

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2018-XXXX
FOR
CITY OF WINTERS
WINTERS LANDFILL
CLASS III LANDFILL
CLOSURE, POST-CLOSURE MAINTENANCE
AND CORRECTION ACTION
YOLO COUNTY

This monitoring and reporting program (MRP) is issued pursuant to California Water Code section 13267 and incorporates requirements for groundwater, surface water, and unsaturated zone monitoring and reporting; facility monitoring, maintenance, and reporting contained in California Code of Regulations, Title 27, section 20005, et seq. (hereafter Title 27); Waste Discharge Requirements (WDRs) Order R5-2018-XXXX and *Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Industrial Facilities Regulated by Title 27*, dated April 2016 (Industrial SPRRs). Compliance with this MRP is ordered by the WDRs and the Discharger shall not implement any changes to this MRP unless a revised MRP is issued by the Central Valley Water Board or the Executive Officer.

A. MONITORING

The Discharger shall monitor Class III landfill unit LF-1 in accordance with the detection and corrective action monitoring program provisions of Title 27 for groundwater, surface water, and the unsaturated zone. Monitoring shall also be in accordance with the Monitoring Specifications in Section G of the WDRs and the Standard Monitoring Specifications in Section I of the Industrial SPRRs. All monitoring shall be conducted in accordance with the most current approved Sample Collection and Analysis Plan, including quality assurance/quality control standards. The Discharger may use alternative analytical test methods, including new USEPA approved methods, provided the methods have method detection limits equal to or lower than the analytical methods specified in this Monitoring and Reporting Program, and are identified in the approved Sample Collection and Analysis Plan.

All compliance monitoring wells established for the detection monitoring program shall constitute the monitoring points for the groundwater Water Quality Protection Standard. All detection monitoring program groundwater monitoring wells, unsaturated zone monitoring probes/wells, and surface water monitoring points shall be sampled and analyzed for monitoring parameters and constituents of concern (COCs) as indicated and listed in Tables I through VI.

As described in WDR Finding 34, groundwater beneath the site is currently believed to flow to the northeast consistent with the regional gradient. This MRP assigns monitoring points to background, detection, and corrective action monitoring programs based on an assumption that groundwater flows to the northeast beneath the entire site; however, it is acknowledged that these designations may change over time as warranted by monitoring data from new or existing wells and/or if the direction of groundwater flow beneath the site

significantly changes.

The monitoring program of this MRP includes:

<u>Section</u>	<u>Monitoring Program</u>	<u>Reference Map</u> ¹
A.1	Groundwater Monitoring	WDR Attachment C
A.2	Unsaturated Zone Monitoring	n/a
A.3	Leachate Monitoring	n/a
A.4	Surface Water Monitoring	WDR Attachments B & C
A.5	Landfill Facility Monitoring	n/a

1. See reference map for monitoring locations.

1. Groundwater Monitoring

The Discharger shall operate and maintain groundwater detection and corrective action monitoring systems that comply with the applicable provisions of Title 27, Subchapter 3 “Water Monitoring”. These groundwater monitoring systems shall be certified by a California-licensed professional civil engineer or geologist as meeting the requirements of Title 27. The current groundwater monitoring system at the site **does not meet** the applicable requirements of Title 27 (see WDR Finding 35). WDR Provision H.10 therefore provides a schedule and list of tasks necessary for the installation of a Title 27-compliant groundwater monitoring system at the site.

Groundwater monitoring shall be conducted consistent with this MRP and the updated/revised Sample Collection and Analysis Plan and Water Quality Protection Standard (WQPS) Report submitted under this Order. Detection monitoring for naturally occurring inorganic constituents at the site shall be conducted using an interwell monitoring approach, unless otherwise approved in the WQPS Report. Background and downgradient wells for interwell monitoring shall be identified by tracing the shallow groundwater gradient flow streams (i.e., flow lines perpendicular to the gradient contours) through the fill area.

Historical releases at the site have consisted primarily of inorganic constituents from landfill LF-1. This MRP therefore places LF-1 in corrective action monitoring with concurrent detection monitoring for constituents not previously detected as part of the release.

The Discharger shall revise the groundwater monitoring system (after review and approval by Central Valley Water Board staff) as needed, upon the installation of the additional wells required under the WDRs.

- a. Monitoring Points (see WDR Attachment C: Site Map)
 i. LF-1

Program	Well	Relative Location	
		GW Flow	Unit
Background	MW-2 ¹ , --- ²	Upgradient	West
Detection & Corrective Action	MW-1 ¹ , --- ²	Sidegradient	North
	MW-3 ³ , MW-4, --- ²	Downgradient	East or NE

1. Dry well -- may need to be replaced per WDR Finding 35.
2. Possible future well(s) to be installed per WDR Provision H.10.b.
3. Abandoned well to be replaced. See WDR Finding 35.

The groundwater monitoring network shall include any future or replacement wells installed under these WDRs, as indicated in the above table. See Provision H.10.c.

- b. Monitoring Schedule

Groundwater samples shall be collected from the background wells and detection/corrective action monitoring wells, and any additional wells added as part of the approved groundwater monitoring system. The collected samples shall be analyzed for the parameters and constituents listed in Table I in accordance with the specified methods and frequencies. The Discharger shall collect, preserve, and transport groundwater samples in accordance with the most recently approved Sample Collection and Analysis Plan.

Once per semiannual monitoring period, the Discharger shall measure the piezometric groundwater elevation in each well and piezometer, determine groundwater flow direction, and estimate groundwater flow rates in the uppermost aquifer and in any additional zones being monitored. Groundwater elevation monitoring shall be conducted in existing wells and any future wells added as part of the approved groundwater monitoring system. The results shall be reported semiannually, including the times of expected highest and lowest elevations of the water levels in the wells, pursuant to Title 27, section 20415(e)(15).

Samples collected for the COC monitoring specified in Table I shall be collected and analyzed in accordance with the methods listed in Table VI every five years. No five-year COC monitoring was required or conducted under previous MRP Order 5-00-802. The first five-year COC monitoring event under this Order shall be conducted by **15 December 2018**. The five-year COC results shall be reported in the Annual Monitoring Report for the year in which the samples were collected.

Background, detection, and corrective action monitoring data analysis shall be conducted consistent with the statistical and non-statistical data analysis methods described in Section C.1.e, or as updated in the updated Sample Collection and Analysis Plan required to be submitted under WDR Provision H.8, as approved by the Executive Officer.

2. Unsaturated Zone Monitoring

The Discharger shall operate and maintain an unsaturated zone detection and corrective action monitoring system that complies with the applicable provisions of Title 27, sections 20415 and 20420.

a. Soil Pore Water

These WDRs do not require soil pore water monitoring given that the landfill is unlined and was a pit fill operation. It is therefore not technically feasible to retrofit it with lysimeters. Further, detection monitoring of the unsaturated zone will not provide the earliest indication of a release from the landfill because the release is historical and has already been detected in groundwater monitoring,

b. Soil Pore Gas

i. Monitoring Points

There are currently no soil pore gas monitoring wells or probes at the site. Given the age of the landfill and the fact that most of the MSW was burned, these WDRs do not require that the Discharger install gas monitoring wells at the site. The Discharger is required, however, to monitor any gas wells or probes required to be installed by the Local Enforcement Agency (LEA).

ii. Monitoring Schedule

Future gas monitoring wells installed at the site (e.g., per LEA requirements) shall be sampled and analyzed for the parameters and constituents listed in Table II in accordance with the specified methods and frequencies. The Discharger shall collect, preserve, and transport samples in accordance with the quality assurance/quality control standards contained in the approved Sample Collection and Analysis Plan. Monitoring results for the unsaturated zone shall be included in monitoring reports and shall include an evaluation of potential impacts of the facility on the unsaturated zone and compliance with the Water Quality Protection Standard.

c. Confirmation of a Gas Release

In the event that LFG is detected in soil pore gas at levels triggering VOC testing (i.e., methane at or above 1% by volume and/or total organic vapors at or above 50 ppmv), the Discharger shall, within 24-hours, notify Central Valley Water Board staff by telephone or email. Retest sampling in accordance with the approved Sample Collection and Analysis Plan shall be conducted thereafter, as necessary, to confirm a release. Confirmation of a landfill gas release to the unsaturated

zone may constitute physically significant evidence of a release under the Landfill SPRRs. Upon confirmation of a gas release, the Discharger shall implement appropriate short term and long term corrective action measures consistent with the Response to Release requirements of the applicable SPRRs and/or as otherwise directed by the Central Valley Water Board.

3. Leachate Monitoring

As noted in WDR Finding 5, LF-1 is unlined and does not have a leachate collection and recovery system. Leachate monitoring at the site is therefore limited to seep monitoring.

The Discharger shall visually monitor all areas of the landfill (e.g., cover decks, side slopes, and toe) for leachate seeps in the regular course of site maintenance and as part of Facility Monitoring under Section A.5. Any observed leachate seepage from the inactive/closed landfill unit shall be sampled upon detection and analyzed for the field parameters and applicable monitoring parameters and COCs listed in Table III. The quantity of leachate shall be estimated and reported as Leachate Flow Rate (in gallons per day). Reporting for leachate seeps shall be conducted as required in Section B.3 of this MRP.

4. Surface Water Monitoring

The Discharger shall install and operate a surface water detection monitoring system to detect a release from the landfill to surface water and any resulting impacts to surface water if such a release occurs. The monitoring system shall comply with the applicable provisions of Title 27, sections 20415 and 20420.

a. Monitoring Points

Surface water monitoring at the Winters Landfill shall be conducted in the unlined drainage swale that enters the western side of the site, flows along the western perimeter of LF-1 and discharges to the unnamed seasonal tributary to Dry Slough in the northeast corner of the site. See Attachments B & C.

<u>Monitoring Point</u>	<u>Status</u>	<u>Location</u>	<u>Surface Water</u>
SW-1	Background	Upstream, western site perimeter	Unlined drainage swale crossing site
SW-2	Detection	Where drainage swale joins LF-1 perimeter drain	
SW-3	Detection	Northeast corner of site	Seasonal tributary to Dry Slough

1. Sampling required twice per year during the wet season when water is present during the monitoring period.

b. **Monitoring Schedule**

Surface water samples shall be collected at each monitoring point location and analyzed for the monitoring parameters and constituents in accordance with the methods and frequency specified in Table IV. All surface water monitoring samples shall be collected and analyzed for the 5-year COCs specified in Table IV every five years, beginning by **15 December 2018**.

The above monitoring system meets Title 27 requirements for surface/storm water monitoring.

5. Landfill Facility Monitoring

a. **Annual Facility Inspection**

Annually, prior to the anticipated rainy season, but no later than **15 September** of each year, the Discharger shall conduct an inspection of the landfill facility. The inspection shall assess repair and maintenance needed for drainage control systems, cover systems, and monitoring systems; and shall assess preparedness for winter conditions (including but not limited to erosion and sedimentation control). The Discharger shall take photos of any problem areas before and after repairs. Any necessary construction, maintenance, or repairs shall be completed by **31 October** of each year. Annual facility inspection reporting shall be submitted as required in Section B.4 of this MRP.

b. **Major Storm Events**

The Discharger shall inspect all precipitation, diversion, and drainage facilities and all unit side slopes for damage **within 7 days** following major storm events (i.e. one which produces 2.5 inches or more of precipitation within a 24-hour period (as measured at the nearest DWR or NOAA weather station collecting daily precipitation data) capable of causing damage or significant erosion.¹ The Discharger shall take photos of any problem areas before and after repairs. Necessary repairs shall be completed **within 30 days** of the inspection. Notification and reporting requirements for major storm events shall be conducted as required in Section B.5 of this MRP.

c. **Five-Year Topographic Surveys**

Title 27 requires that the Discharger conduct an initial final cover topographic survey upon completion of landfill final cover installation and at least every five years thereafter. The purpose of the survey is to track differential settlement of the landfill's low hydraulic conductivity (LHC) layer of the cover. The Discharger is

¹. For example, online daily precipitation data from DWR's Winters.A (CIMIS #139, Winters) station at the Wolfskill Experimental Orchard or NOAA's Winters.C (NCDC #9742, Winters) behind the Winters Express Newspaper office.

also required to produce an iso-settlement map accurately depicting the estimated total change in elevation of each portion of the final cover's LHC (or engineered alternative cover, as applicable).

The first postclosure topographic survey of the site, including LF-1 and surrounding areas, shall be completed **within 60 days** of completion of the landfill final cover. Subsequent postclosure topographic surveys of the site shall be completed at least **every five years** thereafter.

Reporting of the above shall be in accordance with Section B.6 of this MRP.

d. Standard Observations

The Discharger shall conduct Standard Observations at the site in accordance with this section of the MRP. Standard observations shall be conducted monthly during the wet season (1 October to 30 April) and quarterly during the dry season (1 May to 30 September).

The Standard Observations shall include:

- i. For the unit:
 - (1) Evidence of ponded water at any point on the unit (show affected area on map); and
 - (2) Evidence of erosion and/or of day-lighted refuse.
- ii. Along the perimeter of the unit:
 - (1) Evidence of leachate seeps, estimated size of affected area, and flow rate (show affected area on map); and
 - (2) Evidence of erosion and/or of day-lighted refuse.
- iii. For receiving waters:
 - (1) Floating and suspended materials of waste origin - presence or absence, source, and size of affected area; and
 - (2) Discoloration and turbidity - description of color, source, and size of affected area.

Results of Standard Observations shall be submitted in the semiannual monitoring reports required in Section B.1 of this MRP.

Landfill Facility Monitoring shall also include leachate seep monitoring during the regular course of site/postclosure activities under Section A.3.

B. REPORTING

The Discharger shall submit the following reports in accordance with the required schedule:

Reporting Schedule			
<u>Section</u>	<u>Report</u>	<u>End of Reporting Period</u>	<u>Due Date</u>
1	Semiannual Monitoring Report	30 June & 31 December	1 August, 1 February
2	Annual Monitoring Report	31 December	1 February
3	Seep Reporting	Continuous	Immediately & Within 7 Days
4	Annual Facility Inspection Report	31 October	15 November
5	Major Storm Event Reporting	Continuous	Immediately & 14 days from damage repair
6	Topographic Survey and Iso-Settlement Map for Closed Landfills	Every 5 Years	Within 30 days of completion of survey & every 5 years thereafter (All units)

The Discharger shall enter all monitoring data and reports into the online Geotracker database as required by Division 3 of Title 27 and Chapter 30, Division 3 of Title 23. Notification of the Geotracker upload shall be emailed to the Central Valley Water Board at: centralvalleysacramento@waterboards.ca.gov. To ensure that the submittal is routed to the appropriate staff as quickly as possible, the following information shall be included in the body of the email:

Attention:	Title 27 Compliance & Enforcement Unit, or Title 27 Permitting Unit
Report Title	
Geotracker Upload ID	
Discharger name:	City of Winters
Facility name:	Winters Landfill
County:	Yolo
CIWQS place ID:	272836

Reporting Requirements

The Discharger shall submit the monitoring reports required under this Order as pdf uploaded to Geotracker, as described above. Each monitoring report shall include the data and information as required in this Monitoring and Reporting Program and as required in WDRs Order R5-2018-XXXX and the Standard Provisions and Reporting Requirements (particularly Section I: "Standard Monitoring Specifications" and Section J:

“Response to a Release”). In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or the lack thereof.

Field and laboratory sheets shall be reported in each monitoring report. Semiannual and annual monitoring reports shall be submitted to the Central Valley Water Board in accordance with the above schedule for the calendar period in which samples were taken or observations made.

The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained throughout the life of the facility including the post-closure period. Such records shall be legible and shall show the following for each sample:

- a. Sample identification and the monitoring point or background monitoring point from which it was taken, along with the identity of the individual who obtained the sample;
- b. Date, time, and manner of sampling;
- c. Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;
- d. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;
- e. Calculation of results; and
- f. Results of analyses, and the MDL and PQL for each analysis. All peaks shall be reported.
- g. Well purge data sheets.

Required Reports

1. Semiannual Monitoring Report

Monitoring reports shall be submitted semiannually and are due on **1 August** and **1 February**. Each semiannual monitoring report shall contain at least the following:

- a. For each groundwater monitoring point addressed by the report, a description of:
 - i. The time of water level measurement;
 - ii. The type of pump - or other device - used for purging and the elevation of the pump intake relative to the elevation of the screened interval;
 - iii. The method of purging used to stabilize water in the well bore before the sample is taken including the pumping rate; the equipment and methods used to monitor field pH, temperature, and conductivity during purging; results of pH, temperature, conductivity, and turbidity testing; and the method of disposing of the purge water;
 - iv. The type of pump - or other device - used for sampling, if different than the

- pump or device used for purging; and
- v. A statement that the sampling procedure was conducted in accordance with the approved Sample Collection and Analysis Plan.
 - b. A map or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points.
 - c. Groundwater elevation contour and flow stream maps showing groundwater elevations and the directions of groundwater flow in the uppermost aquifer and in any additional zones of saturation based upon quarterly groundwater elevation monitoring prior to sampling. Corresponding estimates of groundwater gradients and flow velocity shall also be provided.
 - d. Cumulative tabulated monitoring data for all monitoring points and constituents for groundwater, unsaturated zone, leachate, and surface water. Concentrations below the laboratory reporting limit shall not be reported as "ND" unless the reporting limit is also given in the table. Otherwise they shall be reported "<" the reporting limit (e.g., <0.10). Units shall be as required in Tables I through IV unless specific justification is given to report in other units. Refer to the SPRRs Section I "Standard Monitoring Specifications" for requirements regarding MDLs and PQLs.
 - e. Laboratory statements of results of all analyses evaluating compliance with requirements.
 - f. An evaluation of the concentration of each monitoring parameter (or 5-year COC when 5-year COC sampling is conducted) as compared to the current concentration limits, and the results of any required verification testing for constituents exceeding a concentration limit. Report any actions taken under SPRRs Section J: Response to a Release for verified exceedances of a concentration limit for wells/constituents not already in corrective action monitoring.
 - g. An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities.
 - h. A summary of all Standard Observations for the reporting period required in Section A.5.d of this MRP.
 - i. A summary of inspection, leak search, repair or improvement of the landfill final cover in accordance with the most recently approved postclosure maintenance plan (PCMP) or updated PCMP. See WDR Postclosure Specification E.9 and Standard Closure and Post-Closure Maintenance Specifications G.8, G.11 and G.12 of the Industrial SPRRs.

2. Annual Monitoring Report

The Discharger shall submit (i.e., upload to Geotracker) an Annual Monitoring Report to the Central Valley Water Board by **1 February** covering the reporting period of the

previous monitoring year. If desired, the Annual Monitoring Report may be combined with the second semiannual report, but if so, shall clearly state that it is both a semi-annual and annual monitoring report in its title. Each Annual Monitoring Report shall contain the following information:

- a. All monitoring parameters shall be graphed to show historical trends at each monitoring point and background monitoring point, for all samples taken within at least the previous 10 calendar years. If a 5-year COC event was performed, then these parameters shall also be graphically presented for the entire history of COC monitoring. Each such graph shall plot the concentration of one or more constituents for the period of record for a given monitoring point or background monitoring point, at a scale appropriate to show trends or variations in water quality. Constituent monitoring data of incompatible scales/ranges shall not be plotted on the same graph. The graphs shall plot each datum, rather than plotting mean values. Graphical analysis of monitoring data may be used to provide significant evidence of a release.
- b. An evaluation of the monitoring parameters with regards to the cation/anion balance, and a graphical presentation using a Stiff diagram, a Piper graph, or a Schoeller plot.
- c. All historical monitoring data for which there are detectable results, including data for the previous year, shall be submitted in tabular form in a digital file format per Geotracker. The Central Valley Water Board regards the submittal of data in digital format as "...the form necessary for..." statistical analysis [Title 27, section 20420(h)], that facilitates periodic review by the Central Valley Water Board.
- d. Hydrographs of each well showing the elevation of groundwater with respect to the elevations of the top and bottom of the screened interval and the elevation of the pump intake. Hydrographs of each well shall be prepared quarterly and submitted annually.
- e. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements.
- f. A written summary of the monitoring results, indicating any changes made or observed since the previous Annual Monitoring Report.
- g. Updated concentration limits for each monitoring parameter at each monitoring well based on the new data set.
- h. A comprehensive summary of the effectiveness of any corrective actions implemented (i.e., landfill closure).

3. Seep Reporting

The Discharger shall report by telephone any seepage from the disposal area **immediately** after it is discovered. A written report shall be filed with the Central Valley Water Board **within seven days**, containing at least the following information:

- a. A map showing the location(s) of seepage;
- b. An estimate of the flow rate;
- c. A description of the nature of the discharge (e.g., all pertinent observations and analyses);
- d. Verification that samples have been submitted for analyses of the Field Parameters and Monitoring Parameters listed in Table A.3 of this MRP, and an estimated date that the results will be submitted to the Central Valley Water Board; and
- e. Corrective measures underway or proposed, and corresponding time schedule.

4. Annual Facility Inspection Reporting

By **15 November** of each year, the Discharger shall submit an Annual Facility Inspection Report describing measures implemented based on the Annual Facility Inspection, including inspections and repairs, preparations for winter, and photographs of any problem areas and the repairs. See Section A.5.a.

5. Major Storm Event Reporting

Following major storm events capable of causing damage or significant erosion, the Discharger **immediately** shall notify Central Valley Water Board staff of any damage or significant erosion upon discovery and report subsequent repairs within **14 days** of completion of the repairs, including photographs of the problem and the repairs. See Section A.5.b.

6. 5-Year Topographic Survey(s)

Within 30 days of completing the first postclosure topographic survey required under this Order, the Discharger shall submit the report for the first topographic survey. Subsequent topographic reports for the site shall be submitted at least **every five years** thereafter. Each report shall include topographic survey and a base-line iso-settlement map for the closed unit. See MRP Section A.5.c.

C. WATER QUALITY PROTECTION STANDARD

The Water Quality Protection Standard for the landfill unit shall consist of all Constituents of Concern (COCs), Concentration Limits, the Point of Compliance, and all Monitoring Points consistent with this Order and Title 27, Section 20390.

1. Water Quality Protection Standard Report

By **31 January 2021**, the Discharger shall submit a revised Water Quality Protection Standard (WQPS) Report proposing a WQPS for each classified unit at the site consistent with the Findings and Requirements of this Order. At a minimum, the report

shall include the following information:

- a. Identify **all distinct bodies of surface and ground water** that could be affected in the event of a release from a waste management unit or portion of a unit. This list shall include at least the uppermost aquifer, unsaturated zone, and any permanent or ephemeral zones of perched groundwater underlying the facility.
- b. Evaluate the perennial direction(s) of groundwater movement within the uppermost groundwater zone(s).
- c. A map showing the monitoring points and background monitoring points for groundwater, the unsaturated zone, and surface water for each unit and/or fill area. The map shall show the point of compliance for each unit in accordance with Title 27, section 20405.
- d. Listings/tables showing all elements of the WQPS for each unit and water bearing media, including, but not limited to, concentration limits for all monitoring parameters and 5-year COCs. See Standard Monitoring Specification I.23, SPRR.
- e. Proposed data analysis methods for calculating concentration limits for monitoring parameters and constituents of concern detected in 10% or greater of the background data (e.g., naturally-occurring constituents) per Title 27, section 20415(e)(8)(A-D)] or section 20415(e)(8)(E). Note – WQPS Report may reference the Sample Collection and Analysis Plan for this information. See WDR Findings 36 through and 42.
- f. A retesting procedure to confirm or deny measurably significant evidence of a release pursuant to Title 27, section 20415(e)(8)(E) and section 20420(j)(1-3).

Once approved, the concentration limits of the WQPS shall be annually updated to reflect current background monitoring data using the approved data analysis methods. Any subsequent proposed changes to the WQPS, other than annual update of the concentration limits shall be submitted in the form of a revised WQPS report for review and approval by the Executive Officer. The WQPS shall be certified by a California-registered civil engineer or geologist as meeting the requirements of Title 27.

2. Monitoring Parameters

Monitoring parameters are a select group of constituents that are monitored during each monitoring event that are the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from a waste management unit. The monitoring parameters for all waste management units are those listed in Tables I through V for the specified monitored medium.

3. Constituents of Concern (COCs)

The COCs include a larger group of waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the waste management unit, and are required to be monitored every five years [Title 27, sections 20395 and 20420(g)]. The COCs for all waste management units at the facility are those listed in Tables I through IV for the specified monitored medium, and Table VI. The Discharger shall monitor all COCs every five years, or

more frequently as required in accordance with a Corrective Action Program. Five-year COC monitoring was not required under previous Revised MRP Order 5-00-802. The first five-year COC monitoring event under this Order shall be conducted by **15 December 2018**.

4. Concentration Limits

Previous Revised MRP Order 5-00-802 did not require that the Discharger develop concentration limits for the site and the Discharger does not yet have an approved set of concentration limits for the landfill. Proposed concentration limits for all water bearing media (e.g., surface water and groundwater) are, however, required to be included in the revised WQPS Report required under the WDR Provisions.

For a naturally occurring constituent of concern, the concentration limit for each constituent of concern shall be determined by calculation in accordance with a statistical method pursuant to Title 27, section 20415(e)(8); or by an alternate statistical method meeting the requirements of Title 27, section 20415(e)(8)(E).

a. Detection Monitoring

- i. Non-naturally occurring COCs - The concentration limits for non-naturally-occurring constituents of concern, including organic compounds (e.g., VOCs and dissolved metals not detectable in background), shall be the laboratory detection limit.
- ii. Naturally Occurring COCs - The concentration limits for naturally-occurring COCs (e.g., general minerals and dissolved metals detectable in background) shall be determined by statistical analysis of upgradient monitoring data. The data analysis method for calculating concentration limits for naturally-occurring COCs under this Order shall be the interwell Tolerance Limit Method, or as otherwise proposed in the updated Sample Collection and Analysis Plan required to be submitted under WDR Provision H.8. Concentration limits for naturally occurring COCs shall be updated annually and included in the Annual Monitoring Report submitted under Section B.2.g of this MRP.

b. Corrective Action Monitoring

The concentration limits for corrective action monitoring shall be the same as those for detection monitoring absent approval of a proposal for concentration limits greater than background (CLGBs) under Title 27 Section 20400(c) and revision of the WDRs. Time series plots and/or an intrawell statistical procedure (e.g., Mann-Kendall test) shall be used for trend analysis to monitor corrective action progress.

5. Point of Compliance

The Point of Compliance for the water standard at each waste management unit is a vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the unit. The Point of Compliance wells for LF-1 shall include wells MW-1, MW-4, the required replacement well for MW-3, and any other future well(s) installed along the downgradient or sidegradient perimeter of

LF-1. The WQPS Report required under the WDR provisions is required to specify the Point of Compliance well for each unit.

6. Compliance Period

The compliance period for each waste management unit shall be the number of years equal to the active life of the unit plus the closure period. The compliance period is the minimum period during which the Discharger shall conduct a water quality monitoring program subsequent to a release from the waste management unit. The compliance period shall begin anew each time the Discharger initiates an evaluation monitoring program [Title 27, section 20410].

7. Monitoring Points

A monitoring point is a well, device, or location specified in the waste discharge requirements, which monitoring is conducted and at which the water quality protection standard applies. The monitoring points for each monitored medium are listed in Section A of this MRP.

D. TRANSMITTAL LETTER FOR ALL REPORTS

A transmittal letter explaining the essential points shall accompany each report. At a minimum, the transmittal letter shall identify any violations found since the last report was submitted, and if the violations were corrected. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter. The transmittal letter shall also state that a discussion of any violations found since the last report was submitted, and a description of the actions taken or planned for correcting those violations, including any references to previously submitted time schedules, is contained in the accompanying report. The transmittal letter shall contain a statement by the discharger, or the discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate, and complete.

The Discharger shall implement the above monitoring program on the effective date of this Order.

Ordered by: _____
PAMELA C. CREEDON, Executive Officer

(Date)

JDM

**TABLE I
 GROUNDWATER DETECTION AND
 CORRECTIVE ACTION MONITORING PROGRAM**

<u>Parameter</u>	<u>Geotracker Code</u>	<u>Units</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Field Parameters				
Groundwater Elevation	GWELEV	Ft. & 10ths, M.S.L.	Semiannual	Semiannual
Temperature	TEMP	°F	Semiannual	Semiannual
Electrical Conductivity	SC	umhos/cm	Semiannual	Semiannual
pH	PH	pH units	Semiannual	Semiannual
Turbidity	TURB	Turbidity units	Semiannual	Semiannual
Monitoring Parameters				
Alkalinity, Total		mg/L	Semiannual	Semiannual
Chloride	CL	mg/L	Semiannual	Semiannual
Hardness, Total		mg/L	Semiannual	Semiannual
Sulfate	SO4	mg/L	Semiannual	Semiannual
Total Dissolved Solids (TDS)	TDS	mg/L	Semiannual	Semiannual
Carbonate	CACO3	mg/L	Annually	Annually
Bicarbonate	BICACO3	mg/L	Annually	Annually
Calcium	CA	mg/L	Annually	Annually
Magnesium	MG	mg/L	Annually	Annually
Nitrate - Nitrogen	NO3N	mg/L	Annually	Annually
Potassium	K	mg/L	Annually	Annually
Sodium	NA	mg/L	Annually	Annually
Dissolved lead (see Table VI) ^{1,2}		ug/L	Annually	Annually
5-Year Constituents of Concern (see Table VI)				
Total Organic Carbon	TOC	mg/L	15 December 2018 & every 5 years thereafter	1 February 2019 & every 5 years thereafter
Inorganics (dissolved)		ug/L	“ “	“ “
Volatile Organic Compounds (USEPA Method 8260B, extended list)		ug/L	“ “	“ “
Semi-Volatile Organic Compounds (USEPA Method 8270C or D)		ug/L	“ “	“ “
Chlorophenoxy Herbicides (USEPA Method 8151A)		ug/L	“ “	“ “
Organophosphorus Compounds (USEPA Method 8141B)		ug/L	“ “	“ “

**TABLE II
 UNSATURATED ZONE DETECTION AND
 CORRECTIVE ACTION MONITORING PROGRAM**

SOIL-PORE GAS¹

<u>Parameter</u>	<u>Geotracker Code</u>	<u>Units</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Monitoring Parameters				
Methane	CH4	%	Semiannual	Semiannual
Carbon Dioxide	C02	%	Semiannual	Semiannual
Organic Vapors	---	ppmv	Semiannual	Semiannual
Volatile Organic Compounds ¹ (USEPA Method TO-15)	---	ug/cm ³	Annual	Annual

¹. Gas samples may be prescreened to determine if laboratory analysis using Method TO-15 is required. A gas analyzer for methane concentrations or a Photo Ionization Detector (PID) for total VOCs concentrations may be used. If methane concentrations exceeding 1.0 percent by volume OR organic vapors (total VOCs) are detected at a concentration greater than 50 ppmv then a gas sample shall be obtained and analyzed for VOCs using EPA Method TO-15. Both the screening results and laboratory analysis results shall be reported. Otherwise, the Discharger shall report the methane or total VOC screening results and no further laboratory analysis is required.

**TABLE III
 LEACHATE SEEP MONITORING**

<u>Parameter</u>	<u>Geotracker Code</u>	<u>Units</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u> ¹
Field Parameters				
Total Flow		Gallons	If seep detected	
Flow Rate	FLOW	Gallons/Day	“	“
Electrical Conductivity	SC	umhos/cm	“	“
pH	PH	pH units	“	“
Monitoring Parameters				
Total Dissolved Solids (TDS)	TDS	mg/L	“	“
Chloride	CL	mg/L	“	“
Carbonate	CACO3	mg/L	“	“
Bicarbonate	BICACO3	mg/L	“	“
Nitrate - Nitrogen	NO3N	mg/L	“	“
Sulfate	SO4	mg/L	“	“
Calcium	CA	mg/L	“	“
Magnesium	MG	mg/L	“	“
Potassium	K	mg/L	“	“
Sodium	NA	mg/L	“	“
Volatile Organic Compounds (USEPA Method 8260B, short list, see Table V)		ug/L	“	“
Inorganics (dissolved)		ug/L	“	“
Volatile Organic Compounds (USEPA Method 8260B, extended list)		ug/L	“	“
Semi-Volatile Organic Compounds (USEPA Method 8270C or D)		ug/L	“	“
Chlorophenoxy Herbicides (USEPA Method 8151A)		ug/L	“	“
Organophosphorus Compounds (USEPA Method 8141B)		ug/L	“	“

¹. The Discharger shall report by telephone immediately the leachate seep is discovered and file a written report with the Central Valley Water Board within seven days. See MRP Section 3.

TABLE IV
SURFACE WATER DETECTION MONITORING PROGRAM

<u>Parameter</u>	<u>Geotracker Code</u>	<u>Units</u>	<u>Sampling Frequency</u> ¹	<u>Reporting Frequency</u>
Field Parameters				
Electrical Conductivity	SC	umhos/cm	Semiannual	Semiannual
pH	PH	pH units	Semiannual	Semiannual
Turbidity	TURB	Turbidity units	Semiannual	Semiannual
Flow Rate.		Yes or No	Semiannual	Semiannual
Monitoring Parameters				
Total Dissolved Solids (TDS)	TDS	mg/L	Semiannual	Semiannual
Carbonate	CACO3	mg/L	Semiannual	Semiannual
Bicarbonate	BICACO3	mg/L	Semiannual	Semiannual
Chloride	CL	mg/L	Semiannual	Semiannual
Nitrate - Nitrogen	NO3N	mg/L	Semiannual	Semiannual
Sulfate	SO4	mg/L	Semiannual	Semiannual
Calcium	CA	mg/L	Semiannual	Semiannual
Magnesium	MG	mg/L	Semiannual	Semiannual
Potassium	K	mg/L	Semiannual	Semiannual
Sodium	NA	mg/L	Semiannual	Semiannual
5-Year Constituents of Concern (see Table VI)				
Total Organic Carbon	TOC	mg/L	15 December 2018 and every 5 years thereafter	1 February 2019 and every 5 years thereafter
Inorganics (dissolved)		ug/L	“ “	“ “
Volatile Organic Compounds (USEPA Method 8260B, extended list)		ug/L	“ “	“ “
Semi-Volatile Organic Compounds (USEPA Method 8270C or D)		ug/L	“ “	“ “
Chlorophenoxy Herbicides (USEPA Method 8151A)		ug/L	“ “	“ “
Organophosphorus Compounds (USEPA Method 8141B)		ug/L	“ “	“ “

¹. Surface water sampling shall be conducted anytime during each wet season monitoring period when water is present at the designated surface water monitoring point.

**TABLE V
 MONITORING PARAMETERS FOR
 DETECTION AND CORRECTIVE ACTION MONITORING**

Surrogates for Metallic Constituents:

<u>COC Description</u>	<u>Geotracker Code</u>
pH	PH
Total Dissolved Solids	TDS
Electrical Conductivity	SC
Chloride	CL
Sulfate	SO4
Nitrate nitrogen	NO3N

Volatile Organic Compounds, short list (USEPA Method 8260B):

Acetone	ACE
Acrylonitrile	ACRAMD
Benzene	BZ
Bromochloromethane	BRCLME
Bromodichloromethane	BDCME
Bromoform (Tribromomethane)	TBME
Carbon disulfide	CDS
Carbon tetrachloride	CTCL
Chlorobenzene	CLBZ
Chloroethane (Ethyl chloride)	CLEA
Chloroform (Trichloromethane)	TCLME
Dibromochloromethane (Chlorodibromomethane)	DBCME
1,2-Dibromo-3-chloropropane (DBCP)	DBCP
1,2-Dibromoethane (Ethylene dibromide; EDB)	EDB
o-Dichlorobenzene (1,2-Dichlorobenzene)	DCBZ12
m-Dichlorobenzene (1,3-Dichlorobenzene)	DCBZ13
p-Dichlorobenzene (1,4-Dichlorobenzene)	DCBZ14
trans-1,4-Dichloro-2-butene	DCBE14T
Dichlorodifluoromethane (CFC-12)	FC12
1,1-Dichloroethane (Ethylidene chloride)	DCA11
1,2-Dichloroethane (Ethylene dichloride)	DCA12
1,1 -Dichloroethylene (1,1 -Dichloroethene; Vinylidene chloride)	DCE11
cis-1,2-Dichloroethylene (cis-1,2-Dichloroethene)	DCE12C
trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene)	DCE12T
1,2-Dichloropropane (Propylene dichloride)	DCPA12
cis-1,3-Dichloropropene	DCP13C
trans-1,3-Dichloropropene	DCP13T
Di-isopropylether (DIPE)	DIPE
Ethanol	ETHANOL
Ethyltertiary butyl ether	ETBE
Ethylbenzene	EBZ
2-Hexanone (Methyl butyl ketone)	HXO2
Hexachlorobutadiene	HCBU
Methyl bromide (Bromomethane)	BRME
Methyl chloride (Chloromethane)	CLME

TABLE V
MONITORING PARAMETERS FOR
DETECTION AND CORRECTIVE ACTION MONITORING
Continued

Methylene bromide (Dibromomethane)	DBMA
Methylene chloride (Dichloromethane)	DCMA
Methyl ethyl ketone (MEK: 2-Butanone)	MEK
Methyl iodide (Iodomethane)	IME
Methyl t-butyl ether	MTBE
4-Methyl-2-pentanone (Methyl isobutylketone)	MIBK
Naphthalene	NAPH
Styrene	STY
Tertiary amyl methyl ether	TAME
Tertiary butyl alcohol	TBA
1,1,1,2-Tetrachloroethane	TC1112
1,1,2,2-Tetrachloroethane	PCA
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene)	PCE
Toluene	BZME
1,2,4-Trichlorobenzene	TCB124
1,1,1-Trichloroethane (Methylchloroform)	TCA111
1,1,2-Trichloroethane	TCA112
Trichloroethylene (Trichloroethene)	TCE
Trichlorofluoromethane (CFC- 11)	FC11
1,2,3-Trichloropropane	TCPR123
Vinyl acetate	VA
Vinyl chloride	VC
Xylenes	XYLENES

**TABLE VI
 5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS**

<u>Inorganics (dissolved):</u>	<u>USEPA Method</u>	<u>Geotracker Code</u>
Aluminum	6010	AL
Antimony	7041	SB
Barium	6010	BA
Beryllium	6010	BE
Cadmium	7131A	CD
Chromium	6010	CR
Cobalt	6010	CO
Copper	6010	CU
Silver	6010	AG
Tin	6010	SN
Vanadium	6010	V
Zinc	6010	ZN
Iron	6010	FE
Manganese	6010	MN
Arsenic	7062	AS
Lead	7421	PB
Mercury	7470A	HG
Nickel	7521	NI
Selenium	7742	SE
Thallium	7841	TL
Cyanide	9010C	CN
Sulfide	9030B	S

Volatile Organic Compounds, extended list (USEPA Method 8260B):

<u>COC Description</u>	<u>Geotracker Code</u>
Acetone	ACE
Acetonitrile (Methyl cyanide)	ACCN
Acrolein	ACRL
Acrylonitrile	ACRAMD
Allyl chloride (3-Chloropropene)	CLPE3
Benzene	BZ
Bromochloromethane (Chlorobromomethane)	BRCLME
Bromodichloromethane (Dibromochloromethane)	DBCME
Bromoform (Tribromomethane)	TBME
Carbon disulfide	CDS
Carbon tetrachloride	CTCL
Chlorobenzene	CLBZ
Chloroethane (Ethyl chloride)	CLEA
Chloroform (Trichloromethane)	TCLME
Chloroprene	CHLOROPRENE
Dibromochloromethane (Chlorodibromomethane)	DBCME
1,2-Dibromo-3-chloropropane (DBCP)	DBCP
1,2-Dibromoethane (Ethylene dibromide; EDB)	EDB
o-Dichlorobenzene (1,2-Dichlorobenzene)	DCBZ12

TABLE VI
5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS
Continued

m-Dichlorobenzene (1,3-Dichlorobenzene)	DCBZ13
p-Dichlorobenzene (1,4-Dichlorobenzene)	DCBZ14
trans- 1,4-Dichloro-2-butene	DCBE14T
Dichlorodifluoromethane (CFC 12)	FC12
1,1 -Dichloroethane (Ethylidene chloride)	DCA11
1,2-Dichloroethane (Ethylene dichloride)	DCA12
1,1 -Dichloroethylene (1, 1-Dichloroethene; Vinylidene chloride)	DCE11
cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)	DCE12C
trans- 1,2-Dichloroethylene (trans- 1,2-Dichloroethene)	DCE12T
1,2-Dichloropropane (Propylene dichloride)	DCPA12
1,3-Dichloropropane (Trimethylene dichloride)	DCPA13
2,2-Dichloropropane (Isopropylidene chloride)	DCPA22
1,1 -Dichloropropene	DCP11
cis- 1,3-Dichloropropene	DCP13C
trans- 1,3-Dichloropropene	DCP13T
Di-isopropylether (DIPE)	DIPE
Ethanol	ETHANOL
Ethyltertiary butyl ether	ETBE
Ethylbenzene	EBZ
Ethyl methacrylate	EMETHACRY
Hexachlorobutadiene	HCBU
2-Hexanone (Methyl butyl ketone)	HXO2
Isobutyl alcohol	ISOBTOH
Methacrylonitrile	METHACRN
Methyl bromide (Bromomethane)	BRME
Methyl chloride (Chloromethane)	CLME
Methyl ethyl ketone (MEK; 2-Butanone)	MEK
Methyl iodide (Iodomethane)	IME
Methyl t-butyl ether	MTBE
Methyl methacrylate	MMTHACRY
4-Methyl-2-pentanone (Methyl isobutyl ketone)	MIBK
Methylene bromide (Dibromomethane)	DBMA
Methylene chloride (Dichloromethane)	DCMA
Naphthalene	NAPH
Propionitrile (Ethyl cyanide)	PACN
Styrene	STY
Tertiary amyl methyl ether	TAME
Tertiary butyl alcohol	TBA
1,1,1,2-Tetrachloroethane	TC1112
1,1,2,2-Tetrachloroethane	PCA
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)	PCE
Toluene	BZME
1,2,4-Trichlorobenzene	TCB124
1,1,1 -Trichloroethane (Methylchloroform)	TCA111

TABLE VI
5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS
Continued

1,1,2-Trichloroethane	TCA112
Trichloroethylene (Trichloroethene; TCE)	TCE
Trichlorofluoromethane (CFC- 11)	FC11
1,2,3-Trichloropropane	TCPR123
Vinyl acetate	VA
Vinyl chloride (Chloroethene)	VC
Xylene (total)	XYLENES

Semi-Volatile Organic Compounds (USEPA Method 8270C or D - base, neutral, & acid extractables):

Acenaphthene	ACNP
Acenaphthylene	ACNPY
Acetophenone	ACPHN
2-Acetylaminofluorene (2-AAF)	ACAMFL2
Aldrin	ALDRIN
4-Aminobiphenyl	AMINOBP4
Anthracene	ANTH
Benzo[a]anthracene (Benzanthracene)	BZAA
Benzo[b]fluoranthene	BZBF
Benzo[k]fluoranthene	BZKF
Benzo[g,h,i]perylene	BZGHIP
Benzo[a]pyrene	BZAP
Benzyl alcohol	BZLAL
Bis(2-ethylhexyl) phthalate	BIS2EHP
alpha-BHC	BHCALPHA
beta-BHC	BHCBETA
delta-BHC	BHCDELTA
gamma-BHC (Lindane)	BHCGAMMA
Bis(2-chloroethoxy)methane	BECEM
Bis(2-chloroethyl) ether (Dichloroethyl ether)	BIS2CEE
Bis(2-chloro-1-methylethyl) ether (Bis(2-chloroisopropyl) ether; DCIP)	BIS2CIE
4-Bromophenyl phenyl ether	BPPE4
Butyl benzyl phthalate (Benzyl butyl phthalate)	BBP
Chlordane	CHLORDANE
p-Chloroaniline	CLANIL4
Chlorobenzilate	CLBZLATE
p-Chloro-m-cresol (4-Chloro-3-methylphenol)	C4M3PH
2-Chloronaphthalene	CNPH2
2-Chlorophenol	CLPH2
4-Chlorophenyl phenyl ether	CPPE4
Chrysene	CHRYSENE
o-Cresol (2-methylphenol)	MEPH2
m-Cresol (3-methylphenol)	MEPH3
p-Cresol (4-methylphenol)	MEPH4

TABLE VI
5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS
Continued

4,4'-DDD	DDD44
4,4'-DDE	DDE44
4,4'-DDT	DDT44
Diallate	DIALLATE
Dibenz[a,h]anthracene	DBAHA
Dibenzofuran	DBF
Di-n-butyl phthalate	DNBP
3,3'-Dichlorobenzidine	DBZD33
2,4-Dichlorophenol	DCP24
2,6-Dichlorophenol	DCP26
Dieldrin	DIELDRIN
Diethyl phthalate	DEPH
p-(Dimethylamino)azobenzene	PDMAABZ
7,12-Dimethylbenz[a]anthracene	DMBZA712
3,3'-Dimethylbenzidine	DMBZD33
2,4-Dimethylphenol (m-Xylenol)	DMP24
Dimethyl phthalate	DMPH
m-Dinitrobenzene	DNB13
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)	DN46M
2,4-Dinitrophenol	DNP24
2,4-Dinitrotoluene	DNT24
2,6-Dinitrotoluene	DNT26
Di-n-octyl phthalate	DNOP
Diphenylamine	DPA
Endosulfan I	ENDOSULFANA
Endosulfan II	ENDOSULFANB
Endosulfan sulfate	ENDOSULFANS
Endrin	ENDRIN
Endrin aldehyde	ENDRINALD
Ethyl methanesulfonate	EMSULFN
Famphur	FAMPHUR
Fluoranthene	FLA
Fluorene	FL
Heptachlor	HEPTACHLOR
Heptachlor epoxide	HEPT-EPOX
Hexachlorobenzene	HCLBZ
Hexachlorocyclopentadiene	HCCP
Hexachloroethane	HCLEA
Hexachloropropene	HCPR
Indeno(1,2,3-c,d)pyrene	INP123
Isodrin	ISODRIN
Isophorone	ISOP
Isosafrole	ISOSAFR
Kepone	KEP
Methapyrilene	MTPYRLN
Methoxychlor	MTXYCL

TABLE VI
5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS
Continued

3-Methylcholanthrene	MECHLAN3
Methyl methanesulfonate	MMSULFN
2-Methylnaphthalene	MTNPH2
1,4-Naphthoquinone	NAPHQ14
1-Naphthylamine	AMINONAPH1
2-Naphthylamine	AMINONAPH2
o-Nitroaniline (2-Nitroaniline)	NO2ANIL2
m-Nitroaniline (3-Nitroaniline)	NO2ANIL3
p-Nitroaniline (4-Nitroaniline)	NO2ANIL4
Nitrobenzene	NO2BZ
o-Nitrophenol (2-Nitrophenol)	NTPH2
p-Nitrophenol (4-Nitrophenol)	NTPH4
N-Nitrosodi-n-butylamine (Di-n-butyl nitrosamine)	NNSBU
N-Nitrosodiethylamine (Diethyl nitrosamine)	NNSE
N-Nitrosodimethylamine (Dimethyl nitrosamine)	NNSM
N-Nitrosodiphenylamine (Diphenyl nitrosamine)	NNSPH
N-Nitrosodipropylamine (N-Nitroso-N-dipropylamine; Di-n-propyl nitrosamine)	NNSPR
N-Nitrosomethylethylamine (Methylethyl nitrosamine)	NNSME
N-Nitrosopiperidine	NNSPPRD
N-Nitrosopyrrolidine	NNSPYRL
5-Nitro-o-toluidine	TLDNONT5
Pentachlorobenzene	PECLBZ
Pentachloronitrobenzene (PCNB)	PECLNO2BZ
Pentachlorophenol	PCP
Phenacetin	PHNACTN
Phenanthrene	PHAN
Phenol	PHENOL
p-Phenylenediamine	ANLNAM4
Polychlorinated biphenyls (PCBs; Aroclors)	PCBS
Pronamide	PRONAMD
Pyrene	PYR
Safrole	SAFROLE
1,2,4,5-Tetrachlorobenzene	C4BZ1245
2,3,4,6-Tetrachlorophenol	TCP2346
o-Toluidine	TLDNO
Toxaphene	TOXAP
2,4,5-Trichlorophenol	TCP245
0,0,0-Triethyl phosphorothioate	TEPTH
sym-Trinitrobenzene	TNB135

TABLE VI
5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS
Continued

Chlorophenoxy Herbicides (USEPA Method 8151A):

2,4-D (2,4-Dichlorophenoxyacetic acid)	24D
Dinoseb (DNBP; 2-sec-Butyl-4,6-dinitrophenol)	DINOSEB
Silvex (2,4,5-Trichlorophenoxypropionic acid; 2,4,5-TP)	SILVEX
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	245T

Organophosphorus Compounds (USEPA Method 8141B):

Atrazine	ATRAZINE
Chlorpyrifos	CLPYRIFOS
0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)	ZINOPHOS
Diazinon	DIAZ
Dimethoate	DIMETHAT
Disulfoton	DISUL
Methyl parathion (Parathion methyl)	PARAM
Parathion	PARAE
Phorate	PHORATE
Simazine	SIMAZINE