

August 14, 2020

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**FIRST SEMIANNUAL 2020 MONITORING REPORT
SUNSHINE CANYON CITY/COUNTY LANDFILL, SYLMAR, CALIFORNIA**

Please find enclosed the first semiannual 2020 monitoring report for the Sunshine Canyon City/County Landfill to comply with the California Regional Water Quality Control Board – Los Angeles Region (RWQCB) Waste Discharge Requirements Order Number R4-2008-0088 and Monitoring and Reporting Program CI-2043.

This report has been prepared by Geo-Logic Associates on behalf of Browning Ferris Industries (BFI) of California. It summarizes the results of groundwater, surface water, leachate, vadose zone, liquid management, and waste disposal monitoring activities completed in accordance with M&RP CI-2043 during the January through June 2020 semiannual monitoring period.

During the monitoring period, no violations have been issued for the facility. Groundwater quality conditions beneath the Sunshine Canyon City/County Landfill are generally similar to those observed during previous monitoring periods. Water quality protection standards (WQPS) were exceeded for a few analyte/well pairs; however, most of these analyte/well pairs have historically been detected at concentrations exceeding WQPS and their presence has previously been confirmed in retest samples. Accordingly, these analyte/well pairs are analyzed in tracking mode and no significant trends are noted for analyte/well pairs in tracking mode. With respect to WQPS exceedances for analyte/well pairs that are not in tracking mode, no retest samples confirmed WQPS exceedances, and therefore, no new analyte/well pairs were added to tracking mode during the monitoring period. Retesting is currently scheduled for chloride at well PZ-2 and for total dissolved solids at well DW-1 to verify WQPS exceedances measured during the second quarter 2020 and results will be presented in the Second Semiannual 2020 Water Quality Monitoring Report.

During the first semiannual 2020 monitoring period, methane concentrations did not exceed 5%V at any landfill gas monitoring probe during monthly monitoring.

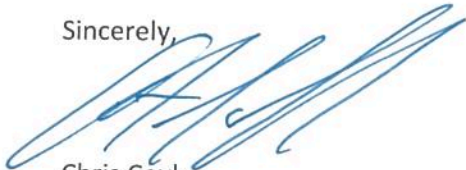
Leachate, landfill gas condensate, groundwater extracted near the cut-off wall, and groundwater collected from subdrains at the Sunshine Canyon Landfill were discharged to the Los Angeles City sanitary sewer system under City of Los Angeles Bureau of Sanitary permit W-535428.

I certify that all wastes placed at the Sunshine Canyon City/County Landfill were deposited in accordance with the RWQCB's requirements, and that no wastes were deposited outside of the limits permitted for waste disposal at this facility.

I, under penalty of perjury, do hereby state that I have personally examined and am familiar with the information submitted in this document, and to the best of my knowledge, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information contained in the attached report is true, complete, and correct.

If you have any questions regarding this report, please do not hesitate to call Mr. Josh Mills at (818) 362-2154 or email him at JMills3@RepublicServices.com.

Sincerely,



Chris Coyle
General Manager
Sunshine Canyon Landfill

Water Quality Monitoring Report
First Semiannual (January – June) 2020
Sunshine Canyon Landfill
Facility WDID #L0006014618

Submitted to

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Certification

This Report was prepared in accordance with generally accepted professional hydrogeologic principles and practices. This Report makes no other warranties, either expressed or implied as to the professional advice or data included in it. This Report has not been prepared for use by parties or projects other than those named or described herein. It may not contain sufficient information for other parties or purposes.

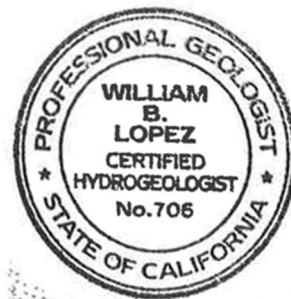
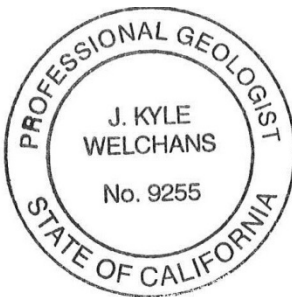
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Table of Contents

1.	Introduction.....	1
2.	General Site Information.....	1
2.1	Site Description	1
2.2	Climate and Surface Water Hydrology.....	2
2.3	Hydrogeologic Setting	2
2.4	Groundwater Geochemistry.....	2
3.	Groundwater Monitoring.....	3
3.1	Water Quality Monitoring Network.....	3
3.2	Sampling and Laboratory Analysis.....	4
3.3	QA/QC Results	4
3.4	Groundwater Elevations.....	5
3.5	Groundwater Chemistry Results.....	6
3.5.1	Fourth Quarter 2019 Retest Groundwater Chemistry Results.....	6
3.5.2	First Quarter 2020 Groundwater Chemistry Results.....	7
3.5.3	Second Quarter 2020 Groundwater Chemistry Results.....	8
3.5.4	Tracking Mode Evaluation	9
4.	Vadose Zone Monitoring.....	11
4.1	Subdrain Monitoring.....	12
4.1.1	Subdrain Liquid Monitoring Points	12
4.1.2	First Quarter 2020 Subdrain Monitoring Results	13
4.1.3	Second Quarter 2020 Subdrain Monitoring Results.....	13
4.2	Lysimeter Monitoring.....	13
4.2.1	Lysimeter Monitoring Points.....	14
4.2.2	First Quarter 2020 Lysimeter Monitoring Results	14
4.2.3	Second Quarter 2020 Lysimeter Monitoring Results.....	14
5.	Vadose Zone Gas Monitoring	14
6.	Surface Water Monitoring.....	15
6.1	NPDES Stormwater Monitoring	15
6.2	Stream Diversion Monitoring.....	15
6.3	Other Surface Water Monitoring.....	15
7.	Leachate Monitoring	16
8.	Liquid Generation and Management.....	16

8.1	Liquid Management	17
9.	Drainage Structure Monitoring	17
10.	Waste Disposal Monitoring	18
11.	Waste Acceptance	19
11.1	First Semiannual 2020 Waste Acceptance Results	19
12.	Summary	20
	References	22

List of Figures

1	Site Location Map
2	Groundwater Monitoring Point Location Map
3A	February 2020 Groundwater Equipotential Contours
3B	June 2020 Groundwater Equipotential Contours
3C	February 2020 Groundwater Equipotential Contours
3D	June 2020 Groundwater Equipotential Contours
4	Vadose Zone Gas Monitoring Point Location Map

List of Tables

1	Regulatory Compliance Checklist
2	Analytical Parameters and Methods
3A	Summary of Blank Sample Results – First Quarter 2020
3B	Summary of Blank Sample Results – Second Quarter 2020
4A	Summary of Duplicate Sample Results – First Quarter 2020
4B	Summary of Duplicate Sample Results – Second Quarter 2020
5	Groundwater Elevations and Site Monitoring Well Information
6A	Summary of Groundwater Analytical Results – First Quarter 2020
6B	Summary of Groundwater Analytical Results – Second Quarter 2020
7A	Comparison of Intrawell Water Quality Protection Standards to Groundwater Analytical Results – First Quarter 2020

- 7B Comparison of Intrawell Water Quality Protection Standards to Groundwater Analytical Results – Second Quarter 2020
- 8A Summary of Analytical Results for Vadose Zone Liquid Monitoring Points – First Quarter 2020
- 8B Summary of Analytical Results for Vadose Zone Liquid Monitoring Points – Second Quarter 2020
- 9 Summary of Methane Concentrations for Vadose Zone Gas Monitoring Points – First Semiannual 2020 Monitoring Period
- 10 Summary of Analytical Results for Stormwater Samples – First Semiannual 2020 Monitoring Period
- 11 Summary of Analytical Results for Leachate Monitoring Points – April 2020
- 12 Summary of Collected Water Sources – First Semiannual 2020 Monitoring Period
- 13 Imported Soil Sampling Summary
- 14-16 Waste Discharge Sampling Results

List of Appendices

- A Sampling and Analysis Plan
- B Field Sample Collection Logs and Laboratory Analytical Reports
- C Landfill Gas Reports
- D NPDES Certification of Completion
- E Waste Placement Areas and Tonnage Reports
- F Waste Acceptance Analytical Results
- G Tracking Mode Trends

Acronyms and Abbreviations

BFI	Browning-Ferris Industries of California, Inc.
COC	Constituents of Concern
COD	Chemical Oxygen Demand
CY	Cubic Yard
DMP	Detection Monitoring Program
EC	Electrical Conductivity
ft/ft	Feet per Foot
GLA	Geo-Logic Associates
LCRS	Leachate Collection and Removal System
LEA	Local Enforcement Agency
µg/L	Micrograms per Liter
MCL	Maximum Contaminant Level
MDL	Method Detection Limit
mg/L	Milligrams per Liter
MRP	Monitoring and Reporting Program No. CI-2043
MSW	Municipal Solid Waste
ND	Non-Detect
Order	Waste Discharge Requirements R4-2008-0088
ORP	Oxygen Reduction Potential
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
QCAB	Quality Control Ambient (Field) Blank
QCTB	Quality Control Trip Blank
ROWD	Report of Waste Discharge
RPD	Relative Percent Difference
RWQCB	California Regional Water Quality Control Board – Los Angeles Region
SCLF	Sunshine Canyon Landfill
STLC	Soluble Threshold Limit Concentration
TDS	Total Dissolved Solids
TOC	Total Organic Carbon
TTLC	Total Threshold Limit Concentration
%V	Percent by Volume

VOCs	Volatile Organic Compounds
WAP	Waste Acceptance Plan
WQPS	Water Quality Protection Standards

1. Introduction

On behalf of Browning-Ferris Industries of California, Inc (BFI) and Sunshine Canyon Landfill, Geo-Logic Associates (GLA) presents this report summarizing semiannual water quality and waste intake monitoring and reporting performed for the first semiannual 2020 monitoring period (January through June) at the active Sunshine Canyon Landfill (SCLF) in the city of Sylmar, California (Figure 1). Included in this report are the field observations and measurements, and laboratory results, for samples collected from site monitoring wells, lysimeters, extraction wells, piezometers, and other SCLF monitoring stations. This report was prepared to comply with the requirements of California Regional Water Quality Control Board – Los Angeles Region (RWQCB) Waste Discharge Requirements Order No. R4-2008-0088 (WDR) and Monitoring and Reporting Program (MRP) No. CI-2043. An overview of report content required by MRP CI-2043 is summarized in Table 1.

2. General Site Information

The following provides a summary of the site conditions and includes: site description, climate and surface water hydrology, hydrogeologic setting, and groundwater geochemistry.

2.1 Site Description

The SCLF is an active Class III municipal solid waste (MSW) disposal facility located at 14747 San Fernando Road in Sylmar, California. The site property includes approximately 1,030 acres within the City of Los Angeles and an unincorporated area of Los Angeles County. The "County Landfill" Disposal Phases I through V are located north of the City-County boundary, and are equipped with a composite liner and leachate collection and removal system (LCRS). The "City Landfill" includes two waste disposal areas (Unit 1 and Unit 2) that are south of the City-County boundary. City Landfill Unit 1 is a closed, unlined Class III MSW disposal unit that operated between 1958 and 1993. City Landfill Unit 2 is an active, Class III MSW disposal unit that is equipped with a composite liner system and is located generally between City Landfill Unit 1 and the County disposal phases. Cell A of City Landfill Unit 2 began operations during the third quarter of 2005, with subsequent disposal operations expanding into Cells CC-1 and CC-2. Refuse was disposed of in Cells CC-4, Parts 1, 2, and 3 during the monitoring period (Appendix E).

2.2 Climate and Surface Water Hydrology

SCLF is located north of the San Fernando Valley, near the junction of the Santa Susana Mountains to the west and the San Gabriel Mountains to the east. Climatic conditions in the area are semi-arid and characterized by mild winters, when most of the precipitation occurs, and warm dry summers. The average annual precipitation in the area of Sunshine Canyon is approximately 22 inches. During the period from 1941 to 1995 the maximum annual precipitation was 55.8 inches; the minimum was 10.2 inches. The maximum expected 100-year, 24-hour storm is approximately 12 inches.

The facility is located within the 900-square-mile Los Angeles River Watershed Basin. Surface water runoff originating in Sunshine Canyon exits through the mouth of the canyon, where it is conveyed in a southerly direction.

2.3 Hydrogeologic Setting

The SCLF is underlain predominantly by marine sedimentary rocks of the late Miocene to early Pliocene Towsley Formation, consisting of siltstone and fine-grained sandstone interbedded with lenses of coarse-grained sandstone and conglomerate. This unit is locally overlain by younger sedimentary deposits consisting of alluvium, colluvium, and/or landslide debris that consist of varying mixtures of unconsolidated sand, gravel, silt, and clay derived from the Towsley Formation. These unconsolidated alluvial materials were originally present in many of the canyon thalwegs that cross the site, but, in most instances, these materials have been removed as part of site development. Where alluvium remains, it may be up to 30 feet thick.

Groundwater beneath the site occurs in two main zones: 1) a shallow, unconfined water-bearing zone consisting of alluvial deposits and/or upper weathered portions of the bedrock, and 2) a deeper, locally confined water-bearing zone in the Towsley Formation. The hydraulic conductivity of the bedrock (including both weathered and unweathered portions) ranges from 2.8 to 2.8×10^{-6} feet per day (ft/day) with values generally increasing with increasing weathering and fracture density. The hydraulic conductivity of the alluvial deposits is estimated to be from 28.3 to 0.28 ft/day.

2.4 Groundwater Geochemistry

Previous hydrogeologic investigations conducted for the SCLF have identified significant spatial variability in groundwater chemistry beneath the site. The surrounding Santa Susana Mountains

are an area of ongoing, extensive oil exploration and production, as indicated by the oil production facilities surrounding the site. The region is characterized by several east-west trending fault systems that locally serve as large-scale crude oil traps. Upward seepage of crude oil and related brines along these faults, and their subsequent contact with site groundwater, have been documented at numerous locations at the SCLF. The presence of shallow crude oil deposits coupled with the low permeability of bedrock materials has resulted in extensive areas of reduced (poorly oxygenated) groundwater beneath the facility with locally elevated concentrations of alkalinity, ammonia-nitrogen, and, in some cases, sulfide. In addition, pre-landfill monitoring has confirmed the presence of naturally occurring groundwater with locally elevated concentrations of chloride, total organic carbon (TOC), chemical oxygen demand (COD), and potassium. These constituents have also been measured at high concentrations in samples of landfill leachate.

Beneficial uses of groundwater beneath the site are limited as a result of naturally-occurring, elevated concentrations of total dissolved solids (TDS) and the low groundwater production capability for wells screened in the bedrock.

3. Groundwater Monitoring

This section provides a summary of the water quality monitoring program for the site, as well as the monitoring activities, results, and conclusions based on data obtained during the first semiannual 2020 monitoring period.

3.1 Water Quality Monitoring Network

The Monitoring and Reporting Program CI-2043 establishes the following groundwater monitoring network for the SCLF:

MONITORING POINTS	MONITORING POINT ID	MONITORING FREQUENCY
Upgradient Monitoring Wells - Bedrock	CM-9R3, CM-10R, CM-11R	Quarterly
Downgradient Monitoring Wells – Alluvium	MW-1, MW-5, MW-6, MW-13R, MW-14	
Downgradient Monitoring Wells – Bedrock	DW-1, DW-2, DW-3, DW-5, PZ-2, PZ-4	
Corrective Action Evaluation Wells	MW-2A, MW-2B, MW-9, DW-4	
Piezometers	PZ-1, PZ-3, CM-5, MW-8	
Subdrains	Subdrain N, Combined Subdrains	
Lysimeters	LY-6, LY-7	
Leachate Monitoring Points	LR-2R, Deep Leachate*	Annual

Note: In November 2018 Leachate monitoring points “CA-L” and “Leachate” were plumbed together. Moving forward, a composite sample will be collected from “Deep Leachate”, which reflects a mixture of leachate from all lined cells at the facility.

3.2 Sampling and Laboratory Analysis

Groundwater samples collected by GLA during the first and second quarter 2020 monitoring events were submitted to Eurofins Calscience (Eurofins) of Irvine, California. Eurofins is certified by the state of California and is the project laboratory under contract to BFI/Republic. During the first quarter 2020 monitoring period, samples were analyzed for the indicator parameters listed on Table 2. During the second quarter 2020 monitoring period, groundwater samples were analyzed for the indicator parameters and supplemental parameters. In addition to the monitoring parameters, Table 2 includes laboratory analytical methods employed for the project, and the frequency that wells and other media monitoring stations are sampled. Site groundwater monitoring wells and leachate monitoring points are sampled in accordance with the sampling and analysis procedures detailed in Appendix A.

3.3 QA/QC Results

The quality assurance/quality control (QA/QC) program completed for the first semiannual 2020 water quality monitoring period included analyses of field blanks (QCAB), trip blanks (QCTB),

laboratory method blanks, and duplicate samples. Field and trip blanks were analyzed for volatile organic compounds (VOCs) by EPA Method 8260. Laboratory method blanks were analyzed for all monitoring parameters, and duplicate samples were analyzed for the same list of parameters required for its corresponding primary sample. Blank sample results are summarized in Tables 3A and 3B. Duplicate sample results are presented in Tables 4A and 4B. The results of the QA/QC sampling program are as follows:

First Quarter 2020 Monitoring Event

- All analyses were completed within the recommended holding times prescribed by the respective analytical method.
- As indicated on Table 3A, no constituents were detected in QA/QC blank samples.
- As shown in Table 4A, the relative percent difference (RPD) between quantifiable primary and duplicate water quality samples was typically four percent or less, while the primary and duplicate results for total alkalinity had higher variation (PRD of 27 percent).

Second Quarter 2020 Monitoring Event

- All analyses were completed within the recommended holding times prescribed by the respective analytical method.
- As indicated on Table 3B, low concentrations of calcium and sodium were measured in method blank samples. However, the low concentrations of these metals did not affect the interpretation of primary sample results. In addition, acetone (a common laboratory contaminant) was measured at a quantifiable concentration in a method blank analyzed with samples collected on June 24, 2020. However, acetone was not detected in any primary samples collected on June 24, 2020.
- As shown on Table 4B, the RPD for quantifiable primary and duplicate sample results was nine percent or less.

The results of the QA/QC program completed during the first semiannual 2020 monitoring period are considered acceptable and representative of water quality at the site.

3.4 Groundwater Elevations

During the first semiannual 2020 monitoring period, quarterly depth to groundwater measurements were recorded on February 17 and June 22, 2020. Groundwater equipotential surface contours were developed for wells screened in bedrock using first and second quarter

2020 groundwater elevation data. Figures 3A and 3C depict groundwater elevation contours overlain on a topographic map for the February and June 2020 monitoring events (respectively). Because there is an underdrain system at the site which de-waters areas beneath landfill cells, groundwater contours mimic bottom of landfill liner elevations. Accordingly, Figures 3B and 3D depict groundwater contours for the February and June 2020 monitoring events (respectively), and include landfill liner elevations for clarity. As shown in these figures, groundwater generally mimics the canyon topography, converges at the base of the canyon, and flows to the southeast out the mouth of the canyon. The estimated horizontal groundwater velocity within the unweathered bedrock is approximately 1 to 10 feet per year (Geo-Logic Associates, 2009).

Comparison of groundwater elevations for wells screened in alluvium and bedrock suggest the possibility of appreciable vertical gradients may occur near the mouth of the canyon. Assuming communication between these water-bearing zones exists, the vertical gradient near the mouth of the canyon is approximately 0.1 ft/ft near well pairs MW-1/DW-5 and MW-2A/DW-4.

3.5 Groundwater Chemistry Results

Groundwater samples collected from site monitoring wells were analyzed for indicator parameters during the first quarter 2020 monitoring period, and for indicator and supplemental parameters during the second quarter 2020 monitoring period. Results for these sampling events are summarized on Tables 6A and 6B (respectively), and are discussed below. The field sample collection logs, laboratory data, certificates of analyses, and chain-of-custody records for the sampling program are included in Appendix B.

3.5.1 Fourth Quarter 2019 Retest Groundwater Chemistry Results

Groundwater monitoring results for the fourth quarter 2019 monitoring event indicated that concentrations of acetone at well MW-13R exceeded the intrawell WQPS. Because this constituent/well pair is not in tracking mode, retest samples were collected on January 22, 2020. The results are summarized in the following table.

WELL	ANALYTE	UNITS	WQPS	4 TH QUARTER 2019 RESULT	RETEST RESULT (1)	RETEST RESULT (2)
MW-13R	Acetone	µg/L	PQL (20)	450	ND	ND

Note: "ND" – Not detected.

As shown in the table above, acetone was not detected in either of the retest samples collected. Therefore, this constituent/well pair will remain in detection mode. Acetone is a common laboratory contaminant

3.5.2 First Quarter 2020 Groundwater Chemistry Results

During the first quarter 2020 monitoring event, samples from all monitoring wells were analyzed for the indicator parameters identified in Section II.B.3(a) of the MRP. These results are presented on Table 6A. Table 7A compares first quarter 2020 monitoring results with water quality protection standards (WQPS). The following table summarizes WQPS exceedances and verification retesting results (when applicable).

WELL	ANALYTE	UNITS	WQPS	1 ST QUARTER 2020 RESULT	RETEST RESULT (1)	RETEST RESULT (2)
MW-5	1,4-Dioxane	µg/L	1.0 (PQL)	4.8	TM	TM
	t-Butanol	µg/L	10 (PQL)	16	TM	TM
MW-13R	1,4-Dioxane	µg/L	0.99 (PQL)	7.4	TM	TM
	Ammonia-N	mg/L	7.732	44	TM	TM

Notes: Retesting only performed on analyte/well pairs not currently in Tracking Mode.

TM – Tracking Mode. No retesting required for analytes in Tracking Mode.

PQL - Practical Quantitation Limit.

ND –Not Detected.

All constituents exceeding respective intrawell WQPS listed in the table above have historically been detected and their presence confirmed in retest samples. Accordingly, these well/constituent pairs are currently in “tracking mode” and retesting is not required.

In addition to quantifiable VOCs measured in samples from the detection monitoring wells shown in the table above, a trace concentration of 1,4-dioxane was measured in well MW-1. With respect to corrective action evaluation monitoring wells, five VOCs (four quantifiable) were measured in the sample from well MW-9 and one VOC was measured at a quantifiable concentration in the sample from well MW-2A (Table 6A).

None of the analyte concentrations measured in samples collected during the first quarter 2020 monitoring period exceeded Federal or State drinking water Maximum Contaminant Levels

(Table 6A). However, TDS results for all monitoring wells exceeded state secondary drinking water standards.

3.5.3 Second Quarter 2020 Groundwater Chemistry Results

Groundwater samples obtained during the second quarter 2020 monitoring event were analyzed for the indicator and supplemental parameters (Table 2). Analytical results for these samples are presented on Table 6B. As summarized below, and shown in Table 7B, the following well/constituent pairs exceeded a WQPS.

WELL	ANALYTE	UNITS	WQPS	2 ND QUARTER 2020 RESULT
MW-1	1,4-Dioxane	µg/L	0.97 (PQL)	1.2
MW-5	1,4-Dioxane	µg/L	1.0 (PQL)	2.4
MW-13R	1,4-Dioxane	µg/L	0.99 (PQL)	4.6
	Ammonia-N	mg/L	7.732	9.7
DW-1	Total Dissolved Solids	mg/L	3600.2	4300
PZ-2	Chloride	mg/L	16.398	17

Note: PQL – Practical Quantitation Limit.

Most of the well/constituent pairs listed above are currently in “tracking mode” and retesting is therefore not required. However, verification retesting is scheduled for chloride at well PZ-2 and for TDS at well DW-1 and the retest results will be reported in the upcoming Second Semiannual 2020 Monitoring Report.

In addition to quantifiable VOCs measured in samples from the detection monitoring wells shown in the table above, trace concentrations of the following VOCs were measured: naphthalene at well MW-1, t-butanol at well MW-13R, toluene at well DW-5, and 1,4-dioxane at well PZ-2. With respect to corrective action evaluation monitoring wells, five VOCs (three quantifiable) were detected in the sample from well MW-9 and a trace VOC was detected in the sample from well MW-2A (Table 6B).

As shown on Table 6B, with respect to the routine indicator and supplemental monitoring parameters, concentrations of total dissolved solids, sulfate, fluoride, iron, and manganese

exceed State of California primary (fluoride) or secondary drinking water standards in samples from many site monitoring wells, including upgradient (background) monitoring wells. Comparison of upgradient and downgradient water quality data suggests significant natural spatial variability exists at the site.

3.5.4 Tracking Mode Evaluation

No new well/constituent pairs were added to “tracking mode” during the current monitoring period. The following table summarizes the status of well/constituent pairs in “tracking mode”:

WELL	PARAMETERS IN TRACKING MODE	TRACKING MODE PARAMETERS EXCEEDING WQPS DURING THE CURRENT MONITORING PERIOD	PENDING EXCEEDANCES	PLANNED ACTION
MW-1	1,4-Dioxane, t-Butanol	1,4-Dioxane	None	Continue Quarterly Monitoring
MW-5	1,4-Dioxane, t-Butanol, Tetrahydrofuran, Alkalinity, Ammonia-N	1,4-Dioxane, t-butanol	None	Continue Quarterly Monitoring
MW-13R	1,4-Dioxane, Potassium, Ammonia-N, COD	1,4-Dioxane, Ammonia-N	None	Continue Quarterly Monitoring
MW-14	Alkalinity, TDS	None	None	Continue Quarterly Monitoring
DW-1	None	Not applicable	Total Dissolved Solids	Verification Retesting
DW-3	Alkalinity, Ammonia-N	None	None	Continue Quarterly Monitoring
DW-5	Ammonia-N, Allyl Chloride	None	None	Continue Quarterly Monitoring

WELL	PARAMETERS IN TRACKING MODE	TRACKING MODE PARAMETERS EXCEEDING WQPS DURING THE CURRENT MONITORING PERIOD	PENDING EXCEEDANCES	PLANNED ACTION
PZ-2	None	not applicable	Chloride	Verification Retesting
PZ-4	Alkalinity, Ammonia-N	None	None	Continue Quarterly Monitoring

Time-series charts depicting well-analyte pairs in tracking mode are presented in Appendix G. The following table summarizes trends in the data.

WELL/ANALYTE PAIR	CONCENTRATION LIMIT	1 ST QUARTER RESULTS	2 ND QUARTER RESULTS	HISTORICAL TRENDS AND OBSERVATIONS
MW-1: 1,4-Dioxane	PQL	0.85j	1.2	Decreasing trend over last 5 years.
MW-1: t-Butanol	PQL	ND	ND	Variable (cyclic) concentrations typically between 8 µg/L and 22 µg/L. No detections in 2019 or 2020.
MW-5: 1,4-Dioxane	PQL	4.8	2.4	Consistently measured above the PQL. Decreasing trend since 2018
MW-5: t-Butanol	PQL	16	ND	Six recent measurements above PQL at variable concentrations. Most recently not detected.
MW-5: Ammonia-N	5.714 mg/L	4.0	3.8	Concentrations below WQPS during last 7 monitoring events.
MW-5: Alkalinity	727.34 mg/L	560	530	Rarely detected at concentrations above WQPS.
MW-5: Tetrahydrofuran	PQL	ND	ND	One measurement above WQPS.
MW-13R: 1,4-Dioxane	PQL	7.4	4.6	Variable concentrations between 4 µg/L and 11 µg/L during the last five years.
MW-13R: Potassium	27.224 mg/L	24	23	Above WQPS in 2017 and 2018. Recently concentrations have been trending downward.
MW-13R: Ammonia-N	7.732 mg/L	44	9.7	Typically near WQPS (above or below) except one outlier well above WQPS in 2020.

WELL/ANALYTE PAIR	CONCENTRATION LIMIT	1 ST QUARTER RESULTS	2 ND QUARTER RESULTS	HISTORICAL TRENDS AND OBSERVATIONS
MW-13R: COD	407.58 mg/L	190	200	Only two historical measurements above WQPS.
MW-14: Alkalinity	587.83	340	320	Variable concentrations typically below the WQPS.
MW-14: TDS	5128.5	3300	3500	Variable concentrations since 2017. Typically below the WQPS.
DW-3: Alkalinity	162.81 mg/L	150	160	Results are typically very near (both above and below) the WQPS.
DW-3: Ammonia as N	0.7564 mg/L	0.62	0.57	Results are typically very near (above & below) the WQPS, except for four anomalous results in 2014, 2016, 2018, and 2019.
DW-5: Ammonia as N	0.3918 mg/L	0.21	0.30	Results are typically very near (both above and below) the WQPS, with a few historical outliers.
DW-5: Allyl Chloride	PQL	ND	ND	Intermittent detections.
PZ-4: Alkalinity, total	341.13 mg/L	320	320	Concentrations are generally below or slightly above the WQPS.
PZ-4: Ammonia-N	2.976	2.6	2.8	Only two historical measurements slightly above the WQPS.

Note: **Bolded Red** = Concentration Limit Exceeded.

ND = Not Detected.

j = Estimated-trace concentration.

As shown on the charts in Appendix G, VOCs in tracking mode are often detected sporadically and at variable concentrations. Constituents in tracking mode that have not exceeded a respective concentration limit in more than three years are removed from tracking mode and re-verified if detected in the future. During the monitoring period, chloromethane at well PZ-4 and COD at well MW-6 removed from tracking mode.

4. Vadose Zone Monitoring

Monitoring of the vadose zone at the SCLF is accomplished by collecting samples from the subdrains beneath composite liner systems at the site as well as from the pan lysimeters constructed beneath the leachate collection sumps for the lined portions of the landfill.

4.1 Subdrain Monitoring

Order No. R4-2008-0088 requires quarterly monitoring of landfill subdrain systems. As with groundwater, samples from each subdrain collection point are analyzed for indicator parameters on a quarterly basis and for supplemental parameters on a semiannual basis.

4.1.1 Subdrain Liquid Monitoring Points

Currently, the SCLF is equipped with four subdrain sampling points: Subdrain N, CC2-PER, CC2-5AC, and CC2-3A. Samples for CC2-PER, CC2-5AC, and CC2-3A are composited as one sample called "Combined Subdrains". Accordingly, samples obtained from locations Subdrain N and Combined Subdrains are submitted for laboratory analyses.

Subdrain N liquid samples are collected from a port on the influent line to the facility's water treatment system, located near San Fernando Road. This sample represents the combined flow from subdrain collection systems installed beneath County Landfill disposal Phases I through V, and Cells A and CC-1 of City Landfill Unit 2.

Subdrain CC2-5AC liquid samples are pumped from a temporary vertical riser pipe located southeast of disposal Cell CC-3A, Part 1. The CC2-5AC liquid samples represent groundwater seepage to a subdrain collection system that underlies the southwest corner of Cell CC-2 at depths of approximately 10 to 30 feet below the CC-2/CC-3A, Part 1 liner system.

Samples from Subdrain CC2-PER are collected from a temporary outlet pipe located southeast of disposal cell CC-3A, Part 1. These samples represent groundwater seepage collected beneath the western margin of disposal cell CC-2. The subdrain CC2-PER collection system is approximately 10 feet below the CC-2/CC-3A Part 1 liner system and is perforated only along the western edge of CC-2 liner system. The CC2-PER subdrain system is hydraulically separated from adjacent (and partially overlapping) portions of subdrain liquid collection system CC2-5AC.

Subdrain CC2-3A likely collects liquids from the area of unlined City Landfill Unit 1. Because of the likelihood of landfill impacts to subdrain CC2-3A liquids, this subdrain outlet was established with an angled riser and dedicated pumping system, so that liquids are collected and discharged to the sewer (City of Los Angeles Bureau of Sanitation permit W-535428). Subdrain CC2-3A liquid samples are collected from pumped discharge from this angled riser.

4.1.2 First Quarter 2020 Subdrain Monitoring Results

During the first quarter 2020 monitoring event, samples from each subdrain monitoring point were collected on February 17 and 18, 2020. Samples were delivered to Eurofins for the indicator parameters.

As shown on Table 8A, the sample from Subdrain N contained 10 VOCs with a total concentration of 110.69 µg/L. The sample from Combined Subdrains contained six VOCs with a total concentration of 26.45 µg/L. These results are generally similar to those measured during the previous monitoring period. All VOC concentrations were measured below State and federal drinking water standards. Concentrations of TDS in both of the subdrain samples and chloride in the Subdrain N sample exceeded respective state secondary drinking water standards.

4.1.3 Second Quarter 2020 Subdrain Monitoring Results

During the second quarter 2020 monitoring event, samples from subdrain monitoring points were collected on June 22 and 23, 2020. Samples were delivered to Eurofins for the analysis of indicator and supplemental parameters.

As shown on Table 8B, eight VOCs were detected in the sample from Subdrain N and seven VOCs were detected in the sample from Combined Subdrains, with total VOC concentrations of 103.65 µg/L and 41.68 µg/L (respectively). With the exception of benzene in the sample from Subdrain N, all VOC concentrations were measured below State and federal drinking water standards.

Concentrations of sulfate, TDS, iron, and manganese in both subdrain samples and the concentration of chloride in the sample from Subdrain N exceeded State secondary drinking water standards.

Liquids discharged from subdrains at the SCLF are discharged to the sewer under City of Los Angeles Bureau of Sanitation permit W-535428.

4.2 Lysimeter Monitoring

Order No. R4-2008-0088 requires construction and monitoring of lysimeters beneath landfill liner systems. On a quarterly basis, the lysimeters are monitored for the presence of liquids, and sampled if the liquid volume is sufficient. Liquids are pumped through a discharge line from the

riser pipes and grab samples are collected, and analyzed for the Order-specific list of indicator parameters (quarterly) and supplemental parameters (semiannually).

4.2.1 Lysimeter Monitoring Points

The SCLF is currently equipped with two lysimeters: LY-6 and LY-7 (Figure 2). LY-6 monitors conditions beneath the County Landfill leachate sump, and is accessed through a 600-foot-long inclined riser at the east side of the Phase V disposal area. Lysimeter LY-7 monitors the conditions between the primary and secondary liners of City Landfill Unit 2, and is accessed using a 360-foot-long inclined riser at the east side of Cell A.

4.2.2 First Quarter 2020 Lysimeter Monitoring Results

A sample was collected from LY-7 on February 19, 2020. As shown on Table 8A, six VOCs were measured in the sample from LY-7 with a total VOC concentration of 406.84 µg/L, which is typically similar to recent results. The majority of VOCs in the sample from LY-7 are in the form of t-butanol, which had a concentration of 380 µg/L. No VOC concentrations exceeded a State or federal primary drinking water standard, though the concentration of chloride, TDS, and MTBE exceeded the State of California secondary (e.g., aesthetic) drinking water standard. LY-6 was dry during the monitoring event.

4.2.3 Second Quarter 2020 Lysimeter Monitoring Results

A sample was collected from LY-7 on June 23, 2020. As shown on Table 8B, seven VOCs were detected in the sample from LY-7 with a total concentration of VOCs was 132.03 µg/L. No VOC concentrations exceeded a State or federal drinking water standard, though the concentrations of chloride, sulfate, TDS, iron, and manganese exceeded State secondary drinking water standards. LY-6 was dry during the monitoring event.

5. Vadose Zone Gas Monitoring

Gas monitoring of the vadose zone is conducted on a monthly basis to comply with Order No. R4-2008-0088 and South Coast Air Quality Management District Rule 1150.1. Vadose zone gas monitoring is conducted by SCS Engineers and includes field screening for methane, carbon dioxide, oxygen, balance gases, and pressure at perimeter probes and upper subdrain

termination points. The locations of vadose zone gas monitoring points are shown on Figure 4. Field reports prepared by SCS Engineers are provided in Appendix C.

During the first semiannual 2020 monitoring period, screening of the permanent vadose zone monitoring locations was conducted on a monthly basis. As shown on Table 9, methane was detected at very low concentrations in several probes; however, no results exceeded five percent by volume (%V). The highest concentration of methane measured during the monitoring period was 2.9 %V at probe P-205R.

6. Surface Water Monitoring

This section of the report presents the results of the storm water, stream diversion, and seeps and spring monitoring activities conducted during the first semiannual 2020 monitoring period. Locations of surface water sampling points are shown on Figure 2.

6.1 NPDES Stormwater Monitoring

Landfill personnel periodically monitor the quality of storm water as part of the general NPDES Permit adopted for the facility, and additional storm water monitoring is conducted as part of the SCLF waste acceptance monitoring program. Stormwater samples were collected on January 21, March 13, and April 8, 2020 during the monitoring period. Sampling results are summarized in Table 10.

6.2 Stream Diversion Monitoring

During the first semiannual 2020 monitoring period, construction activities at the facility were subject to requirements of Stream Bed Alteration Agreement #R5-2003-0005, adopted by the California Department of Fish and Game, though no monitoring of stream water quality was required during the current monitoring period.

6.3 Other Surface Water Monitoring

No new seeps or springs were identified during the current monitoring period.

7. Leachate Monitoring

In accordance with Order No. R4-2008-0088, leachate is to be monitored on an annual basis during the month of October. Grab samples are collected from leachate sumps and are analyzed for 40 CFR Appendix II analytes that are not already a COC for the landfill. Retesting of newly-identified 40 CFR Appendix II constituents (constituents measured at or above respective PQLs) is conducted in April. Those analytes that are present in both the primary and retest samples at concentrations equal to or above respective PQLs are added to the site-specific list of COCs.

The SCLF was equipped with two discrete leachate monitoring points (Figure 2):

- Leachate sample location "LR-2R" monitors leachate accumulation near the base of unlined City Landfill Unit 1.
- Leachate from lined cells (County Landfill Phases I through V and City Landfill Unit 2) collects to a sump and is pumped to above ground tanks before being discharged to the sewer under City of Los Angeles Bureau of Sanitary permit W-535428. This location is referred to as "Deep Leachate" which represents a composite mixture of leachate from all lined cells at the SCLF. Samples are collected from a sample port on a pipe prior to the above ground tanks.

Leachate samples were collected from monitoring point "Deep Leachate" and "LR-2R" on October 29, 2019. Based on the results obtained, retest samples were collected on April 15, 2020 for sulfide at LR-2R and for VOCs, SVOCs, and select metals measured above respective practical quantitation limits. Leachate monitoring results are summarized on Table 11.

8. Liquid Generation and Management

Ongoing waste disposal operations at the SCLF result in the generation of significant volumes of liquids, including leachate, landfill gas condensate, subdrain liquids, groundwater collected at the extraction trench, groundwater sampling purge water, and seepage water. In accordance with Order No. R4-2008-0088, the volume of water collected, treated, used onsite, and discharged offsite from each source are required to be recorded on a monthly basis (Table 12).

8.1 Liquid Management

During the first semiannual 2020 monitoring period, approximately 32,915,754 gallons of liquid were collected from the SCLF and transferred to the sewer (Table 12; under City of Los Angeles Bureau of Sanitary permit W-535428). In order to supplement water needs, the site purchased approximately 23,344,033 gallons of water from the City of Los Angeles Department of Water and Power (Table 12).

9. Drainage Structure Monitoring

Order No. R4-2008-0088 requires periodic site inspections as part of the site's current NPDES storm water permit. Between October and April of each year, inspections are to be conducted following each storm that produces significant runoff or on a monthly basis if no storm event produces significant runoff during this period. Between May and September, inspections are to be made on a quarterly basis. Each inspection is to include the following "standard observations":

- Evidence of surface water leaving or entering the site, including an estimate of the size of the affected area and the estimated flow rate;
- Presence or absence of odors, including characterization, source, and distance of travel from the source;
- Evidence of erosion and/or exposed refuse;
- Inspection of all storm water discharge locations for evidence of non-storm water discharges (during dry season) and integrity (during wet season);
- Evidence of ponded water at any point on the waste management facility (show affected areas on a map); and
- Assessment of compliance with the facility's Storm Water Pollution Prevention Plan, including proper implementation of the terms of the General NPDES Storm Water Permit.

During the first semiannual 2020 monitoring period, the required standard observations were made by site personnel. The site's NPDES certification of completion for the first semiannual 2020 monitoring period is included in Appendix D.

10. Waste Disposal Monitoring

During the first semiannual 2020 monitoring period, the quantity of municipal solid waste deposited at the SCLF was monitored daily. The monthly tonnages of waste deposited at the site are summarized in the following table.

MONTH	WASTE DISPOSAL TONNAGE	ESTIMATED VOLUME (CY)
January	207,093	279,855
February	181,305	245,007
March	204,853	276,828
April	221,365	299,142
May	230,169	311,039
June	217,410	293,797
January – June 2020 Totals:	1,262,195	1,705,669

Note: Waste volumes were calculated using an assumed 1480 pounds per cubic yard of waste.

As summarized in the preceding table, during the first semiannual 2020 monitoring period, approximately 1,262,195 tons of waste was disposed of at the SCLF. The remaining capacity at the SCL is estimated at approximately 72,563,400 cubic yards. Based on the currently approved maximum tonnage acceptance rate, the site has a remaining life of approximately 26 years.

The location of waste placement during the monitoring period is presented on a map in Appendix E.

During the first semiannual 2020 monitoring period, all waste loads accepted at the site were subjected to checking at the scale house. As certified in the transmittal letter for this report, the site allowed no unauthorized waste disposal during the current monitoring period. No wastes were deposited outside of the areas permitted to receive waste.

11. Waste Acceptance

As outlined in the Amended WDRs (March 11, 2011), generators delivering contaminated soils to the SCLF are required to demonstrate that the soil chemistry meets specific requirements through a specific sampling and analysis program. All non-designated, non-hazardous contaminated soils that are brought to the site are disposed of as wastes in the lined sections of the landfill. Accordingly, these soils are required to meet the requirements outlined in Section 2.2 of the Waste Acceptance Plan, Revision 1 (WAP; RMC Geosciences, Inc., 2014).

As required by the Amended WDRs and WAP, prior to delivery to the SCLF, generators are required to collect and analyze representative samples at the following frequency:

- Up to 1000 cubic yards: At least one sample for each 250 cubic yards.
- Between 1000 and 5000 cubic yards: At least 4 samples for the first 1000 cubic yards, and 1 sample for each additional 500 cubic yards.
- More than 5000 cubic yards: At least 12 samples for the first 5000 cubic yards, and 1 sample for each additional 1000 cubic yards.

Samples are required to be analyzed for potential site-specific contaminants by a certified analytical laboratory, and the results are provided to Republic for review, profile development, and determination of acceptability. Republic may request additional sampling or analyses to ensure compliance with the Amended WDRs and WAP.

Analytical results for special wastes are included in Appendix F and are summarized in Tables 14 through 16.

11.1 First Semiannual 2020 Waste Acceptance Results

The contaminated soil generators, analyses performed, type of special waste, and quantity of special waste disposed of during the monitoring period are summarized in Table 13.

When applicable, constituents measured at or above the Method Detection Limit (MDL) were then compared to calculated threshold limit concentrations as detailed in the site-specific Waste Acceptance Plan, Revision 1 (RMC Geosciences, Inc., 2014), and determined to be acceptable for disposal in lined cells if the measured concentrations were below these levels. As stipulated in the Amended WDRs, wastes containing analytes that exceed PRG or CHHSL levels may be accepted if the analyte concentrations do not exceed the respective State of California

Hazardous Waste levels (as listed in Title 22 of the California Code of Regulations Section 66261.24) and Total Designated Levels (as calculated following the guidelines in Section C.3 of the Amended WDRs), whichever is lower. When comparing analyte concentrations to California hazardous waste levels, the total analyte concentration must be below its respective Total Threshold Limit Concentration (TTLC) and it must be below ten times the Soluble Threshold Limit Concentration (STLC). If a total analyte concentration is more than ten times the STLC value, then the sample must be submitted for a Waste Extraction Test to determine its soluble analyte concentration. To be considered acceptable, the soluble analyte concentration must also be below its respective STLC value.

All special wastes that were disposed of at the SCL during the first semiannual 2020 monitoring period met the waste acceptance requirements of the Amended WDRs and the site-specific WAP (Tables 14 through 16).

12. Summary

During the first semiannual 2020 monitoring period, groundwater elevations and chemistries were generally similar to past monitoring events. No evidence of a new release, or changes in existing release conditions, was identified.

Concentration limits were exceeded for VOCs at three of five shallow (alluvial) detection monitoring wells. Additionally, WQPS concentration limits were exceeded for inorganic constituents at two deep, bedrock monitoring detection monitoring wells. Based on retest results following concentration limit exceedances, no new constituent/well pairs were added to tracking mode during the monitoring period. Retest results are pending for second quarter 2020 exceedances of TDS at well DW-1 and chloride at well PZ-2. The results will be reported in the Second Semiannual 2020 Water Quality Monitoring Report. Due to insufficient WQPS exceedances in recent years, the following were removed from tracking mode: chloromethane at well PZ-4 and COD at well MW-6.

During the first semiannual 2020 monitoring period, methane concentrations did not exceed 5%V at any landfill gas monitoring probe during monthly monitoring.

No new seeps were identified during the first semiannual 2020 monitoring period.

Leachate, landfill gas condensate, groundwater extracted near the cut-off wall, and groundwater collected from subdrains at the SCLF were discharged to the Los Angeles City sanitary sewer system. Total volumes from each water source are shown in Table 12.

The following construction activities were completed during the monitoring period:

- Following construction in late 2019, approval of disposal operations within Cell CC-4, Part 3 was granted by the RWQCB on January 14, 2020.
- Construction of Cell CC-4, Part 4A commenced and construction completion is anticipated during the third quarter 2020.
- Several landfill gas collection and control system upgrades were completed during the first half of 2020, including installations/activations of:
 - 46 new replacement vertical extraction wells,
 - six horizontal gas collectors,
 - six horizontal to gabion cube collector connectors,
 - 35 dewatering pumps in vertical extraction wells,
 - new sump for flare #3.

References

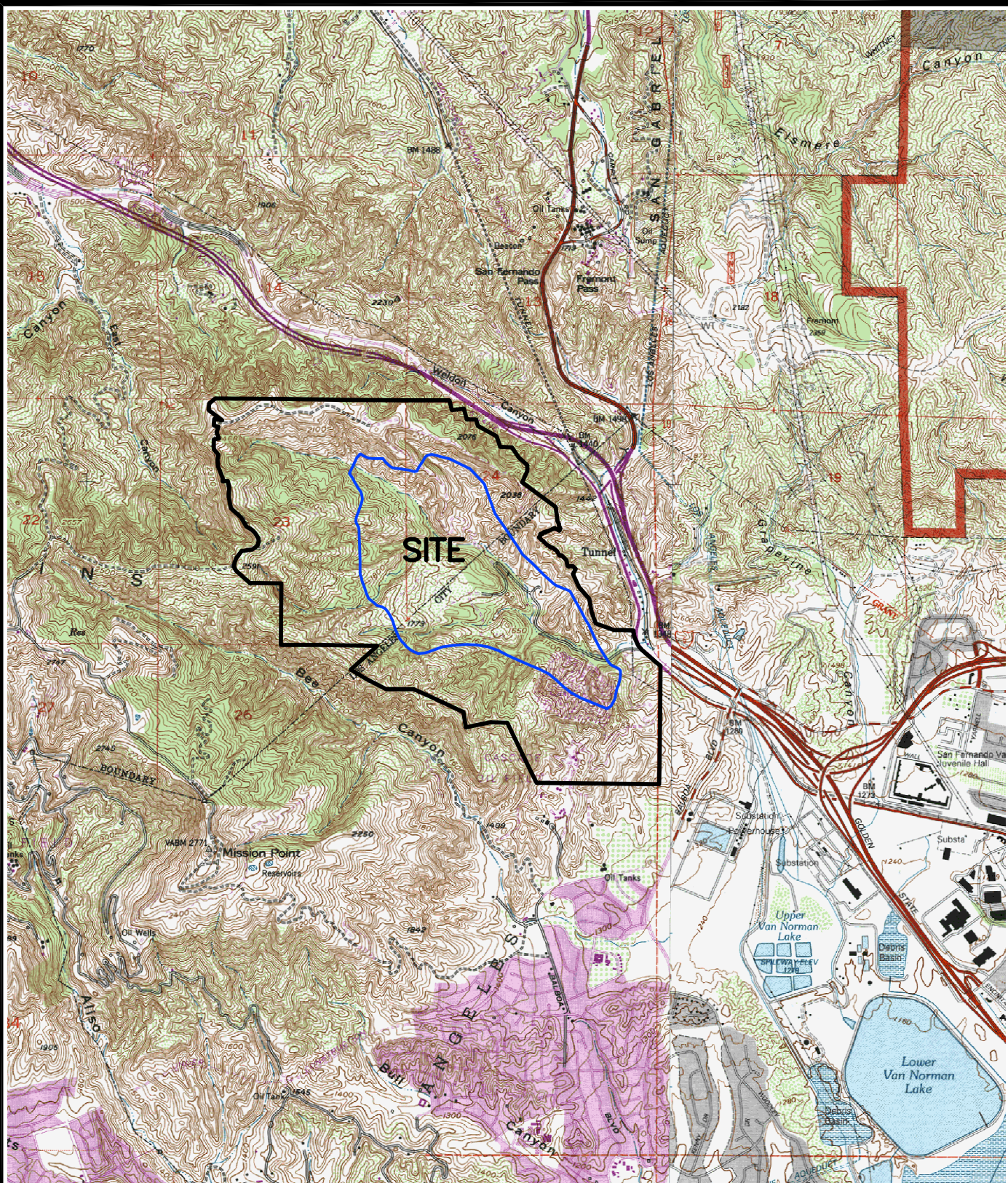
California Regional Water Quality Control Board, Los Angeles Region, 2008, "Order No. R4-2008-0088 – Corrective Action Program Waste Discharge Requirements for Browning-Ferris Industries of California, Inc. (Sunshine Canyon City/County Landfill), File No. 58-076," October 2, 2008.

California Regional Water Quality Control Board, Los Angeles Region, 2009, "Revised Monitoring and Reporting Program (No. CI-2043) for Browning-Ferris Industries of California, Inc. (Sunshine Canyon City/County Landfill), File No. 58-076," July 21, 2009.

RMC Geoscience, Inc., 2014 "Waste Acceptance Plan, Revision 1, Sunshine Canyon Landfill, Los Angeles County, California." December.

FIGURES

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GRAPHIC SCALE
1500 0 750 1500 3000
(in feet)

FIGURE 1

SITE LOCATION MAP

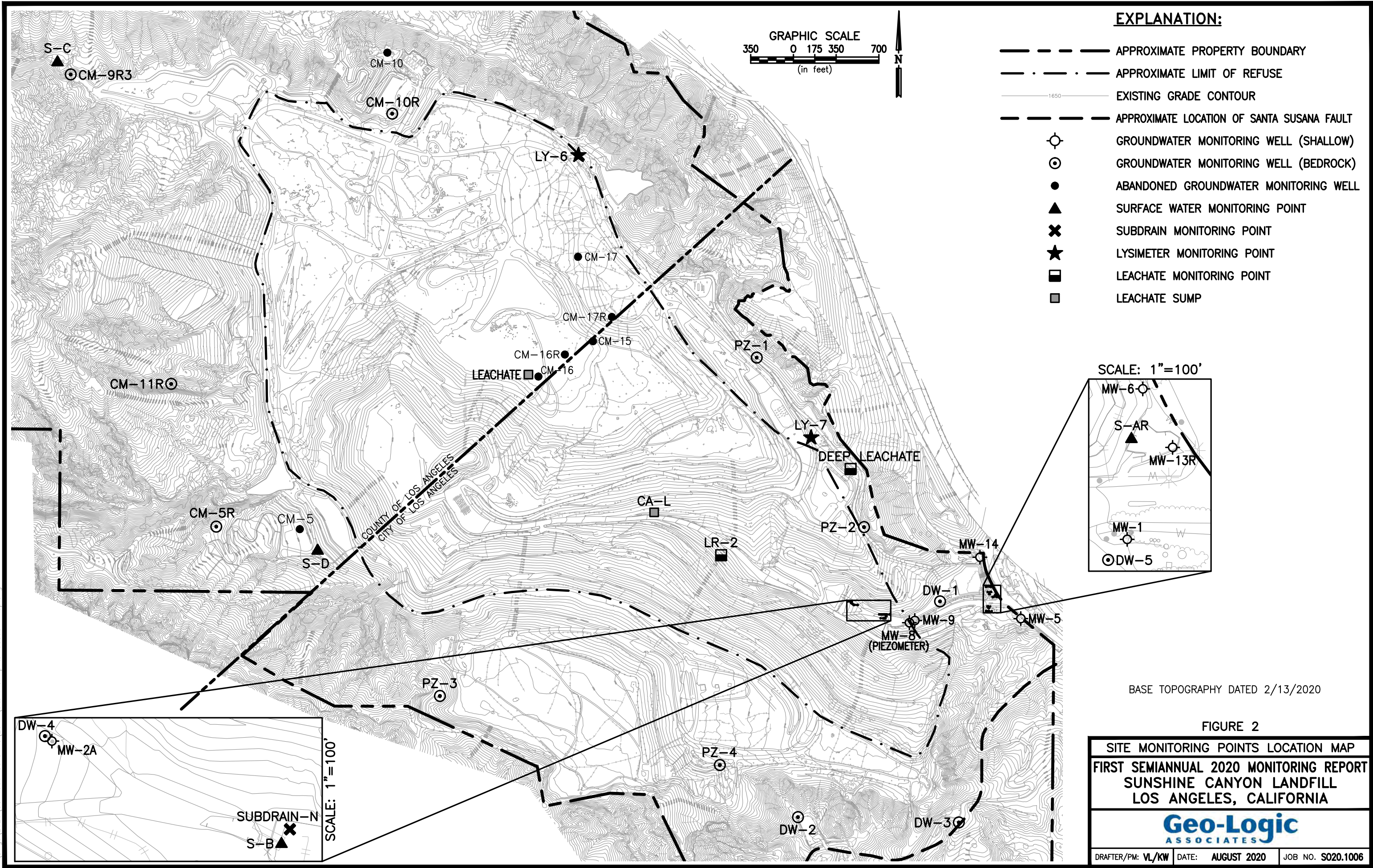
FIRST SEMIANNUAL 2020 MONITORING REPORT
SUNSHINE CANYON LANDFILL
LOS ANGELES, CALIFORNIA

Geo-Logic
ASSOCIATES

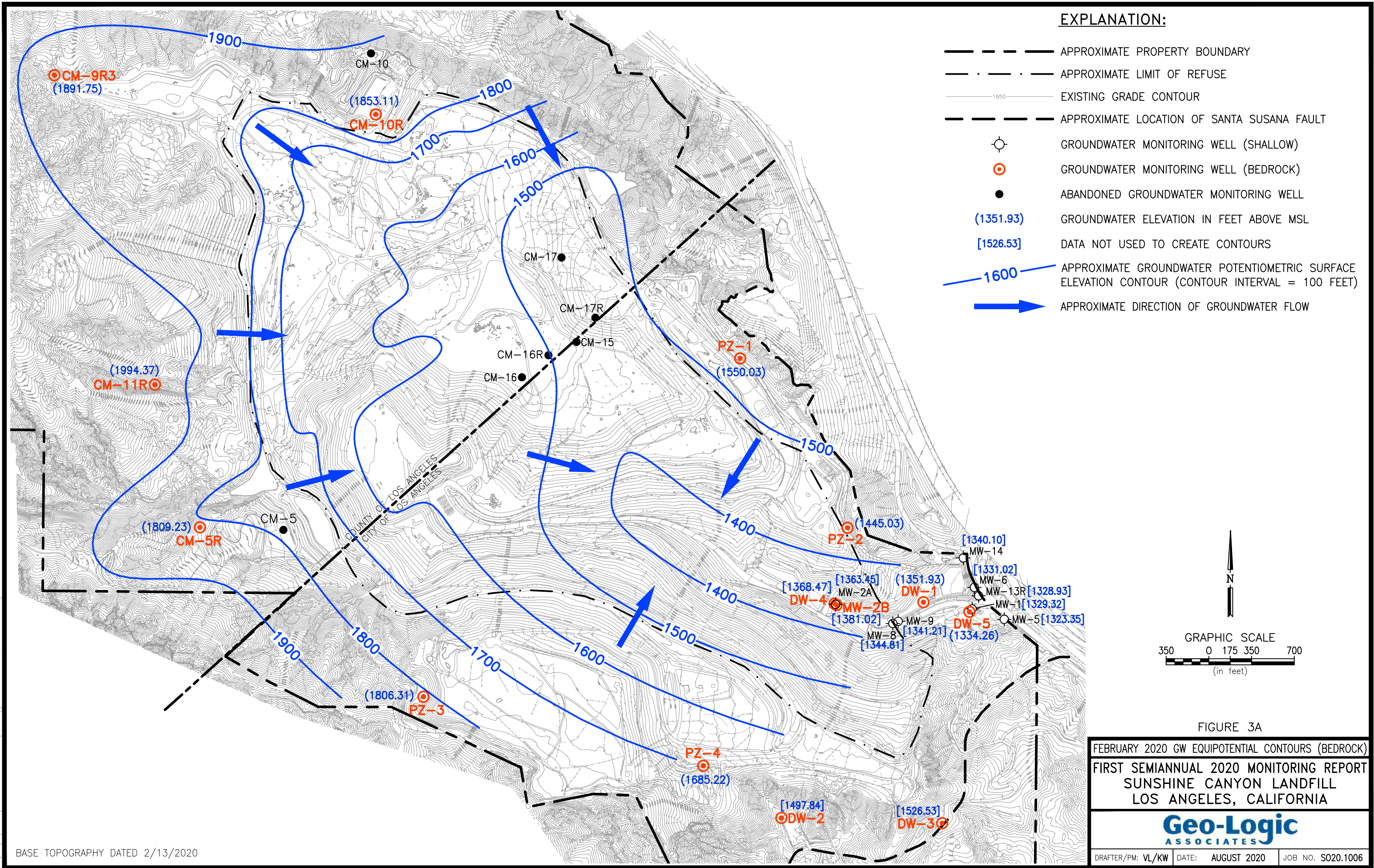
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REFERENCE: USGS 7.5 MINUTE SERIES (TOPOGRAPHIC) OAT MOUNTAIN (1969)
AND SAN FERNANDO (1995) CALIFORNIA QUADRANGLES.

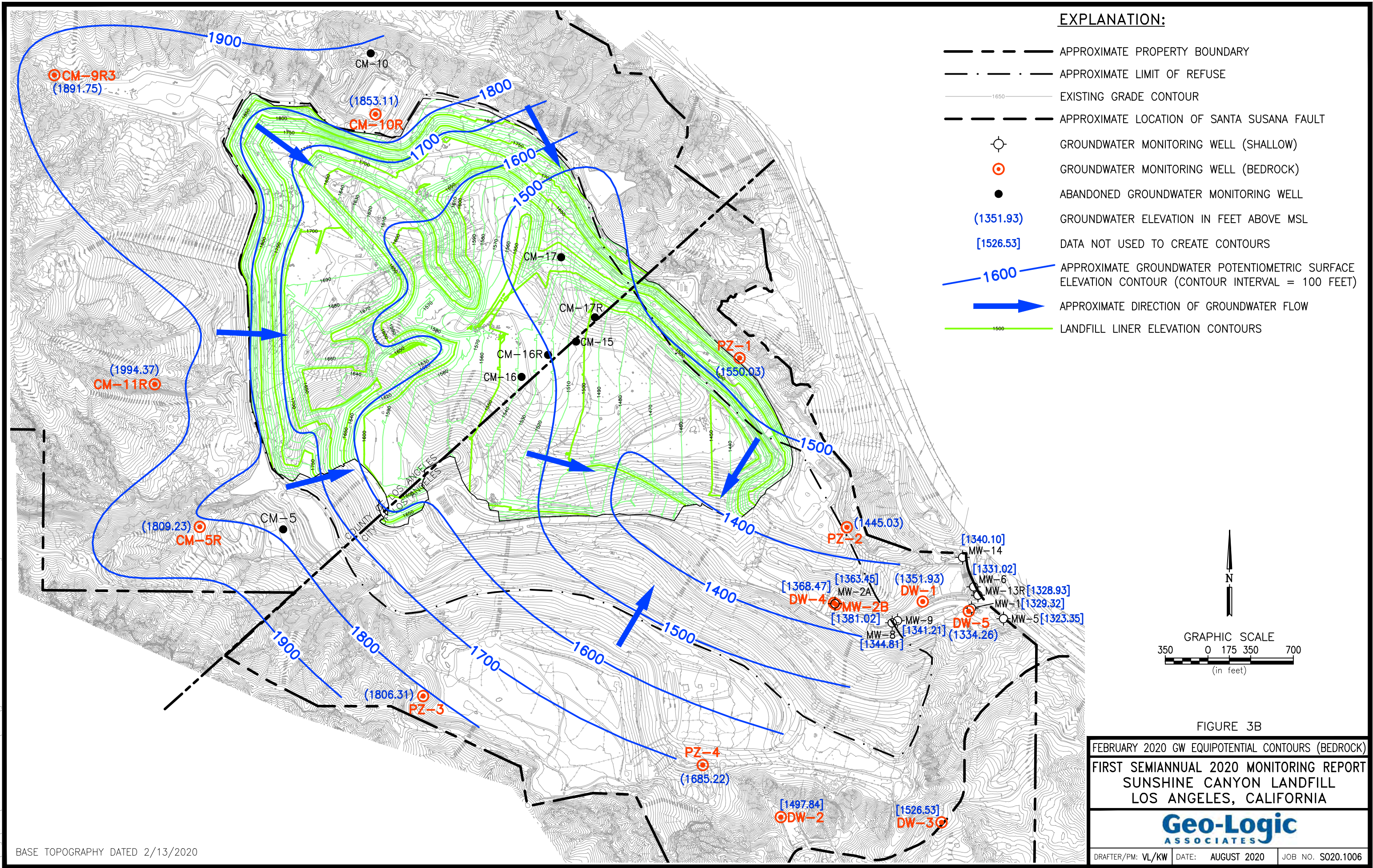
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BASE TOPOGRAPHY DATED 2/13/2020

FIGURE 3B

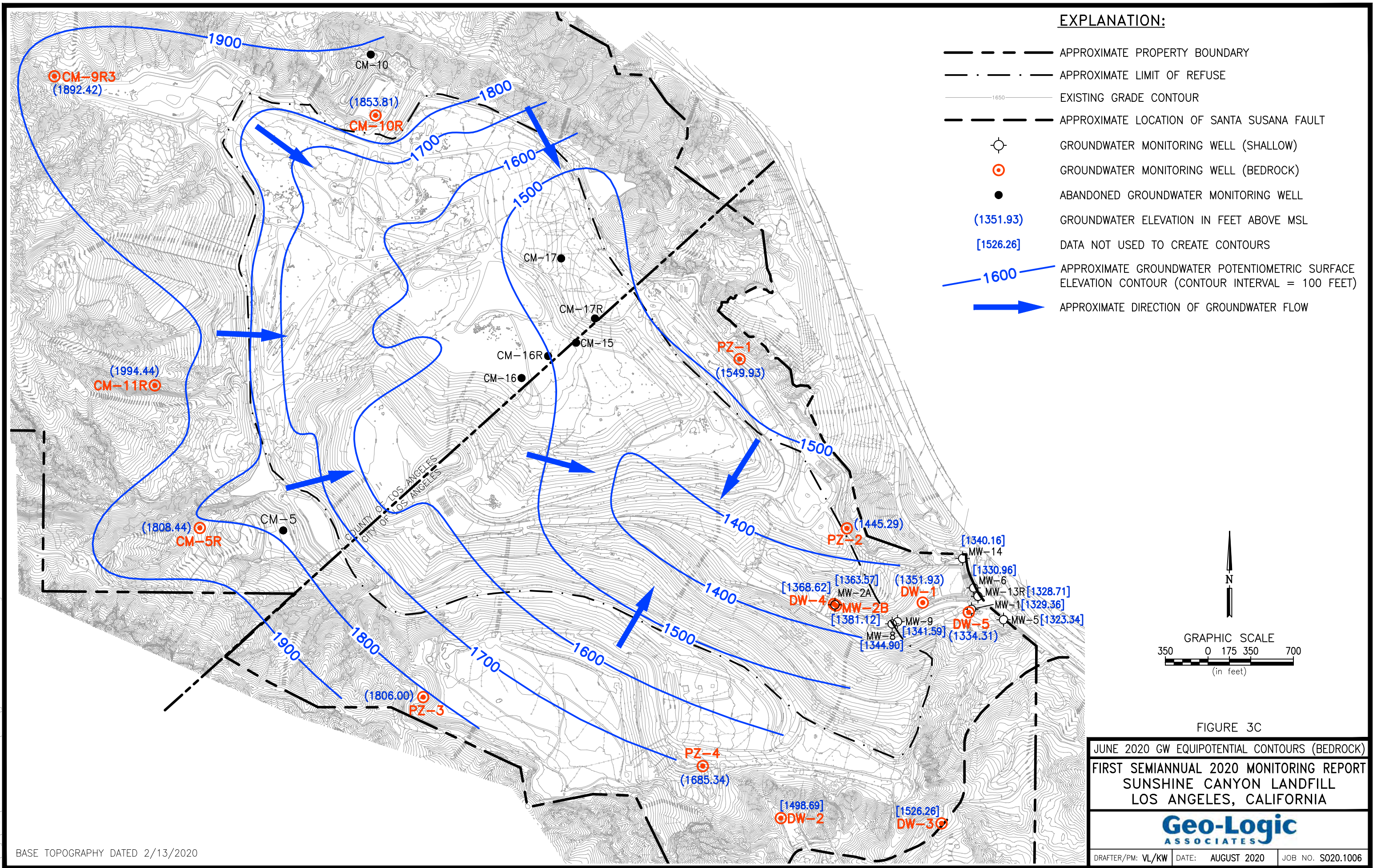
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FIRST SEMIANNUAL 2020 MONITORING REPORT
SUNSHINE CANYON LANDFILL
LOS ANGELES, CALIFORNIA

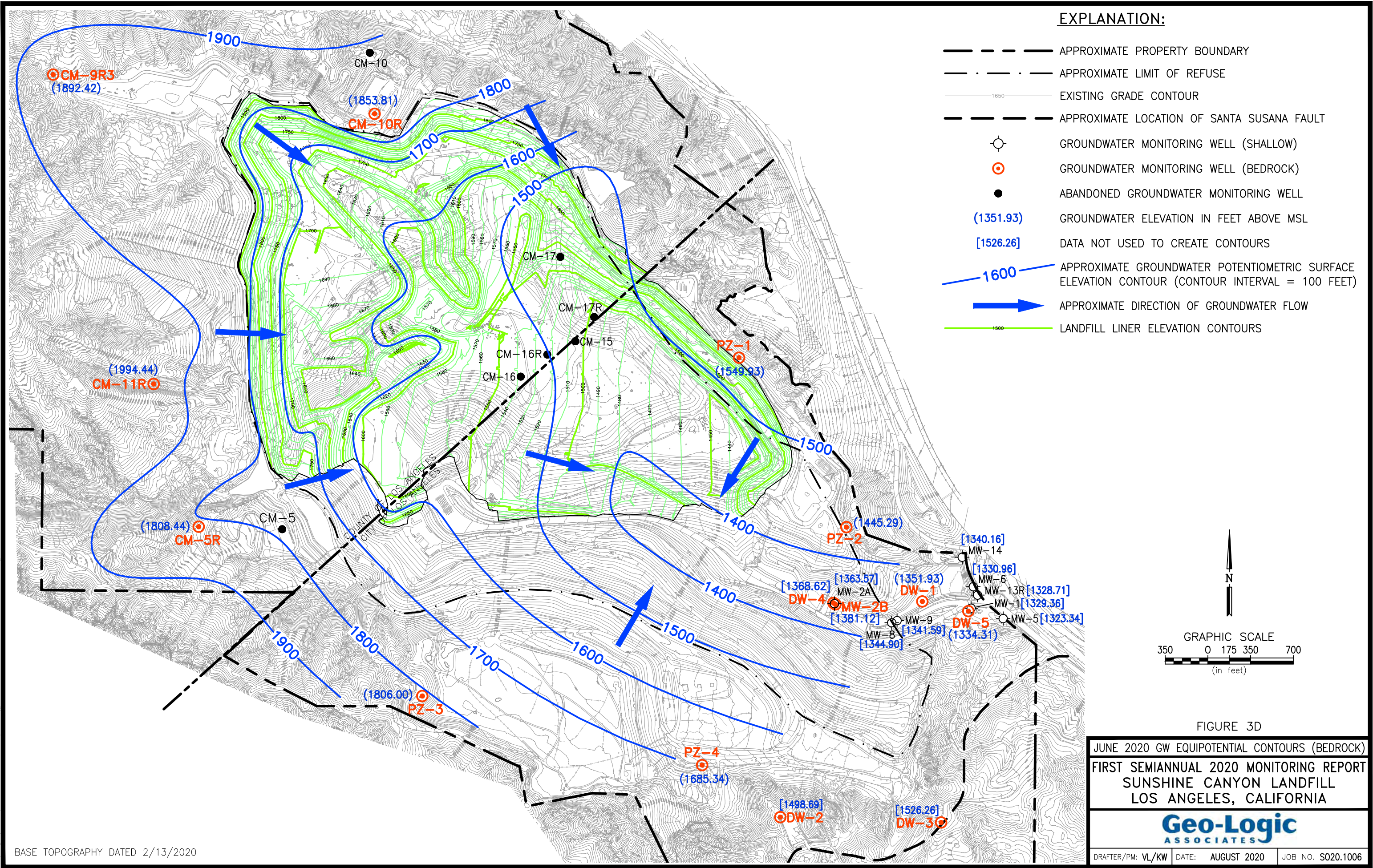
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ASSOCIATES

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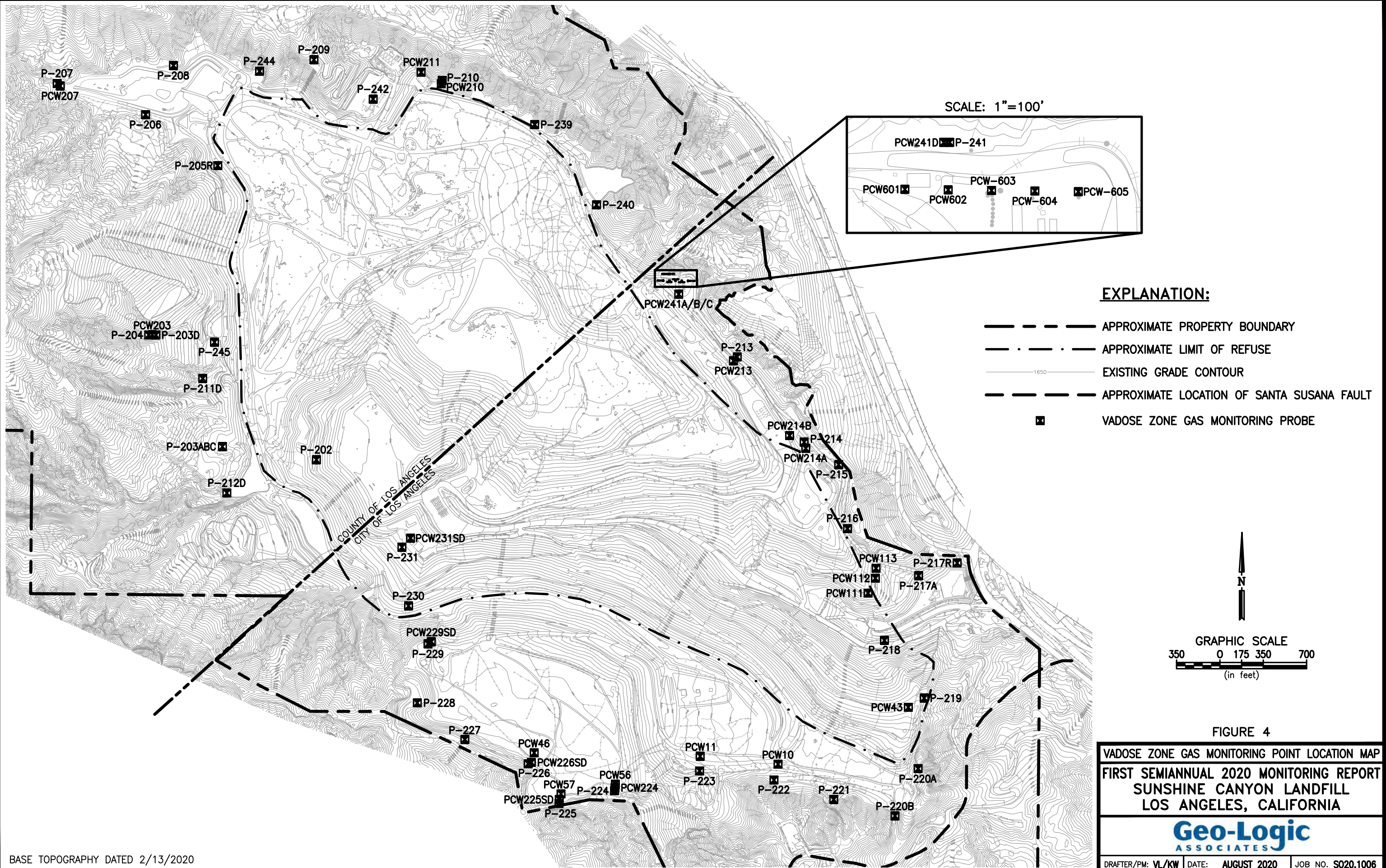
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TABLES

TABLE 1
REGULATORY COMPLIANCE CHECKLIST - MONITORING AND REPORTING PROGRAM CI-2043
SUNSHINE CANYON LANDFILL

MRP SECTION	REPORTING REQUIREMENT	REPORT SECTION
I.A.1	Transmittal Letter	Republic Transmittal Letter
	Discussion of Violations	Section 12; Republic Transmittal Letter
	Planned Corrective Actions (as applicable)	Section 12; Republic Transmittal Letter
	Signature of Owner/Operator Principal	Republic Transmittal Letter
	Statement of validity, accuracy, and completeness	Republic Transmittal Letter
I.A.2	Summary of Non-Compliance	Section 12; Republic Transmittal Letter
I.A.3	Site Conditions	Section 2
I.A.4	Narrative Description	
	Monitoring Parameters	Section 3.2, Table 2
	Groundwater Monitoring	Section 3
	Water Quality Protection Standards	Section 3.5, Tables 7A, 7B
	Statistical and Non-Statistical Data Analysis	Section 3.5, Tables 7A, 7B
	Groundwater Flow Monitoring	Section 3.4
	Leachate Monitoring	Section 7.0
	Vadose Zone Liquid Monitoring	Section 4.0
	Vadose Zone Gas Monitoring	Section 5.0
	Surface Water Monitoring	Section 6.0
	On-Site Water Use Monitoring	Section 8.0
	Seep and Trench Liquid Monitoring	Section 8.0
I.A.5	Laboratory Results	
	Groundwater	Appendix B, Tables 6A and 6B
	Subdrain and Lysimeter Liquid	Appendix B, Tables 8A and 8B
	NPDES Monitoring	Table 10
	Stream Diversion	Section 6.2
	Spring Water	Section 6.3, Appendix D
	Leachate	Appendix B; Table 11
	Trench Liquid	Appendix B
	Non-Target Volatile Organic Compounds	Appendix B
	QA/QC Sample Results	Section 3.3, Tables 3A, 3B, 4A, and 4B, Appendix B
I.A.6	Summary and Certification of Standard Observation in accordance with NPDES requirements	Appendix D
I.A.7	Summary of total volumes of liquids, on a monthly basis, of landfill leachate, condensate, and subdrain water.	Table 12
	Method of managing landfill-generated liquids.	Section 8.0
I.A.8.a	Table of estimated average monthly quantities of deposited waste (tons and cubic yards)	Section 10.0; Appendix E
I.A.8.b	An estimate of the remaining capacity (in tons and cubic yards) and the remaining life of the site in years and months.	Section 10.0
I.A.8.c	Certification that all wastes comply with RWQCB requirements and were placed within the permitted boundary.	Republic Transmittal Letter
I.A.8.d	Description and estimated flow rate of seeps and springs.	Appendix D
I.A.8.e	Estimated amount of water used for landscape irrigation, dust suppression, and operations.	Table 12
I.A.8.f	Date, source, quantity, description, and management of unacceptable wastes received at the facility.	Section 10.0
I.A.9	Map showing waste disposal locations	Appendix E
	Map showing monitoring locations	Figure 2; Figure 4
	Map showing groundwater contours	Figures 3A and 3B
I.B.1	Discussion of compliance record, monitoring system changes, construction plans, corrective action milestones, etc.	Section 12.0
I.B.2	Graphical Presentation of Analytical Data	Appendix H
I.B.3	Analytical data presented in tabular form	Appendix I

TABLE 2
ANALYTICAL PARAMETERS AND METHODS
SUNSHINE CANYON LANDFILL

Parameter	Typical USEPA Method	Frequency
<u>Indicator Parameters</u>		
Liquid Level	Field	Quarterly
Alkalinity, total	310.1	Quarterly
Ammonia as Nitrogen	350.2	Quarterly
Chemical oxygen demand (COD)	410.2	Quarterly
Chloride	300.0	Quarterly
Potassium, total	6010B	Quarterly
Total Organic Carbon (TOC)	415.1	Quarterly
Total Dissolved Solids (TDS)	160.1	Quarterly
Volatile Organic Compounds (Appendix I, MTBE, TBA, dichlorodifluoromethane, tetrahydrofuran, and carbon disulfide)	8260B	Quarterly
1,4-Dioxane	8270 or 8260SIM	Quarterly
<u>Supplemental Parameters</u>		
pH	Field	Semiannual
Electrical Conductivity (EC)	Field	Semiannual
Temperature	Field	Semiannual
Turbidity	Field	Semiannual
Bicarbonate as CaCO ₃	310.1	Semiannual
Boron, total	6010B	Semiannual
Bromide	300.0	Semiannual
Calcium, total	6010b	Semiannual
Carbon dioxide	SM4500-CO ₂	Semiannual
Fluoride	340.2	Semiannual
Iron, total	6010B	Semiannual
Magnesium, total	6010B	Semiannual
Manganese, total	6010B	Semiannual
Nitrate-N	300.0	Semiannual
Sodium, total	6010B	Semiannual
Sulfate	300.0	Semiannual
Sulfide	376.2	Semiannual
<u>Constituents of Concern (COCs)</u>		
		(Last conducted June 2016)
Antimony (dissolved)	6010B	Every Five Years
Arsenic (dissolved)	200.8	Every Five Years
Barium (dissolved)	6010B	Every Five Years
Beryllium (dissolved)	6010B	Every Five Years
Chromium (dissolved)	6010B	Every Five Years
Cobalt (dissolved)	6010B	Every Five Years
Copper (dissolved)	6010B	Every Five Years
Lead (dissolved)	6010B	Every Five Years
Mercury (dissolved)	7470	Every Five Years
Nickel (dissolved)	6010B	Every Five Years
Selenium (dissolved)	6010B	Every Five Years
Silver (dissolved)	6010B	Every Five Years
Thallium (dissolved)	6010B	Every Five Years
Tin (dissolved)	6010B	Every Five Years
Vanadium (dissolved)	6010B	Every Five Years
Zinc (dissolved)	6010B	Every Five Years
Semivolatile Organic Compounds	8270	Every Five Years
Any other pollutants that are detected in leachate	Various	Every Five Years
		(Next COC Sampling: Dec 2021)

TABLE 3A
SUMMARY OF BLANK SAMPLE RESULTS - FIRST QUARTER 2020
SUNSHINE CANYON LANDFILL

Primary Sampling Date	Blank Sampling Date	Blank Sample Collection Type	Reported Analytes
2/17/20	2/17/20	QCAB	None Detected
	2/17/20	QCTB	None Detected
	2/17/20	Method Blank	None Detected
2/18/20	2/18/20	QCAB	None Detected
	2/18/20	QCTB	None Detected
	2/18/20	Method Blank	None Detected
2/19/20	2/19/20	QCAB	None Detected
	2/19/20	QCTB	None Detected
	2/19/20	Method Blank	None Detected

TABLE 3B
SUMMARY OF BLANK SAMPLE RESULTS - SECOND QUARTER 2020
SUNSHINE CANYON LANDFILL

Primary Sampling Date	Blank Sampling Date	Blank Sample Collection Type	Reported Analytes
6/22/20	6/22/20	QCAB	None Detected
	6/22/20	QCTB	None Detected
	6/22/20	Method Blank	Calcium: 0.0830j mg/L, 0.106 mg/L; Sodium 1.02 mg/L
6/23/20	6/23/20	QCAB	None Detected
	6/23/20	QCTB	None Detected
	6/23/20	Method Blank	Calcium: 0.0830j mg/L, 0.0648j mg/L; Sodium 1.47 mg/L
6/24/20	6/24/20	QCAB	None Detected
	6/24/20	QCTB	None Detected
	6/24/20	Method Blank	Acetone: 39.3 µg/L, Calcium: 0.0648j mg/L, Sodium: 1.47 mg/L

j: Indicates a trace concentration (between the Method Detection Limit and Practical Quantitation Limit).

TABLE 4A
SUMMARY OF DUPLICATE SAMPLE RESULTS - FIRST QUARTER 2020
SUNSHINE CANYON LANDFILL

ANALYTE	CM-11R 2/17/20	DUPLICATE 2/17/20	RELATIVE PERCENT DIFFERENCE
GENERAL CHEMISTRY CONSTITUENTS (mg/L):			
Alkalinity, total	50	38	27
Ammonia (as N)	2.7	2.6	4
Chemical Oxygen Demand	10	10	NC
Chloride	10	10	0
Total Dissolved Solids	3500	3400	3
Total Organic Compound	4.8	4.8	0
METALS (mg/L):			
Potassium	9.6	10	4
VOLATILE & SEMI-VOLATILE ORGANIC COMPOUNDS (µg/L): None Detected			

TABLE 4B
SUMMARY OF DUPLICATE SAMPLE RESULTS -SECOND QUARTER 2020
SUNSHINE CANYON LANDFILL

ANALYTE	CM-10R 6/22/2020	DUPLICATE 6/22/2020	RELATIVE PERCENT DIFFERENCE
GENERAL CHEMISTRY CONSTITUENTS (mg/L):			
Alkalinity, total	380	380	0
Ammonia (as N)	11.0	11.0	0
Bicarbonate alkalinity	380	380	0
Bromide	0.65	0.25	NC
Carbon Dioxide	60	55	9
Chemical Oxygen Demand	10	10	0
Chloride	8.1	8.2	1
Fluoride	1.4	1.5	NC
Nitrate (as N)	0.055	0.055	NC
Sulfate	1700	1700	0
Sulfide, total	0.027	0.027	NC
Total Dissolved Solids	2700	2700	0
Total Organic Carbon	3.3	3.3	0
METALS (mg/L):			
Boron	1.0	1.0	0
Calcium	280	280	0
Iron	2.4	2.4	0
Magnesium	180	180	0
Manganese	0.54	0.55	2
Potassium	12	13	8
Sodium	210	210	0
VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS (µg/L):			
1,4-Dioxane	0.25	0.44	NC

Notes:

Right-justified value, non-shaded box indicates a quantified concentration (above the Practical Quantitation Limit).

Right-justified, bolded value with a shaded box indicates an estimated-trace concentration

Left-justified value, shaded box indicates not detected (method detection limit shown)

NC = Not calculated (relative percent difference only calculated for quantifiable concentrations)

Only detected constituents shown.

* - Detected in method blank at similar concentration.

**TABLE 5
GROUNDWATER ELEVATIONS AND SITE MONITORING WELL INFORMATION
SUNSHINE CANYON LANDFILL**

Well Number	MW-1	MW-2A	MW-2B	MW-5	MW-6	MW-9	MW-13R	MW-14	DW-1	DW-2	DW-3	DW-4
Well Casing Elevation (ft, MSL)	1344.48	1381.71	1381.98	1341.42	1347.32	1363.32	1345.78	1354.19	1351.93	1521.92	1682.54	1382.02
Approximate Well Casing Elevation (ft, MSL)*	-	1397.01	1398.68	-	-	-	-	-	-	-	-	1400.82
Total Depth of Well (ft)	29.60	26.00	54.40	26.20	23.50	26.70	27.80	28.10	205.80	72.30	256.60	116.00
Pump Depth (ft)	27.30	24.70	52.20	25.00	19.70	24.90	26.40	25.00	199.00	70.00	247.00	-
Well Diameter (in)	4	4	4	2	2	4	4	4	4	4	4	4
Type of Pump (ft)	Bladder	Bladder	Bladder	Bladder	Bladder	Bladder	Bladder	Bladder	Drop Tube	Bladder	Bladder	Bladder
Depth to Water (ft below TOC)												
3/9/12	17.08	21.38	5.58	19.03	16.97	20.96	17.59	14.83	0.00	25.74	151.46	5.54
3/28/12	16.85	21.37	5.44	NM	16.72	20.28	16.89	14.79	0.00	NM	NM	5.52
6/22/12	17.31	21.42	5.57	19.37	17.13	15.26	17.83	15.47	0.00	26.64	151.69	5.63
9/18/12	17.56	21.74	5.81	19.70	17.09	13.36	18.10	15.08	0.00	28.38	151.68	5.79
12/17/12	17.94	21.96	5.90	19.24	16.62	12.56	17.51	14.98	0.00	27.33	151.98	5.90
3/11/13	15.88	21.60	5.73	18.84	16.34	14.81	16.57	14.48	0.00	26.88	150.31	5.94
6/25/13	16.13	21.74	5.89	19.36	16.57	16.57	17.36	14.75	0.00	27.68	151.13	6.28
9/16/13	16.95	21.88	6.04	19.71	16.85	16.95	17.71	14.92	0.00	28.78	151.82	6.35
12/16/13	16.58	21.81	5.84	19.44	16.62	17.01	17.62	14.68	0.00	29.48	152.19	6.28
3/24/14	15.92	21.89	5.70	19.82	17.16	13.05	18.00	15.42	0.00	29.42	152.53	6.21
6/9/14	16.41	21.96	7.04	19.14	16.54	12.63	17.74	14.80	0.00	30.47	152.54	6.65
9/15/14	17.16	22.38	6.76	19.67	16.82	12.01	18.04	14.79	0.00	31.82	152.72	6.87
12/15 & 23/2014	16.39	20.60	4.98	19.05	16.17	11.65	18.24	14.35	0.00	32.33	152.89	5.24
3/23/15	16.58	21.65	5.77	19.28	16.59	20.04	18.16	14.65	0.00	31.57	152.88	5.92
6/15/15	16.86	22.10	5.57	19.41	16.72	22.02	18.34	14.73	0.00	32.74	151.25	5.75
9/28/15	17.27	21.91	5.59	19.91	16.69	19.49	18.75	14.80	0.00	33.88	151.11	5.86
12/1/15	17.04	16.08	1.46	19.72	16.70	20.20	18.83	14.92	0.00	34.33	151.56	2.21
3/28/16	16.61	19.05	12.41	19.33	16.46	20.47	18.53	14.61	0.00	33.56	151.71	14.12
6/20/16	16.89	17.14	11.52	19.81	16.67	16.64	18.61	14.85	0.00	34.66	152.51	18.11
9/19/16	17.49	32.29	20.05	20.01	16.83	15.46	19.20	14.87	0.00	35.10	153.10	32.82
12/19/16	17.12	31.33	19.49	19.85	17.33	15.15	19.26	14.61	0.00	35.28	153.56	34.65
3/13/17	15.19	30.43	17.64	17.58	16.38	13.96	17.22	14.44	0.00	23.08	153.54	21.79
6/12/17	15.59	30.84	17.11	18.61	16.53	12.95	17.42	14.58	0.00	23.56	153.21	21.94
9/18/17	15.64	33.57	18.38	19.14	16.69	11.88	17.74	14.50	0.00	24.83	153.77	31.51
12/4/17	15.35	34.01	18.75	19.16	16.85	13.44	17.95	14.74	0.00	25.90	154.74	32.32
3/12/18	14.36	33.71	18.67	19.47	16.11	13.45	16.94	14.67	0.00	25.51	154.38	32.72
6/12/18	14.49	32.56	17.77	18.88	16.47	17.81	16.69	14.52	0.00	25.56	154.63	32.59
9/18/18	15.59	33.81	18.64	19.32	16.78	21.13	17.07	14.55	0.00	26.95	154.82	32.81
12/10/18	13.14	33.62	18.86	18.34	16.20	19.26	16.13	14.17	0.00	27.85	155.37	32.84
3/25/19	8.19	32.25	18.17	15.22	15.38	14.84	16.06	13.84	0.00	19.39	155.32	32.19
6/24/19	8.61	32.37	16.80	16.83	16.15	20.95	16.43	14.31	0.00	21.97	155.45	32.18
9/9/19	10.36	32.71	17.08	17.33	16.38	21.98	14.52	14.51	0.00	23.43	155.62	32.27
12/2/19	14.01	33.52	17.58	17.73	16.24	21.84	16.28	14.01	0.00	24.51	155.84	32.33
2/17/20	15.16	33.56	17.66	18.07	16.30	22.11	16.85	14.09	0.00	24.08	156.01	32.35
6/22/20	15.12	33.44	17.56	18.08	16.36	21.73	17.07	14.03	0.00	23.23	156.28	32.20
Liquid Elevation (ft, MSL)												
3/9/12	1327.40	1360.33	1376.40	1322.39	1330.35	1342.36	1328.19	1339.36	1351.93	1496.18	1531.08	1376.48
3/28/12	1327.63	1360.34	1376.54	NM	1330.60	1343.04	1328.89	1339.40	1351.93	NM	NM	1376.50
6/22/12	1327.17	1360.29	1376.41	1322.05	1330.19	1348.06	1327.95	1338.72	1351.93	1495.28	1530.85	1376.39
9/18/12	1326.92	1359.97	1376.17	1321.72	1330.23	1349.96	1327.68	1339.11	1351.93	1493.54	1530.86	1376.23
12/17/12	1326.54	1359.75	1376.08	1322.18	1330.70	1350.76	1328.27	1339.21	1351.93	1494.59	1530.56	1376.12
3/11/13	1328.60	1360.11	1376.25	1322.58	1330.98	1348.51	1329.21	1339.71	1351.93	1495.04	1532.23	1376.08
6/25/13	1328.35	1359.97	1376.09	1322.06	1330.75	1346.75	1328.42	1339.44	1351.93	1494.24	1531.41	1375.74
9/16/13	1327.53	1359.83	1375.94	1321.71	1330.47	1346.37	1328.07	1339.27	1351.93	1493.14	1530.72	1375.67
12/16/13	1327.90	1359.90	1376.14	1321.98	1330.70	1346.31	1328.16	1339.51	1351.93	1492.44	1530.35	1375.74
3/24/14	1328.56	1359.82	1376.28	1321.60	1330.16	1350.27	1327.78	1338.77	1351.93	1492.50	1530.01	1375.81
6/9/14	1328.07	1359.75	1374.94	1322.28	1330.78	1350.69	1328.04	1339.39	1351.93	1491.45	1530.00	1375.37
9/15/14	1327.32	1359.33	1375.22	1321.75	1330.50	1351.31	1327.74	1339.40	1351.93	1490.10	1529.82	1375.15
12/15 & 23/2014	1328.09	1361.11	1377.00	1322.37	1331.15	1351.67	1327.54	1339.84	1351.93	1489.59	1529.65	1376.78
3/23/2015	1327.90	1360.06	1376.21	1322.14	1330.73	1343.28	1327.62	1339.54	1351.93	1490.35	1529.66	1376.10
6/15/2015	1327.62	1359.61	1376.41	1322.01	1330.60	1341.30	1327.44	1339.46	1351.93	1489.18	1531.29	1376.27
9/28/2015	1327.21	1359.80	1376.39	1321.51	1330.63	1343.83	1327.03	1339.39	1351.93	1488.04	1531.43	1376.16
12/1/2015	1327.44	1365.63	1380.52	1321.70	1330.62	1343.12	1326.95	1339.27	1351.93	1487.59	1530.98	1379.81
3/28/2016	1327.87	1362.66	1369.57	1322.09	1330.86	1342.85	1327.25	1339.58	1351.93	1488.36	1530.83	1367.90
6/20/2016	1327.59	1364.57	1370.46	1321.61	1330.65	1346.68	1327.17	1339.34	1351.93	1487.26	1530.03	1363.91
9/19/2016	1326.99	1349.42	1361.93	1321.41	1330.49	1347.86	1326.58	1339.32	1351.93	1486.82	1529.44	1349.20
12/19/2016	1327.36	1365.68	1379.19	1321.57	1329.99	1348.17	1326.52	1339.58	1351.93	1486.64	1528.98	1366.17
3/13/2017	1329.29	1366.58	1381.04	1323.84	1330.94	1349.36	1328.56	1339.75	1351.93	1498.84	1529.00	1379.03
6/12/2017	1328.89	1366.17	1381.57	1322.81	1330.79	1350.37	1328.36	1339.61	1351.93	1498.36	1529.33	1378.88
9/18/2017	1328.84	1363.44	1380.30	1322.28	1330.63	1351.44	1328.04	1339.69	1351.93	1497.09	1528.77	1369.31
12/4/2017	1329.13	1363.00	1379.93	1322.26	1330.47	1349.88	1327.83	1339.45	1351.93	1496.02	1527.80	1368.50
3/12/18	1330.12	1363.30	1380.01	1321.95	1331.21	1349.87	1328.84	1339.52	1351.93	1496.41	1528.16	1368.10
6/12/18	1329.99	1364.45	1380.91	1322.54	1330.85	1345.51	1329.09	1339.67	1351.93	1496.36	1527.91	1368.23
9/18/18	1328.89	1363.20	1380.04	1322.10	1330.54	1342.19	1328.71	1339.64	1351.93	1494.97	1527.72	1368.01
12/10/18	1331.34	1363.39	1379.82	1323.08	1331.12	1344.06	1329.65	1340.02	1351.93	1494.07	1527.17	1367.98
3/25/19	1336.29	1364.76	1380.51	1326.20	1331.94	1348.48	1329.72	1340.35	1351.93	1502.53	1527.22	1368.63
6/24/19	1335.87	1364.64	1381.88	1324.59	1331.17	1342.37	1329.35	1339.88	1351.93	1499.95	1527.09	1368.64
9/9/19	1334.12	1364.30	1381.60	1324.09	1330.94	1341.34	1331.26	1339.68	1351.93	1498.49	1526.92	1368.55
12/2/19	1330.47	1363.49	1381.10	1323.69	1331.08	1341.48	1329.50	1340.18	1351.93	1497.41	1526.70	1368.49
2/17/20	1329.32	1363.45	1381.02	1323.35	1331.02	1341.21	1328.93	1340.10	1351.93	1497.84	1526.53	1368.47
6/22/20	1329.36	1363.57	1381.12	1323.34	1330.96	1341.59	1328.71	1340.16	1351.93	1498.69	1526.26	1368.62

Note:

MSL = Mean Sea Level

TOC = Top of Casing

BOC = Bottom of Casing

NA = Not Available

NM = Not Measured

All wells resurveyed in 2014, except for the following: PZ-1, PZ-3, & MW-8. Well CM-5R resurveyed in 2015

* - Top of casing elevations are approximate. Wells MW-2A, MW-2B, and DW-4 were raised in September 2016 - survey pending.

TABLE 5, CONTINUED
GROUNDWATER ELEVATIONS AND SITE MONITORING WELL INFORMATION
SUNSHINE CANYON LANDFILL

Well Number	DW-5	PZ-1	PZ-2	PZ-3	PZ-4	CM-9R3	CM-10R	CM-11R	MW-8	CM-5	CM-5R
Well Casing Elevation (ft. MSL)	1347.54	1643.76	1566.52	2029.19	1795.85	1902.40	1901.20	2010.41	1362.37	1892.84	2032.00
Total Depth of Well (ft)	101.00	103.30	160.90	230.00	125.50	29.00	110.90	31.00		60.00	60
Depth of Pump (ft)					122.00	27.40	100.00	29.80			
Well Diameter (in)	4	2	2	2	2	4		4		2	2
Type of Pump	Bladder		Bladder		Bladder	Bladder	Bladder	Bladder	Bladder		
Depth to Water (ft below TOC)											
3/9/12	NM	89.25	NM	215.42	110.79	12.15	NM	22.44	17.89	20.46	NM
3/28/12	14.96	NM	123.22	NM	NM	10.01	NM	23.45	NM	NM	NM
6/22/12	14.73	89.33	123.14	215.69	110.73	10.81	46.85	18.26	15.68	21.60	NM
9/18/12	15.03	NM	123.18	215.78	110.92	13.82	48.31	NM	13.80	22.03	NM
12/17/12	14.90	83.27	123.27	215.90	110.80	11.42	47.37	23.11	13.62	19.86	NM
3/11/13	14.26	89.81	123.02	NM	110.11	9.89	47.57	21.02	15.32	17.39	NM
6/25/13	14.04	90.10	122.92	NM	110.23	13.29	48.70	22.62	16.41	19.16	NM
9/16/13	13.99	89.97	122.82	NM	110.10	15.30	49.13	24.31	16.46	19.50	NM
12/16/13	14.23	90.52	122.94	NM	110.18	17.09	49.36	25.56	16.44	18.62	NM
3/24/14	14.88	90.63	122.81	NM	110.38	12.58	49.81	20.88	14.41	18.08	NM
6/9/14	19.14	90.62	122.57	NM	110.37	15.41	50.26	21.90	15.23	19.34	NM
9/15/14	14.47	90.81	122.54	NM	110.46	17.95	50.69	23.54	13.39	20.61	NM
12/15 & 23/2014	14.43	90.81	122.68	NM	110.70	9.59	50.14	23.32	13.74	NM	NM
3/23/15	14.61	91.45	122.71	216.12	110.88	12.92	51.37	19.71	18.03	ABANDONED	198.53
6/15/15	14.44	91.48	122.52	216.42	110.93	16.14	51.55	22.10	18.61	ABANDONED	201.10
9/28/15	14.53	91.82	122.50	217.06	111.14	17.56	51.98	24.40	17.68	ABANDONED	202.46
12/1/15	14.78	92.05	122.67	217.53	111.30	18.87	52.38	26.09	18.18	ABANDONED	204.25
3/28/16	14.39	91.84	122.38	217.74	111.23	12.06	52.41	20.47	18.20	ABANDONED	206.39
6/20/16	14.36	91.97	122.44	218.20	111.56	15.41	52.81	22.39	18.04	ABANDONED	208.15
9/19/16	15.02	92.25	122.34	218.70	111.72	17.80	53.88	27.29	16.13	ABANDONED	210.04
12/19/16	15.06	92.39	122.61	219.13	112.01	19.91	52.94	28.54	16.03	ABANDONED	211.36
3/13/17	14.86	92.63	122.37	219.34	111.89	7.96	48.72	12.13	15.37	ABANDONED	212.49
6/12/17	14.62	92.46	122.37	219.63	111.69	10.55	49.51	15.98	14.46	ABANDONED	213.66
9/18/17	14.56	92.52	122.38	220.08	111.66	13.02	50.14	17.67	13.30	ABANDONED	214.90
12/4/17	14.82	92.92	122.54	220.37	111.81	14.34	50.76	19.66	14.32	ABANDONED	215.90
3/12/18	14.25	93.04	122.34	221.53	111.77	9.62	47.46	13.69	15.03	ABANDONED	216.91
6/12/18	14.02	92.97	122.17	221.04	111.43	11.47	49.55	16.16	16.07	ABANDONED	NM
9/18/18	14.23	93.07	122.13	221.53	111.70	13.39	50.48	18.23	17.28	ABANDONED	NM
12/10/18	14.01	93.44	122.39	221.92	111.94	10.18	49.70	19.11	16.42	ABANDONED	220.28
3/25/19	13.84	93.62	122.17	222.04	111.58	8.69	46.18	10.99	12.96	ABANDONED	220.60
6/24/19	13.42	93.42	121.99	222.24	111.24	10.24	47.16	15.93	16.05	ABANDONED	221.36
9/9/19	13.34	93.47	122.02	222.47	110.80	11.88	47.91	18.59	17.53	ABANDONED	221.72
12/2/19	13.25	93.68	121.79	222.74	110.68	11.53	46.43	21.41	17.68	ABANDONED	222.43
2/17/20	13.28	93.73	121.49	222.88	110.63	10.65	48.09	16.04	17.56	ABANDONED	222.77
6/22/20	13.23	93.83	121.23	223.19	110.51	9.98	47.39	15.97	17.47	ABANDONED	223.56
Liquid Elevation (ft. MSL)											
3/9/12	NM	1554.51	NM	1813.77	1685.06	1890.25	NM	1987.97	1344.48	1872.38	NM
3/28/12	1332.58	NM	1443.30	NM	NM	1892.39	NM	1986.96	NM	NM	NM
6/22/12	1332.81	1554.43	1443.38	1813.50	1685.12	1891.59	1854.35	1992.15	1346.69	1871.24	NM
9/18/12	1332.51	NM	1443.34	1813.41	1684.93	1888.58	1852.89	NM	1348.57	1870.81	NM
12/17/12	1332.64	1560.49	1443.25	1813.29	1685.05	1890.98	1853.83	1987.30	1348.75	1872.98	NM
3/11/13	1333.28	1553.95	1443.50	NM	1685.74	1892.51	1853.63	1989.39	1347.05	1875.45	NM
6/25/13	1333.50	1553.66	1443.60	NM	1685.62	1889.11	1852.50	1987.79	1345.96	1873.68	NM
9/16/13	1333.55	1553.79	1443.70	NM	1685.75	1887.10	1852.07	1986.10	1345.91	1873.34	NM
12/16/13	1333.31	1553.24	1443.58	NM	1685.67	1885.31	1851.84	1984.85	1345.93	1874.22	NM
3/24/14	1332.66	1553.13	1443.71	NM	1685.47	1889.82	1851.39	1989.53	1347.96	1874.76	NM
6/9/14	1328.40	1553.14	1443.95	NM	1685.48	1886.99	1850.94	1988.51	1347.14	1873.50	NM
9/15/14	1333.07	1552.95	1443.98	NM	1685.39	1884.45	1850.51	1986.87	1348.98	1872.23	NM
12/15 & 23/2014	1333.11	1552.95	1443.84	NM	1685.15	1892.81	1851.06	1987.09	1348.63	NM	NM
3/23/2015	1332.93	1552.31	1443.81	1813.07	1684.97	1889.48	1849.83	1990.70	1344.34	ABANDONED	1833.47
6/15/2015	1333.10	1552.28	1444.00	1812.77	1684.92	1886.26	1849.65	1988.31	1343.76	ABANDONED	1830.9
9/28/2015	1333.01	1551.94	1444.02	1812.13	1684.71	1884.84	1849.22	1986.01	1344.69	ABANDONED	1829.54
12/1/2015	1332.76	1551.71	1443.85	1811.66	1684.55	1883.53	1848.82	1984.32	1344.19	ABANDONED	1827.75
3/28/2016	1333.15	1551.92	1444.14	1811.45	1684.62	1890.34	1848.79	1989.94	1344.17	ABANDONED	1825.61
6/20/2016	1333.18	1551.79	1444.08	1810.99	1684.29	1886.99	1848.39	1988.02	1344.33	ABANDONED	1823.85
9/19/2016	1332.52	1551.51	1444.18	1810.49	1684.13	1884.60	1847.32	1983.12	1346.24	ABANDONED	1821.96
12/19/2016	1332.48	1551.37	1443.91	1810.06	1683.84	1882.49	1848.26	1981.87	1346.34	ABANDONED	1820.64
3/13/2017	1332.68	1551.13	1444.15	1809.85	1683.96	1894.44	1852.48	1998.28	1347.00	ABANDONED	1819.51
6/12/2017	1332.92	1551.30	1444.15	1809.56	1684.16	1891.85	1851.69	1994.43	1347.91	ABANDONED	1818.34
9/18/2017	1332.98	1551.24	1444.14	1809.11	1684.19	1889.38	1851.06	1992.74	1349.07	ABANDONED	1817.1
12/4/2017	1332.72	1550.84	1443.98	1808.82	1684.04	1888.06	1850.44	1990.75	1348.05	ABANDONED	1816.1
3/12/18	1333.29	1550.72	1444.18	1807.66	1684.08	1892.78	1853.74	1996.72	1347.34	ABANDONED	1815.09
6/12/18	1333.52	1550.79	1444.35	1808.15	1684.42	1890.93	1851.65	1994.25	1346.30	ABANDONED	NM
9/18/18	1333.31	1550.69	1444.39	1807.66	1684.15	1889.01	1850.72	1992.18	1345.09	ABANDONED	NM
12/10/18	1333.53	1550.32	1444.13	1807.27	1683.91	1892.22	1851.50	1991.30	1345.95	ABANDONED	1811.72
3/25/19	1333.70	1550.14	1444.35	1807.15	1684.27	1893.71	1855.02	1999.42	1349.41	ABANDONED	1811.40
6/24/19	1334.12	1550.34	1444.53	1806.95	1684.61	1892.16	1854.04	1994.48	1346.32	ABANDONED	1810.64
9/9/19	1334.20	1550.29	1444.50	1806.72	1685.05	1890.52	1853.29	1991.82	1344.84	ABANDONED	1810.28
12/2/19	1334.29	1550.08	1444.73	1806.45	1685.17	1890.87	1854.77	1989.00	1344.69	ABANDONED	1809.57
2/17/20	1334.26	1550.03	1445.03	1806.31	1685.22	1891.75	1853.11	1994.37	1344.81	ABANDONED	1809.23
6/22/20	1334.31	1549.93	1445.29	1806.00	1685.34	1892.42	1853.81	1994.44	1344.90	ABANDONED	1808.44

Note:

MSL = Mean Sea Level

TOC = Top of Casing

BOC = Bottom of Casing

NA = Not Available

NM = Not Measured

All wells resurveyed in 2014, except for the following: PZ-1, PZ-3, & MW-8. Well CM-5R resurveyed in 2015

TABLE 6A
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS -FIRST QUARTER 2020
SUNSHINE CANYON LANDFILL

Analyte	Units	BACKGROUND WELLS			SHALLOW MONITORING WELLS							DEEP MONITORING WELLS								Maximum Contaminant Level
		CM-9R3	CM-11R	CM-10R	MW-1	MW-2A	MW-5	MW-6	MW-9	MW-13R	MW-14	DW-1	DW-2	DW-3	DW-4	DW-5	MW-2B	PZ-2	PZ-4	
		02/19/20	02/17/20	02/17/20	02/18/20	02/18/20	02/18/20	02/17/20	02/18/20	02/18/20	02/17/20	02/18/20	02/19/20	02/19/20	02/18/20	02/18/20	02/18/20	02/17/20	02/19/20	
Inorganic Monitoring Parameters:																				
Alkalinity, total	mg/L	220	50	410	280	350	560	460	700	670	340	530	360	150	340	940	330	360	320	NV
Ammonia-Nitrogen	mg/L	8.2	2.7	10	3.9	3.5	4.0	0.84	6.0	44	0.10j	2.1	3.4	0.62	5.0	0.21	4.0	3.2	2.6	NV
Chemical Oxygen Demand	mg/L	10	10	10	10	10	14j	10	44	190	10	10	10	10	10	10	10	10	10	NV
Chloride	mg/L	18	10	8.3	50	24	260	35	180	130	32	14	12	15	12	18	14	11	9.0	500(2)
Total Dissolved Solids	mg/L	4200	3500	2600	1100	2600	3000	3300	3600	1100	3300	3200	1900	1800	2900	1100	2600	3300	1200	1000(2)
Total Organic Carbon	mg/L	5.6	4.8	3.1	7.2	3.5	17	5.3	26	23	4.4	3.1	1.7	0.52	1.9	7.9	1.9	2.3	1.4	NV
Metals:																				
Potassium, total	mg/L	12	9.6	12	21	5.6	23	5.8	22	24	8.1	2.4	4.0	8.8	4.8	1.3	4.6	2.9	4.3	NV
Volatile and Semivolatile Organic Compounds:																				
Acetone	µg/L	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	NV
t-Butanol	µg/L	5.0	5.0	5.0	5.0	5.0	16	5.0	16	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	NV
Carbon Disulfide	µg/L	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.4	0.50	0.50	0.50	0.50	NV
1,4-Dichlorobenzene	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	5(1)-75(3)
cis-1,2-Dichloroethene	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.51	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	6(1)-70(3)
1,4-Dioxane	µg/L	0.24	0.25	0.25	0.85j	1.8	4.8	0.25	24	7.4	0.24	0.26	0.24	0.25	0.24	0.24	0.24	0.24	0.25	NV
Methyl tert-butyl ether	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.68	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	13(1)/5(2)
Naphthalene	µg/L	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	NV
Tetrahydrofuran	µg/L	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0j	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	NV

Notes:
(1) State of California Primary Drinking Water Standard
(2) State of California Secondary Drinking Water Standard
(3) Federal Maximum Contaminant Level
(j) Indicates a trace concentration between the Method Detection Limit and the Practical Quantitation Limit.
* - Analyte also detected in a blank sample at a similar concentration.

0.25

 Analyte was not detected. Value listed is the Method Detection Limit.

2500

 Analyte concentration exceeds ARAR value.

TABLE 7A
COMPARISON OF INTRAWELL WATER QUALITY PROTECTION STANDARDS TO ANALYTICAL RESULTS - FIRST QUARTER 2020
SUNSHINE CANYON LANDFILL

Analyte	Units	WELL																					
		MW-1		MW-5		MW-6		MW-13R		MW-14		DW-1		DW-2		DW-3		DW-5		PZ-2		PZ-4	
		Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS
Inorganic Monitoring Parameters:																							
Alkalinity	mg/L	280	844.76	560	727.34	460	571.59	670	972.24	340	587.83	530	658.76	360	410.47	150	162.81	940	1009.98	360	411.93	320	341.13
Ammonia-Nitrogen	mg/L	3.9	10.634	4.0	5.714	0.84	1.337	44	7.732	0.10j	0.5703	2.1	2.4	3.4	4.308	0.62	0.7564	0.21	0.3918	3.2	3.598	2.6	2.976
Chemical Oxygen Demand	mg/L	10	202.056	14j	135.7	10	75.338	190	407.58	10	54.674	10	49.801	10	52.743	10	15.206	10	76.47	10	26.386	10	24.85
Chloride	mg/L	50	408.469	260	469.603	35	70.829	130	213.802	32	88.987	14	17.737	12	15.462	15	17.534	18	101.838	11	16.398	9.0	11.706
Potassium, total	mg/L	21	54.763	23	34.393	5.8	10.679	24	27.224	8.1	12.508	2.4	3.838	4.0	6.183	8.8	12.357	1.3	5.262	2.9	4.693	4.3	5.643
Total Dissolved Solids	mg/L	1100	4495	3000	4614.2	3300	4486.5	1100	3450.9	3300	5128.5	3200	3600.2	1900	2178.3	1800	2313.1	1100	1417.3	3300	4403.2	1200	1529.5
Total Organic Carbon	mg/L	7.2	75.928	17	50.696	5.3	15.408	23	54.233	4.4	13.006	3.1	9.947	1.7	3.499	0.52	2.115	7.9	11.745	2.3	2.887	1.4	2.085
Volatile Organic Compounds: (The WQPS is the PQL for any single VOC detected.)																							
Acetone	µg/L	10	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20
t-Butanol	µg/L	5.0	10	16	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10
1,4-Dioxane	µg/L	0.85j	0.97	4.8	1.0	0.25	0.99	7.4	0.99	0.24	1.0	0.26	0.96	0.24	0.97	0.25	0.98	0.24	0.97	0.24	0.99	0.25	0.99

Notes:

(j) Indicates a trace concentration between the Method Detection Limit and the Practical Quantitation Limit.

ND: Analyte was not detected. Detection limit is unknown.

0.25 Analyte was not detected. Value listed is the Method Detection Limit.

2500 Analyte concentration exceeds intrawell WQPS.

TABLE 6B
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS -SECOND QUARTER 2020
SUNSHINE CANYON LANDFILL

Analyte	Units	BACKGROUND WELLS			SHALLOW MONITORING WELLS							DEEP MONITORING WELLS								Maximum Contaminant Level
		CM-9R3	CM-11R	CM-10R	MW-1	MW-2A	MW-5	MW-6	MW-9	MW-13R	MW-14	DW-1	DW-2	DW-3	DW-4	DW-5	MW-2B	PZ-2	PZ-4	
		06/22/20	06/22/20	06/22/20	06/23/20	06/24/20	06/23/20	06/22/20	06/23/20	06/23/20	06/22/20	06/24/20	06/23/20	06/23/20	06/24/20	06/23/20	06/24/20	06/22/20	06/23/20	
Inorganic Monitoring Parameters:																				
Alkalinity, total	mg/L	220	50	380	300	360	530	480	730	640	320	530	380	160	350	960	340	320	320	NV
Alkalinity, bicarbonate	mg/L	220	50	380	300	360	530	480	730	590	320	450	380	160	340	920	330	320	320	NV
Ammonia-Nitrogen	mg/L	0.50	0.50	11	4.2	3.1	3.8	0.88j	6.1	9.7	0.10	1.9	3.0	0.57	4.1	0.30	3.4	3.1	2.8	NV
Bromide	mg/L	0.50	0.50	0.65	1.9	0.53j	2.8	0.86j	3.1	1.8	0.58	2.5	0.50	0.25	0.50j	0.46j	0.50	2.5	0.25	NV
Carbon Dioxide, free	mg/L	70	62	60	42	70	81	63	130	7.0	49	2.0	14	14	19	8.8	28	11	26	NV
Chemical Oxygen Demand	mg/L	10	10	10	10	10	43	10	65	200	10	10	10	10	10	18j	10	10	10	NV
Chloride	mg/L	14	9.9	8.1	160	30	290	37	220	120	32	14	11	15	13	20	14	17	9.2	500(2)
Fluoride	mg/L	2.2	0.67j	1.4	2.7	1.1	2.9	1.6	1.3	0.74	1.4	3.3j	0.50j	0.33j	0.50	3.5	0.81j	2.5	0.91	2(1)-4(3)
Nitrate-Nitrogen	mg/L	0.11	0.14j	0.055	0.055	0.11	0.11	0.11	0.11	0.055	0.18	0.55	0.11	0.055	0.11	0.055	0.11	0.55	0.055	10(1,3)
Sulfate	mg/L	2800	2600	1700	820	1600	1500	2200	1900	27	2000	1800	1000	1200	1800	0.25	1600	2400	590	500(2)
Sulfide, total	mg/L	0.027	0.027	0.027	0.027	0.027	0.027	6.3	0.027	110	0.027	0.56	0.027	0.027	0.027	0.070	0.027	0.027	0.027	NV
Total Dissolved Solids	mg/L	3800	3600	2700	1800	2700	3200	3700	3900	990	3500	4300	1900	1900	3000	1100	2600	3800	1200	1000(2)
Total Organic Carbon	mg/L	7.0	5.1	3.3	12	3.9	20	5.7	35	24	5.1	3.5	1.7	0.65	2.1	8.2	2.1	2.5	1.5	NV
Metals:																				
Boron	mg/L	1.7	1.4	1.0	0.59	0.64	1.0	0.74	1.1	0.85	0.34	2.2	0.62	0.062	0.64	2.7	0.65	1.2	0.21	NV
Calcium	mg/L	360	240	280	220	220	400	410	430	62	460	3.4	74	290	190	5.8	200	75	140	NV
Iron	mg/L	15	0.12	2.4	21	10	37	1.5	46	0.28	0.050	0.25	0.92	1.4	2.0	0.24	2.9	0.17	2.9	0.3(2)
Magnesium	mg/L	230	150	180	110	120	180	210	230	83	180	2.1	50	96	130	1.0	120	63	83	NV
Manganese	mg/L	2.6	3.5	0.54	1.5	0.71	4.5	1.3	4.9	0.032	4.8	0.075	0.10	0.065	0.12	0.12	0.14	0.13	0.17	0.05(2)
Potassium, total	mg/L	14	11	12	25	5.7	23	6.5	24	23	8.7	1.7j	3.9	8.8	4.3	1.2	4.7	3.8	4.8	NV
Sodium	mg/L	400	570	210	120	410	300	330	350	140	240	1100	440	66	490	430	480	1100	110	NV
Volatile and Semivolatile Organic Compounds:																				
t-Butanol	µg/L	5.0	5.0	5.0	5.0	5.0	5.0	5.0	29	5.1j	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	NV
cis-1,2-Dichloroethene	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.60	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	6(1)-70(3)
1,4-Dioxane	µg/L	0.25	0.25	0.25	1.2	0.89j	2.4	0.25	18	4.6	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25j	0.25	NV
Methyl tert-butyl ether	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.41j	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	13(1)/5(2)
Naphthalene	µg/L	0.40	0.40	0.40	0.61j	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	NV
Tetrahydrofuran	µg/L	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.6j	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	NV
Toluene	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.35j	0.25	0.25	0.25	150(1)/1000(3)

Notes:

(1) State of California Primary Drinking Water Standard

(2) State of California Secondary Drinking Water Standard

(3) Federal Maximum Contaminant Level

(j) Indicates a trace concentration between the Method Detection Limit and the Practical Quantitation Limit.

* - Analyte also detected in a blank sample at a similar concentration.

0.25 Analyte was not detected. Value listed is the Method Detection Limit.

2500 Analyte concentration exceeds ARAR value.

TABLE 7B
COMPARISON OF INTRAWELL WATER QUALITY PROTECTION STANDARDS TO ANALYTICAL RESULTS - SECOND QUARTER 2020
SUNSHINE CANYON LANDFILL

Analyte	Units	WELL																					
		MW-1		MW-5		MW-6		MW-13R		MW-14		DW-1		DW-2		DW-3		DW-5		PZ-2		PZ-4	
		Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS
Inorganic Monitoring Parameters:																							
Alkalinity	mg/L	300	844.76	530	727.34	480	571.59	640	972.24	320	587.83	530	658.76	380	410.47	160	162.81	960	1009.98	320	411.93	320	341.13
Ammonia-Nitrogen	mg/L	4.2	10.634	3.8	5.714	0.88j	1.337	9.7	7.732	0.10	0.5703	1.9	2.4	3.0	4.308	0.57	0.7564	0.30	0.3918	3.1	3.598	2.8	2.976
Chemical Oxygen Demand	mg/L	10	202.056	43	135.7	10	75.338	200	407.58	10	54.674	10	49.801	10	52.743	10	15.206	18j	76.47	10	26.386	10	24.85
Chloride	mg/L	160	408.469	290	469.603	37	70.829	120	213.802	32	88.987	14	17.737	11	15.462	15	17.534	20	101.838	17	16.398	9.2	11.706
Potassium, total	mg/L	25	54.763	23	34.393	6.5	10.679	23	27.224	8.7	12.508	1.7j	3.838	3.9	6.183	8.8	12.357	1.2	5.262	3.8	4.693	4.8	5.643
Total Dissolved Solids	mg/L	1800	4495	3200	4614.2	3700	4486.5	990	3450.9	3500	5128.5	4300	3600.2	1900	2178.3	1900	2313.1	1100	1417.3	3300	4403.2	1200	1529.5
Total Organic Carbon	mg/L	12	75.928	20	50.696	5.7	15.408	24	54.233	5.1	13.006	3.5	9.947	1.7	3.499	0.65	2.115	8.2	11.745	2.5	2.887	1.5	2.085
Volatile Organic Compounds: (The WQPS is the PQL for any single VOC detected.)																							
t-Butanol	µg/L	5.0	10	5.0	10	5.0	10	5.1j	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10
1,4-Dioxane	µg/L	1.2	0.97	2.4	1.0	0.25	0.99	4.6	0.99	0.25	1.0	0.25	0.96	0.25	0.97	0.25	0.98	0.25	0.97	0.25j	0.99	0.25	0.99
Naphthalene	µg/L	0.61j	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0
Toluene	µg/L	0.25	0.50	0.25	0.50	0.25	0.50	0.25	0.50	0.25	0.50	0.25	0.50	0.25	0.50	0.25	0.50	0.35j	0.50	0.25	0.50	0.25	0.50

Notes:

(j) Indicates a trace concentration between the Method Detection Limit and the Practical Quantitation Limit.

ND: Analyte was not detected. Detection limit is unknown.

0.25 Analyte was not detected. Value listed is the Method Detection Limit.

2500 Analyte concentration exceeds intrawell WQPS.

TABLE 8A
SUMMARY OF ANALYTICAL RESULTS FOR VADOSE ZONE LIQUID MONITORING POINTS
FIRST QUARTER 2020
SUNSHINE CANYON LANDFILL

Analyte	Units	SUBDRAIN MONITORING POINTS		LYSIMETERS		Maximum Contaminant Level
		Subdrain N	Combined Subdrains	LY-6	LY-7	
		2/18/2020	2/17/2020	2/18/2020	2/19/2020	
Field Parameters:						
Electrical Conductivity	mS/cm	5.55	3.38	Dry	5.39	NV
Oxidation Reduction Potential	mV	-134	-91	Dry	-108	NV
Oxygen, dissolved	mg/L	2.30	2.43	Dry	0.92	NV
pH	Units	6.79	6.31	Dry	7.00	6.5-8.5(2)
Temperature	°C	28.21	24.87	Dry	29.77	NV
Turbidity	NTU	OR	3.4	Dry	1.8	5(2)
General Chemistry Parameters:						
Alkalinity, total	mg/L	1200	710	Dry	2200	NV
Ammonia-Nitrogen	mg/L	48	5.3	Dry	19	NV
Chemical Oxygen Demand	mg/L	460	44	Dry	140	NV
Chloride	mg/L	630	77	Dry	570	500(2)
Total Dissolved Solids	mg/L	5100	3200	Dry	3900	1000(2)
Total Organic Carbon	mg/L	220	29.0	Dry	48	NV
Metals:						
Potassium	mg/L	33	13	Dry	41	NV
Volatile and Semivolatile Organic Compounds:						
Benzene	µg/L	0.49j	0.55	Dry	1.0	1(1)-5(3)
t-Butanol	µg/L	55	12	Dry	380	NV
cis-1,2-Dichloroethene	µg/L	1.1	1.1	Dry	2.4	6(1)-70(3)
trans-1,2-Dichloroethene	µg/L	0.26j	0.25	Dry	0.25	10(1)-100(3)
Ethylbenzene	µg/L	0.64	0.25	Dry	0.25	300(1)
1,4-Dichlorobenzene	µg/L	0.34j	3.8	Dry	0.44j	5(1)-75(3)
1,4-Dioxane	µg/L	32	7.9	Dry	11	NV
Methyl tert-butyl ether	µg/L	0.25	1.1	Dry	12	13(1)/5(2)
Styrene	µg/L	0.61	0.25	Dry	0.25	100(1,3)
Tetrahydrofuran	µg/L	10	5.0	Dry	5.0	NV
Toluene	µg/L	0.25j	0.25	Dry	0.25	150(1)-1000(3)

Notes:

(1) State of California Primary Drinking Water Standard

(2) State of California Secondary Drinking Water Standard

(3) Federal Maximum Contaminant Level

(j) Indicates a trace concentration between the Method Detection Limit and the Practical Quantitation Limit.

NV: No ARAR value.

NS: Not Sampled.

ND: Analyte was not detected. Detection limit is unknown.

* - Analyte also detected in a blank sample at a similar concentration.

0.25 Analyte was not detected. Value listed is the Method Detection Limit.

173 Analyte was detected.

2500 Analyte concentration exceeds ARAR value.

TABLE 8B
SUMMARY OF ANALYTICAL RESULTS FOR VADOSE ZONE LIQUID MONITORING POINTS
SECOND QUARTER 2020
SUNSHINE CANYON LANDFILL

Analyte	Units	SUBDRAIN MONITORING POINTS		LYSIMETERS		Maximum Contaminant Level
		Subdrain N	Combined Subdrains	LY-6	LY-7	
		6/22/2020	6/23/2020	6/24/2020	6/23/2020	
Field Parameters:						
Electrical Conductivity	mS/cm	5.87	3.67	Dry	5.20	NV
Oxidation Reduction Potential	mV	-150	-77	Dry	-110	NV
Oxygen, dissolved	mg/L	1.98	3.10	Dry	1.81	NV
pH	Units	6.14	6.46	Dry	6.74	6.5-8.5(2)
Temperature	°C	36.62	25.20	Dry	32.70	NV
Turbidity	NTU	OR	5.5	Dry	2.5	5(2)
General Chemistry Parameters:						
Alkalinity, total	mg/L	980	590	Dry	2200	NV
Alkalinity, bicarbonate	mg/L	980	590	Dry	2200	NV
Ammonia-Nitrogen	mg/L	12	4.8	Dry	23	NV
Bromide	mg/L	8.2	2.3	Dry	0.50	NV
Carbon dioxide	mg/L	310	150	Dry	180	NV
Chemical Oxygen Demand	mg/L	500	40	Dry	140	NV
Chloride	mg/L	600	190	Dry	510	500(2)
Fluoride	mg/L	1.3	1.1	Dry	1.6	2(1)-4(3)
Nitrate as Nitrogen	mg/L	0.28	0.11	Dry	0.83	10(1,3)
Sulfate	mg/L	2000	1600	Dry	520	500(2)
Sulfide, total	mg/L	0.027	0.076	Dry	0.027	NV
Total Dissolved Solids	mg/L	4900	3500	Dry	4000	1000(2)
Total Organic Carbon	mg/L	210	29	Dry	70	NV
Metals						
Boron	mg/L	2.4	1.10	Dry	7.5	NV
Calcium	mg/L	700	390	Dry	200	NV
Iron	mg/L	320	29.0	Dry	3.1	0.3(2)
Magnesium	mg/L	300	200	Dry	180	NV
Manganese	mg/L	5.5	7.2	Dry	2.8	0.05(2)
Potassium	mg/L	36	14	Dry	43	NV
Sodium	mg/L	440	280	Dry	1000	NV
Volatile and Semivolatile Organic Compounds:						
Benzene	µg/L	1.9	0.37j	Dry	0.77	1(1)-5(3)
Chlorobenzene	µg/L	0.25	0.25	Dry	0.26j	70(1)-100(3)
t-Butanol	µg/L	57	28	Dry	120	NV
cis-1,2-Dichloroethene	µg/L	0.66	2.7	Dry	1.9	6(1)-70(3)
1,4-Dichlorobenzene	µg/L	0.47j	3.1	Dry	0.80	5(1)-75(3)
1,4-Dioxane	µg/L	30	6.4	Dry	5.7	NV
Methyl tert-butyl ether	µg/L	0.25	0.81	Dry	2.6	13(1)/5(2)
Styrene	µg/L	0.32j	0.25	Dry	0.25	100(1,3)
Tetrahydrofuran	µg/L	13	5.0	Dry	5.0	NV
Trichloroethene	µg/L	0.25	0.30j	Dry	0.25	5(1,3)
Toluene	µg/L	0.30j	0.25	Dry	0.25	150(1)-1000(3)

Notes:

(1) State of California Primary Drinking Water Standard

(2) State of California Secondary Drinking Water Standard

(3) Federal Maximum Contaminant Level

(j) Indicates a trace concentration between the Method Detection Limit and the Practical Quantitation Limit.

NV: No ARAR value.

NS: Not Sampled.

ND: Analyte was not detected. Detection limit is unknown.

* - Analyte also detected in a blank sample at a similar concentration.

0.25 Analyte was not detected. Value listed is the Method Detection Limit.

173 Analyte was detected.

2500 Analyte concentration exceeds ARAR value.

TABLE 9
SUMMARY OF VADOSE ZONE GAS MONITORING - FIRST SEMIANNUAL 2020 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Probe ID	Interval	Depth (ft bgs)	1/21/2020 - 1/24/2020	2/18/2020 - 2/20/2020	3/24/2020 - 3/26/2020	4/21/2020 - 4/23/2020	5/19/2020 - 5/21/2020	6/23/2020 - 6/25/2020
P-202	A	10-15	Removed Due to Construction					
	B	25-30						
	C	40-45						
P-202R	A	10-15	0.0	0.0	0.0	0.1	0.0	0.0
	B	25-30	0.0	0.0	0.0	0.0	0.0	0.0
	C	40-45	0.0	0.0	0.0	0.0	0.0	0.0
P-203	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	25-30	0.0	0.0	0.0	0.0	0.0	0.0
	C	40-45	0.0	0.0	0.0	0.0	0.0	0.0
P-205R	A	6-11	0.0	0.0	0.0	0.1	0.0	0.0
	B	20-25	0.0	0.0	0.0	0.7	0.0	0.0
	C	33-38	1.7	1.6	1.3	1.2	1.4	1.6
	D	48-53	2.6	2.4	2.2	2.9	2.3	2.8
	E	62-67	0.0	0.1	0.0	0.7	0.1	0.1
P-206	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	25-30	0.0	0.0	0.0	0.0	0.0	0.0
	C	40-45	0.0	0.0	0.0	0.0	0.0	0.0
P-207	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	25-30	0.0	0.0	0.0	0.0	0.0	0.0
	C	40-45	0.0	0.0	0.0	0.0	0.0	0.0
P-208	A	10-15	0.0	0.0	0.1	0.0	0.0	0.0
	B	25-30	0.0	0.0	0.1	0.0	0.0	0.0
	C	40-45	0.0	0.0	0.1	0.0	0.0	0.0
P-210	A	10-15	0.0	0.0	0.0	0.0	0.1	0.0
	B	25-30	0.0	0.0	0.0	0.0	0.0	0.0
	C	40-45	0.0	0.0	0.0	0.0	0.0	0.0
P-213	A	7-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	23-31	0.0	0.0	0.0	0.0	0.0	0.0
	C	39-47	0.0	0.0	0.0	0.0	0.0	0.0
	D	55-62	0.0	0.0	0.0	0.0	0.0	0.0
	E	71-80	0.0	0.0	0.0	0.0	0.0	0.0
P-214	A	7-16	0.1	0.0	0.0	0.0	0.0	0.0
	B	23-32	0.0	0.0	0.0	0.0	0.0	0.0
	C	42-51	0.0	0.0	0.0	0.0	0.0	0.0
P-215	A	7-14	0.0	0.0	0.0	0.0	0.0	0.0
	B	24-31	0.0	0.0	0.0	0.0	0.0	0.0
	C	41-48	0.0	0.0	0.0	0.0	0.0	0.0
	D	58-65	0.0	0.0	0.0	0.0	0.0	0.0
	E	75-82	0.0	0.0	0.0	0.0	0.0	0.0
P-216	A	8-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	32-37	0.0	0.0	0.0	0.0	0.0	0.0
	C	56-63	0.0	0.0	0.0	0.0	0.0	0.0
	D	80-87	0.0	0.0	0.0	0.0	0.0	0.0
	E	104-111	0.0	0.0	0.0	0.0	0.1	0.0
P-217R	A	6-11	0.0	0.0	0.1	0.0	0.0	0.0
	B	16-21	0.0	0.0	0.1	0.0	0.0	0.0

NR - No reading available.

TABLE 9, CONTINUED
SUMMARY OF VADOSE ZONE GAS MONITORING - FIRST SEMIANNUAL 2020 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Probe ID	Interval	Depth (ft bgs)	1/21/2020 - 1/24/2020	2/18/2020 - 2/20/2020	3/24/2020 - 3/26/2020	4/21/2020 - 4/23/2020	5/19/2020 - 5/21/2020	6/23/2020 - 6/25/2020
P-218R	A	5-8	0.0	0.0	0.0	0.0	0.0	0.0
	B		0.0	0.0	0.1	0.0	0.0	0.0
	C		0.0	0.0	0.0	0.0	0.0	0.0
P-219	A	7-15	0.0	0.0	0.0	0.0	0.0	0.1
	B	57-66	0.0	0.0	0.0	0.0	0.0	0.0
	C	109-117	0.0	0.0	0.0	0.0	0.0	0.0
	D	158-167	0.0	0.0	0.0	0.0	0.0	0.0
	E	209-218	0.0	0.0	0.0	0.0	0.0	0.0
P-220	A	6.9-14	0.0	0.0	0.1	0.0	0.0	0.0
	B	44-51	0.0	0.0	0.0	0.0	0.0	0.0
	C	79-88	0.0	0.0	0.1	0.0	0.0	0.0
	D	117-127	0.0	0.0	0.0	0.0	0.0	0.0
	E	150-159	0.0	0.0	0.0	0.0	0.0	0.0
P-220B	A	8-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	32-39	0.0	0.0	0.0	0.0	0.0	0.0
	C	56-61	0.0	0.0	0.0	0.0	0.0	0.0
	D	80-87	0.0	0.0	0.0	0.0	0.0	0.0
	E	104-111	0.0	0.0	0.0	0.0	0.0	0.0
P-221	A	5-14	0.0	0.0	0.0	0.0	0.0	0.1
	B	49-58	0.0	0.0	0.0	0.0	0.0	0.1
	C	91-101	0.0	0.0	0.0	0.0	0.0	0.1
	D	134-143	0.0	0.0	0.0	0.0	0.0	0.0
	E	176-186	0.0	0.0	0.0	0.0	0.0	0.0
P-222	A	7-15	0.0	0.0	0.1	0.0	0.0	0.0
	B	48-57	0.0	0.0	0.1	0.0	0.0	0.0
	C	88-98	0.0	0.0	0.1	0.0	0.0	0.0
	D	132-141	0.0	0.0	0.1	0.0	0.0	0.0
	E	173-181	0.0	0.0	0.1	0.0	0.0	0.0
P-223	A	7-15	0.0	0.0	0.1	0.0	0.0	0.0
	B	32-41	0.0	0.0	0.2	0.0	0.0	0.1
	C	51-64	0.0	0.0	0.1	0.0	0.0	0.1
	D	78-88	0.0	0.0	0.1	0.0	0.0	0.1
	E	100-113	0.0	0.0	0.1	0.0	0.0	0.1
P-224	A	5-14	0.0	0.1	0.1	0.0	0.0	0.1
	B	60-70	0.0	0.0	0.0	0.0	0.0	0.1
	C	115-125	0.0	0.0	0.0	0.0	0.0	0.0
	D	168-180	0.0	0.0	0.0	0.0	0.0	0.0
	E	223-236	0.0	0.0	0.0	0.0	0.0	0.0
P-225	A	7-14	0.0	0.0	0.1	0.0	0.0	0.0
	B	65-73	0.0	0.0	0.1	0.0	0.0	0.0
	C	124-133	0.0	0.0	0.1	0.0	0.0	0.0
	D	184-192	0.0	0.0	0.1	0.0	0.0	0.0
	E	243-250	0.0	0.0	0.1	0.0	0.0	0.0
P-226	A	7-14	0.1	0.0	0.0	0.0	0.0	0.0
	B	58-68	0.1	0.0	0.0	0.0	0.0	0.0
	C	108-117	0.1	0.0	0.0	0.0	0.0	0.0
	D	158-168	0.0	0.0	0.0	0.0	0.0	0.0
	E	202-209	0.0	0.0	0.0	0.0	0.0	0.0

NR - No reading available.

TABLE 9, CONTINUED
SUMMARY OF VADOSE ZONE GAS MONITORING - FIRST SEMIANNUAL 2020 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Probe ID	Interval	Depth (ft bgs)	1/21/2020 - 1/24/2020	2/18/2020 - 2/20/2020	3/24/2020 - 3/26/2020	4/21/2020 - 4/23/2020	5/19/2020 - 5/21/2020	6/23/2020 - 6/25/2020
P-227	A	6-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	46-55	0.0	0.0	0.0	0.0	0.6	0.0
	C	85-95	0.0	0.0	0.0	0.0	0.0	0.0
	D	126-134	0.0	0.0	0.0	0.0	0.0	0.0
	E	164-172	0.0	0.0	0.0	0.0	0.0	0.0
P-228	A	7-14	0.0	0.0	0.0	0.0	0.0	0.0
	B	56-65	0.0	0.0	0.0	0.0	0.0	0.0
	C	107-115	0.0	0.0	0.0	0.0	0.0	0.0
	D	156-165	0.0	0.0	0.0	0.0	0.0	0.0
	E	203-214	0.0	0.0	0.0	0.0	0.0	0.0
P-229	A	4-15	0.1	0.0	0.0	0.0	0.0	0.0
	B	42-50	0.0	0.0	0.0	0.0	0.0	0.0
	C	77-86	0.0	0.0	0.0	0.0	0.0	0.0
	D	106-115	0.0	0.0	0.0	0.0	0.0	0.0
	E	150-159	0.0	0.0	0.0	0.0	0.0	0.0
P-230R	A	7-14	REMOVED DUE TO CONSTRUCTION					
	B	35						
	C	50						
P-231	A	4-14	REMOVED DUE TO CONSTRUCTION					
	B	20-27						
	C	33-40						
	D	45-53						
	E	58-67						
P-239	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	47-52	0.0	0.0	0.0	0.0	0.0	0.0
	C	78-83	0.0	0.0	0.0	0.0	0.0	0.0
	D	109-114	0.0	0.0	0.0	0.0	0.0	0.0
	E	140-145	0.0	0.0	0.1	0.0	0.0	0.0
P-240	A	10-15	0.0	0.0	0.1	0.0	0.1	0.0
	B	69-74	0.0	0.0	0.0	0.0	0.1	0.0
	C	133-138	0.0	0.0	0.0	0.0	0.0	0.0
	D	206-211	0.0	0.0	0.0	0.0	0.0	0.0
	E	268-273	0.1	0.1	0.1	0.0	0.0	0.1
P-241	A	10-15	0.0	0.1	0.0	0.0	0.0	0.1
	B	37-42	0.0	0.0	0.0	0.0	0.0	0.0
	C	61-66	0.0	0.0	0.0	0.0	0.0	0.0
	D	85-90	0.0	0.0	0.0	0.0	0.0	0.0
	E	109-114	0.0	0.0	0.0	0.0	0.0	0.0
P-242	C	42-47	0.0	0.0	0.0	0.0	0.1	0.0
	D	60-65	0.0	0.0	0.0	0.0	0.0	0.0
	E	78-83	0.0	0.0	0.0	0.0	0.0	0.0
P-243	A	6-11	0.3	0.1	0.4	0.2	0.0	0.3
	B	20-29	0.0	0.0	0.0	0.1	0.0	0.0
	C	33-38	0.0	0.0	0.0	0.1	0.0	0.0
P-244	A	6-11	0.0	0.1	0.0	0.0	0.1	0.0
	B	21-26	0.0	0.1	0.0	0.0	0.0	0.0
	C	36-41	0.0	0.0	0.0	0.0	0.0	0.0

NR - No reading available.

TABLE 9, CONTINUED
SUMMARY OF VADOSE ZONE GAS MONITORING - FIRST SEMIANNUAL 2020 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Probe ID	Interval	Depth (ft bgs)	1/21/2020 - 1/24/2020	2/18/2020 - 2/20/2020	3/24/2020 - 3/26/2020	4/21/2020 - 4/23/2020	5/19/2020 - 5/21/2020	6/23/2020 - 6/25/2020
P-245	A	6-11	0.0	0.0	0.0	0.1	0.0	0.0
	B	20-25	0.1	0.1	0.1	0.4	0.2	0.3
	C	35-40	0.0	0.0	0.0	0.1	0.0	0.0
	D	50-55	0.0	0.0	0.0	0.2	0.1	0.0
	E	64-69	0.0	0.0	0.0	0.1	0.0	0.0
P-246	A	6-9						
	B	12-19						
Subdrains	P-203D		0.3	0.0	0.0	0.1	0.0	0.0
	P204D		0.0	0.0	0.0	0.0	0.0	0.0
	P-211D		0.0	0.0	0.0	0.0	0.0	0.0

NR - No reading available.

TABLE 10
SUMMARY OF ANALYTICAL RESULTS FOR STORMWATER SAMPLES
FIRST SEMIANNUAL 2020 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Analyte	Units	Stormwater	Stormwater	Stormwater
		1/21/2020	3/13/2020	4/8/2020
General Chemistry Parameters:				
Ammonia-Nitrogen	mg/L	0.91	0.71	0.89
Biochemical Oxygen Demand	mg/L	6.8	6.1	4.8
Chemical Oxygen Demand	mg/L	10	19j	21
Chloride	mg/L	11	6.2	8.1
Fluoride	mg/L	0.88	0.99	0.90
Nitrate as N	mg/L	1.0	0.51	0.74
Nitrite as N	mg/L	0.025	0.037j	0.037j
Nitrate+Nitrite as N	mg/L	1.0	0.55	0.78
Oil & Grease (HEM)	mg/L	1.3	1.3	1.3
Total Suspended Solids	mg/L	18	33	31
Metals:				
Aluminum	mg/L	0.30	2.0	1.9
Antimony	mg/L	0.00074j	0.00050	0.00072j
Arsenic	mg/L	0.00077j	0.00088j	0.0012
Beryllium	mg/L	0.00025	0.00061	0.00041j
Cadmium	mg/L	0.0054	0.0098	0.0081
Copper	mg/L	0.0040	0.0055	0.0069
Iron	mg/L	0.68	1.8	1.3
Lead	mg/L	0.00050	0.00095j	0.0013
Manganese	mg/L	4.4	3.3	3.2
Mercury	mg/L	0.00010	0.00013j	0.00010
Nickel	mg/L	0.19	0.23	0.20
Phosphorus	mg/L	0.047j	0.059	0.040j
Selenium	mg/L	0.0022	0.0034	0.0032
Silver	mg/L	0.00050	0.00050	0.00050
Zinc	mg/L	0.16	0.30	0.23
Volatile Organic Compounds (8260):				
Acrylonitrile	µg/L	1.0	1.0	1.0
Alpha-Terpineol	µg/L	0.93	1.3j	0.94
Benzene	µg/L	0.25	0.25	0.25
Ethylbenzene	µg/L	0.25	0.25	0.25
Toluene	µg/L	0.25	0.25	0.25
Trichloroethene	µg/L	0.25	0.25	0.25
Semivolatile Organic Compounds (8270C):				
Benzoic Acid	µg/L	9.9	23	25
Butyl Benzyl Phthalate	µg/L	5.0	4.9	4.9
Cresol, p-	µg/L	2.0	2.0	1.9
Dimethyl Phthalate	µg/L	4.0	3.9	3.9
Fluoranthene	µg/L	5.0	4.9	4.9
Phenol	µg/L	5.0	4.9	4.9
Pyrene	µg/L	5.0	4.9	4.9
Polychlorinated Biphenyls (8082): None detected.				

Notes:

(j) Indicates a trace concentration between the Method Detection Limit and the Practical Quantitation Limit.

ND: Analyte was not detected. Detection limit is unknown.

0.25 Analyte was not detected. Value listed is the Method Detection Limit.

NA Analyte was not analyzed.

173 Analyte was detected. Value reported by laboratory.

TABLE 11
SUMMARY OF ANALYTICAL RESULTS FOR LEACHATE MONITORING POINTS
APRIL 2020
SUNSHINE CANYON LANDFILL

Analyte	Units	LEACHATE MONITORING POINTS		Maximum Contaminant Level
		LR-2R	DEEP LEACHATE	
		4/15/2020	4/15/2020	
General Chemistry Parameters:				
Sulfide	mg/L	0.22	NA	NV
Metals:				
Antimony	mg/L	NA	0.032j	0.006(1,3)
Arsenic	mg/L	NA	0.074	0.01(1,3)
Cobalt	mg/L	NA	0.021j	NV
Vanadium	mg/L	NA	0.080	NV
Zinc	mg/L	NA	1.0	5(2)
Volatile Organic Compounds (8260B):				
t-Butanol	µg/L	NA	1200	NV
Semivolatile Organic Compounds (8270):				
Acetophenone	µg/L	NA	23	NV
1,4-Dichlorobenzene	µg/L	NA	18	5(1)-75(3)

Notes:

(1) State of California Primary Drinking Water Standard

(2) State of California Secondary Drinking Water Standard

(3) Federal Maximum Contaminant Level

(j) Indicates a trace concentration between the Method Detection Limit and the Practical Quantitation Limit.

NV: No ARAR value.

0.25 Analyte was not detected. Value listed is the Method Detection Limit.

173 Analyte was detected.

2500 Analyte concentration exceeds ARAR value.

TABLE 12
SUMMARY OF COLLECTED WATER SOURCES - FIRST SEMIANNUAL 2020 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Month	Total Purchase Water	Subdrains	Landfill Leachate	Landfill Gas Condensate	Seep Collectors	Groundwater Cutoff Wall	MONTHLY TOTALS
January	3,168,528	2,233,286	595,490	1,239,719	97,449	859,900	8,194,372
February	4,040,696	2,227,426	565,983	1,235,227	105,361	855,097	9,029,790
March	2,573,120	2,158,748	651,829	2,060,703	118,509	969,861	8,532,770
April	3,094,476	2,363,397	550,457	2,021,090	146,656	1,122,059	9,298,135
May	3,826,469	2,230,391	539,578	1,807,223	176,421	735,460	9,315,542
June	6,640,744	2,255,732	533,247	1,367,455	173,109	918,891	11,889,178
JANUARY - JUNE 2019 TOTAL:	23,344,033	13,468,980	3,436,584	9,731,417	817,505	5,461,268	56,259,787

TABLE 13
SUNSHINE CANYON LANDFILL
IMPORTED SOIL SAMPLING SUMMARY - FIRST SEMIANNUAL 2020 MONITORING PERIOD

GENERATOR	SAMPLER	WASTE TYPE	QUANTITY	CONSTITUENTS ANALYZED
Stericycle, Inc.	No Samples Taken	Treated & Sterilized Medical Waste	20,000 Tons	No Samples Taken
City of Long Beach - Marine Maintenance	No Samples Taken	Weathered Wood	300 Cubic Yards	No Samples Taken
Roofmaster Products, Inc.	No Samples Taken	Roofing Asphalt	70 Drums	No Samples Taken
City of Los Angeles - Police Department, Property Division	No Samples Taken	Marijuana Contained in Recycled Cardboard Boxes	510 Tons	No Samples Taken
Daaks International, Inc.	No Samples Taken	Malongai Leaves	200 Pounds	No Samples Taken
ASA Construction	No Samples Taken	Weathered Wood	1 Tons	No Samples Taken
T Fresh Company DBA Yes Produce	No Samples Taken	Food Product - Hawaiian Galanga	5,000 Pounds	No Samples Taken
Southern California Edison/ 7314 Scout Ave	American Environmental	Non Haz Soil	75 Tons	TPH, VOCs, PCBs, Title 22 Metals, Moisture
Southern California Edison/ Alexander St and Rickenbacker rd	American Environmental	Non Haz Soil	260 Tons	TPH, VOCs, PCBs, Title 22 Metals, Moisture, STLC As
Campo Verde Packing	No Samples Taken	Food Products -Chipilin and Hierba Mora	500 Pounds	No Samples Taken
Southern California Edison/ Culver City Substation	American Environmental	Non Haz Soil	40 Cubic Yards	TPH, VOCs, PCBs, Title 22 Metals, Moisture
Champa Nursery	No Samples Taken	Plants	5000 Pounds	No Samples Taken
Mayesh Wholesale Florist	No Samples Taken	Fresh Cut Flowers	350 Pounds	No Samples Taken
Central American Produce Imports Inc.	No Samples Taken	False Coriander	3 Tons	No Samples Taken
Grifols Biologicals Inc.	No Samples Taken	Filter Press Waste	700 Tons	No Samples Taken
Chef Merito Inc.	No Samples Taken	Food Waste - Seasoning	572,450 Pounds	No Samples Taken
T Fresh Company DBA Yes Produce	No Samples Taken	Food Product - Hawaiian Galanga and Taro Stem	17,450 Pounds	No Samples Taken

Notes:

VOC: Volatile Organic Compound

PCB: Polychlorinated Biphenyls

PAH: Polynuclear Aromatic Hydrocarbons

*No Samples Taken: Waste previously characterized, or no characterization required (e.g. cured asphalt, treated wood, etc). Special waste decision changed/recertified to extend ex date, account for increases in volume estimates, or to change to ongoing disposal.

Assumptions:

Cubic Yard of Cured Asphalt = 3780 Pounds

Cubic Yard of Weathered Wood = 1134 Pounds

Cubic Yard of Cigarettes = 700 Pounds

Cubic Yard of Soil = 2000 Pounds

TPH: Total Petroleum Hydrocarbons

SVOC: Semivolatile Organic Compound

MSDS: Material Safety Data Sheet