /**
PZ-124	Bldg 56 Landfill	PZ-124_030124_01_L_DISSOLVED	03/01/2024	Dissolved	1.52 U / U	---	**34.6 /**	**2.13 /**	**30.3 /**
RD-07	Bldg 56 Landfill	RD-07_021424_01_L	02/14/2024	Total	1.85 U / U	---	**2.74 /**	0.311 U / U	**3.19 /**
RD-07	Bldg 56 Landfill	RD-07_021424_01_L Dissolved	02/14/2024	Dissolved	1.67 U / U	---	**2.99 /**	**0.272 /**	**2.63 /**
RD-19	B4133	RD-19_022024_01_L	02/20/2024	Total	1.88 U / U	---	**13.4 /**	**1.14 /**	**11.6 /**
RD-19	B4133	RD-19_022024_01_L Dissolved	02/20/2024	Dissolved	1.44 U / U	---	**11.3 /**	**0.594 /**	**10.9 /**
RD-24	B4057/59/626	RD-24_021224_01_L	02/12/2024	Total	1.36 U / U	---	0.461 U / U	0.376 U / U	0.362 U / U
RD-24	B4057/59/626	RD-24_021224_01_L Dissolved	02/12/2024	Dissolved	2.27 U / UJ	---	0.604 U / U	0.256 U / U	0.455 U / U
RD-27	RMHF	RD-27_022124_01_L	02/21/2024	Total	1.51 U / U	---	**1.40 /**	0.202 U / U	**1.26 /**
RD-27	RMHF	RD-27_022124_01_L Dissolved	02/21/2024	Dissolved	1.60 U / U	---	**1.35 /**	**0.570 /**	**1.27 /**
RD-27	RMHF	RD-27_082924_01_L	08/29/2024	Total	1.21 U / U	---	---	---	---
RD-27	RMHF	RD-27_082924_01_L Dissolve	08/29/2024	Dissolved	1.53 U / U	---	---	---	---
RD-30	RMHF	RD-30_082924_01_L	08/29/2024	Total	1.26 U / U	---	---	---	---
RD-30	RMHF	RD-30_082924_01_L Dissolve	08/29/2024	Dissolved	1.39 U / U	---	---	---	---
RD-34A	RMHF	RD-34A_022224_01_L	02/22/2024	Total	1.69 U / U	---	**13.2 /**	**0.870 /**	**14.6 /**
RD-34A	RMHF	RD-34A_022224_01_L Dissolved	02/22/2024	Dissolved	1.28 U / U	---	**11.9 /**	**0.846 /**	**13.8 /**
RD-34B	RMHF	RD-34B_022124_01_L	02/21/2024	Total	1.26 U / U	---	0.411 U / U	0.273 U / U	0.364 U / U
RD-34B	RMHF	RD-34B_022124_01_L Dissolved	02/21/2024	Dissolved	1.23 U / U	---	0.210 U / U	0.198 U / U	0.133 U / U
RD-63	RMHF	RD-63_022324_01_L	02/23/2024	Total	1.37 U / U	---	**5.61 /**	**0.493 /**	**4.02 /**
RD-63	RMHF	RD-63_022324_01_L Dissolved	02/23/2024	Dissolved	1.64 U / U	---	**4.17 /**	**0.547 /**	**5.60 /**
RD-63	RMHF	RD-63_082824_01_L	08/28/2024	Total	1.09 U / U	---	---	---	---
RD-63	RMHF	RD-63_082824_01_L Dissolve	08/28/2024	Dissolved	1.18 U / U	---	---	---	---
RD-87	Tritium Plume	RD-87_022324_01_L	02/23/2024	Total	---	**710 /**	---	---	---
RD-88	Tritium Plume	RD-88_021624_01_L	02/16/2024	Total	---	**780 /**	---	---	---
RD-90	Tritium Plume	RD-90_021624_01_L	02/16/2024	Total	---	**20000 /**	---	---	---
RD-93	Tritium Plume	RD-93_022224_01_L	02/22/2024	Total	1.26 U / U	**5320 /**	**2.03 /**	0.189 U / U	**2.04 /**
RD-93	Tritium Plume	RD-93_022224_01_L Dissolved	02/22/2024	Dissolved	1.32 U / U	---	**2.32 /**	0.343 U / U	**2.69 /**
RD-94	Tritium Plume	RD-94_022324_01_L	02/23/2024	Total	---	**3580 /**	---	---	---
RD-94	Tritium Plume	RD-94_082824_01_L	08/28/2024	Total	---	**3410 /**	---	---	---
RD-95	Tritium Plume	RD-95_021624_01_L	02/16/2024	Total	1.91 U / U	**10300 /**	**18.3 /**	**1.16 /**	**14.8 /**
RD-95	Tritium Plume	RD-95_021624_01_L Dissolved	02/16/2024	Dissolved	1.88 U / U	---	**14.0 /**	**0.469 /**	**13.4 /**
RD-96	B4057/59/626	RD-96_021524_01_L	02/15/2024	Total	1.87 U / U	---	**5.99 /**	0.563 U / U	**7.21 /**
RD-96	B4057/59/626	RD-96_021524_01_L Dissolved	02/15/2024	Dissolved	1.55 U / U	---	**6.37 /**	0.361 U / U	**6.44 /**
RD-98	RMHF	RD-98_083024_01_L	08/30/2024	Total	**69 /**	---	---	---	---
RD-98	RMHF	RD-98_083024_01_L Dissolve	08/30/2024	Dissolved	**72.4 /**	---	---	---	---
RS-28	RMHF	RS-28_083024_01_L	08/30/2024	Total	1.97 U / U	---	---	---	---
RS-28	RMHF	RS-28_083024_01_L Dissolve	08/30/2024	Dissolved	1.66 U / U	---	---	---	---

NOTES AND ABBREVIATIONS

/ - separates lab qualifiers from data validation flags
All non-detection values are reported using the Method Detection Limit (MDL)
pci/l - picocuries per liter
---- - Not analyzed

LAB / VALIDATION QUALIFIERS

J - Result is an estimated quantity. Associated numerical value is approximate concentration of analyte in sample.
U - Analyzed for, but not detected above reported sample quantitation limit.
UI - Results are considered a false positive due to low abundance.
UJ- The result is estimated non-detect at the reported concentration

Table 15
Metals Analytical Results, 1Q and 3Q 2024 - AreaIV Santa Susana Field Laboratory, Ventura County, CA

				Analyte	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Silver	Sodium	Thallium	Tin	Vanadium	Zinc
				Method	SW6020	SW6020	SW6020	SW6020	SW6020	SW6020	SW6020	SW6020	SW6020	SW7470A	SW6020	SW6020	SW6020	SW6020	SW6020	SW6020	SW6020	SW6020
				Units	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Well Identifier	**GW Impact**	**Sample Name**	**Sample Date**	**Fraction**																		
DD-139	FSDF	DD-139_082924_01_L	08/29/2024	Total	1.00 U / U	2.00 U / U	**35.2 /**	0.200 U / U	0.300 U / U	3.00 U / U	**0.863 J / J**	**0.620 J / J**	0.500 U / U	0.0670 U / U	**2.11 /**	1.50 U / U	0.300 U / U	**33700 /**	0.600 U / U	1.00 U / U	3.30 U / U	3.30 U / U
DD-139	FSDF	DD-139_082924_01_L Dissolved	08/29/2024	Dissolved	1.00 U / U	2.00 U / U	**35.4 /**	0.200 U / U	0.300 U / U	3.00 U / U	0.300 U / U	**0.795 J / J**	0.500 U / U	0.0670 U / U	**1.71 J / J**	1.50 U / U	0.300 U / U	**33600 /**	0.600 U / U	1.00 U / U	3.30 U / U	**4.18 J / J**
DD-140	FSDF	DD-140_022924_01_L	02/29/2024	Total	1 U / U	**2.43 J / J**	**27.2 /**	0.2 U / U	0.3 U / U	3 U / U	**2.87 /**	**0.977 J / J**	0.5 U / U	0.067 U / U	**4.86 /**	1.5 U / U	0.3 U / U	**47000 /**	0.6 U / U	1 U / U	3.3 U / U	**5.39 J / J**
DD-140	FSDF	DD-140_022924_01_L Dissolved	02/29/2024	Dissolved	1 U / U	**2.09 J / J**	**27.6 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.537 J / J**	0.5 U / U	0.067 U / U	**3.87 /**	1.5 U / U	0.3 U / U	**48200 /**	0.6 U / U	1 U / U	3.3 U / U	3.3 U / U
DD-141	Bldg 56 Landfill	DD-141_021324_01_L	02/13/2024	Total	1 U / U	**2.68 J / J**	**73.3 /**	0.2 U / U	0.3 U / U	3 U / U	**0.31 J / J**	**0.717 J /**	0.5 U / U	0.067 U / U	**0.776 J / J**	1.5 U / U	0.3 U / U	**50900 /**	0.6 U / U	1 U / U	3.3 U / U	**4.62 J / J**
DD-141	Bldg 56 Landfill	DD-141_021324_01_L Dissolved	02/13/2024	Dissolved	1 U / U	**2.54 J / J**	**71.7 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.41 J / J**	0.5 U / U	0.067 U / U	0.6 U / U	1.5 U / U	0.3 U / U	**52600 /**	0.6 U / U	1 U / U	3.3 U / U	3.3 U / U
DD-143	RMHF	DD-143_082924_01_L	08/29/2024	Total	1.00 U / U	2.00 U / U	**31.7 /**	0.200 U / U	0.300 U / U	3.00 U / U	**0.599 J / J**	**0.470 J / J**	0.500 J / U	0.0670 U / U	**1.36 J / J**	1.50 U / U	0.300 U / U	**65100 /**	0.600 U / U	1.00 U / U	3.30 U / U	**3.65 J / J**
DD-143	RMHF	DD-143_082924_01_L Dissolved	08/29/2024	Dissolved	1.00 U / U	2.00 U / U	**29.7 /**	0.200 U / U	0.300 U / U	3.00 U / U	**0.425 J / J**	**0.471 J / J**	0.500 U / U	0.0670 U / U	**0.953 J / J**	1.50 U / U	0.300 U / U	**65700 /**	0.600 U / U	1.00 U / U	3.30 U / U	3.30 U / U
DD-144	HMSA	DD-144_082724_01_L	08/27/2024	Total	1 U / U	2 U / U	**56.3 /**	0.2 U / U	0.3 U / U	3 U / U	**0.376 J / J**	**0.632 J / J**	0.5 U / U	0.067 U / U	**1.63 J / J**	1.5 U / U	0.3 U / U	**58800 /**	0.6 U / U	1 U / U	3.3 U / U	3.3 U / U
DD-144	HMSA	DD-144_082724_01_L Dissolved	08/27/2024	Dissolved	1 U / U	2 U / U	**57.3 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	0.3 U / U	0.5 U / U	0.067 U / U	**1.55 J / J**	1.5 U / U	0.3 U / U	**62600 /**	0.6 U / U	1 U / U	3.3 U / U	3.3 U / U
DD-158	OCY	DD-158_021424_01_L	02/14/2024	Total	1 U / U	**2.68 J / J**	**42 /**	0.2 U / U	0.3 U / U	**3.58 J / J**	**1.16 /**	**4.96 /**	**0.635 J / J**	0.067 U / U	**3.66 /**	1.5 U / U	0.3 U / U	**42100 /**	0.6 U / U	1 U / U	**9.51 J / J**	**16.8 J / J**
DD-158	OCY	DD-158_021424_01_L Dissolved	02/14/2024	Dissolved	1 U / U	**2.28 J / J**	**35.7 /**	0.2 U / U	0.3 U / U	3 U / U	**0.484 J / J**	**2.32 /**	0.5 U / U	0.067 U / U	**2.45 /**	**1.54 J / J**	0.3 U / U	**42500 /**	0.6 U / U	1 U / U	**6.27 J / J**	**7.87 J / J**
DD-158	OCY	DD-158_081924_01_L	08/19/2024	Total	1 U / U	2 U / U	**32.2 /**	0.2 U / U	0.3 U / U	3 U / U	**0.423 J / J**	**1.02 J / J**	0.5 U / U	0.067 U / U	**2.05 /**	**3.63 J / J**	0.3 U / U	**44800 /**	0.6 U / U	1 U / U	**7.52 J / J**	**3.73 J / J**
DD-158	OCY	DD-158_081924_01_L Dissolved	08/19/2024	Dissolved	1 U / U	2 U / U	**30 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.556 J / J**	0.5 U / U	0.067 U / U	**1.56 J / J**	**4.24 J / J**	0.3 U / U	**43800 /**	0.6 U / U	1 U / U	**6.29 J / J**	3.3 U / U
DD-159	OCY	DD-159_021524_01_L	02/15/2024	Total	**1.3 J / J**	**2.97 J / J**	**41.8 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.402 J / J**	0.5 U / U	0.067 U / U	**1.48 J / J**	1.5 U / U	0.3 U / U	**32700 /**	0.6 U / U	1 U / U	**5.42 J / J**	3.3 U / U
DD-159	OCY	DD-159_021524_01_L_Dissolved	02/15/2024	Dissolved	**1.25 J / J**	**3.01 J / J**	**41.3 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.438 J / J**	0.5 U / U	0.067 U / U	**1.36 J / J**	1.5 U / U	0.3 U / U	**32500 /**	0.6 U / U	1 U / U	**5.22 J / J**	3.3 U / U
DD-159	OCY	DD-159_081924_01_L	08/19/2024	Total	1 U / U	2 U / U	**41.6 /**	0.2 U / U	0.3 U / U	3 U / U	**1.19 /**	**1.49 J / J**	0.5 U / U	0.067 U / U	**2.78 /**	**5.37 /**	0.3 U / U	**40300 /**	0.6 U / U	1 U / U	**6.01 J / J**	**5.86 J / J**
DD-159	OCY	DD-159_081924_01_L Dissolved	08/19/2024	Dissolved	1 U / U	2 U / U	**39.4 /**	0.2 U / U	0.3 U / U	3 U / U	**0.354 J / J**	**1.81 J / J**	0.5 U / U	0.067 U / U	**2.34 /**	**6.12 /**	0.3 U / U	**41600 /**	0.6 U / U	1 U / U	**4.6 J / J**	**4.23 J / J**
DS-43	B4057/59/626	DS-43_021924_01_L	02/19/2024	Total	1.00 U / U	**2.41 J / J**	**58.4 /**	0.200 U / U	0.300 U / U	3.00 U / U	**0.494 J / J**	**1.26 J / J**	**0.533 J / J**	0.0670 UJ / U	**1.59 J / J**	1.50 U / U	0.300 U / U	**117000 J /**	0.600 U / U	1.00 U / U	**3.56 J / J**	**7.30 J / J**
DS-43	B4057/59/626	DS-43_021924_01_L Dissolved	02/19/2024	Dissolved	1.00 U / U	2.00 U / U	**52.8 /**	0.200 U / U	0.300 U / U	3.00 U / U	**0.306 J / J**	**0.719 J / J**	0.500 U / U	0.0670 UJ / U	**1.26 J / J**	1.50 U / U	0.300 U / U	**116000 /**	0.600 U / U	1.00 U / U	3.30 U / U	3.30 U / U
DS-44	DOE Leachfield	DS-44_082024_01_L	08/20/2024	Total	1 U / U	2 U / U	**80 /**	0.2 U / U	0.3 U / U	3 U / U	**1.52 /**	**1.91 J / J**	**0.623 J / J**	0.067 U / U	**2.74 /**	1.5 U / U	0.3 U / U	**60800 /**	0.6 U / U	1 U / U	**5.58 J / J**	**5.79 J / J**
DS-44	DOE Leachfield	DS-44_082024_01_L Dissolved	08/20/2024	Dissolved	1 U / U	2 U / U	**74.1 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.841 J / J**	0.5 U / U	0.067 U / U	**1.28 J / J**	1.5 U / U	0.3 U / U	**58000 /**	0.6 U / U	1 U / U	**4.25 J / J**	3.3 U / U
DS-45	B4064 Leachfield	DS-45_081924_01_L	08/19/2024	Total	1 U / U	2 U / U	**29.1 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.906 J / J**	0.5 U / U	0.067 U / U	**1.91 J / J**	1.5 U / U	0.3 U / U	**36300 /**	0.6 U / U	1 U / U	**6.68 J / J**	3.3 U / U
DS-45	B4064 Leachfield	DS-45_081924_01_L Dissolved	08/19/2024	Dissolved	**1.05 J / J**	**2.31 J / J**	**28.1 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.895 J / J**	0.5 U / U	0.067 U / U	**1.74 J / J**	1.5 U / U	0.3 U / U	**37300 /**	0.6 U / U	1 U / U	**6.69 J / J**	**3.94 J / J**
DS-46	FSDF	DS-46_022924_01_L	02/29/2024	Total	1 U / U	**3.04 J / J**	**54.7 /**	0.2 U / U	0.3 U / U	3 U / U	**1.3 /**	**0.976 J / J**	0.5 U / U	**0.231 /**	**9.37 /**	1.5 U / U	0.3 U / U	**67600 /**	0.6 U / U	1 U / U	3.3 U / U	**3.71 J / J**
DS-46	FSDF	DS-46_022924_01_L Dissolved	02/29/2024	Dissolved	1 U / U	2 U / U	**41.9 /**	0.2 U / U	0.3 U / U	3 U / U	**0.932 J / J**	**0.351 J / J**	0.5 U / U	0.067 U / U	**8.54 /**	1.5 U / U	0.3 U / U	**66400 /**	0.6 U / U	1 U / U	3.3 U / U	3.3 U / U
DS-47	B4064 Leachfield	DS-47_081924_01_L	08/19/2024	Total	1 U / U	2 U / U	**46.1 /**	0.2 U / U	0.3 U / U	3 U / U	**1.61 /**	**0.797 J / J**	0.5 U / U	0.067 U / U	**1.69 J / J**	1.5 U / U	0.3 U / U	**39900 /**	0.6 U / U	1 U / U	3.3 U / U	**4.9 J / J**
DS-47	B4064 Leachfield	DS-47_081924_01_L Dissolved	08/19/2024	Dissolved	1 U / U	2 U / U	**44.5 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.651 J / J**	0.5 U / U	0.067 U / U	**1.31 J / J**	1.5 U / U	0.3 U / U	**39000 /**	0.6 U / U	1 U / U	3.3 U / U	3.3 U / U
DS-48	HMSA	DS-48_082624_01_L	08/26/2024	Total	1 U / U	2 U / U	**27.4 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.496 J / J**	0.5 U / U	0.067 U / U	**2.31 /**	1.5 U / U	0.3 U / U	**62800 /**	0.6 U / U	1 U / U	3.3 J / U	3.3 U / U
DS-48	HMSA	DS-48_082624_01_L Dissolved	08/26/2024	Dissolved	1 U / U	2 U / U	**30.9 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	0.3 U / U	0.5 U / U	0.067 U / U	**1.71 J / J**	1.5 U / U	0.3 U / U	**60100 /**	0.6 U / U	1 U / U	3.3 J / U	3.3 U / U
PZ-005	Bldg 65 Metals Clarifier	PZ-005_082824_01_L	08/28/2024	Total	1.00 U / U	2.00 U / U	**67.4 /**	0.200 U / U	0.300 U / U	3.00 U / U	0.300 U / U	**0.740 J / J**	0.500 U / U	0.0670 U / U	**0.696 J / J**	**2.36 J / J**	0.300 U / U	**103000 /**	0.600 U / U	1.00 U / U	**4.24 J / J**	3.30 U / U
PZ-005	Bldg 65 Metals Clarifier	PZ-005_082824_01_L Dissolved	08/28/2024	Dissolved	1.00 U / U	2.00 U / U	**64.0 /**	0.200 U / U	0.300 U / U	3.00 U / U	0.300 U / U	**0.876 J / J**	0.500 U / U	0.0670 U / U	**0.753 J / J**	**2.12 J / J**	0.300 U / U	**101000 /**	0.600 U / U	1.00 U / U	**4.45 J / J**	3.30 U / U
PZ-041	HMSA	PZ-041_082224_01_L	08/22/2024	Total	1 U / U	2 U / U	**35.9 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.965 J / J**	0.5 U / U	0.067 U / U	**1.29 J / J**	1.5 U / U	0.3 U / U	**54200 /**	0.6 U / U	1 U / U	3.3 U / U	**18.8 J / J**
PZ-041	HMSA	PZ-041_082224_01_L Dissolved	08/22/2024	Dissolved	1 U / U	2 U / U	**33.6 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.68 J / J**	0.5 U / U	0.067 U / U	**1.08 J / J**	1.5 U / U	0.3 U / U	**51700 /**	0.6 U / U	1 U / U	3.3 U / U	**16.3 J / J**
PZ-098	FSDF	PZ-098_030124_01_L	03/01/2024	Total	**1.16 J / J**	**3 J / J**	**64.4 J /**	0.2 U / U	0.3 U / U	**10.2 /**	**1.83 /**	**2.34 /**	**1.01 J / J**	0.067 U / U	**21.7 /**	**2.03 J / J**	0.3 U / U	**80200 /**	0.6 U / U	1 U / U	**10.2 J / J**	**15.8 J / J**
PZ-098	FSDF	PZ-098_030124_01_L_DISSOLVED	03/01/2024	Dissolved	1 U / U	**2.35 J / J**	**48.6 J /**	0.2 U / U	0.3 U / U	3 U / U	**0.688 J / J**	**0.714 J / J**	0.5 U / U	0.067 U / U	**20.2 /**	**1.98 J / J**	0.3 U / U	**74700 /**	0.6 U / U	1 U / U	**4.25 J / J**	**6.58 J / J**
PZ-098	FSDF	PZ-098_082124_01_L	08/21/2024	Total	1 U / U	2 U / U	**51.4 /**	0.2 U / U	0.3 U / U	**4.63 J / J**	**0.833 J / J**	**6.38 /**	0.5 U / U	0.067 U / U	**21.6 /**	**1.78 J / J**	0.3 U / U	**77900 /**	0.6 U / U	1 U / U	**6.24 J / J**	**12.4 J / J**
PZ-098	FSDF	PZ-098_082124_01_L Dissolved	08/21/2024	Dissolved	1 U / U	2 U / U	**47.1 /**	0.2 U / U	0.3 U / U	3 U / U	**0.505 J / J**	**2.37 /**	0.5 U / U	0.067 U / U	**19.2 /**	**2.08 J / J**	0.3 U / U	**73600 /**	0.6 U / U	1 U / U	**4.54 J / J**	**4.07 J / J**
PZ-102	B4009 Leachfield	PZ-102_022824_01_L	02/28/2024	Total	1 U / J	**3.88 J / J**	**36.4 /**	0.2 U / U	0.3 U / U	**22.1 /**	**1.6 /**	**4.48 /**	**1.75 J / J**	0.067 U / U	**7.59 /**	1.5 U / U	0.3 U / U	**31900 /**	0.6 U / U	**1.31 J / J**	**15.3 J / J**	**23.7 /**
PZ-102	B4009 Leachfield	PZ-102_022824_01_L Dissolved	02/28/2024	Dissolved	1 U / U	**2.91 J / J**	**5.62 /**	0.2 U / U	0.3 U / U	**3.3 J / J**	0.3 U / U	**0.938 J / J**	0.5 U / U	0.067 U / U	**1.96 J / J**	1.5 U / U	0.3 U / U	**32100 /**	0.6 U / U	1 U / U	**13.2 J / J**	**5.19 J / J**
PZ-103	Bldg 65 Metals Clarifier	PZ-103_082024_01_L	08/20/2024	Total	1 U / U	**2.81 J / J**	**115 /**	0.2 U / U	**1.8 /**	**13.9 /**	**2.5 /**	**9.52 /**	**2.19 /**	0.067 U / U	**12.1 /**	**2.52 J / J**	0.3 U / U	**94300 /**	0.6 U / U	1 U / U	**14 J / J**	**39.8 /**
PZ-103	Bldg 65 Metals Clarifier	PZ-103_082024_01_L Dissolved	08/20/2024	Dissolved	1 U / U	2 U / U	**75.7 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**2.42 /**	0.5 U / U	0.067 U / U	**1.41 J / J**	**2.42 J / J**	0.3 U / U	**90700 /**	0.6 U / U	1 U / U	3.3 U / U	**4.43 J / J**
PZ-104	Bldg 65 Metals Clarifier	PZ-104_082024_01_L	08/20/2024	Total	1 U / U	**3.15 J / J**	**39.3 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.447 J / J**	0.5 U / U	0.067 U / U	**0.884 J / J**	1.5 U / U	0.3 U / U	**315000 /**	0.6 U / U	1 U / U	3.3 U / U	3.3 U / U
PZ-104	Bldg 65 Metals Clarifier	PZ-104_082024_01_L Dissolved	08/20/2024	Dissolved	1 U / U	2 U / U	0.67 U / U	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	0.3 U / U	0.5 U / U	0.067 U / U	0.6 U / U	1.5 U / U	0.3 U / U	80 U / U	0.6 U / U	1 U / U	3.3 U / U	3.3 U / U
PZ-105	Bldg 65 Metals Clarifier	PZ-105_082124_01_L	08/21/2024	Total	1 U / U	2 U / U	**35 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.683 J / J**	0.5 U / U	0.067 U / U	**0.663 J / J**	**2.97 J / J**	0.3 U / U	**79100 /**	0.6 U / U	1 U / U	**4.17 J / J**	3.3 U / U
PZ-105	Bldg 65 Metals Clarifier	PZ-105_082124_01_L Dissolved	08/21/2024	Dissolved	1 U / U	2 U / U	**34.1 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.466 J / J**	0.5 U / U	0.067 U / U	0.6 U / U	**2.56 J / J**	0.3 U / U	**80700 /**	0.6 U / U	1 U / U	**4.05 J / J**	3.3 U / U
PZ-108	HMSA	PZ-108_082624_01_L	08/26/2024	Total	1 U / U	**2.28 J / J**	**29 /**	0.2 U / U	0.3 U / U	**5.95 J / J**	**0.395 J / J**	**2.19 /**	0.5 U / U	0.067 U / U	**2.83 /**	1.5 U / U	0.3 U / U	**72100 /**	0.6 U / U	1 U / U	3.3 J / U	**8.14 J / J**
PZ-108	HMSA	PZ-108_082624_01_L Dissolved	08/26/2024	Dissolved	1 U / U	**2.56 J / J**	**23.1 /**	0.2 U / U	0.3 U / U	**3.51 J / J**	0.3 U / U	**1.64 J / J**	0.5 U / U	0.067 U / U	**9.16 /**	1.5 U / U	0.3 U / U	**77800 /**	0.6 U / U	1 U / U	3.3 J / U	**4.18 J / J**
PZ-109	B4057/59/626	PZ-109_021924_01_L	02/19/2024	Total	**1.11 J / J**	**2.66 J / J**	**37.2 /**	0.200 U / U	**0.541 J / J**	3.00 U / U	0.300 U / U	**3.40 /**	**0.865 J / J**	0.0670 UJ / U	**2.70 /**	1.50 U / U	0.300 U / U	**178000 /**	0.600 U / U	1.00 U / U	3.30 U / U	**66.2 /**
PZ-109	B4057/59/626	PZ-109_021924_01_L Dissolved	02/19/2024	Dissolved	**1.71 J / J**	**2.67 J / J**	**33.0 /**	0.200 U / U	**0.386 J / J**	3.00 U / U	0.300 U / U	**2.94 /**	0.500 U / U	0.0670 UJ / U	**3.71 /**	1.50 U / U	0.300 U / U	**157000 /**	0.600 U / U	1.00 U / U	3.30 U / U	**98.1 /**
PZ-109	B4057/59/626	PZ-109_082024_01_L	08/20/2024	Total	**1.37 J / J**	2 U / U	**28.7 /**	0.2 U / U	**1.18 /**	3 U / U	0.3 U / U	**5.61 /**	**1.25 J / J**	0.067 U / U	**3.19 /**	1.5 U / U	0.3 U / U	**128000 /**	0.6 U / U	1 U / U	**4.7 J / J**	**85.9 /**
PZ-109	B4057/59/626	PZ-109_082024_01_L Dissolved	08/20/2024	Dissolved	**1.37 J / J**	**2.02 J / J**	**26.5 /**	0.2 U / U	**1.05 /**	3 U / U	0.3 U / U	**5.51 /**	0.5 U / U	0.067 U / U	**2.5 /**	1.5 U / U	0.3 U / U	**122000 /**	0.6 U / U	1 U / U	**4.32 J / J**	**64.2 /**
PZ-116	RMHF	PZ-116_022624_01_L	02/26/2024	Total	1 U / U	**5.51 /**	**26 /**	0.2 U / U	**0.428 J / J**	3 U / U	**2.83 /**	**2.19 /**	0.5 U / U	0.067 UJ / U	**7.77 /**	1.5 U / U	0.3 U / U	**127000 /**	0.6 U / U	1 U / U	3.3 U / U	**11.3 J / J**
PZ-116	RMHF	PZ-116_022624_01_L Dissolve	02/26/2024	Dissolved	1 U / U	**3.54 J / J**	**17.3 /**	0.2 U / U	0.3 U / U	3 U / U	**1.22 /**	**0.306 J / J**	0.5 U / U	0.067 UJ / U	**4 /**	1.5 U / U	0.3 U / U	**125000 /**	0.6 U / U	1 U / U	3.3 U / U	**4.25 J / J**
PZ-116	RMHF	PZ-116_082824_01_L	08/28/2024	Total	1.00 U / U	**4.34 J / J**	**31.6 /**	0.200 U / U	0.300 U / U	3.00 U / U	**4.25 /**	**1.76 J / J**	0.500 U / U	0.0670 U / U	**8.18 /**	1.50 U / U	0.300 U / U	**141000 /**	0.600 U / U	1.00 U / U	**3.63 J / J**	**9.72 J / J**
PZ-116	RMHF	PZ-116_082824_01_L Dissolved	08/28/2024	Dissolved	1.00 U / U	**2.75 J / J**	**24.8 /**	0.200 U / U	0.300 U / U	3.00 U / U	**2.20 /**	**0.334 J / J**	0.500 U / U	0.0670 U / U	**6.72 /**	1.50 U / U	0.300 U / U	**137000 /**	0.600 U / U	1.00 U / U	**3.62 J / J**	**7.25 J / J**
PZ-120	HMSA	PZ-120_082624_01_L	08/26/2024	Total	1 U / U	2 U / U	**24.1 /**	0.2 U / U	0.3 U / U	**3.79 J / J**	**0.309 J / J**	**4.62 /**	**1.68 J / J**	0.067 U / U	**3.98 /**	1.5 U / U	0.3 U / U	**86000 /**	0.6 U / U	1 U / U	3.3 J / U	**30.2 /**
PZ-120	HMSA	PZ-120_082624_01_L Dissolved	08/26/2024	Dissolved	1 U / U	2 U / U	**19.6 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**1.41 J / J**	0.5 U / U	0.067 U / U	**3.13 /**	1.5 U / U	0.3 U / U	**82800 /**	0.6 U / U	1 U / U	3.3 J / U	**15.1 J / J**
PZ-121	HMSA	PZ-121_022024_01_L	02/20/2024	Total	1 U / U	**4.58 J / J**	**62.5 /**	0.2 U / U	**7.61 /**	3 U / U	**1.61 /**	**4.22 /**	**2.69 /**	0.067 U / U	**5.64 /**	1.5 U / U	0.3 U / U	**57300 /**	0.6 U / U	1 U / U	3.3 U / U	**505 /**
PZ-121	HMSA	PZ-121_022024_01_L Dissolved	02/20/2024	Dissolved	1 U / U	**4.59 J / J**	**49.2 /**	0.2 U / U	**0.316 J / J**	3 U / U	**1.77 /**	**0.429 J / J**	0.5 U / U	0.067 U / U	**4.68 /**	1.5 U / U	0.3 U / U	**60000 /**	0.6 U / U	1 U / U	3.3 U / U	**138 /**
PZ-121	HMSA	PZ-121_082624_01_L	08/26/2024	Total	1 U / U	**4.57 J / J**	**93.4 /**	0.2 U / U	**2.2 /**	3 U / U	**1.99 /**	**1.01 J / J**	**0.761 J / J**	0.067 U / U	**5.23 /**	1.5 U / U	0.3 U / U	**177000 /**	0.6 U / U	1 U / U	3.3 J / U	**51.8 /**
PZ-121	HMSA	PZ-121_082624_01_L Dissolved	08/26/2024	Dissolved	1 U / U	**3.72 J / J**	**95.4 /**	0.2 U / U	0.3 U / U	3 U / U	**2.69 /**	0.3 U / U	0.5 U / U	0.067 U / U	**4.74 /**	1.5 U / U	0.3 U / U	**168000 /**	0.6 U / U	1 U / U	3.3 J / U	**22 /**
PZ-122	HMSA	PZ-122_082724_01_L	08/27/2024	Total	1 U / U	2 U / U	**55.9 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.354 J / J**	0.5 U / U	0.067 U / U	**1.66 J / J**	1.5 U / U	0.3 U / U	**61300 /**	0.6 U / U	1 U / U	3.3 U / U	3.3 U / U
PZ-122	HMSA	PZ-122_082724_01_L Dissolved	08/27/2024	Dissolved	1 U / U	2 U / U	**57.9 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**1.35 J / J**	0.5 U / U	0.067 U / U	**1.83 J / J**	1.5 U / U	0.3 U / U	**64600 /**	0.6 U / U	1 U / U	3.3 U / U	**3.47 J / J**
PZ-124	Bldg 56 Landfill	PZ-124_021324_01_L	02/13/2024	Total	1 U / U	**13.5 /**	**37.5 /**	0.2 U / U	**0.621 J / J**	**11.5 /**	**3.4 /**	**14.4 /**	**3.31 /**	0.067 U / U	**7.04 /**	1.5 U / U	0.3 U / U	**230000 /**	0.6 U / U	**1.86 J / J**	**7.58 J / J**	**38.1 /**
PZ-124	Bldg 56 Landfill	PZ-124_021324_01_L Dissolved	02/13/2024	Dissolved	1 U / U	**11.4 /**	**18.4 /**	0.2 U / U	0.3 U / U	3 U / U	**2.41 /**	**0.874 J / J**	0.5 U / U	0.067 U / U	**3.41 /**	1.5 U / U	0.3 U / U	**248000 /**	0.6 U / U	1 U / U	3.3 U / U	**7.85 J / J**
PZ-124	Bldg 56 Landfill	PZ-124_083024_01_L	08/30/2024	Total	1 U / U	**10.1 /**	**15.1 /**	0.2 U / U	0.3 U / U	3 U / U	**1.09 /**	**3.09 /**	**0.866 J / J**	0.067 U / U	**3.89 /**	1.5 U / U	0.3 U / U	**244000 /**	0.6 U / U	1 U / U	3.3 J / U	**16 J / J**
PZ-124	Bldg 56 Landfill	PZ-124_083024_01_L Dissolved	08/30/2024	Dissolved	1 U / U	**8.79 /**	**12.3 /**	0.2 U / U	0.3 U / U	3 U / U	**0.858 J / J**	0.3 U / U	0.5 U / U	0.067 U / U	**2.08 /**	1.5 U / U	0.3 U / U	**249000 /**	0.6 U / U	1 U / U	3.3 J / U	3.3 U / U
PZ-162	HMSA	PZ-162_082124_01_L	08/21/2024	Total	1 U / U	**2.1 J / J**	**54 /**	0.2 U / U	0.3 U / U	**4.07 J / J**	**0.697 J / J**	**1.89 J / J**	**0.528 J / J**	0.067 U / U	**2.77 /**	1.5 U / U	0.3 U / U	**64000 /**	0.6 U / U	1 U / U	**7.98 J / J**	**8.26 J / J**

Table 15
Metals Analytical Results, 1Q and 3Q 2024 -
AreaIV Santa Susana Field Laboratory,
Ventura County, CA

				Analyte	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Silver	Sodium	Thallium	Tin	Vanadium	Zinc
				Method	SW6020	SW6020	SW6020	SW6020	SW6020	SW6020	SW6020	SW6020	SW6020	SW7470A	SW6020	SW6020	SW6020	SW6020	SW6020	SW6020	SW6020	SW6020
Well Identifier	**GW Impact**	**Sample Name**	**Sample Date**	**Units**	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
				Fraction																		
PZ-162	HMSA	PZ-162_082124_01_L Dissolved	08/21/2024	Dissolved	1 U / U	2 U / U	**41.1 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.75 J / J**	0.5 U / U	0.067 U / U	**1.43 J / J**	1.5 U / U	0.3 U / U	**64100 /**	0.6 U / U	1 U / U	**4.19 J / J**	3.3 U / U
PZ-163	HMSA	PZ-163_082124_01_L	08/21/2024	Total	1 U / U	2 U / U	**41.2 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**1.36 J / J**	0.5 U / U	0.067 U / U	**1.74 J / J**	1.5 U / U	0.3 U / U	**61500 /**	0.6 U / U	1 U / U	**4.56 J / J**	**6.6 J / J**
PZ-163	HMSA	PZ-163_082124_01_L Dissolved	08/21/2024	Dissolved	1 U / U	2 U / U	**37.9 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**1.4 J / J**	0.5 U / U	0.067 U / U	**1.38 J / J**	1.5 U / U	0.3 U / U	**61800 /**	0.6 U / U	1 U / U	**3.75 J / J**	**5.9 J / J**
PZ-164	HMSA	PZ-164_082224_01_L	08/22/2024	Total	1 U / U	**7.33 /**	**159 /**	**0.517 /**	**0.331 J / J**	**39.4 /**	**5.9 /**	**11.9 /**	**4.3 /**	0.067 U / U	**16.2 /**	1.5 U / U	0.3 U / U	**148000 /**	0.6 U / U	**3.03 J / J**	**31 /**	**65.9 /**
PZ-164	HMSA	PZ-164_082224_01_L Dissolved	08/22/2024	Dissolved	1 U / U	**3.51 J / J**	**70 /**	0.2 U / U	0.3 U / U	3 U / U	**1.06 /**	**0.357 J / J**	0.5 U / U	0.067 U / U	**5.5 /**	1.5 U / U	0.3 U / U	**137000 /**	0.6 U / U	1 U / U	3.3 U / U	3.3 U / U
PZ-165	HMSA	PZ-165_082224_01_L	08/22/2024	Total	1 U / U	**3.22 J / J**	**16.2 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**1.83 J / J**	0.5 U / U	0.067 U / U	**1.96 J / J**	1.5 U / U	0.3 U / U	**81200 /**	0.6 U / U	1 U / U	**4.54 J / J**	**5.05 J / J**
PZ-165	HMSA	PZ-165_082224_01_L Dissolved	08/22/2024	Dissolved	1 U / U	**3.31 J / J**	**14 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**1.77 J / J**	0.5 U / U	0.067 U / U	**1.7 J / J**	1.5 U / U	0.3 U / U	**80600 /**	0.6 U / U	1 U / U	**4.06 J / J**	**3.91 J / J**
PZ-166	HMSA	PZ-166_082324_01_L	08/23/2024	Total	1 U / U	**9.34 /**	**9.72 /**	0.2 U / U	0.3 U / U	3 U / U	**1.2 /**	**1.95 J / J**	0.5 U / U	0.067 U / U	**62.2 /**	1.5 U / U	0.3 U / U	**87600 /**	0.6 U / U	1 U / U	**9.11 J / J**	**4.04 J / J**
PZ-166	HMSA	PZ-166_082324_01_L Dissolved	08/23/2024	Dissolved	1 U / U	**9.46 /**	**6.18 /**	0.2 U / U	0.3 U / U	3 U / U	**0.896 J / J**	**1.52 J / J**	0.5 U / U	0.067 U / U	**61.4 /**	1.5 U / U	0.3 U / U	**83900 /**	0.6 U / U	1 U / U	**8.13 J / J**	3.3 U / U
PZ-167	HMSA	PZ-167_082324_01_L	08/23/2024	Total	1 U / U	**4.95 J / J**	**41.5 /**	**0.214 J / J**	0.3 U / U	**11.2 /**	**1.99 /**	**4.75 /**	**2.04 /**	0.067 U / U	**8.3 /**	1.5 U / U	0.3 U / U	**60000 /**	0.6 U / U	**1.34 J / J**	**16.6 J / J**	**20.7 /**
PZ-167	HMSA	PZ-167_082324_01_L Dissolved	08/23/2024	Dissolved	1 U / U	**3.53 J / J**	**8.64 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**1.18 J / J**	0.5 U / U	0.067 U / U	**3.27 /**	1.5 U / U	0.3 U / U	**59900 /**	0.6 U / U	1 U / U	**5.86 J / J**	3.3 U / U
PZ-168	HMSA	PZ-168_082324_01_L	08/23/2024	Total	1 U / U	**4.37 J / J**	**50 /**	**0.234 J / J**	0.3 U / U	**11.4 /**	**2.23 /**	**4.52 /**	**2.37 /**	0.067 U / U	**5.72 /**	**2.58 J / J**	0.3 U / U	**66400 /**	0.6 U / U	**1.51 J / J**	**16.5 J / J**	**25.8 /**
PZ-168	HMSA	PZ-168_082324_01_L Dissolved	08/23/2024	Dissolved	1 U / U	**2.67 J / J**	**15.5 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**1.94 J / J**	0.5 U / U	0.067 U / U	**0.963 J / J**	**1.52 J / J**	0.3 U / U	**66100 /**	0.6 U / U	1 U / U	**5.53 J / J**	**4.13 J / J**
PZ-169	HMSA	PZ-169_082324_01_L	08/23/2024	Total	1 U / U	**3.15 J / J**	**46.4 /**	0.2 U / U	0.3 U / U	**5.59 J / J**	**1.46 /**	**2.84 /**	**1.1 J / J**	0.067 U / U	**4.67 /**	1.5 U / U	0.3 U / U	**58300 /**	0.6 U / U	1 U / U	**11.3 J / J**	**15.8 J / J**
PZ-169	HMSA	PZ-169_082324_01_L Dissolved	08/23/2024	Dissolved	1 U / U	**2.1 J / J**	**29.4 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.911 J / J**	0.5 U / U	0.067 U / U	**1.7 J / J**	1.5 U / U	0.3 U / U	**57600 /**	0.6 U / U	1 U / U	**4.28 J / J**	3.3 U / U
RD-07	Bldg 56 Landfill	RD-07_021424_01_L	02/14/2024	Total	1 U / U	2 U / U	**25.3 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.913 J / J**	0.5 U / U	0.067 U / U	0.6 U / U	1.5 U / U	0.3 U / U	**34500 /**	0.6 U / U	1 U / U	3.3 U / U	**12.7 J / J**
RD-07	Bldg 56 Landfill	RD-07_021424_01_L Dissolved	02/14/2024	Dissolved	1 U / U	2 U / U	**26.1 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	0.3 U / U	0.5 U / U	0.067 U / U	0.6 U / U	1.5 U / U	0.3 U / U	**34300 /**	0.6 U / U	1 U / U	3.3 U / U	**7.11 J / J**
RD-07	Bldg 56 Landfill	RD-07_082724_01_L	08/27/2024	Total	1 U / U	2 U / U	**27.2 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.682 J / J**	0.5 U / U	0.067 U / U	**0.889 J / J**	**1.72 J / J**	0.3 U / U	**34700 /**	0.6 U / U	1 U / U	3.3 U / U	**5.29 J / J**
RD-07	Bldg 56 Landfill	RD-07_082724_01_L Dissolved	08/27/2024	Dissolved	1 U / U	2 U / U	**26.8 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**1.1 J / J**	0.5 U / U	0.067 U / U	**0.79 J / J**	1.5 U / U	0.3 U / U	**34500 /**	0.6 U / U	1 U / U	3.3 U / U	**3.88 J / J**
RD-14	OCY	RD-14_021424_01_L	02/14/2024	Total	1 U / U	2 U / U	**40.2 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	0.3 U / U	0.5 U / U	0.067 U / U	**1.98 J / J**	1.5 U / U	0.3 U / U	**39100 J /**	0.6 U / U	1 U / U	3.3 U / U	**278 /**
RD-14	OCY	RD-14_021424_01_L Dissolved	02/14/2024	Dissolved	1 U / U	2 U / U	**41.1 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.439 J / J**	0.5 U / U	0.067 U / U	**2.29 /**	1.5 U / U	0.3 U / U	**38000 /**	0.6 U / U	1 U / U	3.3 U / U	**270 /**
RD-20	B4100 Trench	RD-20_022724_01_L	02/27/2024	Total	1 U / U	**2.61 J / J**	**37.6 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.602 J / J**	0.5 U / U	0.067 UJ / U	**0.875 J / J**	**4.14 J / J**	0.3 U / U	**141000 /**	0.6 U / U	1 U / U	3.3 U / U	**21.9 /**
RD-20	B4100 Trench	RD-20_022724_01_L Dissolve	02/27/2024	Dissolved	1 U / U	**2.31 J / J**	**36.6 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.755 J / J**	0.5 U / U	0.067 UJ / U	**1.07 J / J**	**4.06 J / J**	0.3 U / U	**144000 /**	0.6 U / U	1 U / U	3.3 U / U	**17.7 J / J**
RD-27	RMHF	RD-27_022124_01_L	02/21/2024	Total	1 U / U	2 U / U	**71.6 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**2.08 /**	0.5 U / U	0.067 U / U	**1.26 J / J**	1.5 U / U	0.3 U / U	**33400 /**	0.6 U / U	1 U / U	3.3 U / U	**527 /**
RD-27	RMHF	RD-27_022124_01_L Dissolved	02/21/2024	Dissolved	1 U / U	2 U / U	**64.8 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**2.19 /**	0.5 U / U	0.067 U / U	**1.81 J / J**	1.5 U / U	0.3 U / U	**31100 /**	0.6 U / U	1 U / U	3.3 U / U	**652 /**
RD-27	RMHF	RD-27_082924_01_L	08/29/2024	Total	1.00 U / U	2.00 U / U	**73.2 /**	0.200 U / U	0.300 U / U	3.00 U / U	0.300 U / U	**0.315 J / J**	0.500 U / U	0.0670 U / U	0.600 U / U	1.50 U / U	0.300 U / U	**34600 /**	0.600 U / U	1.00 U / U	3.30 U / U	**145 /**
RD-27	RMHF	RD-27_082924_01_L Dissolved	08/29/2024	Dissolved	1.00 U / U	2.00 U / U	**73.0 /**	0.200 U / U	0.300 U / U	3.00 U / U	0.300 U / U	0.300 U / U	0.500 U / U	0.0670 U / U	0.600 U / U	1.50 U / U	0.300 U / U	**33700 /**	0.600 U / U	1.00 U / U	3.30 U / U	**64.3 /**
RD-30	RMHF	RD-30_082924_01_L	08/29/2024	Total	1 U / U	2 U / U	**37.8 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.333 J / J**	0.5 U / U	0.067 U / U	**1.99 J / J**	1.5 U / U	0.3 U / U	**58100 /**	0.6 U / U	1 U / U	3.3 J / U	**12.4 J / J**
RD-30	RMHF	RD-30_082924_01_L Dissolved	08/29/2024	Dissolved	1 U / U	2 U / U	**37.2 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.785 J / J**	0.5 U / U	0.067 U / U	**2.1 /**	1.5 U / U	0.3 U / U	**61500 /**	0.6 U / U	1 U / U	3.3 J / U	**13.2 J / J**
RD-34A	RMHF	RD-34A_022224_01_L	02/22/2024	Total	1 U / U	2 U / U	**40.6 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.384 J / J**	0.5 U / U	0.067 U / U	**1.47 J / J**	1.5 U / U	0.3 U / U	**73100 /**	0.6 U / U	1 U / U	3.3 U / U	**33.8 /**
RD-34A	RMHF	RD-34A_022224_01_L Dissolved	02/22/2024	Dissolved	1 U / U	2 U / U	**40.1 /**	0.2 U / U	0.3 U / U	3 U / U	**0.312 J / J**	**0.537 J / J**	0.5 U / U	0.067 U / U	**1.59 J / J**	1.5 U / U	0.3 U / U	**75000 /**	0.6 U / U	1 U / U	3.3 U / U	**36.3 /**
RD-34B	RMHF	RD-34B_022124_01_L	02/21/2024	Total	1 U / U	2 U / U	**8.52 /**	0.2 U / U	0.3 U / U	3 U / U	**0.935 J / J**	**0.615 J / J**	0.5 U / U	0.067 U / U	**0.646 J / J**	1.5 U / U	0.3 U / U	**41400 /**	0.6 U / U	1 U / U	3.3 U / U	**42.9 /**
RD-34B	RMHF	RD-34B_022124_01_L Dissolved	02/21/2024	Dissolved	1 U / U	2 U / U	**7.57 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	0.3 U / U	0.5 U / U	0.067 U / U	0.6 U / U	1.5 U / U	0.3 U / U	**43400 /**	0.6 U / U	1 U / U	3.3 J / U	**3.92 J / J**
RD-63	RMHF	RD-63_022324_01_L	02/23/2024	Total	1 U / U	2 U / U	**52.1 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.48 J / J**	0.5 U / U	0.067 U / U	**0.915 J / J**	1.5 U / U	0.3 U / U	**55600 /**	0.6 U / U	1 U / U	3.3 U / U	**9.51 J / J**
RD-63	RMHF	RD-63_022324_01_L Dissolved	02/23/2024	Dissolved	1 U / U	2 U / U	**51.4 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	0.3 U / U	0.5 U / U	0.067 U / U	**0.603 J / J**	1.5 U / U	0.3 U / U	**57600 /**	0.6 U / U	1 U / U	3.3 U / U	**6.27 J / J**
RD-63	RMHF	RD-63_082824_01_L	08/28/2024	Total	1.00 U / U	2.00 U / U	**52.3 /**	0.200 U / U	0.300 U / U	3.00 U / U	0.300 U / U	**0.426 J / J**	0.500 U / U	0.0670 U / U	**1.39 J / J**	1.50 U / U	0.300 U / U	**55100 /**	0.600 U / U	1.00 U / U	3.30 U / U	**8.61 J / J**
RD-63	RMHF	RD-63_082824_01_L Dissolved	08/28/2024	Dissolved	1.00 U / U	2.00 U / U	**50.3 /**	0.200 U / U	0.300 U / U	3.00 U / U	0.300 U / U	0.300 U / U	0.500 U / U	0.0670 U / U	**0.687 J / J**	1.50 U / U	0.300 U / U	**53100 /**	0.600 U / U	1.00 U / U	3.30 U / U	**7.17 J / J**
RD-64	FSDF	RD-64_021324_01_L	02/13/2024	Total	1 U / U	**4.25 J / J**	**60.1 /**	0.2 U / U	0.3 U / U	3 U / U	**2.64 / J**	**1.1 J / J**	**2.93 / J**	0.067 U / U	**17.8 /**	1.5 U / U	0.3 U / U	**56700 /**	0.6 U / U	1 U / U	**3.34 J / J**	**874 /**
RD-64	FSDF	RD-64_021324_01_L Dissolved	02/13/2024	Dissolved	1 U / U	**4.03 J / J**	**58.1 /**	0.2 U / U	0.3 U / U	3 U / U	**0.328 J / J**	**0.828 J / J**	0.5 U / U	0.067 U / U	**16.7 /**	1.5 U / U	0.3 U / U	**54900 /**	0.6 U / U	1 U / U	3.3 U / U	**810 /**
RD-64	FSDF	RD-64_082224_01_L	08/22/2024	Total	1 U / U	**2.01 J / J**	**53.2 /**	0.2 U / U	0.3 U / U	3 U / U	**0.539 J / J**	**1.19 J / J**	0.5 U / U	0.067 U / U	**26.9 /**	1.5 U / U	0.3 U / U	**45300 /**	0.6 U / U	1 U / U	3.3 U / U	**432 /**
RD-64	FSDF	RD-64_082224_01_L Dissolved	08/22/2024	Dissolved	1 U / U	2 U / U	**52.9 /**	0.2 U / U	0.3 U / U	3 U / U	**0.393 J / J**	**1.28 J / J**	0.5 U / U	0.067 U / U	**26.9 /**	1.5 U / U	0.3 U / U	**45100 /**	0.6 U / U	1 U / U	3.3 U / U	**415 /**
RD-74	Bldg 56 Landfill	RD-74_022724_01_L	02/27/2024	Total	1 U / U	**2.67 J / J**	**91.2 /**	0.2 U / U	0.3 U / U	**6.37 J / J**	**1.15 /**	**3.44 /**	**1.52 J / J**	0.067 UJ / U	**5.25 /**	**3.84 J / J**	0.3 U / U	**72900 /**	0.6 U / U	1 U / U	**9.03 J / J**	**88.1 /**
RD-74	Bldg 56 Landfill	RD-74_022724_01_L Dissolve	02/27/2024	Dissolved	1 U / U	2 U / U	**71.9 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**1.15 J / J**	0.5 U / U	0.067 UJ / U	**2.4 /**	**3.86 J / J**	0.3 U / U	**72100 /**	0.6 U / U	1 U / U	3.3 U / U	**48.7 /**
RD-74	Bldg 56 Landfill	RD-74_082724_01_L	08/27/2024	Total	1 U / U	2 U / U	**74.8 /**	0.2 U / U	0.3 U / U	**3.07 J / J**	**0.531 J / J**	**1.82 J / J**	**0.654 J / J**	0.067 U / U	**3.59 /**	**1.8 J / J**	0.3 U / U	**62300 /**	0.6 U / U	1 U / U	3.3 U / U	**55.4 /**
RD-74	Bldg 56 Landfill	RD-74_082724_01_L Dissolved	08/27/2024	Dissolved	1 U / U	2 U / U	**68 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**1.41 J / J**	0.5 U / U	0.067 U / U	**9.72 /**	1.5 U / U	0.3 U / U	**61800 /**	0.6 U / U	**1.03 J / J**	3.3 U / U	**39.3 /**
RD-90	Tritium Plume	RD-90_021624_01_L	02/16/2024	Total	1 U / U	**2.72 J / J**	**64.7 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.805 J / J**	0.5 U / U	0.067 U / U	**0.752 J / J**	1.5 U / U	0.3 U / U	**55800 /**	0.6 U / U	1 U / U	3.3 U / U	**7.01 J / J**
RD-90	Tritium Plume	RD-90_021624_01_L Dissolved	02/16/2024	Dissolved	1 U / U	**2.17 J / J**	**67.2 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.917 J / J**	0.5 U / U	0.067 U / U	**1.07 J / J**	1.5 U / U	0.3 U / U	**57600 /**	0.6 U / U	1 U / U	3.3 U / U	3.3 U / U
RD-94	Tritium Plume	RD-94_082824_01_L	08/28/2024	Total	1.00 U / U	2.00 U / U	**30.4 /**	0.200 U / U	0.300 U / U	3.00 U / U	**0.538 J / J**	0.300 U / U	0.500 U / U	0.0670 U / U	**0.997 J / J**	1.50 U / U	0.300 U / U	**53700 /**	0.600 U / U	1.00 U / U	3.30 U / U	3.30 U / U
RD-94	Tritium Plume	RD-94_082824_01_L Dissolved	08/28/2024	Dissolved	1.00 U / U	2.00 U / U	**29.5 /**	0.200 U / U	0.300 U / U	3.00 U / U	**0.481 J / J**	0.300 U / U	0.500 U / U	0.0670 U / U	**0.895 J / J**	1.50 U / U	0.300 U / U	**53700 /**	0.600 U / U	1.00 U / U	3.30 U / U	3.30 U / U
RD-96	B4057/59/626	RD-96_021524_01_L	02/15/2024	Total	1 U / U	**2.79 J / J**	**41.9 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.755 J / J**	0.5 U / U	0.067 U / U	**1.74 J / J**	1.5 U / U	0.3 U / U	**45500 /**	0.6 U / U	1 U / U	**3.34 J / J**	3.3 U / U
RD-96	B4057/59/626	RD-96_021524_01_L Dissolved	02/15/2024	Dissolved	1 U / U	**3.12 J / J**	**42.3 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	0.3 U / U	0.5 U / U	0.067 U / U	**1.42 J / J**	1.5 U / U	0.3 U / U	**45900 /**	0.6 U / U	1 U / U	**3.93 J / J**	3.3 U / J
RD-98	RMHF	RD-98_083024_01_L	08/30/2024	Total	1 U / U	2 U / U	**33.9 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.621 J / J**	0.5 U / U	0.067 U / U	**0.875 J / J**	1.5 U / U	0.3 U / U	**51400 /**	0.6 U / U	1 U / U	3.3 J / U	3.3 U / U
RD-98	RMHF	RD-98_083024_01_L Dissolved	08/30/2024	Dissolved	1 U / U	2 U / U	**29.8 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**0.467 J / J**	0.5 U / U	0.067 U / U	**0.854 J / J**	1.5 U / U	0.3 U / U	**52300 /**	0.6 U / U	1 U / U	3.3 J / U	3.3 U / U
RS-28	RMHF	RS-28_083024_01_L	08/30/2024	Total	1 U / U	2 U / U	**35.2 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	0.3 U / U	0.5 U / U	0.067 U / U	**0.774 J / J**	**2.06 J / J**	0.3 U / U	**55300 /**	0.6 U / U	1 U / U	3.3 J / U	3.3 U / U
RS-28	RMHF	RS-28_083024_01_L Dissolved	08/30/2024	Dissolved	1 U / U	2 U / U	**35.5 /**	0.2 U / U	0.3 U / U	3 U / U	0.3 U / U	**1.15 J / J**	0.5 U / U	0.067 U / U	**0.793 J / J**	**2.14 J / J**	0.3 U / U	**55400 /**	0.6 U / U	1 U / U	3.3 J / U	**4.12 J / J**

NOTES AND ABBREVIATIONS

/ - separates lab qualifiers from data validation flags

All non-detection values are reported using the Method Detection Limit (MDL)

ug/l - micrograms/liter

---- - Not analyzed

LAB / VALIDATION QUALIFIERS

J - Result is an estimated quantity. Associated numerical value is approximate concentration of analyte in sample.

U - Analyzed for, but not detected above reported sample quantitation limit.

FIGURES

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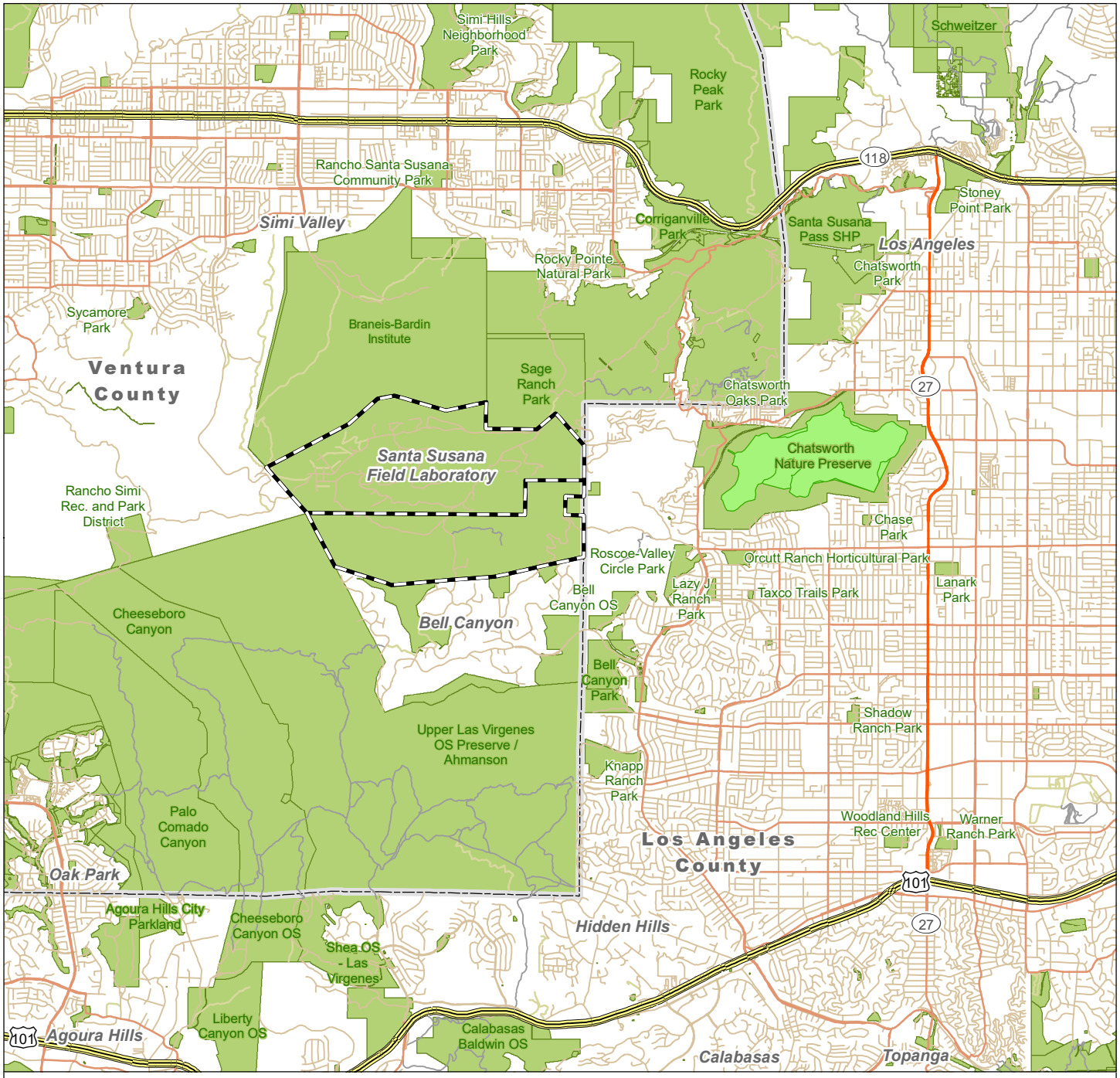


Legend

- Primary Limited Acess or Interstate
- Primary US and State Highways
- Secondary State and County Highways
- Local Street
- 4WD
- Other Thoroughfare
- Park or Open Space
- SSFL Property Boundary
- County Boundary

Notes:
- Original GIS layers provided by MWH/Boeing; updated by North Wind Inc. as needed.

Service Layer Credits:
- Park and Open Space Source: California Protected Areas Database (CPAD - www.calands.org), Santa Monica Mountains Conservancy, Mountains Recreation and Conservation Authority, National Park Service (2013); Protected Areas Database, US Geological Survey Gap Analysis Program, 2011; Ventura County Resource Management Agency, 2014.
- Street Source: Esri, TomTom, 2007.
- Census County Boundary Source: United States Census Bureau, TIGER/Line Shapefiles, August 2014.

N

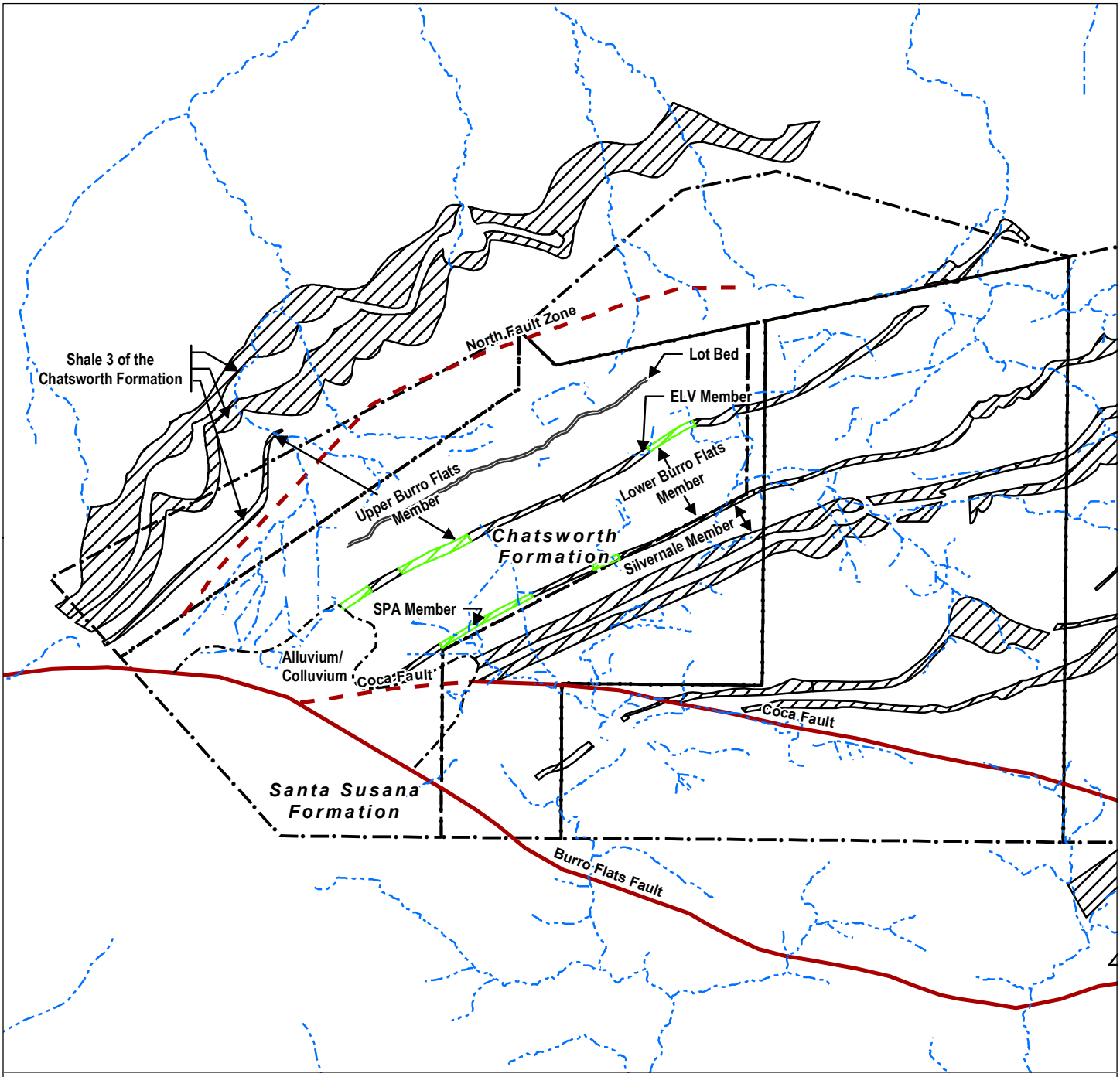
0 0.75 1.5 Miles

D:\Work\ETEC\Project\MXD\2024\Fig 1_SSFL_2024_Q1_GW_Facility_Location.mxd

NORTHWIND INCORPORATED

FIGURE 1

Facility Location Map, Annual 2024



LEGEND

- Lot Bed
- Alluvium/Colluvium
- Fault Location
- Fault - Inferred
- Fine-grained unit
- Area where fine-grained unit may be discontinuous
- Drainage
- Area Boundary

Notes:
- Original GIS layers provided by MWH/Boeing; updated by North Wind Inc. as needed.
- Geologic data provided by MWH from Draft Site-wide Groundwater Remedial Investigation Report (MWH, 2009).

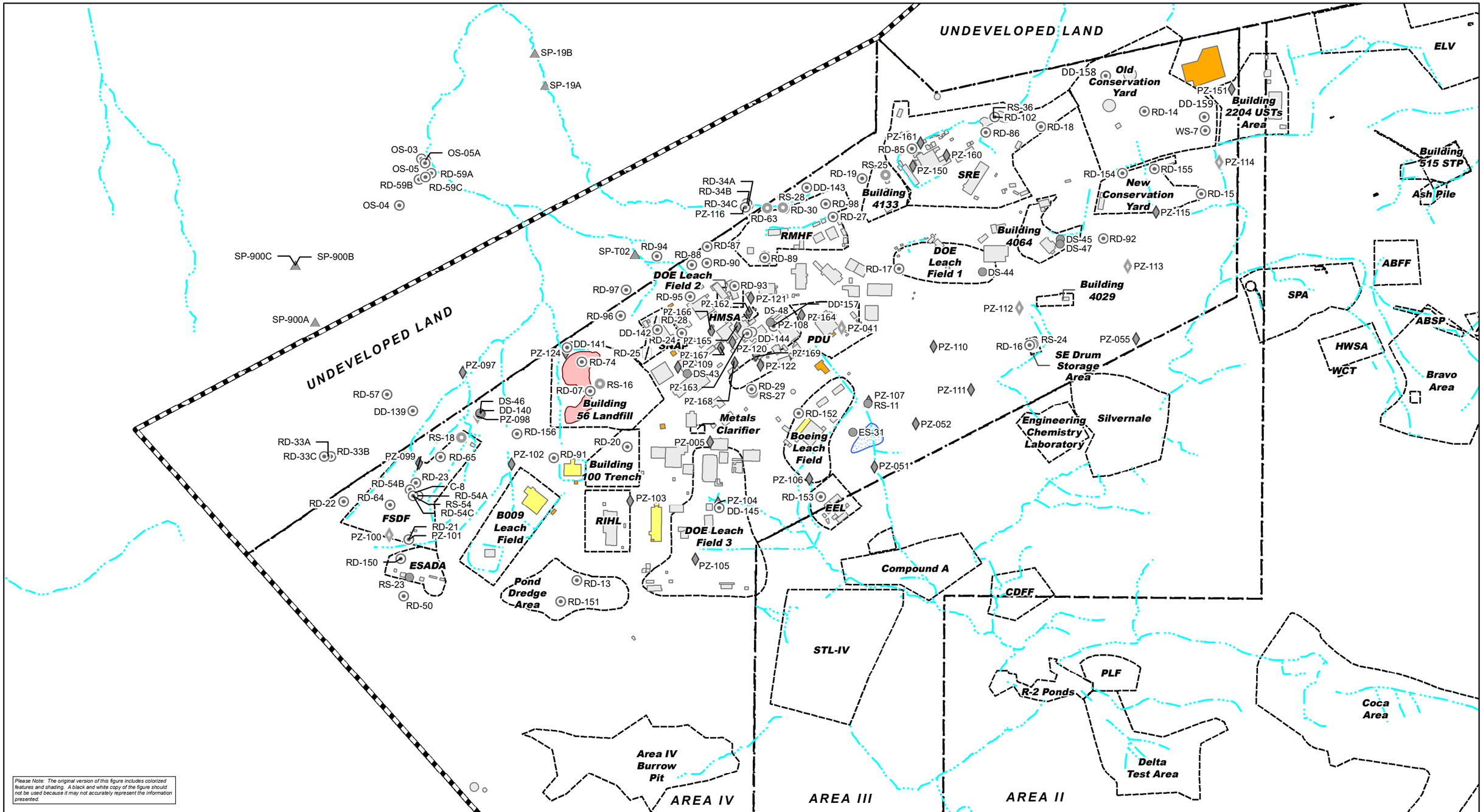
Service Layer Credits:
- Topo Source: Copyright:© 2013 National Geographic Society, i-cubed

0 700 1,400 Feet

D:\Work\ETEC\Project\MXD\2024\Fig 2_SSFL_2024_Q1_GW_AreaIV_Geology.mxd

NORTHWIND INCORPORATED

FIGURE 2
SSFL Geologic Map, Annual 2024



Please Note: The original version of this figure includes colorized features and shading. A black and white copy of the figure should not be used because it may not accurately represent the information presented.

Legend

Well Type and Groundwater Zone

Groundwater Monitoring Wells

- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers

- Piezometer, Perched
- Piezometer, Near Surface

Seeps/Springs

- Seep/spring

Other

- Abandoned Well
- Abandoned Piezometer
- Corehole

Basemap

- Drainage
- RI Site Boundary
- Area IV Boundary
- SSFL Property Boundary

Structures

- Existing Landfill
- Existing Structure
- Existing Substation
- Former Pond
- Demolished Structure

Notes:
Original GIS layers provided by MWH/Boeing; updated by CDM Smith as needed.

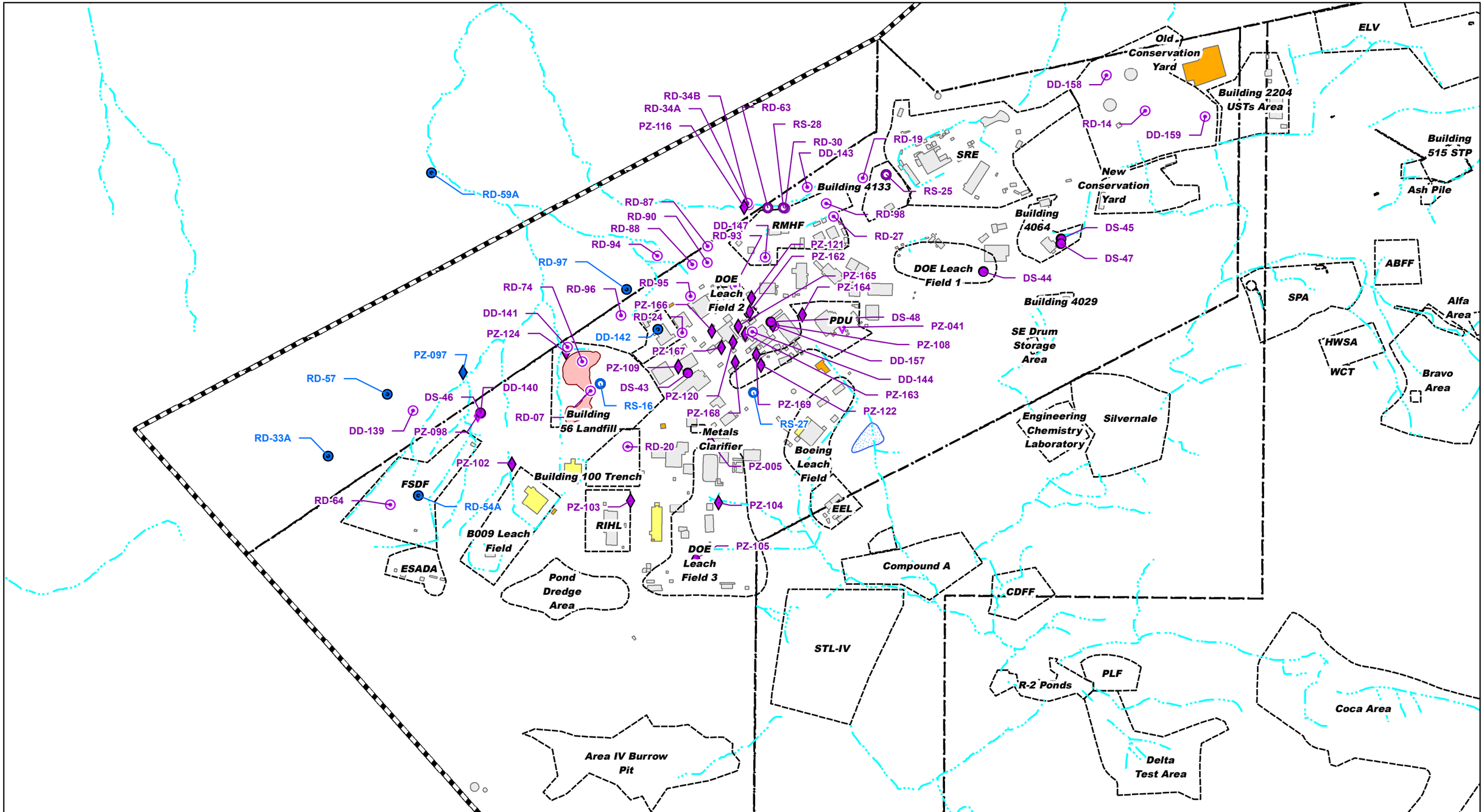
1 inch = 550 feet

0 275 550 825 1,100 *Feet*

NORTHWIND INC.

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA
AREA IV
LOCATION OF WELLS, PIEZOMETERS, AND SEEPS, Annual 2024
FIGURE 3

D:\Work\ETEC\Project\MXD\2024\Fig 3_SSFL_2024GWAnnual_Well_PZ_Seep_Locs.mxd



Legend

Symbol Color for Site-wide and LUFT Program Monitoring Locations

- 2024 Sampled wells
- 2024 Wells Originally Selected But Not Sampled

Well Type and Groundwater Zone

Groundwater Monitoring Wells

- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers

- Piezometer, Perched
- Piezometer, Near Surface

Seeps/Springs

- Seep/spring

Other

- Abandoned Well
- Abandoned Piezometer
- Corehole

Basemap

- Drainage
- RI Site Boundary
- Area IV Boundary
- SSFL Property Boundary

Notes:
Original GIS layers provided by MWH/Boeing; updated by CDM Smith as needed.

Not all Site-wide Program Wells were sampled in 2024

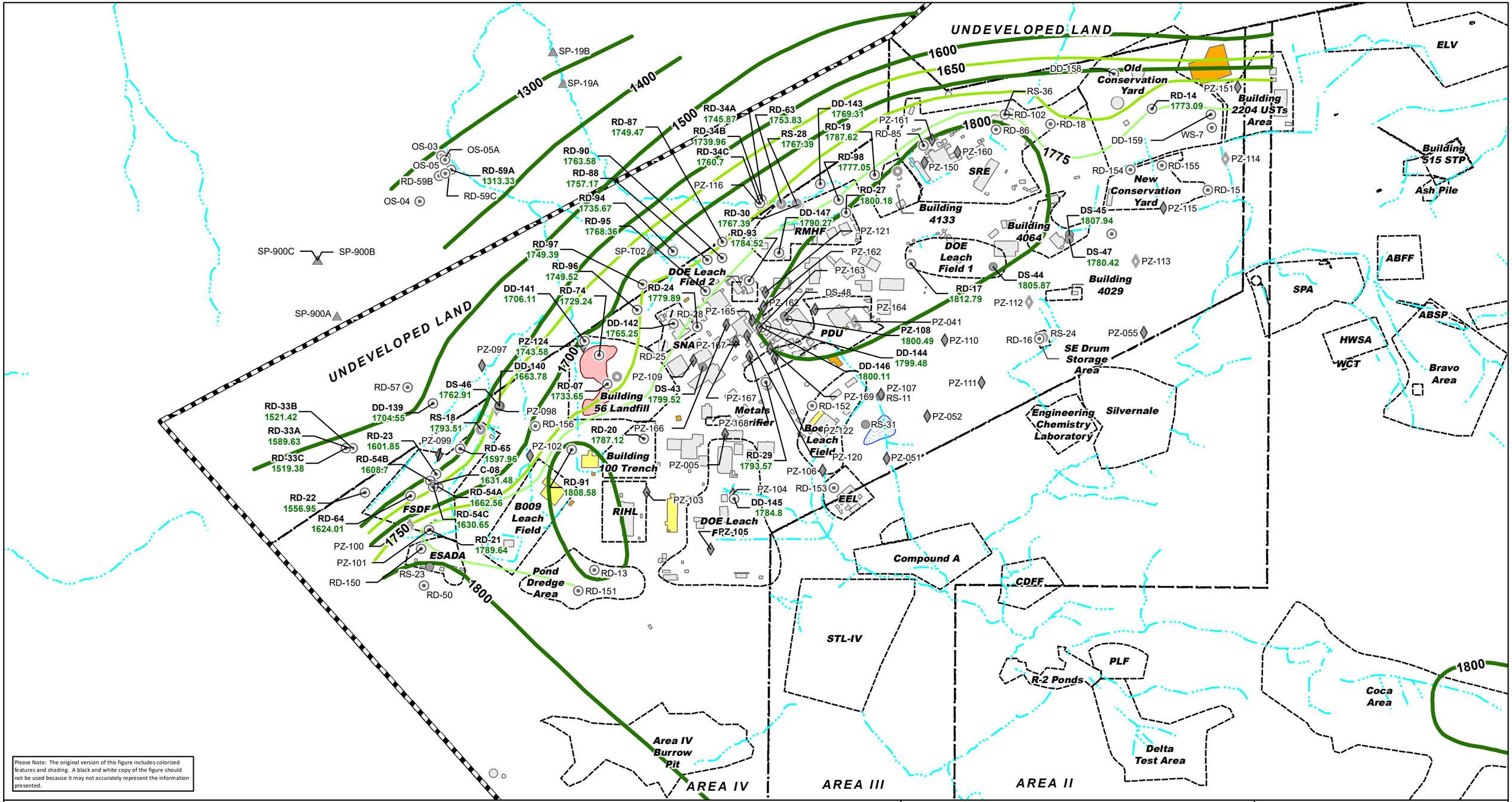
1 inch = 550 feet

0 275 550 825 1,100 Feet

NORTHWIND INC.

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA
AREA IV
2024 SAMPLING LOCATIONS
FIGURE 4

D:\Work\ETEC\Project\MXD\2024\Fig 4_SSFL_2024_GW_Annual_Samples.mxd



Please Note: The original version of this figure includes colorized features and shading. A black and white copy of the figure should not be used because it may not accurately represent the information presented.

Legend

Well Type and Groundwater Zone

Groundwater Monitoring Wells

- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers

- Piezometer, Perched
- Piezometer, Near Surface

Seeps/Springs

- Seep/spring

Other

- Abandoned Well
- Abandoned Piezometer
- Corehole

Basemap

- Drainage
- RI Site Boundary
- Area IV Boundary
- SSFL Property Boundary

Structures

- Existing Landfill
- Existing Structure
- Existing Substation
- Former Pond
- Demolished Structure

Approximate Groundwater Elevation Contours (feet above sea level)

- 25-foot Contour
- 50-foot Contour
- 100-foot Contour
- 1724.99 Groundwater Level Elevation in feet above mean sea level

Notes:
Information used to develop the groundwater elevation contours includes topography and the recognition that groundwater level discontinuities coincide with certain fault segments and other geologic structures. Elevations at DD-139, DS-45 DS-46, RS-18, RS-25, and RS-54 were anomalous and not used for contouring.

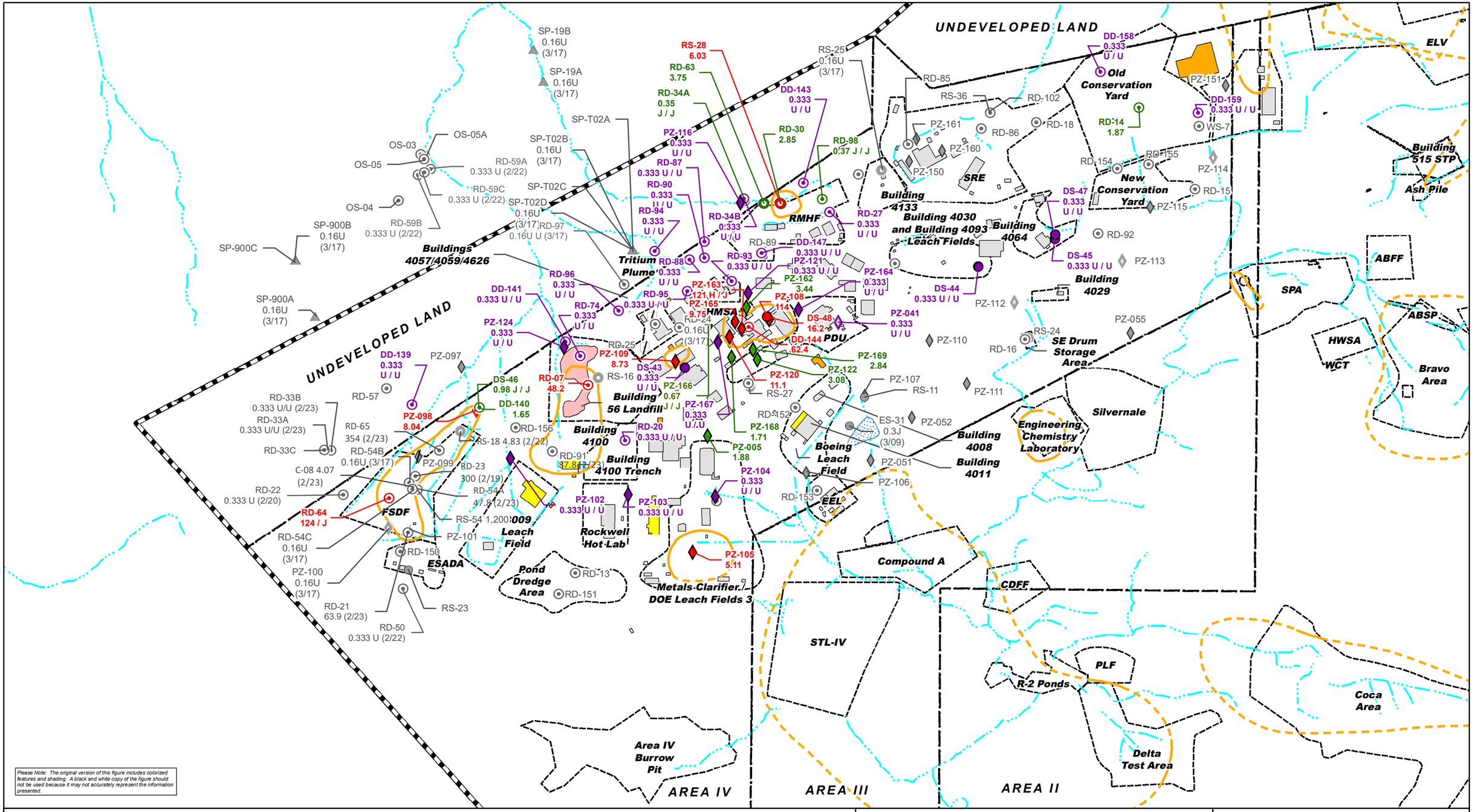
1 inch = 550 feet

0 275 550 825 1,100 Feet

NORTHWIND PORTAGE, INC.

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA
AREA IV
GROUNDWATER ELEVATION CONTOUR MAP, 3rd Quarter 2024
FIGURE 5

D:\Work\ETEC\Project\MXD\2024\Fig 5_SSFL_2024GW Annual_Q3_GW_Contours.mxd



Please Note: The original version of this figure includes colorized features and shading. A black and white copy of the figure should not be used because it may not accurately represent the information presented.

Legend

Symbol Color for Groundwater Results

- Detected above MCL
- Detected above detection limit, below MCL
- Not detected above detection limits (ND)
- Well/Piezometer not sampled/analyzed

Areas of Impacted Groundwater

- Trichloroethene in Groundwater above Primary MCL of 5 ug/L (boundary dashed where inferred)

Well Type and Groundwater Zone

Groundwater Monitoring Wells

- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers

- Piezometer, Perched
- Piezometer, Near Surface

Seeps/Springs

- Seep/spring

Other

- Abandoned Well
- Abandoned Piezometer
- Corehole

Basemap

- Drainage
- Area IV Boundary
- SSFL Property Boundary

Structures

- Existing Landfill
- Existing Structure
- Existing Substation
- Former Pond
- Demolished Structure

Notes:
Original GIS layers provided by MWH/Boeing; updated by CDM Smith as needed.
Values posted beneath well identifiers are maximum concentrations in micrograms per liter (ug/L) detected in 2024 at each location.
Values posted at location with no 2024 results are for the most recent analytical result with collection date shown in parentheses.
Only primary results shown.

1 inch = 550 feet

0 275 550 825 1,100 Feet

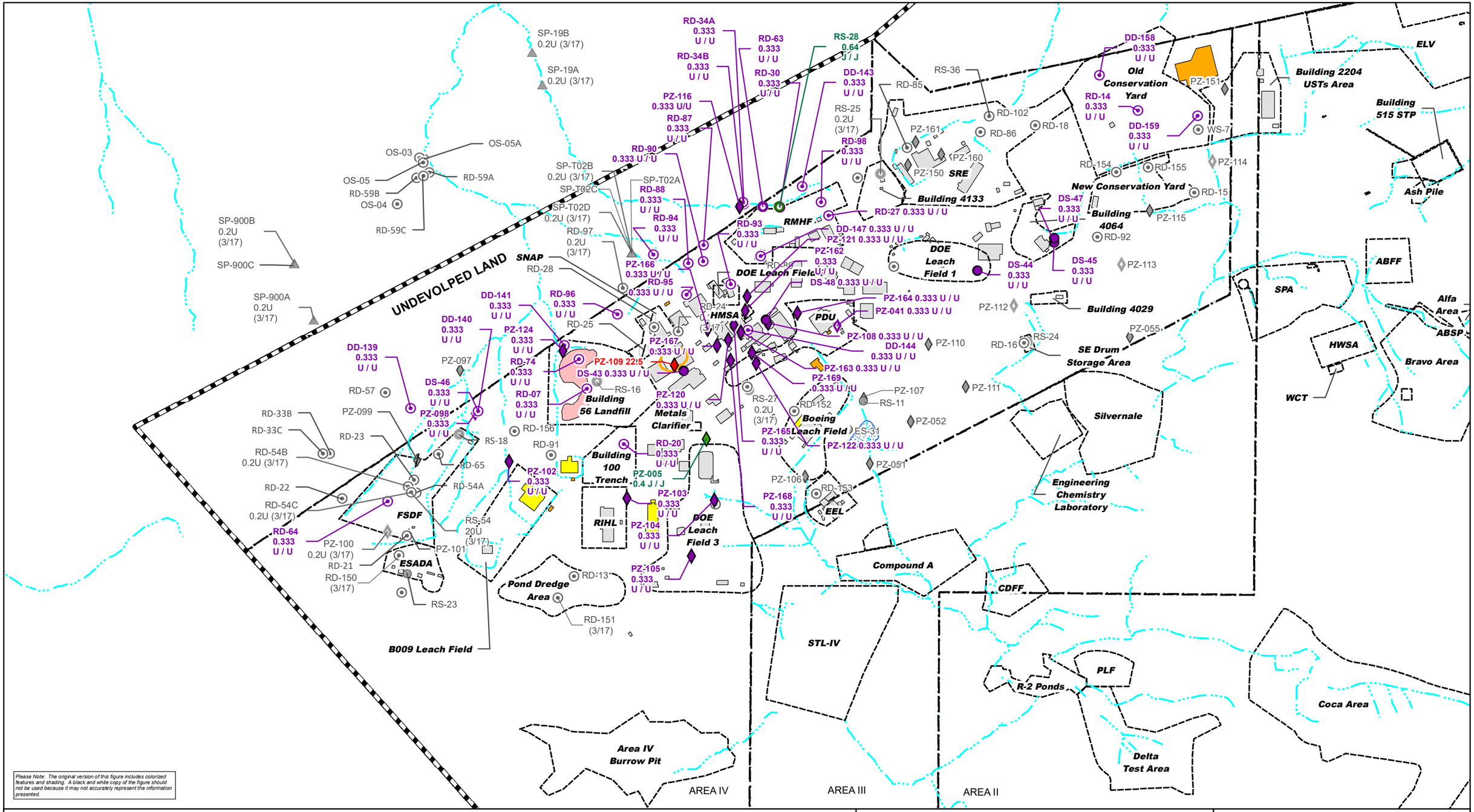
NORTHWIND
A CIRI COMPANY

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA
AREA IV

EXTENT OF TRICHLOROETHENE IN GROUNDWATER, 2024

FIGURE 6

D:\Work\ETEC\Project\MXD\2024\Analytes\1Fig 6_SSFL_2024GWAnnual_TCE.mxd



Please Note: The original version of this figure includes colorized features and shading. A black and white copy of the figure should not be used because it may not accurately represent the information presented.

Legend

Symbol Color for Groundwater Results

- Detected above MCL
- Detected above detection limit, below MCL
- Not Detected above detetion limits (ND)
- Well/Piezometer not sampled/analyzed

Areas of Impacted Groundwater

- *Trichloroethene in Groundwater above Primary MCL of 5 ug/L (boundary dashed where inferred)*

Well Type and Groundwater Zone

Groundwater Monitoring Wells

- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers

- Piezometer, Perched
- Piezometer, Near Surface

Seeps/Springs

- Seep/spring

Other

- Abandoned Well
- Abandoned Piezometer
- Corehole

Basemap

- Drainage
- Area IV Boundary
- SSFL Property Boundary

Structures

- Existing Landfill
- Existing Structure
- Existing Substation
- Former Pond
- Demolished Structure

Notes:
GIS layers provided by MWH/Boeing.
Values posted beneath well identifiers are maximum concentrations in micrograms per liter (ug/L) detected in 2024 at each location.
Values posted at location with no 2024 results are for the most recent analytical result with collection date shown in parentheses.
Only primary results shown.

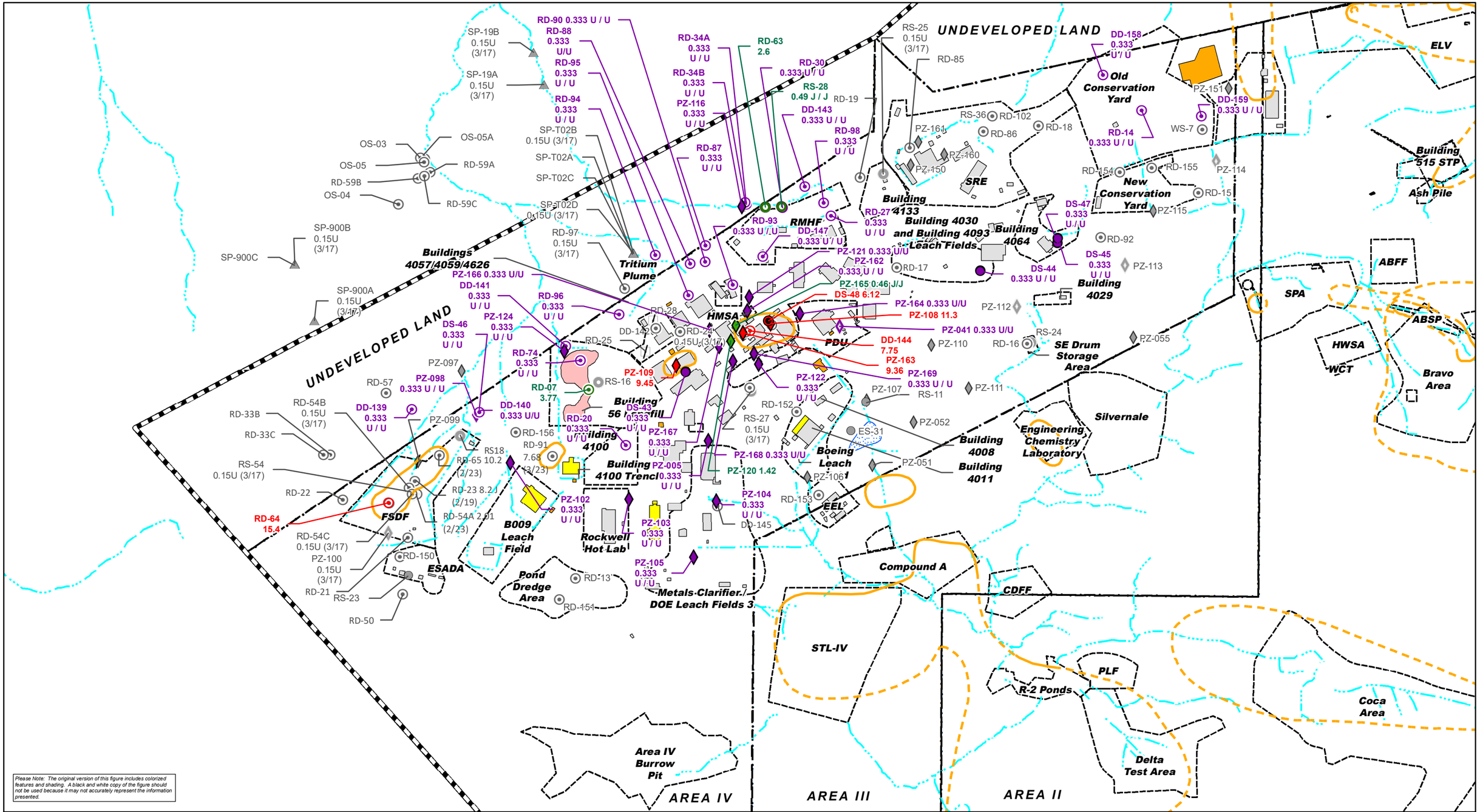
1 inch = 550 feet

0 275 550 825 1,100 Feet

NORTHWIND A CIRI COMPANY

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA
AREA IV
EXTENT OF TETRACHLOROETHENE IN GROUNDWATER, 2024
FIGURE 7

D:\Work\ETEC\Project\MXD\2024\Analytes\1Fig 7_SSFL_2024GWAnnual_PCE.mxd



Please Note: The original version of this figure includes colorized features and shading. A black and white copy of the figure should not be used because it may not accurately represent the information presented.

Legend

Symbol Color for Groundwater Results

- Detected above MCL
- Detected above detection limit, below MCL
- Not detected above detection limits (ND)
- Well/Piezometer not sampled/analyzed

Areas of Impacted Groundwater

- cis-1,2-Dichloroethene in Groundwater above Cal MCL of 6 ug/L (boundary dashed where inferred)

Well Type and Groundwater Zone

Groundwater Monitoring Wells

- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers

- Piezometer, Perched
- Piezometer, Near Surface

Seeps/Springs

- Seep/spring

Other

- Abandoned Well
- Abandoned Piezometer
- Corehole

Basemap

- Drainage
- Area IV Boundary
- SSFL Property Boundary

Structures

- Existing Landfill
- Existing Structure
- Existing Substation
- Former Pond
- Demolished Structure

Notes:
Original GIS layers provided by MWH/Boeing; updated by CDM Smith as needed.
Values posted beneath well identifiers are maximum concentrations in micrograms per liter (ug/L) detected in 2024 at each location.
Values posted at location with no 2024 results are for the most recent analytical result with collection date shown in parentheses.
Only primary results shown.

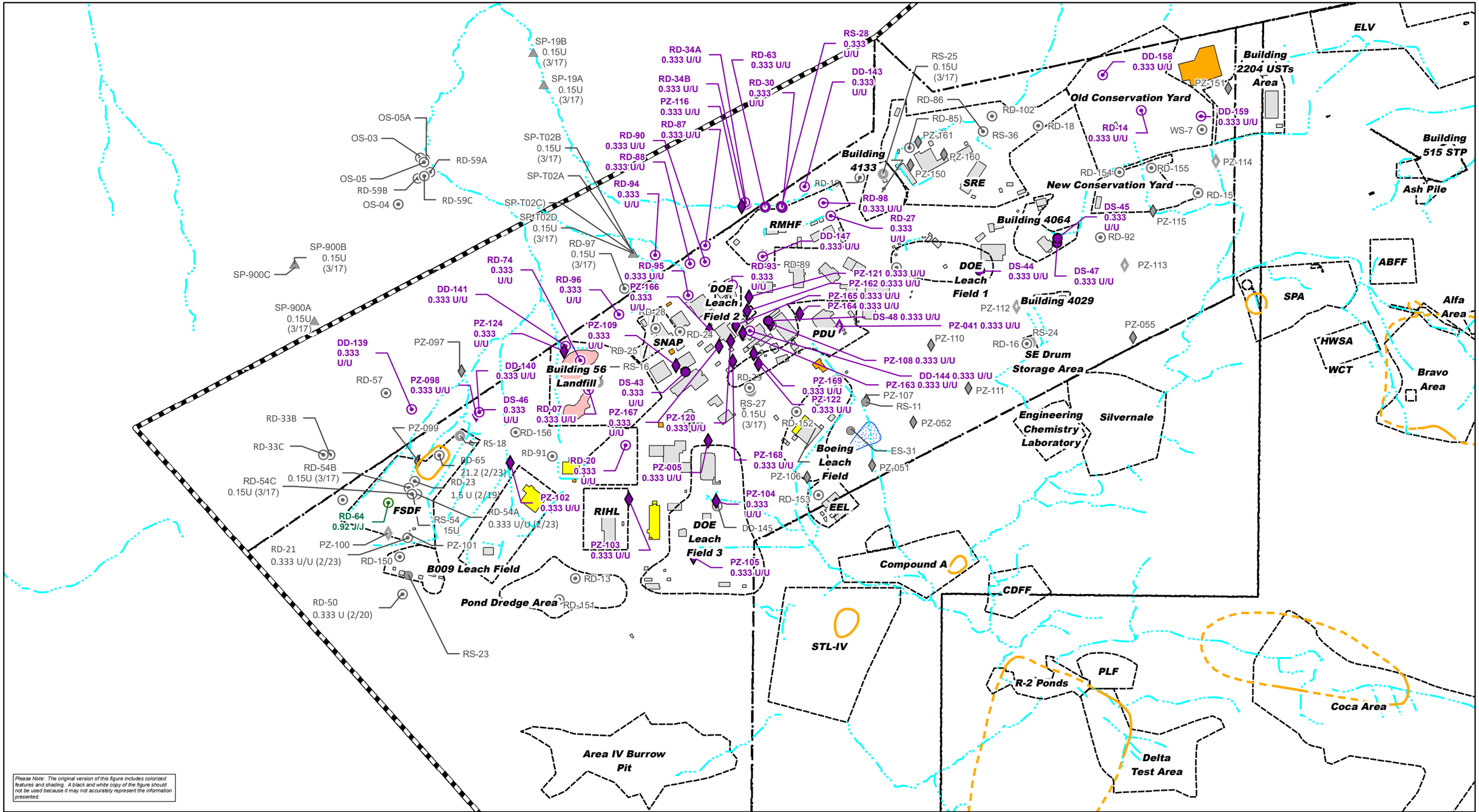
1 inch = 550 feet

0 275 550 825 1,100 Feet

NORTHWIND A CIRI COMPANY

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA
AREA IV
EXTENT OF CIS-1,2-DICHLOROETHENE IN GROUNDWATER, 2024
FIGURE 8

D:\Work\ETEC\Project\MXD\2024\Analytes\1Fig 8_SSFL_2024GWAnnual_cis12DCE.mxd



Please Note: The original version of this figure includes colorized features and shading. A black and white copy of the figure should not be used because it may not accurately represent the information presented.

Legend

Symbol Color for Groundwater Results

- Detected above screening level
- Detected below screening level
- Not Detected
- Available Well/Piezometer

Areas of Impacted Groundwater

- trans-1,2-Dichloroethene in Groundwater above Cal MCL of 10 ug/L (boundary dashed where inferred)

Well Type and Groundwater Zone

Groundwater Monitoring Wells

- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers

- Piezometer, Perched
- Piezometer, Near Surface

Seeps/Springs

- Seep/spring

Other

- Abandoned Well
- Abandoned Piezometer
- Corehole

Basemap

- Drainage
- Area IV Boundary
- SSFL Property Boundary

Structures

- Existing Landfill
- Existing Structure
- Existing Substation
- Former Pond
- Demolished Structure

Notes:
Original GIS layers provided by MWH/Boeing; updated by CDM Smith as needed.
Values posted beneath well identifiers are maximum concentrations in micrograms per liter (ug/L) detected in 2024 at each location.
Values posted at location with no 2024 results are for the most recent analytical result with collection date shown in parentheses.
Only primary results shown.

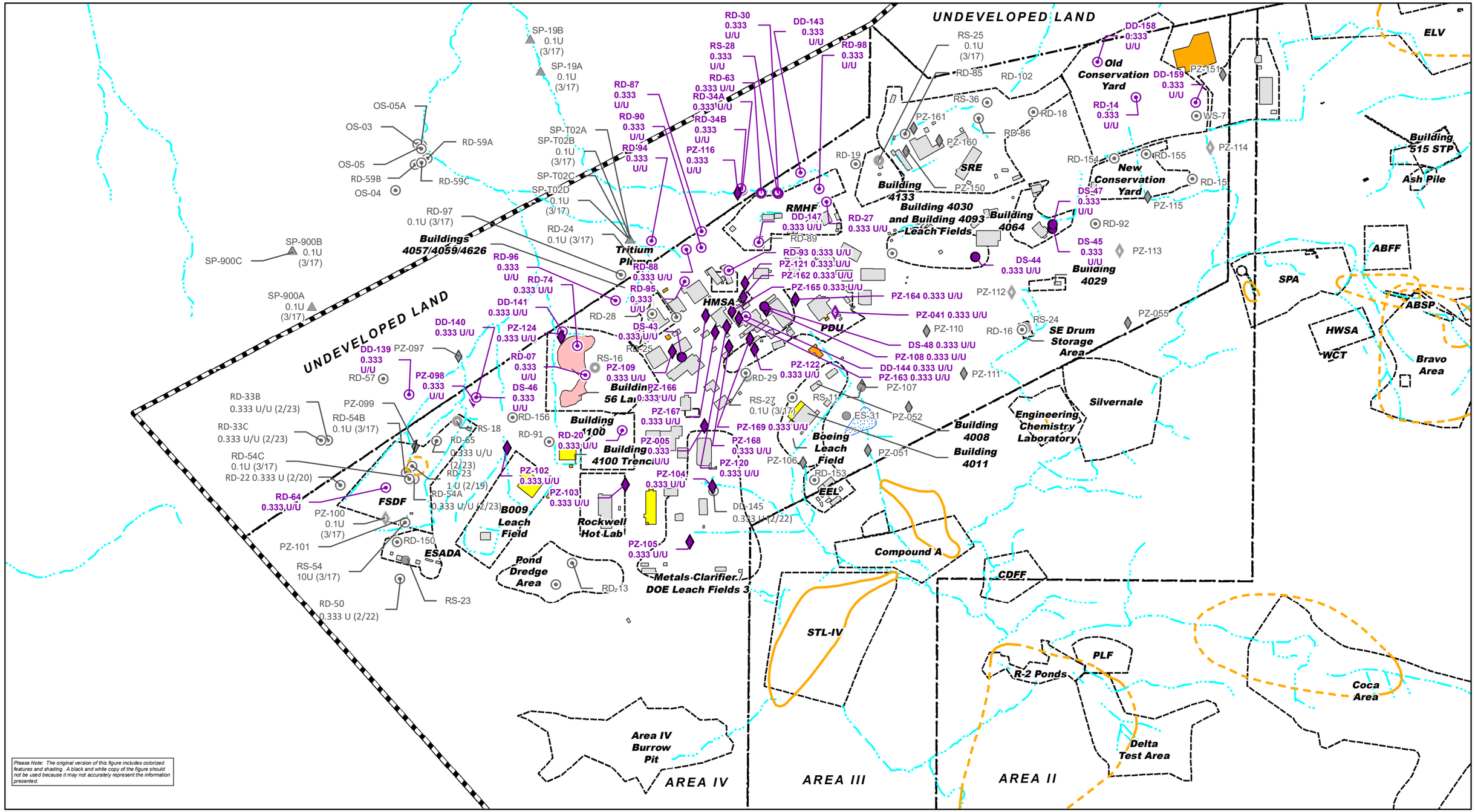
1 inch = 550 feet

0 275 550 825 1,100 Feet

NORTHWIND A CIRI COMPANY

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA
AREA IV
EXTENT OF TRANS-1,2-DICHLOROETHENE IN GROUNDWATER, 2024
FIGURE 9

D:\Work\ETEC\Project\MXD\2024\Analytes\1Fig 9_SSFL_2024GWAnnual_trans12DCE.mxd



Please Note: The original version of this figure includes colorized features and shading. A black and white copy of the figure should not be used because it may not accurately represent the information presented.

Legend

Symbol Color for Groundwater Results

- Detected above MCL
- Detected above detection limit, below MCL
- Not detected above detection limits (ND)
- Well/Piezometer not sampled/analyzed

Areas of Impacted Groundwater

- Vinyl Chloride in Groundwater above Cal MCL of 0.5 ug/L (boundary dashed where inferred)

Well Type and Groundwater Zone

Groundwater Monitoring Wells

- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers

- Piezometer, Perched
- Piezometer, Near Surface

Seeps/Springs

- Seep/spring

Other

- Abandoned Well
- Abandoned Piezometer
- Corehole

Basemap

- Drainage
- Area IV Boundary
- SSFL Property Boundary

Structures

- Existing Landfill
- Existing Structure
- Existing Substation
- Former Pond
- Demolished Structure

Notes:
Original GIS layers provided by MWH/Boeing; updated by CDM Smith as needed.
Values posted beneath well identifiers are maximum concentrations in micrograms per liter (ug/L) detected in 2024 at each location.
Values posted at location with no 2024 results are for the most recent analytical result with collection date shown in parentheses.
Only primary results shown.

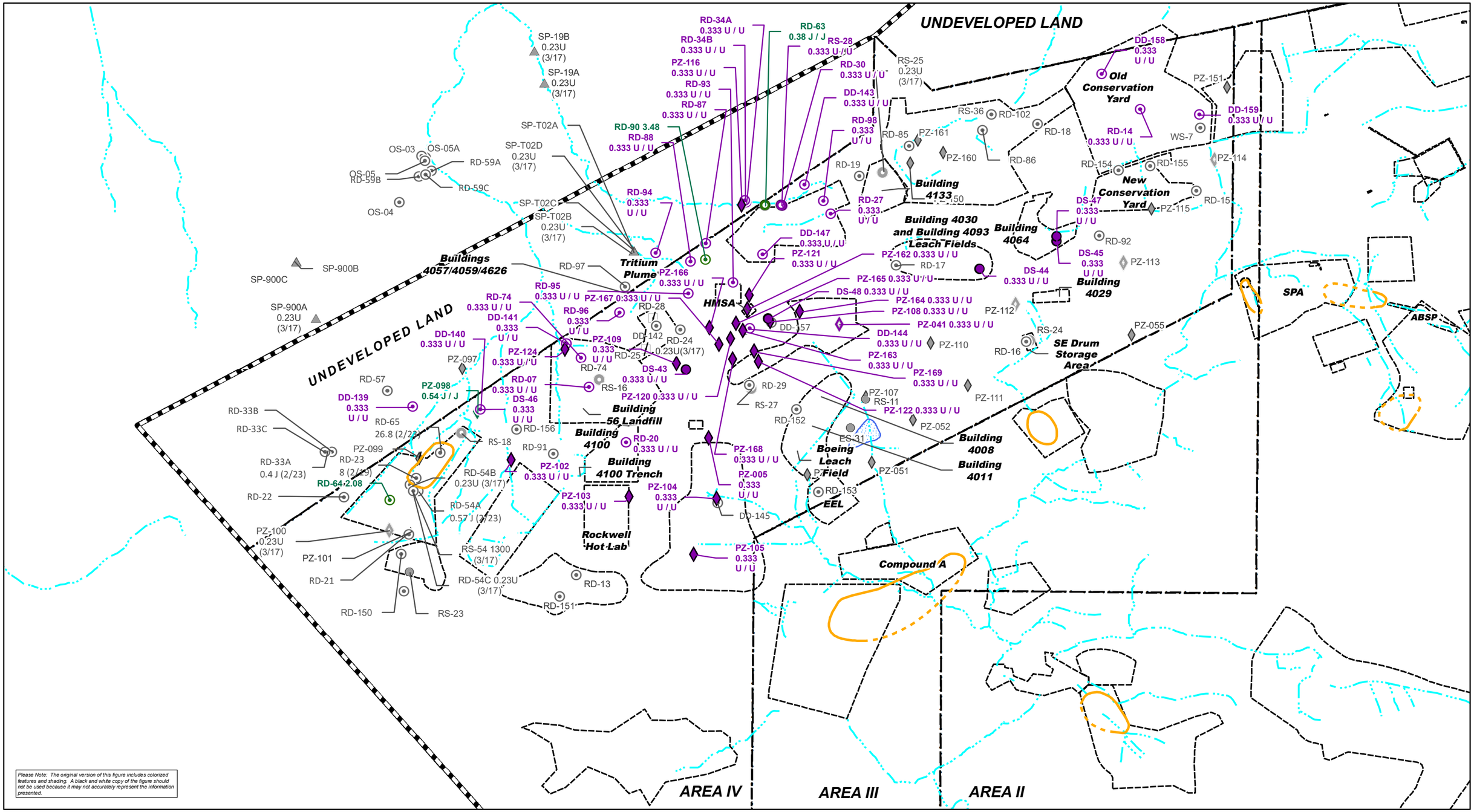
1 inch = 550 feet

0 275 550 825 1,100 Feet

NORTHWIND A CIRI COMPANY

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA
AREA IV
EXTENT OF VINYL CHLORIDE IN GROUNDWATER, 2024
FIGURE 10

D:\Work\ETEC\Project\MXD\2024\Analytes\1Fig 10_SSFL_2024GWAnnual_VinylChloride.mxd



Legend

Symbol Color for Groundwater Results

- Detected above MCL
- Detected above detection limit, below MCL
- Not detected above detection limits (ND)
- Well/Piezometer not sampled/analyzed

Areas of Impacted Groundwater

- 1,1-Dichloroethene in Groundwater above Cal MCL of 6 ug/L (boundary dashed where inferred)

Well Type and Groundwater Zone

Groundwater Monitoring Wells

- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers

- Piezometer, Perched
- Piezometer, Near Surface

Seeps/Springs

- Seep/spring

Other

- Abandoned Well
- Abandoned Piezometer
- Corehole

Basemap

- Area IV Boundary
- SSFL Property Boundary

Structures

- Existing Landfill
- Existing Structure
- Existing Substation
- Former Pond
- Demolished Structure

Notes:
Original GIS layers provided by MWH/Boeing; updated by CDM Smith as needed.
Values posted beneath well identifiers are maximum concentrations in micrograms per liter (ug/L) detected in 2024 at each location.
Values posted at location with no 2024 results are for the most recent analytical result with collection date shown in parentheses.
Only primary results shown.

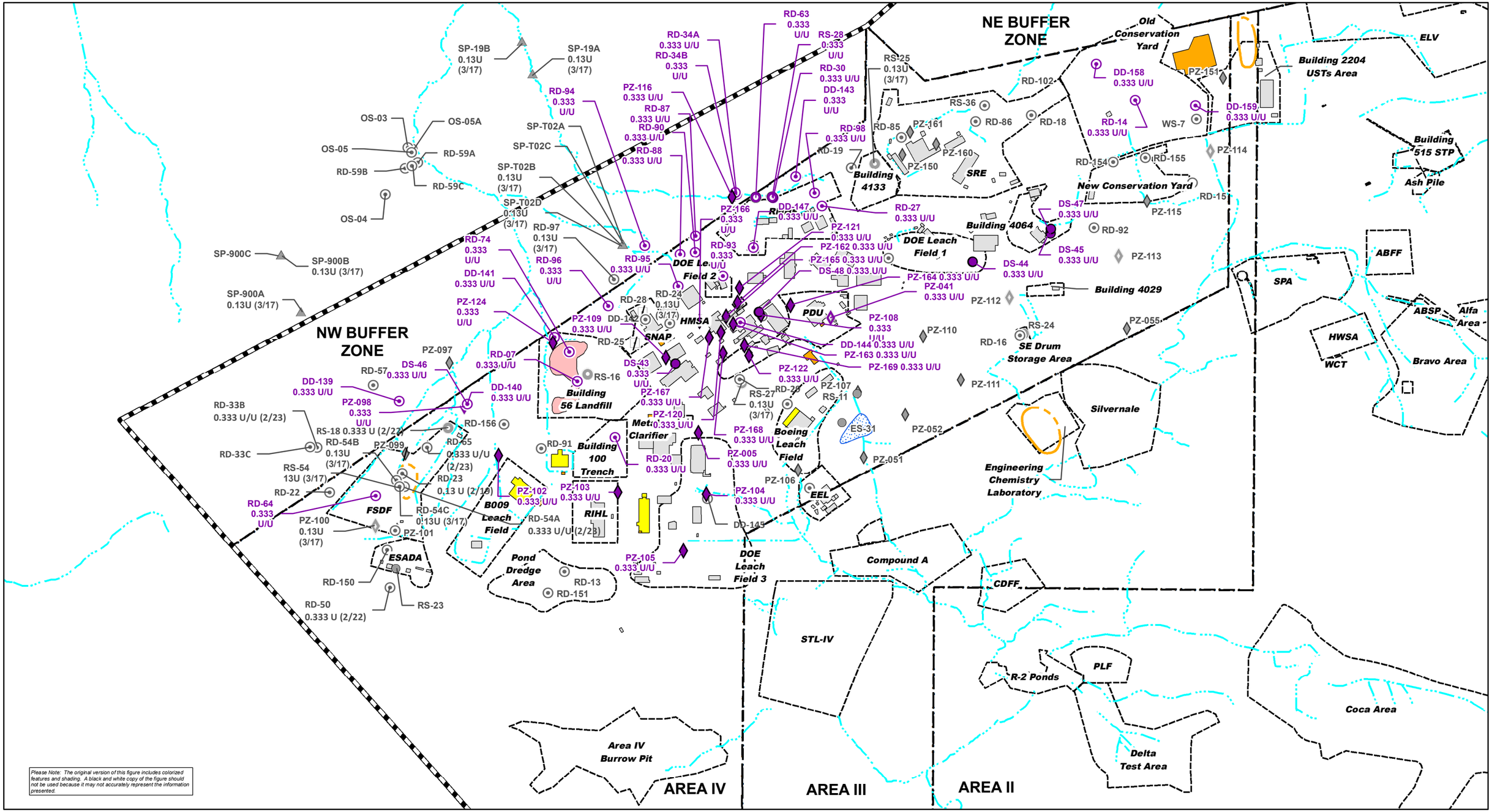
1 inch = 550 feet

0 275 550 825 1,100 Feet

NORTHWIND A CIRI COMPANY

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA
AREA IV
EXTENT OF 1,1-DICHLOROETHENE IN GROUNDWATER, 2024
FIGURE 11

D:\Work\ETEC\Project\MXD\2024\Analytes\1Fig 11_SSFL_2024GWAnnual_11DCE.mxd



Please Note: The original version of this figure includes colorized features and shading. A black and white copy of the figure should not be used because it may not accurately represent the information presented.

Legend

Symbol Color for Groundwater Results

- Detected above MCL
- Detected above detection limit, below MCL
- Not detected above detection limits (ND)
- Well/Piezometer not sampled/analyzed

Areas of Impacted Groundwater

- 1,2-Dichloroethane in Groundwater above Cal MCL of 0.5 ug/L (boundary dashed where inferred)

Well Type and Groundwater Zone

Groundwater Monitoring Wells

- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers

- Piezometer, Perched
- Piezometer, Near Surface

Seeps/Springs

- Seep/spring

Other

- Abandoned Well
- Abandoned Piezometer
- Corehole

Basemap

- Area IV Boundary
- SSFL Property Boundary

Structures

- Existing Landfill
- Existing Structure
- Existing Substation
- Former Pond
- Demolished Structure

Notes:
Original GIS layers provided by MWH/Boeing; updated by CDM Smith as needed.
Values posted beneath well identifiers are maximum concentrations in micrograms per liter (ug/L) detected in 2024 at each location.
Values posted at location with no 2024 results are for the most recent analytical result with collection date shown in parentheses.
Only primary results shown.

1 inch = 550 feet

0 275 550 825 1,100 Feet

NORTHWIND A CIRI COMPANY

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA
AREA IV

EXTENT OF 1,2-DICHLOROETHANE IN GROUNDWATER, 2024
FIGURE 12

D:\Work\ETEC\Project\MXD\2024\Analytes\1Fig 12_SSFL_2024GWAnnual_12DCA.mxd

SP-19B 0.22U (3/17)
SP-19A 0.22U (3/17)
SP-T02A
SP-T02D 0.22U (3/17)
SP-T02C
SP-T02B 0.22U (3/17)
RD-97 0.22U (3/17)
OS-03 0.22U (2/14)
OS-05A 0.22U (2/14)
OS-05
RD-59A
RD-59B
RD-59C
OS-04
SP-900B 0.22U (3/17)
SP-900C
SP-900A 0.22U (3/17)
RD-34A 0.333 U/U
RD-34B 0.333 U/U
RD-63 0.36 J / J
RS-28 0.333 U/U
RD-30 0.333 U/U
PZ-116 0.333 U/U
RD-90 0.49 J / J
RD-87 0.333 U/U
RD-94 0.333 U/U
RD-88 0.333 U/U
RD-95 0.333 U/U
RD-93 0.333 U/U
RMHF
RD-28
RD-96 0.333 U/U
DD-141 0.333 U/U
DD-140 0.333 U/U
PZ-124 0.333 U/U
PZ-109 0.333 U/U
SNAP
DD-139 0.333 U/U
PZ-097
PZ-099
RD-57
PZ-098 0.333 U/U
RD-74 0.333 U/U
RD-07 0.333 U/U
DS-46 0.333 U/U
DS-43 0.333 U/U
RD-23 2.2 U (2/19)
RD-33B
RD-33C
RD-54B 0.22U (3/17)
RD-54C 0.22U (3/17)
RD-22
FSDF
RD-64 0.51 J / J
PZ-100 0.22U (3/17)
PZ-101
RD-21
RD-150
RD-50
ESADA
RD-65 4.18 (2/23)
RD-54A 0.333 U/U (2/23)
RS-54 1700 (3/17)
RS-23
RD-156
RS-18
RD-91
RD-20 0.333 U/U
Building 100 Trench
PZ-102 0.333 U/U
RIHL
PZ-103 0.333 U/U
B009 Leach Field
Pond Dredge Area
RD-13
RD-151
RS-16
RD-25
RD-29
RD-27 0.22U (3/17)
PZ-166 0.333 U/U
PZ-167 0.333 U/U
PZ-005 0.333 U/U
PZ-104 0.333 U/U
DD-145
DOE Leach Field 2
DOE Leach Field 3
PZ-105 0.333 U/U
PDU
PZ-164 0.333 U/U
DS-48 0.333 U/U
PZ-165 0.56 J / J
PZ-162 0.333 U/U
PZ-121 0.333 U/U
RD-27 0.333 U/U
DD-147 0.333 U/U
PZ-108 0.333 U/U
PZ-041 0.333 U/U
DD-144 0.333 U/U
PZ-110
PZ-163 0.333 U/U
PZ-120 0.7 J / J
PZ-169 0.333 U/U
PZ-111
PZ-122 0.333 U/U
PZ-107
RD-152
RS-11
PZ-052
ES-31
PZ-051
PZ-168 0.333 U/U
RD-153
EEL
Boeing Leach Field
RD-85
PZ-161
RS-25 0.22U (3/17)
RS-36
RD-102
SRE
RD-18
RD-86
PZ-160
Building 4133
PZ-150
RD-98 0.333 U/U
DD-143 0.333 U/U
DD-158 0.333 U/U
Building 2204 USTs Area
PZ-151
Old Conservation Yard
DD-159 0.333 U/U
WS-7
RD-14 0.333 U/U
RD-154
RD-155
New Conservation Yard
RD-15
PZ-114
Building 515 STP
Ash Pile
DS-45 0.333 U/U
PZ-115
Building 4064
RD-92
DS-44 0.333 U/U
DS-47 0.333 U/U
PZ-113
Building 4029
PZ-112
RS-24
RD-16
SE Drum Storage Area
PZ-055
ABFF
SPA
Alfa Area
HWSA
WCT
Bravo Area
Engineering Chemistry Laboratory
Silvernale
ELV
Compound A
CDFF
STL-IV
PLF
R-2 Ponds
Coca Area
Delta Test Area
Area IV Burrow Pit

Please Note: The original version of this figure includes colorized features and shading. A black and white copy of the figure should not be used because it may not accurately represent the information presented.

Legend

Symbol Color for Groundwater Results
- Detected above MCL
- Detected above detection limit, below MCL
- Not detected above detection limits (ND)
- Well/Piezometer not sampled/analyzed

Areas of Impacted Groundwater
- 1,1-Dichloroethane in Groundwater above Cal MCL of 5 ug/L (boundary dashed where inferred)

Well Type and Groundwater Zone

Groundwater Monitoring Wells
- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers
- Piezometer, Perched
- Piezometer, Near Surface

Seeps/Springs
- Seep/spring

Other
- Abandoned Well
- Abandoned Piezometer
- Corehole

Basemap
- Drainage
- Area IV Boundary
- SSFL Property Boundary

Structures
- Existing Landfill
- Existing Structure
- Existing Substation
- Former Pond
- Demolished Structure

Notes:
Original GIS layers provided by MWH/Boeing; updated by CDM Smith as needed.
Values posted beneath well identifiers are maximum concentrations in micrograms per liter (ug/L) detected in 2024 at each location.
Values posted at location with no 2024 results are for the most recent analytical result with collection date shown in parentheses.
Only primary results shown.

1 inch = 550 feet
0 275 550 825 1,100 Feet

NORTHWIND A CIRI COMPANY

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA
AREA IV
EXTENT OF 1,1-DICHLOROETHANE IN GROUNDWATER, 2024
FIGURE 13

D:\Work\ETEC\Project\MXD\2024\Analytes\1Fig 13_SSFL_2024GWAnnual_11DCA.mxd

UNDEVELOPED LAND

UNDEVELOPED LAND

UNDEVELOPED LAND

AREA IV

AREA III

AREA II

Buildings 4057/4059/4626

Tritium Plume

HMSA

PDU

RMHF

Building 4133

Building 4030 and Building 4093 Leach Fields

Building 4064

Building 4029

SRE

Old Conservation Yard

New Conservation Yard

SE Drum Storage Area

Engineering Chemistry Laboratory

Building 4008

Building 4011

Ivernale

56 Landfill

Building 410

Building 00 Trench

Boeing each Field

B009 Leach Field

Rockwell Hot Lab

EEL

ESADA

SDF

Pond Dredge Area

Metals Clarifier / DOE Leach Fields 3

Compound A

STL-IV

CDFF

PLF

R-2 Ponds

Delta Test Area

Coca Area

Area IV Burrow Pit

Building 515 STP

Ash Pile

ABFF

SPA

ABSP

HWSA

WCT

Bravo Area

ELV

RD-34B 0.04 J/U

RD-63 1.16

RD-30 0.285 J

RD-93 0.754

RD-34A 0.04 J/U

RD-87 0.238 J/J

PZ-116 0.133 J/J

RD-90 9.15 B

RD-88 0.2 U/U

RD-95 4.77 B

RS-28 0.437

DD-143 0.134 J/J

RD-98 0.0988 J/J

RD-94 0.523

RD-27 0.0476 J/J

DD-147 0.762

PZ-121 0.04 J/U

PZ-162 0.537

PZ-165 2.93

PZ-164 0.0674 J/J

DS-48 0.231 J/J

PZ-041 0.04 U/U

PZ-108 0.191 J/J

DD-144 0.53

PZ-120 3.5

PZ-122 0.0944 J/J

PZ-163 0.97

PZ-169 0.201 J/J

PZ-168 0.064 J/J

PZ-104 0.0876 J/J

PZ-105 0.04 U/U

DD-145

DD-158 0.04 U / U

DD-159 0.04 U / U

RD-14 0.04 J / U

DS-45 0.04 U / U

DS-47 0.04 U/U

DS-44 0.04 U / U

RD-96 0.04 U/U

DD-141 0.04 J/U

RD-74 0.107 J/J

DS-46 3.96

PZ-166 0.294 J/J

PZ-124 0.04 J/U

RD-07 0.04 U/U

PZ-109 0.053 J/J

DD-140 2.36 H/J

DS-43 0.04 J/U

PZ-167 0.132 J/J

RD-20 0.104 J/J

PZ-102 0.04 U/U

PZ-005 0.04 U/U

PZ-103 0.137 J/J

RD-21 0.04 U/U (2/23)

PZ-098 1.76

DD-139 0.04 U/U

RD-33A 2.31 (2/23)

RD-65 0.552 ((2/23)

RS-18 1.9 (2/22)

RD-64 2.85

RD-54A 0.218 J/J (2/23)

C-08 0.164 J/J (2/23)

RD-150

RD-50

RD-151

RD-13

RD-60

RD-26

RD-15

RD-92

RD-112

RD-113

RD-89

RD-17

RD-97

RD-24

RD-28

RD-25

RS-16

RD-156

RD-91

RD-23

RD-54B

RD-22

RD-54C

PZ-100

RS-23

RD-33B

RD-33C

RD-59A

RD-59B

RD-59C

RD-57

RD-85

RD-102

RD-86

RD-18

RD-19

RS-25

RS-36

RS-7

PZ-161

PZ-160

PZ-150

PZ-114

PZ-115

PZ-056

PZ-157

PZ-151

PZ-055

PZ-058

PZ-057

PZ-158

HAR-14

HAR-12

HAR-13

HAR-23

HAR-05

RS-24

RD-16

PZ-110

PZ-111

PZ-107

RS-27

RS-11

PZ-052

ES-31

PZ-051

RS-15

RS-17

SH-06

SH-07

PZ-106

PZ-101

PZ-099

PZ-097

SP-19B

SP-19A

SP-T02

SP-900B

SP-900C

SP-900A

OS-03

OS-05A

OS-05

OS-04

Please Note: The original version of this figure includes colorized features and shading. A black and white copy of the figure should not be used because it may not accurately represent the information presented.

Legend

Symbol Color for Groundwater Results

- Detected above MCL
- Detected above detection limit, below MCL
- Not detected above detection limits (ND)
- Well/Piezometer not sampled/analyzed

Areas of Impacted Groundwater

- 1,4-Dioxane in Groundwater above Primary MCL of 1 ug/L (boundary dashed where inferred)

Well Type and Groundwater Zone

Groundwater Monitoring Wells

- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers

- Piezometer, Perched
- Piezometer, Near Surface

Seeps/Springs

- Seep/spring

Other

- Abandoned Well
- Abandoned Piezometer
- Corehole

Basemap

- Drainage
- Area IV Boundary
- SSFL Property Boundary

Structures

- Existing Landfill
- Existing Structure
- Existing Substation
- Former Pond
- Demolished Structure

Notes:
Original GIS layers provided by MWH/Boeing; updated by CDM Smith as needed.
Values posted beneath well identifiers are maximum concentrations in micrograms per liter (ug/L) detected in 2024 at each location.
Values posted at location with no 2024 results are for the most recent analytical result with collection date shown in (parentheses).
Only primary results shown.

1 inch = 550 feet

0 275 550 825 1,100 Feet

NORTHWIND A CIRI COMPANY

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA
AREA IV
EXTENT OF 1,4-DIOXANE IN GROUNDWATER, 2024
FIGURE 14

D:\Work\ETEC\Project\MXD\2024\Analytes\1Fig 14_SSFL_2024GWAnnual_14Dioxane.mxd

UNDEVELOPED LAND

UNDEVELOPED LAND

AREA IV

AREA III

AREA II

SP-19B 0.19U (3/17)

SP-19A 0.19U (3/17)

OS-03

OS-05A

OS-05

RD-59A

RD-59B

RD-59C

OS-04

SP-900B 0.19U (3/17)

SP-900C

SP-900A 0.19U (3/17)

SP-T02A

SP-T02D 0.19U (3/17)

SP-T02C

SP-T02B 0.19U (3/17)

RD-97 0.19U (3/17)

RD-34A 0.333 U/U

RD-34B 0.333 U/U

PZ-116 0.333 U/U

RD-90 0.333 U/U

RD-87 0.333 U/U

RD-94 0.333 U/U

RD-88 0.333 U/U

RD-63 0.333 U/U

RS-28 0.333 U/U

RD-30 0.333 U/U

DD-143 0.333 U/U

RD-98 0.333 U/U

RD-27 0.333 U/U

DD-147 0.333 U/U

RD-85

RS-36

RD-102

DD-158 0.333 U/U

Old Conservation Yard

PZ-151

DD-159 0.333 U/U

WS-7

RD-14 0.333 U/U

PZ-161

PZ-160

PZ-150

RD-18

RD-86

PZ-114

New Conservation Yard

RD-15

RD-19

SRE

RS-25 0.19U (3/17)

Building 4133

Building 4030 and Building 4093 Leach Fields

Building 4064

DS-47 0.333 U/U

RD-92

DS-45 0.333 U/U

PZ-113

DS-44 0.333 U/U

Building 4029

RD-17

RMHF

Buildings 4057/4059/4626

Tritium Plume

RD-95 0.333 U/U

RD-93 0.333 U/U

PZ-121 0.333 U/U

PZ-162 0.333 U/U

PZ-164 0.333 U/U

RD-28

RD-24 0.19U (3/17)

RD-74 0.333 U/U

HMSA

DD-141 0.333 U/U

RD-96 0.333 U/U

DD-142

RD-25

PZ-166 0.333 U/U

PDU

DS-48 0.333 U/U

PZ-041 0.333 U/U

PZ-108 0.333 U/U

PZ-165 0.333 U/U

PZ-110

DD-144 0.333 U/U

PZ-163 0.333 U/U

PZ-169 0.333 U/U

PZ-112

RS-24

RD-16

SE Drum Storage Area

PZ-055

PZ-124 0.333 U/U

DD-139 0.333 U/U

PZ-097

RD-07 0.333 U/U

RS-16

PZ-109 0.333 U/U

RD-29

PZ-098 0.333 U/U

RD-57

DS-43 0.333 U/U

Building 4100 Landfill

PZ-167 0.333 U/U

PZ-168 0.333 U/U

PZ-122 0.333 U/U

PZ-107

RS-11

PZ-111

DS-46 0.333 U/U

RD-33B

RD-33C

PZ-099

RD-156

Building 4100

RS-27 0.19U (3/17)

Boeing Leach Field

Building 4000

PZ-052

Silvernale

Engineering Chemistry Laboratory

RD-54B 0.19U (3/17)

RD-54C 0.19U (3/17)

RD-22

RS-18

RD-65

Rd-23

RD-91

RD-20 0.333 U/U

PZ-120 0.333 U/U

PZ-005 0.333 U/U

PZ-106

PZ-051

ES-31

Building 4011

PZ-102 0.333 U/U

RD-54A

RS-54 0.19UJ (3/17)

B009 Leach Field

PZ-103 0.333 U/U

PZ-104 0.333 U/U

Rockwell Hot Lab

DD-145

EEL

RD-64 0.333 U/U

FSDF

PZ-100 0.19U (3/17)

PZ-101

RD-21 12 (2/23)

RD-150

ESADA

RD-13

Pond Dredge Area

RD-151

RS-23

RD-50

Metals Clarifier / DOE Leach Fields 3

PZ-105 0.333 U/U

Compound A

CDFF

STL-IV

PLF

R-2 Ponds

Delta Test Area

Area IV Burrow Pit

Coca Area

ELV

Building 515 STP

Ash Pile

ABFF

SPA

ABSP

HWSA

WCT

Bravo Area

Legend

Symbol Color for Groundwater Results

- Detected above MCL
- Detected above detection limit, below MCL
- Not detected above detection limits (ND)
- Well/Piezometer not sampled/analyzed

Areas of Impacted Groundwater

- Carbon Tetrachloride in Groundwater above Cal MCL of 0.5 ug/L (boundary dashed where inferred)

Well Type and Groundwater Zone

Groundwater Monitoring Wells

- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers

- Piezometer, Perched
- Piezometer, Near Surface

Seeps/Springs

- Seep/spring

Other

- Abandoned Well
- Abandoned Piezometer
- Corehole

Basemap

- Drainage
- Area IV Boundary
- SSFL Property Boundary

Structures

- Existing Landfill
- Existing Structure
- Existing Substation
- Former Pond
- Demolished Structure

Notes:
Original GIS layers provided by MWH/Boeing; updated by CDM Smith as needed.
Values posted beneath well identifiers are maximum concentrations in micrograms per liter (ug/L) detected in 2024 at each location.
Values posted at location with no 2024 results are for the most recent analytical result with collection date shown in parentheses.
Only primary results shown.

1 inch = 550 feet

0 275 550 825 1,100 Feet

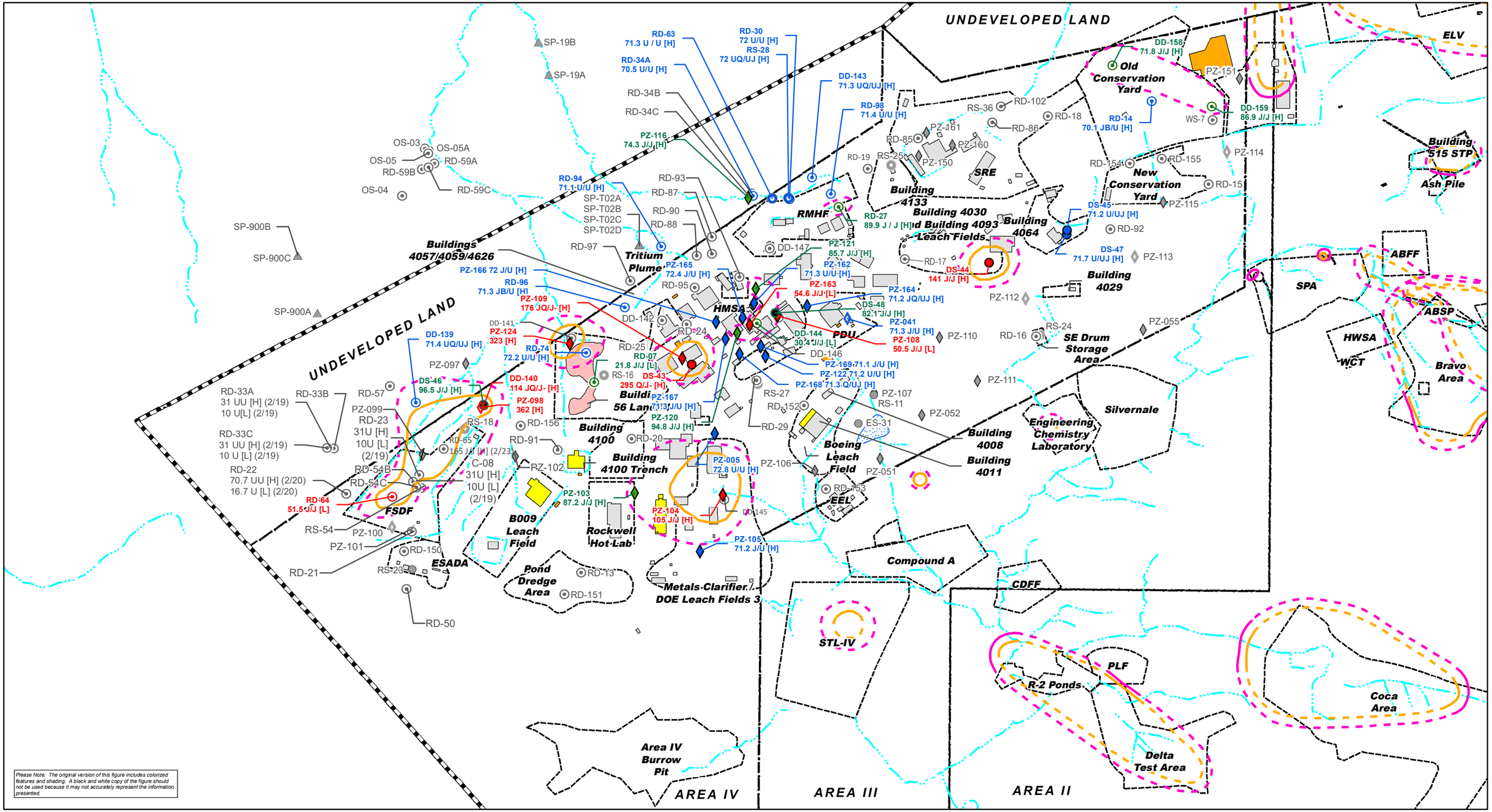
NORTHWIND A CIRI COMPANY

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA
AREA IV

EXTENT OF CARBON TETRACHLORIDE IN GROUNDWATER, 2024

FIGURE 15

D:\Work\ETEC\Project\MXD\2024\Analytes\1Fig 15_SSFL_2024GWAnnual_CarbonTetrachloride.mxd



Please Note: The original version of this figure includes colorized features and shading. A black and white copy of the figure should not be used because it may not accurately represent the information presented.

Legend

Symbol Color for Groundwater Results

- Detected above screening threshold
- Detected above detection limit, but below threshold
- Not detected above detection limits (ND)
- Well/Piezometer not sampled/analyzed

Areas of Impacted Groundwater

Contour

- 100 ug/L
- 100 ug/L Inferred
- 50 ug/L
- 50 ug/L Inferred

TPH in Groundwater above Taste/Odor Threshold of 100 ug/L for DRO, and reporting limit of 5 ug/L for GRO

Well Type and Groundwater Zone

Groundwater Monitoring Wells

- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers

- Piezometer, Perched
- Piezometer, Near Surface

Seeps/Springs

- Seep/spring

Other

- Abandoned Well
- Abandoned Piezometer
- Corehole

Basemap

- Drainage
- Area IV Boundary

Structures

- Existing Landfill
- Existing Structure
- Existing Substation
- Former Pond
- Demolished Structure

Notes:
Original GIS layers provided by MWH/Boeing; updated by CDM Smith as needed.
Values posted beneath well identifiers are maximum concentrations in micrograms per liter (ug/L) detected in 2024 at each location. Values posted at location with no 2024 results are for the most recent analytical result with collection date shown in parentheses. Only primary results shown. Historical TPH results are identified as GRO or DRO on the figure. For 2024, sample results have been identified as Light or Heavy in order to address the overlap in carbon ranges. The Light category consists of EFH C12-C14, EFH C8-C11, GRO C5-C12, GRO C6-C12, and GRO C6-C10. The Heavy category consists of DRO C10-C28, EFH C15-C20, EFH C21—C30, and EFH C30-C40. The GRO from the historical results is considered to be a Light TPH and the DRO is considered to be a Heavy TPH.

1 inch = 550 feet

0 275 550 825 1,100 Feet

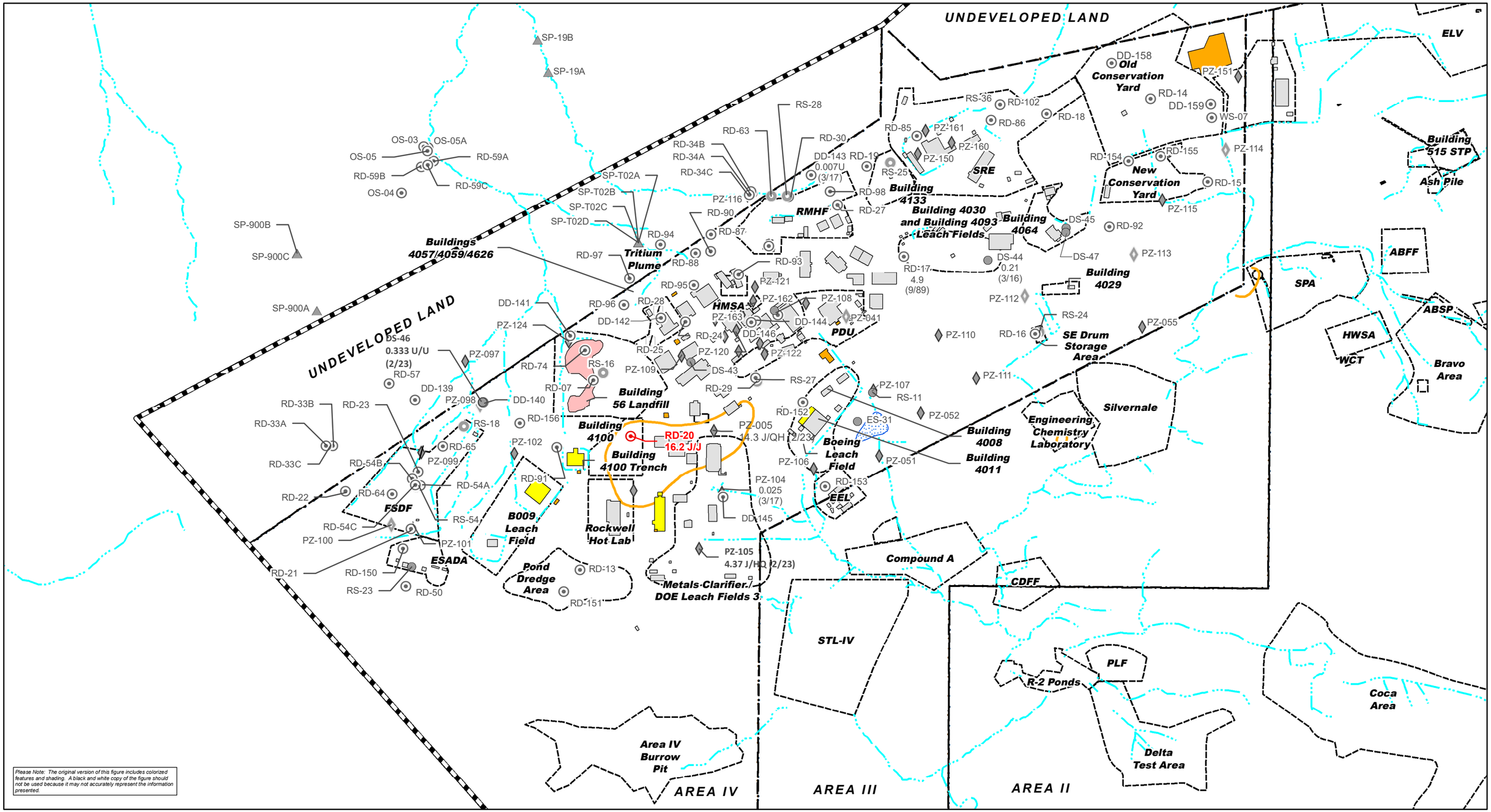
NORTHWIND
A CIRI COMPANY

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA
AREA IV

EXTENT OF TOTAL PETROLEUM HYDROCARBONS C4-C30 IN GROUNDWATER, 2024

FIGURE 16

D:\Work\ETEC\Project\MXD\2024\Analytes\1Fig 16_SSFL_2024GWAnnual.mxd



Please Note: The original version of this figure includes colorized features and shading. A black and white copy of the figure should not be used because it may not accurately represent the information presented.

Legend

Symbol Color for Groundwater Results

- Detected above MCL
- Detected above detection limit, below MCL
- Not detected above detection limits (ND)
- Well/Piezometer not sampled/analyzed

Areas of Impacted Groundwater

- Nitrate-N in Groundwater above Cal MCL of 10 mg/L (boundary dashed where inferred)

Well Type and Groundwater Zone

Groundwater Monitoring Wells

- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers

- Piezometer, Perched
- Piezometer, Near Surface

Seeps/Springs

- Seep/spring

Other

- Abandoned Well
- Abandoned Piezometer
- Corehole

Basemap

- Drainage
- Area IV Boundary
- SSFL Property Boundary

Structures

- Existing Landfill
- Existing Structure
- Existing Substation
- Former Pond
- Demolished Structure

Notes:
Original GIS layers provided by MWH/Boeing; updated by CDM Smithas needed.
Values posted beneath well identifiers are maximum concentrations in milligrams per liter (mg/L) detected in 2024 at each location.
Values posted at location with no 2024 results are for the most recent analytical result with collection date shown in parentheses.
Only primary results shown.

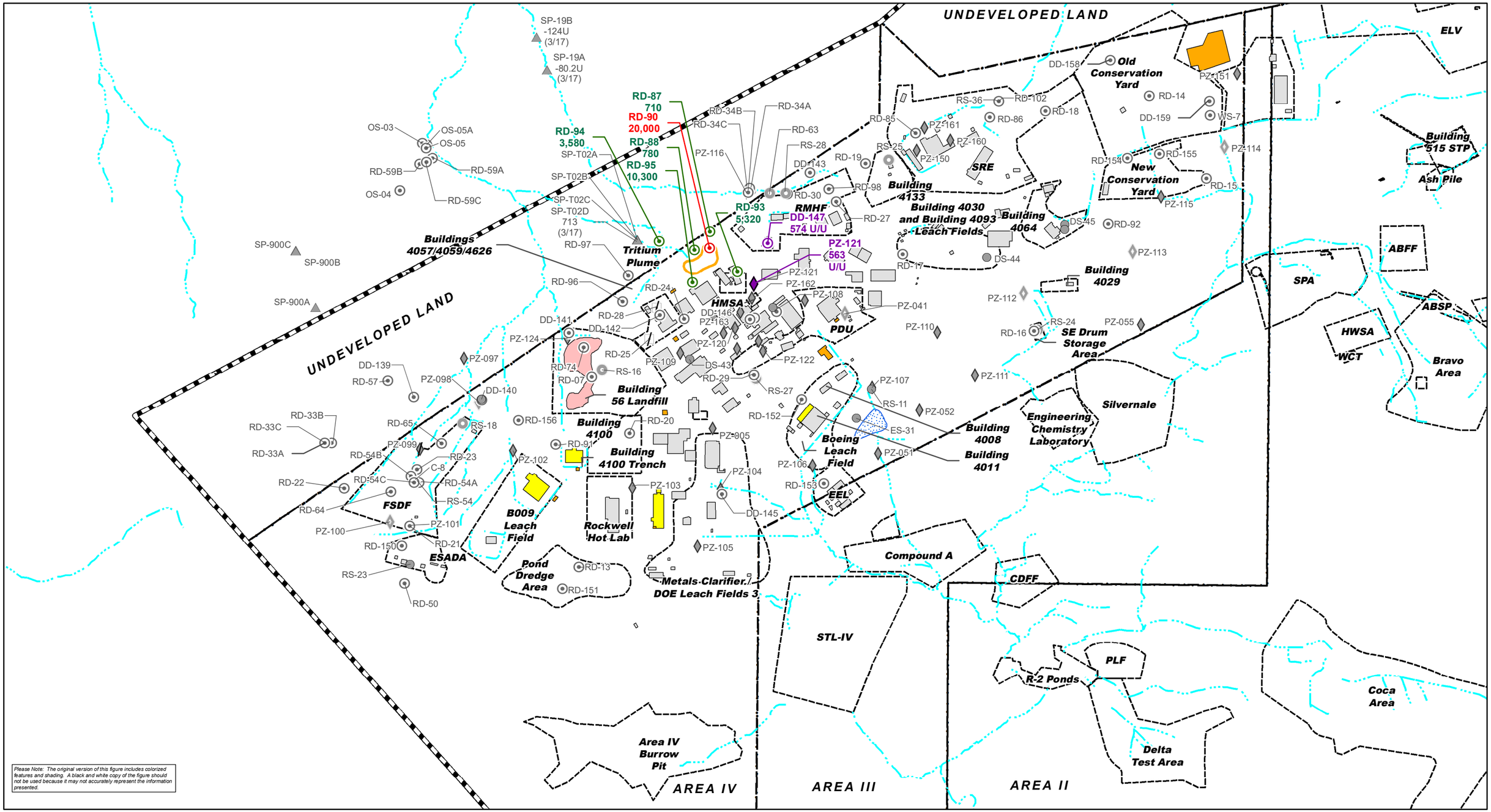
1 inch = 550 feet

0 275 550 825 1,100 Feet

NORTHWIND A CIRI COMPANY

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA
AREA IV
EXTENT OF NITRATE IN GROUNDWATER, 2024
FIGURE 17

D:\Work\ETEC\Project\MXD\2024\Analytes\1Fig 17_SSFL_2024GWAnnual_Nitrate.mxd



Please Note: The original version of this figure includes colorized features and shading. A black and white copy of the figure should not be used because it may not accurately represent the information presented.

Legend

Symbol Color for Groundwater Results

- Detected above MCL
- Detected above detection limit, below MCL
- Not detected above detection limits (ND)
- Well/Piezometer not sampled/analyzed

Areas of Impacted Groundwater

- Tritium in Groundwater above Primary MCL of 20,000 pCi/L (boundary dashed where inferred)

Well Type and Groundwater Zone

Groundwater Monitoring Wells

- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers

- Piezometer, Perched
- Piezometer, Near Surface

Seeps/Springs

- Seep/spring

Other

- Abandoned Well
- Abandoned Piezometer
- Corehole

Basemap

- Drainage
- Area IV Boundary

Structures

- Existing Landfill
- Existing Structure
- Existing Substation
- Former Pond
- Demolished Structure

Notes:
Original GIS layers provided by MWH/Boeing; updated by CDM Smith as needed.
Values posted beneath well identifiers are maximum concentrations in picocuries per liter (pCi/L) detected in 2024 at each location.
Values posted at location with no 2024 results are for the most recent analytical result with collection date shown in parentheses.
Only primary results shown.

1 inch = 550 feet

0 275 550 825 1,100 Feet

NORTHWIND
A CIRI COMPANY

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA
AREA IV
EXTENT OF TRITIUM IN GROUNDWATER, 2024
FIGURE 18

D:\Work\ETEC\Project\MXD\2024\Analytes\1Fig 18_SSFL_2024GWAnnual_Tritium.mxd

APPENDIX A
Monitoring Well and Piezometer Construction Data

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TABLE A-1
WELL CONSTRUCTION DATA
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well Identifier	Area No.	Effective Borehole Depth (feet)	Borehole		Casing		Sealed Interval (feet)	Perforated Interval (feet)	Measuring Point Elevation (feet AMSL)	Date Drilling Completed
			Diameter (inches)	Interval (feet)	Inside Diameter (inches)	Interval (feet)				
SHALLOW WELLS										
DS-43	IV	84	14	0 - 10	6	0 - 28	0 - 28		1809.52	02/10/16
			9-7/8	10-28	---	---				
			5-7/8	28 - 84	---	---		Open Hole		
			3-11/16	84 - 93	---	---		Open Hole		
DS-44	IV	91	14	0 - 10	6	0 - 19	0 - 19		1851.21	01/20/16
			9-7/8	10 - 19	---	---				
			5-7/8	19 - 91	---	---		Open Hole		
DS-45	IV	75	14	0 - 9	6	0 - 18	0 - 18		1866.58	01/28/16
			9-7/8	9 - 18	---	---				
			5-7/8	18 - 75	---	---		Open Hole		
			3-11/16	75 - 95	---	---		Open Hole		
DS-46	IV	52	14	0 - 5	6	0 - 37	0 - 37		1797.79	02/24/16
			9-7/8	5 - 37	---	---				
			5-7/8	37 - 52	---	---		Open Hole		
DS-47	IV	145	14	0 - 10	6	0 - 19	0 - 19		1867.94	03/17/16
			9-7/8	10 - 19	---	---				
			5-7/8	19 - 145	---	---		Open Hole		
DS-48	IV	65	18	0–5	6-1/4	0-35	0-35		1814.46	03/17/20
			10	5–35	---	---				
			5-7/8	35–65	---	---		Open Hole		
RS-11	IV	17.5	16	0 - 17.5	4	0 - 17.5	0 - 9	10 - 17.5	1790.39	06/10/85
RS-16	IV	20.5	16	0 - 20.5	4	0 - 20.5	0 - 14.5	16.5 - 20.5	1811.05	06/11/85
RS-18	IV	13	16	0 - 13	4	0 - 13	0 - 6	7.5 - 13	1802.86	06/12/85
RS-23	IV	13	12	0 - 13	4	0 - 13	0 - 6.8	8 - 13	1887.25	08/23/88
RS-24	IV	8.5	12	0 - 8.5	4	0 - 8.5	0 - 3	4 - 8.5	1809.24	08/25/88
RS-25	IV	13.5	Trenched	0 - 13.5	4	0 - 13.5	0 - 2	8.5 - 13.5	1862.71	08/25/88
RS-27	IV	9	8	0 - 9	4	0 - 9	0 - 3	5 - 9	1804.78	08/02/88
RS-28	IV	19	8	0 - 19	4	0 - 19	0 - 9	14 - 19	1768.59	08/17/89
RS-36	IV	19.5	9-5/8	0 - 19.5	12	0 - 15	0 - 15		1817.73	11/21/11
					9-5/8	---	---	Open Hole		
RS-54	IV	38	11-1/4	0 - 7	6-1/4	0 – 7	0 - 7		1846.66	08/09/93
			5-7/8	7 - 38	---	---		Open Hole		
ES-31	IV	25	12	0 - 25	6	0 - 25	0 - 9.7	11.6 - 25	1787.01	01/29/87
CHATSWORTH FORMATION										
DD-139	IV	206	14	0 - 10	6	0 - 19	0 - 19		1793.01	03/04/16
			9-7/8	10 - 19	---	---				
			5-7/8	19 - 206	---	---		Open Hole		
DD-140	IV	167	14	0 - 10	6	0 - 60	0 - 60		1798.16	02/23/16
			9-7/8	10 - 60	---	---				
			5-7/8	60 - 167	---	---		Open Hole		
DD-141	IV	133	14	0 - 10	6	0 - 19.5	0 - 19.5		1762.79	06/29/16
			9-7/8	10 - 19.5	---	---				
			5-7/8	19.5 -133	---	---		Open Hole		
DD-142	IV	91	14	0 - 10	6	0 - 34	0 - 34		1812.22	02/05/16
			9-7/8	10 - 34	---	---				
			5-7/8	34 - 91	---	---		Open Hole		
DD-143	IV	100	14	0 - 10	6	0 - 19.7	0 - 19.7		1789.74	06/15/16
			9-7/8	10 - 19.7	---	---				
			5-7/8	19.7 -100	---	---		Open Hole		
DD-144	IV	71	14	0 - 15	6	0 - 38	0 - 38		1810.69	02/02/16
			9-7/8	15 - 38	---	---				
			5-7/8	38 - 71	---	---		Open Hole		
DD-145	IV	82	14	0 - 3	6	0 - 27	0 - 27		1798.90	02/12/16
			9-7/8	3 - 27	---	---				
			5-7/8	27 - 82	---	---		Open Hole		
DD-146	IV	140	10	0 - 40	6	0 - 120	0 - 120		1812.72	06/14/18
			5-7/8	40 - 140	---	---		Open Hole		

TABLE A-1
WELL CONSTRUCTION DATA
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well Identifier	Area No.	Effective Borehole Depth (feet)	Borehole		Casing		Sealed Interval (feet)	Perforated Interval (feet)	Measuring Point Elevation (feet AMSL)	Date Drilling Completed
			Diameter (inches)	Interval (feet)	Inside Diameter (inches)	Interval (feet)				
DD-147	IV	257	13 5-7/8	0 - 30 30 - 257	8.5 ---	0 - 30 ---	0 - 30	 Open Hole	1818.30	06/14/18
DD-157	IV	140	18 10 5 7/8	0–4 4–85 85–140	5 7/8 --- ---	0 - 85 --- ---	0 - 85	 Open Hole	1814.21	03/13/20
DD-158	IV	145	18 10 5 7/8	0–19 19 -75 75–145	5 7/8 --- ---	0 - 75 --- ---	0 - 75	 Open Hole	1832.09	08/21/20
DD-159	IV	126	18 10 5 7/8	0–4 4–40 40–126	10 --- ---	0 - 40 --- ---	0 - 40	 Open Hole	1838.35	07/01/20
RD-07	IV	300	15 8-5/8	0 - 25 25 - 300	10-1/8 ---	0 - 25 ---	0 - 25	 Open Hole	1812.82	01/08/86
RD-13	IV	160	12 6-1/2	0 - 30 30 - 160	8-1/4 ---	0 - 30 ---	0 - 30	 Open Hole	1840.01	07/25/89
RD-14	IV	125	12 6-1/2	0 - 30 30 - 125	8-1/4 ---	0 - 30 ---	0 - 30	 Open Hole	1824.18	07/27/89
RD-15	IV	152	12 6-1/2	0 - 30 30 - 152	8-1/4 ---	0 - 30 ---	0 - 30	 Open Hole	1817.70	07/27/89
RD-16	IV	220	12 6-1/2	0 - 30 30 - 220	8-1/4 ---	0 - 30 ---	0 - 30	 Open Hole	1808.99	08/15/89
RD-17	IV	125	12 6-1/2	0 - 30 30 - 125	8-1/4 ---	0 - 30 ---	0 - 30	 Open Hole	1836.30	08/10/89
RD-18	IV	240	12 6-1/2	0 - 30 30 - 240	8-1/4 ---	0 - 30 ---	0 - 30	 Open Hole	1839.51	07/28/89
RD-19	IV	135	12 6-1/2	0 - 30 30 - 135	8-1/4 ---	0 - 30 ---	0 - 30	 Open Hole	1853.16	07/31/89
RD-20	IV	127	12 6-1/2	0 - 30 30 - 127	8-1/4 ---	0 - 30 ---	0 - 30	 Open Hole	1819.52	07/27/89
RD-21	IV	175	12 6-1/2	0 - 30 30 - 175	8-1/4 ---	0 - 30 ---	0 - 30	 Open Hole	1866.96	08/11/89
RD-22	IV	440	12 6-1/2	0 - 30 30 - 440	8-1/4 ---	0 - 30 ---	0 - 30	 Open Hole	1853.41	08/15/89
RD-23	IV	440	12 6-1/2	0 - 30 30 - 440	8-1/4 ---	0 - 30 ---	0 - 30	 Open Hole	1841.35	08/16/89
RD-24	IV	150	12 6-1/2	0 - 30 30 - 150	8-1/4 ---	0 - 30 ---	0 - 30	 Open Hole	1809.93	08/09/89
RD-25	IV	Well abandoned April 2004 as part of Building 4059 demolition.								
RD-27	IV	150	12 6-1/2	0 - 30 30 - 150	8-1/4 ---	0 - 30 ---	0 - 30	 Open Hole	1841.67	08/10/89
RD-28	IV	Well abandoned April 2004 as part of Building 4059 demolition.								
RD-29	IV	100	12 6-1/2	0 - 30 30 - 100	8-1/4 ---	0 - 30 ---	0 - 30	 Open Hole	1806.29	08/10/89
RD-30	IV	75	12 6-1/2	0 - 30 30 - 75	8-1/4 ---	0 - 30 ---	0 - 30	 Open Hole	1768.69	08/11/89
RD-33A	UL-N	320	17-1/2 11 5-1/2	0 - 11 11 - 100 100 - 320	12-1/8 6-1/4 ---	0 - 11 0 - 100 ---	0 - 11 0 - 100	 Open Hole	1792.97	09/27/91
RD-33B	UL-N	415	17-1/2 11 6-1/4	0 - 20 20 - 360 360 - 415	12-1/8 6-1/4 ---	0 - 20 0 - 360 ---	0 - 20 20 - 360	 Open Hole	1793.72	09/27/91
RD-33C	UL-N	520	17-1/2 11 6-1/4	0 - 10 10 - 480 480 - 520	12-1/8 6-1/4 ---	0 - 10 0 - 480 ---	0 - 10 0 - 480	 Open Hole	1793.61	09/21/91
RD-34A	UL-N	60	12-1/4 6-1/2	0 - 16 16 - 60	8-1/4 ---	0 - 16 ---	0 - 16	 Open Hole	1761.91	07/25/91
RD-34B	UL-N	240	17-1/2 11 6-1/4	0 - 30 30 - 180 180 - 240	12-1/8 6-1/4 ---	0 - 30 0 - 180 ---	0 - 30 0 - 180	 Open Hole	1762.51	08/11/91
RD-34C	UL-N	450	17-1/2 11 6-1/4	0 - 30 30 - 380 380 - 450	12-1/8 6-1/4 ---	0 - 30 0 - 380 ---	0 - 30 0 - 380	 Open Hole	1762.79	08/10/91

TABLE A-1
WELL CONSTRUCTION DATA
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well Identifier	Area No.	Effective Borehole Depth (feet)	Borehole		Casing		Sealed Interval (feet)	Perforated Interval (feet)	Measuring Point Elevation (feet AMSL)	Date Drilling Completed
			Diameter (inches)	Interval (feet)	Inside Diameter (inches)	Interval (feet)				
RD-50	IV	195	12-3/4 6-1/4	0 - 18.5 18.5 - 195	8-1/4 ---	0 - 18.5 ---	0 - 18.5	 Open Hole	1914.88	05/28/93
RD-54A	IV	278	17-1/2 11-1/4 5-7/8	0 - 19 19 - 119 119 - 278	12-1/8 6-1/4 ---	0 - 19 0 - 119 ---	0 - 19 0 - 119	 Open Hole	1844.35	08/07/93
RD-54B	IV	437	17-1/2 11-1/4 5-7/8	0 - 19 19 - 379 379 - 437	12-1/8 6-1/4 ---	0 - 19 0 - 379 ---	0 - 19 0 - 379	 Open Hole	1842.54	08/31/93
RD-54C	IV	638	17-1/2 11-1/4 6-1/4	0 - 20 20 - 558 558 - 638	12-1/8 6-1/4 ---	0 - 20 0 - 557 ---	0 - 20 0 - 557	 Open Hole	1843.77	07/27/93
RD-57	UL-N	419	17-1/2 6-1/2	0 - 19.5 19.5 - 419	12-1/8 ---	0 - 19.5 ---	0 - 19.5	 Open Hole	1774.15	02/23/94
RD-59A	OS	58	17-1/2 6-1/2	0 - 21 21 - 58	12-1/8 ---	0 - 21 ---	0 - 21	 Open Hole	1340.59	05/19/94
RD-59B	OS	214	17-1/2 6-1/2	0 - 19.5 19.5 - 214	12-1/8 2	0 - 19.5 0 - 209	0 - 19.5 0 - 161	 178 - 209	1342.49	07/02/94
RD-59C	OS	398	17-1/2 6-1/2	0 - 19 19 - 398	12-1/8 2	0 - 19 0 - 397	0 - 19 0 - 186 250 - 328	 345.5 - 397	1345.41	07/02/94
RD-63	IV	230	12-3/4 6-1/2	0 - 20 20 - 230	8-1/4 ---	0 - 20 ---	0 - 20	 Open Hole	1764.83	05/10/94
RD-64	IV	398	12-1/4 6-1/2	0 - 19 19 - 398	8-1/4 ---	0 - 19 ---	0 - 19	 Open Hole	1857.04	05/19/94
RD-65	IV	397	12-3/4 6-1/2	0 - 19 19 - 397	8-1/4 ---	0 - 19 ---	0 - 19	 Open Hole	1822.26	08/14/94
RD-74	IV	101	17-1/2 6-1/2	0 - 30 30 - 101	12 ---	0 - 30 ---	0 - 30	 Open Hole	1810.90	01/21/99
RD-85	IV	90	13-3/8 5	0 - 20 20 - 90	8 ---	0 - 20 ---	0 - 20	 Open Hole	1849.36	08/04/04
RD-86	IV	80	13-3/8 5	0 - 20 20 - 80	8 ---	0 - 20 ---	0 - 20	 Open Hole	1832.16	08/09/04
RD-87	IV	60	13-3/8 5	0 - 20 20 - 60	8 ---	0 - 20 ---	0 - 20	 Open Hole	1789.09	08/11/04
RD-88	IV	30	13-3/8 5	0 - 20 20 - 30	8 ---	0 - 20 ---	0 - 20	 Open Hole	1774.62	08/16/04
RD-89	IV	50	13 3.8	0 - 30 30 - 50	8 ---	0 - 30 ---	0 - 30	 Open Hole	1814.18	05/18/05
RD-90	IV	125	12-3/4 6	0 - 20 20 - 125	8 ---	0 - 20 ---	0 - 20	 Open Hole	1784.75	03/11/04
RD-91	IV	140	12-3/4 6	0 - 20 20 - 140	8 ---	0 - 20 ---	0 - 20	 Open Hole	1818.04	03/12/04
RD-92	IV	105	12-3/4 6	0 - 20 20 - 105	8 ---	0 - 20 ---	0 - 20	 Open Hole	1833.74	03/16/04
RD-93	IV	60	13 3.8	0 - 20 20 - 60	8 ---	0 - 20 ---	0 - 20	 Open Hole	1810.48	05/19/05
RD-94	UL-N	35	13 3.8	0 - 20.5 20.5 - 35	8 ---	0 - 20.5 ---	0 - 20.5	 Open Hole	1744.38	05/15/05
RD-95	IV	80	13 3.8	0 - 50 50 - 80	8 ---	0 - 50 ---	0 - 50	 Open Hole	1811.36	05/12/05
RD-96	UL-N	90	13 4	0 - 20 20 - 90	8 ---	0 - 20 ---	0 - 20	 Open Hole	1805.49	05/03/06
RD-97	UL-N	74.5	13 4	0 - 20 20 - 74.5	8 ---	0 - 20 ---	0 - 20	 Open Hole	1792.22	04/28/06
RD-98	IV	65	13-3/8 5-1/2	0 - 20 20 - 65	8-1/8 ---	0 - 20 ---	0 - 20 ---	 Open hole	1808.73	06/04/08
RD-102	IV	100	10-5/8 4	0 - 30 30 - 100	6 ---	0 - 30 ---	0 - 30 ---	 Open hole	1817.50	11/16/11

TABLE A-1
WELL CONSTRUCTION DATA
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well Identifier	Area No.	Effective Borehole Depth (feet)	Borehole		Casing		Sealed Interval (feet)	Perforated Interval (feet)	Measuring Point Elevation (feet AMSL)	Date Drilling Completed
			Diameter (inches)	Interval (feet)	Inside Diameter (inches)	Interval (feet)				
RD-150	IV	170	10 5.5	0-40 40-170	6 ---	0-40 ---	0-40	 Open Hole	1877.64	04/26/16
RD-151	IV	130	10 5.5	0-40 40-130	6 ---	0-40 ---	0-40	 Open Hole	1858.38	05/09/16
RD-152	IV	60	10 5.5	0-20 20-60	6 ---	0-20 ---	0-20	 Open Hole	1798.88	04/29/16
RD-153	IV	55	10 5.5	0-20 20-55	6 ---	0-20 ---	0-20	 Open Hole	1776.26	05/11/16
RD-154	IV	145	10 5.5	0-40 40-145	6 ---	0-40 ---	0-40	 Open Hole	1827.62	05/23/16
RD-155	IV	115	10 5.5	0-40 40-115	6 ---	0-40 ---	0-40	 Open Hole	1820.72	05/17/16
RD-156	IV	170	10 5.5	0-40 40-170	6 ---	0-40 ---	0-40	 Open Hole	1819.88	06/09/16
WS-07	IV	700	15 10	0 - 400 400 - 700	12-1/8 ---	0 - 400 ---	Unknown	216 - 400 Open Hole	1826.19	1954
PRIVATE OFF-SITE WELLS AND SPRINGS										
OS-02	OS	700	Unknown	Unknown	10 ---	0 - 17 ---	0 - 17	 Open Hole	1237.01	03/18/59
OS-03	OS	100	Drilled with cable tools		8-1/4 ---	0 - 59 ---	0 - 30	30 - 60 Open Hole	1298.15	06/12/50
OS-04	OS	Well Construction Data Unresolved or Not Available							1334.00	NA
OS-05	OS	Well Construction Data Unresolved or Not Available							NA	NA

Notes and Abbreviations:
AMSL - above mean sea level
Depth/intervals are measured in feet below land surface.
OS - off-site
NA - Not Available
UL-N - Undeveloped land in northern part of Facility
UL-S - Undeveloped land in southern part of Facility
(v) - Top of well below land surface, installed inside zero-grade vault
(WB) - Well completed with Westbay Multilevel System
--- - No casing installed over the borehole interval specified; open hole

TABLE A-2a
CONSTRUCTION DETAILS OF PIEZOMETER MONITORING SYSTEMS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

PIEZOMETER ID	LOCATION					PIEZOMETER DESIGN DETAILS						
	Area	SWMU	Northing	Easting	MP Elevation	Date Drilled	Total Depth	Screened Interval	Sand Interval	Bentonite Interval	Grout Interval	Concrete Interval
			[feet]	[feet]	[feet]	[m/d/y]	[feet bgs]	[feet bgs]	[feet bgs]	[feet bgs]	[feet bgs]	[feet bgs]
PZ-005	IV	Central Area IV	266634.900	1784877.300	1800.97	11/7/2000	45.0	15-25	11.5-26.5	8.5-11.5	2-8.5	0-2
PZ-041	IV	PDU	267315.800	1785662.000	1809.10	1/16/2001	29.6	19-29	17-29.6	14-17	2-14	0-2
PZ-051	IV	EEL	266485.800	1785857.000	1770.87	12/14/2000	27.0	5-15	3-16	2-3	N/A	0-2
PZ-052	IV	Eastern Area IV	266742.100	1786103.700	1790.72	12/15/2000	30.0	18.9-28.9	17-30	14-17	2-14	0-2
PZ-055	IV	Eastern Area IV	267253.600	1787421.300	1818.40	1/2/2001	29.5	19-29	17-29.5	14-17	2-14	0-2
PZ-056	IV	OCY S	268068.700	1788028.000	1805.86	12/19/2000	28.0	17-27	13-28	10-13	2-10	0-2
PZ-097	UDL	FSDF	267048.900	1783400.300	1761.87	10/15/2001	44.5	33-43	31-44.5	11.5-28	2-11.5	0-2
PZ-098	IV	FSDF	266788.900	1783488.800	1797.78	10/16/2001	37.5	24-34	21.5-37.5	19-21.5	2-19	0-2
PZ-099	IV	FSDF	Abandoned in place in 2006									
PZ-100	IV	FSDF	266078.300	1782962.200	1870.11	10/17/2001	16.5	5.67-15.67	4.67-16.5	2-4.67	N/A	0-2
PZ-101	IV	FSDF	266057.500	1783090.600	1869.71	10/17/2001	27	10-20	7-27	5-7	1.75-5	0-1.75
PZ-102	IV	Central Area IV	267080.800	1784684.400	1827.78	10/18/2001	59.2	48.5-59.2	45-59.2	43-45	2-43	0-2
PZ-103	IV	Central Area IV	266281.200	1784400.900	1815.93	10/22/2001	39	28.5-38.5	26-39	23.5-26	2-23.5	0-2
PZ-104	IV	Central Area IV	266270.200	1784924.200	1797.47	10/22/2001	38.5	18-28	16-30	13-16	2-13	0-2
PZ-105	IV	Central Area IV	265935.500	1784787.900	1803.87	10/23/2001	28	17-27	15-28	12-15	2-12	0-2
PZ-106	IV	EEL	266411.900	1785469.600	1784.17	10/23/2001	35	18-28	16-30.5	12.75-16	2-12.75	0-2
PZ-107	IV	Eastern Area IV	266876.400	1785822.000	1793.62	10/24/2001	11	5-10	4-11	2-4	N/A	0-2
PZ-108	IV	HMSA	268032.600	1785076.300	1809.36	10/24/2001	30	16-26	13-28.5	10-13	2-10	0-2
PZ-109	IV	Central Area IV	267332.400	1785248.200	1809.51	10/25/2001	36.5	25-35	22-36.5	19-22	2-19	0-2
PZ-110	IV	Eastern Area IV	267204.000	1786209.600	1818.90	10/25/2001	17.5	7-17	5-17.5	2-5	N/A	0-2
PZ-111	IV	Eastern Area IV	266948.400	1786433.900	1794.90	10/26/2001	20.0	7.5-17.5	5-20	N/A	N/A	N/A
PZ-112	IV	Eastern Area IV	267435.900	1786720.800	1829.14	10/26/2001	35.0	24-34	22-35	19-22	2-19	0-2
PZ-113	IV	Eastern Area IV	267682.900	1787367.800	1823.68	10/29/2001	15.0	7-15	5-15	2-5	N/A	0-2
PZ-114	IV	Old Con Yard S	268304.000	1787913.100	1818.19	10/30/2001	48.2	37-47	35-48.2	32-35	2-32	0-2
PZ-115	IV	Eastern Area IV	268006.800	1787536.500	1817.81	10/30/2001	40	25.5-37.5	25-40	22-25	2-22	0-2
PZ-116	UDL	RMHF	266501.100	1783693.000	1827.78	10/31/2001	34	22-32	20-34	17-20	2-17	0-2
PZ-120	IV	HMSA / SCTI	267230.100	1785009.700	1810.96	3/18/2003	26	15-25	12-26	9-12	2-9	0-2
PZ-121	IV	HMSA / SCTI	267491.600	1785120.700	1808.98	3/19/2003	33	15-25	12-28	8.4-12; 28-3	1.5-8.4	0-1.5
PZ-122	IV	HMSA / SCTI	267091.900	1785176.500	1810.80	3/19/2003	27.5	15.5-25.5	12-27.5	9-12	2-9	0-2
PZ-124	IV	B056 Landfill	267166.700	1784015.900	1764.11	3/21/2003	31	14.7-24.7	11.3-31	8.3-11.3	1-8.3	0-1

Notes and Abbreviations:

The difference between the total depth and the bottom of the sand interval was filled with sloughed native material and/or bentonite.
[a] The screen for this port is perpendicular to the well casing and covers the open bottom end; therefore, the screened section is a discrete depth.
bgs - below ground surface
MP - Measuring point
UDL - undeveloped land
N/A - not applicable

TABLE A-2b
CONSTRUCTION DETAILS OF PIEZOMETER MONITORING SYSTEMS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Northing (feet)	Easting (feet)	Surface Elevation (feet amsl)	TOC Elevation (feet amsl)	Depth to Screen Top (feet bgs)	Depth to Screen Bottom (feet bgs)	Total Depth (feet bgs)	Total Depth Drilled (feet bgs)	Borehole Diameter (inches)	Casing Diameter (inches)	Screen Material	Screen Slot Size (inches)	Casing Material	Filter Pack Grade	Filter Pack Top (feet bgs)	Filter Pack Bottom (feet bgs)	Annular Seal Material	Annular Seal Top (feet bgs)	Annular Seal Bottom (feet bgs)	Wellhead Completion	Drilling Method	Driller
PZ-150	268281.654	1786086.776	1849.92	1852.23	17.5	27.5	27.5	27.5	10 5/8	4	SCH40 PVC	0.02	SCH40 PVC	#3	14.5	27.5	Cement-Bentonite Grout	11	14.5	Monument	Air Rotary	WDC
PZ-151	268743.129	1787988.758	1860.4	1862.60	69.5	79.5	80	82	8	2	SCH40 PVC	0.02	SCH40 PVC	#3	64	80	Cement-Bentonite Grout Bentonite chips # 60 Sand Bentonite chips	2 52 62 80	52 62 64 82	Monument	CME-85 HSA/HQ w/carbide bit	WDC
PZ-160	268345.039	1786286.124	1849.14	1851.41	17.0	27.0	27	27	10 5/8	4	SCH40 PVC	0.02	SCH40 PVC	#3	14	27	Cement-Bentonite Grout	1	14	Monument	Air Rotary	WDC
PZ-161	268418.806	1786132.353	1850.00	1852.23	18	28	28	28	10 5/8	4	SCH40 PVC	0.02	SCH40 PVC	#3	15	28	Cement-Bentonite Grout	1	15	Monument	Air Rotary	WDC
PZ-162	267406.770	1785109.590	1811.79	1814.26	31	41	41	41.8	8	2	SCH40 PVC	0.02	SCH40 PVC	#3	27	41	Cement-Bentonite Grout	1	27.5	Monument	HSA	BC2
PZ-163	267277.940	1785109.590	1811.17	1814.03	30	30	40	40	10 5/8	4	SCH40 PVC	0.02	SCH40 PVC	#3	27.5	40	Cement-Bentonite Grout	1	27	Monument	HSA	BC2
PZ-164	267391.521	1785423.72	1810.90	1813.33	25	35	36	36	8	2	SCH40 PVC	0.02	SCH40 PVC	#3	22.5	36	Cement-Bentonite Grout	17.0	22.5	Monument	HSA	BC2
PZ-165	267322.518	1785041.88	1811.73	1814.45	16.5	26.6	26.5	26.5	8	2	SCH40 PVC	0.02	SCH40 PVC	#3	14.5	26.5	Cement-Bentonite Grout	9.3	14.5	Monument	HSA	BC2
PZ-166	267295.126	1784883.76	1812.03	1814.66	15	25	25	25	8	2	SCH40 PVC	0.02	SCH40 PVC	#3	12.5	25	Cement-Bentonite Grout	7.5	12.5	Monument	HSA	BC2
PZ-167	267196.278	1784940.5	1810.98	1813.41	16.5	26.6	26.5	26.5	8	2	SCH40 PVC	0.02	SCH40 PVC	#3	13.5	26.5	Cement-Bentonite Grout	8.2	13.5	Monument	HSA	BC2
PZ-168	267107.039	1785022.54	1809.46	1812.23	15	25	25	25	8	2	SCH40 PVC	0.02	SCH40 PVC	#3	13	25	Cement-Bentonite Grout	8.0	13.0	Monument	HSA	BC2
PZ-169	267153.091	1785150.03	1810.74	1813.02	16.5	26.6	26.5	26.5	8	2	SCH40 PVC	0.02	SCH40 PVC	#3	13.5	26.5	Cement-Bentonite Grout	8.5	13.5	Monument	HSA	BC2

Notes and Abbreviations:

Northing and Easting Coordinates are in State Plane NAD 27, US Feet, with the exception of PZ-162 and PZ-163 are NAD83
amsl - above mean sea level
bgs - below ground surface
HSA - hollow stem auger
SCH - schedule
PVC - polyvinyl chloride
TOC - top of casing

APPENDIX B
Precipitation Data

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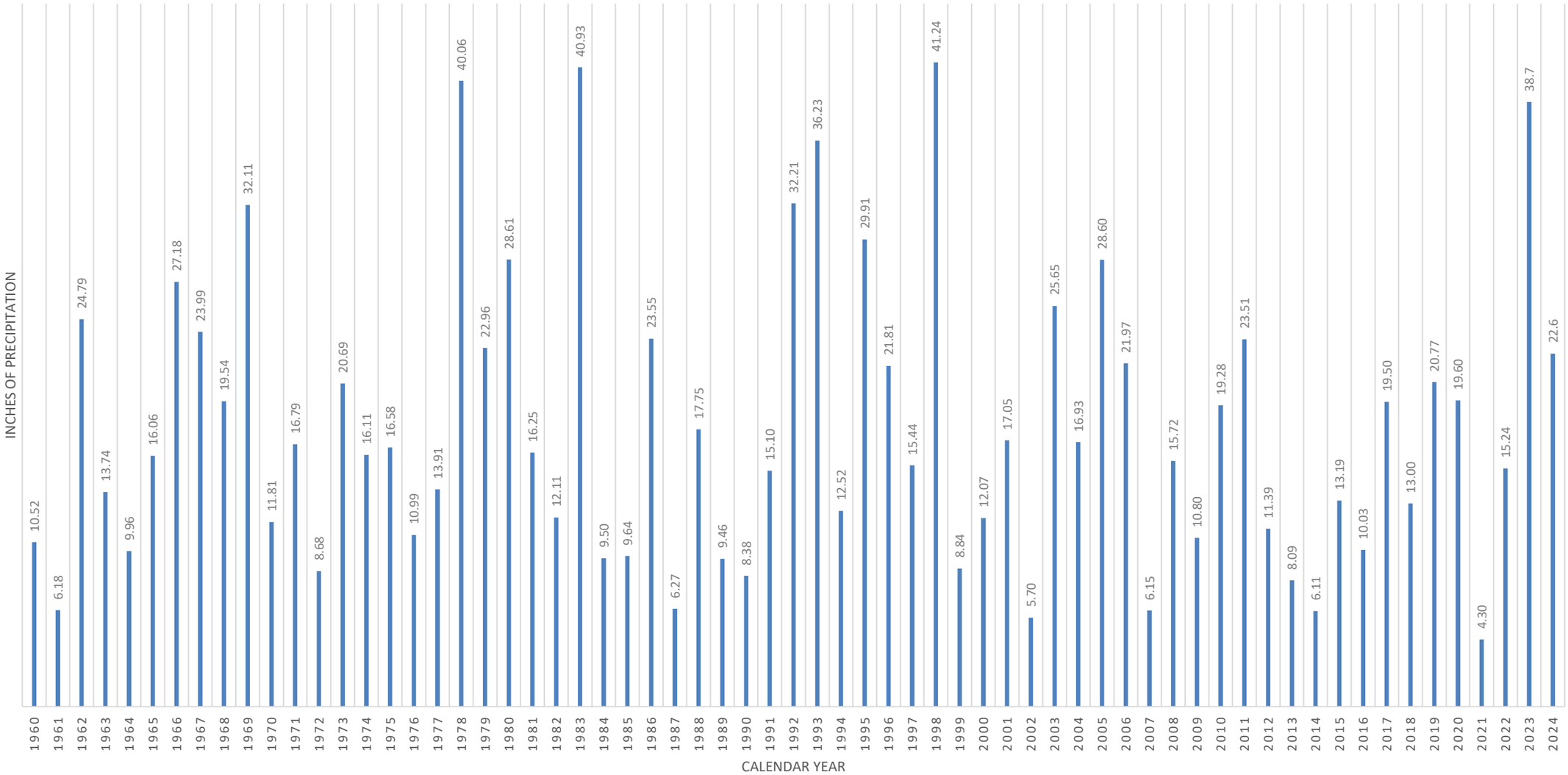
TABLE B-1
SUMMARY OF ANNUAL RAINFALL
MEASURED AT THE SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Water Year Ending in	Precipitation (inches)	Water Year Ending in	Precipitation (inches)
1960	10.52	1993	36.23
1961	6.18	1994	12.52
1962	24.79	1995	29.91
1963	13.74	1996	21.81
1964	9.96	1997	15.44
1965	16.06	1998	41.24
1966	27.18	1999	8.84
1967	23.99	2000	12.07
1968	19.54	2001	17.05
1969	32.11	2002	5.70
1970	11.81	2003	25.65
1971	16.79	2004	16.93
1972	8.68	2005	28.60
1973	20.69	2006	21.97
1974	16.11	2007	6.15
1975	16.58	2008	15.72
1976	10.99	2009	10.80
1977	13.91	2010	19.28
1978	40.06	2011	23.51
1979	22.96	2012	11.39
1980	28.61	2013	8.09
1981	16.25	2014	6.11
1982	12.11	2015	13.19
1983	40.93	2016	10.03
1984	9.50	2017	19.50
1985	9.64	2018	13.00
1986	23.55	2019	20.77
1987	6.27	2020	19.60
1988	17.75	2021	4.30
1989	9.46	2022	15.24
1990	8.38	2023	38.70
1991	15.10	2024	22.60
1992	32.21		
Average Annual Precipitation (1960-2024) =		**17.91**	

NOTE: Precipitation reported annually for the period of October through September of the calendar year indicated.

SUMMARY OF ANNUAL RAINFALL MEASURED AT THE SANTA SUSANA FIELD LABORATORY



APPENDIX C
Water Level Hydrographs

List of Hydrographs

FSDF
RD-21
RS-54

B4100 Trench
RD-20

Bldg 56 Landfill
RD-07

HMSA/PDU
RD-29

Tritium Plume
RD-90
RD-95

RMHF
RD-30
RD-63

Old Conservation Yard
RD-14

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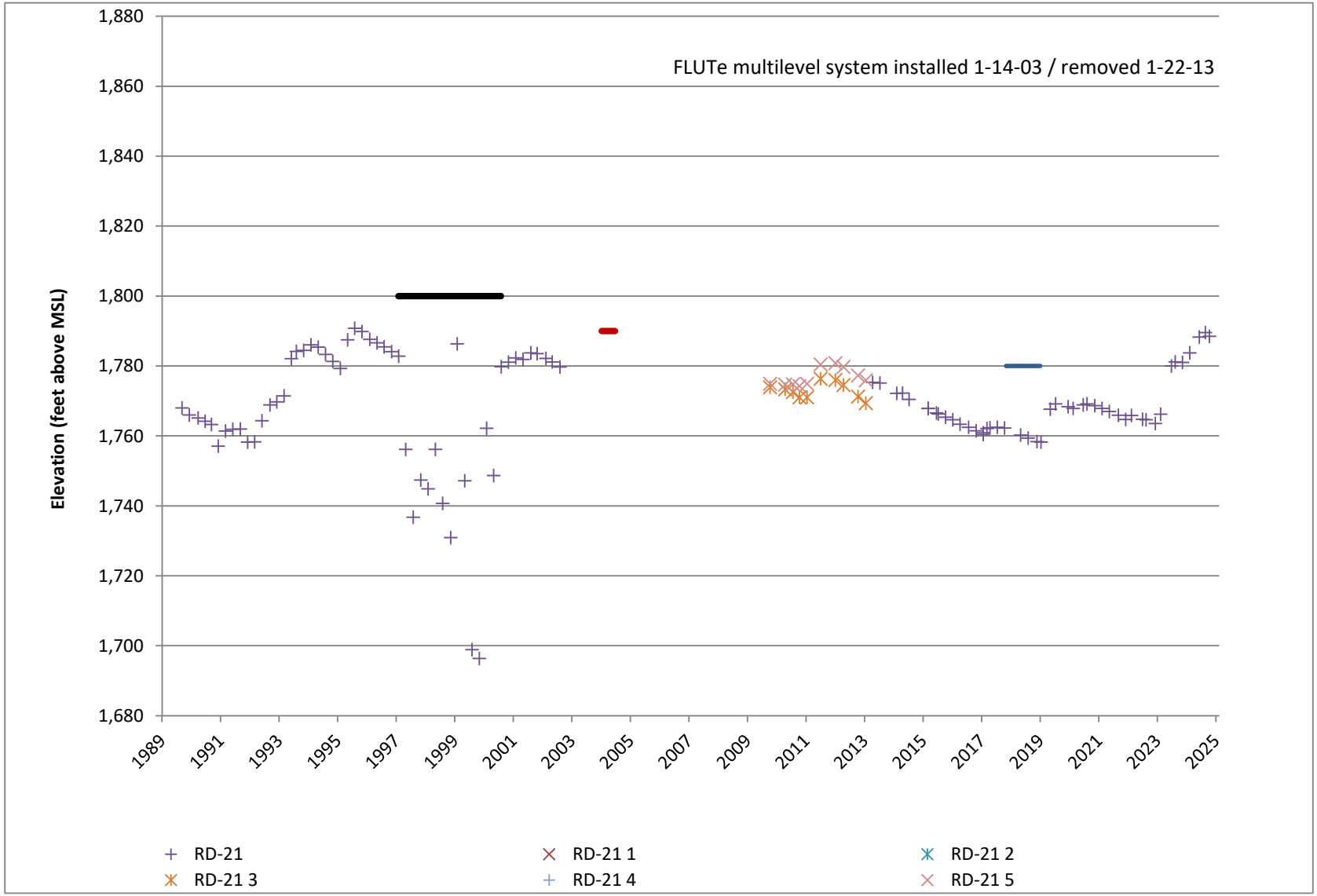
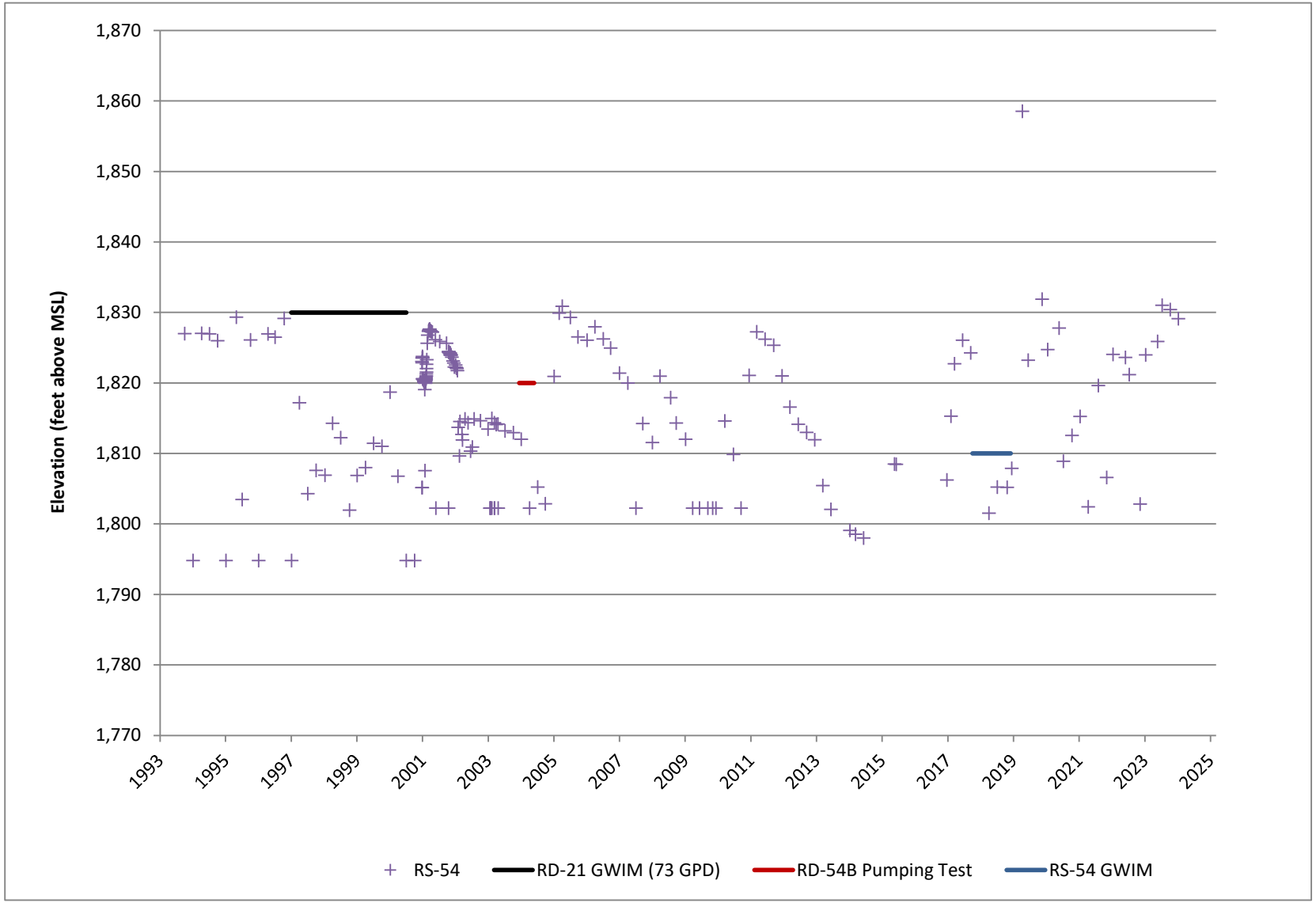
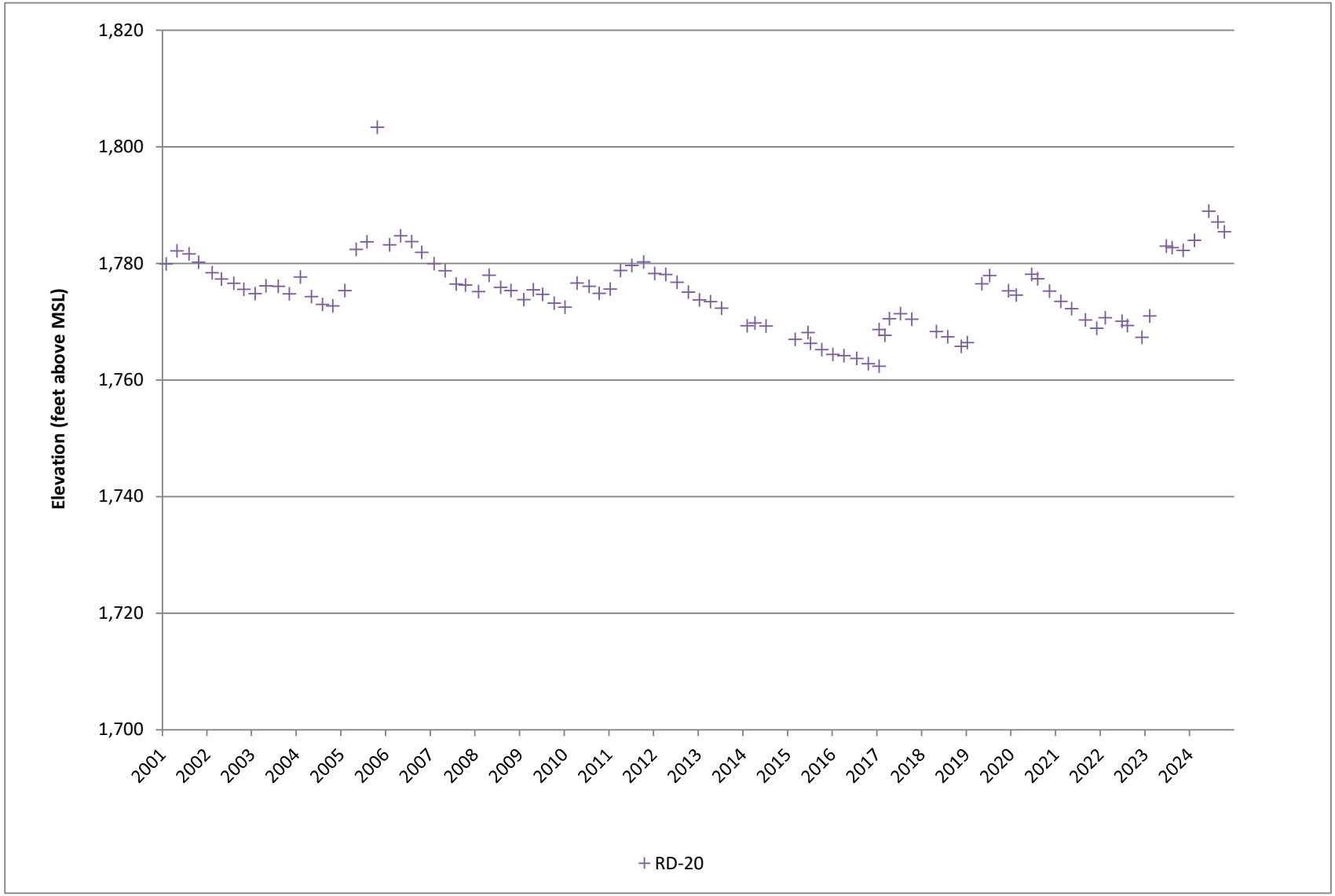
RD-21, FSDF
Hydrograph



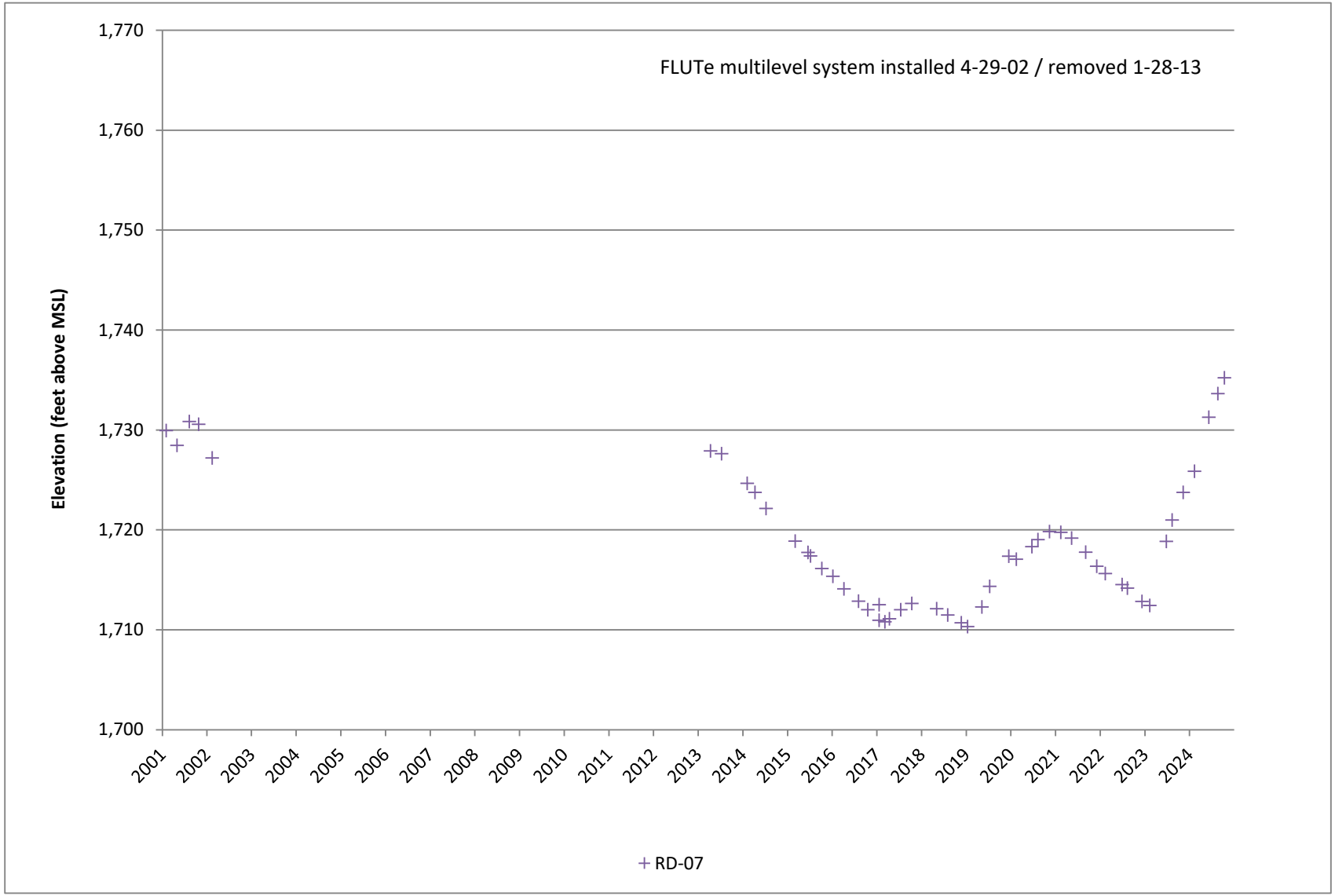
RS-54, FSDF
Hydrograph



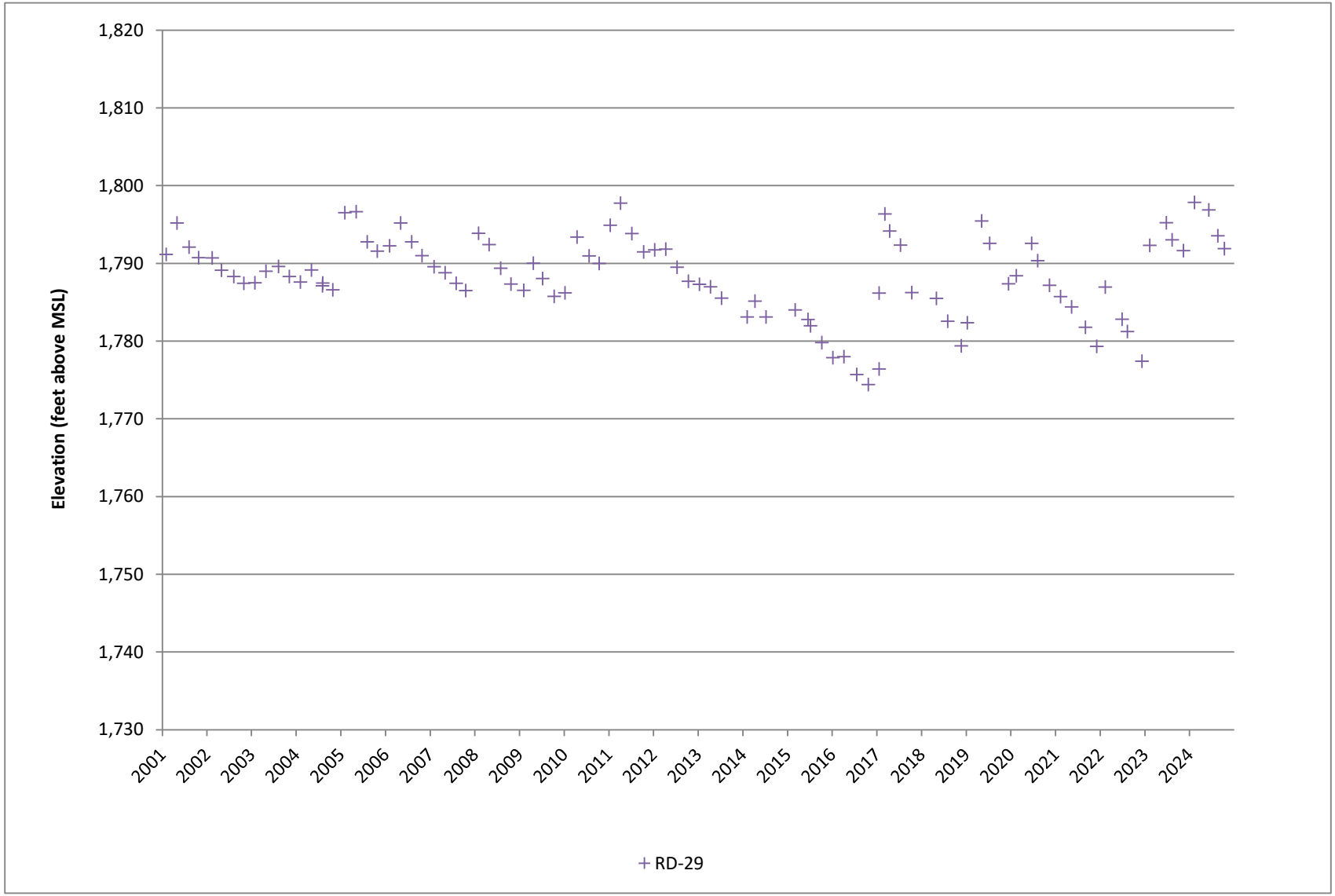
RD-20, B4100 Trench
Hydrograph



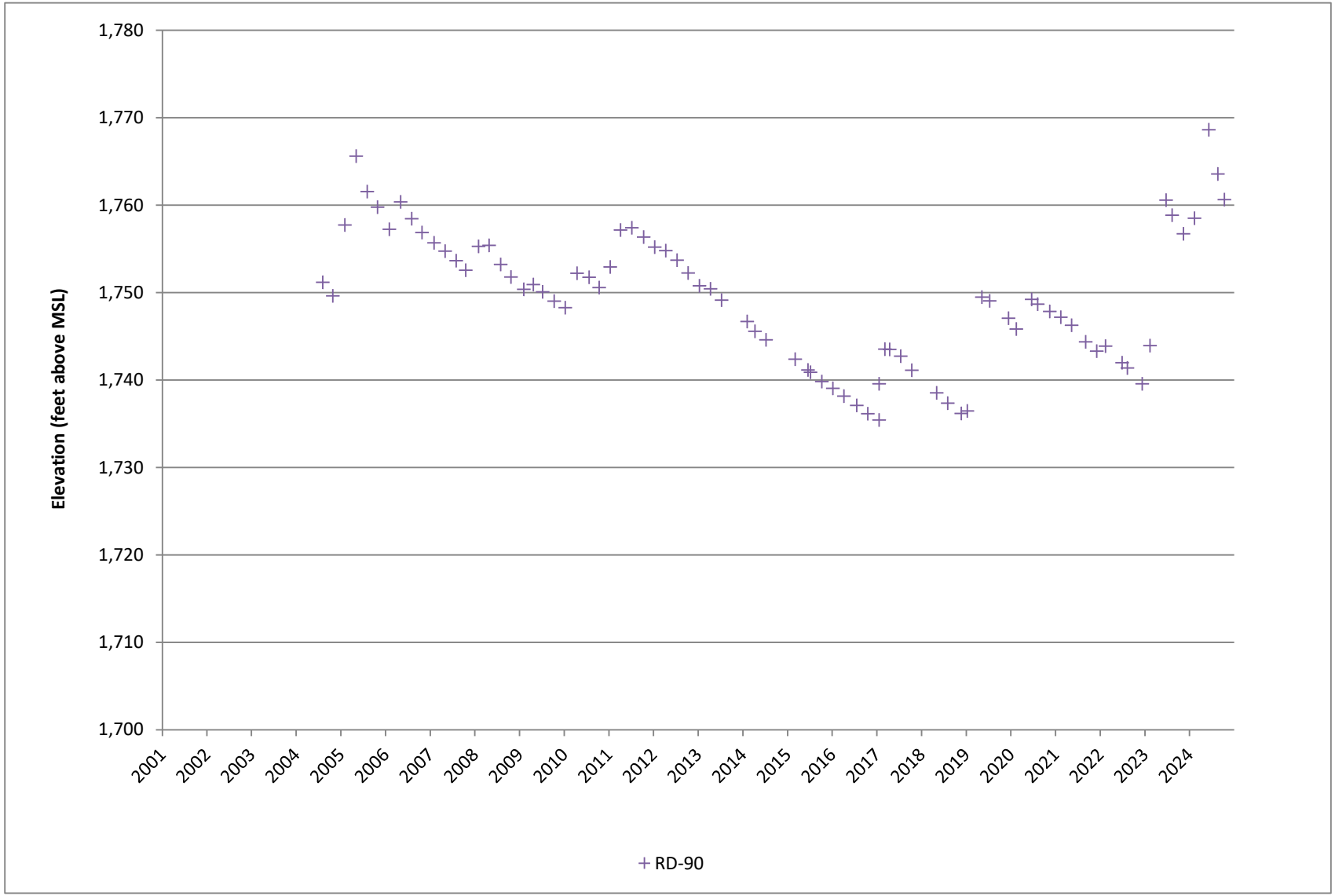
RD-07, Bldg 56 Landfill
Hydrograph



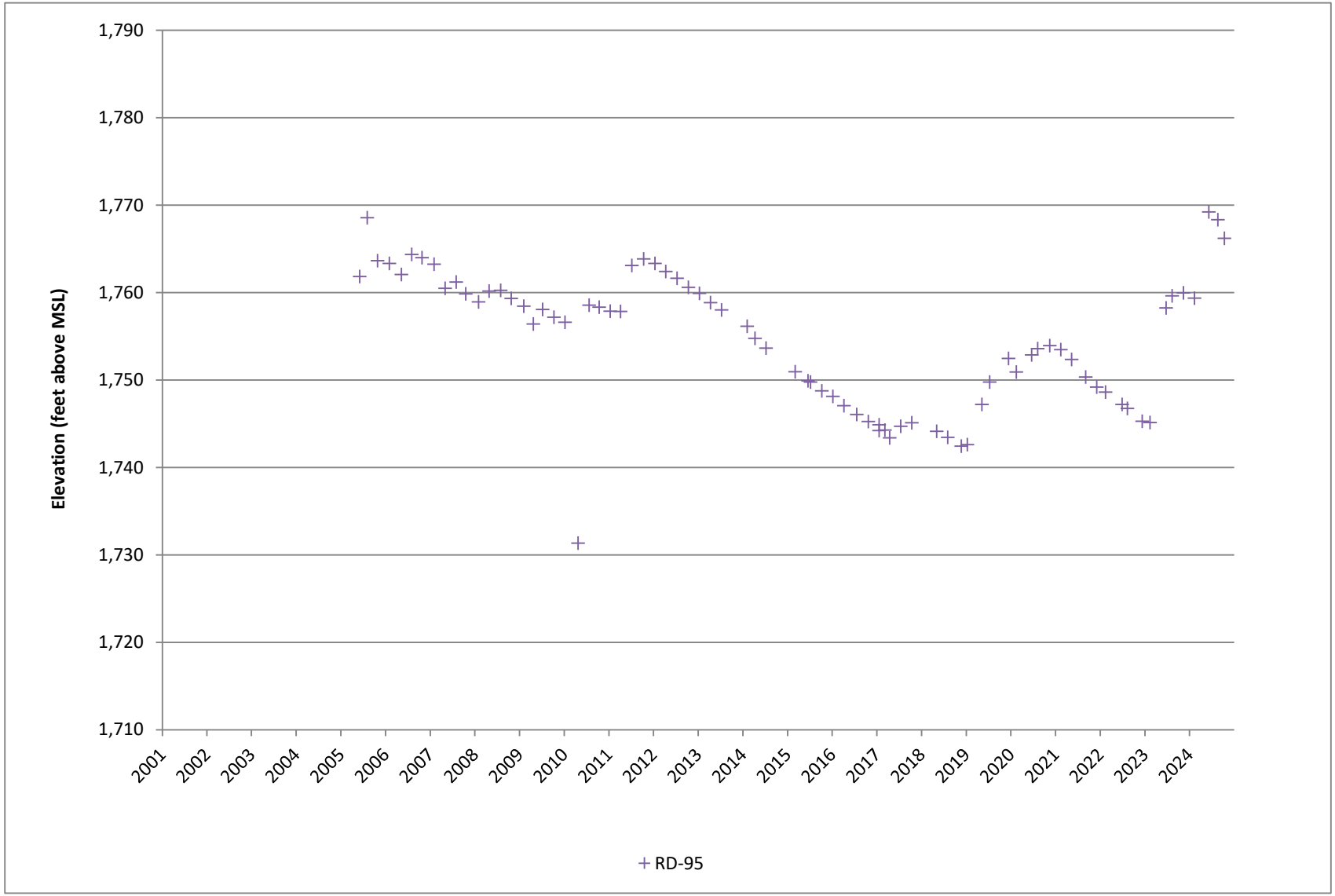
RD-29, B4457 HMSA
Hydrograph



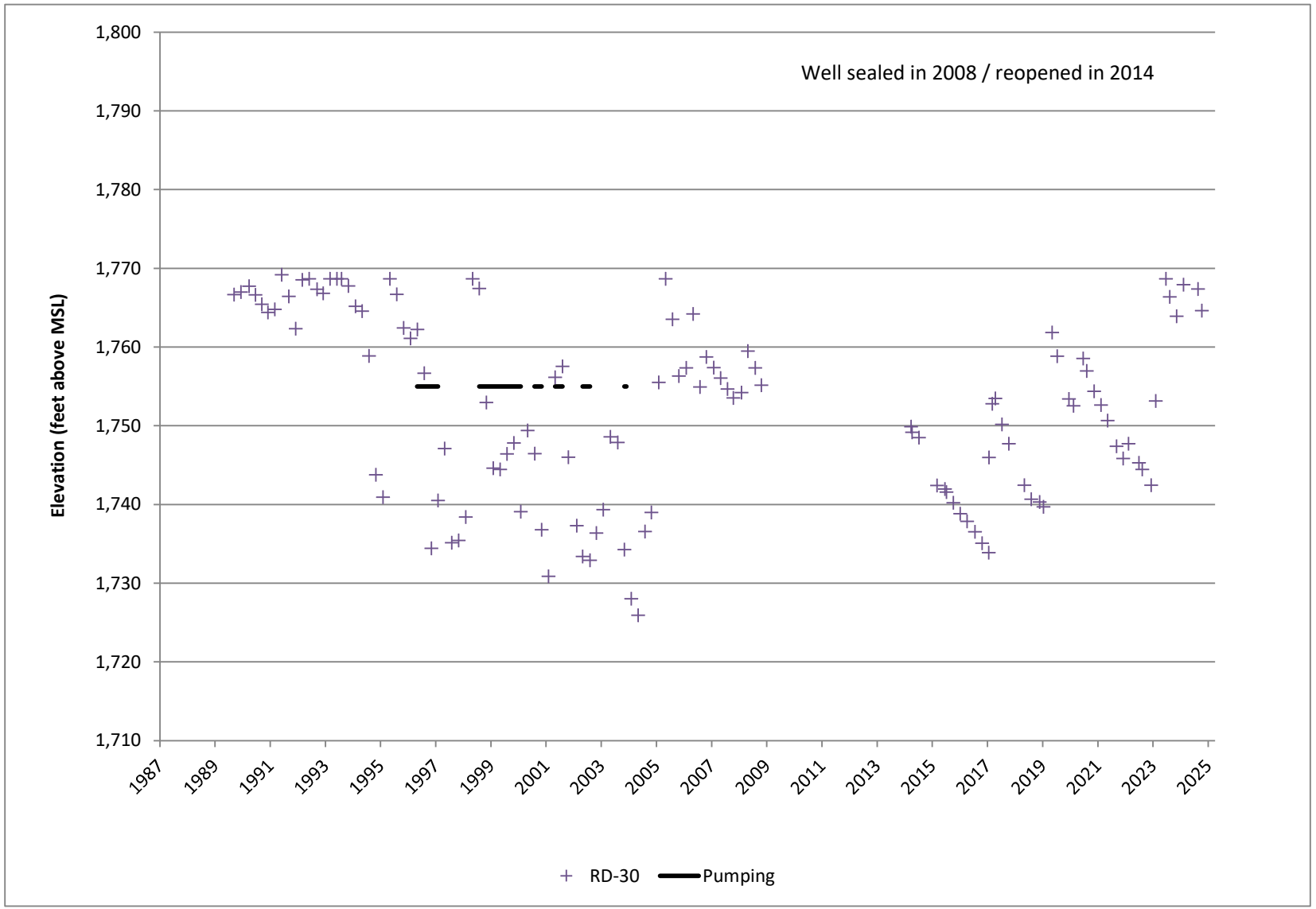
RD-90, Tritium Plume
Hydrograph



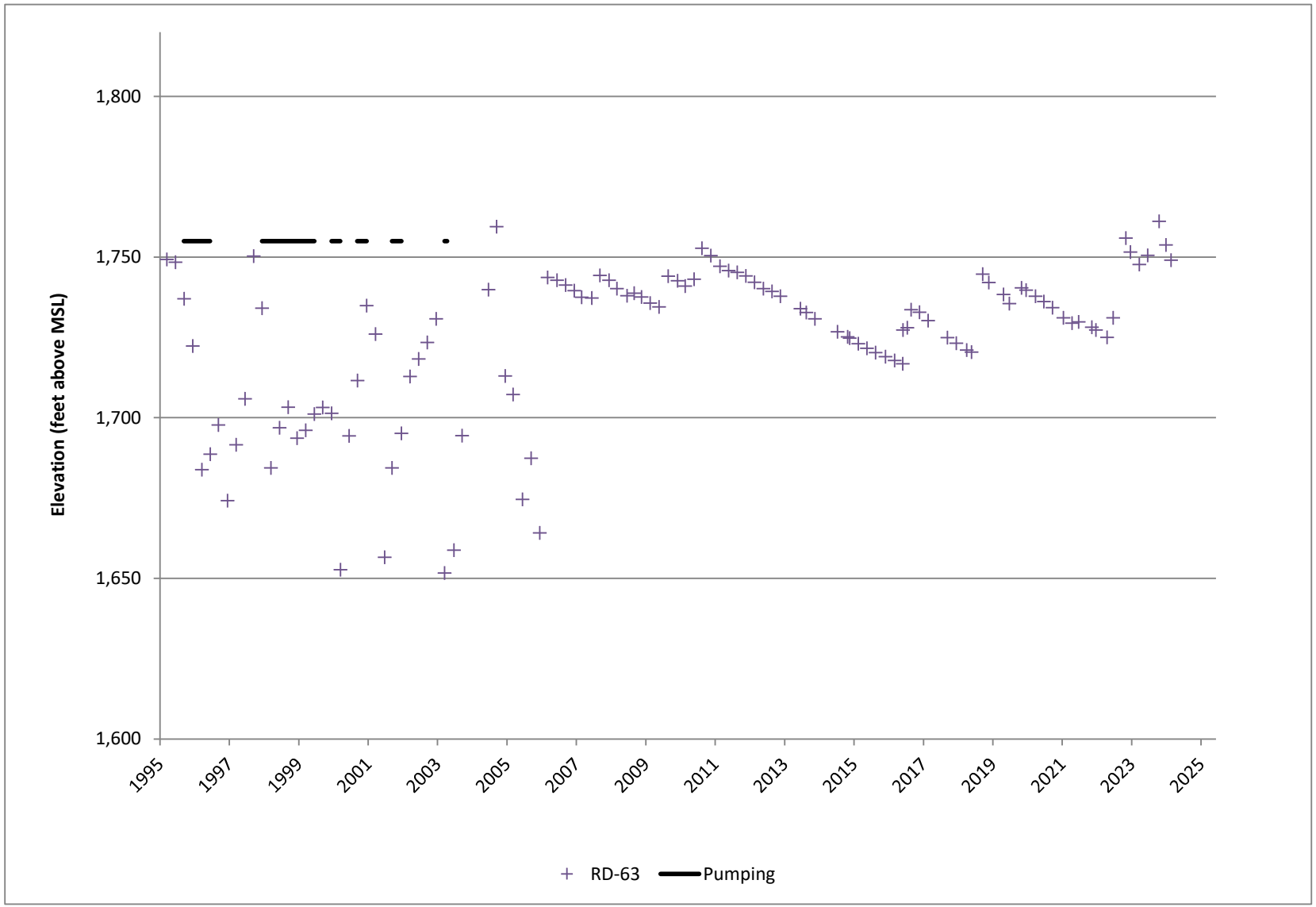
RD-95, Tritium Plume
Hydrograph



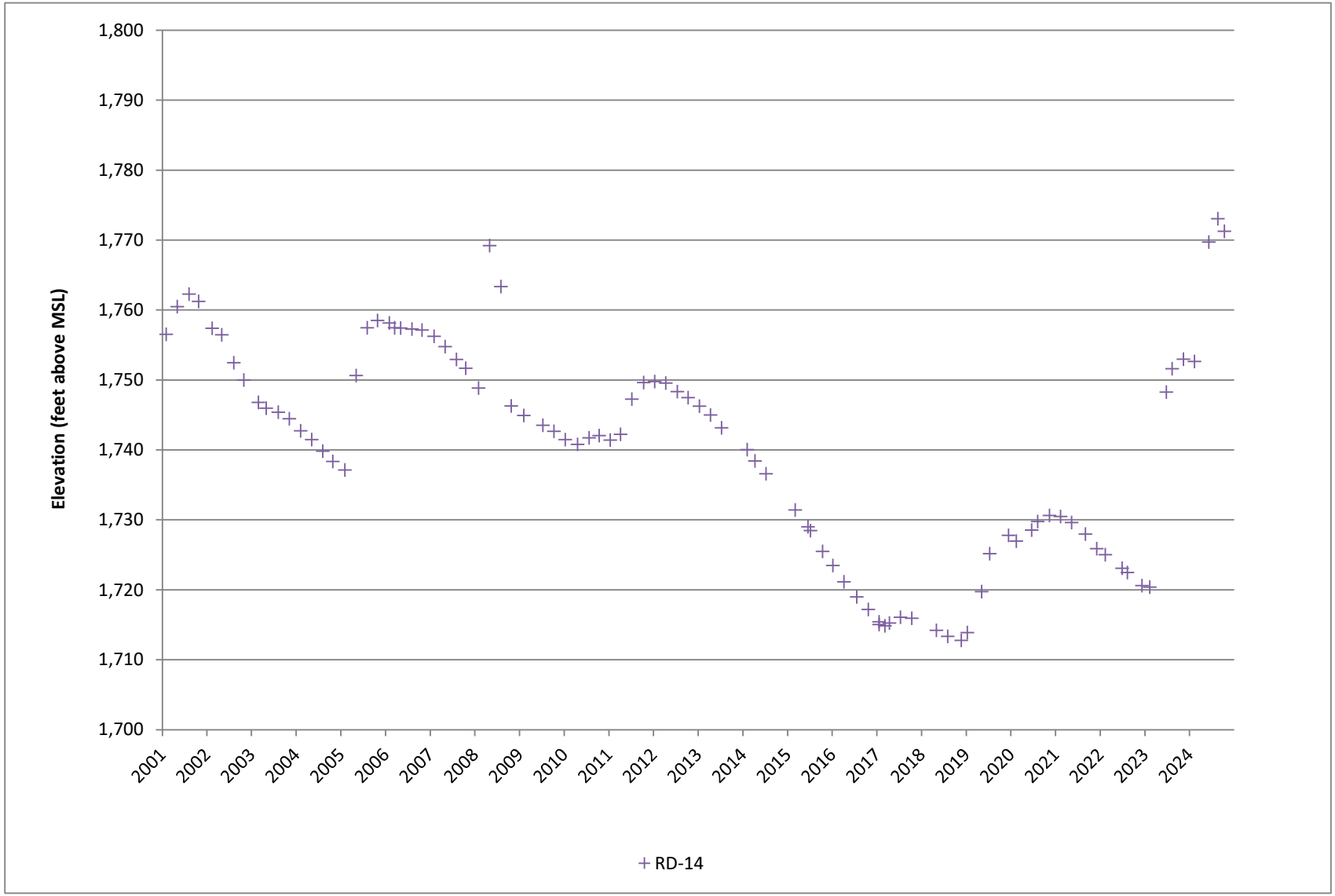
RD-30, RMHF
Hydrograph



RD-63, RMHF
Hydrograph



RD-14, OCY
Hydrograph



APPENDIX D
Time Series Plots of Analytical Data

Time series plots for trichloroethene (TCE), perchlorate, and tritium are presented in this appendix. Only primary sample results for the following wells are presented in the plots.

TCE

FSDF/ESADA
RD-21
RD-33A
RD-33B
RD-33C
RD-54A
RD-54B
RD-54C
RD-64
RD-65
RS-18
RS-54

RMHF
RD-30
RD-34A
RD-34B
RD-34C
RD-63
RD-98
RS-28

Bldg 65 Metals Clarifier
PZ-005
PZ-104
PZ-105

TCE (continued)

Bldg 56 Landfill
RD-07

HMSA/PDU
PZ-108
PZ-120

B4057/59/626
PZ-109

OCY
RD-14

Bldg 4100 Trench
RD-20

Bldg 4133
RD-19

Off-site
RD-59A
RD-59B
RD-59C

Perchlorate

FSDF/ESADA
RD-21
RD-54A
RS-18
RS-54

Tritium Plume

RD-34A
RD-88
RD-90
RD-93
RD-94
RD-95

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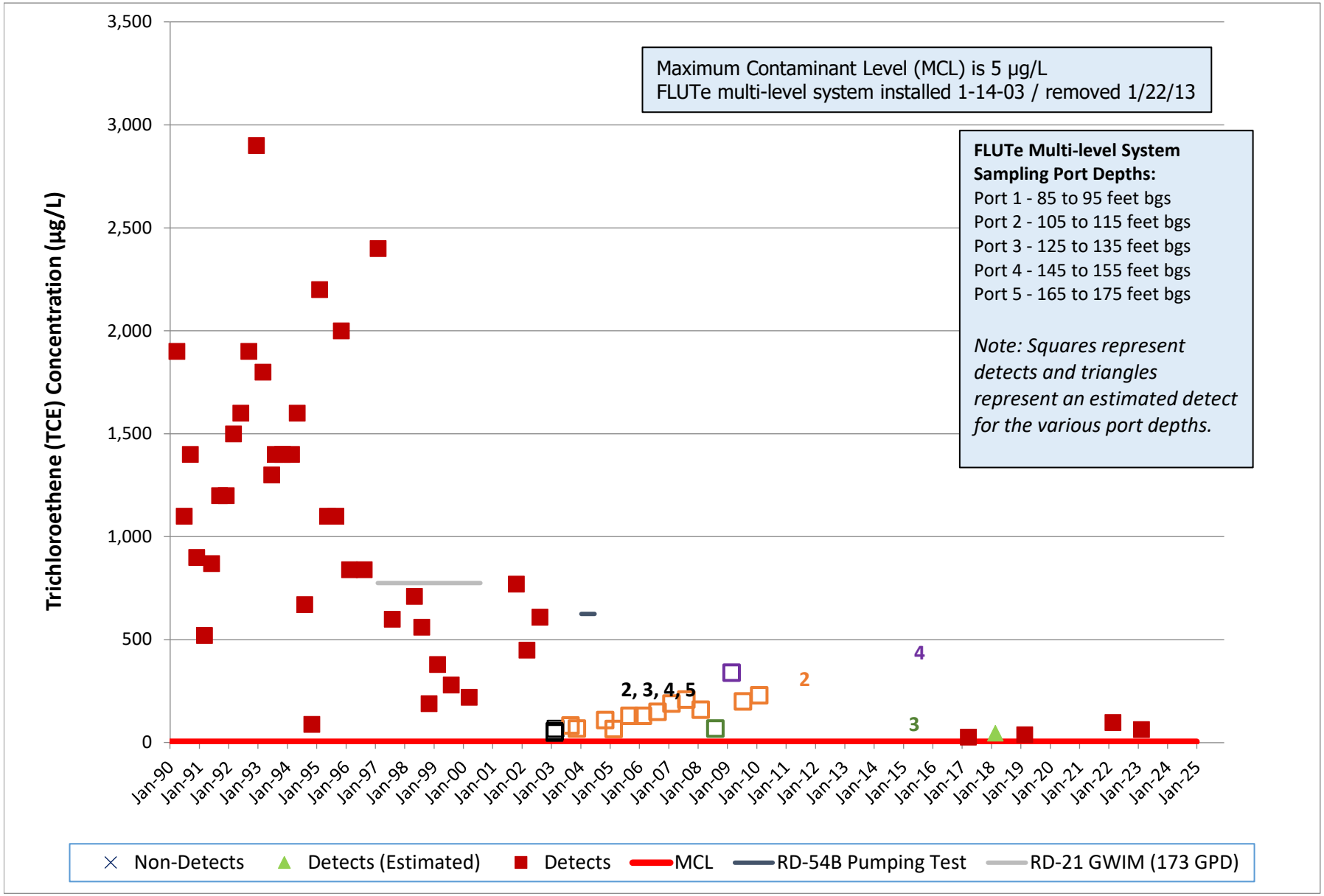
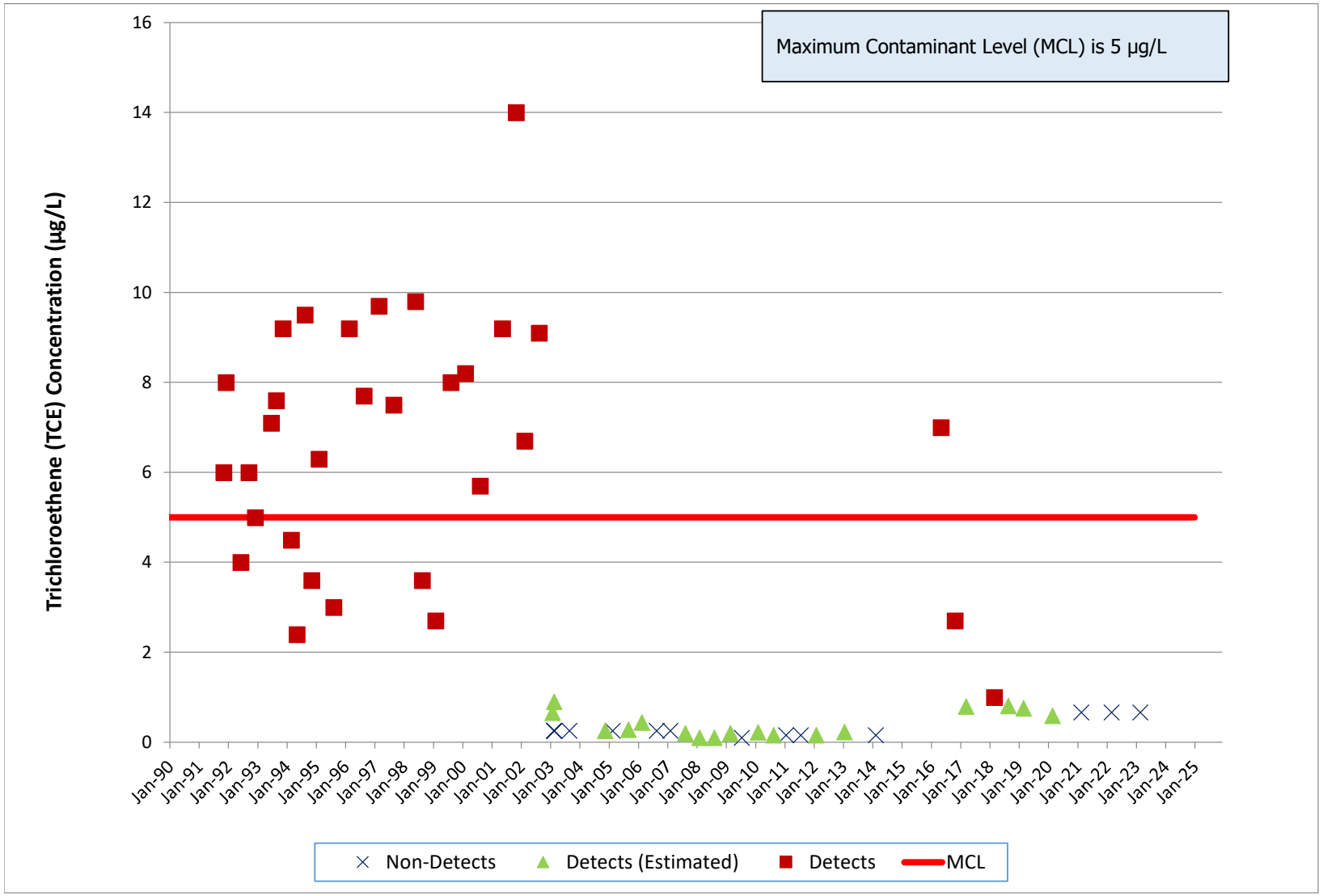
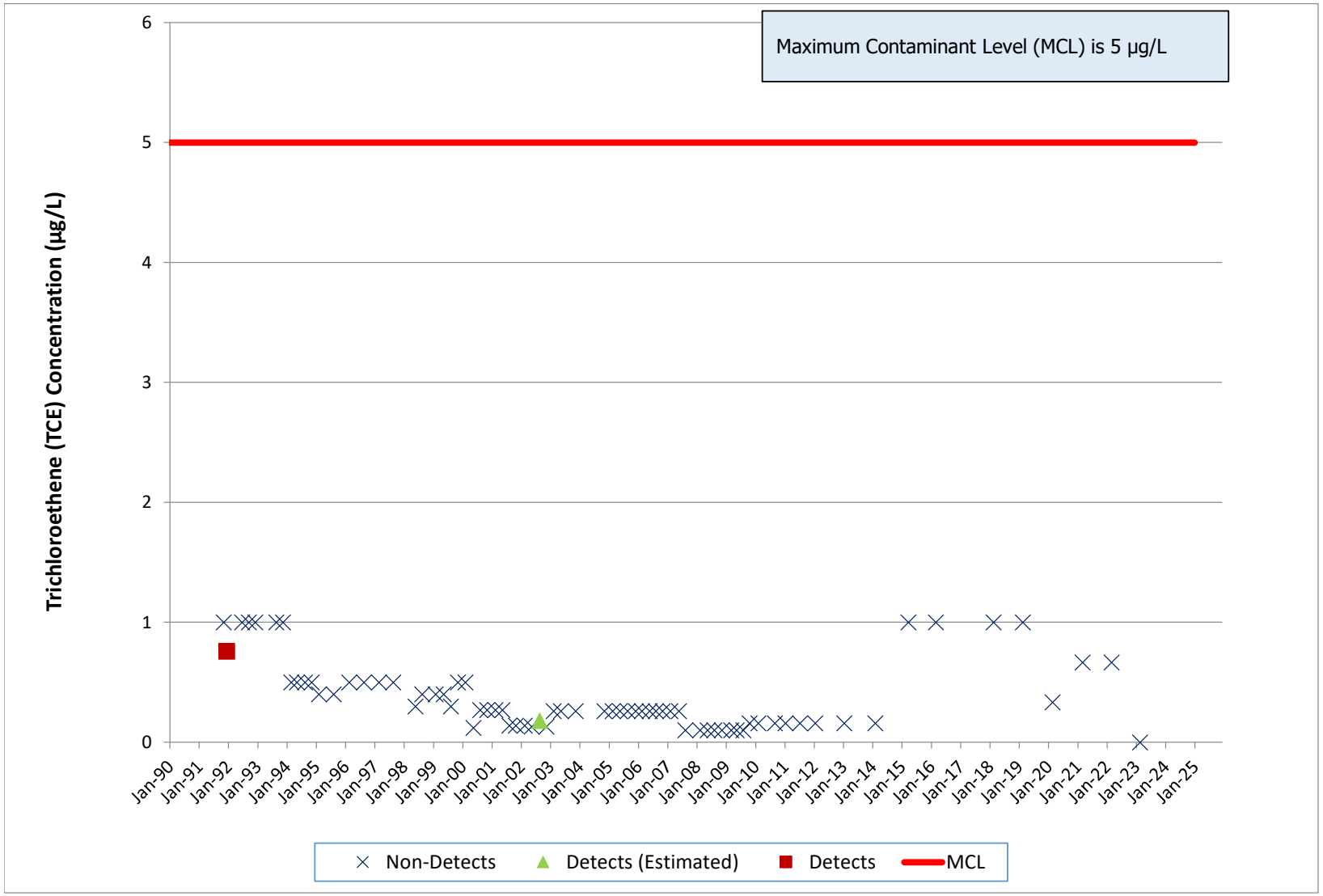
RD-21, FSDF/ESADA
Trichloroethene



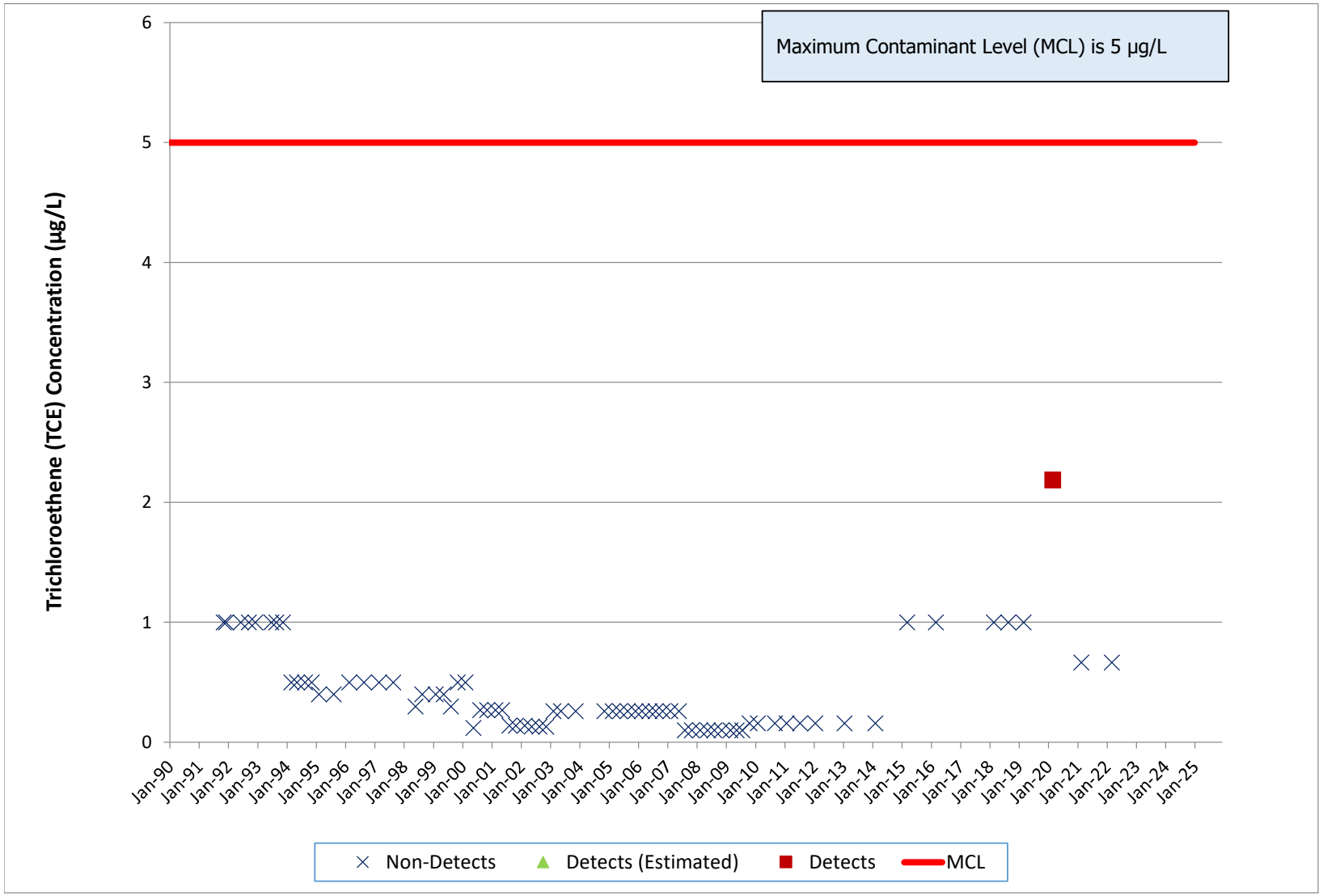
RD-33A, FSDF/ESADA
Trichloroethene



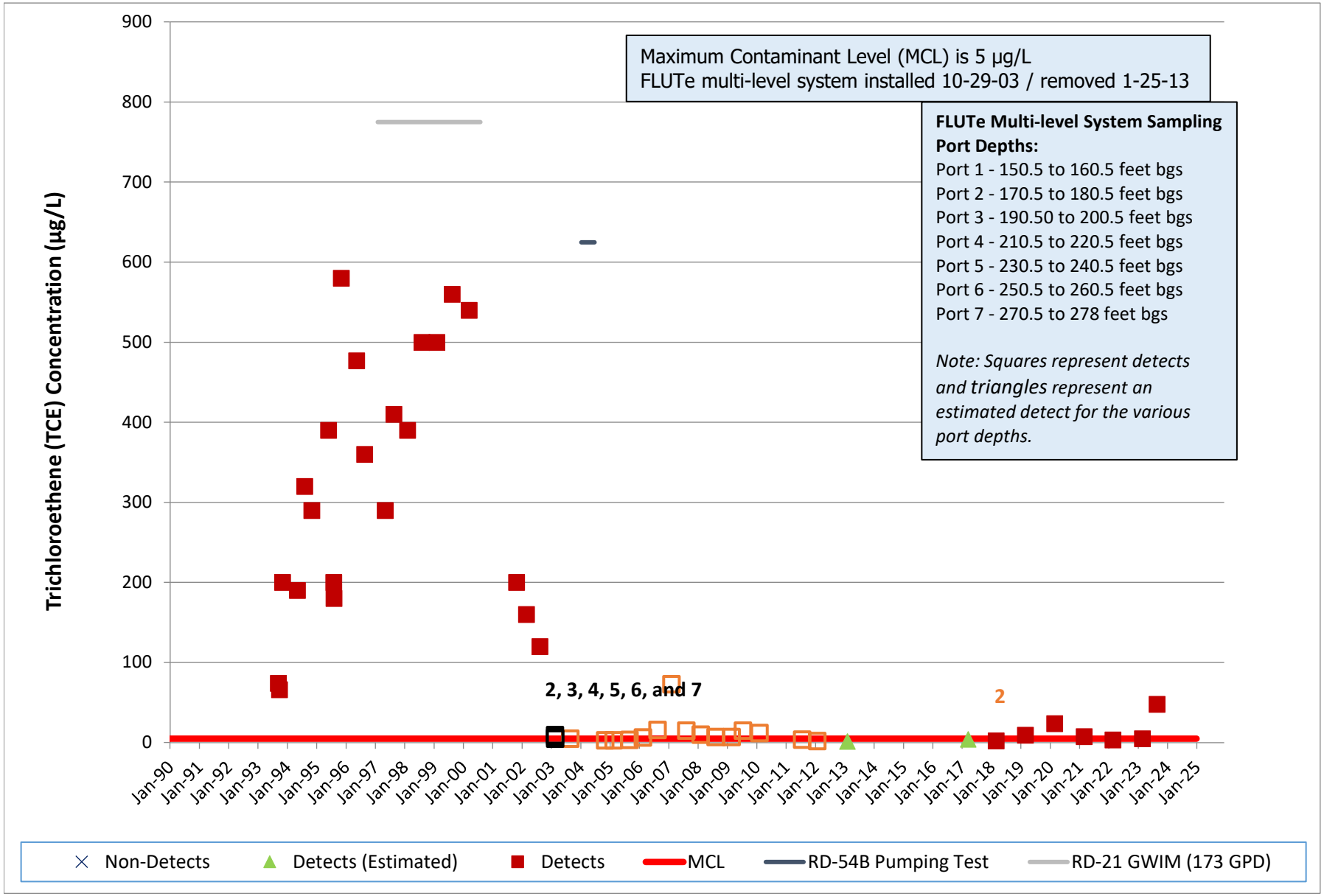
RD-33B, FSDF/ESADA
Trichloroethene



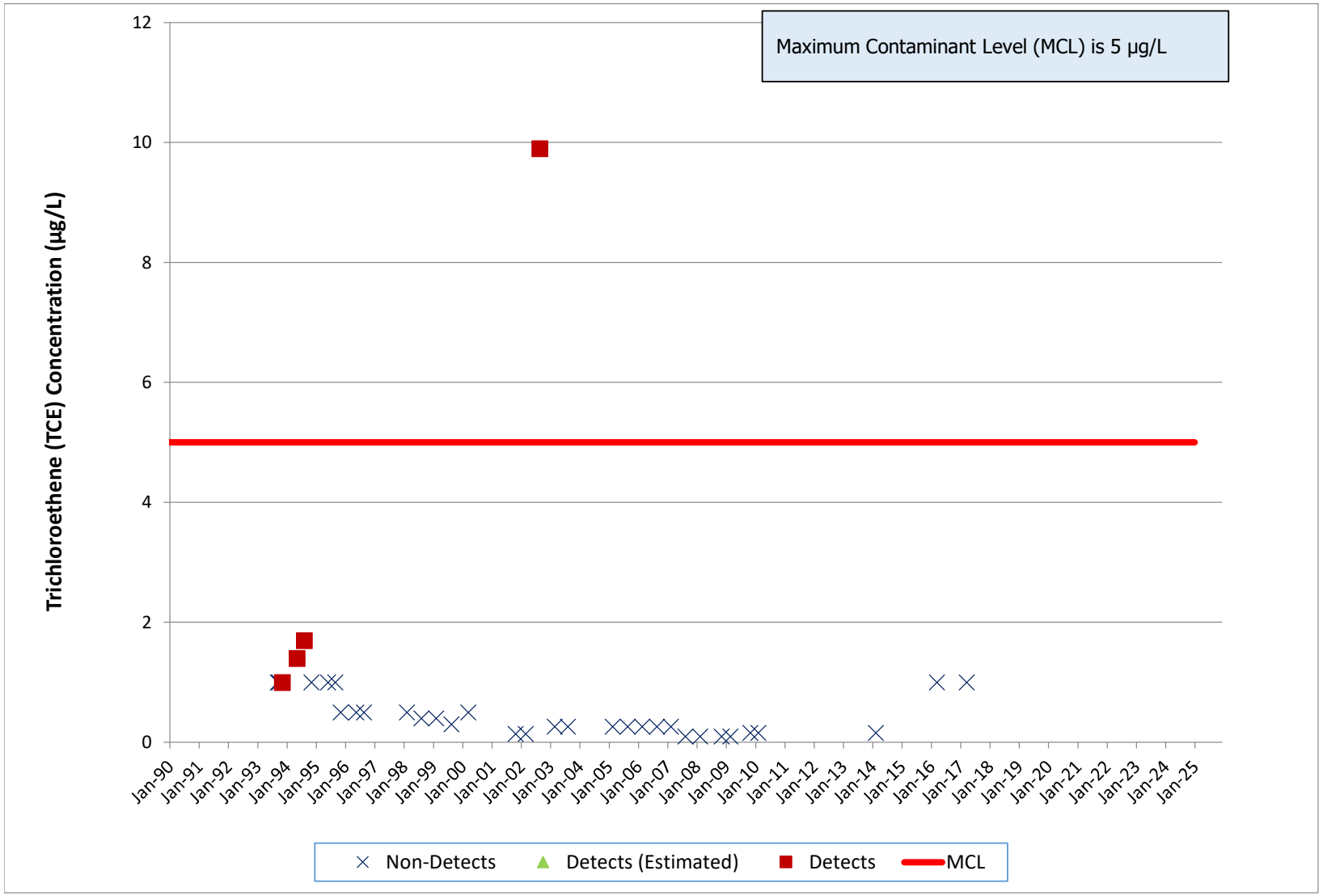
RD-33C, FSDF/ESADA
Trichloroethene



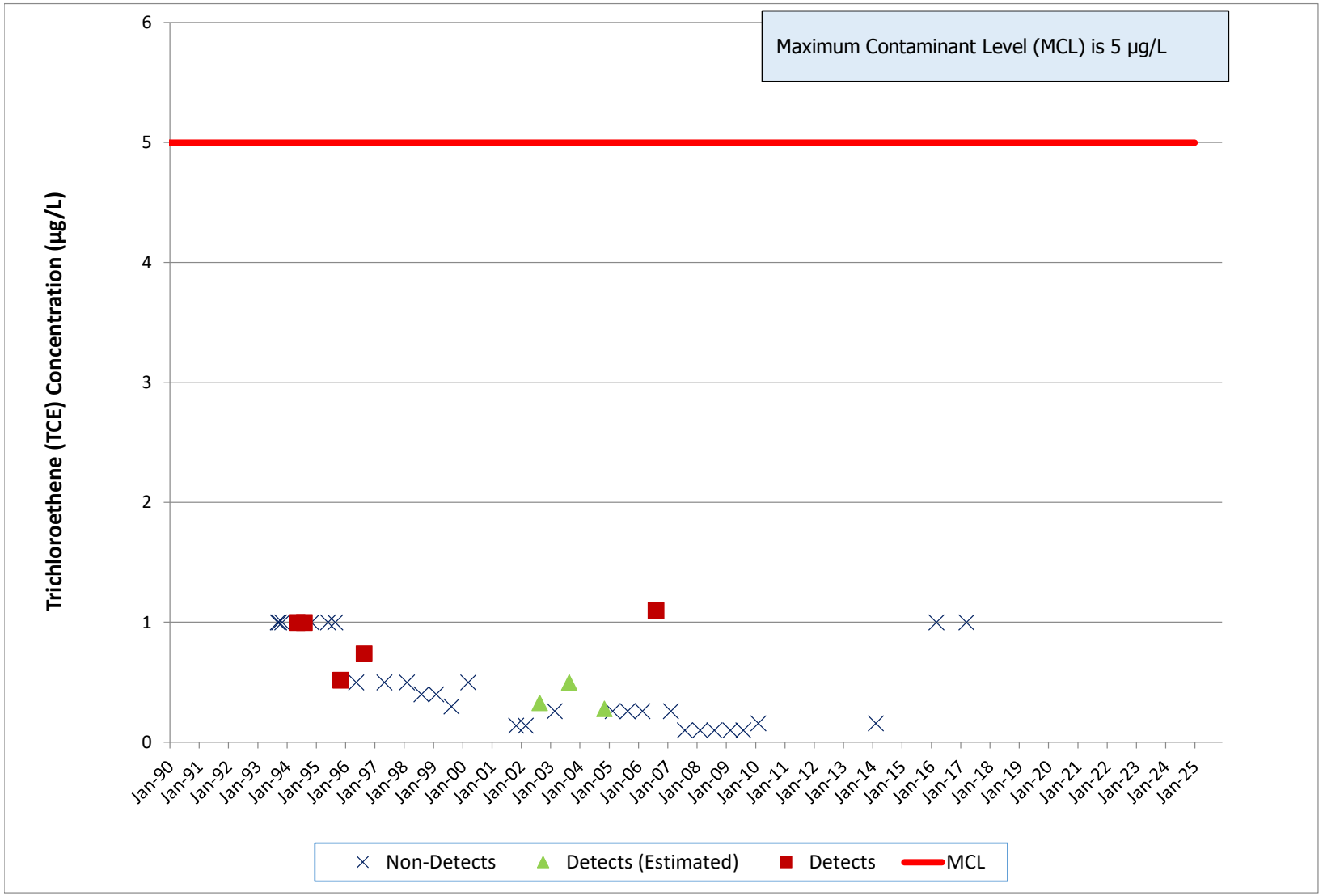
RD-54A FSDF/ESADA
Trichloroethene



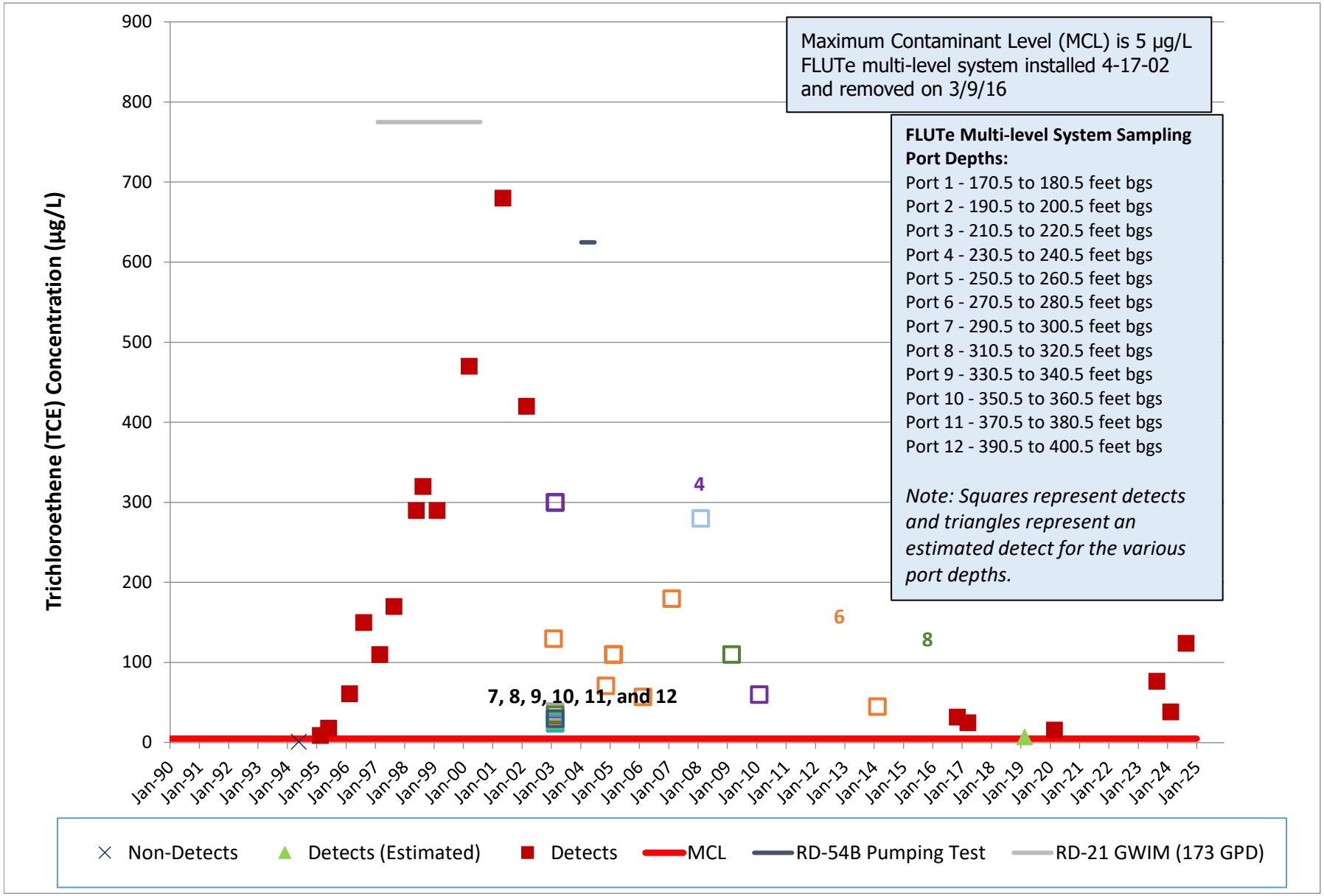
RD-54B, FSDF/ESADA
Trichloroethene



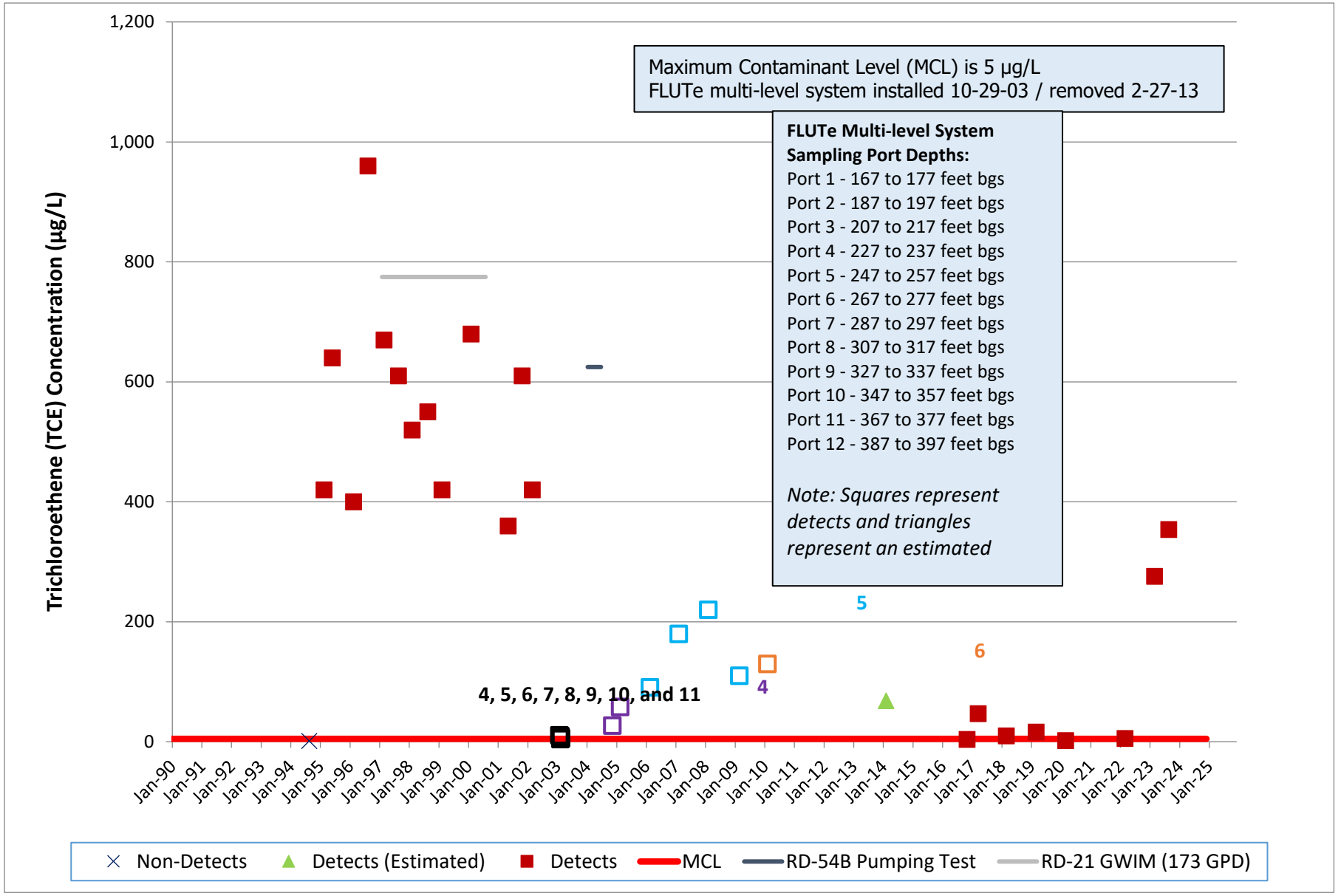
RD-54C, FSDF/ESADA
Trichloroethene



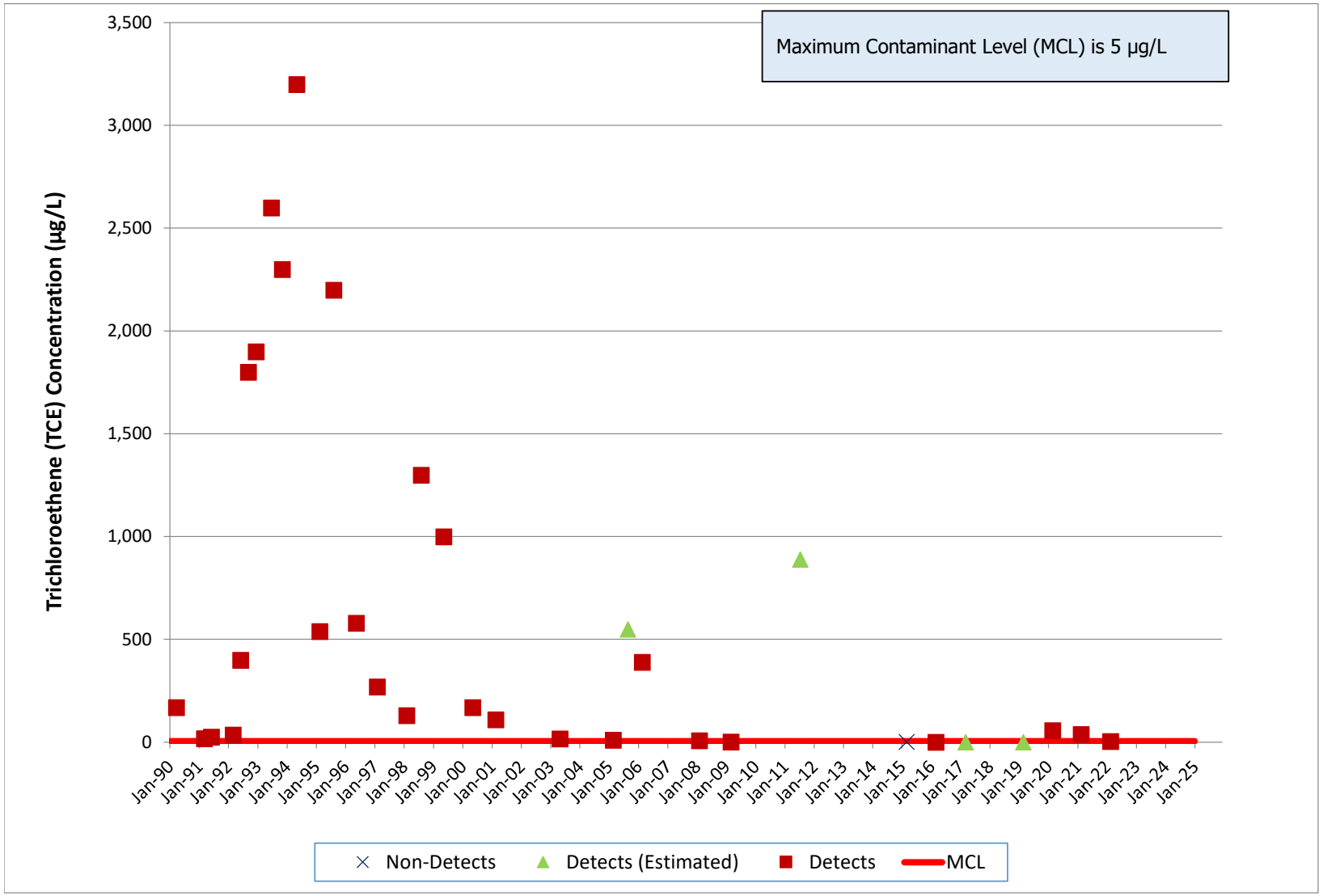
RD-64, FSDF/ESADA
Trichloroethene



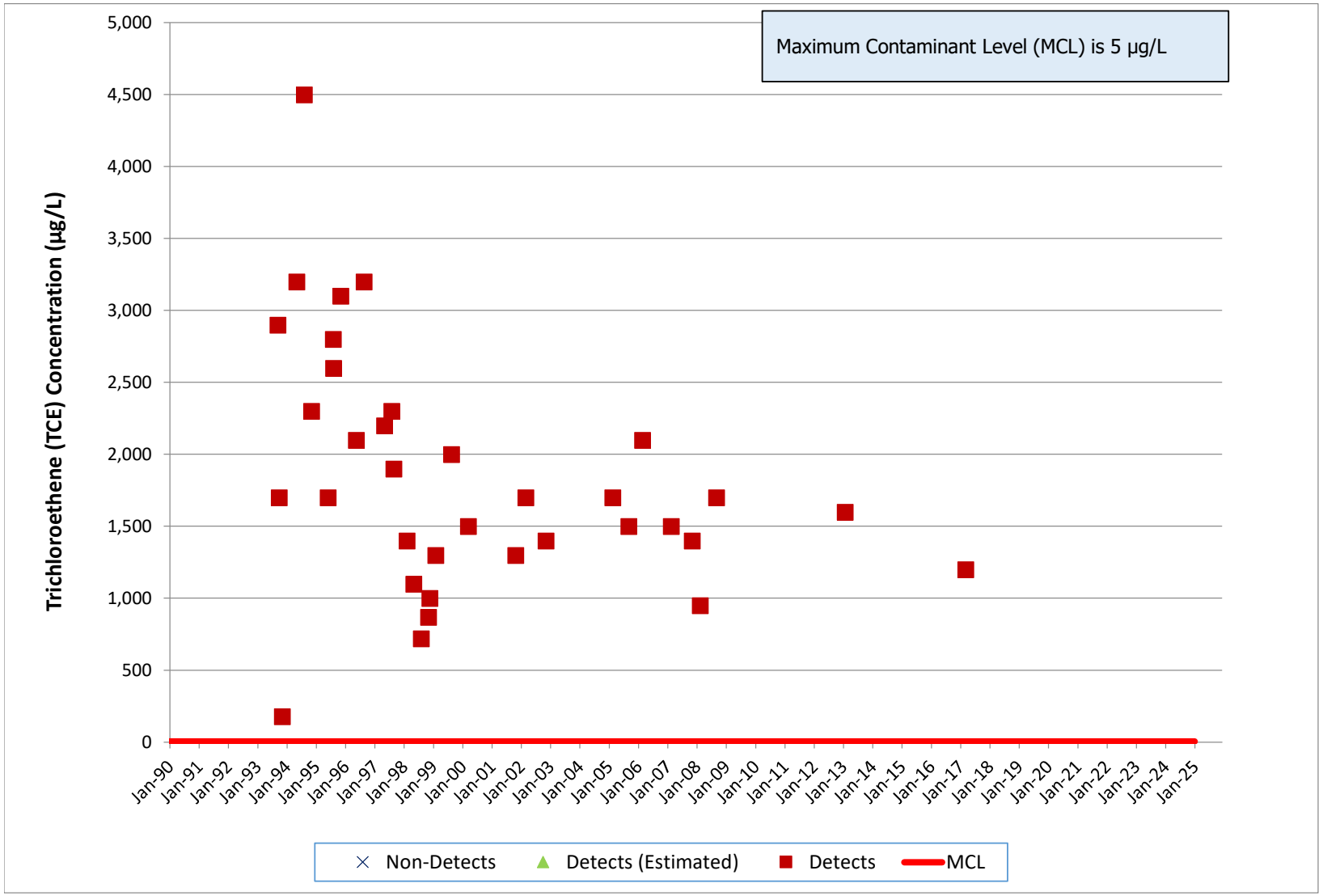
RD-65, FSDF/ESADA
Trichloroethene



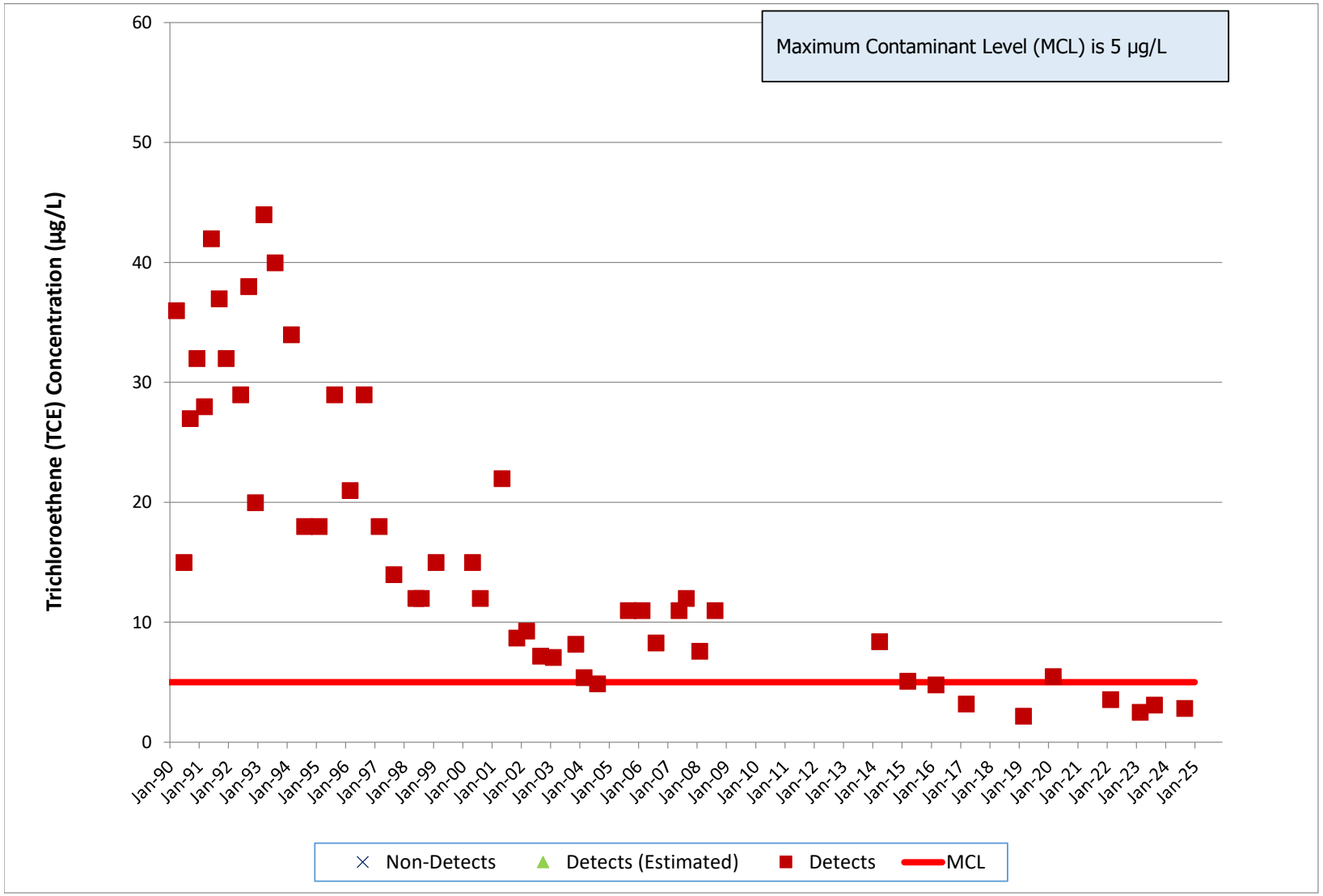
RS-18, FSDF/ESADA
Trichloroethene



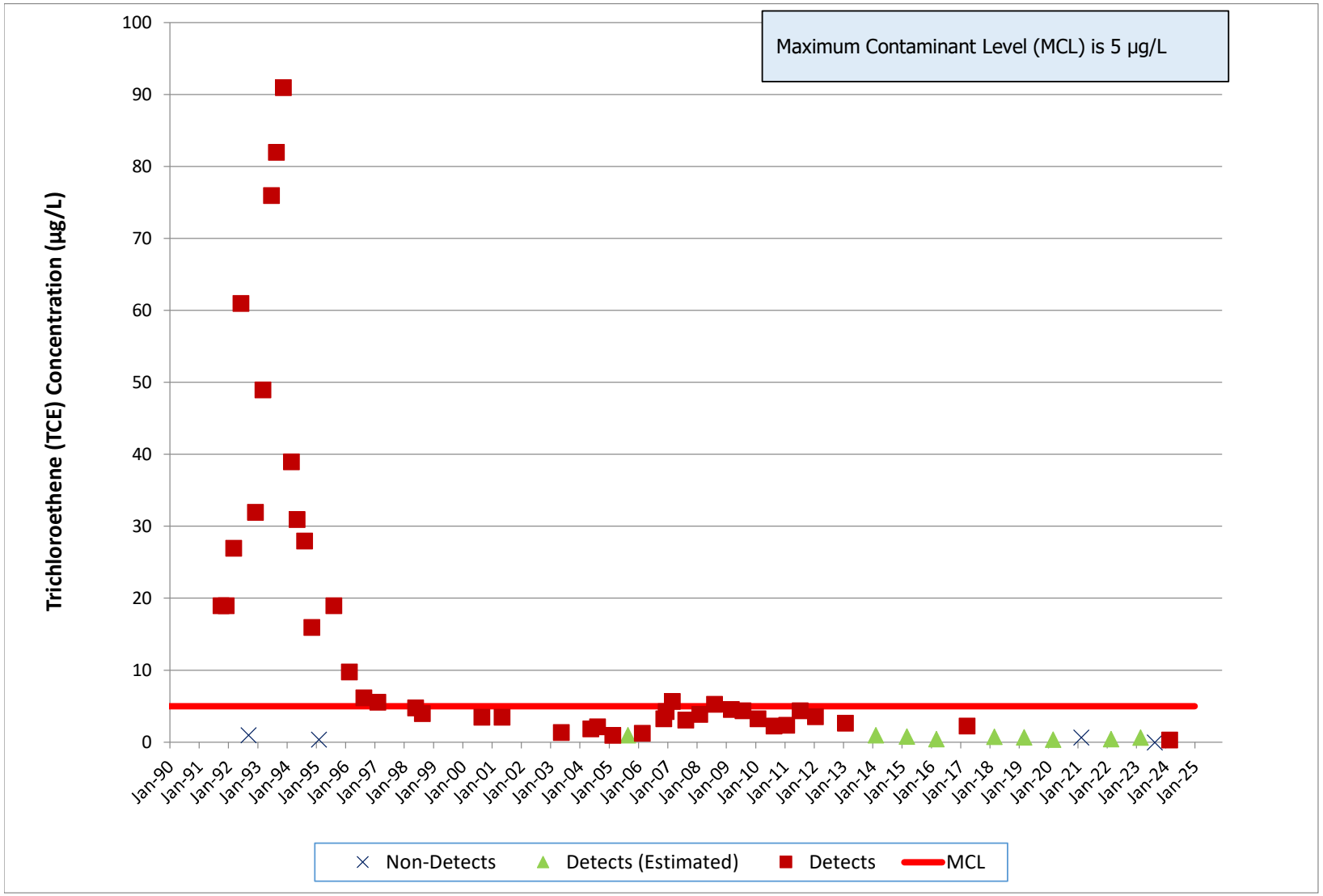
RS-54, FSDF/ESADA
Trichloroethene



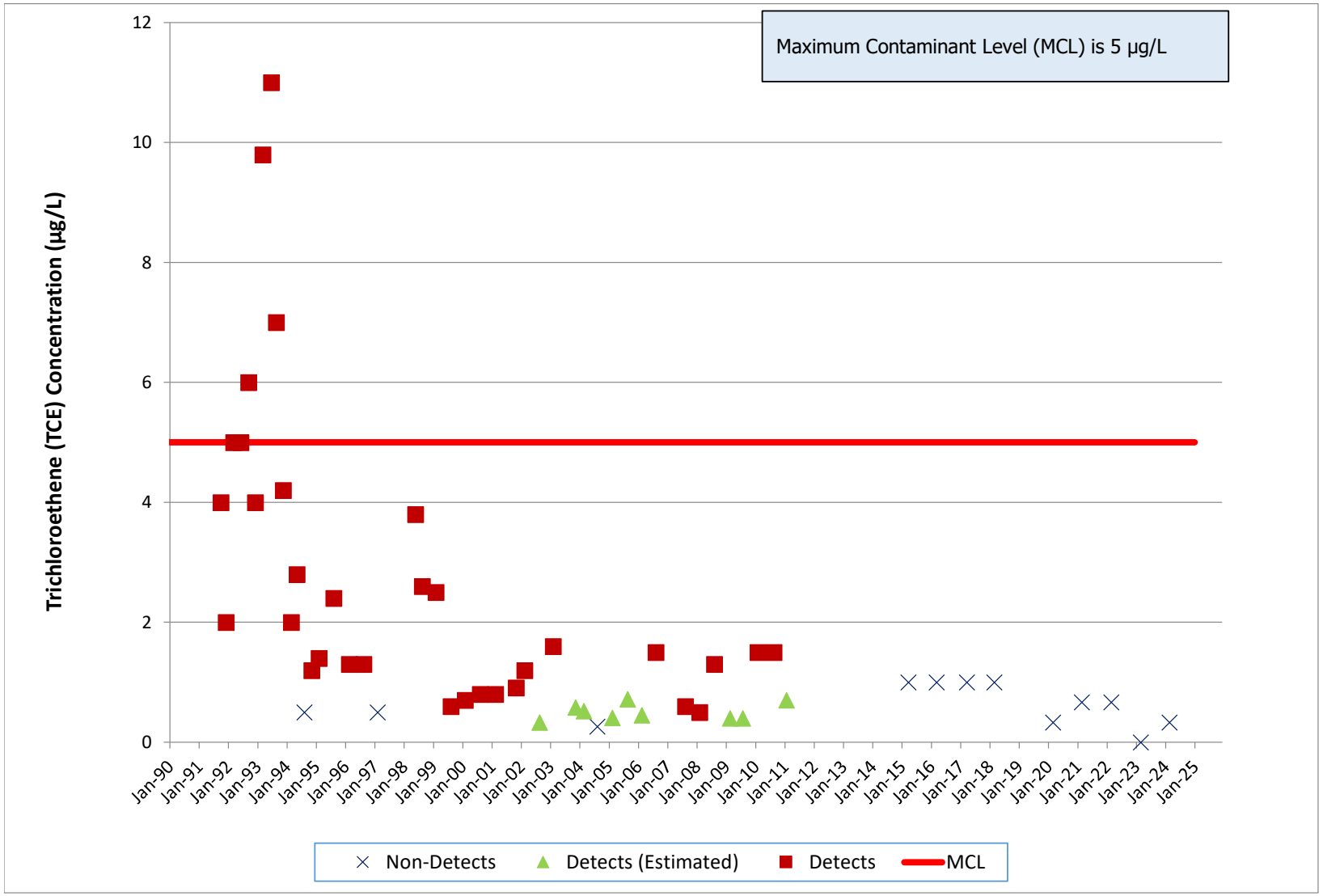
RD-30, RMHF
Trichloroethene



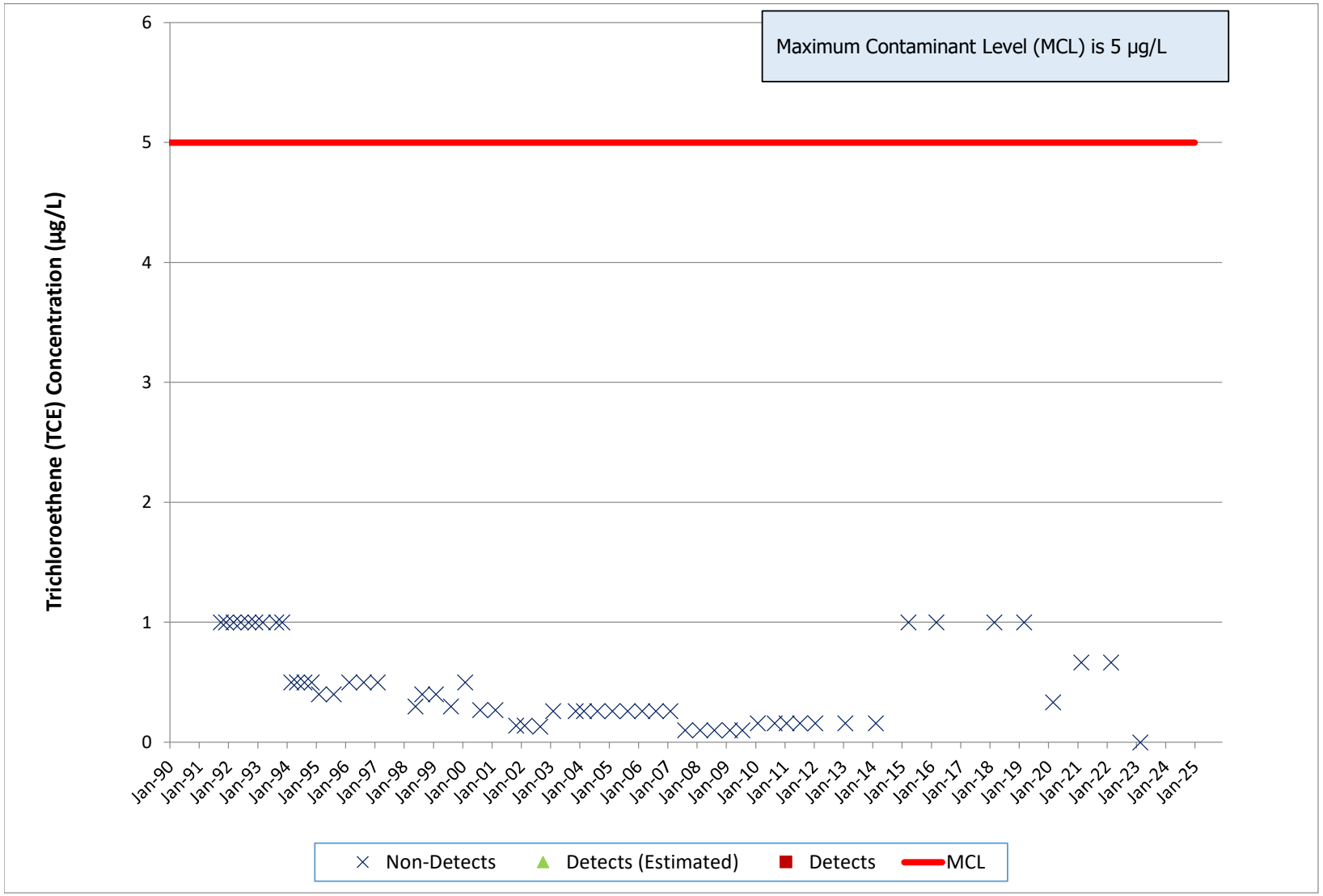
RD-34A, RMHF
Trichloroethene



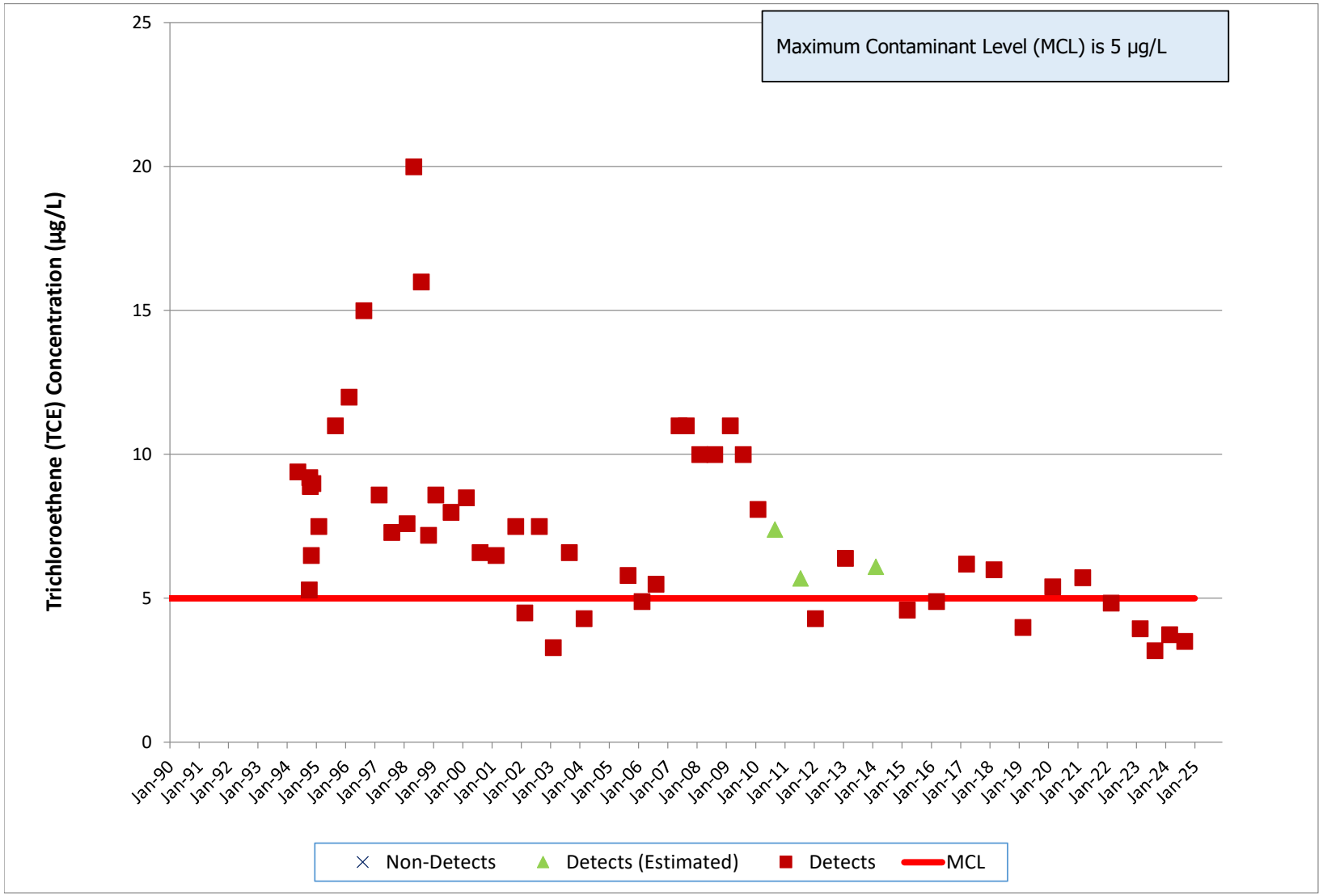
RD-34B, RMHF
Trichloroethene



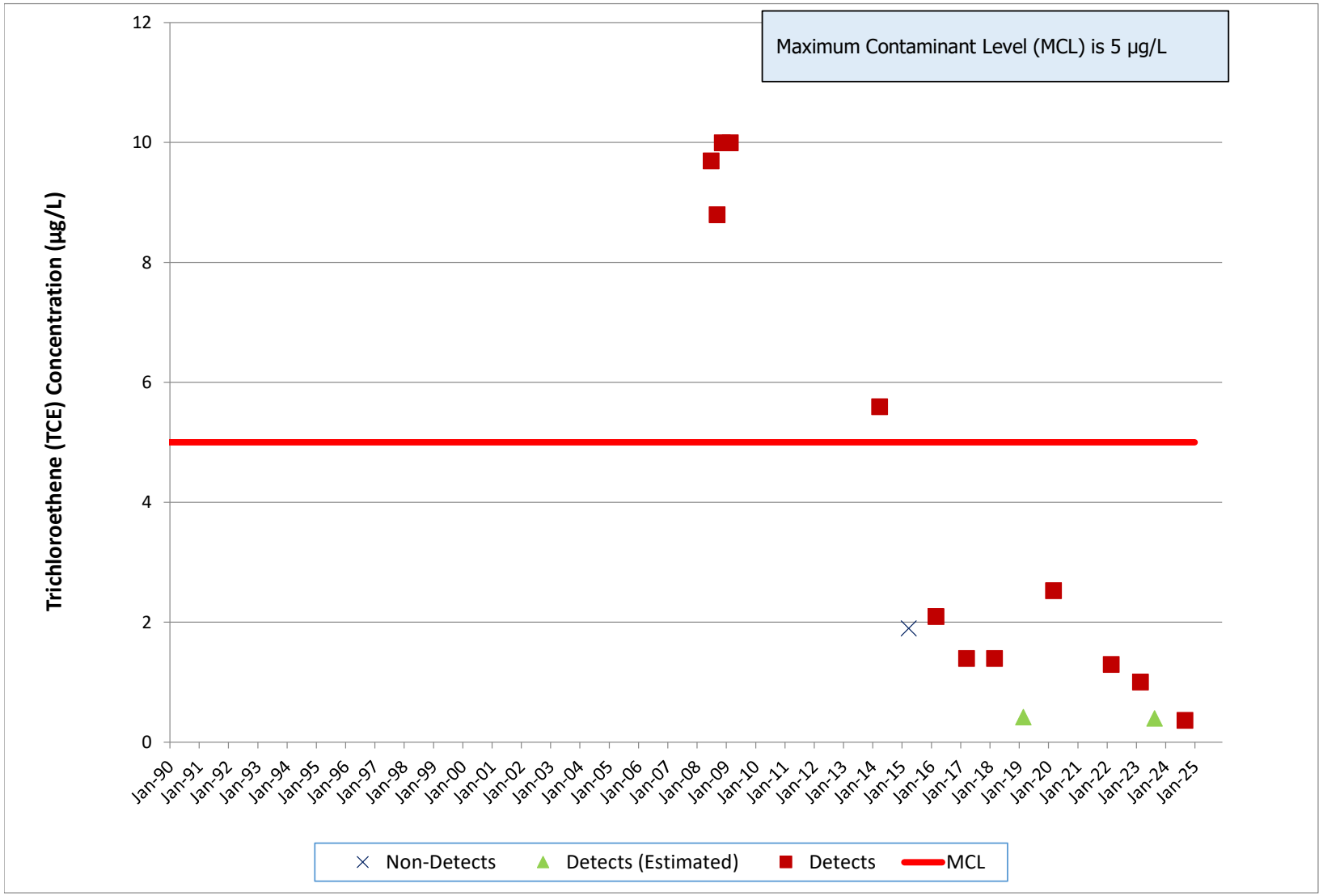
RD-34C, RMHF
Trichloroethene



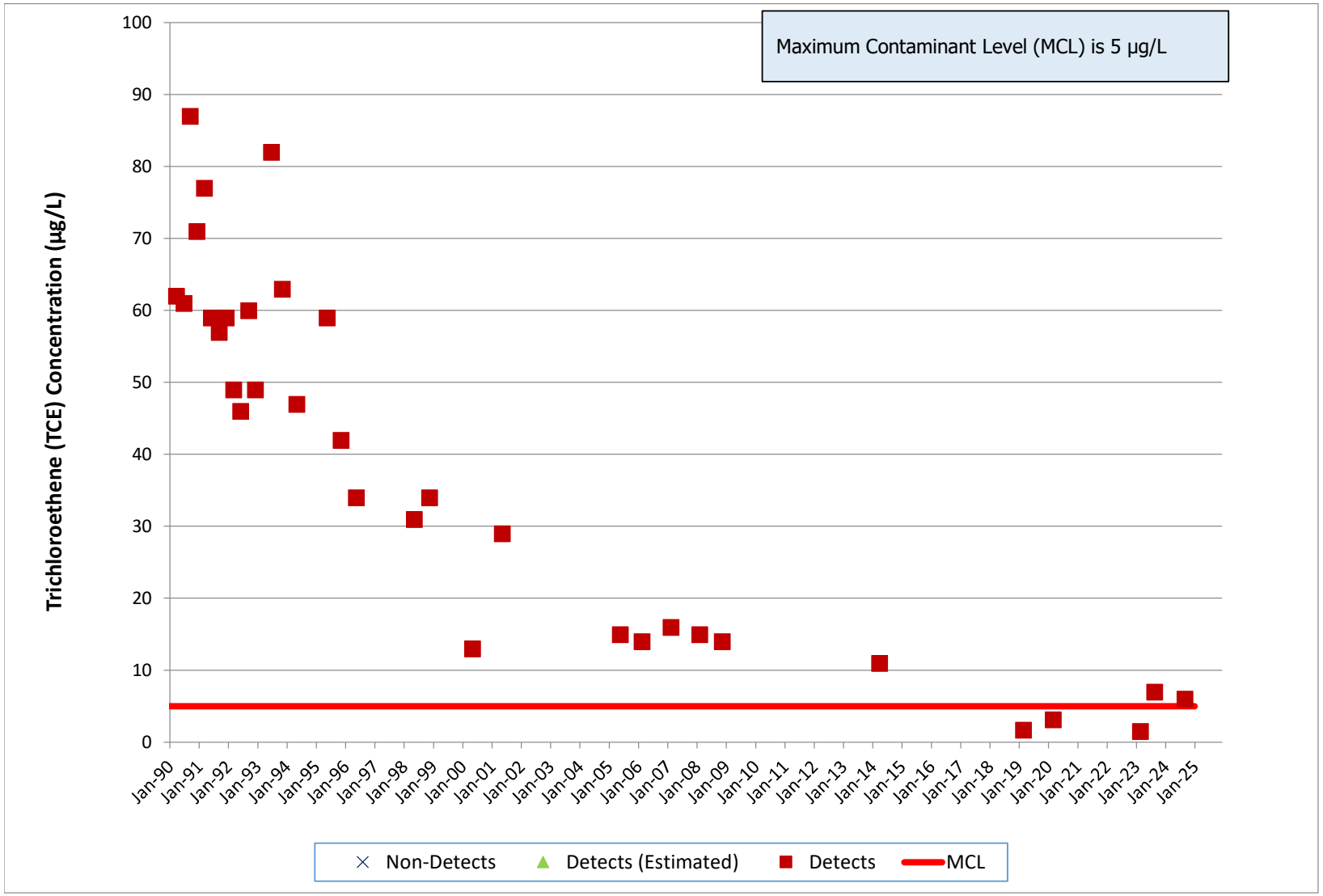
RD-63, RMHF
Trichloroethene



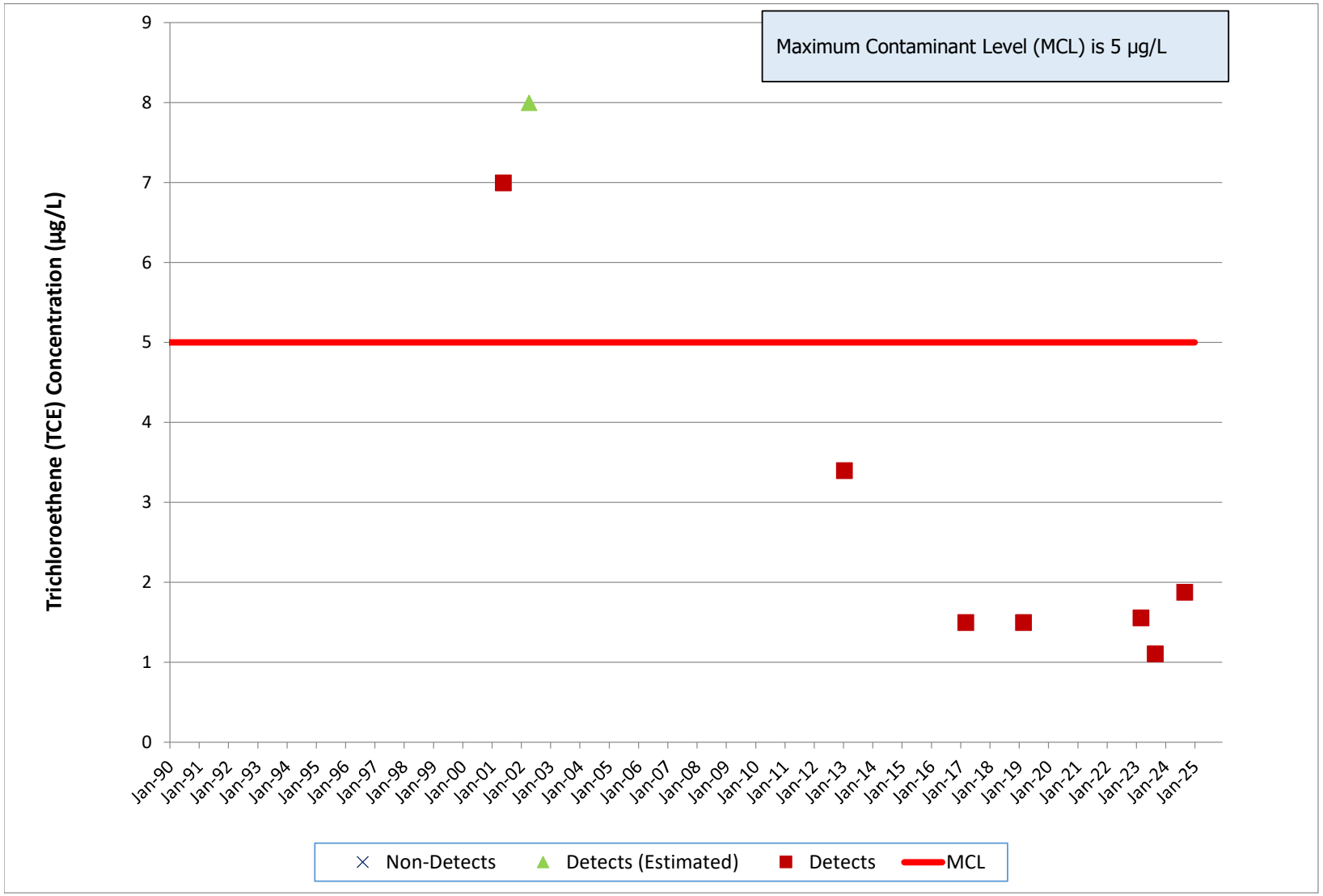
RD-98, RMHF
Trichloroethene



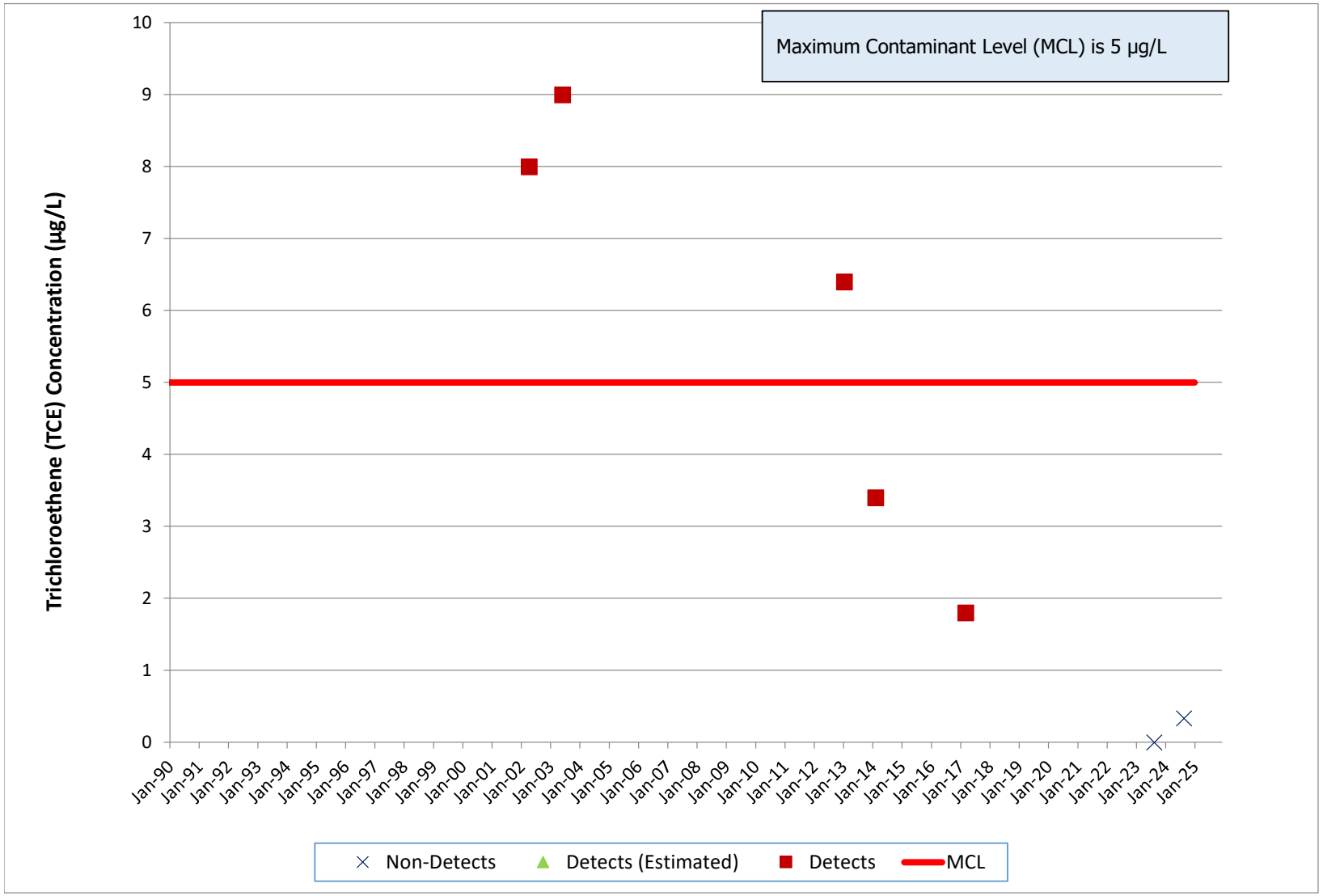
RS-28, RMHF
Trichloroethene



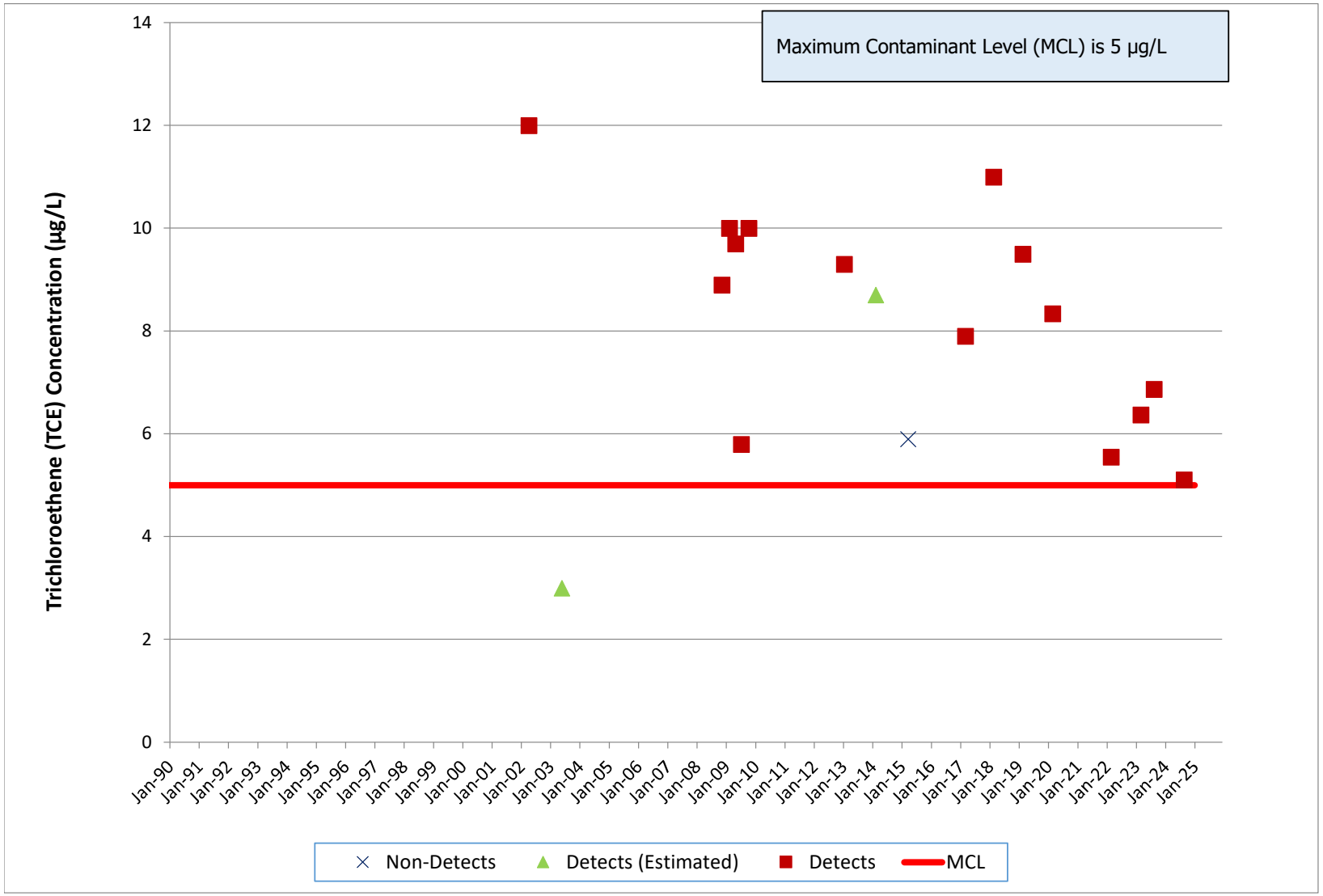
PZ-005, Bldg 65 Metals Clarifier
Trichloroethene



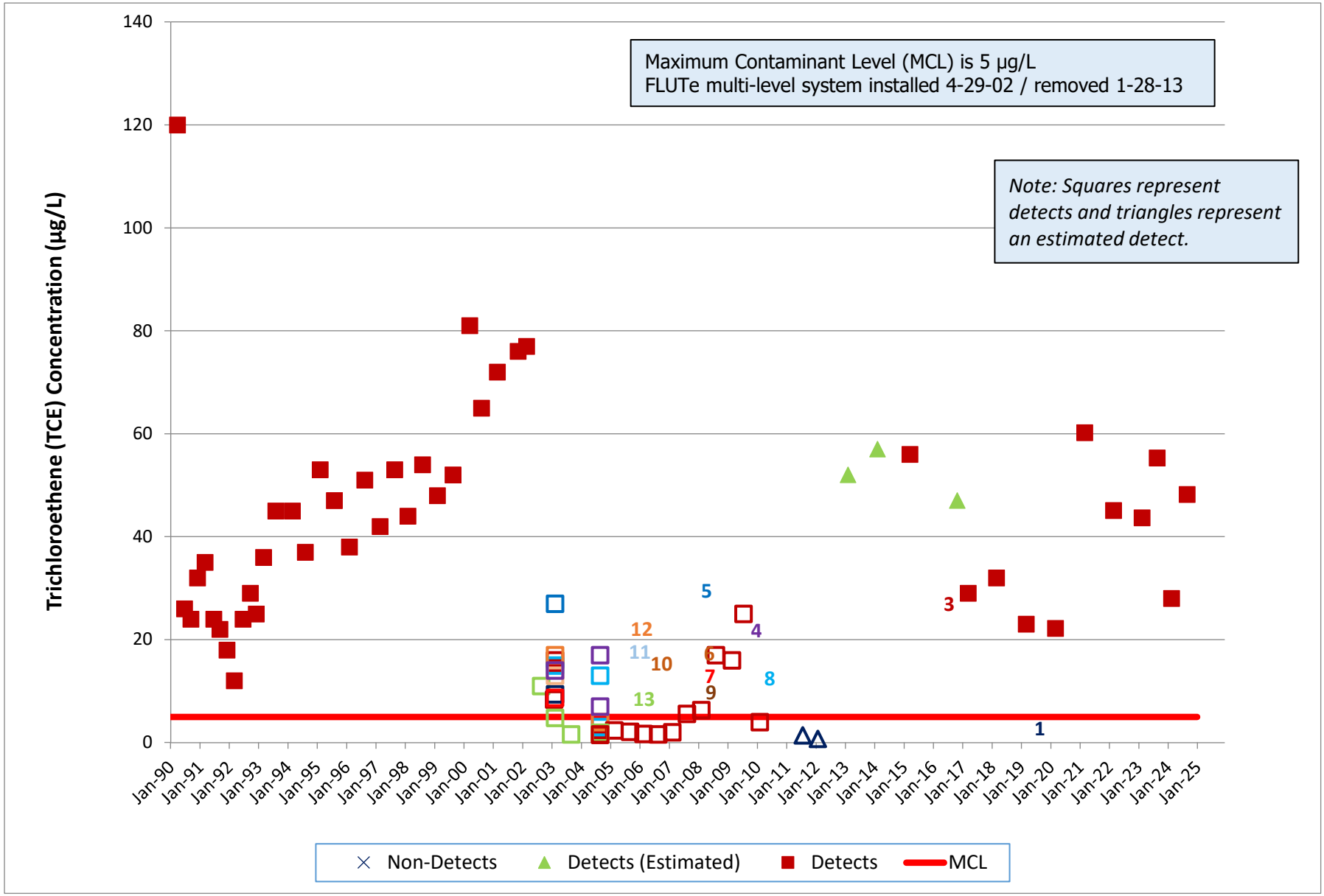
PZ-104, Bldg 65 Metals Clarifier
Trichloroethene



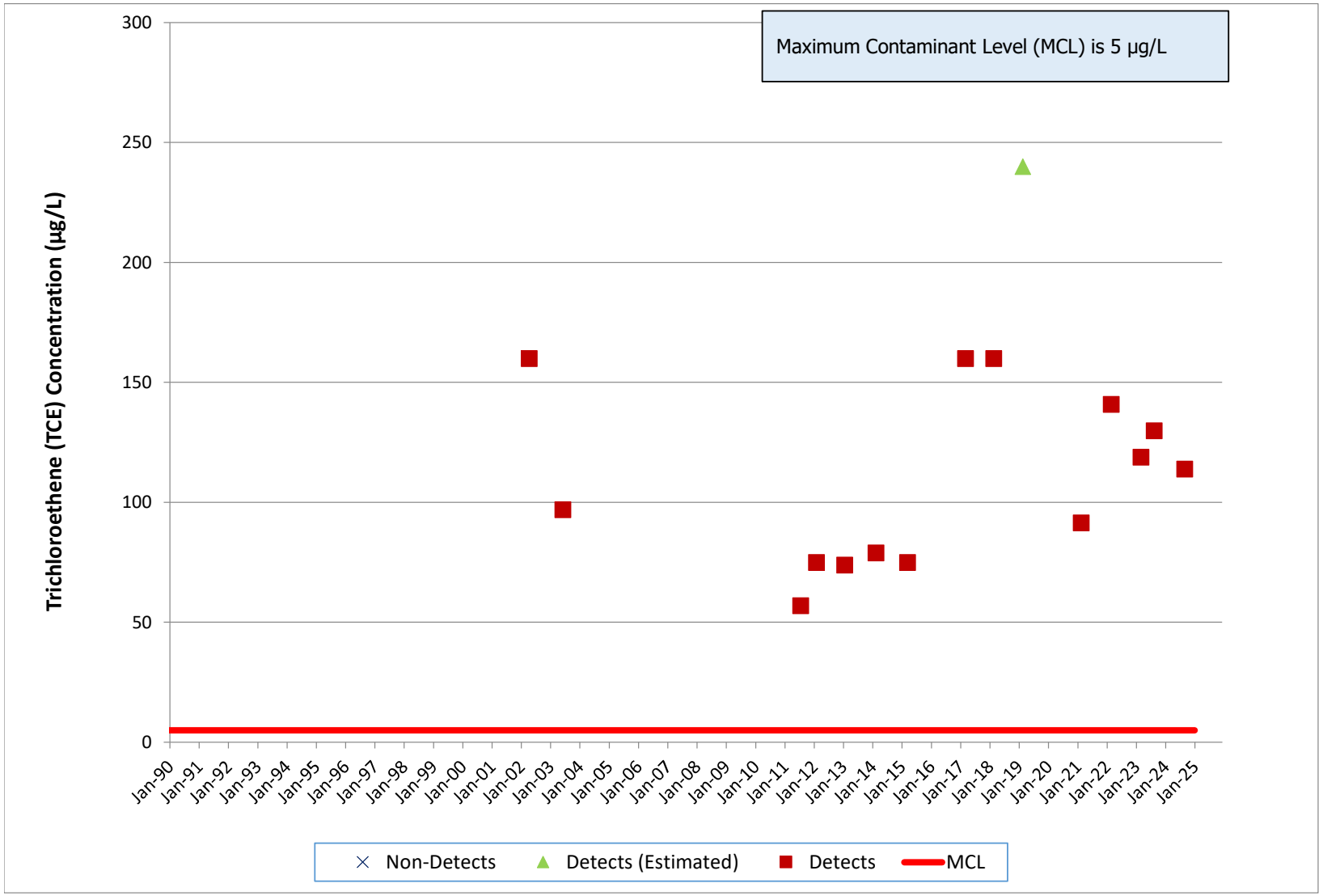
PZ-105, Bldg 65 Metals Clarifier
Trichloroethene



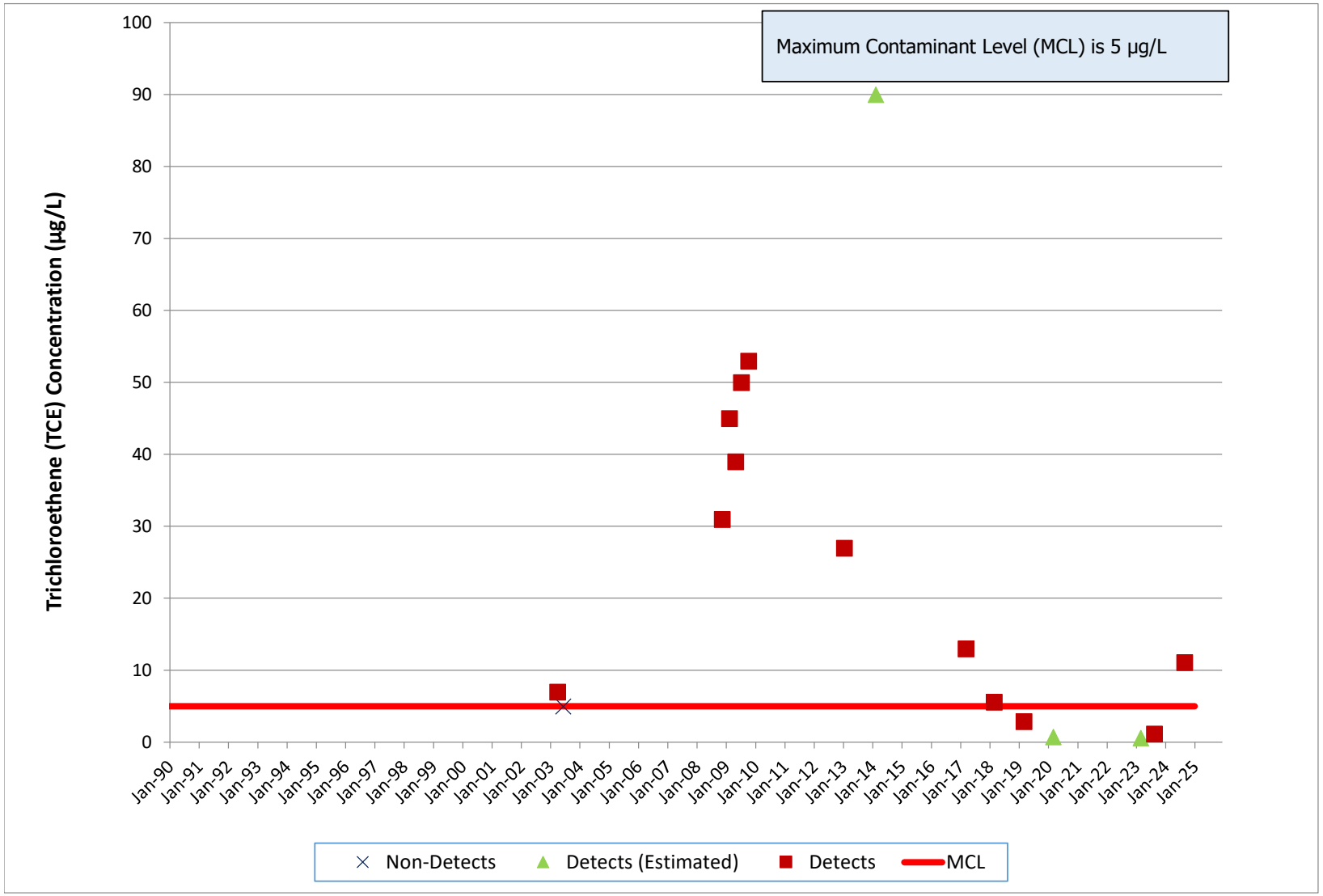
RD-07, Bldg 56 Landfill
Trichloroethene



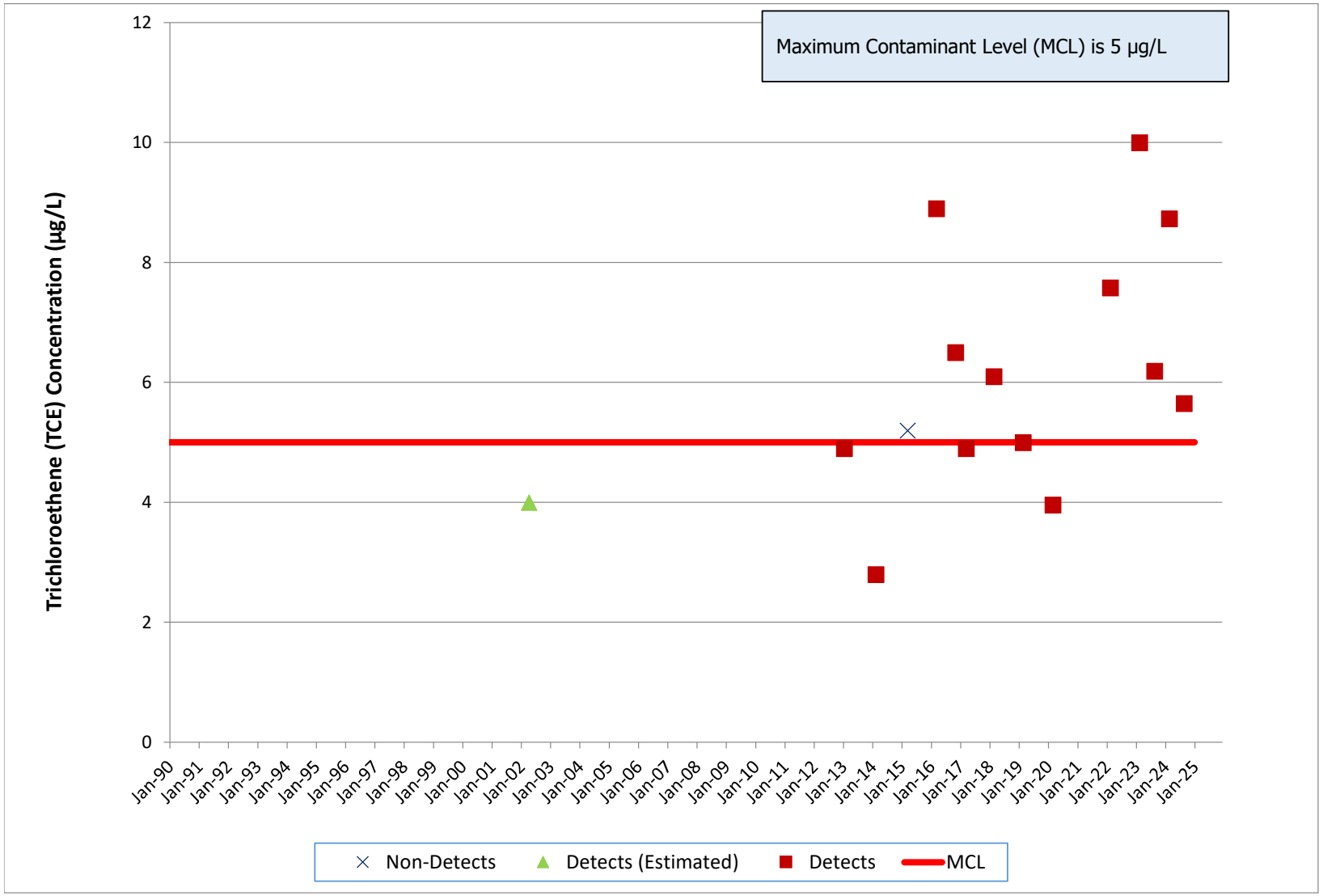
PZ-108, HMSA/PDU
Trichloroethene



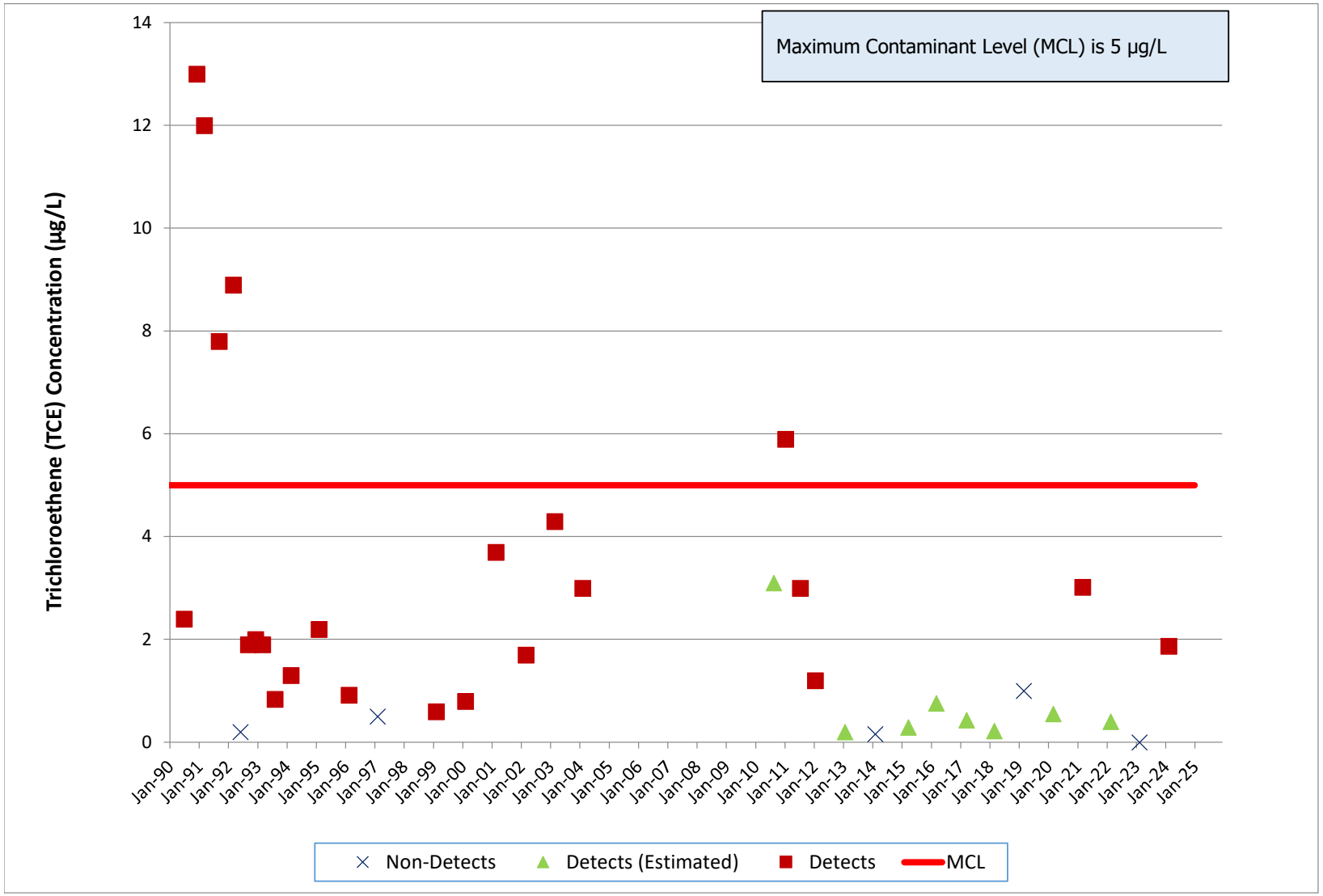
PZ-120, HMSA/PDU
Trichloroethene



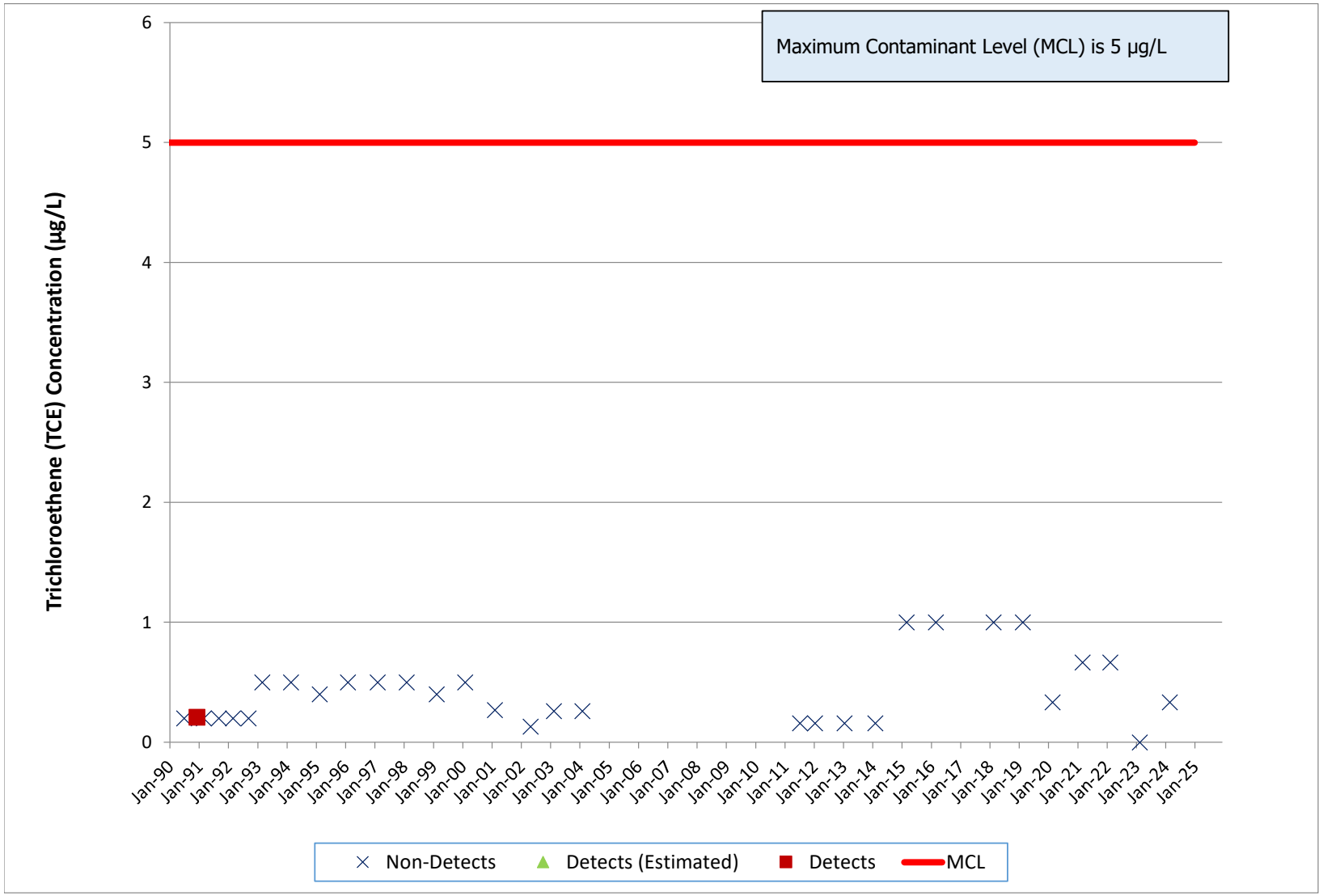
PZ-109, B4057/4059/4626
Trichloroethene



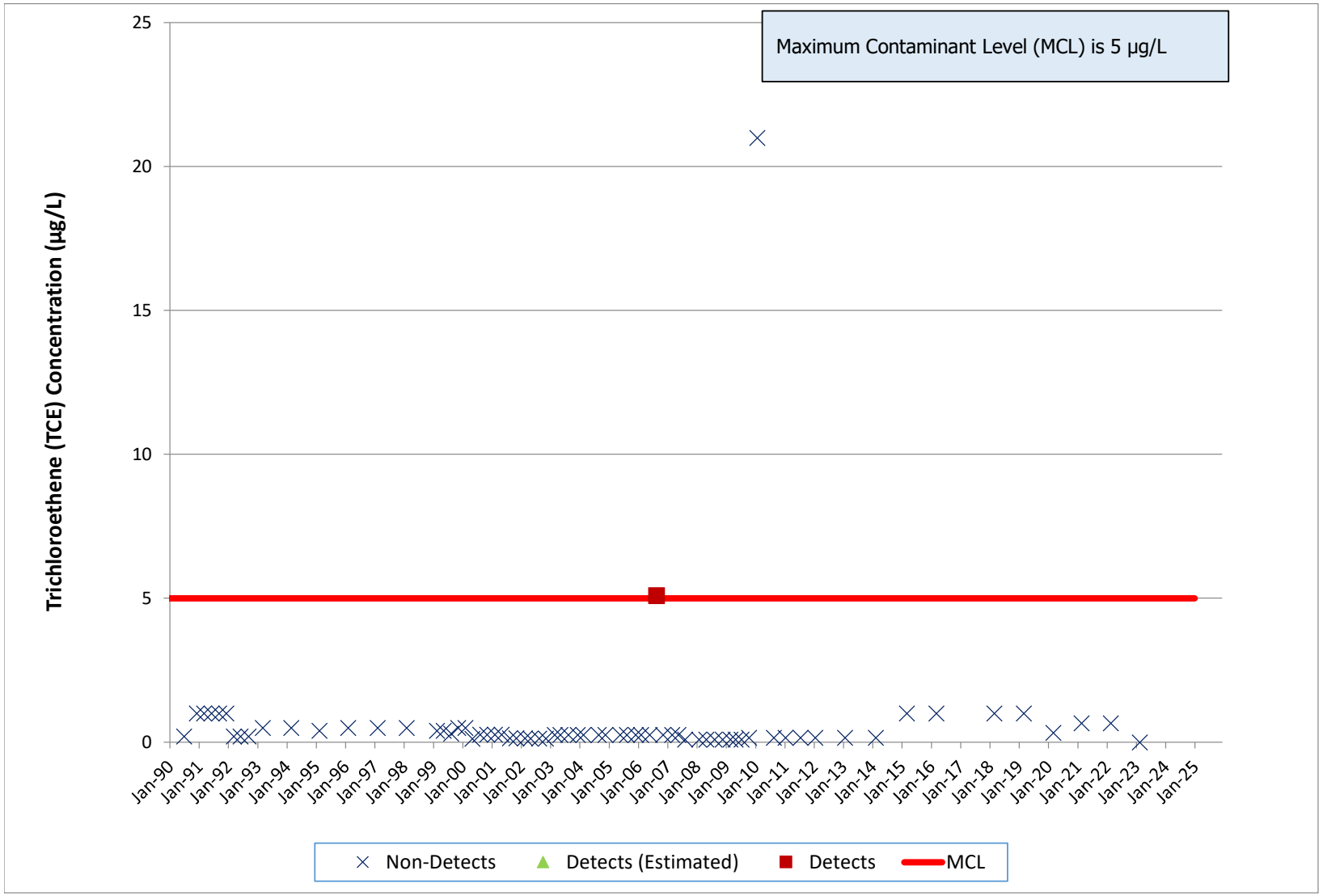
RD-14, OCY
Trichloroethene



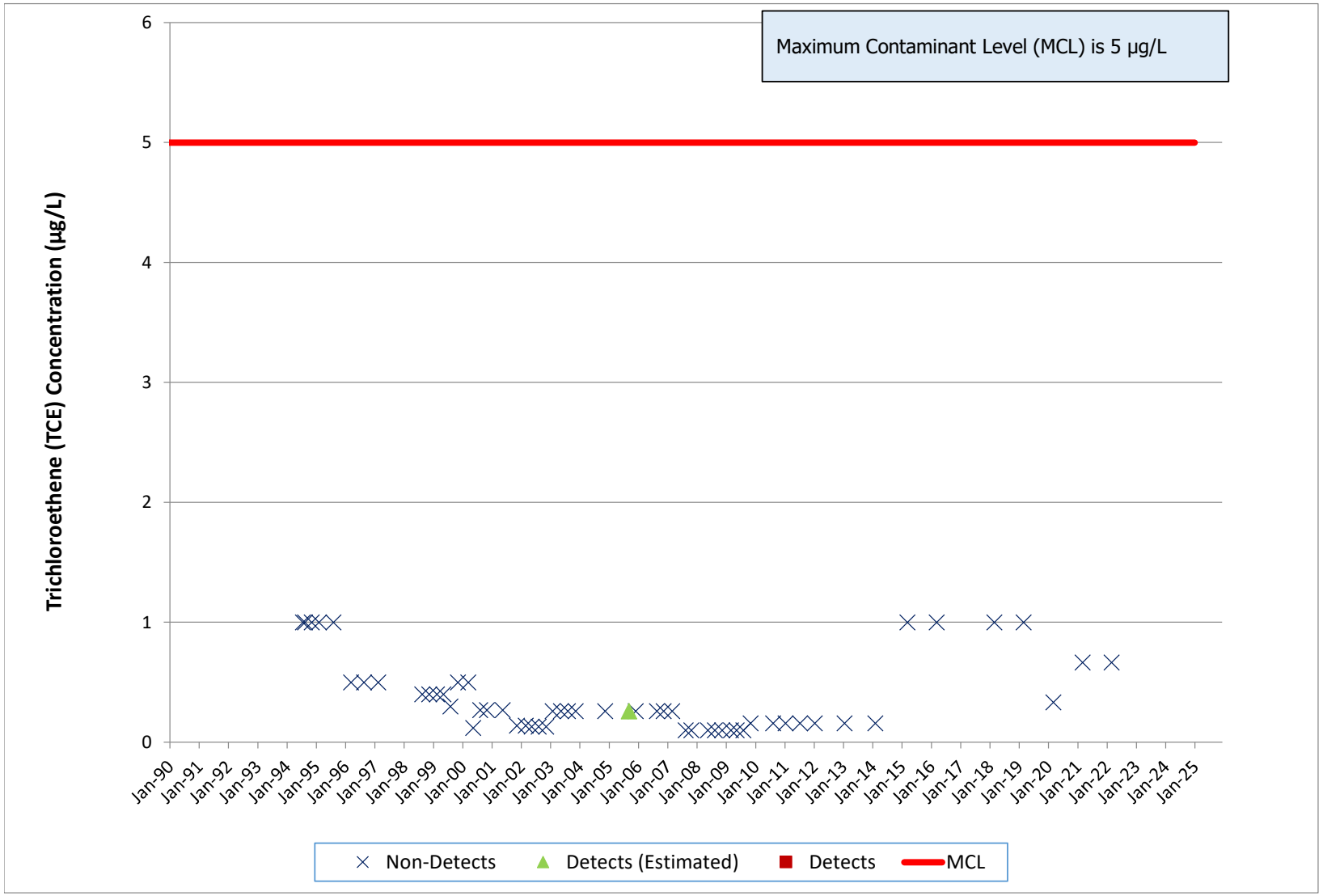
RD-20, Bldg 4100 Trench
Trichloroethene



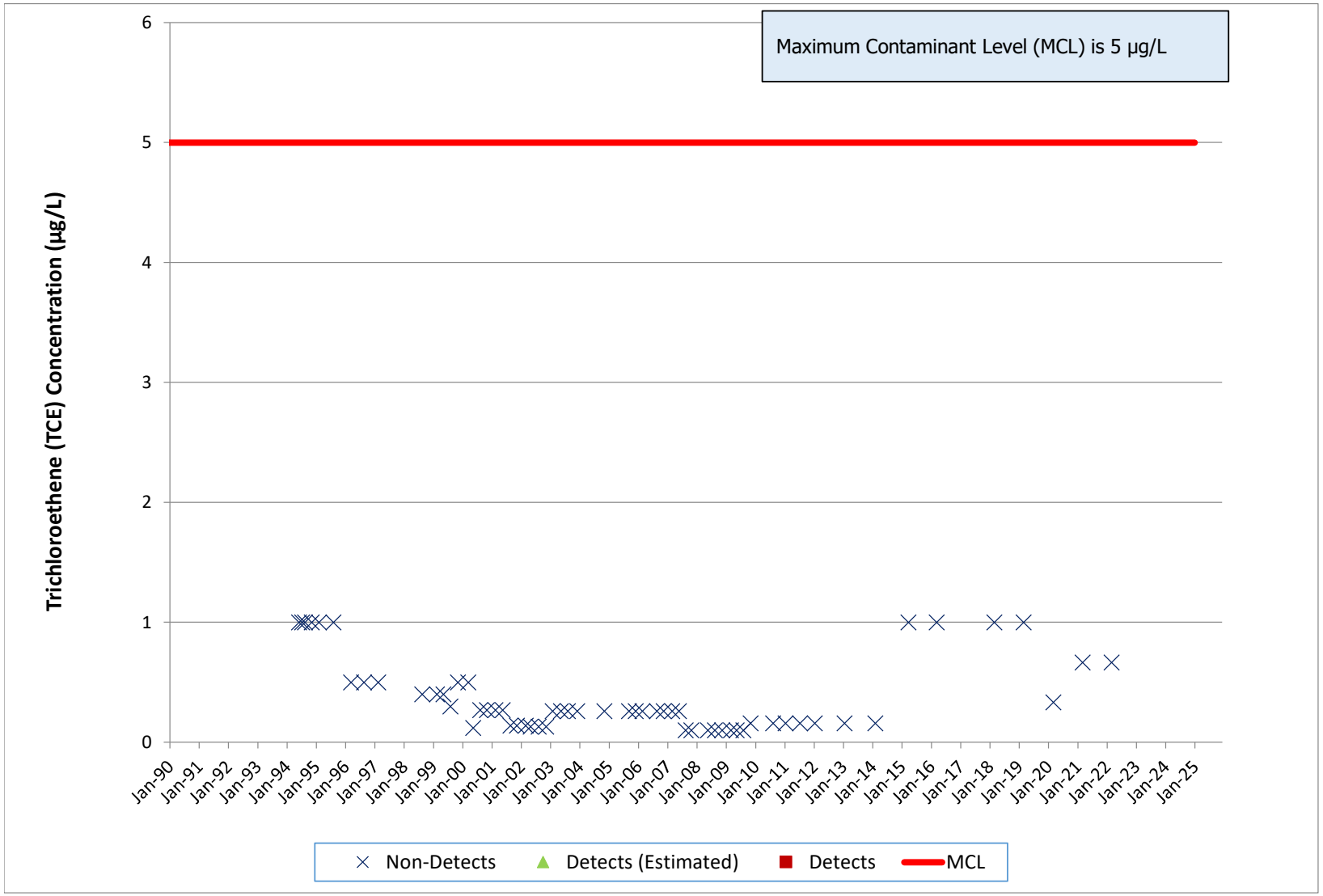
RD-19, B4133
Trichloroethene



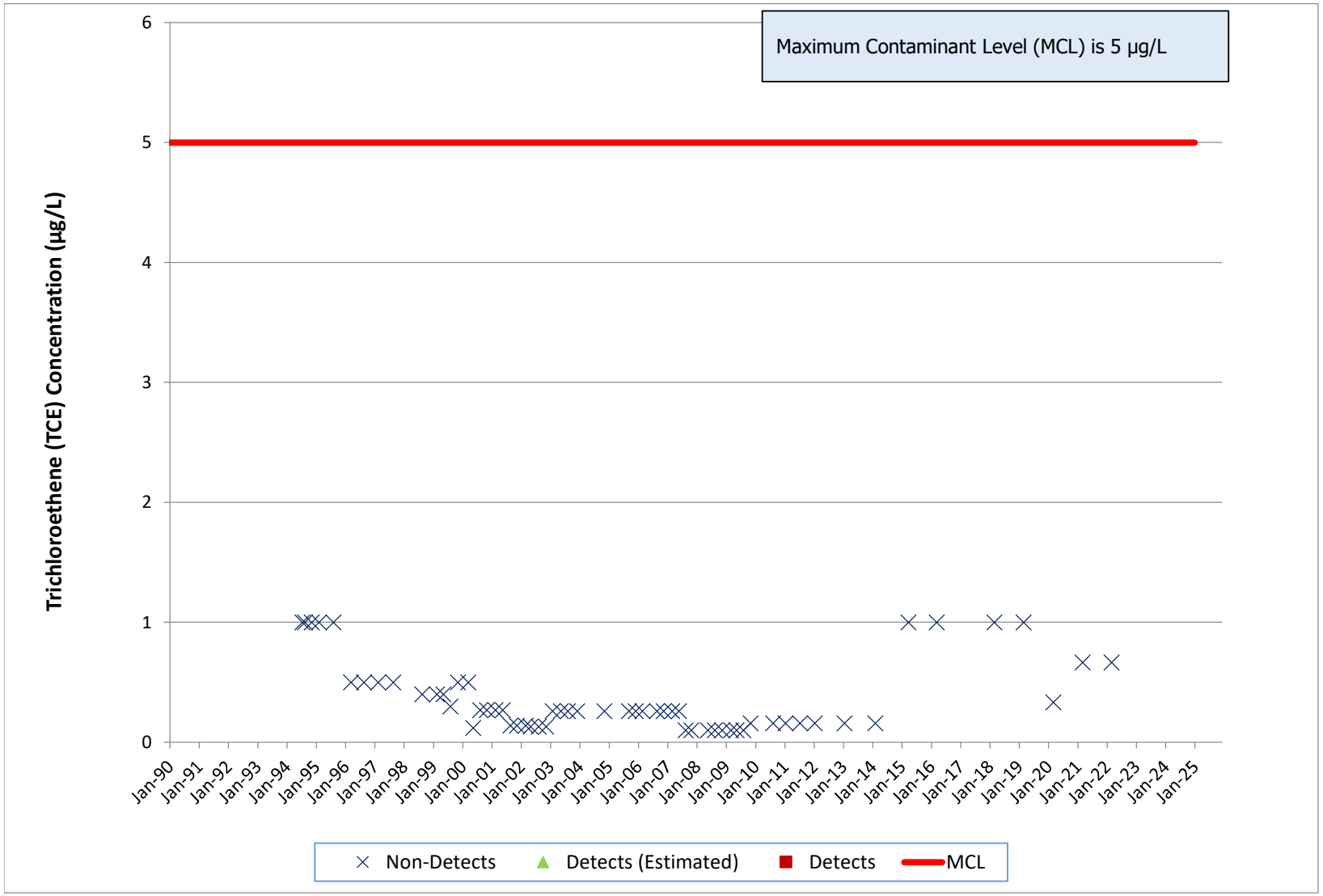
RD-59A, Offsite
Trichloroethene



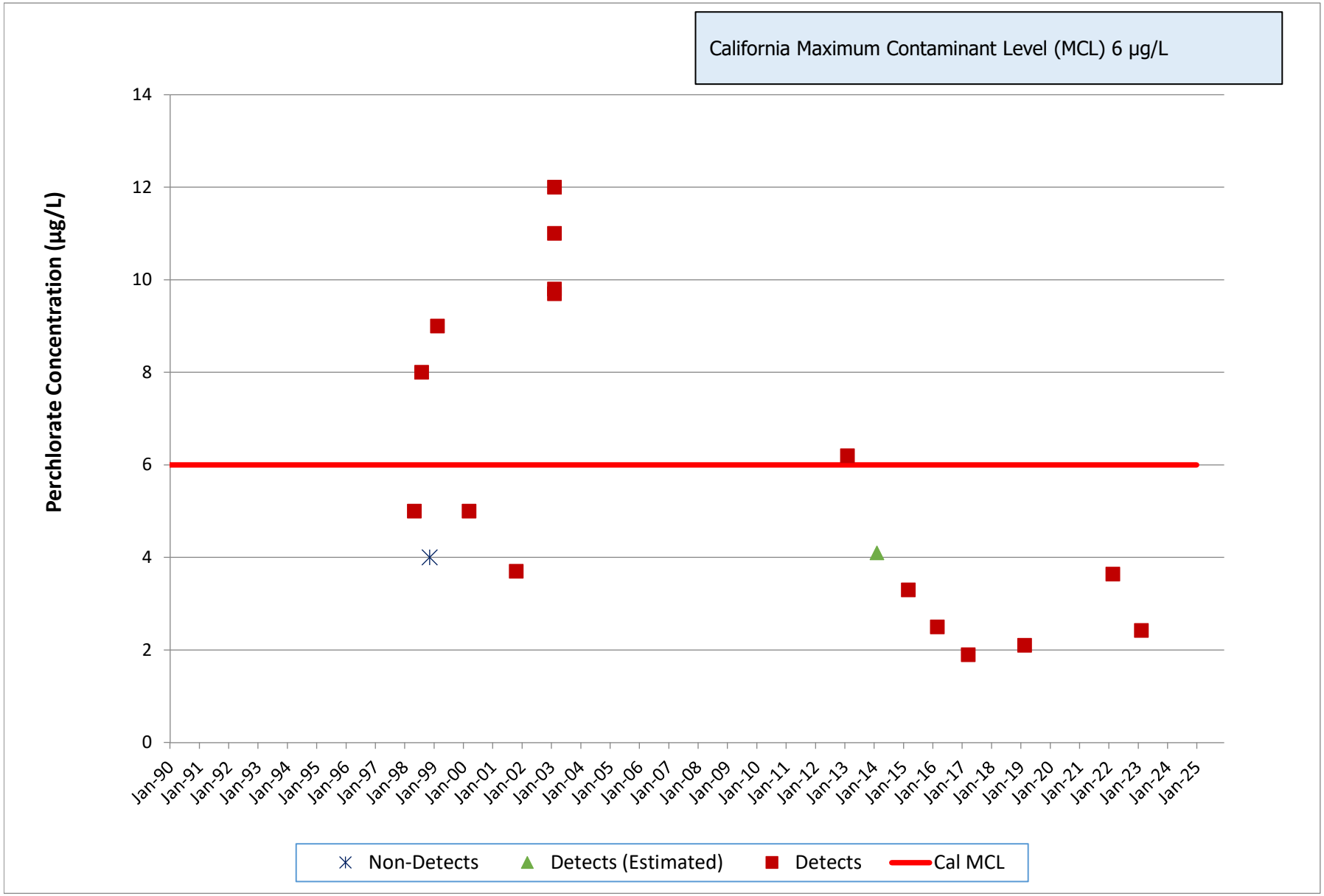
RD-59B, Offsite
Trichloroethene



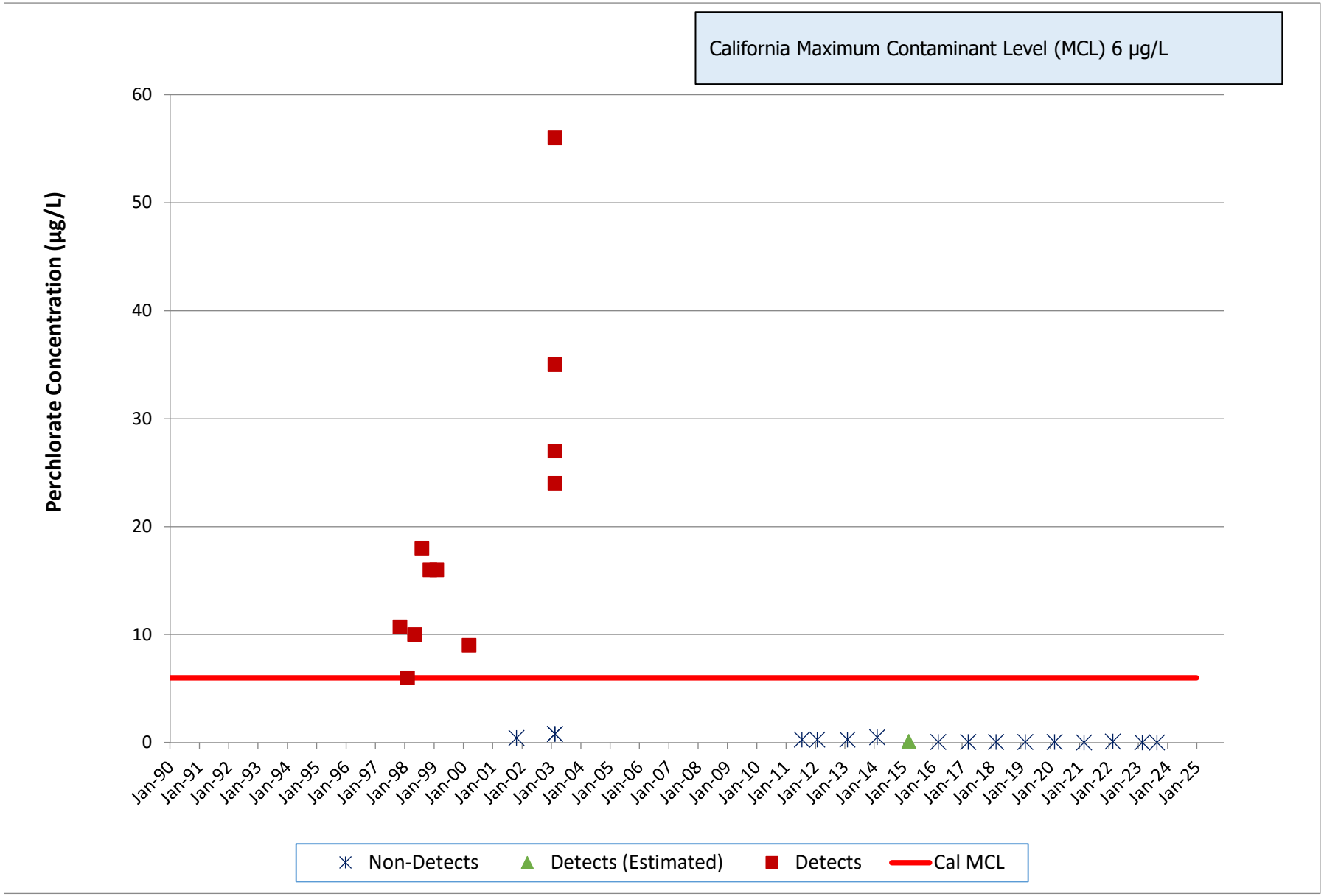
RD-59C, Offsite
Trichloroethene



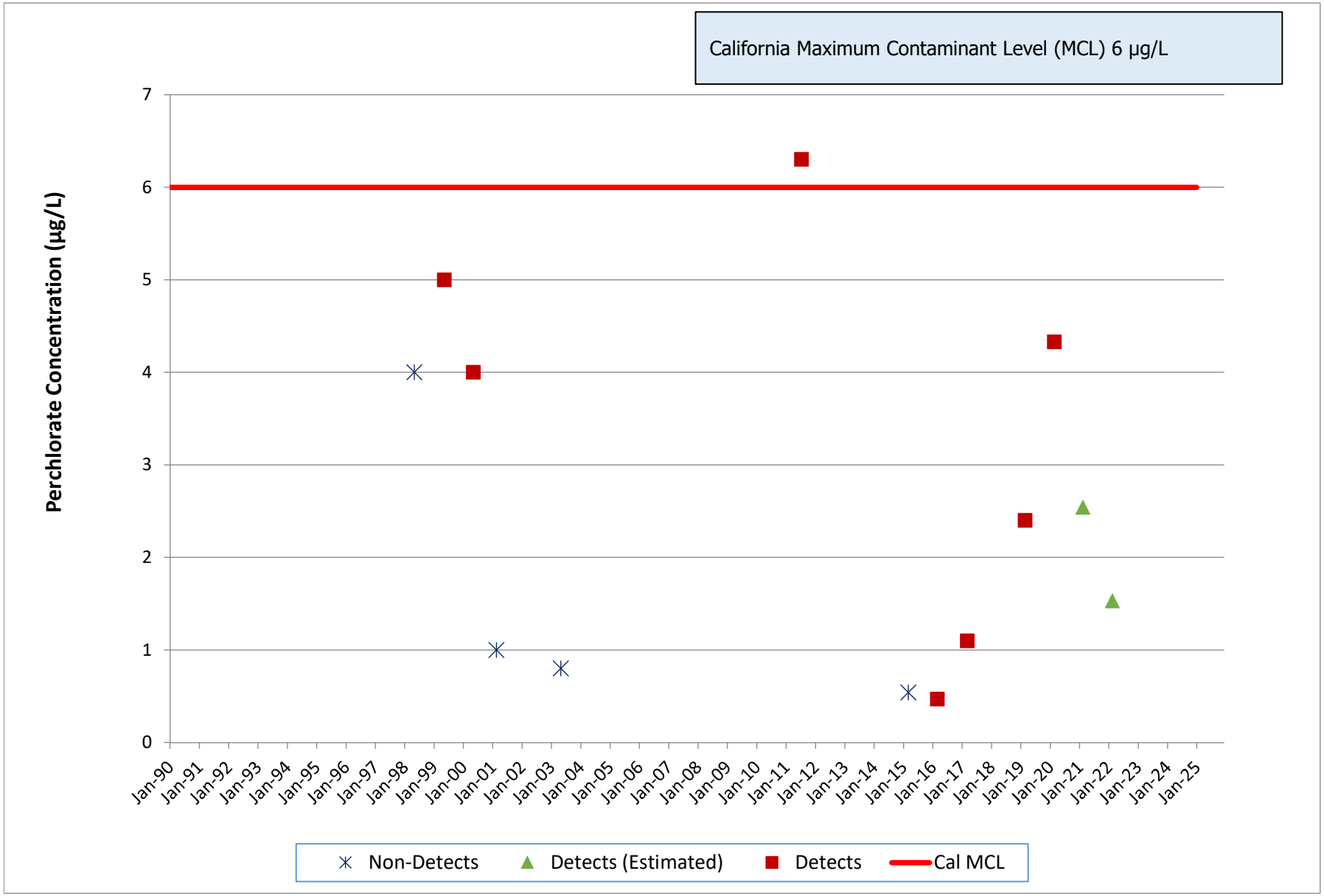
RD-21, FSDF/ESADA
Perchlorate



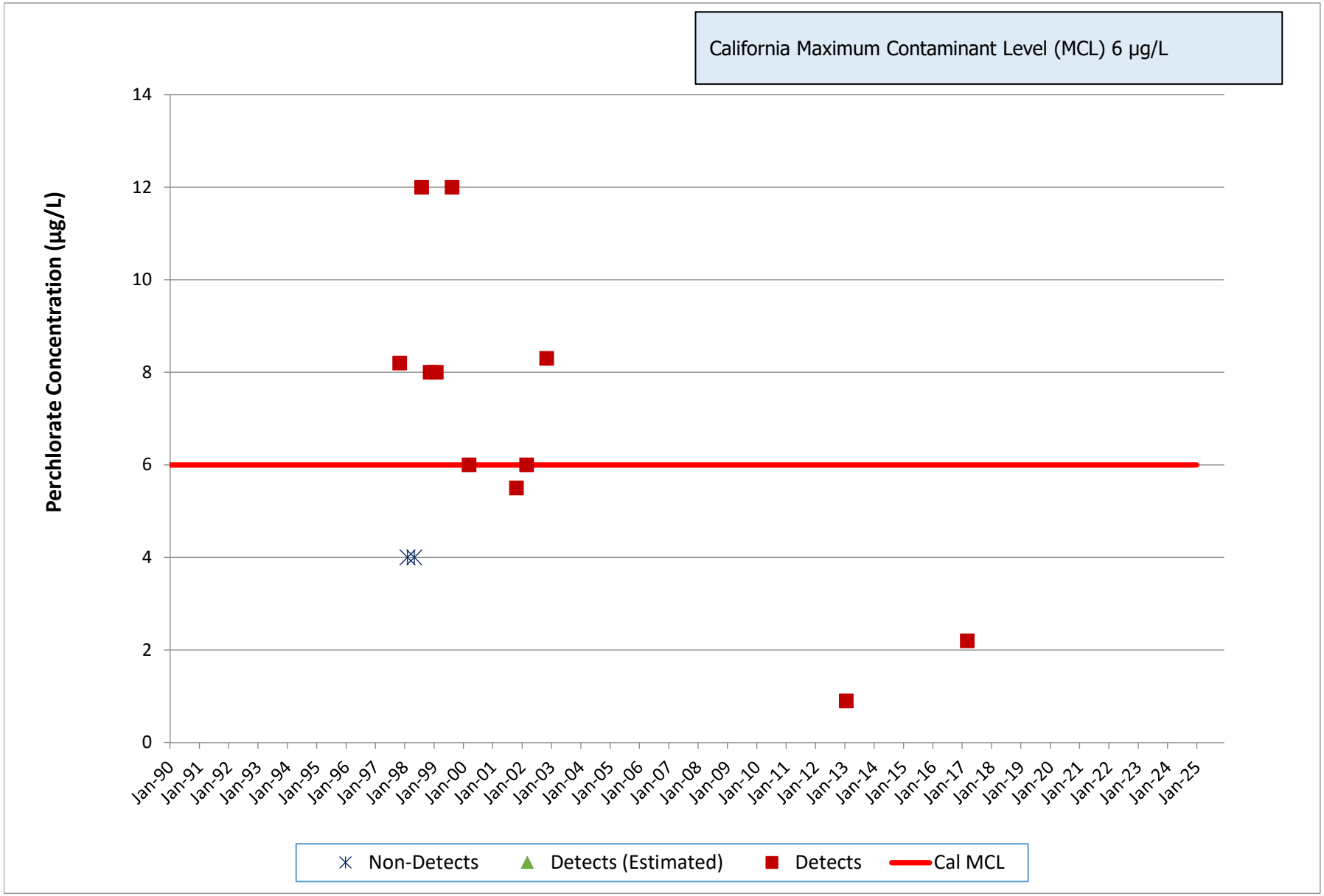
RS-54A, FSDF/ESADA
Perchlorate



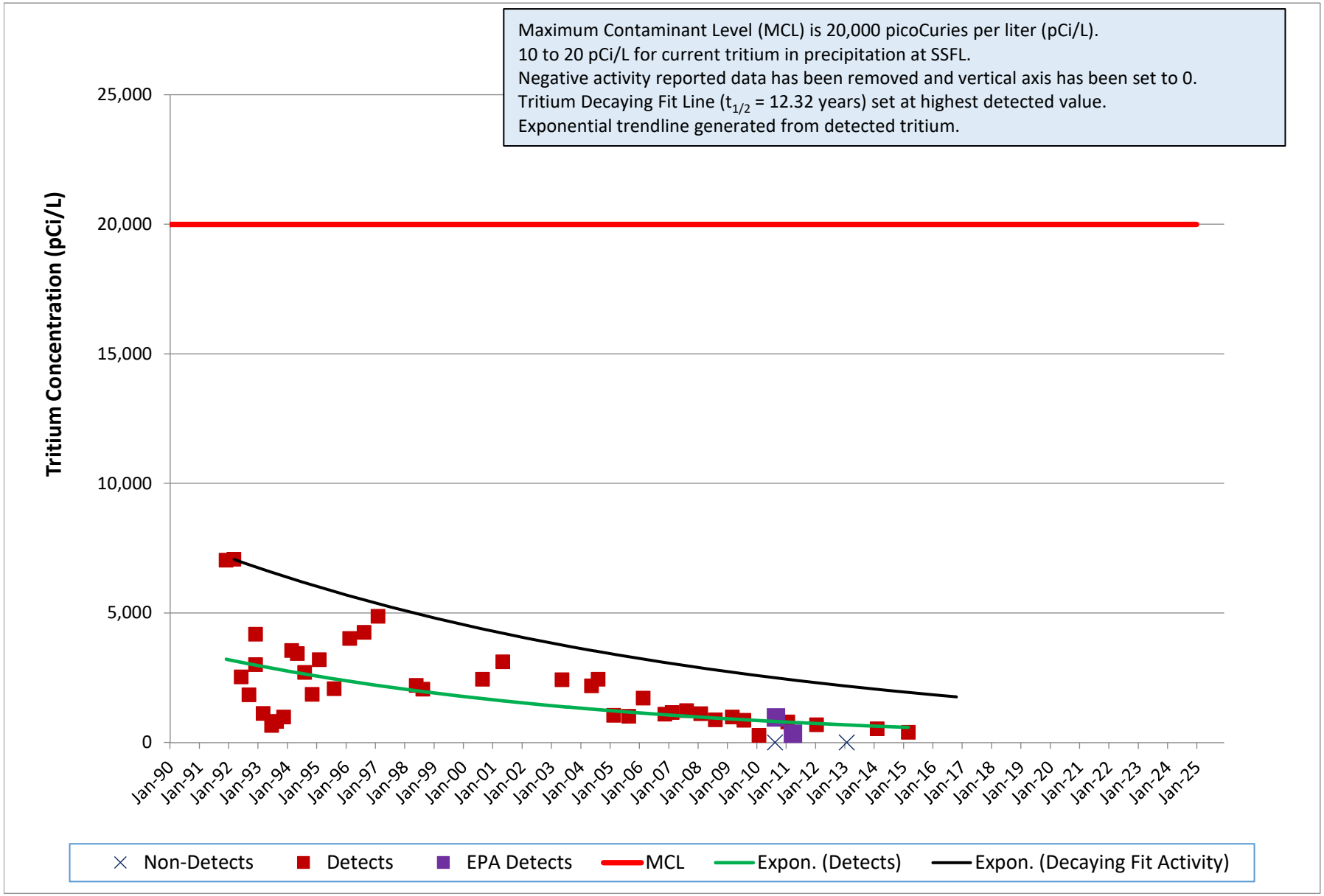
RS-18, FSDF/ESADA
Perchlorate



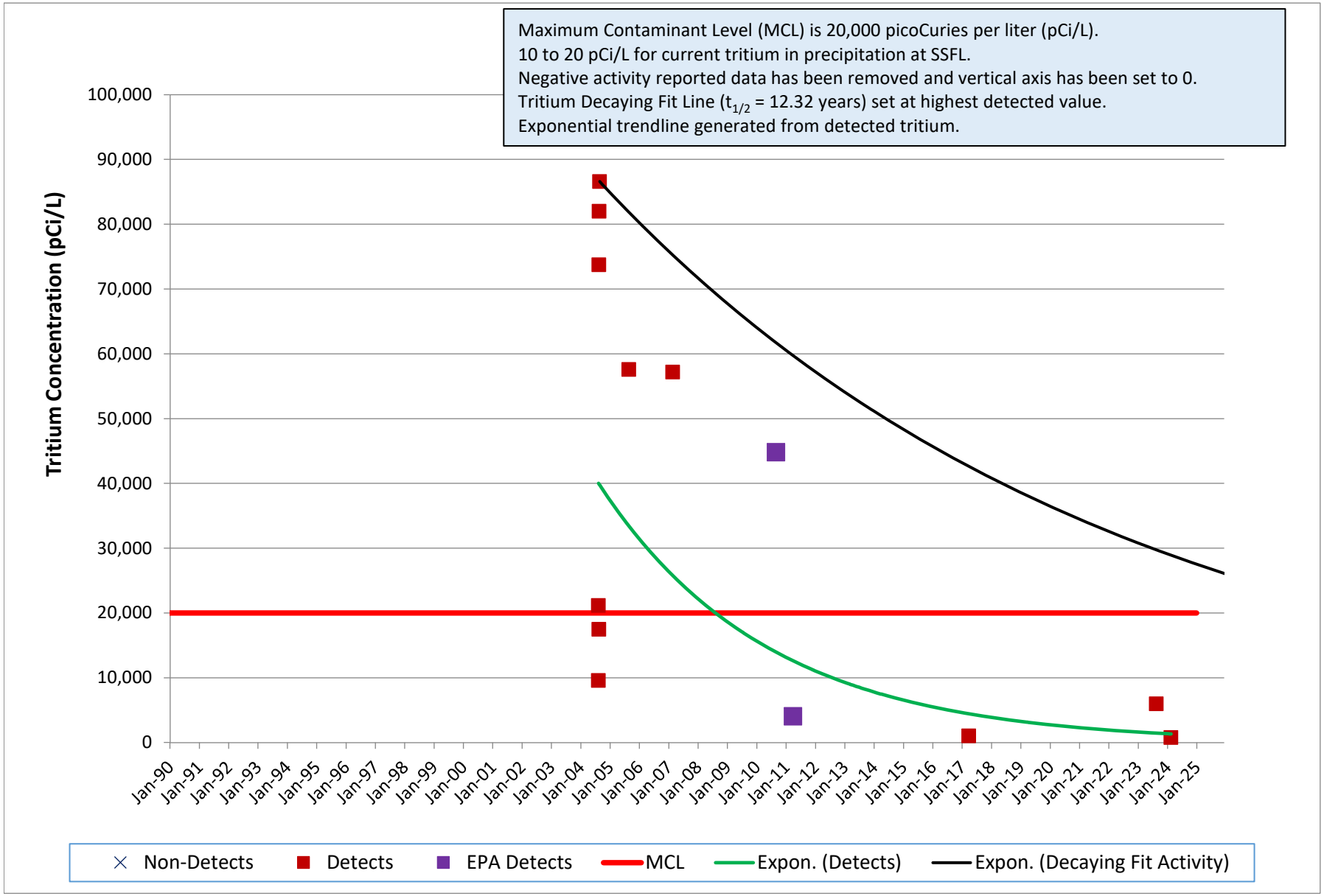
RS-54, FSDF/ESADA
Perchlorate



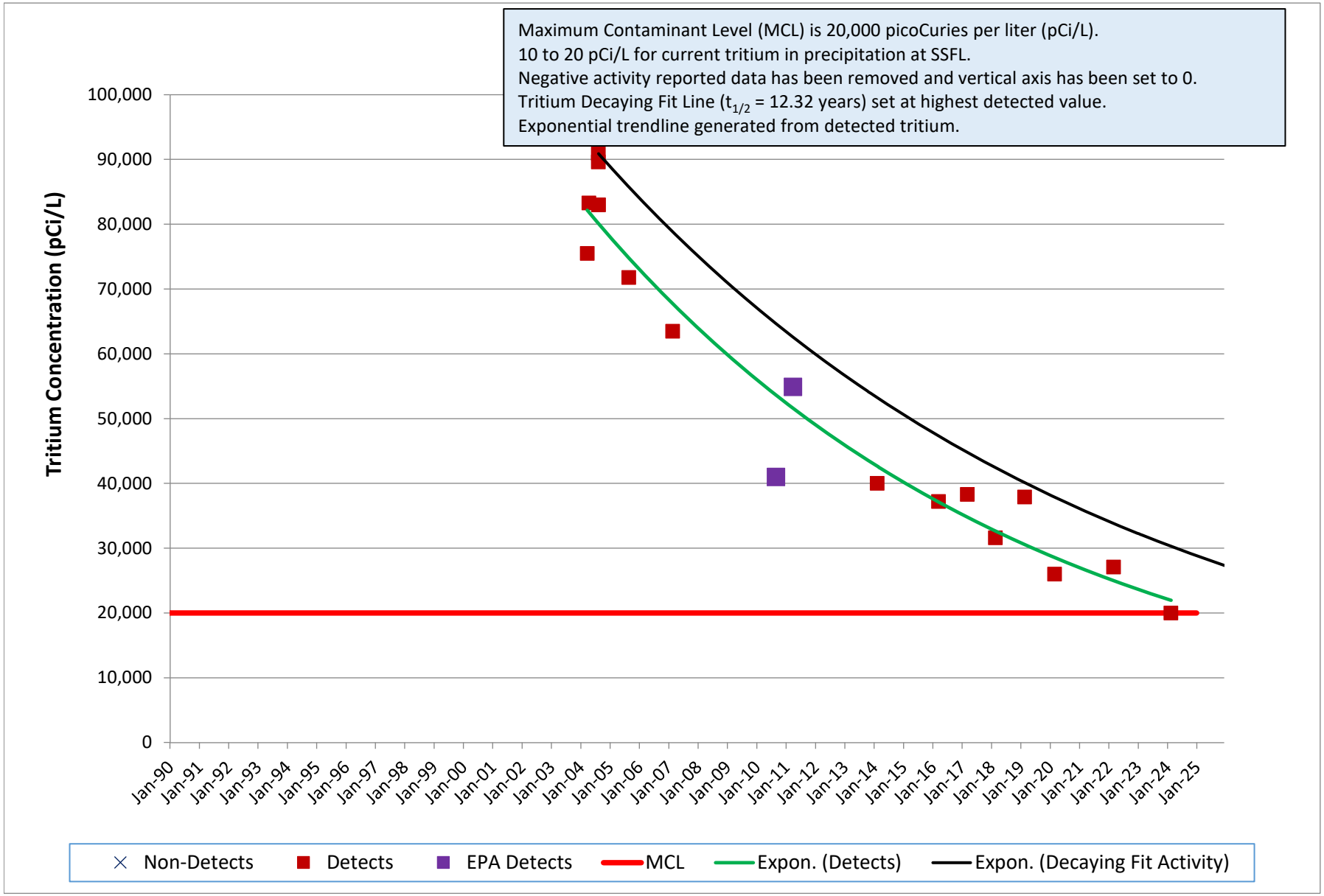
RD-34A, Tritium Plume
Tritium



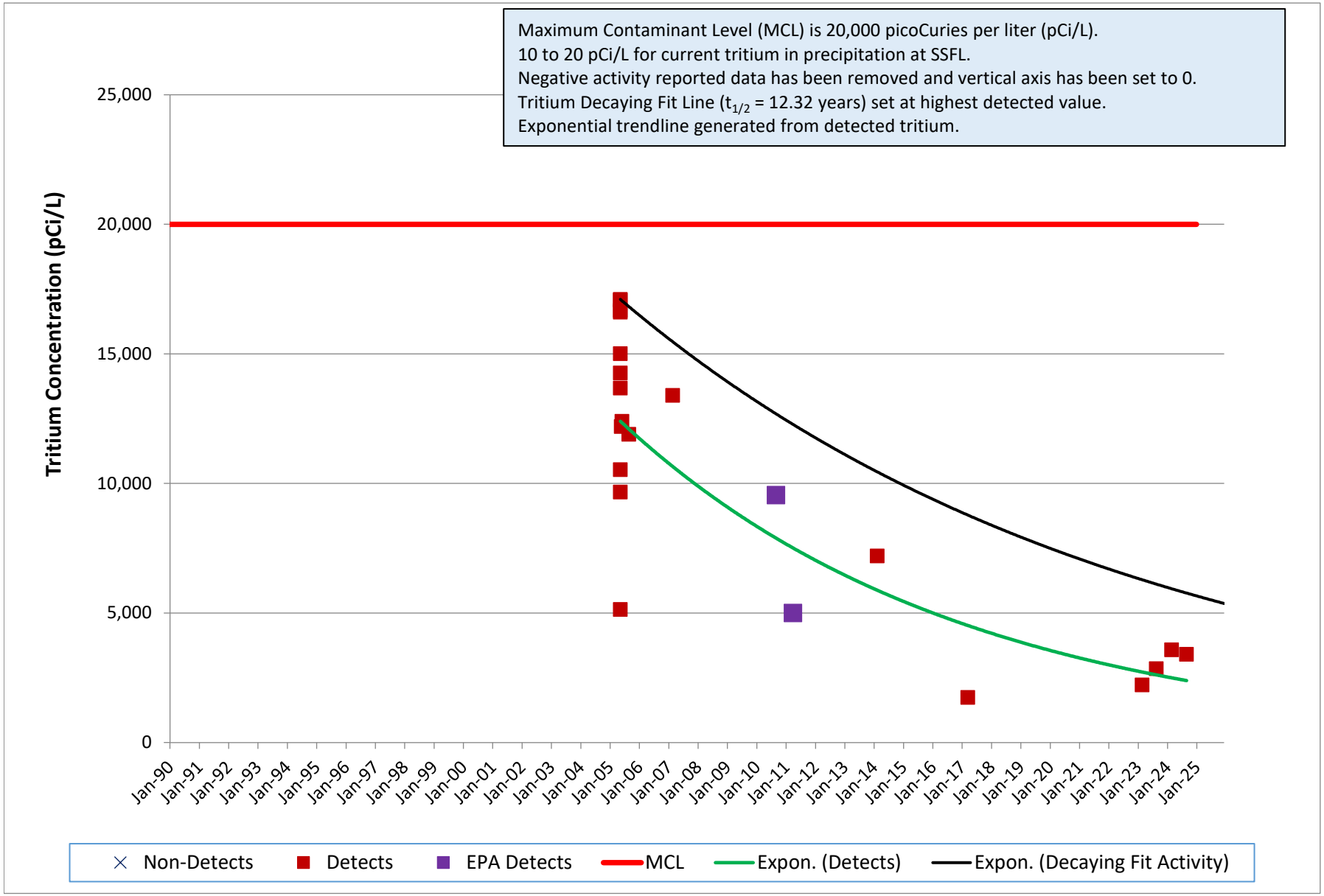
RD-88, Tritium Plume
Tritium



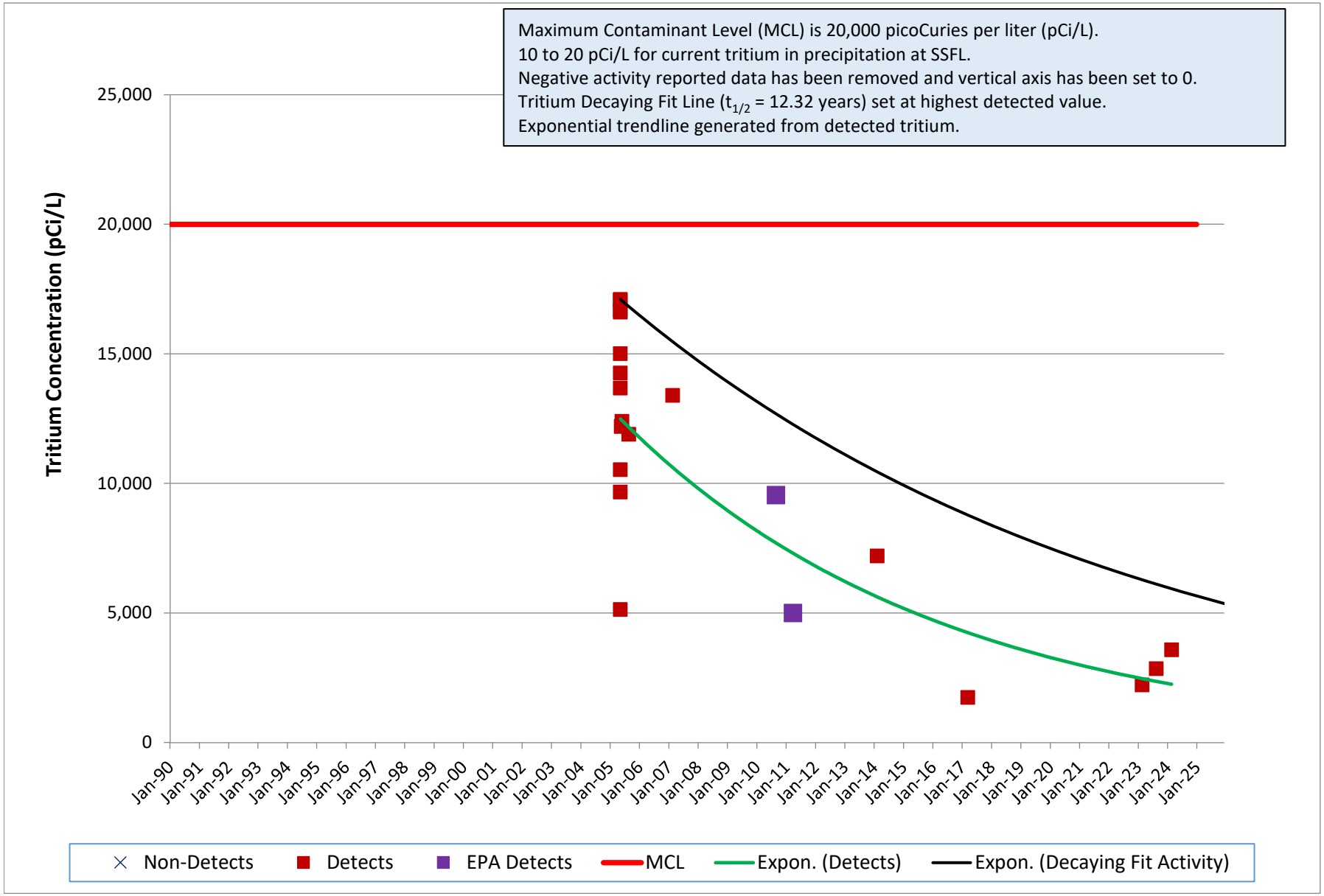
RD-90, Tritium Plume
Tritium



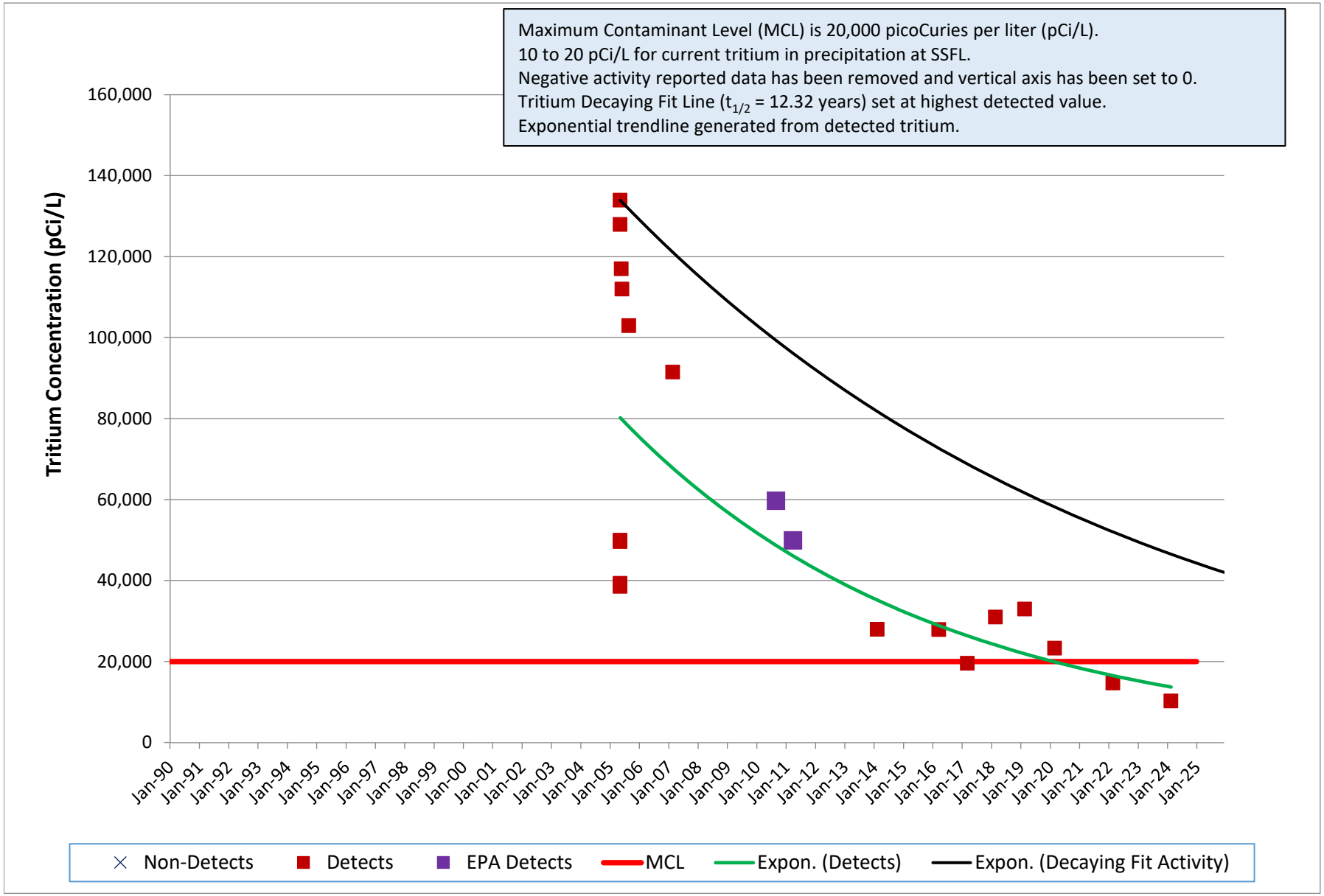
RD-94, Tritium Plume
Tritium



RD-94, Tritium Plume
Tritium



RD-95, Tritium Plume
Tritium



Appendix E
Quality Assurance Assessment

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1. INTRODUCTION

This appendix summarizes the data validation completed for groundwater monitoring in 2024. The data were validated following the protocols outlined in the following documents and analytical methods:

- *Statement of Work Data Validation Services Santa Susana Field Laboratory Area IV, Ventura County, California.*
- Haley & Aldrich, 2010a, *Site-Wide Water Quality Sampling and Analysis Plan, Revision 1, Santa Susana Field Laboratory, Ventura County, California,* Appendix A, December.
- Haley & Aldrich, 2010b, *Groundwater Monitoring, Quality Assurance Project Plan, Revision 1, Santa Susana Field Laboratory, Ventura County, California,* Appendix B, December.
- U.S. EPA, 2017a, *U.S. EPA National Functional Guidelines for Organic Superfund Methods Data Review,* OLEM 9355.0-136 EPA-540-R-2017-002, January.
- U.S. EPA, 2017b, *U.S. EPA National Functional Guidelines for Inorganic Superfund Methods Data Review,* OLEM 9355.0-135 EPA-540-R-2017-001, January.
- *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA publication SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015).
- *Multi Agency Radiological Laboratory Analytical Protocols, MARLAP, Manual*, EPA 402-B-04-001A, July 2004.
- *Evaluation of Radiochemical Data Usability, ES/ER-MS-5,* April 1997.

This appendix is organized in two sections corresponding to the Quarter 1 (Q1) and Quarter 3 (Q3) monitoring events. Each section provides an overview of the data set for that quarter with findings from the validation effort.

2. QUARTER 1 2024 ASSESSMENT

2.1 Overview

The SSFL data set for Q1 2024 consisted of 144 water samples, including quality control samples (matrix spikes/matrix spike duplicates [MS/MSD], field blanks, rinsate blanks, trip blanks, and field duplicates). Eighteen sample delivery groups (SDGs) were reported:

Q1 2024 SDGs	
655532	656334
655556	656381
655669	656500
655689	656797
655806	657035
655932	657261
656082	657393
656187	657394
656201	657547

Five SDGs (655532, 655689, 656201, 656334, and 656500) underwent a Level IV EPA validation and comprised more than 20% of the overall data per an analysis for this sampling effort. The remaining SDGs underwent a Level III EPA validation. Table E-1 shows the number and type of samples collected for the Q1 2024 sampling effort. Attachment 1 provides a complete sample ID table.

Table E-1. Samples collected for SSFL Area IV groundwater sampling, Q1 2024.

Sample Type	Number of Samples
Field Samples	35 Samples
Matrix Spikes	34 Samples
Matrix Spike Duplicates	29 Samples
Trip Blanks	11 Samples
Field Blanks	1 Sample
Rinsate Blanks	23 Samples
Field Duplicates	9 Samples

The samples were analyzed for volatile organic compounds (VOCs); 1,4-dioxane; diesel-range organics (DRO); gasoline-range organics (GRO); fluoride and nitrate; total and dissolved metals including mercury; total and dissolved radiochemical (Rad) analyses (isotopic uranium [U], gamma spectroscopy, gross alpha/beta, strontium-90 [Sr-90], radium-226 [Ra-226], Ra-228; and tritium. Table E-2 shows the requested analyses, analytical methods, and number of normal samples analyzed for each analysis.

Table E-2. Summary of analyses, Q1 2024.

Analysis	Method		Number of Normal Samples Analyzed
Volatile Organic Compounds	USEPA SW-846 8260B		29
1,4-Dioxane	USEPA SW-846 8270D Selective Ion Monitoring (SIM)		29
DRO and/or GRO	USEPA SW-846 8015D		12
Fluoride and Nitrate	EPA 300.0		2
Metals (Total & Dissolved)	USEPA SW-846 6020B USEPA SW-846 7470A		23 Total 23 Dissolved
Radiochemical Analyses (Total & Dissolved)	Isotopic U	DOE EML HASL-300, U-02-RC Modified	16 Total 16 Dissolved
	Gamma Spectroscopy	EPA 901.1	16 Total 16 Dissolved
	Gross Alpha/Beta	EPA 900.0/SW846 9310	16 Total 16 Dissolved
	Strontium-90 (Sr-90)	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified	16 Total 16 Dissolved
	Radium-226 (Ra-226)	EPA 903.1 Modified	16 Total 16 Dissolved
	Radium-228 (Ra-228)	EPA 904.0/SW846 9320 Modified	16 Total 16 Dissolved
Radiochemical Analysis	Tritium	EPA 906 Modified	8 Tritium

2.2 Data Quality Summary

A summary of all data quality qualifiers applied during the Quarter 1 assessment is provided in Section 2.3.

Fluoride and Nitrate by EPA Method 300.0:

The SSFL anions data set consists of 2 water samples analyzed for fluoride/nitrate. All data points are considered usable for evaluating site conditions.

Total and Dissolved Metals by USEPA SW-846 Methods 6020B and 7470A:

The SSFL metals data set consists of 23 water samples analyzed for total and dissolved metals, including mercury. All data points are considered usable for evaluating site conditions.

1,4-Dioxane by USEPA SW-846 Method 8270D SIM:

The SSFL 1,4-dioxane data set consists of 29 water samples. All data points are considered usable for evaluating site conditions.

Volatile Organic Compounds by USEPA SW-846 Method 8260B:

The SSFL VOC data set consists of 29 water samples. All data points are considered usable for evaluating site conditions.

Gasoline-Range Organics (GRO) and Diesel-Range Organics (DRO) by USEPA SW-846 Method 8015B:

The SSFL GRO/DRO data set consists of 12 water samples. All data points are considered usable for evaluating site conditions.

Radiochemical Analyses:

The SSFL radiochemical data set consists of 8 water samples for tritium, 16 water samples for total and dissolved isotopic uranium, 16 and 16 water samples for total/dissolved gamma spectroscopy (respectively), 16 water samples for total and dissolved gross alpha/beta, 16 water samples for total and dissolved strontium-90, 16 water samples for total and dissolved radium-226, and 16 water samples for total and dissolved radium-228. All data points are considered usable for evaluating site conditions.

Trip Blanks and Field Blanks:

Eleven trip blank samples and one field blank sample were collected and are listed in Table E-3.

Table E-3. Trip/field blanks, Q1 2024.

Sample Delivery Group	Sample ID	Analysis	Quality Control (QC) Type
655532	DD-141_021324_78_L	VOC & GRO	Trip Blank
655669	RD-14_021424_78_L	VOC & GRO	Trip Blank
655806	DD-159_021524_78_L	VOC & GRO	Trip Blank
656082	DS-43_021924_78_L	VOC & GRO	Trip Blank
656201	PZ-121_022024_78_L	VOC	Trip Blank
656381	RD-27_022124_78_L	VOC & GRO	Trip Blank
656500	RD-94_022324_78_L	VOC	Trip Blank
656797	PZ-116_022624_78_L	VOC	Trip Blank
657261	PZ-102_022824_78_L	VOC & GRO	Trip Blank
657394	PZ-098_030124_78_L	VOC & GRO	Trip Blank
657547	PZ-098_030424_78_L	VOC & GRO	Trip Blank
657547	PZ-098_030424_19F_L	VOC, GRO and/or DRO, Fluoride & Nitrate, Metals, Rad	Field Blank

All trip blank results were either non-detect or qualified "U" and no data qualification was warranted.

Field Duplicates:

Nine pairs of field duplicates were collected during the SSFL Area IV groundwater Q1 2024 sampling effort and are listed in Table E-4.

Table E-4. Field duplicates, Q1 2024.

Sample Delivery Group	Parent ID	Field Duplicate ID	Analysis
655532	RD-64_021324_01_L	RD-64_021324_36_L	VOC
	RD-64_021324_01_L	RD-64_021324_36_L	Metals
	RD-64_021324_01_L	RD-64_021324_36_L	GRO and/or DRO
655556	DS-47_021224_01_L	DS-47_021224_36_L	Rad
655806	RD-88_021624_01_L	RD-88_021624_36_L	Radiochemical
656082	PZ-109_021924_01_L	PZ-109_021924_36_L	VOC
	PZ-109_021924_01_L	PZ-109_021924_36_L	Fluoride & Nitrate
656187	RD-19_022024_01_L	RD-19_022024_36_L	Rad
656500	DD-147_022324_01_L	DD-147_022324_36_L	VOC
656797	RD-20_022724_01_L	RD-20_022724_36_L	Fluoride & Nitrate
657261	DS-46_022924_01_L	DS-46_022924_36_L	DRO and/or GRO
657394	PZ-098_030124_01_L	PZ-098_030124_36_L	Metals

The following field duplicates were outside the 35% relative percent difference (RPD) acceptance criterion. The parent and duplicate samples have been qualified with a "J" validation flag; for SDG 655532, Field duplicate pair RD-64_021324_01_L and RD-64_021324_36_L, aluminum, cobalt, iron, and manganese were outside the 35% RPD criterion.

All remaining field duplicate precision results were within the ±35% RPD criterion.

2.3 Summary of Data Validation Qualifications

Qualifications for normal samples were assigned in accordance with the *U.S. EPA Contract Laboratory Program National Functional Guidelines* and resulted from preparation and chain-of-custody issues; exceeded holding times; poor initial and continuing calibration criteria; positive blank detections; poor laboratory control sample (LCS), laboratory control sample duplicate (LCSD), MS/MSD, and serial dilution sample (SDS) performance; and results reported below the quantitation limits. Table E-5 summarizes the findings and data qualifications assigned to SSFL Area IV Groundwater Q1 2024 data results. Please refer to Attachment 2 for definitions of the data validation qualifiers.

Table E-5. Summary of data validation qualifications, Q1 2024.

Validation Qualifier:		J	J-	U or Not Qualified	UJ
Method	Total # Records	#Records	#Records	#Records	#Records
DRO and/or GRO	24	3	3	18	1
Fluoride & Nitrate	2	1	0	1	0
Metals	865	153	0	712	0
Radio Chemical	744	30	0	702	44
Volatile Organic Compounds	775	11	0	754	9

Note: Assessments provided in the table above are for normal samples only.

2.4 Assessment of Data Usability and Reconciliation with the Site-Wide WQSAP Goals

For the Q1 2024 groundwater sampling, 100.0% of the data validated and reported in this quality assurance summary are suitable for their intended use for site characterization.

The RLs reported generally met the expected limits proposed by the analytical laboratories in their subcontract agreements with North Wind except for the analytes identified previously. Sample results that were qualified as estimated are usable for project decisions. Decisions based on results close to the RL should be made with a degree of caution.

The field duplicate precision criteria were met and the field duplicate error ratio (DER)<2 criterion was met for all radiological samples.

The completeness goal for the number of samples collected was met. The completeness goal for the number of sample results acceptable for use provides sufficient quality data to support project decisions for the wells that were sampled during this sampling event.

3. QUARTER 3 2024 ASSESSMENT

3.1 Overview

The SSFL data set for Q3 2024 consisted of 136 water samples, including quality control samples (MS/MSD, field blanks, rinsate blanks, trip blanks, and field duplicates). Fifteen SDGs were reported:

Q3 2024 SDGs	
682070	683666
682234	683667
682434	683846
682588	683863
682589	683873
683096	684110
683260	684120
683500	

Three SDGs (683096, 683260, and 683873) underwent a Level IV EPA validation and comprised more than 20% of the overall data per an analysis for this sampling effort. The remaining SDGs underwent a Level III EPA validation. Table E-6 shows the number and type of samples collected for the SSFL Area IV groundwater Q3 2024 sampling effort. Attachment 1 provides a full sample ID table.

Table E-6. Samples collected for SSFL Area IV groundwater sampling, Q3 2024.

Sample Type	Number of Samples
Field Samples	40 Samples
Matrix Spikes	28 Samples
Matrix Spike Duplicates	26 Samples
Trip Blanks	11 Samples
Field Blanks	1 Sample
Rinsate Blanks	20 Samples
Field Duplicates	10 Samples

The samples were analyzed for VOCs; 1,4-dioxane; DRO; GRO; perchlorate; dissolved and total metals including mercury; tritium; and dissolved and total strontium-90. Table E-7 shows the requested analyses, analytical methods, and number of normal samples analyzed for each analysis.

Table E-7. Summary of analyses for SSFL Area IV groundwater sampling, Q3 2024.

Analysis	Method		Number of Normal Samples Analyzed
Volatile Organic Compounds	USEPA SW-846 8260B		39
1,4-Dioxane	USEPA SW-846 8270D Selective Ion Monitoring (SIM)		39
DRO and/or GRO	USEPA SW-846 8015D		39
Perchlorate	USEPA SW-846 6850 Modified		2
Metals (Total & Dissolved)	USEPA SW-846 6020B USEPA SW-846 7470A		39 Total 39 Dissolved
Radiochemical Analyses (Total & Dissolved)	Strontium-90 (Sr-90)	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified	7 Total 7 Dissolved
	Tritium	EPA 906 Modified	1 Tritium

3.2 Data Quality Summary

A summary of all data quality qualifiers applied during the Quarter 3 assessment is provided in Section 3.3.

Perchlorate by USEPA SW-846 Method 6850:

The SSFL perchlorate data set consists of 2 normal water samples analyzed for perchlorate. All data points are considered usable for evaluating site conditions.

Total and Dissolved Metals by USEPA SW-846 Methods 6020B and 7470A:

The SSFL metals data set consists of 39 normal water samples analyzed for total and dissolved metals, including mercury All data points are considered usable for evaluating site conditions.

1,4-Dioxane by USEPA SW-846 Method 8270D SIM:

The SSFL 1,4-dioxane data set consists of 39 normal water samples. All data points are considered usable for evaluating site conditions.

Volatile Organic Compounds by USEPA SW-846 Method 8260B:

The SSFL VOC data set consists of 39 normal water samples. All data points are considered usable for evaluating site conditions.

Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) by USEPA SW-846 Method 8015B:

The SSFL GRO and DRO data set consists of 39 normal water samples. All 138 data points are considered usable for evaluating site conditions.

Radiochemical Analyses:

The SSFL radiochemical data set consists of 1 normal water sample for tritium and 7 normal water samples for total and dissolved isotopic strontium-90 (Sr-90). All data points are considered usable for evaluating site conditions.

Trip Blanks and Field Blanks:

Eleven trip blank samples and one field blank sample were collected for the SSFL Area IV groundwater Q3 2024 sampling effort and are listed in Table E-8.

Table E-8. Trip/field blanks, Q3 2024.

Sample Delivery Group	Sample ID	Analysis	QC Type
682070	DD-158_081924_78_L	VOC & GRO	Trip Blank
682234	DS-44_082024_78_L	VOC & GRO	Trip Blank
682434	PZ-098_082124_78_L	VOC & GRO	Trip Blank
682588	PZ-169_082324_78_L	VOC & GRO	Trip Blank
682589	RD-64_082224_78_L	VOC & GRO	Trip Blank
683096	PZ-120_082624_78_L	VOC & GRO	Trip Blank
683260	PZ-122_082724_78_L	VOC & GRO	Trip Blank
683500	RD-94_082824_78_L	VOC & GRO	Trip Blank
683666	DD-143_082924_78_L	VOC & GRO	Trip Blank
683667	RS-28_083024_78_L	VOC & GRO	Trip Blank
684110	RD-98_090324_78_L	VOC & GRO	Trip Blank
	RD-98_090324_19F_L	VOC, GRO, DRO, Perchlorate, Metals, Rad	Field Blank

All trip blank results were either non-detect or qualified ‘U’ and no data qualification was warranted.

Field Duplicates:

Ten pairs of field duplicates were collected during the SSFL Area IV groundwater Q3 2024 sampling effort and are listed in Table E-9.

Table E-9. Field duplicates, Q3 2024.

Sample Delivery Group	Parent ID	Field Duplicate ID	Analysis
682070	DD-159_081924_01_L	DD-159_081924_36_L	Metals
	DS-47_081924_01_L	DS-47_081924_36_L	VOC
682434	PZ-162_082124_01_L	PZ-162_082124_36_L	DRO and/or GRO
682589	PZ-164_082224_01_L	PZ-164_082224_36_L	VOC, Perchlorate
683096	PZ-108_082624_01_L	PZ-108_082624_36_L	DRO and/or GRO
	PZ-120_082624_01_L	PZ-120_082624_36_L	Metals
683666	DD-139_082924_01_L	DD-139_082924_36_L	DRO and/or GRO
	RD-27_082924_01_L	RD-27_082924_36_L	VOC
683667	PZ-124_083024_01_L	PZ-124_083024_36_L	VOC, DRO and/or GRO
683846	RD-94_082824_01_L	RD-94_082824_36_L	Rad
	RD-27_082924_01_L	RD-27_082924_36_L	Metals
683873	RD-27_082924_01_L	RD-27_082924_36_L	Rad

All field duplicate precision results were within the ±35% RPD criterion.

3.3 Summary of Data Validation Qualifications

Qualifications for normal samples were assigned in accordance with the *U.S. EPA Contract Laboratory Program National Functional Guidelines* and resulted from preparation and chain-of-custody issues; exceeded holding times; poor initial and continuing calibration criteria; positive blank detections; poor LCS, LCSD, MS, MSD, and SDS performance; and results reported below the quantitation limits. Table E-10 summarizes the findings and data qualifications assigned to SSFL Area IV Groundwater Q3 2024 data results. Please refer to Attachment 2 for definitions of the data validation qualifiers.

Table E-10. Summary of data validation qualifications, Q3 2024.

Validation Qualifier:		J	U or Not Qualified	UJ
Method	**Total # Records**	**#Records**	**#Records**	**#Records**
DRO and/or GRO	78	18	51	9
Metals	1407	242	1165	0
Perchlorate	2	1	1	0
Radiochemical	15	0	15	0
Volatile Organic Compounds	921	42	879	0

Note: Assessments provided in the table above are for normal samples only.

3.4 Assessment of Data Usability and Reconciliation with the Site-Wide WQSAP Goals

For the Q3 2024 groundwater sampling, 100.0% of the data validated and reported in this quality assurance summary are suitable for their intended use for site characterization.

The RLs reported generally met the expected limits proposed by the analytical laboratories in their subcontract agreements with North Wind except for the analytes identified previously. Sample results that were qualified as estimated are usable for project decisions. Decisions based on results close to the RL should be made with a degree of caution.

The field duplicate precision criteria were met and the field DER<2 criterion for radiological data.

The completeness goal for the number of samples collected was met. The completeness goal for the number of sample results acceptable for use provides sufficient quality data to support project decisions for the wells that were sampled during this sampling event.

4. DATA REVIEW PROCESS

For both Quarter 1 and 3, data produced by the analytical laboratories were subject to multiple review steps to coincide with the start of distinct tasks. These steps were performed in a timely manner to ensure appropriate feedback and correction of errors. These steps included:

- Cross-reference check of sample chain-of-custody documents against the laboratory acknowledgement of sample receipt form. The laboratory acknowledgement of sample receipt was typically transmitted to the data manager via e-mail 2 to 3 days after sample receipt and log-in and included a summary of the requested analyses to be performed per sample. Sample log-in errors were identified and corrected at this step.

- Tracking of sample collection, receipt, and laboratory SDG numbers on a sample tracking spreadsheet. This spreadsheet also included field QC sample information and well sample location coordinates.
- Laboratory consultation with the project chemists on data quality issues during sample analyses such as missed holding times, poor spike recoveries, etc. These issues were discussed between the project chemists and the laboratory and were resolved based on technical merit and determined if usable in the evaluation.

Upon receipt of the laboratory report (delivered via e-mail), a preliminary review of the data was performed. This review consisted of:

- Reconciliation of the reported analyses against the analyses that were requested on the chain-of-custody documents.
- Review of the laboratory case narratives. The case narrative identified and explained quality issues encountered during the analysis of the samples. Quality issues may include (but not be limited to) expired holding times, poor spike recoveries in matrix or batch-specific QC samples, instrument calibration exceedances, and blank contamination.
- Review of the laboratory-specific QC data. These data were provided by the laboratory in summary form. Any unanticipated deviations from the project or method-specific criteria were reconciled with the laboratory at this stage.

5. DATA QUALITY INDICATORS

This section summarizes the validation performed for both Quarter 1 and Quarter 3 sampling events. Individual SDG validation reports with specific sample details are provided in Attachment 1.

Achievement of the data quality objectives (DQOs) was determined in part by the use of data quality indicators (DQIs). The DQIs for measurement data are expressed in terms of what are collectively referred to as the PARCCS parameters (precision, accuracy, representativeness, comparability, completeness, and sensitivity). The DQIs provide a mechanism for ongoing control to evaluate and measure data quality throughout the project. These criteria are defined in the sections below.

5.1 Precision

Precision is the measurement of the ability to obtain the same value on re-analysis of a sample through the entire analytical process. The closer the measurement results, the greater the precision. Precision has nothing to do with accuracy or true values of the sample. Instead, it is focused on random errors inherent in the analysis that stem from the measurement process and are compounded by the non-homogeneous nature of some samples. Precision is measured by analyzing two portions of the sample (sample and duplicate) and then comparing the results. This comparison can be expressed in terms of RPD. RPD is calculated as the absolute difference between the two measurements divided by the average of the two measurements.

$$\mathbf{RPD = [(A-B)/\frac{A+B}{2}] \times 100}$$

A condition with this formula is that it depends on the average of the two measurements, and the magnitude of the calculated RPD is intimately linked to the magnitude of the results. When sample results are close to the reporting limit (RL), the RPD is greater but does not necessarily indicate that the precision is out of control limits, just that the sample concentrations are low.

RPD as a measure of precision works very well in those cases where the same level of analyte is present in all samples; however, it does not work well as a quantitative tool when varying levels are present. Another option that is used for evaluating the differences between sample results that are close to the RL is calculating the absolute difference between the results. In this situation, the difference between the sample results is compared to the RL and if the difference is greater, the sample results are qualified as estimated "J/UJ." Sample results are also qualified as estimated "J/UJ" if the RPD is outside of criteria.

Because of the limitations with the use of RPDs for field duplicate precision evaluation, precision is also calculated on spike samples, either on an MS and MSD or on an LCS/LCSD. For spike samples, a known concentration of analyte has been added to each sample and evaluations of RPD can be made that are more applicable to variations in environmental measurements. The drawback is that the precision measurement is applicable only to the particular spike level used.

For the groundwater samples, precision was evaluated by reviewing RPD results for MS/MSDs, LCS/LCSDs, laboratory duplicates, and field duplicates.

Laboratory RPD control limits are presented in the Water Quality Sampling and Analysis Plan (WQSAP) (Haley & Aldrich 2010a) or are laboratory specific. For laboratory duplicates, if one or both of the sample results were less than five times the RL, a control limit of the absolute difference value equal to the RL was used for comparison. The field duplicate RPD criterion is 35%.

Based on laboratory and/or field duplicate precision criteria during the validation process, qualifiers were applied to applicable sample results.

5.2 Accuracy

Accuracy is a concept from quantitative analysis that attempts to address the question of how close the analytical result is to the true value of the analyte in the sample. Accuracy is determined through a spike procedure, where a known amount of the target analyte is added to a portion of the sample and then the sample and the spiked sample are analyzed. The quantitative measure of accuracy is percent recovery (%R), calculated as follows:

$$\textbf{Percent Recovery} = \left(\frac{\textbf{Total Analyte Found} - \textbf{Analyte Originally Present}}{\textbf{Analyte Added}}\right) \times 100$$

Each measurement performed on a sample is subject to random and systematic error. Accuracy is related to the systematic error. Attempts to assess systematic error are always complicated by the inherent random error of the measurement.

Analytical accuracy for the entire data collection activity is difficult to assess because several sources of error exist. Errors can be introduced by any of the following:

- Sampling procedure
- Field contamination
- Sample preservation and handling
- Sample matrix
- Sample preparation
- Analytical techniques.

Accuracy is maintained to the extent possible by adhering to the EPA method and approved field and analytical standard operating procedures.

The following QC samples are used to assess laboratory accuracy:

- Matrix Spikes: These are samples with a known amount of a target analyte added to them. Analysis of the sample that has been spiked and comparison with the results from the unspiked sample (background) gives information about the ability of the test procedure to generate a correct result from the sample.
- Post-Digestion Spikes: Post-digestion spikes are performed after the sample has been prepared and is ready for analysis. These are also termed "analytical spikes." The technique is used in conjunction with an MS to provide data that can separate interferences produced as part of the sample preparation from interferences that are innate qualities of the sample.
- Laboratory Control Samples: LCSs consist of a portion of analyte-free water spiked with target analytes at a known concentration.
- Surrogates: Surrogate recovery is a QC measure limited to use in organics analysis. Surrogates are compounds added to every sample at the beginning of the sample preparation to monitor the success of the sample preparation and analytical procedures on an individual sample basis. Individual compounds used as surrogates are selected based on their ability to mimic the behavior of specific target analytes held to be particularly sensitive to the sample preparation manipulations.
- Interference Check Samples: Interference check sample analysis is a QC measure unique to metals analysis using inductively coupled plasma atomic emission spectrometry. This QC sample verifies the analytical instrument's ability to overcome interferences typical of those found in samples.
- Calibrations: Method requirements for satisfactory instrument calibration are established to ensure that the instrument is capable of producing acceptable quantitative data for metals. Initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of the analytical run. Continuing calibrations demonstrate that the initial calibration is still valid by checking the performance of the instrument on a continuing basis.
- Internal Standards: Internal standards measure the gas chromatograph/ mass spectrometer sensitivity and response stability during each analysis.
- Serial Dilution: Serial dilutions are performed on at least one sample from every batch of analyses for metals to determine if physical or chemical interferences exist in the analyte determinations.

For the groundwater samples, accuracy was evaluated by reviewing the %R values and relative response factors of initial and continuing calibration (percent difference or percent drift [%D] for organic analyses), the initial and continuing calibration recoveries for inorganic analyses, internal standards, surrogate spikes (organic analyses only), MS/MSD, LCS/LCSD, inductively coupled plasma (ICP) interferences, and by performing serial dilution checks during metals analyses, in conjunction with method blank, calibration blank, equipment rinsate blank, and trip blank results. These QC results assist in identifying the type and magnitude of effects that may have contributed to system error introduced from field and/or laboratory procedures.

Qualifiers were applied to applicable sample results during the validation process based on laboratory accuracy results. Results were qualified based on calibrations, surrogates, internal standards, ICP serial dilutions, LCS/LCSD recoveries, and MS/MSD recoveries.

Sample preservation, handling, and holding times are additional measures of accuracy of the data. Holding times are defined as the amount of time that elapses from collection of the sample in the field to the start of the analysis. Preservation is defined as techniques used to maintain the target analytes at concentrations representative of the source sampled.

In summary, sample results that have been qualified as estimated "J, or UJ" due to accuracy criteria are usable for project decisions. The sample results are usable for project decisions.

5.3 Blank Contamination

Blanks are used to determine the level of laboratory and field contamination introduced into the samples, independent of the level of target analytes found in the sample source. Sources of sample contamination can include the containers and equipment used to collect the sample; preservatives added to the sample; cross contamination from other samples in transport coolers and laboratory sample storage refrigerators; standards used to calibrate instruments; glassware and reagents used to prepare samples for analysis; airborne contamination in the laboratory preparation area; and the analytical instrument sample introduction equipment. Each analyte group has its own particular suite of common laboratory contaminants. Active measures must be performed to continually measure the ambient contamination level and steps taken to discover the source of the contamination and to eliminate or minimize the levels. Random spot contamination can also occur from analytes that are not common laboratory problems but that can arise as a problem for a specific project or over a short period of time. Field blanks, equipment blanks, trip blanks, and laboratory method blanks are analyzed to identify possible sources of contamination.

The data validation reports for Q1 discuss the specific results that were qualified as non-detect "U" based on field and laboratory blank contamination.

5.4 Representativeness, Comparability, and Sensitivity

Representativeness, comparability, and sensitivity are achieved by using EPA-approved sampling procedures and analytical methodologies. By following the procedures described in the WQSAP and Groundwater Monitoring QAPP (Haley & Aldrich 2010a, 2010b) for this sampling event and future sampling events, sample analysis should yield results representative of environmental conditions at the time of sampling. Similarly, reasonable comparability of analytical results for this and future sampling events can be achieved if approved EPA analytical methods and standardized reporting units are employed.

5.4.1 Representativeness

Representativeness is a qualitative term that expresses the degree to which the sample data accurately and precisely represent the environmental conditions corresponding to the location and depth interval of sample collection. Requirements and procedures for sample collection are designed to maximize sample representativeness.

Representativeness also can be monitored by reviewing field documentation and/or performing field audits. For this report, a detailed review was performed on the chain-of-custody forms, laboratory sample confirmation logs, and data validation packages.

The most significant measure of representativeness is the accuracy of the sampling network and selection of appropriate locations and depths, etc. Field sampling accuracy was attained through adherence to the approved WQSAP and Groundwater Monitoring QAPP (Haley & Aldrich 2010a, 2010b) for sample

location and collection and by using approved standard operating procedures for field data collection. The data should represent, as near as possible, the actual field conditions at the time of sampling.

Representativeness has been achieved by the performed field work and laboratory analyses. The analytical data generated are viewed to be a representative characterization of the project area. The remaining sample results are usable for project decisions.

5.4.2 Comparability

Comparability is a qualitative term that expresses the confidence with which a data set can be compared with another. Strict adherence to standard sample collection procedures, analytical detection limits, reporting units, and analytical methods assures that data from like samples and sample conditions are comparable. This comparability is independent of laboratory personnel, data reviewers, or sampling personnel. Comparability criteria are met for the project if, based on data review, the sample collection and analytical procedures are determined to have been followed, or defined to show that variations did not affect the values reported.

To ensure comparability of data generated for the site, standard sample collection procedures were utilized by North Wind. Department of Toxic Substances Control (DTSC)-approved analytical methods were performed by Test America Laboratories. Similar methods and concentration levels to those used for previous sampling events also allow for comparable data. Utilizing such procedures and methods enables the current data to be comparable with previous and future data sets generated.

5.4.3 Sensitivity

Sensitivity is related to the ability to compare analytical results with project-specific levels of interest, such as risk-based screening levels or action levels. Analytical detection limits for the various sample analytes should be below the level of interest to allow an effective comparison.

5.4.3.1 Detection Limits

The method detection limit (MDL) study attempts to answer the question, “What is the lowest level of analyte in a sample that will result in a signal different than zero?” The study is based upon repetitive analysis of an interference-free sample spiked with a known amount of the target analyte. The MDL is a measure of the ability of the test procedure to generate a positive response for the target analyte in the absence of any other interferences from the sample.

The RL is generally defined as the lowest concentration at which an analyte can be detected in a sample and its concentration reported with a reasonable degree of accuracy and precision. For samples that do not pose a particular matrix problem, the RL is typically about three to five times higher than the MDL.

Laboratory results are reported according to rules that provide established certainty of detection and RLs. The result for an analyte is flagged with a “U” if that analyte was not detected, or qualified with a “J” flag if associated QC results fall outside the appropriate tolerance limits. Also, if an analyte is present at a concentration between the MDL and the RL, the analytical result is flagged with a “J,” indicating an estimated quantity. Qualifying the result as an estimated concentration reflects increased uncertainty in the reported value.

Qualifiers were applied to applicable sample results by the laboratory and during the validation process based on sample results being reported as detected below the RL/MDL. Details of the validation and specific sample analytes qualified are discussed in the data validation reports.

In summary, for the collected groundwater samples, results for some of the analytes were qualified as estimated due to RL criteria. For the data validated in the 2024 groundwater sampling, RLs for a majority of the sample results were low enough to compare to the RL objectives stated in the WQSAP and Groundwater Monitoring QAPP (Haley & Aldrich 2010a, 2010b). RLs above those stated in these documents are considered usable for project purposes.

Completeness

Completeness of the data collection program is defined as the percentage of samples planned for collection as listed in the WQSAP and Groundwater Monitoring QAPP (Haley & Aldrich 2010a, 2010b) versus the actual number of samples collected during the field program (see Equation A).

Completeness for acceptable data is defined as the percentage of acceptable data obtained judged to be valid versus the total quantity of data generated. Acceptable data include both data that pass all the QC criteria (unqualified data) and data that may not pass all the QC criteria but had appropriate corrective actions taken (qualified but usable data).

The overall completeness goal, as defined in the WQSAP and Groundwater Monitoring QAPP (Haley & Aldrich 2010a, 2010b), for this sampling event is 90% for each analytical test for all project data.

The completeness goal achieved for acceptable data was 100% of the groundwater sample results for the number of measurements judged to be valid, versus the total number of measurements made for all samples analyzed.

The completeness goal for the number of measurements judged to be valid was met for 2024 groundwater monitoring sampling. The data reported and not rejected are suitable for their intended use for characterization of groundwater in Area IV of SSFL.

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ATTACHMENT 1
SDG AND FIELD SAMPLE ID TABLE

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Quarter 1 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
655532				
DD-141	DD-141_021324_01_L	Metals	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DD-141	DD-141_021324_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DD-141	DD-141_021324_78_L	DRO and/or GRO	Trip Blank	--
DD-141	DD-141_021324_78_L	Volatile Organic Compounds	Trip Blank	--
PZ-124	PZ-124_021324_01_L	Metals	Normal Sample	--
PZ-124	PZ-124_021324_01_L	Volatile Organic Compounds	Normal Sample	--
PZ-124	PZ-124_021324_19R_L	Metals	Rinsate Blank	--
PZ-124	PZ-124_021324_19R_L	Volatile Organic Compounds	Rinsate Blank	--
RD-64	RD-64_021324_01_L	DRO and/or GRO	Normal Sample	Field Duplicate
RD-64	RD-64_021324_01_L	Metals	Normal Sample	Field Duplicate
RD-64	RD-64_021324_01_L	Volatile Organic Compounds	Normal Sample	Field Duplicate
RD-64	RD-64_021324_19R_L	DRO and/or GRO	Rinsate Blank	--
RD-64	RD-64_021324_19R_L	Metals	Rinsate Blank	--
RD-64	RD-64_021324_19R_L	Volatile Organic Compounds	Rinsate Blank	--
655556				
DS-45	DS-45_021224_01_L	Radiochemical	Normal Sample	--
DS-47	DS-47_021224_01_L	Radiochemical	Normal Sample	Field Duplicate Lab Duplicate
RD-24	RD-24_021224_01_L	Radiochemical	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
655669				
DD-158	DD-158_021424_01_L	DRO and/or GRO	Normal Sample	--
DD-158	DD-158_021424_01_L	Metals	Normal Sample	--
DD-158	DD-158_021424_01_L	Volatile Organic Compounds	Normal Sample	--
DD-158	DD-158_021424_19R_L	DRO and/or GRO	Rinsate Blank	--
DD-158	DD-158_021424_19R_L	Metals	Rinsate Blank	--
DD-158	DD-158_021424_19R_L	Volatile Organic Compounds	Rinsate Blank	--

Quarter 1 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
RD-07	RD-07_021424_01_L	Metals	Normal Sample	--
RD-07	RD-07_021424_01_L	Volatile Organic Compounds	Normal Sample	--
RD-07	RD-07_021424_19R_L	Metals	Rinsate Blank	--
RD-07	RD-07_021424_19R_L	Volatile Organic Compounds	Rinsate Blank	--
RD-14	RD-14_021424_01_L	DRO and/or GRO	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-14	RD-14_021424_01_L	Metals	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-14	RD-14_021424_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-14	RD-14_021424_78_L	DRO and/or GRO	Trip Blank	--
RD-14	RD-14_021424_78_L	Volatile Organic Compounds	Trip Blank	--
655689				
DS-44	DS-44_021524_01_L	Radiochemical	Normal Sample	--
DS-45	DS-45_021224_19R_L	Radiochemical	Rinsate Blank	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-07	RD-07_021424_01_L	Radiochemical	Normal Sample	--
RD-07	RD-07_021424_19R_L	Radiochemical	Rinsate Blank	--
RD-24	RD-24_021224_19R_L	Radiochemical	Rinsate Blank	--
RD-96	RD-96_021524_01_L	Radiochemical	Normal Sample	--
655806				
DD-159	DD-159_021524_01_L	DRO and/or GRO	Normal Sample	Matrix Spike Matrix Spike Duplicate
DD-159	DD-159_021524_01_L	Metals	Normal Sample	Matrix Spike Matrix Spike Duplicate
DD-159	DD-159_021524_01_L	Volatile Organic Compounds	Normal Sample	Matrix Spike Matrix Spike Duplicate

Quarter 1 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
DD-159	DD-159_021524_19R_L	DRO and/or GRO	Rinsate Blank	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DD-159	DD-159_021524_19R_L	Metals	Rinsate Blank	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DD-159	DD-159_021524_19R_L	Volatile Organic Compounds	Rinsate Blank	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DD-159	DD-159_021524_78_L	DRO and/or GRO	Trip Blank	--
DD-159	DD-159_021524_78_L	Volatile Organic Compounds	Trip Blank	--
DS-44	DS-44_021524_01_L	DRO and/or GRO	Normal Sample	--
RD-88	RD-88_021624_01_L	Radio Chemical	Normal Sample	Field Duplicate
RD-88	RD-88_021624_01_L	Volatile Organic Compounds	Normal Sample	Field Duplicate
RD-90	RD-90_021624_01_L	Metals	Normal Sample	Lab Duplicate Matrix Spike
RD-90	RD-90_021624_01_L	Radiochemical	Normal Sample	Lab Duplicate Matrix Spike
RD-90	RD-90_021624_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike
RD-90	RD-90_021624_19R_L	Metals	Rinsate Blank	--
RD-90	RD-90_021624_19R_L	Radiochemical	Rinsate Blank	--
RD-90	RD-90_021624_19R_L	Volatile Organic Compounds	Rinsate Blank	--
RD-95	RD-95_021624_01_L	Radiochemical	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-95	RD-95_021624_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-95	RD-95_021624_19R_L	Radiochemical	Rinsate Blank	--
RD-95	RD-95_021624_19R_L	Volatile Organic Compounds	Rinsate Blank	--
RD-96	RD-96_021524_01_L	DRO and/or GRO	Normal Sample	--
RD-96	RD-96_021524_01_L	Metals	Normal Sample	--

Quarter 1 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
RD-96	RD-96_021524_01_L	Volatile Organic Compounds	Normal Sample	--
655932				
DD-159	DD-159_021524_19R_L	Radiochemical	Rinsate Blank	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-95	RD-95_021624_01_L	Radiochemical	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-95	RD-95_021624_19R_L	Radiochemical	Rinsate Blank	--
656082				
DS-43	DS-43_021924_01_L	DRO and/or GRO	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DS-43	DS-43_021924_01_L	Metals	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DS-43	DS-43_021924_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DS-43	DS-43_021924_78_L	DRO and/or GRO	Trip Blank	--
DS-43	DS-43_021924_78_L	Volatile Organic Compounds	Trip Blank	--
DS-43	DS-43_021924-19R_L	DRO and/or GRO	Rinsate Blank	--
DS-43	DS-43_021924-19R_L	Metals	Rinsate Blank	--
DS-43	DS-43_021924-19R_L	Volatile Organic Compounds	Rinsate Blank	--
PZ-109	PZ-109_021924_01_L	DRO and/or GRO	Normal Sample	Field Duplicate Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-109	PZ-109_021924_01_L	Fluoride & Nitrate	Normal Sample	Field Duplicate Lab Duplicate Matrix Spike Matrix Spike Duplicate

Quarter 1 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
PZ-109	PZ-109_021924_01_L	Metals	Normal Sample	Field Duplicate Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-109	PZ-109_021924_01_L	Volatile Organic Compounds	Normal Sample	Field Duplicate Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-109	PZ-109_021924_19R_L	DRO and/or GRO	Rinsate Blank	--
PZ-109	PZ-109_021924_19R_L	Fluoride & Nitrate	Rinsate Blank	--
PZ-109	PZ-109_021924_19R_L	Metals	Rinsate Blank	--
PZ-109	PZ-109_021924_19R_L	Volatile Organic Compounds	Rinsate Blank	--
656187				
PZ-121	PZ-121_022024_01_L	Radiochemical	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-19	RD-19_022024_01_L	Radiochemical	Normal Sample	Field Duplicate
656201				
PZ-121	PZ-121_022024_01_L	Metals	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-121	PZ-121_022024_01_L	Radiochemical	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-121	PZ-121_022024_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-121	PZ-121_022024_19R_L	Metals	Rinsate Blank	--
PZ-121	PZ-121_022024_19R_L	Radiochemical	Rinsate Blank	--
PZ-121	PZ-121_022024_19R_L	Volatile Organic Compounds	Rinsate Blank	--
PZ-121	PZ-121_022024_78_L	Volatile Organic Compounds	Trip Blank	--
656334				
PZ-121	PZ-121_022024_19R_L	Radiochemical	Rinsate Blank	--

Quarter 1 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
RD-27	RD-27_022124_01_L	Radiochemical	Normal Sample	Matrix Spike Matrix Spike Duplicate
RD-27	RD-27_022124_19R_L	Radiochemical	Rinsate Blank	--
RD-34A	RD-34A_022224_01_L	Radiochemical	Normal Sample	--
RD-34B	RD-34B_022124_01_L	Radiochemical	Normal Sample	--
RD-34B	RD-34B_022124_19R_L	Radiochemical	Rinsate Blank	--
RD-93	RD-93_022224_01_L	Radiochemical	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
656381				
RD-27	RD-27_022124_01_L	Metals	Normal Sample	Matrix Spike Matrix Spike Duplicate
RD-27	RD-27_022124_01_L	Volatile Organic Compounds	Normal Sample	Matrix Spike Matrix Spike Duplicate
RD-27	RD-27_022124_19R_L	Metals	Rinsate Blank	--
RD-27	RD-27_022124_19R_L	Volatile Organic Compounds	Rinsate Blank	--
RD-27	RD-27_022124_78_L	DRO and/or GRO	Trip Blank	--
RD-27	RD-27_022124_78_L	Volatile Organic Compounds	Trip Blank	--
RD-34A	RD-34A_022224_01_L	DRO and/or GRO	Normal Sample	--
RD-34A	RD-34A_022224_01_L	Metals	Normal Sample	--
RD-34A	RD-34A_022224_01_L	Volatile Organic Compounds	Normal Sample	--
RD-34B	RD-34B_022124_01_L	Metals	Normal Sample	--
RD-34B	RD-34B_022124_01_L	Volatile Organic Compounds	Normal Sample	--
RD-34B	RD-34B_022124_19R_L	Metals	Rinsate Blank	--
RD-34B	RD-34B_022124_19R_L	Volatile Organic Compounds	Rinsate Blank	--
RD-93	RD-93_022224_01_L	Radiochemical	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-93	RD-93_022224_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-93	RD-93_022224_19R_L	Radiochemical	Rinsate Blank	--
RD-93	RD-93_022224_19R_L	Volatile Organic Compounds	Rinsate Blank	--

Quarter 1 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
656500				
DD-147	DD-147_022324_01_L	Radiochemical	Normal Sample	Field Duplicate
DD-147	DD-147_022324_01_L	Volatile Organic Compounds	Normal Sample	Field Duplicate
DD-147	DD-147_022324_19R_L	Radiochemical	Rinsate Blank	--
DD-147	DD-147_022324_19R_L	Volatile Organic Compounds	Rinsate Blank	--
RD-63	RD-63_022324_01_L	Metals	Normal Sample	Matrix Spike Matrix Spike Duplicate
RD-63	RD-63_022324_01_L	Volatile Organic Compounds	Normal Sample	Matrix Spike Matrix Spike Duplicate
RD-87	RD-87_022324_01_L	Radiochemical	Normal Sample	--
RD-87	RD-87_022324_01_L	Volatile Organic Compounds	Normal Sample	--
RD-87	RD-87_022324_19R_L	Radiochemical	Rinsate Blank	--
RD-87	RD-87_022324_19R_L	Volatile Organic Compounds	Rinsate Blank	--
RD-94	RD-94_022324_01_L	Radiochemical	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-94	RD-94_022324_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-94	RD-94_022324_78_L	Volatile Organic Compounds	Trip Blank	--
656797				
PZ-116	PZ-116_022624_01_L	Metals	Normal Sample	--
PZ-116	PZ-116_022624_01_L	Volatile Organic Compounds	Normal Sample	--
PZ-116	PZ-116_022624_19R_L	Metals	Rinsate Blank	--
PZ-116	PZ-116_022624_19R_L	Volatile Organic Compounds	Rinsate Blank	--
PZ-116	PZ-116_022624_78_L	Volatile Organic Compounds	Trip Blank	--
RD-20	RD-20_022724_01_L	Fluoride & Nitrate	Normal Sample	Field Duplicate Lab Duplicate Matrix Spike Matrix Spike Duplicate

Quarter 1 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
RD-20	RD-20_022724_01_L	Metals	Normal Sample	Field Duplicate Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-20	RD-20_022724_01_L	Volatile Organic Compounds	Normal Sample	Field Duplicate Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-74	RD-74_022724_01_L	Metals	Normal Sample	--
RD-74	RD-74_022724_01_L	Volatile Organic Compounds	Normal Sample	--
RD-74	RD-74_022724_19R_L	Metals	Rinsate Blank	--
RD-74	RD-74_022724_19R_L	Volatile Organic Compounds	Rinsate Blank	--
657035				
PZ-116	PZ-116_022624_01_L	Radiochemical	Normal Sample	--
RD-63	RD-63_022324_01_L	Radiochemical	Normal Sample	Matrix Spike Matrix Spike Duplicate
RD-93	RD-93_022224_19R_L	Radiochemical	Rinsate Blank	--
657261				
DD-140	DD-140_022924_01_L	DRO and/or GRO	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DD-140	DD-140_022924_01_L	Metals	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DD-140	DD-140_022924_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DD-140	DD-140_022924_19R_L	DRO and/or GRO	Rinsate Blank	--
DD-140	DD-140_022924_19R_L	Metals	Rinsate Blank	--
DD-140	DD-140_022924_19R_L	Volatile Organic Compounds	Rinsate Blank	--
DS-46	DS-46_022924_01_L	DRO and/or GRO	Normal Sample	Field Duplicate
DS-46	DS-46_022924_01_L	Metals	Normal Sample	Field Duplicate
DS-46	DS-46_022924_01_L	Volatile Organic Compounds	Normal Sample	Field Duplicate

Quarter 1 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
PZ-102	PZ-102_022824_01_L	Metals	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-102	PZ-102_022824_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-102	PZ-102_022824_19R_L	Metals	Rinsate Blank	--
PZ-102	PZ-102_022824_19R_L	Volatile Organic Compounds	Rinsate Blank	--
PZ-102	PZ-102_022824_78_L	DRO and/or GRO	Trip Blank	--
PZ-102	PZ-102_022824_78_L	Volatile Organic Compounds	Trip Blank	--
657393				
PZ-116	PZ-116_022624_19R_L	Radiochemical	Rinsate Blank	--
PZ-124	PZ-124_030124_01_L	Radiochemical	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-124	PZ-124_030124_19R_L	Radiochemical	Rinsate Blank	--
657394				
PZ-098	PZ-098_030124_01_L	DRO and/or GRO	Normal Sample	Field Duplicate Matrix Spike Matrix Spike Duplicate
PZ-098	PZ-098_030124_01_L	Metals	Normal Sample	Field Duplicate Matrix Spike Matrix Spike Duplicate
PZ-098	PZ-098_030124_01_L	Volatile Organic Compounds	Normal Sample	Field Duplicate Matrix Spike Matrix Spike Duplicate
PZ-098	PZ-098_030124_19R_L	DRO and/or GRO	Rinsate Blank	--
PZ-098	PZ-098_030124_19R_L	Metals	Rinsate Blank	--
PZ-098	PZ-098_030124_19R_L	Volatile Organic Compounds	Rinsate Blank	--
PZ-098	PZ-098_030124_78_L	DRO and/or GRO	Trip Blank	--
PZ-098	PZ-098_030124_78_L	Volatile Organic Compounds	Trip Blank	--

Quarter 1 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
657547				
PZ-098	PZ-098_030424_19F_L	DRO and/or GRO	Field Blank	Matrix Spike Matrix Spike Duplicate
PZ-098	PZ-098_030424_19F_L	Fluoride & Nitrate	Field Blank	Matrix Spike Matrix Spike Duplicate Lab Duplicate
PZ-098	PZ-098_030424_19F_L	Metals	Field Blank	Matrix Spike Matrix Spike Duplicate
PZ-098	PZ-098_030424_19F_L	Radiochemical	Field Blank	Matrix Spike Matrix Spike Duplicate Lab Duplicate
PZ-098	PZ-098_030424_19F_L	Volatile Organic Compounds	Field Blank	Matrix Spike Matrix Spike Duplicate
PZ-098	PZ-098_030424_78_L	DRO and/or GRO	Trip Blank	--
PZ-098	PZ-098_030424_78_L	Volatile Organic Compounds	Trip Blank	--

Quarter 3 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
682070				
DD-158	DD-158_081924_01_L	DRO and/or GRO	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DD-158	DD-158_081924_01_L	Metals	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DD-158	DD-158_081924_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DD-158	DD-158_081924_78_L	DRO and/or GRO	Trip Blank	--
DD-158	DD-158_081924_78_L	Volatile Organic Compounds	Trip Blank	--
DD-159	DD-159_081924_01_L	DRO and/or GRO	Normal Sample	Field Duplicate
DD-159	DD-159_081924_01_L	Metals	Normal Sample	Field Duplicate
DD-159	DD-159_081924_01_L	Volatile Organic Compounds	Normal Sample	Field Duplicate
DD-159	DD-159_081924_19R_L	DRO and/or GRO	Rinsate Blank	--
DD-159	DD-159_081924_19R_L	Metals	Rinsate Blank	--
DD-159	DD-159_081924_19R_L	Volatile Organic Compounds	Rinsate Blank	--
DS-45	DS-45_081924_01_L	DRO and/or GRO	Normal Sample	--
DS-45	DS-45_081924_01_L	Metals	Normal Sample	--
DS-45	DS-45_081924_01_L	Volatile Organic Compounds	Normal Sample	--
DS-45	DS-45_081924_19R_L	DRO and/or GRO	Rinsate Blank	--
DS-45	DS-45_081924_19R_L	Metals	Rinsate Blank	--
DS-45	DS-45_081924_19R_L	Volatile Organic Compounds	Rinsate Blank	--
DS-47	DS-47_081924_01_L	DRO and/or GRO	Normal Sample	Field Duplicate Lab Duplicate Matrix Spike Matrix Spike Duplicate
DS-47	DS-47_081924_01_L	Metals	Normal Sample	Field Duplicate Lab Duplicate Matrix Spike Matrix Spike Duplicate

Quarter 3 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
DS-47	DS-47_081924_01_L	Volatile Organic Compounds	Normal Sample	Field Duplicate Lab Duplicate Matrix Spike Matrix Spike Duplicate
682234				
	PZ-103_082024_19R_L	DRO and/or GRO	Rinsate Blank	--
	PZ-103_082024_19R_L	Metals	Rinsate Blank	--
	PZ-103_082024_19R_L	Volatile Organic Compounds	Rinsate Blank	--
DS-44	DS-44_082024_01_L	DRO and/or GRO	Normal Sample	Matrix Spike Matrix Spike Duplicate
DS-44	DS-44_082024_01_L	Metals	Normal Sample	Matrix Spike Matrix Spike Duplicate
DS-44	DS-44_082024_01_L	Volatile Organic Compounds	Normal Sample	Matrix Spike Matrix Spike Duplicate
DS-44	DS-44_082024_78_L	DRO and/or GRO	Trip Blank	--
DS-44	DS-44_082024_78_L	Volatile Organic Compounds	Trip Blank	--
PZ-103	PZ-103_082024_01_L	DRO and/or GRO	Normal Sample	--
PZ-103	PZ-103_082024_01_L	Metals	Normal Sample	--
PZ-103	PZ-103_082024_01_L	Volatile Organic Compounds	Normal Sample	--
PZ-104	PZ-104_082024_01_L	DRO and/or GRO	Normal Sample	--
PZ-104	PZ-104_082024_01_L	Metals	Normal Sample	--
PZ-104	PZ-104_082024_01_L	Volatile Organic Compounds	Normal Sample	--
PZ-104	PZ-104_082024_19R_L	DRO and/or GRO	Rinsate Blank	--
PZ-104	PZ-104_082024_19R_L	Metals	Rinsate Blank	--
PZ-104	PZ-104_082024_19R_L	Volatile Organic Compounds	Rinsate Blank	--
PZ-109	PZ-109_082024_01_L	DRO and/or GRO	Normal Sample	--
PZ-109	PZ-109_082024_01_L	Metals	Normal Sample	--
PZ-109	PZ-109_082024_01_L	Volatile Organic Compounds	Normal Sample	--
682434				
PZ-098	PZ-098_082124_01_L	DRO and/or GRO	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate

Quarter 3 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
PZ-098	PZ-098_082124_01_L	Metals	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-098	PZ-098_082124_01_L	Perchlorate	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-098	PZ-098_082124_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-098	PZ-098_082124_78_L	DRO and/or GRO	Trip Blank	--
PZ-098	PZ-098_082124_78_L	Volatile Organic Compounds	Trip Blank	--
PZ-105	PZ-105_082124_01_L	DRO and/or GRO	Normal Sample	--
PZ-105	PZ-105_082124_01_L	Metals	Normal Sample	--
PZ-105	PZ-105_082124_01_L	Volatile Organic Compounds	Normal Sample	--
PZ-105	PZ-105_082124_19R_L	DRO and/or GRO	Rinsate Blank	--
PZ-105	PZ-105_082124_19R_L	Metals	Rinsate Blank	--
PZ-105	PZ-105_082124_19R_L	Perchlorate	Rinsate Blank	--
PZ-105	PZ-105_082124_19R_L	Volatile Organic Compounds	Rinsate Blank	--
PZ-162	PZ-162_082124_01_L	DRO and/or GRO	Normal Sample	Field Duplicate
PZ-162	PZ-162_082124_01_L	Metals	Normal Sample	Field Duplicate
PZ-162	PZ-162_082124_01_L	Volatile Organic Compounds	Normal Sample	Field Duplicate
PZ-163	PZ-163_082124_01_L	DRO and/or GRO	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-163	PZ-163_082124_01_L	Metals	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-163	PZ-163_082124_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-163	PZ-163_082124_19R_L	DRO and/or GRO	Rinsate Blank	--
PZ-163	PZ-163_082124_19R_L	Metals	Rinsate Blank	--
PZ-163	PZ-163_082124_19R_L	Volatile Organic Compounds	Rinsate Blank	--

Quarter 3 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
682588				
	PZ-167_082324_19R_L	DRO and/or GRO	Rinsate Blank	--
	PZ-167_082324_19R_L	Metals	Rinsate Blank	--
	PZ-167_082324_19R_L	Volatile Organic Compounds	Rinsate Blank	--
PZ-166	PZ-166_082324_01_L	DRO and/or GRO	Normal Sample	--
PZ-166	PZ-166_082324_01_L	Metals	Normal Sample	--
PZ-166	PZ-166_082324_01_L	Volatile Organic Compounds	Normal Sample	--
PZ-166	PZ-166_082324_19R_L	DRO and/or GRO	Rinsate Blank	--
PZ-166	PZ-166_082324_19R_L	Metals	Rinsate Blank	--
PZ-166	PZ-166_082324_19R_L	Volatile Organic Compounds	Rinsate Blank	--
PZ-167	PZ-167_082324_01_L	DRO and/or GRO	Normal Sample	--
PZ-167	PZ-167_082324_01_L	Metals	Normal Sample	--
PZ-167	PZ-167_082324_01_L	Volatile Organic Compounds	Normal Sample	--
PZ-168	PZ-168_082324_01_L	DRO and/or GRO	Normal Sample	--
PZ-168	PZ-168_082324_01_L	Metals	Normal Sample	--
PZ-168	PZ-168_082324_01_L	Volatile Organic Compounds	Normal Sample	--
PZ-169	PZ-169_082324_01_L	DRO and/or GRO	Normal Sample	Matrix Spike Matrix Spike Duplicate
PZ-169	PZ-169_082324_01_L	Metals	Normal Sample	Matrix Spike Matrix Spike Duplicate
PZ-169	PZ-169_082324_01_L	Volatile Organic Compounds	Normal Sample	Matrix Spike Matrix Spike Duplicate
PZ-169	PZ-169_082324_78_L	DRO and/or GRO	Trip Blank	--
PZ-169	PZ-169_082324_78_L	Volatile Organic Compounds	Trip Blank	--
682589				
PZ-041	PZ-041_082224_01_L	DRO and/or GRO	Normal Sample	--
PZ-041	PZ-041_082224_01_L	Metals	Normal Sample	--
PZ-041	PZ-041_082224_01_L	Volatile Organic Compounds	Normal Sample	--
PZ-041	PZ-041_082224_19R_L	DRO and/or GRO	Rinsate Blank	--
PZ-041	PZ-041_082224_19R_L	Metals	Rinsate Blank	--
PZ-041	PZ-041_082224_19R_L	Volatile Organic Compounds	Rinsate Blank	--
PZ-164	PZ-164_082224_01_L	DRO and/or GRO	Normal Sample	Field Duplicate
PZ-164	PZ-164_082224_01_L	Metals	Normal Sample	Field Duplicate

Quarter 3 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
PZ-164	PZ-164_082224_01_L	Perchlorate	Normal Sample	Field Duplicate
PZ-164	PZ-164_082224_01_L	Volatile Organic Compounds	Normal Sample	Field Duplicate
PZ-165	PZ-165_082224_01_L	DRO and/or GRO	Normal Sample	--
PZ-165	PZ-165_082224_01_L	Metals	Normal Sample	--
PZ-165	PZ-165_082224_01_L	Volatile Organic Compounds	Normal Sample	--
PZ-165	PZ-165_082224_19R_L	DRO and/or GRO	Rinsate Blank	--
PZ-165	PZ-165_082224_19R_L	Metals	Rinsate Blank	--
PZ-165	PZ-165_082224_19R_L	Perchlorate	Rinsate Blank	--
PZ-165	PZ-165_082224_19R_L	Volatile Organic Compounds	Rinsate Blank	--
RD-64	RD-64_082224_01_L	DRO and/or GRO	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-64	RD-64_082224_01_L	Metals	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-64	RD-64_082224_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-64	RD-64_082224_78_L	DRO and/or GRO	Trip Blank	--
RD-64	RD-64_082224_78_L	Volatile Organic Compounds	Trip Blank	--
683096				
DS-48	DS-48_082624_01_L	DRO and/or GRO	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DS-48	DS-48_082624_01_L	Metals	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DS-48	DS-48_082624_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-108	PZ-108_082624_01_L	DRO and/or GRO	Normal Sample	Field Duplicate
PZ-108	PZ-108_082624_01_L	Metals	Normal Sample	Field Duplicate
PZ-108	PZ-108_082624_01_L	Volatile Organic Compounds	Normal Sample	Field Duplicate

Quarter 3 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
PZ-108	PZ-108_082624_19R_L	DRO and/or GRO	Rinsate Blank	--
PZ-108	PZ-108_082624_19R_L	Metals	Rinsate Blank	--
PZ-108	PZ-108_082624_19R_L	Volatile Organic Compounds	Rinsate Blank	--
PZ-120	PZ-120_082624_01_L	DRO and/or GRO	Normal Sample	Field Duplicate
PZ-120	PZ-120_082624_01_L	Metals	Normal Sample	Field Duplicate
PZ-120	PZ-120_082624_01_L	Volatile Organic Compounds	Normal Sample	Field Duplicate
PZ-120	PZ-120_082624_78_L	DRO and/or GRO	Trip Blank	--
PZ-120	PZ-120_082624_78_L	Volatile Organic Compounds	Trip Blank	--
PZ-121	PZ-121_082624_01_L	DRO and/or GRO	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-121	PZ-121_082624_01_L	Metals	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-121	PZ-121_082624_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-121	PZ-121_082624_19R_L	DRO and/or GRO	Rinsate Blank	--
PZ-121	PZ-121_082624_19R_L	Metals	Rinsate Blank	--
PZ-121	PZ-121_082624_19R_L	Volatile Organic Compounds	Rinsate Blank	--
683260				
DD-144	DD-144_082724_01_L	DRO and/or GRO	Normal Sample	--
DD-144	DD-144_082724_01_L	Metals	Normal Sample	--
DD-144	DD-144_082724_01_L	Volatile Organic Compounds	Normal Sample	--
DD-144	DD-144_082724_19R_L	DRO and/or GRO	Rinsate Blank	--
DD-144	DD-144_082724_19R_L	Metals	Rinsate Blank	--
DD-144	DD-144_082724_19R_L	Volatile Organic Compounds	Rinsate Blank	--
PZ-122	PZ-122_082724_01_L	DRO and/or GRO	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-122	PZ-122_082724_01_L	Metals	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate

Quarter 3 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
PZ-122	PZ-122_082724_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-122	PZ-122_082724_78_L	DRO and/or GRO	Trip Blank	--
PZ-122	PZ-122_082724_78_L	Volatile Organic Compounds	Trip Blank	--
RD-07	RD-07_082724_01_L	DRO and/or GRO	Normal Sample	--
RD-07	RD-07_082724_01_L	Metals	Normal Sample	--
RD-07	RD-07_082724_01_L	Volatile Organic Compounds	Normal Sample	--
RD-74	RD-74_082724_01_L	DRO and/or GRO	Normal Sample	--
RD-74	RD-74_082724_01_L	Metals	Normal Sample	--
RD-74	RD-74_082724_01_L	Volatile Organic Compounds	Normal Sample	--
RD-74	RD-74_082724_19R_L	DRO and/or GRO	Rinsate Blank	--
RD-74	RD-74_082724_19R_L	Metals	Rinsate Blank	--
RD-74	RD-74_082724_19R_L	Volatile Organic Compounds	Rinsate Blank	--
683500				
PZ-005	PZ-005_082824_01_L	DRO and/or GRO	Normal Sample	--
PZ-005	PZ-005_082824_01_L	Volatile Organic Compounds	Normal Sample	--
PZ-005	PZ-005_082824_19R_L	DRO and/or GRO	Rinsate Blank	--
PZ-005	PZ-005_082824_19R_L	Volatile Organic Compounds	Rinsate Blank	--
PZ-116	PZ-116_082824_01_L	DRO and/or GRO	Normal Sample	--
PZ-116	PZ-116_082824_01_L	Volatile Organic Compounds	Normal Sample	--
PZ-116	PZ-116_082824_19R_L	DRO and/or GRO	Rinsate Blank	--
PZ-116	PZ-116_082824_19R_L	Volatile Organic Compounds	Rinsate Blank	--
RD-63	RD-63_082824_01_L	DRO and/or GRO	Normal Sample	Lab Duplicate
RD-63	RD-63_082824_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate
RD-94	RD-94_082824_01_L	DRO and/or GRO	Normal Sample	Field Duplicate Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-94	RD-94_082824_01_L	Volatile Organic Compounds	Normal Sample	Field Duplicate Lab Duplicate Matrix Spike Matrix Spike Duplicate

Quarter 3 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
RD-94	RD-94_082824_78_L	DRO and/or GRO	Trip Blank	--
RD-94	RD-94_082824_78_L	Volatile Organic Compounds	Trip Blank	--
683666				
DD-139	DD-139_082924_01_L	DRO and/or GRO	Normal Sample	Field Duplicate
DD-139	DD-139_082924_01_L	Volatile Organic Compounds	Normal Sample	Field Duplicate
DD-143	DD-143_082924_01_L	DRO and/or GRO	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DD-143	DD-143_082924_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
DD-143	DD-143_082924_78_L	DRO and/or GRO	Trip Blank	--
DD-143	DD-143_082924_78_L	Volatile Organic Compounds	Trip Blank	--
RD-27	RD-27_082924_01_L	DRO and/or GRO	Normal Sample	Field Duplicate
RD-27	RD-27_082924_01_L	Volatile Organic Compounds	Normal Sample	Field Duplicate
RD-27	RD-27_082924_19R_L	DRO and/or GRO	Rinsate Blank	--
RD-27	RD-27_082924_19R_L	Volatile Organic Compounds	Rinsate Blank	--
RD-30	RD-30_082924_01_L	DRO and/or GRO	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-30	RD-30_082924_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-30	RD-30_082924_19R_L	DRO and/or GRO	Rinsate Blank	--
RD-30	RD-30_082924_19R_L	Volatile Organic Compounds	Rinsate Blank	--
683667				
PZ-124	PZ-124_083024_01_L	DRO and/or GRO	Normal Sample	Field Duplicate
PZ-124	PZ-124_083024_01_L	Volatile Organic Compounds	Normal Sample	Field Duplicate
PZ-124	PZ-124_083024_19R_L	DRO and/or GRO	Rinsate Blank	--
PZ-124	PZ-124_083024_19R_L	Volatile Organic Compounds	Rinsate Blank	--
RD-98	RD-98_083024_01_L	DRO and/or GRO	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate

Quarter 3 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
RD-98	RD-98_083024_01_L	Volatile Organic Compounds	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-98	RD-98_083024_19R_L	DRO and/or GRO	Rinsate Blank	--
RD-98	RD-98_083024_19R_L	Volatile Organic Compounds	Rinsate Blank	--
RS-28	RS-28_083024_01_L	DRO and/or GRO	Normal Sample	Matrix Spike Matrix Spike Duplicate
RS-28	RS-28_083024_01_L	Volatile Organic Compounds	Normal Sample	Matrix Spike Matrix Spike Duplicate
RS-28	RS-28_083024_78_L	DRO and/or GRO	Trip Blank	--
RS-28	RS-28_083024_78_L	Volatile Organic Compounds	Trip Blank	--
683846				
DD-139	DD-139_082924_01_L	Metals	Normal Sample	Field Duplicate
DD-143	DD-143_082924_01_L	Metals	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-005	PZ-005_082824_01_L	Metals	Normal Sample	--
PZ-005	PZ-005_082824_19R_L	Metals	Rinsate Blank	--
PZ-005	PZ-005_082824_19R_L	Radiochemical	Rinsate Blank	--
PZ-116	PZ-116_082824_01_L	Metals	Normal Sample	--
PZ-116	PZ-116_082824_19R_L	Metals	Rinsate Blank	--
RD-27	RD-27_082924_01_L	Metals	Normal Sample	Field Duplicate
RD-63	RD-63_082824_01_L	Metals	Normal Sample	Lab Duplicate
RD-94	RD-94_082824_01_L	Metals	Normal Sample	Field Duplicate Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-94	RD-94_082824_01_L	Radiochemical	Normal Sample	Field Duplicate Lab Duplicate Matrix Spike Matrix Spike Duplicate

Quarter 3 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
683863				
PZ-124	PZ-124_083024_01_L	Metals	Normal Sample	Field Duplicate
PZ-124	PZ-124_083024_19R_L	Metals	Rinsate Blank	--
RD-27	RD-27_082924_19R_L	Metals	Rinsate Blank	--
RD-30	RD-30_082924_01_L	Metals	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-30	RD-30_082924_19R_L	Metals	Rinsate Blank	--
RD-98	RD-98_083024_01_L	Metals	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-98	RD-98_083024_19R_L	Metals	Rinsate Blank	--
RS-28	RS-28_083024_01_L	Metals	Normal Sample	Matrix Spike Matrix Spike Duplicate
683873				
DD-143	DD-143_082924_01_L	Radiochemical	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
PZ-116	PZ-116_082824_19R_L	Radiochemical	Rinsate Blank	--
PZ-116	PZ-116-082824_01_L	Radiochemical	Normal Sample	--
RD-27	RD-27_082924_01_L	Radiochemical	Normal Sample	Field Duplicate
RD-27	RD-27_082924_19R_L	Radiochemical	Rinsate Blank	--
RD-30	RD-30_082924_01_L	Radiochemical	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-30	RD-30_082924_19R_L	Radiochemical	Rinsate Blank	--
RD-63	RD-63_082824_01_L	Radiochemical	Normal Sample	Lab Duplicate
684110				
RD-98	RD-98_090324_19F_L	DRO and/or GRO	Field Blank	Matrix Spike Matrix Spike Duplicate
RD-98	RD-98_090324_19F_L	Metals	Field Blank	Matrix Spike Matrix Spike Duplicate

Quarter 3 2024				
Well ID	**Sample**	**Method**	**Sample Type**	**Related QC**
RD-98	RD-98_090324_19F_L	Perchlorate	Field Blank	Matrix Spike Matrix Spike Duplicate
RD-98	RD-98_090324_19F_L	Radiochemical	Field Blank	Matrix Spike Matrix Spike Duplicate
RD-98	RD-98_090324_19F_L	Volatile Organic Compounds	Field Blank	Matrix Spike Matrix Spike Duplicate
RD-98	RD-98_090324_78_L	DRO and/or GRO	Trip Blank	--
RD-98	RD-98_090324_78_L	Volatile Organic Compounds	Trip Blank	--
684120				
RD-98	RD-98_083024_01_L	Radiochemical	Normal Sample	Lab Duplicate Matrix Spike Matrix Spike Duplicate
RD-98	RD-98_083024_19R_L	Radiochemical	Rinsate Blank	--
RS-28	RS-28_083024_01_L	Radiochemical	Normal Sample	Matrix Spike Matrix Spike Duplicate

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ATTACHMENT 2
DATA VALIDATION QUALIFIER DEFINITIONS

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Inorganic Data Validation Qualifiers

Flag	Definition
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.

Organic Data Validation Qualifiers

Flag	Definition
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.
NJ	Presumptively present at an estimated quantity (use with Tentatively Identified Compounds [TICs] only). A TIC is a compound not specified on the Target Compound List (TCL). A mass spectral library search is used to identify the compound.

Radiochemical Data Validation Qualifiers

Flag	Definition
No Qualification	The analysis was performed, and radioactivity was detected (e.g., the radioanalytical result is statistically positive at the 95% confidence interval and is above its MDC). **NOTE:** *The radionuclide is considered to be present in the sample.*
U	The analysis was performed, but no radioactivity was detected (i.e., the radioanalytical result was not statistically positive at the 95% confidence interval and/or the result was below its MDC). The "U" qualifier flag is also applicable to any result reported as zero (0) (± an associated uncertainty). **NOTE:** *The radionuclide is not considered to be present in the sample.*
UJ	The analysis was performed, but the result is highly questionable due to analytical and/or laboratory quality control anomalies. The use of such a result is strongly discouraged. Analytical and quality control anomalies include such items as: significant blank contamination, known photopeak interferences and/or photopeak resolution problems, known matrix interferences, unacceptable laboratory control sample recoveries, serious instrument calibration problems, improper sample preservation, etc. The "UJ" qualifier flag could designate a possible false positive result in the case of a result that is statistically positive at the 95% confidence level. The "UJ" qualifier flag could indicate the result is considered an estimated non-detect (a non-detect that may be due to loss of analyte from lack of sample preservation, holding time exceedances, etc.). The specific use of the "UJ" flag is included by the validator in the text of the validation report. **NOTE:** *The radionuclide may or may not be present in the sample and the result is considered highly questionable.*
J	The analysis was performed, and radioactivity was detected (i.e., the radionuclide result is statistically positive at the 95% confidence interval and is above its MDC). However, the result is questionable due to analytical and/or laboratory quality control anomalies/ irregularities and should therefore be used only as an estimated (approximated) quantity. Analytical and/or quality control anomalies include such items as: laboratory duplicate imprecision, unsatisfactory analytical yields, insufficient laboratory control sample recoveries, unacceptable PE sample results, instrument calibration problems, improper sample preservation, etc. **NOTE:** *The radionuclide is considered to be present in the sample; however, the result may not be an accurate representation of the amount of activity actually present in the sample.*
R	The analysis result is unusable and was rejected due to severe analytical and/or quality control problems. **NOTE:** *The radionuclide may or may not be present, and the result is known to be inaccurate or imprecise.*