
Central Valley Regional Water Quality Control Board

27 April 2017

Timothy H. Beals, Director
Sierra County Department of
Transportation and Public Works
Post Office Box 98
Downieville, CA 95936

RESPONSE TO COMMENTS, LOYALTON CLASS III LANDFILL, SIERRA COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS, SIERRA COUNTY

On 21 April 2017, Central Valley Water Board staff received comments on the tentative Waste Discharge Requirements (WDRs) for the Loyalton Landfill from Avalex Inc. on behalf of Sierra County Department of Transportation and Public Works. The tentative WDRs are being considered for adoption by our Board at the 8/9 June 2017 public hearing.

Your comments are appreciated, and we have revised the tentative WDRs following review of your comments. We have also prepared the attached response to comments document for your review. Your comments and our response to comments will be uploaded to our web page within the next couple of days. The tentative WDRs has been added to the agenda for the 8/9 June 2017 Board Meeting on the uncontested calendar.

Please contact me at (916) 464-4630 or Marty.Hartzell@waterboards.ca.gov with questions.



Marty Hartzell, PG, CHG
Senior Engineering Geologist
Title 27 Permitting and Mining Unit

Attachment- Response to Comments

cc (w/o encl.): John Loane, CalRecycle, Sacramento (email only)
Howard Hold, Central Valley Water Board, Sacramento (email only)
Craig Morgan, Avalex Inc., South Lake Tahoe

**RESPONSE TO SIERRA COUNTY COMMENTS
OF THE
TENTATIVE WASTE DISCHARGE REQUIREMENTS
FOR
LOYALTON LANDFILL**

On behalf of Sierra County, Craig Morgan with Avalex Inc. submitted the following three (3) comments via email on 21 April 2017

SIERRA COUNTY COMMENT 1:

Consistent with our discussions on May 19th [April 19th], it is the County's understanding that the detection of landfill gases beyond the waste unit within landfill gas probes installed at the perimeter of the landfill would not in and of themselves be considered to be releases pursuant to the terms of the WDRs.

Response: Title 27 Section 20310(c) identifies that construction standards for Class III landfills are to prevent groundwater degradation. Some degradation has occurred at the Loyalton Landfill site as evidenced by low concentrations of Freon and other VOCs at Monitoring Well MW-8 and the Maintenance Yard water supply well; however, landfill gas detections in landfill gas probes at the perimeter of the landfill does not constitute a release from the landfill unit.

Per the 7 December 2015 Water Board 13267 Order letter (See Finding #49), Sierra County installed a pilot passive landfill gas control system in late 2016 and is evaluating the effectiveness of the passive landfill gas control system. The 13267 Order requires the Discharger to continue operating and monitoring the pilot passive landfill gas control system, and if VOCs or other waste constituents continue to be detected outside the waste management unit, then by 1 September 2017, submit a proposal and schedule to expand the vent/well system.

As identified in the response to Comment 2 below, the point of compliance terminology in reference to gas detections has been deleted from the tentative WDRs and MRP.

SIERRA COUNTY COMMENT 2:

The Unsaturated Zone Monitoring wells are referred to as either detection, corrective action and/or Point of Compliance (POC) wells in the tentative monitoring and reporting program. It is suggested that they all simply be referred to as "monitoring wells" or "detection wells".

Response:

WDR Revisions

Provision H.7.A. on Page 23 of the WDRs was revised to delete "Point of Compliance" from the second sentence. See revised Page 23 of the WDRs.

MRP Revisions

Section A.2. Unsaturated Zone Monitoring on Page 3 was revised to delete the reference to point of compliance gas probe and/or wells, and to change the status of each of the gas probes to "Detection". See revised Page 3 of the MRP.

SIERRA COUNTY COMMENT 3:

The monitoring and reporting program requests that groundwater elevations be monitored quarterly as opposed to semi-annually. We request that the elevations continue to be monitored on a semi-annual basis as the elevations generally only vary about 2 feet over the course of a year.

Response: The MRP was revised to change groundwater elevation monitoring from quarterly to semiannual. MRP Section B.1.c (Page 10), Section B.2.d (Page 11), and Table 1 on Page 18 were revised with these changes. See attached MRP Pages 10, 11, and 18.

H. PROVISIONS

1. The Discharger shall maintain a copy of this Order at the facility, including the MRP R5-2017-XXXX and the SPRRs dated December 2015 which are part of this Order, and make it available at all times to facility operating personnel, who shall be familiar with its contents, and to regulatory agency personnel.
2. The Discharger shall comply with all applicable provisions of Title 27 and Subtitle D that are not specifically referred to in this Order.
3. The Discharger shall comply with MRP R5-2017-XXXX, which is incorporated into and made part of this Order by reference.
4. The Discharger shall comply with the applicable portions of the Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Subtitle D and/or Title 27, dated December 2015, which are part of this Order.
5. If there is any conflicting or contradictory language between the WDRs, the MRP, or the SPRRs, then language in the WDRs shall supersede either the MRP or the SPRRs, and language in the MRP shall supersede the SPRRs.
6. All reports required by this Order shall be submitted pursuant to Water Code section 13267.
7. The Discharger shall complete the tasks contained in these waste discharge requirements in accordance with the following time schedule, and shall be prepared by a California-registered Civil Engineer or Certified Engineering Geologist:

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<u>Task</u>	<u>Compliance Date</u>
<p>A. Passive Landfill Gas System Evaluation Report</p> <p>Submit an evaluation report summarizing the pilot landfill gas passive vent/well monitoring results and performance evaluation during the test period. If VOCs or other waste constituents are still being detected outside the waste management unit, as measured at the gas wells, the report shall include a proposal and time schedule to expand the landfill gas passive vent/well system across the landfill by 1 July 2018. Additionally, the report shall include an estimated timeframe for concentration of waste constituents in groundwater to return to compliance with the WDRs.</p>	<p>1 September 2017</p>

Deleted: Point of Compliance

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. Five-year COCs (for groundwater) were last monitored in 2014 and shall be monitored again in **2019**. The results shall be reported in the Annual Monitoring Report for the year in which the samples were collected.

2. Unsaturated Zone Monitoring

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

The following table lists the current LF-1 unsaturated zone monitoring network, and consists of gas probes/wells that measure Soil-Pore Gas.

Mon Point	Status
GP-1	Detection
GP-2	Detection
GP-3	Detection
MW-4	Detection
SGVP-1	Detection
SGVP-2	Detection
SGVP-3	Detection
P-2	Detection
P-3	Detection
MW-8 (GP-S, GP-I, GP-D)*	Detection
MW-9 (GP-S, GP-I, GP-D)*	Detection
MW-10 (GP-S, GP-I, GP-D)*	Detection
PW-1 to PW-5 (GP-S, GP-I, GP-D)*	Detection

*Gas Probes with Shallow, Intermediate, and Deep monitoring points.
 Gas probes/well MW-4, MW-8GP-D, and MW-9GP-D shall be sampled annually for TO-15 per Table II.

Deleted: Point of Compliance (POC) gas probes/well includes MW-4, MW-8, and MW-9.

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Unsaturated zone samples shall be collected from the monitoring network listed above and shall be 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.

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results of pH, temperature, conductivity, and turbidity testing; and the method of disposing of the purge water;

- 4) The type of pump - or other device - used for sampling, if different than the pump or device used for purging; and
 - 5) 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) The estimated semiannual groundwater flow rate and direction in the uppermost aquifer, in any zones of perched water, and in any additional zone of saturation monitored based upon water level elevations taken prior to the collection of the water quality data submitted in the report [Title 27, section 20415(e)(15)].
- 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 five 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 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 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 comprehensive discussion of any Corrective Action Program required by this MRP under Section A.6.
- j) 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.

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2. **Annual Monitoring 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. 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 five calendar years. If a 5-year COC event was performed, then these parameters shall also be graphically presented. 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. 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 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) 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 ~~semiannually~~ 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 map showing the area and elevations in which filling has been completed during the previous calendar year and a comparison to final closure design contours, and include a projection of the year in which each discrete landfill module will be filled.
 - g) A written summary of the monitoring results, indicating any changes made or observed since the previous Annual Monitoring Report.
 - h) The results of the annual testing of leachate collection and removal systems required under Standard Facility Specification E.14 of the SPRRs.

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TABLE I
GROUNDWATER DETECTION MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Field Parameters			
Groundwater Elevation	Ft. & 100ths, M.S.L.	Semiannual	Semiannual
Temperature	°F	Semiannual	Semiannual
Electrical Conductivity	umhos/cm	Semiannual	Semiannual
pH	pH units	Semiannual	Semiannual
Turbidity	Turbidity units	Semiannual	Semiannual
Monitoring Parameters			
Total Dissolved Solids (TDS)	mg/L ¹	Semiannual	Semiannual
Chloride	mg/L	Semiannual	Semiannual
Carbonate	mg/L	Semiannual	Semiannual
Bicarbonate	mg/L	Semiannual	Semiannual
Nitrate - Nitrogen	mg/L	Semiannual	Semiannual
Sulfate	mg/L	Semiannual	Semiannual
Calcium	mg/L	Semiannual	Semiannual
Magnesium	mg/L	Semiannual	Semiannual
Potassium	mg/L	Semiannual	Semiannual
Sodium	mg/L	Semiannual	Semiannual
Volatile Organic Compounds (USEPA Method 8260B, short list, see Table V)	ug/L ²	Semiannual	Semiannual
Inorganics (dissolved)	ug/L	Annual	Annual
5-Year Constituents of Concern (see Table VI)			
Total Organic Carbon	mg/L	5 years	2019
Volatile Organic Compounds (USEPA Method 8260B, extended list)	ug/L	5 years	and every 5 years thereafter
Semi-Volatile Organic Compounds (USEPA Method 8270C or D)	ug/L	5 years	" "
Chlorophenoxy Herbicides (USEPA Method 8151A)	ug/L	5 years	" "
Organophosphorus Compounds (USEPA Method 8141B)	ug/L	5 years	" "

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¹ Milligrams per liter
² Micrograms per liter

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