

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
 CENTRAL VALLEY REGION
 REVISED MONITORING AND REPORTING PROGRAM NO. R5-2002-0148
 FOR
 MUSCO FAMILY OLIVE COMPANY AND THE STUDLEY COMPANY
 WASTEWATER TREATMENT AND LAND DISPOSAL FACILITY
 SAN JOAQUIN COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring industrial wastewater, wastewater ponds, land application areas, stormwater, and land application soil quality. This MRP is issued pursuant to California Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer. Specific sample station locations shall be approved by Regional Water Board staff prior to implementation of sampling activities. All samples should be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. If methods other than U.S. EPA-approved methods or *Standard Methods for the Examination of Water and Wastewater*, latest edition, are used, the exact methodology shall be submitted for review and approval.

INFLUENT WASTEWATER MONITORING

Wastewater influent samples shall be collected downstream from the last connection through which waste streams can be admitted to the 84-million gallon reservoir, following screening and prior to discharge to the 84-million gallon reservoir. Monitoring results for this sample location shall be used in assessing compliance with Waste Discharge Requirements (WDRs) Order No. R5-2002-0148, Effluent Limitations C.1. The Discharger shall use its existing continuous recording devices to monitor pH and electrical conductivity. Influent monitoring shall include, at a minimum, the following:

<u>Constituents</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Influent Process Flow ¹	gpd	Meter	Continuous	Monthly
PH	s.u.	Meter	Continuous	Monthly
Electrical Conductivity	µmhos/cm	Meter	Continuous	Monthly
BOD ₅ ²	mg/l, lbs/day	Grab	Weekly	Monthly
Bicarbonate	mg/l, lbs/day	Grab	Weekly	Monthly
Total Dissolved Solids	mg/l, lbs/day	Grab	Weekly	Monthly
Fixed Dissolved Solids	mg/l, lbs/day	Grab	Weekly	Monthly
Volatile Dissolved Solids	mg/l, lbs/day	Grab	Weekly	Monthly

¹ Flow of process wastewater and stormwater from the facility (does not include tailwater return flows or stormwater from the land application area).

² 5-day, 20 °C biochemical oxygen demand (BOD)

WATER SUPPLY MONITORING

A sampling station shall be established where a representative sample of the water supply can be obtained. If the water supply is from more than one source, the monitoring report shall report the constituent results as a weighted average and include copies of supporting calculations. Water supply monitoring shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Total Dissolved Solids	mg/l	Grab	Semi-Annually	Semi-Annually
Fixed Dissolved Solids	mg/l	Grab	Semi-Annually	Semi-Annually
Volatile Dissolved Solids	mg/l	Grab	Semi-Annually	Semi-Annually
General Minerals ¹	mg/l	Grab	Semi-Annually	Semi-Annually

¹ Including chloride, sulfate, bicarbonate, carbonate, calcium, iron, manganese, magnesium, potassium, sodium, boron, nitrate (as N), and cation/anion balance.

WASTEWATER POND MONITORING

Samples shall be collected from the 84-million gallon reservoir whenever water is present. Samples shall be collected from an established sampling station as far as practical from the pond inlet, and in an area which will provide a sample representative of the wastewater in the pond. Samples for dissolved oxygen, dissolved sulfide, and pH shall be collected at a depth of 1-2 feet below the pond surface. The Discharger shall notify staff within 24 hours if the freeboard in the pond is less than two feet. Pond monitoring shall include at least the following.

<u>Constituents</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Freeboard ¹	feet	Measurement	Daily ²	Monthly
Dissolved Oxygen ³	mg/l	Grab	Daily ²	Monthly
Dissolved Sulfide ³	mg/l	Grab	Daily ²	Monthly
pH ³	s.u.	Grab	Daily ²	Monthly
Aerator Status ⁴	NA	Observation	Daily	Monthly
Pond Condition ⁵	NA	Observation	Daily ²	Monthly

¹ To be measured vertically to the lowest point of overflow

² Sampling frequency for 84-million gallon reservoir may be reduced to 5 days per week, provided that all functional, non-beached aerators are operating on the non-sampling days.

³ A hand-held field meter may be used, provided the meter uses a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained on-site.

⁴ For the eleven aerators, aerator status monitoring shall include daily observation of the number of aerators in operation, beached, or off-line for repairs.

⁵ Pond condition monitoring shall include daily determination of berm condition, wastewater overflows, and odor conditions (none, slight, moderate, strong).

EFFLUENT WASTEWATER MONITORING

Wastewater effluent monitoring samples shall be collected from the 84-million gallon reservoir, from the approximate depth and location from which wastewater is discharged for land application. Monitoring results for this sample location shall be used in assessing compliance with Waste Discharge Requirements (WDRs) Order No. R5-2002-0148, Effluent Limitations C.2, C.3, and C.4. Samples shall be collected at the following frequencies during periods of land application. Effluent monitoring shall include at least the following:

<u>Constituent</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Electrical Conductivity ¹	µmhos/cm	Grab	Daily	Monthly
pH ¹	s.u.	Grab	Daily	Monthly
BOD ₅	mg/l	Grab	Weekly	Monthly
Nitrate (as N)	mg/l	Grab	Weekly	Monthly
Total Kjeldahl Nitrogen	mg/l	Grab	Weekly	Monthly
Total Dissolved Solids	mg/l	Grab	Weekly	Monthly
Fixed Dissolved Solids	mg/l	Grab	Weekly	Monthly
Volatile Dissolved Solids	mg/l	Grab	Weekly	Monthly
Chloride, Dissolved	mg/l	Grab	Weekly	Monthly
Sodium, Dissolved	mg/l	Grab	Weekly	Monthly
Iron, Dissolved	mg/l	Grab	Weekly	Monthly
Bicarbonate, Dissolved	mg/l	Grab	Monthly	Monthly
Sulfate (as SO ₄), Dissolved	mg/l	Grab	Monthly	Monthly
Methylene Blue Active Substances	mg/l	Grab	Quarterly	Quarterly
Oil and Grease	mg/l	Grab	Quarterly	Quarterly
General Minerals ²	mg/l	Grab	Quarterly	Quarterly

¹ A hand-held field meter may be used, provided the meter uses a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained on-site.

² Including chloride, sulfate, bicarbonate, carbonate, calcium, iron, manganese, magnesium, potassium, sodium, boron, nitrate (as N), and cation/anion balance.

LAND APPLICATION AREA MONITORING

Application of wastewater to the land application area shall be monitored to prevent overloading the area with wastewater constituents, which can cause objectionable odors and/or groundwater degradation. The following parameters shall be calculated and reported in the monthly monitoring reports.

The Discharger shall maintain a sufficient number of meters to continuously monitor the flow out of the 84-million gallon storage reservoir to the land application areas. All meters shall be calibrated annually in accordance with Standard Provision C.4. No wastewater shall be applied without metering. If portable pumps are used to discharge wastewater to the land application area, additional meters shall be installed at every discharge point.

<u>Constituents</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow to Application Area	gpd	Metered	Daily	Monthly
Application Area	acres	Measured ¹	Daily	Monthly
Crop Planted and Status	acres	Measured ¹	Daily	Monthly
BOD ₅ Loading Rate	lbs/acre/day	Calculated ²	Daily	Monthly
Fixed Dissolved Solids Loading Rate	lbs/acre/day	Calculated ³	Daily	Monthly
Hydraulic Loading Rate	inches/acre/month	Calculated	Monthly	Monthly
Total Nitrogen Loading Rate	lbs/acre/month	Calculated ⁴	Monthly	Monthly
Tailwater Generation	Inspection	Observation	Daily ⁵	Monthly

¹ Provide a map identifying field names and acreages. Crop status shall include growth phase, *i.e.*, none, sparse, moderate, or full.

² BOD₅ loading shall be calculated for each field using the daily applied volume of wastewater, estimated daily application area, daily tailwater return flow, and the most recent results of effluent and tailwater BOD₅.

³ Fixed dissolved solids (FDS) loading shall be calculated for each field using the daily applied volume of wastewater, estimated daily application area, daily tailwater return flow, and the most recent results of effluent and tailwater FDS.

⁴ Total nitrogen loading rates shall be calculated for each field using the daily applied volume of wastewater, estimated daily application area, daily tailwater return flow, and the most recent results of effluent and tailwater total nitrogen.

⁵ Runoff monitoring of the application areas shall be performed daily. Frequency of monitoring during the day shall be sufficient to determine if runoff is occurring.

In addition, the Discharger shall maintain a daily log of discharges to the land application area. Notations shall record which area is receiving wastewater, observations of ponding water, saturated soil, odors, insects, or other potential nuisance conditions. The notations shall also document any corrective actions taken. A copy of the entries made in the log during each month shall be submitted along with monthly monitoring reports.

The Discharger shall record and submit, as part of the monthly self-monitoring reports, information describing what soil amendments, including fertilizer, were applied to the land application areas, why the amendment was applied, the quantity of amendment used (total pounds applied and pounds per acre, and a description of the area over which it was used (*i.e.*, field names, acreage).

TAILWATER AND STORMWATER MONITORING

Tailwater and stormwater runoff monitoring samples shall be collected from the following sumps, when tailwater and/or stormwater is present:

- Sump draining Field South Ridge East
- Sump draining Fields 95 and 55-East
- Pipeline draining the middle swale of Field 95
- Sump draining Field 55-West
- Sump draining Field 18 North

Following one year of monitoring in accordance with the following schedule and upon demonstration by the Discharger that sampling of two or more of the locations described above

yield substantially similar water quality, Regional Water Board staff may approve a reduction in monitoring stations to no less than three of the above-described locations.

Tailwater and stormwater runoff monitoring shall include at least the following:

<u>Constituent</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Total Tailwater Return Flow into the 84 MG Reservoir ¹	gpd	Metered	Daily	Monthly
Total Stormwater Flow into the 84 MG Reservoir ¹	gpd	Metered	Daily	Monthly
pH	s.u.	Grab	Monthly ^{2,3}	Monthly
BOD ₅	mg/l, lbs/day	Grab	Monthly ^{2,3}	Monthly
Ammonia, Total (as N) ⁴	mg/l, lbs/day	Grab	Monthly ^{2,3}	Monthly
Nitrate (as N)	mg/l, lbs/day	Grab	Monthly ^{2,3}	Monthly
Total Kjeldahl Nitrogen	mg/l, lbs/day	Grab	Monthly ^{2,3}	Monthly
Total Dissolved Solids	mg/l	Grab	Monthly ^{2,3}	Monthly
Fixed Dissolved Solids	mg/l	Grab	Monthly ^{2,3}	Monthly
Volatile Dissolved Solids	mg/l	Grab	Monthly ^{2,3}	Monthly
Bicarbonate	mg/l	Grab	Monthly ^{2,3}	Monthly
Carbonate	mg/l	Grab	Monthly ^{2,3}	Monthly
Calcium, Dissolved	mg/l	Grab	Monthly ^{2,3}	Monthly
Chloride, Dissolved	mg/l	Grab	Monthly ^{2,3}	Monthly
Iron, Dissolved	mg/l	Grab	Monthly ^{2,3}	Monthly
Sodium, Dissolved	mg/l	Grab	Monthly ^{2,3}	Monthly
Sulfate (as SO ₄)	mg/l	Grab	Monthly ^{2,3}	Monthly
Total Suspended Solids	mg/l, lbs/day	Grab	Quarterly	Quarterly

¹ Including both flows returned directly to the 84 MG reservoir and flows routed through the 200,000-gallon, covered, above-ground surge tank, prior to entry into the 84 MG reservoir.

² For tailwater samples, the sampling frequency shall be one sample per field per month where wastewater is applied.

³ For stormwater samples, the sampling frequency shall be one sample per field per month from the first runoff-generating storm of each month.

⁴ pH shall be recorded at the time of ammonia sample collection.

Each **August**, the Discharger shall inspect the Musco site and make any necessary improvements to stormwater runoff control measures.

By **1 October** of each year, the Discharger shall commence implementation of the wet season inspection schedule included in its most recent *Wet Season Preparation Report*.

GROUNDWATER MONITORING

Prior to completion and/or initial sampling of any groundwater monitoring wells required by the Regional Water Board, the Discharger shall submit plans and specifications to the Regional Water Board for review and approval. Once installed, all new wells shall be added to the MRP and shall be sampled and analyzed according to the schedule below. Wells to be sampled

include the following, as well as any other wells installed for the purpose of monitoring the discharge authorized by Waste Discharge Requirements Order No. R5-2002-0148:

MW-1	MW-5	MW-9(R)	MW-13(R)	MW-17	MW-21	MW-25
MW-2	MW-6(R)	MW-10(R)	MW-14	MW-18	MW-22	W-2*
MW-3	MW-7	MW-11*	MW-15	MW-19	MW-23	
MW-4	MW-8	MW-12	MW-16	MW-20	MW-24	

*Indicates dry wells. Any replacement wells shall be monitored according to the schedule below following installation.

In addition, as long as the property owners grant access, samples shall be collected from the domestic well located at 26933 South Hansen Road, Tracy, and the stockwatering well located to the west of the 95-acre field in Assessor's Parcel Number 251-32-006 in Tracy. Samples from this well shall be collected upstream of any water treatment equipment.

Prior to sampling or purging, equilibrated groundwater elevations shall be measured to the nearest 0.01 foot. Depth to groundwater measurements shall be collected from all wells on the same day. The wells shall be purged at least three well volumes until pH and electrical conductivity have stabilized. Groundwater sample collection shall be coordinated with that required by WDRs Order No. R5-2005-0024 and shall take place on the same dates. Sample collection shall follow standard U.S. EPA analytical method protocols. Groundwater monitoring shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Depth to Groundwater ¹	0.01 ft	Measurement	Quarterly	Quarterly
Groundwater Elevation ¹	0.01 ft	Calculated	Quarterly	Quarterly
Gradient ¹	ft/ft	Calculated	Quarterly	Quarterly
Gradient Direction ¹	degrees	Calculated	Quarterly	Quarterly
pH ²	s.u.	Grab	Quarterly	Quarterly
BOD ₅	mg/l	Grab	Quarterly	Quarterly
Total Dissolved Solids	mg/l	Grab	Quarterly	Quarterly
Fixed Dissolved Solids	mg/l	Grab	Quarterly	Quarterly
Volatile Dissolved Solids	mg/l	Grab	Quarterly	Quarterly
Ammonia, Total (as N)	mg/l	Grab	Quarterly	Quarterly
General Minerals ³	mg/l	Grab	Quarterly	Quarterly

¹ Not required for K-1 and Hansen Road wells.

² A hand-held field meter may be used, provided the meter uses a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained on-site.

³ Including chloride, sulfate, bicarbonate, carbonate, calcium, iron, manganese, magnesium, potassium, sodium, boron, nitrate (as N), and cation/anion balance.

PAN LYSIMETER MONITORING

Prior to completion and/or sampling of any pan lysimeters or alternative devices, the Discharger shall submit plans and specifications to the Board for review and approval. Pan lysimeters shall collect samples at a depth of five feet below the ground surface. Once

installed, all new pan lysimeters shall be added to the MRP and shall be sampled and analyzed according to the schedule below.

After collection of samples, the lysimeters shall be purged dry. Sample collection shall follow standard U.S. EPA analytical method protocols. Lysimeter monitoring shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
PH	s.u.	Grab	Quarterly	Quarterly
Total Dissolved Solids	mg/l	Grab	Quarterly	Quarterly
Fixed Dissolved Solids	mg/l	Grab	Quarterly	Quarterly
Volatile Dissolved Solids	mg/l	Grab	Quarterly	Quarterly
Total Kjeldahl Nitrogen	mg/l	Grab	Quarterly	Quarterly
General Minerals ¹	mg/l	Grab	Quarterly	Quarterly

¹ Including chloride, sulfate, bicarbonate, carbonate, calcium, iron, manganese, magnesium, potassium, sodium, boron, nitrate (as N), and cation/anion balance.

SURFACE WATER MONITORING

Samples shall be collected from the five sampling stations established in HDR's September 2002 Storm Water Pollution Prevention Plan and Monitoring Requirements and the spring. Surface water monitoring shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Total Dissolved Solids	mg/l	Grab	Monthly ^{1,2}	Monthly
Fixed Dissolved Solids	mg/l	Grab	Monthly ^{1,2}	Monthly
BOD ₅	mg/l	Grab	Monthly ^{1,2}	Monthly
Turbidity	NTU	Grab	Monthly ^{1,2}	Monthly
Electrical Conductivity ³	µmhos/cm	Grab	Monthly ^{1,2}	Monthly
pH ³	s.u.	Grab	Monthly ^{1,2}	Monthly
Temperature ³	°F	Grab	Monthly ^{1,2}	Monthly
Ammonia, Total (as N) ⁴	mg/l	Grab	Monthly ^{1,2}	Monthly
Nitrate (as N)	mg/l	Grab	Monthly ^{1,2}	Monthly
Bicarbonate	mg/l	Grab	Monthly ^{1,2}	Monthly
Carbonate	mg/l	Grab	Monthly ^{1,2}	Monthly
Chloride, Dissolved	mg/l	Grab	Monthly ^{1,2}	Monthly
Calcium, Dissolved	mg/l	Grab	Monthly ^{1,2}	Monthly
Iron, Dissolved	mg/l	Grab	Monthly ^{1,2}	Monthly
Oil and Grease	mg/l	Grab	Monthly ^{1,2}	Monthly

¹ Samples shall be collected within three days after the first significant rainfall in the Fall/Winter season.

² Samples shall be collected monthly from December through April, whenever water is present.

³ A hand-held field meter may be used, provided the meter uses a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained on-site.

⁴ Temperature and pH shall be recorded at the time of ammonia sample collection.

<u>Constituents</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Sodium, Dissolved	mg/l	Grab	Monthly ^{1,2}	Monthly
Sulfate (as SO ₄)	mg/l	Grab	Monthly ^{1,2}	Monthly

LAND APPLICATION AREA SOILS MONITORING

The Discharger shall establish, with concurrence of Regional Water Board staff, ten soil-profile monitoring locations and one representative background location (*i.e.*, in an area that historically has not received process wastewater and/or solid waste). Soil sample analyses shall be conducted using deionized water waste extractions, as defined in Title 22 of the California Code of Regulations, as well as with a soil paste. The samples shall be collected and analyzed for at least the following constituents annually, each September:

<u>Constituents</u>	<u>Units</u>	<u>Soil Profile</u>	<u>Frequency</u>
Bicarbonate	mg/l	Standard ¹	Annually
Carbonate	mg/l	Standard ¹	Annually
Calcium	mg/l	Standard ¹	Annually
Chloride	mg/l	Standard ¹	Annually
Iron	mg/l	Standard ¹	Annually
Sodium	mg/l	Standard ¹	Annually
Sulfate (as SO ₄)	mg/l	Standard ¹	Annually
Sodium Adsorption Ratio	unitless	Standard ¹	Annually
Electrical Conductivity	µmhos/cm	Standard ¹	Annually
Soil pH	pH	Standard ¹	Annually
Cation Exchange Capacity	meq/100 g	Standard ¹	Annually
Exchangeable Sodium Percentage	% of CEC	Standard ¹	Annually
Nitrate (as N)	mg/l	Standard ¹	Annually
Total Kjeldahl Nitrogen (as N)	mg/l	Standard ¹	Annually

¹ Samples shall be collected at 0-6 inches, 19-30 inches, and 46-60 inches.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (*e.g.*, effluent, soil, *etc.*), and reported analytical result for each sample are readily discernible. Monthly maximums, minimums, and averages shall be reported for each monitored constituent and parameter. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required by the Monitoring and Reporting Program, shall be reported in the next scheduled monitoring report.

With the exception of flow, all constituents monitored on a continuous basis (metered) shall be reported as daily maximums, daily minimums, and daily averages; flow shall be reported as the total volume discharged per day for each day of discharge.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all Groundwater Monitoring Reports shall be prepared under the direct supervision of a Registered Engineer or Geologist and signed by the registered professional.

A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Water Board on the **1st day of the second month following sampling** (*i.e.* the January Report is due by 1 March). At a minimum, the reports shall include:

1. A status report on any expansion or reconfiguration of the facility's processing capability or wastewater system configurations.
2. Results of industrial wastewater, wastewater ponds, land application areas, and stormwater monitoring.
3. Land application log book entries and calculations.
4. A map of all stormwater sample locations and fields showing field names, acreages planted with a crop, and type of crop. An evaluation of crop status or health.
5. The location of each meter used to record flow, pH, and electrical conductivity.
6. Calibration records for all pH and electrical conductivity meters.
7. A comparison of monitoring data to the limitations in WDRs and an explanation of any violation of those requirements. Data shall be presented in tabular format.
8. If requested by staff, copies of laboratory analytical report(s).

B. Quarterly Monitoring Reports

The Discharger shall establish a quarterly sampling schedule for groundwater and lysimeter monitoring such that samples are obtained approximately every three months. Quarterly monitoring reports shall be submitted to the Regional Water Board by the **1st day of the second month after the quarter** (*i.e.* the January-March quarterly report is due by May 1st) and may be combined with the monthly report. The Quarterly Report shall include the following:

1. Results of groundwater monitoring and lysimeter or alternative device monitoring;
2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater and lysimeter monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;

3. Calculation of groundwater elevations, an assessment of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any;
4. A narrative discussion of the analytical results for all groundwater and lysimeter locations monitored including spatial and temporal trends, with reference to summary data tables, graphs, and appended analytical reports (as applicable);
5. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements;
6. Summary data tables of historical and current water table elevations and analytical results;
7. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum;
8. Copies of laboratory analytical report(s) for groundwater monitoring.

C. Wet Season Preparation Report

By **30 September** each year, the Discharger shall submit a *Wet Season Preparation Report* describing control measures implemented at the Musco site to prevent the discharge of wastewater and/or stormwater to surface water drainage courses and to any off-site location. The Report shall include a wet season inspection schedule for the Discharger's staff to identify areas with erosion and sedimentation, and locations of off-site and surface water drainage course discharges. The inspection schedule shall include daily inspections and photographs of stormwater monitoring stations and sumps during periods of precipitation. The Discharger shall make any improvements needed, based on wet weather inspection observations. The Report shall discuss any changes from control measures implemented the previous year.

D. Wet Season Inspection Report of Results

By **1 July** each year, the Discharger shall, along with its industrial stormwater Annual Report, submit a *Wet Season Inspection Report of Results* describing the results of all wet season inspections and containing all photographs taken during the inspections.

E. Annual Report

An Annual Report shall be prepared as the December monitoring report. The Annual Report will include all monitoring data required in the monthly and quarterly schedules. The Annual Report shall be submitted to the Regional Water Board by **1 February** each year. In addition to the data normally presented, the Annual Report shall include the following:

1. The contents of the regular quarterly and monthly reports for the last sampling periods of the year;

2. If requested by staff, tabular summaries of all data collected during the year.
3. The results of land application soils monitoring, including a map depicting sample locations.
4. An evaluation of the groundwater quality beneath the wastewater treatment facility.
5. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.
6. An annual report, prepared by a Certified Crop Advisor or Certified Agronomist, detailing the effect of the application of the wastewater on crops, the health of the crops grown in the application areas, the effect of continued application of wastewater, and the potential for increased soil salinity and the resulting impacts to future agricultural use. The report shall describe the crop conditions throughout the year, not just at the time of Annual Report preparation, and shall contain recommendations regarding crops to be planted, and actions necessary to improve the crop health for the following year. The report shall discuss the use of any soil amendments or fertilizers and the anticipated effects on nitrogen, phosphorus, potassium, chloride, iron, sodium, and sulfate concentrations and mobility within the soil column.
7. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.
8. Calibration records for all flow meters.

A letter transmitting all reports required by this Monitoring and Reporting Program shall accompany each report. Such a letter shall include a discussion of requirements violation found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective action, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B.3.

The Discharger shall implement the above monitoring program as of **1 October 2007**.

Original Signed by

PAMELA C. CREEDON, Executive Officer

26 September 2007
(date)