

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2014-XXXX
FOR
AERA ENERGY LLC
NORTH BELRIDGE SOLID WASTE DISPOSAL SITE
POST-CLOSURE MAINTENANCE
KERN COUNTY

This monitoring and reporting program (MRP) is issued pursuant to California Water Code section 13267 and incorporates requirements for facility monitoring, maintenance, and reporting; and financial assurances reporting contained in California Code of Regulations, title 27, section 20005, et seq. (hereafter Title 27), Waste Discharge Requirements (WDRs) Order No. R5-2014-XXXX, and the Standard Provisions and Reporting Requirements (SPRRs) dated January 2012. 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 monitoring program of this MRP includes:

<u>Section</u>	<u>Monitoring Program</u>
A.1	Facility Monitoring
A.2	Leachate Seep Monitoring

1. Facility Monitoring

a. Annual Facility Inspection

Annually, prior to the anticipated rainy season, but no later than **30 September**, the Discharger shall conduct an inspection of the facility. The inspection shall assess repair and maintenance needed for drainage control systems, cover systems, and groundwater monitoring wells; 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**. Annual facility inspection reporting shall be included in the Annual Monitoring Summary Report as required in Section B.3 of this MRP.

b. **Major Storm Events**

The Discharger shall inspect all precipitation, diversion, and drainage facilities and all landfill side slopes for damage **within 7 days** following major storm events (i.e., a storm that causes continuous runoff for at least one hour). 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.4 of this MRP.

c. **Final Cover Monitoring**

The Discharger shall monitor the final cover in accordance with the provisions in the Final Closure Plan and the Post-Closure Maintenance Plan. The pan lysimeter shall be checked for the presence of water semi-annually. The volume of water discovered in the lysimeter shall be reported in the Annual Monitoring Summary Report. In the event that the volume of water detected in the pan lysimeter exceeds that which would be equal to a ten millimeter depth over the area of the lysimeter, then, within 120 days, the Discharger shall submit a plan and time schedule, for Executive Officer review and approval, to evaluate the problem, and recommend and implement corrective measures.

d. **Five-Year Iso-Settlement Survey for Closed Units**

For closed landfill units, the Discharger shall conduct a five-year iso-settlement survey and produce an iso-settlement map accurately depicting the estimated total change in elevation of the evapotranspirative final cover. For each portion of the landfill, this map shall show the total lowering of the surface elevation of the final cover, relative to the baseline topographic map [Title 27, section 21090(e)(1 & 2)]. Reporting shall be in accordance with Section B.5 of this MRP. The next iso-settlement survey shall be conducted in 2016.

e. **Standard Observations**

The Discharger shall conduct Standard Observations at the landfill quarterly in accordance with this section of the MRP.

The Standard Observations shall include:

- 1) For the landfill units:
 - a) Evidence of ponded water at any point on the landfill; and
 - b) Evidence of erosion and/or of day-lighted refuse.

- 2) Along the perimeter of the landfill units:
 - a) Evidence of leachate seeps, estimated size of affected area, and flow rate (show affected area on map); and
 - b) Evidence of erosion and/or of day-lighted refuse.

Results of Standard Observations shall be submitted in the Annual Monitoring Summary Report required in Section B.1 of this MRP.

2. Leachate Seep Monitoring

Seep Monitoring: Leachate that seeps to the surface from a landfill unit shall be sampled and analyzed for the Field and Monitoring Parameters listed in Table I upon detection. The quantity of leachate shall be estimated and reported as Leachate Flow Rate (in gallons/day). Reporting for leachate seeps shall be conducted as required in Section B.2 of this MRP, below.

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>
B.1	Annual Monitoring Summary Report	31 December	1 February
B.2	Seep Reporting	Continuous	Immediately & 7 Days
B.3	Annual Facility Inspection Report	31 October	1 February
B.4	Major Storm Event Reporting	Continuous	7 days from damage discovery
B.5	Survey and Iso-Settlement Map for Closed Landfills	Every Five Years	1 February in the year after the survey is conducted
B.6	Financial Assurances Report	31 December	1 June

Reporting Requirements

The Discharger shall submit monitoring data and information as required in this MRP and as required in WDRs Order No. R5-201X-XXX and the SPRRs. 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. Data shall also be submitted in a digital format, such as a computer disk.

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. In addition, the Discharger shall enter all monitoring data and monitoring reports into the online Geotracker database as required by Division 3 of Title 27.

The results of **all monitoring** conducted at the site shall be reported to the Central Valley Water Board in accordance with the reporting schedule above 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.

Required Reports

1. **Annual Monitoring Summary Report:** The Discharger shall submit an Annual Monitoring Report to the Central Valley Water Board by **1 February** covering the reporting period of the previous monitoring year. Each Annual Monitoring Report shall contain the following information:
 - a) A summary of all Standard Observations for the reporting period required in Section A.1.e of this MRP.

- b) A summary of inspection, leak search, and repair of final covers on any closed landfill units in accordance with an approved final post-closure maintenance plan as required by Standard Closure and Post-Closure Maintenance Specifications G.26 through G.29 of the SPRRs.
 - 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 such as a computer disk. The Central Valley Water Board regards the submittal of data in hard copy and 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) 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.
 - e) A written summary of the monitoring results, indicating any changes made or observed since the previous Annual Monitoring Summary Report.
2. **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 I 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.
3. **Annual Facility Inspection Reporting:** By **1 February** of each year, the Discharger shall submit a report, included in the Annual Monitoring Summary Report, describing the results of the inspection and the repair measures implemented, preparations for winter, and include photographs of any problem areas and the repairs. Refer to Section A.1.a of this MRP, above.
4. **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. Refer to Section A.1.b of this MRP, above.

5. **Survey and Iso-Settlement Map for Closed Landfills:** The Discharger shall conduct a survey and submit an iso-settlement map for each closed area of the landfill every five years pursuant to Title 27, section 21090(e). Refer to Section A.1.d of this MRP, above. The survey report and the map shall be submitted with the subsequent Annual Monitoring Summary Report. The next report is due by 1 February 2017.
6. **Financial Assurances Report:** By **1 June** of each year, the Discharger shall submit a copy of the annual financial assurances report due to CalRecycle that updates the financial assurances for post-closure maintenance. Refer to Financial Assurances Specifications D.1 and D.2 of the WDRs.

C. 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 Program.

Ordered by: _____
PAMELA C. CREEDON, Executive Officer

(Date)

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TABLE I

LEACHATE SEEP MONITORING

<u>Parameter</u>	<u>Units</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Field Parameters			
Total Flow	Gallons	Monthly	Semiannual
Flow Rate	Gallons/Day	Monthly	Semiannual
Electrical Conductivity	umhos/cm	Quarterly	Semiannual
pH	pH units	Quarterly	Semiannual
Monitoring Parameters			
Total Dissolved Solids (TDS)	mg/L	Annually	Annually
Chloride	mg/L	Annually	Annually
Carbonate	mg/L	Annually	Annually
Bicarbonate	mg/L	Annually	Annually
Nitrate - Nitrogen	mg/L	Annually	Annually
Sulfate	mg/L	Annually	Annually
Calcium	mg/L	Annually	Annually
Magnesium	mg/L	Annually	Annually
Potassium	mg/L	Annually	Annually
Sodium	mg/L	Annually	Annually
Volatile Organic Compounds	ug/L	Annually	Annually
(USEPA Method 8260B, short list, see Table II)			

TABLE II

MONITORING PARAMETERS FOR LEACHATE SEEP MONITORING

Surrogates for Metallic Constituents:

pH
Total Dissolved Solids
Electrical Conductivity
Chloride
Sulfate
Nitrate nitrogen

Volatile Organic Compounds, short list:

USEPA Method 8260B

Acetone
Acrylonitrile
Benzene
Bromochloromethane
Bromodichloromethane
Bromoform (Tribromomethane)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride)
Chloroform (Trichloromethane)
Dibromochloromethane (Chlorodibromomethane)
1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (Ethylene dibromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)
m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans-1,4-Dichloro-2-butene
Dichlorodifluoromethane (CFC-12)
1,1-Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1 -Dichloroethylene (1,1 -Dichloroethene; Vinylidene chloride)
cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
cis- 1,3-Dichloropropene
trans- 1,3-Dichloropropene
Di-isopropylether (DIPE)
Ethanol
Ethyltertiary butyl ether
Ethylbenzene
2-Hexanone (Methyl butyl ketone)
Hexachlorobutadiene
Methyl bromide (Bromomethene)
Methyl chloride (Chloromethane)

TABLE II

MONITORING PARAMETERS FOR LEACHATE SEEP MONITORING

Continued

Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Methyl ethyl ketone (MEK: 2-Butanone)
Methyl iodide (Iodomethane)
Methyl t-butyl ether
4-Methyl-2-pentanone (Methyl isobutylketone)
Naphthalene
Styrene
Tertiary amyl methyl ether
Tertiary butyl alcohol
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene)
Toluene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane (Methylchloroform)
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride
Xylenes