California Regional Water Quality Control Board
Central Valley Region
Katherine Hart, Chair

11020 Sun Center Drive, #200, Rancho Cordova, California 95670-6114
(916) 464-3291 • FAX (916) 464-4645
http://www.waterboards.ca.gov/centralvalley

Matthew Rodriquez
Secretary for Environmental Protection

Edmund G. Brown Jr.
Governor

6 December 2011

Phil Graham
General Manager
Recology Ostrom Road
5900 Ostrom Road
Wheatland, CA 95692-9458

REQUEST FOR REPORT OF WASTE DISCHARGE, YUBA SUTTER DISPOSAL, INC. LANDFILL, YUBA COUNTY

Central Valley Water Board staff has reviewed the 2011 First Semi-Annual Monitoring Report for the Yuba Sutter Disposal, Inc. (Discharger) landfill. The monitoring and reporting checklist is enclosed for your information. Volatile organic compounds (VOCs) continue to be detected in groundwater at the site, which is a violation of waste discharge requirements (WDRs) Order R5-2003-0093 as noted in staff's previous correspondence.

Staff has also reviewed the *Monitoring System Evaluation and Corrective Action Effectiveness Report*, dated 29 July 2011 (Effectiveness Report). The Effectiveness Report was submitted in response to the Notice of Violation (NOV) dated 14 April 2011 which requested an evaluation and certification of the site's groundwater monitoring wells. The report provided the requested monitoring well information and certification.

The Effectiveness Report indicated that landfill gas monitoring and groundwater monitoring could be improved at the site by installing additional wells. Board staff understands Recology is already working with the LEA to install new landfill gas monitoring wells. The report describes that the gap in the groundwater monitoring well network could be improved by installing a new well at the southwest corner of LF-1, some 350 feet southwest of MW-1. Board staff agrees this is an appropriate location for a new monitoring well.

The NOV also requested a summary of the effectiveness of the corrective action measures at LF-1 and LF-2 and whether additional corrective action is required to reduce VOCs in groundwater. The report summarized the results of the corrective action program over the last two decades and the groundwater impacts currently observed at the site. The report concluded that no additional corrective actions were necessary for LF-2. The report found, however, that landfill gas from LF-1 was a likely source of groundwater impacts, including elevated levels of bicarbonate and low levels of VOCs. The report also concluded that rainfall is also a factor affecting groundwater quality and suggested that cover improvements on LF-1 should be considered. Cover improvements were, in fact, recently completed at the site. The

report recommended that an evaluation of potential additional corrective actions should be performed.

Based on the monitoring results and the findings of the Effectiveness Report, Board staff concludes that the current corrective action program is not sufficient to comply with the corrective action requirements of Title 27, section 20430.

To address this issue, please submit an updated engineering feasibility study in accordance with Title 27, section 20425(c) and an amended report of waste discharge in accordance with Title 27, sections 20430(j) and 20425(d). The engineering feasibility study should provide a detailed description of the corrective action measures that could be taken to achieve background concentrations for all constituents of concern. The report of waste discharge should identify the preferred corrective action measures and propose a schedule for installation. To ensure the Board's records reflect the current status of site operations and environmental controls, please submit with the ROWD a complete description of the facility and the current post-closure land uses of all WMUs, a complete description of the LFG system for all WMUs, and a complete description of the LFG and groundwater monitoring systems.

The engineering feasibility study and report of waste discharge can be combined into a single report if desired. Please submit the updated engineering feasibility study and amended report of waste discharge by **1 March 2012**.

Board staff also requests that Recology submit a workplan for installation of a new monitoring well in the southwest portion of LF-1. The content of the workplan is outlined in the enclosed attachment. Please submit the workplan by **30 December 2011**.

If you have any questions, please call Todd Del Frate at 916-464-4737.

Wendy Wyels

WENDY S. WYELS
Supervisor
Compliance and Enforcement Section

Enclosures: Monitoring and Reporting Checklist
Requirements for Monitoring Well Installation Workplans and Monitoring Well Installation Reports

cc: Gino Yetka, CalRecycle, Sacramento
Stephanie Kendall, Yuba County Environmental Health
Bryan Clarkson, Recology Environmental Solutions
Kris Johnson, Golder Associates, Sunnyvale, CA

CIWQS VID #910832

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

MONITORING REPORT COMPLIANCE CHECKLIST
FOR
WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES REGULATED BY TITLE 27 AND/OR SUBTITLE D PART 258

Discharger(s): Recology	Reporting Frequency: Semi-annual
Facility Name: Yuba Sutter Disposal, Inc. Landfill	Monitoring Period: First Semi-Annual 2011
Order No.: R5-2003-0093	
Standard Provisions Date: **2003**	Date Due: 30 June 2011
Facility No.: 5A580300001	Date Received: 1 August 2011
RWQCB Reviewer: Todd Del Frate	Date Reviewed: 6 October 2011

Reference	Parameter	Yes	No	N/A	RWQCB Reviewer Comment
Standard Provisions (1993,1997,2000, 2003)	**1. Transmittal Letter** a. Is there a transmittal letter signed by an authorized representative?	X			
	b. Does it include the required Certification Statement?	X			
	c. Is there a discussion whether any violations have occurred since the last monitoring report was submitted?	X			Wells MW-1, MW-2, MW-3, and MW-10 contained detectable VOCs. Inorganic constituents detected in wells MW-1, MW-2, MW-3, MW-8, and MW-11 above compliance limits. No VOCs detected in area LF-3.
	d. If any violations did occur, does it describe actions taken or planned for correcting those violations?	X			Continued monitoring.
Standard Provisions (1993,1997,2000, 2003)	**2. Compliance Evaluation Summary** a. Map/Photo: Is there a map or aerial photograph indicating the locations of all monitoring points?	X			
	b. Standard Observations: Is there a summary and certification of completion of all standard observations for the WMU, and for receiving waters?	X			WDR requires that standard observations be conducted on LF-3 only. WDRs and MRP require updating to reflect current operations and all WMUs.

Reference	Parameter	Yes	No	N/A	RWQCB Reviewer Comment
Standard Provisions (1993,1997,2000, 2003)	c. Lab Reports: Are all sample analyses conducted by a laboratory accredited by the State Department of Health Services?	X			
	d. Wastes: Is there a description of the quantities and types of wastes discharged and the locations in the WMU where waste has been placed since submission of the last monitoring report?			X	Landfill is closed.
WDRs/MRP/ Standard Provisions (1993,1997,2000, 2003)	**Surface Water Monitoring** e. Are all surface water Field Parameters, Monitoring Parameters, and COCs (if required) sampled and analyzed?	X			Surface water samples collected from SW-2, SW-3, and SW-4 on 16 February 2011. SW-5 was dry during February sampling event.
	f. Have any surface water concentration limits been exceeded? If yes, identify in comments.	X			TSS in sample SW-3 and SW-4 exceeded concentration limit of 47 mg/L. Acetone (13 µg/L) was detected in SW-3 and trace concentrations of Toluene were detected in SW-3 and SW-4.
	g. Run-off/Run-on: Is there an evaluation of the effectiveness of run-off/run-on control facilities?	X			Report does not reflect ponding issues observed on LF-1 during a June 2011 site inspection. Staff requested drainage issues be corrected during 2011 construction season.
WDRs/MRP/ Standard Provisions (1993,1997,2000, 2003)	**Leachate Monitoring** h. Are all leachate Field Parameters, Monitoring Parameters, and COCs (if required) sampled and analyzed?	X			
	i. Is there an evaluation of the effectiveness of leachate monitoring and control facilities?	X			Approximately 278,000 gallons of leachate was extracted from LF-3 sumps S2/S3 and S4/S5 during 1st and 2nd Quarters 2011.
WDRs/MRP	**Vadose Zone Monitoring** j. Are all vadose zone Field Parameters, Monitoring Parameters, and COCs (if required) sampled and analyzed?			X	No vadose zone monitoring being reported. Detection system deficient on southeastern side of LF-1 and LF-2. Nearest gas probe (GP-5) located approximately 3,000 feet north of MW-1.
	k. Have any vadose zone concentration limits been exceeded? If yes, identify in comments.			X	

Reference	Parameter	Yes	No	N/A	RWQCB Reviewer Comment
WDRs/MRP/ Standard Provisions (1993,1997,2000, 2003)	**Groundwater Monitoring** l. Are all groundwater Field Parameters Monitoring Parameter, and COCs (if required) sampled and analyzed?	X			Next COC event 4th Quarter 2011.
	m. Have any groundwater concentration limits been exceeded? If yes, identify in comments.	X			VOCs continue to be detected in corrective action wells MW-1, MW-2, MW-3, and MW-10 during the 1st and 2nd quarterly events. Inorganic parameters (chloride and bicarbonate) also exceed limits.
	n. Is there a description and graphical presentation of groundwater flow direction and gradient?	X			GW flows south-southwest. GW elevations in wells appear to be very responsive to seasonal changes. Corrective action wells MW-1, 2, 3, 4, and 10 mirror each other.
	o. Monitoring Wells: Is there a description, method, and time of water level measurement and well recovery time?	X			Some wells purged by bailing and some purged by pump. Several wells (MW-1, MW-2, MW-11 and MW-12) and samples collected exceed the required <5NTU value.
	p. Purging: Is there a description of the purging method, purge pump and its placement, and field parameters?	X			
WDRs Standard Provisions (1993,1997,2000, 2003)	**Semiannual/Annual Monitoring Report (when applicable)** q. Are all monitoring parameters and COCs graphed so as to show historical trends at each Monitoring Point and Background Monitoring Point?	X			
	r. Is all monitoring analytical data obtained in the last year presented in tabular form, as well as on a diskette or CD?	X			
	s. Is there a comprehensive discussion of the compliance record and the result of any corrective actions?	X			Corrective action appears to be effective at LF-2 and LF-3. Final covers and LFG extraction wells seem to be controlling fugitive gas from these WMUs. However, corrective action wells MW-1, 2, and 10 continue to exhibit effects of LFG impacts.

Reference	Parameter	Yes	No	N/A	RWQCB Reviewer Comment
	t. Is there a map showing the area and elevations in which filling has been completed during the past year and comparison to final closure contours?			X	Landfill is closed.
WDRs Standard Provisions (1993,1997,2000, 2003)	u. Is there a summary of the monitoring results indicating any changes made or observed since the previous annual report?	X			Corrective action wells enriched with bicarbonate are likely impacted by LFG. Correlation with rainfall which ponds over LF-1.
	v. Is there an evaluation of the effectiveness of the leachate monitoring/control facilities?	X			
Standard Provisions (April 2000, Sept. 2003) or check WDRs	w. Is there a discussion about the annual LCRS testing and a comparison to earlier testing?			X	WDRs do not require the LCRS be tested annually. However, Title 27, section 20340(d) requires annual testing to demonstrate proper operation.

Violations Noted? (check one) **Yes_X___** **No____**

If **Yes**, check all issues that apply and provide comments:

_____ Incomplete transmittal letter _____ Incomplete report __X__ Inadequate monitoring program _____ New release _____ Inadequate response to evidence of a release __X WDRs violation other than listed above _____ Other (explain in comments)	Comments (to be entered into CIWQS/Geotracker): During the 1st Semester 2011 monitoring event, VOCs continue to be detected in several corrective action monitoring wells adjacent to LF-1. Corrective action wells for LF-2 or LF-3 did not contain detectable VOCs. Both WMUs have LFG extraction. Staff has concerns LFG is not being controlled at LF-1. No probes monitor the vadose zone and gas data is not reported to board. CalRecycle will be notified.

Additional Comments and Recommendations:

RWQCB Staff Signature: _____

Date: 11-25-2011

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REQUIREMENTS FOR MONITORING WELL INSTALLATION WORKPLANS, AND MONITORING WELL INSTALLATION REPORTS

SECTION 1 - Monitoring Well Installation Workplan

A. General Information:
   1. Purpose of well installation and sampling/analysis project
   2. Site location map
   3. Copies of County Well Construction Permits (to be submitted after workplan review)
   4. New monitoring well locations and rationale
   5. Equipment decontamination procedures
   6. Health and safety plan
   7. Topographic map showing any existing wells, proposed wells, waste handling facilities, utilities, and other major physical and man-made features.

B. Drilling Details:
   1. Drill rig and contractor
   2. Sampling intervals and logging methods.

C. Monitoring Well Design–Graphic and Descriptive:
   1. Casing diameter and centralizer spacing (if needed)
   2. Borehole diameter
   3. Depth of surface seal
   4. Well construction materials
   5. Diagram of proposed well construction details
   6. Type of well cap, bottom cap either screw on or secured with stainless steel screws
   7. Size of perforations and rationale
   8. Grain size of sand pack and rationale
   9. Thickness and position of bentonite seal and sand pack
   10. Depth of well, length and position of perforated interval.

D. Well Development:
   1. Method development
   2. Method of determining when development is complete
   3. Parameters to be monitored during development
   4. Development water storage and disposal.

E. Well Survey Coordinates, horizontal and vertical:
   1. Name of the Licensed Land Surveyor or Registered Civil Engineer
   2. Well features to be surveyed (i.e. top of casing, horizontal and vertical coordinates)
   3. Horizontal (within 0.1 foot) and vertical accuracy (vertical must be at least 0.01-foot).

F. Water Level Measurement:

1. The elevation reference point at each monitoring well must be within 0.01-foot
2. Ground surface elevation at each monitoring well must be within 0.01-foot
3. Method and time of water level measurement must be specified.

G. Proposed time-schedule with dates for proposed work.

H. Plan signed and stamped by California Licensed engineer or geologist.

SECTION 2 - Monitoring Well Installation and Groundwater Analytical Report

A. Well Construction Details–Graphical, Tabular, and Descriptive:

1. Quantity and depth of wells drilled
2. Date(s) wells drilled and completed
3. Description of drilling and construction
4. Updated comprehensive site map with facility site features including monitoring wells, sample locations and identification numbers, storage ponds, landfills, investigation areas, groundwater gradient and iso-contour lines, buildings, tanks, and etc.
5. A well construction diagram for each well with the following details:
   a. Well number, date started, date completed, geologist's name
   b. Total depth drilled
   c. Drilling Contractor and driller name and address
   d. Depth of open hole (same as total depth drilled if no caving occurs)
   e. Method and materials of grouting excess borehole
   f. Footage of hole collapsed
   g. Length of slotted casing installed
   h. Depth of bottom of casing
   i. Depth to top of sand pack
   j. Thickness of sand pack
   k. Depth to top of bentonite seal
   l. Thickness of bentonite seal
   m. Thickness of concrete grout
   n. Boring diameter
   o. Casing diameter
   p. Casing material
   q. Size of perforations
   r. Well elevation at top of casing
   s. Stabilized depth to groundwater
   t. Date of water level measurement
   u. Monitoring well number
   v. Date drilled
   w. Location

B. Well Development:

1. Date(s) of development of each well
2. Method of development
3. Volume of water purged from well
4. How well development completion was determined

5. Method of effluent disposal
6. Field notes from well development should be included in report.

C. Well Survey:

1. Coordinate system, epochs, bench marks, horizontal controls, accuracy, and precision
2. Survey results of casing elevation with the cap removed (vertical to $1/100^{th}$ foot)
3. California Registered Civil Engineer or Licensed Surveyor's report, field notes, and stamp/signature in an appendix
4. Description of the measuring points (i.e. ground surface, top of casing, etc.)
5. Tabulated survey data with well numbers and horizontal and vertical coordinates.

D. Groundwater Field Sampling

1. Tabulated groundwater elevations and wells
2. Graphical presentation of groundwater gradient and iso-contour lines.
3. Tabulated field and analytical data with sample location identification numbers, water quality goals, field/analytical results, and highlighted data that is outside water quality goals

E. Laboratory Analytical Results

All analytical reports prepared for the Discharger's facility must contain, at a minimum, the information within this section.

1. Tabulated field and analytical data with sample location identification numbers, water quality goals, field/analytical results, and highlighted data that is outside water quality goals
2. Appendix with laboratory reports, COCs, and laboratory signatures on reports.
3. Laboratory reports showing results, reporting units, MDLs, PQLs, "trace" results, flagged results, matrix effects, and QA/QC results.
4. Site map(s) showing iso-concentration lines for Constituents of Concern
5. Piper Diagrams and Stiff Plots comparing upgradient and downgradient water quality parameters.
6. Discussion of results including, but not limited to, discussion of violations, exceedances, if all field and monitoring parameters were sampled and analyzed, description of groundwater flow direction, comparison of analysis and field sampling results to background and water quality goals, list of potential constituents of concern at each sampling location, and other relevant discussions.
7. Certification statement signed by an authorized representative. Report signed and stamped by California