

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. R5-2017-0123

WASTE DISCHARGE REQUIREMENTS  
FOR  
COUNTY OF TULARE  
WOODLAKE LANDFILL  
POST-CLOSURE MAINTENANCE  
TULARE COUNTY

The California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) finds that:

1. The County of Tulare (Discharger) owns and maintains the Woodlake Landfill (Facility), which is located approximately one mile southwest of the City of Woodlake, in Section 36, T17S, R26E, MDB&M, as depicted in Attachment A.
2. Pursuant to section 20164 of California Code of Regulations, title 27 (Title 27), the Facility is a “closed, abandoned, or inactive” (CAI) unit because its closure occurred prior to 27 November 1984 in accordance with regulations at that time. As a CAI unit, only portions of Title 27 apply to the Facility.
3. This Order updates the waste discharge requirements (WDRs) for the Facility, as part of an administrative policy of periodic review, to incorporate revisions to regulations and policies adopted thereunder, for continued post-closure maintenance of the Facility. The last revision of this Order was in 2001.
4. The following attached documents are hereby incorporated as part of this Order:
  - a. Attachment A–Site Location Map
  - b. Attachment B–Site Map
  - c. Information Sheet
  - d. Monitoring and Reporting Program R5-2017-0123 (MRP)
  - e. Standard Provisions and Reporting Requirements dated December 2015 (SPRRs).
5. The Facility is situated on a 25.5-acre property at located on Mulberry Street (Road 208), also historically known as Rice Street, about one mile southwest of the City of Woodlake. The existing landfill consists of one unlined waste management unit (WMU) covering 16.4 acres. The existing landfill area is shown in Attachment B. The Facility is comprised of Assessor’s Parcel Numbers (APN) 060-160-046 and 060-230-012, with the single WMU located entirely on APN 060-160-046.
6. On 27 July 2001, the Central Valley Water Board issued Order No. 96-044, which classified the Facility as a Class III waste disposal site.

7. On-site facilities include groundwater monitoring wells, a storm water retention basin, a final cover system, and a fence surrounding the Facility.
8. This Order implements the applicable regulations for discharges of solid waste to land through Prohibitions, Specifications, Provisions, and monitoring and reporting requirements. Prohibitions, Specifications, and Provisions are listed in Sections A through G of these WDRs below, and in the SPRRs. Monitoring and reporting requirements are included in SPRRs and Monitoring and Reporting Program (MRP) No. R5-2017-0123, which is incorporated as part of this Order. The portions of the SPRRs that apply to CAI landfills are identified in the applicable section (A through G) of these WDRs. Terms and conditions for these WDRs are included in Section B of the SPRRs. In general, requirements that are either in regulation or otherwise apply to all landfills are considered to be "standard" and are therefore in the SPRRs. Any site-specific changes to a requirement in the SPRRs are included in the applicable section (A through G) of these WDRs, and the requirement in the WDRs supersedes the requirement in the SPRRs.
9. Title 27 contains regulatory standards for discharges of solid waste promulgated by the State Water Resources Control Board (State Water Board) and the California Department of Resources Recovery and Recycling (CalRecycle). In certain instances, this Order cites CalRecycle regulatory sections. Title 27, section 20012 allows the Central Valley Water Board to cite CalRecycle regulations from Title 27 where necessary to protect water quality provided it does not duplicate or conflict with actions taken by the Local Enforcement Agency in charge of implementing CalRecycle's regulations.

#### **WASTE CLASSIFICATION AND UNIT CLASSIFICATION**

10. The Discharger previously disposed of municipal solid waste (MSW), as defined in section 20164 of Title 27.
11. Between 1969 and 1971, the Facility was operated using burn and bury disposal methods. After 1971, trench and area fill methods were utilized for disposal within the WMU. On 1 October 1981, disposal operations ceased and the WMU closed in accordance with the applicable closure regulations at the time of closure.
12. The Facility is a CAI unit per Title 27, section 20164 because its closure occurred prior to 27 November 1984.

#### **SITE DESCRIPTION**

13. The Facility generally slopes from north to south with ground surface elevations ranging from approximately 435 to 425 feet mean sea level (MSL).
14. Surrounding land adjacent to the Facility includes agricultural properties to the north, west and south of the site, whereas the eastern portion of the site is bound by land owned by a private water purveyor that provides water on a seasonal basis for agricultural use. This property contains several large reservoirs centrally located on the 44-acre parcel. Two surface water features border the site along the western and southern property boundaries. These features are Antelope Creek (west) and Wutchumna Ditch (south).

15. There are municipal, domestic, industrial, or agricultural groundwater supply wells within one mile of the Facility.
16. The Solid Waste Assessment Test (SWAT) Report indicates that the site lies in a geologic stratum designated as Quaternary Alluvium composed of older alluvium with a thin layer of overlying younger alluvium. Underlying the upper geologic unit and extending to the basement complex are older Quaternary and Tertiary continental deposits. The continental deposits are thin or not present due to the basement complex located above sea level. The basement complex is composed primarily of igneous rocks and is at an approximate depth of 300 feet below ground surface (BGS). Except for the younger alluvium, all the geologic units dip gently to the southwest, paralleling the slope of the Sierra Nevada.
17. The Facility may be located in a transitional zone between areas of unconfined groundwater to the west and northwest and an area where groundwater is separated by a clayey-silt/silty-clay layer into an upper and lower zone to the north, northeast, and south. However, it does not appear that the clayey-silt/silty-clay layer is laterally contiguous beneath the Facility and separate groundwater into confined and unconfined groundwater zones.
18. The measured hydraulic conductivity of the native soils underlying the landfill unit ranges between  $1 \times 10^{-6}$  and  $1 \times 10^{-3}$  centimeters per second (cm/s).
19. Based on a site-specific seismic analysis, the controlling maximum probable earthquake (MPE) for the site is a moment of magnitude 8.3 event along the Owens Valley Fault at a closest rupture distance of 65 miles/kilometers from the site. It is estimated that a MPE event would produce a peak ground acceleration of 0.07 g at the site.
20. The Facility receives an average of 10.54 inches of precipitation per year as measured at the Visalia Station. The mean pan evaporation is 70.5 inches per year as measured at the Tulare Station.
21. The 100-year, 24-hour precipitation event for the Facility is estimated to be four inches based on *National Oceanic and Atmospheric Administration, Atlas 2, Volume XI*.
22. The Facility is not within a 100-year flood plain based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, Community-Panel Number 06107C0688E.
23. A storm water retention basins is located south of the landfill, as shown on Attachment B. The basin retains storm water during the rainy season and is normally dry during the summer months.

#### **SURFACE WATER AND GROUNDWATER CONDITIONS**

24. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition, revised July 2016*, (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.
25. Surface water drainage from the site is toward Antelope Creek and the Wutchumna Ditch in the Kaweah Delta Hydrologic Area (558.10) of the Tulare Lake Hydrologic

Basin. Antelope Creek, which drains into the St. John's River, flows north to south approximately 50 feet from the western boundary of the Facility and has been engineered to prevent erosion of the western boundary of the WMU. At its closest point, the Wutchumna Ditch is approximately 600 feet south of the Facility.

26. The designated beneficial uses of surface water in the Kaweah Delta Hydrologic Area (below Lake Kaweah), as specified in the Basin Plan, are municipal and domestic supply; agricultural supply; industrial service supply; industrial process supply; water contact recreation; non-contact water recreation; warm fresh water habitat; wildlife habitat; and groundwater recharge.
27. The Facility is located in a complex hydrogeologic setting that is due in part to surface water recharge from Antelope Creek, the Wutchumna Ditch, recharge ponds, and agricultural pumping. The Facility may be located in a transitional zone between areas of unconfined groundwater to the west and northwest and an area where groundwater is separated by a clayey-silt/silty-clay layer into an upper and lower zone to the north, northeast, and south. However, it does not appear that the clayey-silt/silty-clay layer is continuous beneath the Facility and separates groundwater into confined and unconfined groundwater zones.
28. Monitoring data indicate background groundwater quality for first encountered groundwater has electrical conductivity (EC) ranging between 590 and 1,100 micromhos/cm, with total dissolved solids (TDS) ranging between 390 and 710 milligrams per liter (mg/L).
29. The direction of groundwater flow varies seasonally and, recently, has generally been toward the north/northeast or north/northwest. Historically, it has ranged in directions from westerly, northwesterly, northeasterly, easterly, and southeasterly. The variability in the groundwater flow direction results from the pumping of several nearby wells and from surface water recharge from three nearby surface water bodies. The estimated average groundwater gradient ranges from approximately 0.002 to 0.009 feet per foot.
30. The first encountered groundwater beneath the Facility is currently between 388 to 395 feet MSL. Historically, the depth to groundwater has fluctuated seasonally by as much as 25 feet. The highest recorded groundwater is 418 feet MSL, based on 18 May 1998 soundings taken at groundwater monitoring wells MW-9A and MW-303.
31. Available information indicates that waste was placed in two 20-foot deep excavations in the northern one-quarter of the WMU. The surface elevations of the northern one-quarter of the WMU range from 428 to 429 feet MSL depending on location. Since the groundwater elevation data for the northern monitoring wells indicates that groundwater has risen as high as 418 feet MSL, the potential exists for groundwater to come into contact with incorporated wastes.
32. The designated beneficial uses of groundwater specified in the Basin Plan are domestic and municipal water supply, agricultural supply, industrial service supply and industrial process supply.

### **GROUNDWATER, SURFACE WATER AND UNSATURATED ZONE MONITORING**

33. Pursuant to Title 27, section 20080, subdivision (g), persons responsible for discharges at CAI units may be required to develop and implement a Detection Monitoring Program (DMP), in accordance with Title 27, section 20380 et seq.
34. The existing groundwater monitoring network for the landfill units is described in MRP No. R5-2017-0123 (incorporated herein).
35. During the second semiannual 2015 monitoring period, all the point of compliance wells within the DMP were dry due to declining groundwater levels and drought conditions. As such, groundwater samples were unable to be collected. As a result, the Discharger was required to submit an evaluation of its DMP, which is dated May 2016. The DMP evaluation documented a rebound in groundwater levels during the first semiannual 2016 monitoring period, which allowed for groundwater samples to be collected from the previously dry wells. In the DMP evaluation, the Discharger proposed to conduct monthly monitoring of groundwater levels and submit a work plan to bring the DMP into compliance if they are unable to comply during another semiannual monitoring period.
36. The surface water monitoring system consists of one upgradient and one downgradient monitoring point located in the center of Antelope Creek.
37. Order No. 5-01-199 did not require unsaturated zone monitoring due to its infeasibility.
38. VOCs are often detected in a release from landfills and are often associated with releases of landfill gas rather than leachate. Since volatile organic compounds are not naturally occurring and thus have no background value, they are not amenable to the statistical analysis procedures contained in Title 27 for the determination of a release of wastes from a landfill unit. Title 27, section 20415, subdivisions (e)(8)-(9) allow the use of a non-statistical evaluation of monitoring data that will provide the best assurance of the earliest possible detection of a release from a landfill unit in accordance with Title 27, sections 20415, subdivisions (b)(1)(B)2.-4. However, Title 27 does not specify a specific method for non-statistical evaluation of monitoring data.
39. The Central Valley Water Board may specify a non-statistical data analysis method pursuant to Title 27, section 20080, subdivision (a)(1). Water Code section 13360, subdivision (a)(1) allows the Central Valley Water Board to specify requirements to protect groundwater or surface waters from leakage from a solid waste site, which includes a method to provide the best assurance of determining the earliest possible detection of a release.
40. In order to provide the best assurance of the earliest possible detection of a release of non-naturally occurring waste constituents from a landfill unit, the SPRRs specify a non-statistical method for the evaluation of monitoring data for non-naturally occurring compounds. The specified non-statistical method for evaluation of monitoring data provides two criteria (or triggers) for making the determination that there has been a release of non-naturally occurring waste constituents from a landfill unit. The presence of two non-naturally occurring waste constituents above their respective method detection limit (MDL), or one non-naturally occurring waste constituent detected above its practical quantitation limit (PQL) indicates that a release of waste from a Unit has occurred. Following an indication of a release, verification testing must be conducted to

determine whether there has been a release from the landfill unit or the detection was a false detection. The detection of two non-naturally occurring waste constituents above the MDL as a trigger is appropriate due to the higher risk of false-positive analytical results and the corresponding increase in sampling and analytical expenses from the use of one non-naturally occurring waste constituent above its MDL as a trigger.

41. For a naturally-occurring constituent of concern, Title 27 requires concentration limits for each constituent of concern be determined as follows:
  - a. By calculation in accordance with a statistical method pursuant to Title 27, section 20415, subdivision (e)(8); or
  - b. By an alternate statistical method meeting the requirements of Title 27, section 20415, subdivision (e)(8)(E).
42. The Discharger submitted a Water Quality Protection Standard (WQPS) report proposing statistical data analysis methods to calculate concentration limits for each monitored constituent, per Title 27. The WQPS report proposed to use Interwell data analysis to calculate prediction limits for the monitored constituents. The WQPS and approved data evaluation methods are included in MRP No. R5-2017-0123 (incorporated herein).

#### **GROUNDWATER DEGRADATION**

43. Pursuant to Title 27, section 20080, subdivision (g), persons responsible for discharges at CAI units may be required to develop and implement a DMP in accordance with Title 27, section 20380 et seq. If water quality impairment is found, such persons may be required to develop and implement a corrective action program under that article.
44. A SWAT was conducted in 1988. Groundwater sampling for the SWAT resulted in detections of 1,1-dichloroethane (1,1-DCA) and methylene chloride. Subsequent sampling in 1992 and 1993 resulted in detections of dichlorofluoromethane (Freon 12), cis-1,2-dichloroethylene, tetrachloroethylene (PCE) and trichloroethylene (TCE). Subsequent to these detections, VOCs have only been detected on rare occasions. With the exception of bis(2-ethylhexyl)phthalate, which was detected in 2013 but not in confirmation samples, and methyl chloride, a common laboratory contaminant, the only VOCs detected in the last 10 years are Freon 12 (2007) and PCE (2007, 2011)—and only at trace concentrations. The most recent groundwater sampling (1st semiannual 2017) resulted in no VOC detections.
45. On 20 May 2009, the Discharger was issued a Notice of Violation (NOV) in response to reported exceedances of inorganic compounds in groundwater at the Facility. In November 2009, a Demonstration Report was subsequently prepared and submitted. The Demonstration Report stated that the causes of the reported inorganic exceedances were the result of seasonal changes in groundwater conditions across the Facility and misinterpretation of the statistical analyses. The Demonstration Report indicated that an Evaluation Monitoring Program (EMP) was not justified and recommended maintaining the DMP. It also recommended that intra-well statistical methods be employed for monitoring wells M-10B, MW-10A, M-303, and M-304 to account for the effects of upgradient pumping and recharge activities that influence groundwater quality in the northeastern portion of the site. Based upon analytical results from the most recent

groundwater sampling event (1st semiannual 2017), no measurably significant evidence of a release was found for any inorganic constituent.

46. Central Valley Water Board staff responded to the Demonstration Report in a letter dated March 16, 2012. In this letter, staff stated that the findings from the intra-well statistical analyses were inconclusive and requested that pre-release background groundwater quality conditions be determined to support the use of intra-well statistical methods. Subsequently, the Discharger elected to propose the installation of a new background monitoring well that would allow for the use of inter-well statistical methods for the monitoring wells in question. The City of Woodlake offered the Discharger the use of monitoring well "MW-6" at its Waste Water Treatment Plant located approximately 1,400 feet to the east. In a letter dated 19 July 2012, the Discharger informed Central Valley Water Board staff of its intent to use MW-6 as a background well for the Facility.

### **LANDFILL CLOSURE**

47. On 1 October 1981, the WMU was closed in accordance with the applicable closure regulations at the time of closure. Waste was covered with on-site soil and compacted and graded to promote drainage. The cover is vegetated with native grasses.

Landfill closure was completed prior to the adoption and implementation of the current regulations governing landfills, including California Code of Regulations, title 23, division 3, chapter 15 (Chapter 15), which became effective 27 November 1984. Therefore, the site is exempt from the siting and closure requirements contained within Chapter 15 unless monitoring data indicate impairment of beneficial uses of groundwater.

### **LANDFILL POST-CLOSURE MAINTENANCE**

48. The post-closure maintenance of the landfill will be implemented until the Central Valley Water Board determines that the waste no longer poses a threat to water quality. The final cover is periodically inspected for damage or defects and to ensure positive drainage.

### **FINANCIAL ASSURANCES**

49. The Facility is exempt from Title 27 financial assurance requirements for post-closure maintenance (§ 22210) due to its closure before 1 January 1988.
50. The Discharger is responsible for all costs associated with post-closure maintenance of the landfill, as well as all costs associated with complying with the requirements of these WDRs.
51. The Facility is exempt from Title 27 financial assurance requirements for corrective action (§ 22220) due to its closure before 1 July 1991.
52. The Discharger is responsible for all costs associated with any corrective actions associated with a release from the landfill and all costs associated with complying with the requirements of these WDRs.

### CEQA AND OTHER CONSIDERATIONS

53. This action to revise waste discharge requirements for an existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resource Code section 21000, et seq., in accordance with section 15301 of the CEQA Guidelines (Cal. Code Regs., tit. 14, § 15301).
54. This order implements the *Water Quality Control Plan for the Tulare Lake Basin, Second Edition, revised July 2016*.
55. Based on the threat and complexity of the discharge, the Facility is determined to be classified 2-B, as defined below:
  - a. Category 2 threat to water quality, defined as, “discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance.”
  - b. Category B complexity, defined as, “Any discharger not included in Category A that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal), or any Class 2 or Class 3 waste management units.”
56. In October 1968, the State Water Board adopted its *Statement of Policy with Respect to Maintaining High Quality of Waters in California*, State Water Board Order WQ 68-16 (“Anti-Degradation Policy”). Incorporated into the Central Valley Water Board’s Basin Plan, the policy limits board discretion to authorize the degradation of “high-quality waters,” defined as where water quality is more than sufficient to support beneficial uses designated in the Basin Plan. Whether or not a water is a “high-quality” is determined on a constituent-by-constituent basis, which means that an aquifer can be considered “high-quality” with respect to some constituents, but not others. (State Water Board Order No. WQ 91-10.)
57. The Anti-Degradation Policy applies when an activity discharges to “high quality” waters and the discharge will result in some degradation in water quality. When it applies, the Anti-Degradation Policy requires that WDRs reflect best practicable treatment or control (BPTC) of wastes, and that any degradation of “high quality” waters “(a) will be consistent with the maximum benefit to the people of the State, and (b) will not result in an exceedance of water quality objectives.” If an activity will not result in the degradation of “high quality waters,” the policy does not apply, and the Discharger need only demonstrate that it will use “best efforts” to control its discharge of waste.
58. Due to the presence of an unlined waste disposal unit at the site, waste discharged at the site could be discharged to waters of the State as a result of permitted activities at the Facility. The potential for waste constituents to discharge to waters of the State has decreased since landfill closure in 1981. Compliance with this Order, attached SPRRs and MRP No. R5-2017-XXXX (incorporated herein), represent BPTC of the discharge of waste to waters of the State. Therefore, the site complies with the Anti-Degradation Policy.



59. Water Code section 13267, subdivision (b) provides that:

In conducting an investigation..., the Regional Board may require that any person who has discharged, discharges, or is suspected of having discharge or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

60. The technical reports required by this Order and MRP No. R5-2017-0123 (incorporated herein) are necessary to assure compliance with these WDRs. The Discharger owns and maintains the Facility that discharged the waste subject to this Order.

#### **PROCEDURAL REQUIREMENTS**

61. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.

62. The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

63. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23 (Title 23), section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date that this Order becomes final, except that if the thirtieth day following the date that this Order becomes final falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: [http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality), or will be provided upon request.

IT IS HEREBY ORDERED, pursuant to California Water Code sections 13263 and 13267, that Order No. 5-01-199 is rescinded except for purposes of enforcement, and that the Discharger, its agents, successors and assigns, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

**A. PROHIBITIONS**

1. The discharge of any waste at this Facility is prohibited.
2. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or groundwater is prohibited.

**B. DISCHARGE SPECIFICATIONS**

1. The waste shall not cause pollution or a nuisance, as defined by Water Code section 13050.
2. The waste shall not cause degradation of any water supply.
3. Water used for Facility maintenance shall be limited to the minimum amount for dust control, construction, or proper compaction of the cover during any necessary repairs.

**C. FACILITY SPECIFICATIONS**

1. Annually, prior to the anticipated rainy season but no later than **31 October**, the Discharger shall implement any necessary erosion control measures and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities to prevent erosion or flooding of the Facility and to prevent surface drainage from contacting or percolating through wastes.
2. Surface drainage and subsurface drainage from tributary areas and internal site drainage from surface or subsurface soils shall not contact or percolate through wastes.
3. Cover materials shall be graded to divert precipitation from the waste management unit, to prevent ponding of surface water over wastes, and to resist erosion as a result of precipitation.
4. Standard Facility Specifications 6-11 in Section E of the SPRRs apply.

**D. POST-CLOSURE MAINTENANCE SPECIFICATIONS**

1. The Discharger shall maintain the structural integrity and effectiveness of all containment structures, maintain the cover as necessary to correct the effects of settlement and other adverse factors and prevent erosion and related damage to the cover due to drainage.
2. The Discharger shall maintain in good working order any facility, control system, or monitoring device installed to achieve compliance with the WDRs.
3. The Discharger shall comply with all applicable Standard Closure and Post-Closure Specifications set forth in Section G of the SPRRs.

**E. FINANCIAL ASSURANCE SPECIFICATIONS**

1. The Discharger shall be financially responsible the funds necessary for corrective action of the landfill and all activities associated with complying with these WDRs.

**F. MONITORING SPECIFICATIONS**

1. The Discharger shall comply with the applicable Title 27 DMP provisions for groundwater and surface water, in accordance with MRP No. R5-2017-0123 (incorporated herein); and the Standard Monitoring Specifications set forth in Section I of the SPRRs.
2. The Discharger shall comply with the WQPS specified in this Order, MRP No. R5-2017-0123 and the SPRRs.
3. The concentrations of the constituents of concern in waters passing the Point of Compliance (defined pursuant to Title 27, section 20164 as a vertical surface located at the hydraulically downgradient limit of the landfill unit that extends through the uppermost aquifer underlying the unit) shall not exceed the concentration limits established pursuant to MRP No. R5-2017-0123.
4. For each monitoring event, the Discharger shall determine whether the landfill is in compliance with the WQPS specified in this Order, using the procedures specified in MRP No. R5-2017-0123 and the Standard Monitoring Specifications in Section I of the SPRRs.
5. If the existing groundwater monitoring system is inadequate resulting in the Discharger being unable to collect groundwater samples during a semi-annual monitoring period, then a work plan and schedule shall be submitted to bring its DMP into compliance by the end of the quarter following a continuously dry semi-annual monitoring period.
6. As specified in MRP No. R5-2017-0123, the Discharger shall enter all monitoring data and monitoring reports into the online Geotracker database as required by Division 3 of Title 27 and Chapter 30, Division 3 of Title 23.
7. The Discharger shall comply with all Standard Monitoring Specifications and Response to a Release specifications listed in Sections I and J of the SPRRs.

**G. PROVISIONS**

1. The Discharger shall maintain at their office a copy of this Order, MRP No. R5-2017-0123 and the SPRRs, all of which shall be made available at all times to both Facility operating personnel, who shall be familiar with its contents, and regulatory agency personnel.
2. The Discharger shall comply with all applicable provisions of Title 27 and 40 Code of Federal Regulations part 258 not otherwise specifically referenced in this Order.

3. The Discharger shall comply with MRP No. R5-2017-0123, which has been made part of this Order.
4. To the extent that there are any conflicts among the WDRs, MRP No. R5-2017-0123 and the SPRRs, the WDRs shall supersede all conflicting language in MRP No. R5-2017-0123 and the SPRRs. Similarly, to the extent that language in MRP No. R5-2017-0123 conflicts with that of the SPRRs, the language in MRP No. R5-2017-0123 shall supersede all conflicting language in the SPRRs.
5. All reports required by this Order shall be submitted pursuant to Water Code section 13267.
6. The Discharger shall complete the tasks specified in these WDRs, in accordance with the following time schedule:

<u>Task</u>	<u>Compliance Date</u>
Submittal of a work plan to bring the DMP into compliance.	<b>Within 90 days</b> following an out of compliance semiannual monitoring period.

7. The Discharger shall comply with all General Provisions listed in Section K of the SPRRs.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 8 December 2017.

*Original Signed by*

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PAMELA C. CREEDON, Executive Officer

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2017-0123  
FOR  
COUNTY OF TULARE  
WOODLAKE LANDFILL  
POST-CLOSURE MAINTENANCE  
TULARE COUNTY

This Monitoring and Reporting Program (MRP) is issued pursuant to California Water Code section 13267 and incorporates requirements for groundwater and surface water monitoring and reporting; facility monitoring, maintenance, and reporting; and financial assurances reporting contained in California Code of Regulations, title 27 (Title 27), section 20005 et seq., Waste Discharge Requirements Order No. R5-2017-0123 (WDRs) and the Standard Provisions and Reporting Requirements, dated December 2015 (SPRRs). Compliance with this MRP is ordered by the WDRs, and the Discharger shall not implement any changes to this MRP until a revised MRP is issued by the Central Valley Water Board or its Executive Officer.

**A. MONITORING**

The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater and surface water in accordance with Standard Monitoring Specifications in Section I of the SPRRs and the Monitoring Specifications in Section F of the WDRs. All monitoring shall be conducted in accordance with the most recently approved Detection Monitoring Program (DMP).

All compliance monitoring wells established for the DMP shall constitute the monitoring points for the groundwater Water Quality Protection Standard (WQPS). All detection monitoring program groundwater monitoring wells, surface water monitoring points, and leachate seeps shall be sampled and analyzed for monitoring parameters and Constituents of Concern (COCs) as set forth in Tables I-V, below.

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 MRP, and are identified in the most recently approved DMP.

The monitoring program of this MRP includes:

<u>Section</u>	<u>Monitoring Program</u>
A.1	Groundwater Monitoring
A.2	Seep Monitoring
A.3	Surface Water Monitoring
A.4	Facility Monitoring

## 1. Groundwater Monitoring

The Discharger shall operate and maintain a groundwater detection monitoring system that complies with the applicable provisions of Title 27, sections 20415 and 20420. The detection monitoring system shall be certified by a California-licensed professional civil engineer or geologist meeting the requirements of Title 27. The current groundwater monitoring network consists the following:

<u>Well</u>	<u>Status</u>	<u>Area</u>
M-11A	Background	Main
M-11B	Background	Main
MW-6 <sup>1</sup>	Background	Northeast
M-302	Background	Main
M-8A	Point of Compliance	Main
M-8B	Point of Compliance	Main
M-9A	Point of Compliance	Main
M-9B	Point of Compliance	Main
M-10A	Point of Compliance	Northeast
M-10B	Point of Compliance	Northeast
M-301	Point of Compliance	Main
M-303	Point of Compliance	Northeast
M-5A	Other	Other
M-5B	Other	Other
M-7	Other	Other
M-304	Other	Other

Groundwater samples shall be collected from the background wells, detection 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 set forth 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 DMP.

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<sup>1</sup> Located on the wastewater treatment property approximately 1,400 feet to the east.

**Once per quarter**, the Discharger shall measure the groundwater elevation in each well, determine groundwater flow direction, and estimate groundwater flow rates in the uppermost aquifer and in any zones of perched water and in any additional portions of the zone of saturation monitored. 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, subdivision (e)(15).

Every five years, samples collected for the COC monitoring specified in Table I, shall be collected and analyzed in accordance with the methods listed in Table V. Five-year COCs were last monitored in 2013, and shall be monitored again in **2018**. The results shall be reported in the Annual Monitoring Report for the year in which the samples were collected.

**2. Seep Monitoring**

Upon detection, leachate that seeps to the surface from a landfill unit shall be sampled and analyzed for the Field and Monitoring Parameters listed in Table II. The quantity of leachate shall be estimated and reported as Leachate Flow Rate (in gallons/day). Reporting for leachate seeps shall be conducted per MRP Section B.3, below.

**3. Surface Water Monitoring**

The Discharger shall operate a surface water detection monitoring system for any landfill facility where runoff from landfill areas flows or could flow to waters of the United States. The monitoring system shall comply with the applicable provisions of Title 27, sections 20415 and 20420. The current surface water detection monitoring system meets the applicable requirements of Title 27.

The current surface water monitoring points for the landfill are:

<u>Monitoring Point</u>	<u>Status</u>
S-B	Background or Upstream
S-D	Discharge or Downstream

For surface water detection monitoring, a sample 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 III.

**4. 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 problems areas before and after repairs. Any necessary construction, maintenance, or repairs shall be completed by **31 October**. Annual facility inspection reporting shall be submitted per MRP Section B.4, below.

**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 capable of causing damage or significant erosion. The Discharger shall take photos of any problems 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 per MRP Section B.5, below.

**c. Standard Observations**

Quarterly, the Discharger shall conduct Standard Observations at the landfill in accordance with this section of the MRP. Standard Observations shall include:

- 1) For the landfill units:
  - a) Evidence of ponded water at any point on the landfill outside of any contact storm water/leachate diversions structures on the active face (show affected area on map); 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.
- 3) For receiving waters (if applicable):
  - a) Floating and suspended materials of waste origin - presence or absence, source, and size of affected area; and
  - b) 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 MRP Section B.1, 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	Semiannual Monitoring Report	30 June, 31 December	<b>31 August, 28 February</b>
B.2	Annual Monitoring Report	31 December	<b>28 February</b>
B.3	Seep Reporting	Continuous	<b>Immediately &amp; 7 Days</b>
B.4	Annual Facility Inspection Report	31 October	<b>15 November</b>
B.5	Major Storm Event Reporting	Continuous	<b>7 days from damage discovery</b>

### Reporting Requirements

**Semiannually**, the Discharger shall submit monitoring reports containing the data and information required in this MRP, and as required per the WDRs (Order No. R5-2017-0123) and the SPRRs—particularly SPRRs Section I (“Standard Monitoring Specifications”) and Section J (“Response to a Release”). In reporting the monitoring data required by this MRP, 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 (i.e., on a flash drive or compact disk).

Field and laboratory tests 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. In addition, the Discharger shall enter all monitoring data and monitoring reports into the online Geotracker database as required by California Code of Regulations, title 23 (Title 23), sections 3890–3895; and Title 27, division 3.

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. **Semiannual Monitoring Report:** Monitoring reports shall be submitted semiannually and are due on **31 August** and **28 February**. Each semiannual monitoring report shall contain at least the following:
  - a) For each groundwater monitoring point addressed by the report, descriptions of:
    - 1) The time of water level measurement;
    - 2) 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;
    - 3) 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;
    - 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 monitoring plan.
  - b) A map or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points.

- c) The estimated quarterly 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. (See Title 27, § 20415, subd. (e)(15).)
  - d) Cumulative tabulated monitoring data for all monitoring points and constituents for groundwater, unsaturated zone, and leachate. 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 "< [reporting limit]" (e.g., "< 0.10"). Units shall be as required in Tables I-IV, unless specific justification is given to report in other units. Refer to the SPRRs Section I ("Standard Monitoring Specifications") for specific 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) A summary of all Standard Observations for the reporting period required in MRP Section A.4.c, above.
  - h) A summary of inspection 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.
- 2. Annual Monitoring Report:** The Discharger shall submit an Annual Monitoring Report to the Central Valley Water Board by **28 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, than 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, Piper graph or 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. The Central Valley Water Board regards the submittal of data both in hard copy and in digital format as the forms necessary for statistical analysis, facilitating periodic review. (See Title 27, § 20420, subd. (h).)
  - 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 needed to bring the Discharger into full compliance with the WDRs.
  - 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.
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 II, 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 a 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. (See MRP § A.4.a, above.)
5. **Major Storm Event Reporting:** Following major storm events capable of causing damage or significant erosion, the Discharger shall notify Central Valley Water Board staff **immediately upon discovery** of any damage or significant erosion; and report subsequent repairs **within 14 days** of completion of the repairs. Photographs of any problem(s) and repairs performed shall be submitted with the report. (See MRP § A.4.b, above.)

## C. WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD

### 1. Water Quality Protection Standard (WQPS) Report

For each Waste Management Unit (WMU), the Water Quality Protection Standard (WQPS) shall consist of all COCs, the concentration limit for each constituent of concern, the verification retesting procedure to confirm measurably significant evidence of a release, the point of compliance, and all water quality monitoring points for each monitored medium.

The WQPS for naturally occurring waste constituents consists of the COCs, the concentration limits, and the point of compliance and all monitoring points. Any proposed changes to the WQPS other than annual update of the concentration limits shall be submitted in a report for review and approval.

The report shall:

- a) Identify **all distinct bodies of surface and ground water** that could be affected in the event of a release from a WMU or portion of a unit. This list shall include at least the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the facility.
- b) Include a map showing the monitoring points and background monitoring points for the groundwater monitoring program and the unsaturated zone monitoring program. The map shall include the point of compliance in accordance with Title 27, section 20405.
- c) Evaluate the perennial direction(s) of groundwater movement within the uppermost groundwater zone(s).
- d) Include a proposed statistical method for calculating concentration limits for monitoring parameters and COCs that are detected in 10 percent or greater of the background data (naturally-occurring constituents) using a statistical procedure from Title 27, section 20415, subdivisions (e)(8)(A)-(E).

- e. Include a retesting procedure to confirm or deny measurably significant evidence of a release pursuant to section 20415, subdivision (e)(8)(E) and section 20420, subdivisions (j)(1)-(3) of Title 27.

The WQPS shall be certified by a California-registered civil engineer or geologist as meeting the requirements of Title 27. If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of the WQPS.

The Discharger proposed the methods for calculating concentration limits and the limits are calculated using interwell tolerance limits based on background data from background monitoring wells.

The WQPS shall be updated annually for each monitoring well using new and historical monitoring data.

## **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 WMUs are those listed in Tables I-IV for the specified monitored medium.

## **3. Constituents of Concern (COCs)**

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 WMU, and are required to be monitored every five years. (See Title 27, § 20395, 20420, subd. (g).) The facility WMU's "Five-year COCs" are listed in Tables I-V for the specified monitored medium. The Discharger shall monitor all COCs every five years, or more frequently as required in accordance with a Corrective Action Program. The last five-year COC report was submitted to the Central Valley Water Board in the 2013 *Annual Monitoring Report*, and five-year COCs are due to be monitored again in **2018**.

## **4. Concentration Limits**

For a naturally occurring constituent of concern, the concentration limit for each constituent of concern shall be determined as follows:

- a. By calculation in accordance with a statistical method pursuant to Title 27, section 20415, subdivision (e)(8); or
- b. By an alternate statistical method meeting the requirements of Title 27, section 20415, subdivision (e)(8)(E).

The approved method for calculating concentration uses interwell tolerance limits based on background data from background monitoring well.

**5. Retesting Procedures for Confirming Evidence of a Release**

If monitoring results indicate measurably significant evidence of a release, as described in Standard Monitoring Specification I.45 of the SPRRs, then:

- b. For analytes that are detected in less than 10% of the background samples (such as non-naturally occurring constituents), the Discharger shall use the non-statistical retesting procedure required in Standard Monitoring Specification I.46 of the SPRRs.
- c. For analytes that are detected in 10% or greater of the background samples (naturally occurring constituents), the Discharger shall use one of the statistical retesting procedure as required in Standard Monitoring Specification I.47 of the SPRRs.

**6. 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.

**7. 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].

**8. 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 Program.

*Original Signed by*

Ordered By: \_\_\_\_\_  
PAMELA C. CREEDON, Executive Officer

8 December 2017  
(Date)



**TABLE I**  
**GROUNDWATER DETECTION MONITORING PROGRAM**

<u>Parameters</u>	<u>Units</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
<b>Field Parameters</b>			
Groundwater Elevation	Feet & 100ths, MSL	Quarterly	Semiannually
Temperature	Fahrenheit	Semiannually	(same)
Electrical Conductivity	umhos/cm	Semiannually	(same)
pH	pH units	Semiannually	(same)
Turbidity	Turbidity Units	Semiannually	(same)
<b>Monitoring Parameters</b>			
Total Dissolved Solids (TDS)	mg/L <sup>1</sup>	Semiannually	Semiannually
Chloride	mg/L	(same)	(same)
Carbonate	mg/L	(same)	(same)
Bicarbonate	mg/L	(same)	(same)
Nitrate-Nitrogen	mg/L	(same)	(same)
Sulfate	mg/L	(same)	(same)
Calcium	mg/L	(same)	(same)
Magnesium	mg/L	(same)	(same)
Potassium	mg/L	(same)	(same)
Sodium	mg/L	(same)	(same)
Volatile Organic Compounds (USEPA Method 8260B, short list, see Table IV)	ug/L <sup>2</sup>	(same)	(same)
<b>5-Year Constituents of Concern (see Table V)</b>			
Total Organic Carbon	mg/L	Every 5 Years	2018 and Every 5 Years Thereafter
Inorganics (dissolved)	ug/L	(same)	(same)
Volatile Organic Compounds (USEPA Method 8260B, extended list)	ug/L	(same)	(same)
Semi-Volatile Organic Compounds (USEPA Method 8270C or D)	ug/L	(same)	(same)
Chlorophenoxy Herbicides (USEPA Method 8151A)	ug/L	(same)	(same)
Organophosphorus Compounds (USEPA Method 8141B)	ug/L	(same)	(same)

<sup>1</sup> Milligrams per Liter

<sup>2</sup> Micrograms per Liter

**TABLE II**  
**SEEP MONITORING**

<u>Parameters</u>	<u>Units</u>	<u>Sampling Frequency</u> <sup>1</sup>	<u>Reporting Frequency</u>
<b>Field Parameters</b>			
Total Flow	Gallons	Monthly	Semiannually
Flow Rate	Gallons per Day	Monthly	Semiannually
Electrical Conductivity	umhos/cm	Quarterly	Semiannually
pH	pH units	Quarterly	Semiannually
<b>Monitoring Parameters</b>			
Total Dissolved Solids (TDS)	mg/L	Annually	Annually
Chloride	mg/L	(same)	(same)
Carbonate	mg/L	(same)	(same)
Bicarbonate	mg/L	(same)	(same)
Nitrate-Nitrogen	mg/L	(same)	(same)
Sulfate	mg/L	(same)	(same)
Calcium	mg/L	(same)	(same)
Magnesium	mg/L	(same)	(same)
Potassium	mg/L	(same)	(same)
Sodium	mg/L	(same)	(same)
Volatile Organic Compounds (USEPA Method 8260B, short list, see Table IV)	ug/L	(same)	(same)

<sup>1</sup> Sampling frequency only applies to periods in which leachate seeps are active.

**TABLE III**  
**SURFACE WATER DETECTION MONITORING PROGRAM**

<u>Parameters</u>	<u>Units</u>	<u>Sampling Frequency</u> <sup>1</sup>	<u>Reporting Frequency</u>
<b>Field Parameters</b>			
Electrical Conductivity	umhos/cm	(same)	(same)
pH	pH units	(same)	(same)
Turbidity	Turbidity Units	(same)	(same)
Flow to Waters of the United States	Yes / No	(same)	(same)
<b>Monitoring Parameters</b>			
Total Dissolved Solids (TDS)	mg/L	Semiannually	Semiannually
Chloride	mg/L	(same)	(same)
Carbonate	mg/L	(same)	(same)
Bicarbonate	mg/L	(same)	(same)
Nitrate-Nitrogen	mg/L	(same)	(same)
Sulfate	mg/L	(same)	(same)
Calcium	mg/L	(same)	(same)
Magnesium	mg/L	(same)	(same)
Potassium	mg/L	(same)	(same)
Sodium	mg/L	(same)	(same)
Volatile Organic Compounds (USEPA Method 8260B, short list, see Table IV)	ug/L	(same)	(same)
<b>5-Year Constituents of Concern (see Table V)</b>			
Total Organic Carbon	mg/L	Every 5 Years	2018 and Every 5 Years Thereafter
Inorganics (dissolved)	ug/L	(same)	(same)
Volatile Organic Compounds (USEPA Method 8260B, extended list)	ug/L	(same)	(same)
Semi-Volatile Organic Compounds (USEPA Method 8270C or D)	ug/L	(same)	(same)
Chlorophenoxy Herbicides (USEPA Method 8151A)	ug/L	(same)	(same)
Organophosphorus Compounds (USEPA Method 8141B)	ug/L	(same)	(same)

<sup>1</sup> Semiannual surface water monitoring is required twice per year when there is water present at the designated surface water monitoring point any time during the reporting period (1 January to 30 June, or 1 July to 31 December). Reporting shall include whether there was flow from the facility to waters of the U.S. when the samples were collected.

**TABLE IV**  
**MONITORING PARAMETERS FOR DETECTION MONITORING**

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**Surrogates for Metallic Constituents**

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- pH
- Total Dissolved Solids
- Electrical Conductivity
- Chloride
- Sulfate
- Nitrate Nitrogen

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**Volatile Organic Compounds—Short List**

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**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)

**TABLE IV—MONITORING PARAMETERS FOR DETECTION MONITORING  
(CONTINUED)**

- Hexachlorobutadiene
- Methyl bromide (Bromomethene)
- Methyl chloride (Chloromethane)
- Methylene bromide (Dibromomethane)
- Methylene chloride (Dichloromethane)
- ethyl 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

**TABLE V  
 FIVE-YEAR COCs & USEPA-APPROVED ANALYTICAL METHODS**

<u>Inorganics (Dissolved)</u>	<u>USEPA Method</u>	<u>Inorganics (Dissolved)</u>	<u>USEPA Method</u>
Aluminum	6010	Zinc	6010
Antimony	7041	Iron	6010
Barium	6010	Manganese	6010
Beryllium	6010	Arsenic	7062
Cadmium	7131A	Lead	7421
Chromium	6010	Mercury	7470A
Cobalt	6010	Nickel	7521
Copper	6010	Selenium	7742
Silver	6010	Thallium	7841
Tin	6010	Cyanide	9010C
Vanadium	6010	Sulfide	9030B

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**Volatile Organic Compounds—Extended List**

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**USEPA Method 8260B**

- Acetone
- Acetonitrile (Methyl cyanide)
- Acrolein
- Acrylonitrile
- Allyl chloride (3-Chloropropene)
- Benzene
- Bromochloromethane (Chlorobromomethane)
- Bromodichloromethane (Dibromochloromethane)
- Bromoform (Tribromomethane)
- Carbon disulfide
- Carbon tetrachloride
- Chlorobenzene
- Chloroethane (Ethyl chloride)
- Chloroform (Trichloromethane)
- Chloroprene
- Dibromochloromethane (Chlorodibromomethane)

**TABLE V - FIVE-YEAR COCs & USEPA-APPROVED ANALYTICAL METHODS  
(CONTINUED)**

- 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)
- 1,3-Dichloropropane (Trimethylene dichloride)
- 2,2-Dichloropropane (Isopropylidene chloride)
- 1,1 -Dichloropropene
- cis- 1,3-Dichloropropene
- trans- 1,3-Dichloropropene
- Di-isopropylether (DIPE)
- Ethanol
- Ethyltertiary butyl ether
- Ethylbenzene
- Ethyl methacrylate
- Hexachlorobutadiene
- 2-Hexanone (Methyl butyl ketone)
- Isobutyl alcohol
- Methacrylonitrile
- Methyl bromide (Bromomethane)
- Methyl chloride (Chloromethane)
- Methyl ethyl ketone (MEK; 2-Butanone)
- Methyl iodide (Iodomethane)
- Methyl t-butyl ether
- Methyl methacrylate
- 4-Methyl-2-pentanone (Methyl isobutyl ketone)
- Methylene bromide (Dibromomethane)
- Methylene chloride (Dichloromethane)
- Naphthalene
- Propionitrile (Ethyl cyanide)
- Styrene
- Tertiary amyl methyl ether
- Tertiary butyl alcohol
- 1,1,1,2-Tetrachloroethane
- 1,1,2,2-Tetrachloroethane

**TABLE V - FIVE-YEAR COCs & USEPA-APPROVED ANALYTICAL METHODS  
(CONTINUED)**

- Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)
- Toluene
- 1,2,4-Trichlorobenzene
- 1,1,1 -Trichloroethane (Methylchloroform)
- 1,1,2-Trichloroethane
- Trichloroethylene (Trichloroethene; TCE)
- Trichlorofluoromethane (CFC- 11)
- 1,2,3-Trichloropropane
- Vinyl acetate
- Vinyl chloride (Chloroethene)
- Xylene (total)

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**Semi-Volatile Organic Compounds**

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**USEPA Method 8270C or D—Base, Neutral & Acid Extractables**

- Acenaphthene
- Acenaphthylene
- Acetophenone
- 2-Acetylaminofluorene (2-AAF)
- Aldrin
- 4-Aminobiphenyl
- Anthracene
- Benzo[a]anthracene (Benzanthracene)
- Benzo[b]fluoranthene
- Benzo[k]fluoranthene
- Benzo[g,h,i]perylene
- Benzo[a]pyrene
- Benzyl alcohol
- Bis(2-ethylhexyl) phthalate
- alpha-BHC
- beta-BHC
- delta-BHC
- gamma-BHC (Lindane)
- Bis(2-chloroethoxy)methane
- Bis(2-chloroethyl) ether (Dichloroethyl ether)
- Bis(2-chloro-1-methylethyl) ether (Bis(2-chloroisopropyl) ether; DCIP)
- 4-Bromophenyl phenyl ether
- Butyl benzyl phthalate (Benzyl butyl phthalate)
- Chlordane
- p-Chloroaniline
- Chlorobenzilate
- p-Chloro-m-cresol (4-Chloro-3-methylphenol)
- 2-Chloronaphthalene



**TABLE V - FIVE-YEAR COCs & USEPA-APPROVED ANALYTICAL METHODS  
(CONTINUED)**

- 2-Chlorophenol
- 4-Chlorophenyl phenyl ether
- Chrysene
- o-Cresol (2-methylphenol)
- m-Cresol (3-methylphenol)
- p-Cresol (4-methylphenol)
- 4,4'-DDD
- 4,4'-DDE
- 4,4'-DDT
- Diallate
- Dibenz[a,h]anthracene
- Dibenzofuran
- Di-n-butyl phthalate
- 3,3'-Dichlorobenzidine
- 2,4-Dichlorophenol
- 2,6-Dichlorophenol
- Dieldrin
- Diethyl phthalate
- p-(Dimethylamino)azobenzene
- 7,12-Dimethylbenz[a]anthracene
- 3,3'-Dimethylbenzidine
- 2,4-Dimethylphenol (m-Xylenol)
- Dimethyl phthalate
- m-Dinitrobenzene
- 4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)
- 2,4-Dinitrophenol
- 2,4-Dinitrotoluene
- 2,6-Dinitrotoluene
- Di-n-octyl phthalate
- Diphenylamine
- Endosulfan I
- Endosulfan II
- Endosulfan sulfate
- Endrin
- Endrin aldehyde
- Ethyl methanesulfonate
- Famphur
- Fluoranthene
- Fluorene
- Heptachlor
- Heptachlor epoxide
- Hexachlorobenzene

**TABLE V - FIVE-YEAR COCs & USEPA-APPROVED ANALYTICAL METHODS  
(CONTINUED)**

- Hexachlorocyclopentadiene
- Hexachloroethane
- Hexachloropropene
- Indeno(1,2,3-c,d)pyrene
- Isodrin
- Isophorone
- Isosafrole
- Kepone
- Methapyrilene
- Methoxychlor
- 3-Methylcholanthrene
- Methyl methanesulfonate
- 2-Methylnaphthalene
- 1,4-Naphthoquinone
- 1-Naphthylamine
- 2-Naphthylamine
- o-Nitroaniline (2-Nitroaniline)
- m-Nitroaniline (3-Nitroaniline)
- p-Nitroaniline (4-Nitroaniline)
- Nitrobenzene
- o-Nitrophenol (2-Nitrophenol)
- p-Nitrophenol (4-Nitrophenol)
- N-Nitrosodi-n-butylamine (Di-n-butylNitrosamine)
- N-Nitrosodiethylamine (DiethylNitrosamine)
- N-Nitrosodimethylamine (DimethylNitrosamine)
- N-Nitrosodiphenylamine (DiphenylNitrosamine)
- N-Nitrosodipropylamine (N-Nitroso-N-dipropylamine; Di-n-propylNitrosamine)
- N-Nitrosomethylethylamine (MethylethylNitrosamine)
- N-Nitrosopiperidine
- N-Nitrosopyrrolidine
- 5-Nitro-o-toluidine
- Pentachlorobenzene
- Pentachloronitrobenzene (PCNB)
- Pentachlorophenol
- Phenacetin
- Phenanthrene
- Phenol
- p-Phenylenediamine
- Polychlorinated biphenyls (PCBs; Aroclors)
- Pronamide
- Pyrene
- Safrole
- 1,2,4,5-Tetrachlorobenzene
- 2,3,4,6-Tetrachlorophenol

**TABLE V - FIVE-YEAR COCs & USEPA-APPROVED ANALYTICAL METHODS  
(CONTINUED)**

- o-Toluidine
- Toxaphene
- 2,4,5-Trichlorophenol
- 0,0,0-Triethyl phosphorothioate
- sym-Trinitrobenzene

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**Chlorophenoxy Herbicides**

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**USEPA Method 8151A**

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

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**Organophosphorus Compounds**

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**USEPA Method 8141B**

- Atrazine
- Chlorpyrifos
- 0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)
- Diazinon
- Dimethoate
- Disulfoton
- Methyl parathion (Parathion methyl)
- Parathion
- Phorate
- Simazine

## INFORMATION SHEET

ORDER R5-2017-0123  
COUNTY OF TULARE  
POSTCLOSURE MAINTENANCE  
WOODLAKE LANDFILL  
TULARE COUNTY

The County of Tulare (Discharger) owns and maintains the closed Woodlake Landfill (Facility), located in Tulare County, approximately one mile southwest of the City of Woodlake. The California Regional Water Quality Control Board (Central Valley Water Board) adopted Waste Discharge Requirements (WDRs) Order No. 5-01-199 on 27 July 2001. The Central Valley Water Board issued Order No. 96-044 in which the facility was classified as Class III waste disposal site as defined in California Code of Regulations, title 27 (Title 27), section 20005 et seq. On 27 July 2001, the Central Valley Water Board issued Order No. 5-01-199, which continued to classify the facility as Class III waste disposal site. The proposed revised Order provides for continuing postclosure maintenance.

The 25.5-acre Facility consists of one unlined waste management unit (WMU) covering approximately 16.4 acres. The Facility was operated using burn and bury disposal methods between 1969 and 1971. After 1971, trench and area fill methods were utilized for disposal within the WMU. Disposal operations ceased in 1981. The Facility is a “closed, abandoned, or inactive” (CAI) unit because closure occurred prior to 27 November 1984, in accordance with Title 27, section 20164.

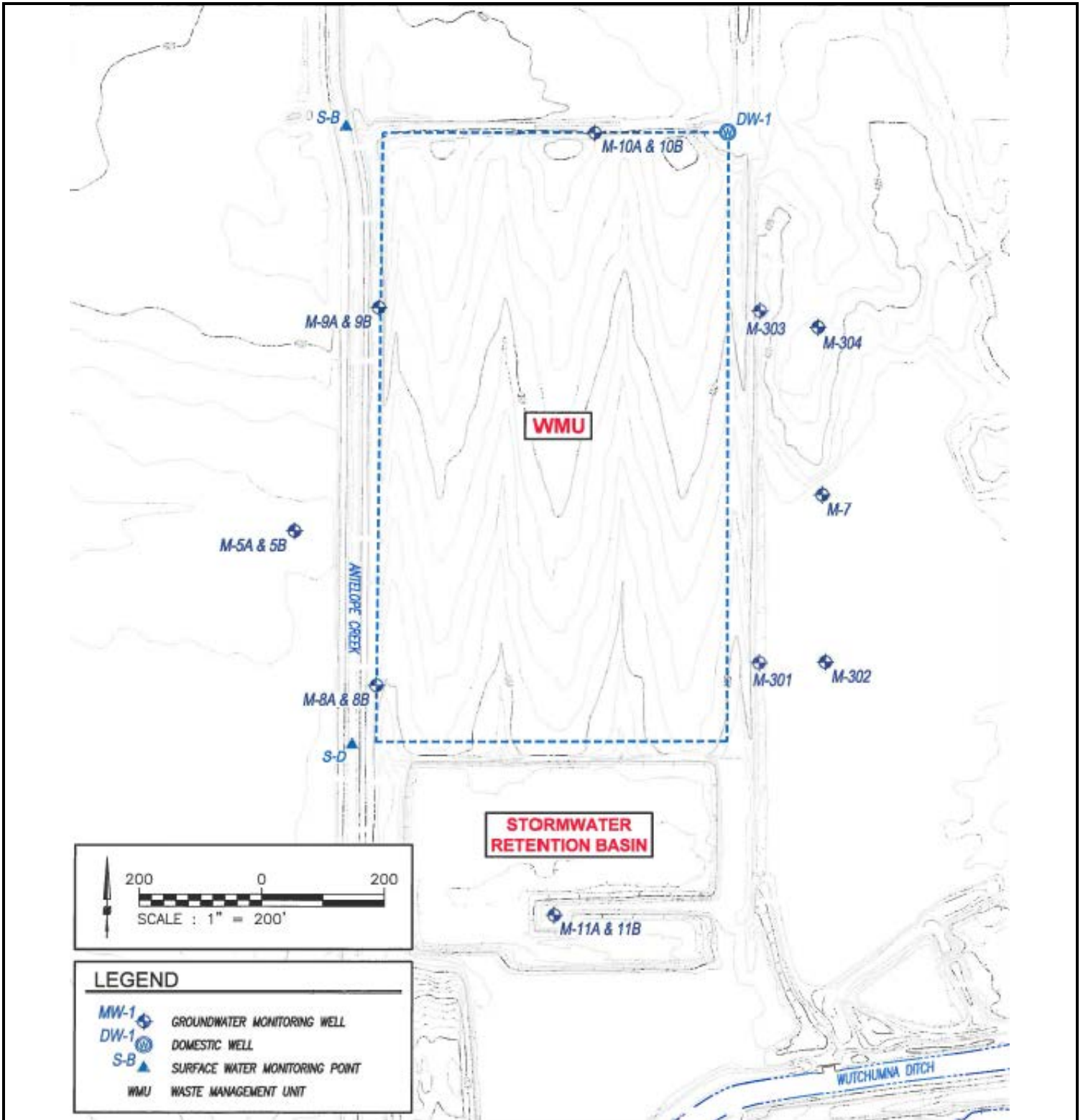
The Facility may be located in a transitional zone between areas of unconfined groundwater to the west and northwest and an area where groundwater is separated by a clayey-silt/silty-clay layer into an upper and lower zone to the north, northeast, and south. However, it does not appear that the clayey-silt/silty-clay layer is contiguous beneath the Facility and separates groundwater into confined and unconfined groundwater zones. Groundwater elevations range between 372 and 382 feet above mean seas level (MSL) depending on location at the Facility. The first encountered groundwater is unconfined.

Groundwater sampling conducted in 1988 resulted in detections of 1,1-dichloroethane (1,1-DCA) and methylene chloride. Subsequent sampling in 1992 and 1993 resulted in detections of dichlorofluoromethane (Freon 12), cis-1,2-dichloroethylene, tetrachloroethylene (PCE), and trichloroethylene (TCE). Subsequent to these detections, volatile organic compounds (VOCs) have only been detected on rare occasions. With the exception of bis(2-ethylhexyl)phythalate (which was detected in 2013 but not in confirmation samples) and methyl chloride (a common laboratory contaminant), the only VOCs detected in the last ten years are Freon 12 (in 2007) and PCE (in 2007 and 2011) at trace concentrations. The Discharger was issued a Notice of Violation on 20 May 2009 in response to reported exceedances of inorganic compounds in groundwater at the Landfill. In November 2009, a Demonstration Report was subsequently prepared and submitted. The Demonstration Report stated that the causes of the reported inorganic exceedances were the result of seasonal changes in groundwater conditions across the facility and misinterpretation of the statistical analyses. The Demonstration Report recommended maintaining the Detection Monitoring Program.



WASTE DISCHARGE REQUIREMENTS  
ORDER NO. R5-2017-0123  
COUNTY OF TULARE  
FOR  
WOODLAKE LANDFILL  
TULARE COUNTY  
ATTACHMENT A





WASTE DISCHARGE REQUIREMENTS  
 ORDER NO. R5-2017-0123  
 COUNTY OF TULARE  
 FOR  
 WOODLAKE LANDFILL  
 TULARE COUNTY  
 ATTACHMENT B