CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2014-XXXX
FOR
MUSCO OLIVE PRODUCTS, INC. DBA MUSCO FAMILY OLIVE COMPANY
AND
THE STUDLEY COMPANY
FOR
MUSCO FAMILY OLIVE COMPANY (TRACY PLANT)
CLASS II SURFACE IMPOUNDMENTS
SAN JOAQUIN COUNTY

This monitoring and reporting program (MRP) is issued to Musco Olive Products, Inc. doing business as (dba) Musco Family Olive Company and the Studley Company hereinafter referred to jointly as "Discharger" pursuant to California Water Code section 13267 and incorporates requirements for groundwater, surface water, and unsaturated zone monitoring and reporting; facility monitoring, maintenance, and reporting; and financial assurances reporting contained in California Code of Regulations, title 27, section 20005, et seq. (hereafter Title 27), Waste Discharge Requirements (WDRs) Order No. R5-2014-XXXX (hereafter referred to as "WDRs Order"), and the Standard Provisions and Reporting Requirements dated November 2013 (SPRRs) as applicable. Compliance with this MRP is ordered by the WDRs and the Discharger shall not implement any changes to this MRP unless a revised MRP is issued by the Central Valley Water Board or the Executive Officer. Failure to comply with this MRP (including late or incomplete reports), or with the SPRRs, constitutes noncompliance with the WDRs and with Water Code Section 13267, which can result in the imposition of civil monetary liability.

A. MONITORING

The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater, surface water, and the unsaturated zone in accordance with Standard Monitoring Specifications in Section I of the SPRRs. All monitoring shall be conducted in accordance with an approved *Sample Collection and Analysis Plan*, which includes quality assurance/quality control standards.

All compliance monitoring wells established for the monitoring program shall constitute the monitoring points for the groundwater Water Quality Protection Standard. All detection monitoring program groundwater monitoring wells, unsaturated zone monitoring devices, leakage, and surface water monitoring points shall be sampled and analyzed for monitoring parameters and constituents of concern (COCs) as indicated and listed in Tables 1 through 5.

The Discharger shall use USEPA approved Part 136 test methods with the lowest achievable detection limit for that constituent taking any matrix interferences into account. The reporting limit shall be no higher than the practical quantitation limit (PQL). The Discharger shall report an estimated value for all trace concentrations that are between the detection limit and the PQL. All metals analyses shall be for dissolved metals.

The monitoring program of this MRP includes:

Section	Monitoring Program
A.1	Groundwater Monitoring
A.2	Unsaturated Zone Monitoring
A.3	Surface Water Monitoring
A.4	Surface Impoundment/Waste Pile/LTU Monitoring
A.5	LCRS/ LDS Monitoring, Action Leakage Rate, and Annual Testing
A.6	Waste Discharge Monitoring (Not applicable)
A.7	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. The detection monitoring system shall be certified by a California-licensed professional civil engineer or geologist as meeting the requirements of Title 27.

The current groundwater monitoring network shall consist of the following:

Well	Status	Zone	Units Being Monitored
MW-10	Detection(Cross-gradient)	Shallow	Pond A, Pond B
MW-11	Detection(Cross-gradient)	Shallow	Pond A, Pond B
MW-19	Background(Upgradient)	Shallow	Pond A, Pond B
MW-20	Detection(Downgradient)	Shallow	Pond A, Pond B
MW-21	Detection(Downgradient)	Shallow	Pond A, Pond B
W-2	Detection(Downgradient)	Shallow	Pond A, Pond B
MW-10R	Detection(Cross-gradient)	Intermediate	Pond A, Pond B
MW-12	Detection(Cross-gradient)	Intermediate	Pond A, Pond B
MW-17	Detection(Downgradient)	Shallow	Pond A, Pond B
MW-18	Detection(Downgradient)	Intermediate	Pond A, Pond B
MW-18R	Detection(Cross-gradient)	Intermediate	Pond A, Pond B
MW-20R	Detection(Downgradient)	Intermediate	Pond A, Pond B
MW-21R	Detection(Downgradient)	Intermediate	Pond A, Pond B
MW-22	Detection(Cross-gradient)	Intermediate	Pond A, Pond B
MW-32	Background(Upgradient)	Intermediate	Pond A, Pond B
MW-33	Background(Upgradient)	Deep	Pond C, Pond D
MW-34	Detection(Downgradient)	Intermediate	Pond C, Pond D
MW-35R	Detection(Downgradient)	Not yet defined	Pond C, Pond D
PZ-1	Groundwater Elevation	Intermediate	Pond D
PZ-2	Groundwater Elevation	Intermediate	Pond D

Samples shall be collected semiannually from all existing wells, and any additional wells added as part of the approved groundwater monitoring system. The

Discharger shall collect, preserve, and transport groundwater samples in accordance with the approved Sample Collection and Analysis Plan. Depth to groundwater shall be measured to the nearest 0.01 feet. Samples shall be collected and analyzed for the monitoring parameters in accordance with the methods and frequency specified in the following table:

Table 1. Groundwater Monitoring

Parameters	Units	Monitoring Frequency	Reporting Frequency
Field Parameters			
Groundwater Elevation	feet & hundredths, MSL	Quarterly[1]	Semiannually
Temperature	^{o}C	Semiannually	Semiannually
Electrical Conductivity	umhos/cm	Semiannually	Semiannually
pH	pH units	Semiannually	Semiannually
Turbidity	NTU	Semiannually	Semiannually
Monitoring Parameters			
Total Dissolved Solids	mg/L	Semiannually	Semiannually
Bicarbonate (HCO_3)	mg/L	Semiannually	Semiannually
Chemical Oxygen Demand	mg/L	Semiannually	Semiannually
Chloride	mg/L	Semiannually	Semiannually
Sodium	mg/L	Semiannually	Semiannually
Nitrate as nitrogen	mg/L	Semiannually	Semiannually
Total Hardness	mg/L	Semiannually	Semiannually
TKN (Total Kjeldahl nitrogen)	mg/L	Semiannually	Semiannually
Ammonia as nitrogen	mg/L	Semiannually	Semiannually
Calcium	mg/L	Semiannually	Semiannually
Magnesium	mg/L	Semiannually	Semiannually
Potassium	mg/L	Semiannually	Semiannually
Alkalinity	mg/L	Semiannually	Semiannually
Sulfate	mg/L	Semiannually	Semiannually

[1] The Discharger shall measure the groundwater elevation in each well **quarterly**, to 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(e)(15).

2. Unsaturated Zone Monitoring

The Discharger shall operate and maintain an unsaturated zone detection monitoring system that complies with the applicable provisions of Title 27, sections 20415 and 20420. The Discharger shall install unsaturated zone monitoring devices (after review and approval by Central Valley Water Board staff) each time a new Class II waste management unit is constructed.

The current unsaturated zone monitoring network shall consist of:

Mon Pt.	Status	Units Being Monitored
BK-5	Background	N/A
BK-10	Background	N/A
#1	Detection	Pond A
#2	Detection	Pond A
#3	Detection	Pond A
#4	Detection	Pond A
#5	Detection	Pond A
#6	Detection	Pond A
#7	Detection	Pond A
#8	Detection	Pond A
#9	Detection	Pond A
#10	Detection	Pond A
#11	Detection	Pond A
#12	Detection	Pond A
#13	Detection	Pond A
#14	Detection	Pond A
#15	Detection	Pond A
#16	Detection	Pond A
#17	Detection	Pond A
#18	Detection	Pond A
#19	Deleted	None
#20	Detection	Pond B
#21	Detection	Pond B
#22	Detection	Pond B
#23	Detection	Pond B
#24	Detection	Pond B
#25	Detection	Pond B
#26	Detection	Pond B
#27	Detection	Pond B
#28	Detection	Pond B
#29	Detection	Pond B
#30	Detection	Pond B
#31	Detection	Pond B
#32	Detection	Pond B
#33	Detection	Pond B
#34	Detection	Pond B
#35	Detection	Pond B
#36	Detection	Pond B
#37	Detection	Pond B
#38	Detection	Pond B
PL-C	Detection	Pond C
PL-D	Detection	Pond D

Unsaturated zone samples shall be collected from the monitoring network listed above and shall be analyzed for the parameters and constituents listed in the following table in accordance with the specified methods and frequencies (pan

lysimeters need only be sampled when liquid is present). Monitoring points # 1-18 will no longer need to be monitored after Pond A is clean closed.

Pan lysimeters shall be inspected for the presence of liquid **monthly**. If liquid is present, the Discharger shall follow the procedures in the WDRs Order under "C. Facility Specifications" and shall **immediately** sample and test the liquid for Field and Monitoring Parameters listed in the following table.

Table 2. Unsaturated Zone Monitoring

Parameters	Units	Monitoring Frequency	Reporting Frequency
Field Parameters for Suction Lysimeters			
Initial vacuum applied[1] (and date)	Centibars	Semiannually	Semiannually
Residual vacuum[1] prior to sampling (and date)	Centaurs	Semiannually	Semiannually
Presence of liquid	observation	Semiannually	Semiannually
Amount of liquid recovered (composite sample)	mL	Semiannually	Semiannually
Electrical Conductivity	umhos/cm	Semiannually	Semiannually
pH	pH units	Semiannually	Semiannually
Field Parameters for Pan Lysimeters			
Presence of Water	Observation	Monthly	Semiannually
Depth of Water	Inches	Monthly	Semiannually
Monitoring Parameters[2,3,4]			
Electrical Conductivity	umhos/cm	Semiannually	Semiannually
Total Dissolved Solids	mg/L	Semiannually	Semiannually
Nitrate as Nitrogen	mg/L	Semiannually	Semiannually
TKN	mg/L	Semiannually	Semiannually
Ammonia as Nitrogen	mg/L	Semiannually	Semiannually
Bicarbonate (HCO_3)	mg/L	Semiannually	Semiannually
Chloride	mg/L	Semiannually	Semiannually
Sodium	mg/L	Semiannually	Semiannually
Chemical Oxygen Demand	mg/L	Semiannually	Semiannually
Total Hardness	mg/L	Semiannually	Semiannually
Calcium	mg/L	Semiannually	Semiannually
Magnesium	mg/L	Semiannually	Semiannually
Potassium	mg/L	Semiannually	Semiannually
Alkalinity	mg/L	Semiannually	Semiannually
Sulfate	mg/L	Semiannually	Semiannually

[1] Applies to vacuum (suction) type lysimeters. If the lysimeter is unable to hold the minimum residual vacuum specified by the manufacturer the Discharger shall indicate, document, and report such finding and immediately perform the necessary repairs/maintenance required to achieve the specified monitoring and reporting frequency. If a damaged lysimeter cannot be returned to service, Discharger must notify Board in

the semi-annual report and provide a plan on how the unsaturated zone monitoring system will be returned to compliance with MRP prior to the next semiannual sampling event or as soon as technically feasible.

[2]If the presence of liquid is observed from the unsaturated zone monitoring device, the Discharger shall collect the liquid for laboratory analysis for the monitoring parameters in Table 2.

[3]The Discharger is required to submit the sample for laboratory analysis even if it is known that not enough sample volume exists to perform all the laboratory tests for the monitoring parameters specified. The laboratory shall perform the laboratory tests using the listing in Table 2 as the order of precedence.

[4]If liquid is present in a pan lysimeter, a sample shall be collected and tested.

The Discharger shall collect, preserve, and transport samples in accordance with the quality assurance/quality control (QA/QC) standards contained in the approved Sample Collection and Analysis Plan.

Monitoring results for the unsaturated zone shall be included in monitoring reports and shall include **an evaluation** of potential impacts of the facility on the unsaturated zone and compliance with the Water Quality Protection Standard.

3. Surface Water Monitoring. The Discharger shall operate a surface water detection monitoring system for any facility where runoff from waste management unit 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. At the Musco Family Olive Company's Tracy Plant, runoff from waste management unit areas flows from the site to a dry creek bed. Stormwater from the process areas is collected in secondary containment, routed via drains to sumps and pumped to the wastewater holding pond regulated under WDRs Order R5-2010-0025. Surface water monitoring is performed in accordance with the Musco Stormwater Pollution Prevention Plan (SWPPP) and the National Pollution Discharge Elimination System (NPDES) General Permit No. CAS000001.

In lieu of conducting separate surface water monitoring for this Order, the Discharger shall submit monitoring results performed in accordance with the Musco Stormwater Pollution Prevention Plan (SWPPP) and the National Pollution Discharge Elimination System (NPDES) General Permit No. CAS000001. The Discharger in its ROWD dated 13 December 2013 identified the following constituents monitored under the NPDES General Permit that shall also be reported as part of this MRP: pH, biochemical oxygen demand (BOD), total dissolved solids (TDS), volatile dissolved solids (VDS), total suspended solids (TSS), ammonia, nitrate, total Kjeldahl nitrogen (TKN), sodium, chloride, sulfate, iron, calcium, bicarbonate, and carbonate.

4. Surface Impoundment Monitoring

Samples shall be collected from each Class II surface impoundment in accordance with the following table. One sample shall be collected from each surface impoundment during each monitoring period.

Table 3. Class II Surface Impoundment Monitoring

Parameters	Units	Monitoring Frequency	Reporting Frequency
Field Parameters			
Condition of Exposed Liner	None	Weekly	Semiannually
Flow Rate to each impoundment[1]	gallons/day	Daily	Semiannually
Precipitation[2]	Inches & Tenths	Daily	Semiannually
Freeboard[3]	Feet & Tenths	Weekly/Daily	Semiannually
Electrical Conductivity	umhos/cm	Semiannually	Semiannually
pH	pH units	Semiannually	Semiannually
Off Site Removal of Wastewater[4]	Gallons per Event	Daily	Semiannually
Monitoring Parameters			
Total Dissolved Solids	mg/L	Semiannually	Semiannually
Bicarbonate (HCO_3)	mg/L	Semiannually	Semiannually
Chemical Oxygen Demand	mg/L	Semiannually	Semiannually
Chloride	mg/L	Semiannually	Semiannually
Sodium	mg/L	Semiannually	Semiannually
Nitrate as Nitrogen	mg/L	Semiannually	Semiannually
TKN	mg/L	Semiannually	Semiannually
Ammonia as Nitrogen	mg/L	Semiannually	Semiannually
Total Hardness	mg/L	Semiannually	Semiannually
Calcium	mg/L	Semiannually	Semiannually
Magnesium	mg/L	Semiannually	Semiannually
Potassium	mg/L	Semiannually	Semiannually
Alkalinity	mg/L	Semiannually	Semiannually
Sulfate	mg/L	Semiannually	Semiannually

[1] Flow of wastewater into Class II surface impoundments as measured and recorded at totalizing meter.
[2] Precipitation shall be measured as described in Discharge Specifications.
[3] Freeboard shall be measured and recorded weekly from May through October, and then daily five days per week during wet weather months of November through April. Freeboard shall be measured from the lowest point of the berm at the top of the surface impoundment down to the water level in the impoundment and can be measured using permanent markings on the primary geomembrane liner or a free-standing gauge.
[4] Each time wastewater is removed from the facility for disposal elsewhere, the Discharger shall document the date of removal, gallons removed, and the location of disposal. A copy of each hauling receipt shall be included in the semiannual report.

5. LCRS Monitoring, Action Leakage Rate, and Annual Testing

LCRS Monitoring: The Discharger shall monitor the sumps below the primary liners of the ponds, record and calculate daily leakage rates, and conduct annual testing of each LCRS in accordance with Title 27 and this monitoring program.

The current LCRS sump monitoring points are:

Mon Pt.	Unit Where Sump is Located
LCRS-A-S	Pond A (South Sump)
LCRS-A-N	Pond A (North Sump
LCRS-B-S	Pond B (South Sump)
LCRS-B-N	Pond B (North Sump)
LCRS-C	Pond C
LCRS-D	Pond D

All LCRS sumps shall be inspected weekly for the presence of liquid, and flow shall be recorded in accordance with the following table. If liquid is detected in a previously dry sump, the Discharger shall verbally notify Central Valley Water Board staff within **seven days** and shall immediately sample and test the liquid for Field and Monitoring Parameters listed in the following table. Liquids observed in the LCRS sumps shall be analyzed for all parameters in the following table whenever liquid is present.

Table 4. LCRS Monitoring

Parameters	Units	Monitoring Frequency	Reporting Frequency
Field Parameters			
Presence of liquid	observation	Weekly	Semiannually
Flow Rate[1]	gallons/day	Continuously/Weekly	Semiannually
Electrical Conductivity	umhos/cm	Semiannually	Semiannually
pH	pH units	Semiannually	Semiannually
Monitoring Parameters			
Total Dissolved Solids	mg/L	Semiannually	Semiannually
Chloride	mg/L	Semiannually	Semiannually
Sodium	mg/L	Semiannually	Semiannually
Chemical Oxygen Demand	mg/L	Semiannually	Semiannually
Bicarbonate (HCO_3)	mg/L	Semiannually	Semiannually

1 Flow in gallons per day measured with a flow totalizer from LCRS sump back to surface impoundment.

Action Leakage Rate: The Discharger shall calculate the leakage rate for each LCRS on a weekly basis, and convert the results into a gallons per day value. The results shall be included in the information in the semiannual reports, and

compared to the Action Leakage Rates found in the WDRs under Facility Specification C.9. If monitoring of the flow rate into the LCRS shows an exceedance of the Action Leakage Rate required by the WDRs, the Discharger shall follow the procedures in the WDRs under "C. Facility Specifications". Tabulated leakage rates shall be included in the semiannual monitoring reports.

Annual LCRS Testing: Beginning in 2015, the LCRSs for Ponds B, C, and D shall be tested annually pursuant to Title 27, section 20340(d) to demonstrate proper operation. The results of these tests shall be reported to the Central Valley Water Board in the Annual Monitoring Report and shall include comparisons with earlier tests made under comparable conditions.

6. Waste Discharge Monitoring (Not Applicable)

7. Facility Monitoring

a. Waste Management Unit Annual Inspection

Annually, prior to the anticipated rainy season, but no later than **30 September**, the Discharger shall conduct an inspection of the surface impoundment and associated equipment. The inspection shall assess freeboard, repair and maintenance needed for liner systems; LCRS/LDS pumps, piping and control systems; drainage control systems; groundwater monitoring wells; unsaturated zone monitoring systems; and shall assess preparedness for winter conditions including but not limited to surface impoundment capacity and erosion and sedimentation control. The Discharger shall take photos of the above items as well as any problem areas before and after repairs. Any necessary construction, maintenance, or repairs shall be completed by **31 October**. Annual facility inspection reporting shall be submitted as required in Section B.3 of this MRP.

b. Major Storm Events

The Discharger shall inspect all precipitation, collection, diversion, and drainage facilities and all waste management unit berms 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 as required in Section B.4 of this MRP.

c. **Rainfall Monitoring**

The Discharger shall monitor and record onsite rainfall data using an onsite rainfall gauge as described in C. Facility Specifications. Data shall be used in establishing the severity of storm events and wet seasons for comparison with design parameters used for waste management unit design and conveyance and drainage design. Daily data and onsite observation shall be used for establishing the need for inspection and repairs after major storm events. Rainfall data shall be reported in the semiannual monitoring reports as required by this MRP under "Reporting".

d. Water Balance- Waste Exportation

Any designated waste not discharged to the Class II surface impoundments or removed from the Class II surface impoundments shall be accounted for and reported accordingly. The Discharger shall account for the final deposition of the wastewater by providing documentation that the waste was disposed of in an approved waste management unit including date of removal, gallons removed, and the location of disposal. A copy of each hauling receipt shall be included in the semiannual report.

B. REPORTING

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

Reporting Schedule

Section	Report	End of Reporting Period	Due Date
B.1	Semiannual Monitoring Report	30 June, 31 December	**1 August, 1 February**
B.2	Annual Monitoring Report	31 December	**1 February**
B.3	Annual Facility Inspection Report	31 October	**15 November**
B.4	Major Storm Event Reporting	Continuous	**7 days from damage discovery**
B.5	Financial Assurances Report	31 December	**1 June**

Reporting Requirements

The Discharger shall submit monitoring reports **semiannually** with the data and information as required in this Monitoring and Reporting Program and as required in WDRs Order No. R5-2014-XXXX and the Standard Provisions and Reporting Requirements (particularly Section I: "Standard Monitoring Specifications" and

Section J: "Response to a Release"). In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or the lack thereof. Data shall also be submitted in a digital format, such as on a computer 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, monitoring reports, and technical reports into the online Geotracker database as required by Division 3 of Title 23.

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 compliance period for each WMU. 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 **1 August** and **1 February**. Each semiannual monitoring report shall contain at least the following:

   a) For each groundwater monitoring point addressed by the report, a description of:

      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 Sample Collection and Analysis Plan.

   b) A map or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points.

   c) The estimated 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 [Title 27, section 20415(e)(15)].

   d) Cumulative tabulated monitoring data for all monitoring points and constituents for groundwater, LCRS leakage, unsaturated zone (including all lysimeters), surface water, and the surface impoundments. Concentrations below the laboratory reporting limit shall not be reported as “ND” unless the reporting limit is also given in the table. Otherwise they shall be reported “<” the reporting limit (e.g., <0.10). Units shall be as required in Tables 1 through 6 unless specific justification is given to report in other units. Refer to the SPRRs Section I “Standard Monitoring Specifications” for requirements regarding MDLs and PQLs.

   e) Laboratory statements of results of all analyses evaluating compliance with requirements.

   f) **An evaluation** of the concentration of each monitoring parameter 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 in the SPRRs for verified exceedances of a concentration limit.

g) Tabulated freeboard levels in the Class II surface impoundments with comparison to the freeboard requirement.

h) Tabulated leakage rates (in values of gallons per day) into the LCRS or LCRS sump with comparison to the Action Leakage Rate, and a discussion of required response if ALR was exceeded.

i) A summary of all waste discharge monitoring required in Section A.6 of this MRP.

j) A summary of all Facility Monitoring including onsite rainfall data for the reporting period required in Section A.7 of this MRP.

k) A discussion about any solids that were removed from the Class II surface impoundment during the reporting period to regain capacity.

l) A tabulated summary of waste export information by date with supporting documentation that reports how much designated waste was diverted from the class II surface impoundments or removed in order to maintain the 2-foot minimum freeboard requirement at all times. The tabulated data should also include by date information on freeboard levels (see B.1.g), waste discharged to the surface impoundments (See B.1.i) and onsite rainfall data (see B.1.j).

2. **Annual Monitoring Report:** The Discharger shall submit an Annual Monitoring Report to the Central Valley Water Board by **1 February** covering the reporting period of the previous monitoring year. If desired, the Annual Monitoring Report may be combined with the second semiannual report, but if so, shall clearly state that it is both a semi-annual and annual monitoring report in its title. Each Annual Monitoring Report shall contain the following additional information beyond what is required for semiannual monitoring reports:

a) All monitoring parameters (collected from monitoring wells, LCRSs, and unsaturated zone devices, including Pond A) shall be tabulated and 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. Each such graph shall plot the concentration of one or more constituents for the period of record for a given monitoring point or background monitoring point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. Graphical analysis of monitoring data may be used to provide significant evidence of a release.

b) An evaluation of the monitoring parameters with regards to the cation/anion balance, and a graphical presentation using a Stiff diagram, a Piper graph, or a Schoeller plot.

c) All historical monitoring data for which there are detectable results, including data for the previous year, shall be submitted in tabular form in a digital file format such as a computer disk. The Central Valley Water Board regards the submittal of data in hard copy and in digital format as "...the form necessary for..." statistical analysis [Title 27, section 20420(h)], that facilitates periodic review by the Central Valley Water Board.

d) Hydrographs of each well showing the elevation of groundwater with respect to the elevations of the top and bottom of the screened interval and the elevation of the pump intake. Hydrographs of each well shall be prepared quarterly and submitted annually.

e) A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements.

f) A written summary of the monitoring results, indicating any changes made or observed since the previous Annual Monitoring Report.

g) For Surface Impoundments B, C, and D, the results of the annual transmissivity testing of the LCRS, and a comparison to previous results. The 2014 Annual Report shall contain the results for Pond B only.

h) Updated concentration limits for each monitoring parameter at each monitoring well based on the new background data set.

3. **Annual Facility Inspection Reporting:** By **15 November** of each year, the Discharger shall submit a report describing the results of the inspection required by Item A.7.a. and the repair measures implemented, preparations for winter, and include photographs of any problem areas and the repairs.

4. **Major Storm Event Reporting:** The Discharger shall notify Central Valley Water Board staff within 24 hours after a storm event of greater than one inch in 24 hours as to the status of freeboard in any Class II surface impoundment. The Discharger shall also notify Central Valley Water Board staff within **7 days** after major storm events of any damage or significant erosion and report any needed repairs within **14 days** of completion of the repairs, including photographs of the problem and the repairs. Refer to Section A.b of this MRP above for requirements for performing the inspection and conducting the repairs.

5. **Financial Assurances Report:** By **1 June** of each year, the Discharger shall submit a report and supporting documentation to the Central Valley Water Board that reports the balance of both the closure and corrective action funds or the amounts of the Guarantees and the adjustments to account for inflation in accordance with Title 27 Section 22236. Refer to Financial Assurances Specifications F.1 through F.3 of the WDRs.

C. WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD

1. Water Quality Protection Standard Report

For each surface impoundment, the Water Quality Protection Standard shall consist of all COCs listed in Tables 1, 2, and 4, 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. Any proposed changes to the Water Quality Protection Standard other than the 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 waste management unit 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 points of compliance in accordance with Title 27, section 20405.

c) Evaluate the quarterly direction(s) of groundwater movement within all monitored groundwater zone(s).

d) Include a proposed statistical method for calculating concentration limits for monitoring parameters and constituents of concern that are detected in 10% or greater of the background data (naturally-occurring constituents) using a statistical procedure from Title 27, section 20415(e)(8)(A-D)] or section 20415(e)(8)(E).

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

The Water Quality Protection Standard 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 Water Quality Protection Standard.

2. Monitoring Parameters

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

3. 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(e)(8); or
b) By an alternate statistical method meeting the requirements of Title 27, section 20415(e)(8)(E).

4. 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.43 of the SPRRs, then:

a) 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.44 of the SPRRs.

b) 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.45 of the SPRRs.

5. Point of Compliance

The point of compliance for the water standard at each waste management unit for protection of groundwater is a vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the unit. The following are monitoring locations at the point of compliance:

Cell or Module	Point of Compliance Monitoring Wells and Monitoring Point Wells
Pond A	MW-11, MW-12, MW-17, MW-18, MW-18R, MW-20, MW-20R, MW-21, MW-21R, MW-22, W-2
Pond B	MW-12, MW-17, MW-18, MW-18R, MW-20, MW-20R, MW-21, MW-21R, W-2
Pond C	MW-34
Pond D	MW-35R

The point of compliance for the water standard at each waste management unit for the determination of a release to the unsaturated zone are a sufficient number of monitoring points at appropriate locations and depths to yield soil pore liquid samples or soil pore liquid measurements that provide the best assurance of the earliest possible detection of a release from the waste management unit. The following are monitoring locations at the point of compliance:

Cell or Module	Point of Compliance Lysimeters
Pond A	Suction Lysimeters #1 through #18
Pond B	Suction Lysimeters #20 through #38
Pond C	Pan Lysimeter PL-C
Pond D	Pan Lysimeter PL-D

6. Compliance Period

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

7. Monitoring Points

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

D. TRANSMITTAL LETTER FOR ALL REPORTS

A transmittal letter explaining the essential points shall accompany each report. At a minimum, the transmittal letter shall identify any violations found since the last report was submitted, and if the violations were corrected. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter. The transmittal

letter shall also state that a discussion of any violations found since the last report was submitted, and a description of the actions taken or planned for correcting those violations, including any references to previously submitted time schedules, is contained in the accompanying report. The transmittal letter shall contain a statement by the Discharger, or the Discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate, and complete.

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

Ordered by: _____
PAMELA C. CREEDON, Executive Officer

_____
(Date)

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