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TABLE 3-4. RELATIVE ACCURACY SUMMARY: CO CONCENTRATION

Facility: OCSD, Plant No. 2 — Facility ID: 29110
City: Huntington Beach, CA — Job No.: 9849
Source: Engine 5 — Test Date: 10/01/15
Test: RATA

Run No.	Time (hh:mm)	Reference Method CO ppm	Reference Method Report Page No.	Facility CO ppm	Facility Report Page No.	Difference CO ppm
1	7:43-8:12	591.37	D1-1	644.87	F1-1	-53.50
2	8:13-8:42	574.10	D1-1	627.39	F1-1	-53.29
3	8:43-9:12	580.31	D1-1	632.74	F1-1	-52.43
4	9:31-10:00	590.16	D1-1	638.91	F1-1	-48.75
5	10:01-10:30	578.80	D1-1	629.02	F1-1	-50.22
6	10:31-11:00	580.92	D1-1	634.26	F1-1	-53.34
7	11:16-11:45	579.05	D1-1	629.08	F1-1	-50.03
8	11:46-12:15	585.05	D1-1	632.51	F1-1	-47.46
9	12:16-12:45	573.98	D1-1	623.82	F1-1	-49.84

RM Average	CEMS Average	Difference Average (d)
581.53	632.51	-50.98

Number of Valid Runs (n):	9
Standard Deviation (Sd):	2.223
t-value (0.975):	2.306
Confidence Coefficient (cc):	1.709
Relative Accuracy Test Result:	**9.06 % of RM**

SCAQMD RULE 218/218.1 CRITERIA: **≤ 20.0 % of RM**

TABLE 3-5. RELATIVE ACCURACY SUMMARY: CO CORRECTED CONCENTRATION

Facility: OCSD, Plant No. 2 — Facility ID: 29110
City: Huntington Beach, CA — Job No.: 9849
Source: Engine 5 — Test Date: 10/01/15
Test: RATA

Run No.	Time (hh:mm)	Reference Method CO ppm@15%O2	Reference Method Report Page No.	Facility CO ppm@15%O2	Facility Report Page No.	Difference CO ppm@15%O2
1	7:43-8:12	382.42	D1-1	424.59	F1-1	-42.17
2	8:13-8:42	371.35	D1-1	410.59	F1-1	-39.24
3	8:43-9:12	378.55	D1-1	420.71	F1-1	-42.16
4	9:31-10:00	382.75	D1-1	419.45	F1-1	-36.70
5	10:01-10:30	376.45	D1-1	416.17	F1-1	-39.72
6	10:31-11:00	380.88	D1-1	419.98	F1-1	-39.10
7	11:16-11:45	373.19	D1-1	408.90	F1-1	-35.71
8	11:46-12:15	380.64	D1-1	419.20	F1-1	-38.56
9	12:16-12:45	372.37	D1-1	408.64	F1-1	-36.27

RM Average	CEMS Average	Difference Average (d)
377.62	416.47	-38.85

Number of Valid Runs (n):	9
Standard Deviation (Sd):	2.348
t-value (0.975):	2.306
Confidence Coefficient (cc):	1.804

Relative Accuracy Test Result: **10.77 % of RM**

SCAQMD RULE 218/218.1 CRITERIA: **≤ 20.0 % of RM**

TABLE 3-6. RELATIVE ACCURACY SUMMARY: CO MASS EMISSION RATE

Facility: OCSD, Plant No. 2 — Facility ID: 29110
City: Huntington Beach, CA — Job No.: 9849
Source: Engine 5 — Test Date: 10/01/15
Test: RATA

Run No.	Time (hh:mm)	Reference Method CO lb/hr	Reference Method Report Page No.	Facility CO lb/hr	Facility Report Page No.	Difference CO lb/hr
1	7:43-8:12	25.151	D1-1	28.030	F1-1	-2.879
2	8:13-8:42	24.549	D1-1	27.380	F1-1	-2.831
3	8:43-9:12	24.882	D1-1	28.440	F1-1	-3.558
4	9:31-10:00	25.675	D1-1	27.880	F1-1	-2.205
5	10:01-10:30	25.161	D1-1	27.730	F1-1	-2.569
6	10:31-11:00	25.251	D1-1	28.450	F1-1	-3.199
7	11:16-11:45	24.577	D1-1	27.160	F1-1	-2.583
8	11:46-12:15	24.986	D1-1	27.880	F1-1	-2.894
9	12:16-12:45	24.566	D1-1	27.160	F1-1	-2.594

RM Average	CEMS Average	Difference Average (d)
24.978	27.790	-2.812

Number of Valid Runs (n):	9
Standard Deviation (Sd):	0.395
t-value (0.975):	2.306
Confidence Coefficient (cc):	0.303
Relative Accuracy Test Result:	**12.47 % of RM**

SCAQMD RULE 218/218.1 CRITERIA — **≤ 20.0 % of RM**

TABLE 3-7. RELATIVE ACCURACY SUMMARY: DRY VOLUMETRIC FLOW RATE

Facility: OCSD, Plant No. 2 — Facility ID: 29110
City: Huntington Beach, CA — Job No.: 9657
Source: Engine 5 — Test Date: 10/01/15
Test: RATA

Run No.	Time (hh:mm)	Reference Method Dry Flow dscfh	Reference Method Report Page No.	Facility Dry Flow dscfh	Facility Report Page No.	Difference Dry Flow dscfh
1	7:43-8:12	576,377	D1-1	597,826	F1-1	-21,448
2	8:13-8:42	579,502	D1-1	600,191	F1-1	-20,689
3	8:43-9:12	581,080	D1-1	618,448	F1-1	-37,369
4	9:31-10:00	589,604	D1-1	600,512	F1-1	-10,908
5	10:01-10:30	589,123	D1-1	606,556	F1-1	-17,433
6	10:31-11:00	589,078	D1-1	617,090	F1-1	-28,012
7	11:16-11:45	575,211	D1-1	593,955	F1-1	-18,744
8	11:46-12:15	578,771	D1-1	606,370	F1-1	-27,599
9	12:16-12:45	580,031	D1-1	599,077	F1-1	-19,047

RM Average	CEMS Average	Difference Average (d)
582,086	604,447	-22,361

Number of Valid Runs (n):	9
Standard Deviation (Sd):	7,646
t-value (0.975):	2.306
Confidence Coefficient (cc):	5,878
Relative Accuracy Test Result:	**4.85 % of RM**

SCAQMD RULE 218/218.1 CRITERIA

RATA Allowable Limit — **≤ 15.0 % of RM**

TABLE 3-8. RELATIVE ACCURACY SUMMARY: O2 CONCENTRATION

Facility: OCSD, Plant No. 2 — Facility ID: 29110
City: Huntington Beach, CA — Job No.: 9849
Source: Engine 5 — Test Date: 10/01/15
Test: RATA

Run No.	Time (hh:mm)	Reference Method O2 %	Reference Method Report Page No.	Facility O2 %	Facility Report Page No.	Difference O2 %
1	7:43-8:12	11.78	D1-1	11.94	F1-1	-0.16
2	8:13-8:42	11.78	D1-1	11.88	F1-1	-0.10
3	8:43-9:12	11.86	D1-1	12.03	F1-1	-0.17
4	9:31-10:00	11.80	D1-1	11.91	F1-1	-0.11
5	10:01-10:30	11.83	D1-1	11.98	F1-1	-0.15
6	10:31-11:00	11.90	D1-1	11.99	F1-1	-0.09
7	11:16-11:45	11.75	D1-1	11.82	F1-1	-0.07
8	11:46-12:15	11.83	D1-1	12.00	F1-1	-0.17
9	12:16-12:45	11.81	D1-1	11.89	F1-1	-0.08

RM Average	CEMS Average	Difference Average (d)
11.81	11.94	-0.124

Number of Valid Runs (n):	9
Standard Deviation (Sd):	0.040
t-value (0.975):	2.306
Confidence Coefficienct (cc):	0.031
Relative Accuracy Test Result:	**1.31 % of RM**

SCAQMD RULE 218/218.1 CRITERIA

RATA Allowable Limit — **≤ 10.0 % of RM**

4.0 EQUIPMENT AND PROCESS DESCRIPTION

Orange County Sanitation District's wastewater treatment facility in Huntington Beach, California (Treatment Plant No. 2) operates a Central Power Generation System (CGS) to produce electrical power for the plant operations using five large digester gas-fired internal combustion (IC) engines fueled primarily by digester gas (a biogas) and supplemented by small amounts of natural gas. The process description and equipment tested are described below.

4.1 Process Description

Resource Recovery System No. 5 consists of Engine No. 5 (CG5-HB), which is fired on a mixture of digester gas and natural gas, driving a 3000 kW electrical generator, with an exhaust Heat Recovery Steam Generator (HRSG) rated at 6,010,200 Btu/hr capacity. An extractive continuous emissions monitoring system (CEMS) monitors the engine exhaust.

4.1.1 Facility Continuous Emission Monitoring System, CEMS

The CEMS is used to monitor stack gas concentrations for oxides of nitrogen (NO_X), carbon monoxide (CO) and oxygen (O_2). A continuous gas sample is extracted from the stack through a stainless steel probe, transported via a heated sample line to a conditioning system and analyzed by various parameter-specific analyzers. The CEMS includes the following analyzers:

TABLE 4-1. FACILITY CEMS UNIT ANALYZERS

Source	Parameter	Manufacturer	Model Number	Method of Detection	Analytical Range
ICE No. 5 (CG5-HB)	NOx ppmv	Thermo	42i-LS	Chemiluminescent	0-100 ppm
	O_2 %	Thermo	42i-LS	Paramagnetic	0-25%
	CO ppmv	Thermo	48i	Gas Filter Correlation	0-1000 ppm

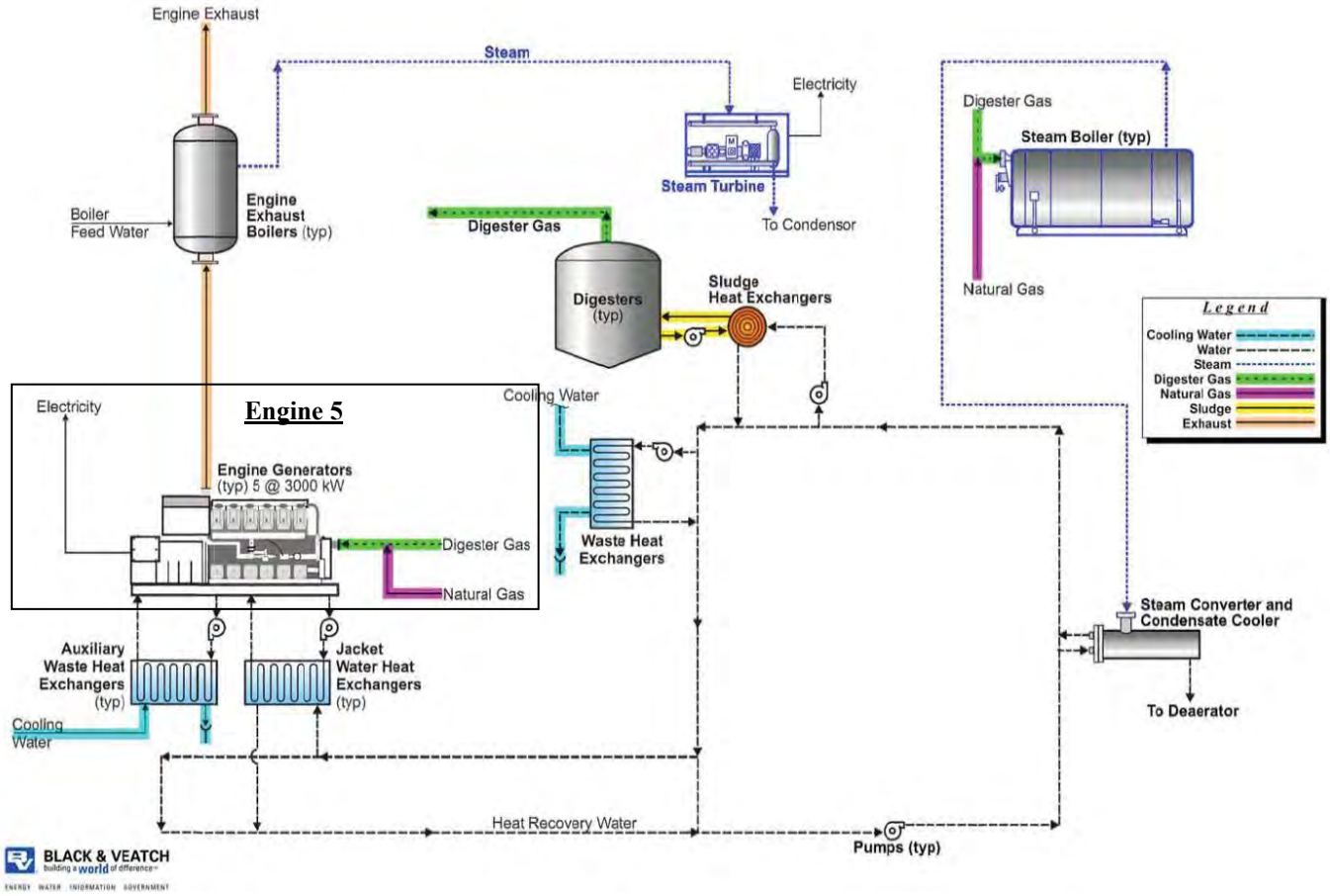
The CEMS utilizes an electronic data acquisition system (DAS) to monitor, record and report emissions data. The CEMS operation, including periodic calibration checks, is controlled electronically.

4.2 Equipment Description

The CEMS is installed on a Cooper Bessemer Model No. LSVB-16-SGC internal combustion engine, Engine No. 5, which is a four-stroke, 4166 HP, turbocharged, spark-ignited unit, utilizing pre-combustion chambers to minimize NOx emissions. The engine is directly coupled to a synchronous generator rated at 3000 kW.

A schematic of the Treatment Plant No. 2 Resource Recovery System is shown in Figure 4-1.

Figure 4-1. Treatment Plant No. 2 – Process Diagram



4.3 Operating Conditions During Test

During RATA testing, the engine was operated at normal load while burning primarily digester gas fuel and supplemented with natural gas. The following operating parameters were observed during the test period. Supporting documentation of process conditions during the testing can be found in Appendix F.

Average Engine Operating Parameters During Testing		
Engine Load	83.4	%
Natural Gas Usage	14.9	dscf/min
Digester Gas Usage	740.0	dscf/min

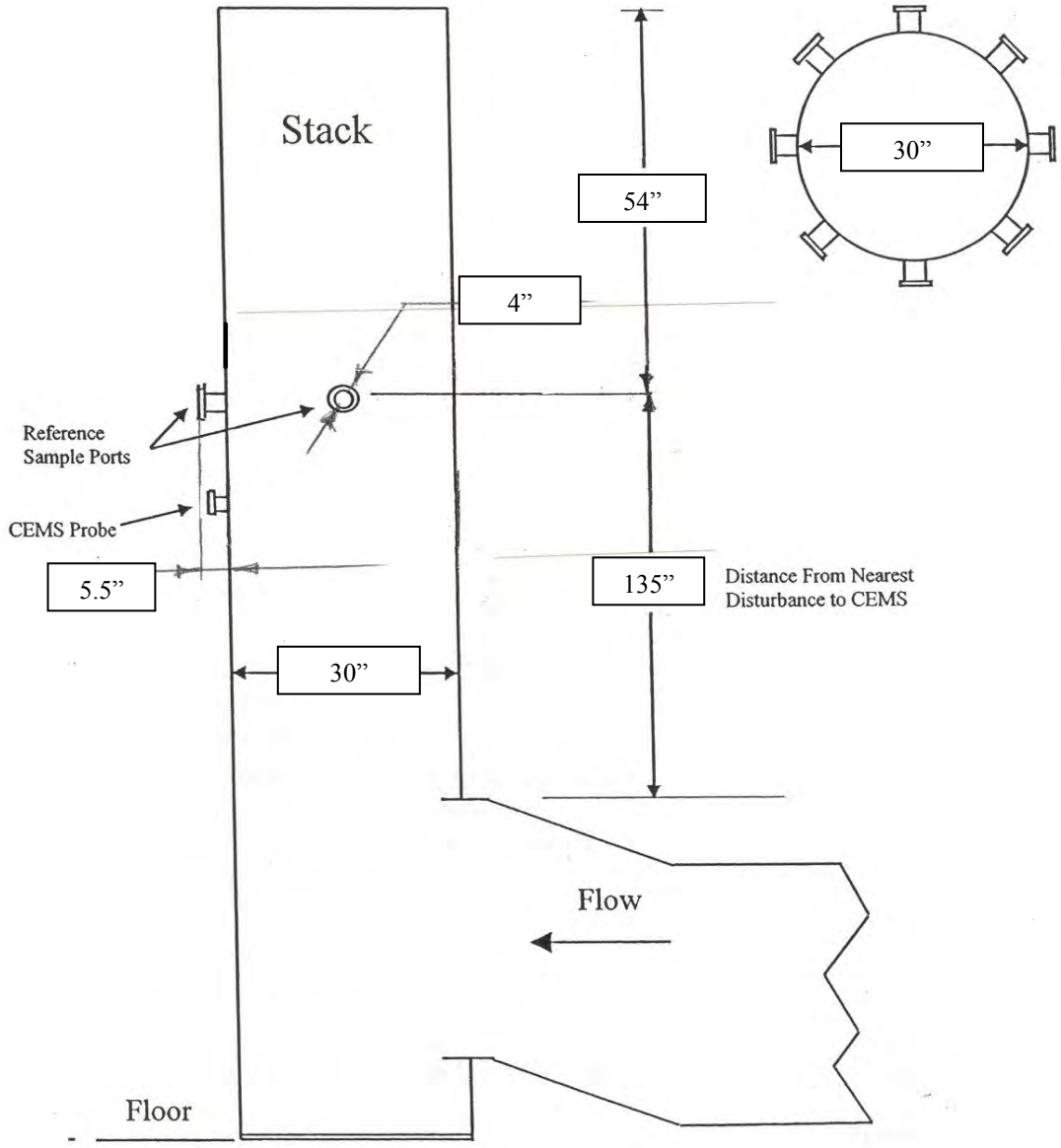
4.4 Sampling Locations

The reference method sampling locations are located on the exhaust stack. A schematic of the stack with sampling locations is shown in Figure 4-2. The reference method sampling locations meet the following specifications:

Sampling Location Configuration for Reference Method CEMS Probe:	
Upstream	135 in. (4.5 duct diameters)
Downstream	54 in. (1.8 duct diameters)
Port Length	5.5 in. (measured from outside wall)
Port Inside Diameter	4 in.
Number of Sampling ports	2 (located at 90° intervals)
Stack Diameter	30 in. (internal diameter)

The sampling location complies with the requirements of SCAQMD Method 1.1.

Figure 4-2. Stack Schematic



5.0 SAMPLING AND ANALYTICAL PROCEDURES

Test measurements were performed according to sampling and analysis procedures promulgated by the South Coast Air Quality Management District (SCAQMD), California Air Resources Board (CARB), or US Environmental Protection Agency (EPA). The sampling and analysis procedures used for this test program are summarized below. Any modifications or deviations not addressed herein are discussed in Section 3 of this report.

5.1 SCAQMD Methods 1.1-4.1 – Determination of Stack Gas Volumetric Flow Rate, Molecular Weight, and Moisture Content
5.1.1 SCAQMD Method 1.1 – Sampling Traverse Points
5.1.2 SCAQMD Method 2.1 – Stack Gas Flow Rate
5.1.3 SCAQMD Method 3.1 – Stack Gas Molecular Weight
5.1.4 SCAQMD Method 4.1 – Stack Gas Moisture Content
5.2 SCAQMD Method 100.1 – Continuous Monitoring of Gaseous Emissions, CEMS

5.1 SCAQMD Methods 1.1-4.1 – Determination of Stack Gas Volumetric Flow Rate, Molecular Weight, and Moisture Content

The flue gas flow characteristics (i.e. flow rate, molecular weight, and moisture content) were determined according to SCAQMD Methods 1.1 through 4.1. The testing was conducted as follows:

5.1.1 SAMPLING AND VELOCITY TRAVERSE POINTS

The number and location of traverse points are determined according to SCAQMD Method 1 based on the physical dimensions of the sampling location and process parameters. In principle, the stack cross-section is divided into equal areas, each of which is represented by a "traverse point". Generally, the number of traverse points diminishes as the flow profile at the sampling location becomes uniform. In most cases, the maximum number of sampling points is 24 for particulate testing and 16 for velocity traverses. Fewer traverse points are permitted as described in the method.

5.1.2 STACK GAS VELOCITY AND FLOW RATE

The velocity and volumetric flow rate of the stack gas was determined according to SCAQMD Method 2. In this method, the velocity head (differential pressure) and temperature are measured at the required traverse points. The stack gas differential pressure head was determined using an "S" type pitot tube and electronic micromanometer. The temperature was measured using a type "K" thermocouple and digital temperature readout.

Prior to testing, the measurement system was set-up and leak-checked. Then the velocity head and temperature are recorded at predetermined traverse points. After the last traverse was completed, the system was again leak-checked. After completion of the traverse, the static

pressure in the stack was determined in the centroid of the stack. The stack gas velocity was calculated using the velocity head, and stack gas temperature, pressure and molecular weight.

QA/QC for the method included field performance checks, and periodic calibrations of test equipment including the pitot tube, differential pressure gauge, thermocouple (Tc) and Tc-readout.

5.1.3 STACK GAS MOLECULAR WEIGHT

The stack gas molecular weight (MW) was calculated based on the fraction of its major constituents including: oxygen (O_2), carbon dioxide, (CO_2), nitrogen (N_2), carbon monoxide (CO), and water (H_2O). The dry MW was calculated based on the partial fractions of O_2, CO_2, N_2, and CO. Specifically, the O_2 and CO_2 fractions were determined by CEMS, integrated sampling, or grab sampling, and the balance was assumed to be N_2 and CO. The wet MW was calculated based on the fractions of dry gas and water vapor. The dry and wet MW were calculated according to the following equations:

$$MW_{DRY} = 0.32 \times \%O_2 + 0.44 \times \%CO_2 + 0.28 \times (\%N_2 + \%CO)$$

$$MW_{WET} = 0.18 \times \%H_2O + MW_{DRY} \times (1 - \%H_2O/100)$$

where:
- MW_{DRY} = stack gas molecular weight, dry-basis
- MW_{WET} = stack gas molecular weight, wet-basis
- 0.32 = molecular weight fraction for O_2
- 0.44 = molecular weight fraction for CO_2
- 0.28 = molecular weight fraction for N_2 and CO
- 0.18 = molecular weight fraction for H_2O (water vapor)
- %X = fraction of X in stack gas, dry basis, where X = O_2, CO_2, N_2, CO
- $\%H_2O$ = fraction of water vapor in stack gas, wet-basis

5.1.4 SCAQMD METHOD 4.1- STACK GAS MOISTURE CONTENT

The stack gas moisture content was determined according to SCAQMD Method 4.1. In this method, water vapor is collected in a condenser while the dry stack gas volume is measured using a dry gas meter. The volume of water vapor was calculated from the amount of water condensed and the total gas volume was the sum of water vapor plus dry stack gas. The moisture content was determined as a fraction of the total wet stack gas volume. The following calculations were used.

$$B_{WS} = \frac{V_{W,Std}}{V_{M,Std} + V_{W,Std}}$$

$$V_{W,Std} = K_1 \times V_{H2O}$$

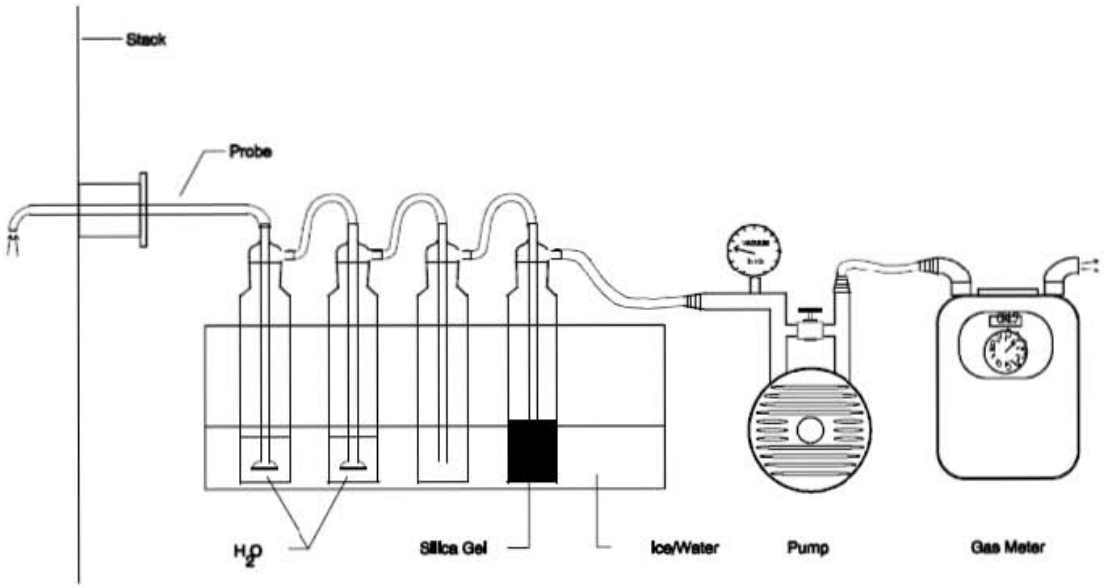
$$V_{M,Std} = T_{Std}/P_{Std} \times Y_M \times V_M \times P_M/T_M$$

where:
B_{WS} = Fraction of water vapor in stack gas
$V_{W,Std}$ = Volume of water vapor (scf)
$V_{M,Std}$ = Volume of stack gas sampled (dscf)
K_1 = Unit volume of water vapor (0.04707 scf @68°F or 0.0464 scf @60°F)
T_{Std} = Standard Temperature (528°R or 520°R)
P_{Std} = Standard Pressure, 29.92 in. Hg
Y_M = Dry gas meter calibration factor
V_M = Measured volume of stack gas sampled
P_M = Dry gas meter pressure (in. Hg)
T_M = Dry gas meter temperature (°R)

Sampling for moisture content was performed as follows:

Moisture was collected in a sampling train consisting of a probe, TFE line, four impingers in an ice bath, a leak-free pump, a vacuum gauge and a dry gas meter. Figure 5-1 is a schematic of a typical moisture train. Initially, impingers #1 and #2 contain 100 ml of water, impinger #3 was empty, and impinger #4 contains a known amount (approximately 300 g) of desiccant (e.g. Silica Gel). Prior to sampling, a leak check of the sampling train was performed. Then, the sampling probe was inserted into the centroid of the stack, the initial meter readings (volume, temperatures, etc.) are recorded, the sample pump was started and the sampling rate was adjusted to the desired sampling rate (typically 0.75 dry cfm). Sampling was conducted until at least 63 dry cubic feet were collected per 90-minute moisture run (3 RATA runs). After sampling, the final meter readings were recorded and the impinger train was recovered. The change in volume and/or weight of the impinger train components was used to determine the amount of moisture condensed. The volume of water vapor and the corrected volume of dry gas sampled were used to calculate the moisture fraction as described above.

Figure 5-1. Moisture Train



5.2 SCAQMD Method 100.1 - Continuous Monitoring of Gaseous Emissions, CEMS

In this method, gaseous components of the stack gas (e.g. NO_X, SO_2, O_2, CO_2, CO) are measured continuously according to SCAQMD Method 100.1 using Almega's mobile continuous emissions monitoring system (CEMS). Figure 5-2 is a schematic of Almega's CEMS.

The CEMS extracts and conditions a representative stack gas sample and analyzes the gas using one or more analytical instruments. Typical CEMS instrumentation is described in Table 5-1. The extraction and conditioning system consists of a stainless steel heated probe, a short heated TFE sample line, a conditioning system, a TFE-diaphragm pump and a TFE transport (sample) line. The sample conditioning system, consisting of water knockout impingers and/or a thermoelectric condenser, removes moisture before the gas is delivered to the analyzers. Sample flow and delivery are controlled using a flow control panel that includes valves, pressure gauges, and flow meters (rotameters). The flow control panel allows the user to deliver sample gas to any and all instruments. Instrument readings are recorded using a real-time strip chart and an electronic data acquisition system (DAS). Other pertinent data such as calibration gas cylinder numbers and concentrations, test location, dates, times, and operator identification are also recorded on the strip chart and on the field data form.

Sampling included pretest and post-test calibration and bias checks for each sampling run. Raw concentration data were corrected for sampling system bias according to Method 100.1 using the following equation:

$$C_{CORR} = C_{MA} \times \frac{(C_i - BIAS_{ZERO})}{(BIAS_{SPAN} - BIAS_{ZERO})}$$

Where:
- C_{CORR} = Concentration, corrected for drift and bias
- C_i = Average measured concentration (raw value)
- $BIAS_{ZERO}$ = Average instrument response during zero bias check
- C_{MA} = Certified concentration of applicable span gas
- $BIAS_{SPAN}$ = Average instrument response during span bias check

The following QA/QC activities were performed during testing.

- Prior to testing, each individual analyzer was calibrated (adjusted) by introducing zero, high-span and mid-span gases directly into each analyzer and by making corresponding adjustments.

- Prior to testing, calibration error, linearity and system bias checks were performed on each analyzer. Calibration error and linearity checks were performed by injecting known calibration gases directly to each instrument. System bias checks were performed by injecting calibration gases at the sampling-probe/junction or at the sampling probe tip.

- The system response time for each parameter was determined at the moment when the calibration gas for the bias check reaches 95% of its expected concentration value.

- A leak check was conducted before sampling and periodically thereafter to ensure that no leakage occurs in the entire sampling apparatus. The leak check was performed on the vacuum side by sealing the probe tip and drawing vacuum to above 20 inches of mercury. After the vacuum stabilizes, it should hold constantly at about 20 in Hg with no loss of greater than 1 in Hg for about to 5 minutes. On the pressure side, the pressure gauge indicator should drop to zero and flow to each individual rotameter also should drop to zero to indicate a successful leak check.

- Calibration gases used to span instrumentation conform to EPA Protocol 1. Certificates of analysis for calibration gases are included in the report (See Appendix E2).

- The NO_2-to-NO conversion efficiency (CE) check was performed on the NOx analyzer according to the procedure specified in Method 100.1. The result of the CE check is included in the report (See Appendix E3).

Figure 5-2. Continuous Emissions Monitoring System

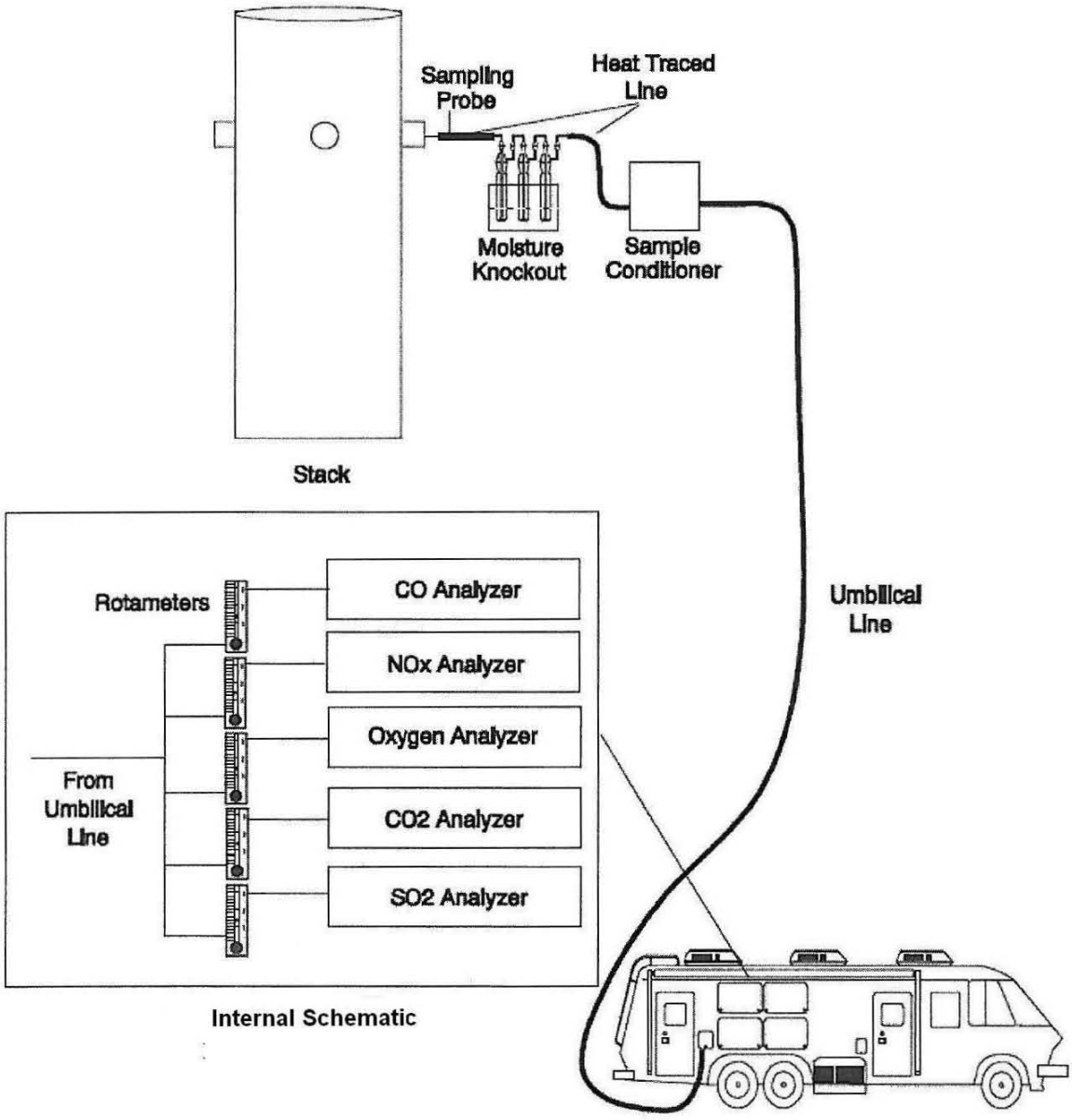


TABLE 5-1. ALMEGA CEMS – GENERAL EQUIPMENT SPECIFICATIONS

ANALYZERS					
Specification	**O2**	**CO2**	**NOx**	**CO**	**SO2**
Manufacturer	Teledyne	Servomex	T-API	Thermo Electron	Western Research
Model	326RA	1400B	200AH	48C	921
Analytical Principle	E-Chemical Cell	NDIR	Chemiluminescent	NDIR-GCC	NDUV
Ranges	%: 0-5, -10, -25	%: 0-5, -10, -20	ppmv: 0-2.5, -10, -25, -50, -100, -250, -1,000	ppmv: 0-20, -50, -100, -200, -500, -1k, x10	ppmv: 0-10, -25, -50, -100, -200, -300
Accuracy, % of Full Scale	± 1%	± 1%	± 1%	± 1%	+ 0.5%
Repeatability, % of Full Scale	0.5%	0.5%	0.5%	0.5%	0.5%
Sensitivity, % of Full Scale	0.5%	0.5%	0.5%	0.5%	<2% of Range
Zero/Span Drift, % of Full Scale	± 1%, in 24 Hrs	± 1%, in 24 Hrs	± 1%, in 24 Hrs	± 1%, in 24 Hrs	-
Response Time	3 Seconds	<2 Seconds	1.7 Seconds	<2.0 Seconds	30 seconds
Linearity, % of Full Scale	< 1%	< 1%	< 1%	< 1%	< 1%
Output	1V DC, 5V DC	0.1V DC, 1V DC	1V DC, 10V DC	1V DC, 10V DC	0-1V DC

OTHER CEMS EQUIPMENT				
Specification	**Sample Conditioner**		**Stripchart Recorder**	
System used	Primary	Back-up	System used	Primary
Manufacturer	Almega	Universal	Manufacturer	Yokogawa
Model	(in-house)	Model 1090	Model	Model HR 2400
Principle	Refrigeration	Refrigeration	Pen Response	3 sec.
Max. Inlet Temperature	>700 F	500 F	Input Voltage	user-selectable
Max. Inlet Pressure	50 psi	50 psi	Chart Speed	user-selectable
Max. Flow Rate	10 SCFH	7.0 Lpm	Chart Width	10 inches
Max. Water Concentration	50%	50%	Output	user-selectable
Outlet Dew-Point Temperature	< 37 F	35 F ± 2 F	No. of Channels	30 user-select. 30 calc'd
Dew-Point Stability		± 0.5 F	Colors	10 color, user-selectable

6.0 QUALITY ASSURANCE AND QUALITY CONTROL

Almega applies stringent quality assurance and quality control (QA/QC) procedures to ensure the validity of measurements for all test methods. The following section discusses general and project-specific QA/QC measures.

6.1 General QA/QC

Almega's QA/QC procedures follow guidelines from the "Quality Assurance Handbook for Air Pollution Measurement Systems," Volume I through III. And, procedures for pretest preparation and calibration of sampling equipment are followed. Standardized written procedures, calculator programs, and computer spreadsheets are used for test planning, pre-survey, equipment checklist, preliminary calculations, testing, data analysis, and reporting. Typical pretest equipment preparation and maintenance include organization of the following equipment prior to testing:

- Mobile RM CEM test van: Check fluids, fuel, mechanical conditions, verify operation of CEM instruments, sample lines and sample conditioner prior to the date of the source test.

- Sampling Equipment: Check meter boxes, pitot tubes, manometers and thermocouples to ensure in good working conditions and in proper calibrations. Pre-clean sampling trains and seal all openings prior to use.

Calibrations are performed in accordance with Chapter III of the SCAQMD Source Test Manual (March 1989). Table 6-1 shows the test equipment calibration schedules. Table 6-2 shows the test equipment maintenance schedules.

6.2 Project-Specific QA/QC

This project included specific QA/QC activities required to validate the test results. These QA/QC activities are based on the test methods discussed in Section 5 and generally acceptable test procedures. Reference Methods used for source testing are promulgated by the South Coast Air Quality Management District (SCAQMD), the California Air Resource Board (CARB), or the US Environmental Protection Agency (EPA). Any deviations from published Methods are approved in advance by the regulatory agency (i.e. SCAQMD), prior to implementation if possible. Project-specific QA/QC activities and results that may impact test results are discussed in Section 3.

TABLE 6-1. TEST EQUIPMENT CALIBRATION SCHEDULE

Equipment	Calibration Period	Standard or Method of Calibration
Thermocouples	6 Months and 2 Months	Mercury Thermometer, three point (ice, boiling water, hot oil)
Dry Gas Meters	6 Months and 2 Months	Critical orifice
Field Barometers	6 Months, Check prior to usage	Mercury Barometer
S-Type Pitot	6 Months Check prior to usage	EPA Method 2, Measure physical configuration. Reshape pitot tips or calibrate if configuration does not meet the limits.
Pressure gauges	6 Months 2 Months	Five-point calibration against manometer Three-point check
Temp. Meters	6 Months	Precision Potentiometer
CEM Systems	Bimonthly, or as needed	Specified by Manufacturer

TABLE 6-2. TEST EQUIPMENT MAINTENANCE

Equipment	Check For	Correction	Frequency
CEM Systems	Absence of malfunction, noise, drift, conversion efficiency for NOx analyzer	As required by the manufacture, or depending on performance	Bimonthly
Pumps	Absence of leakage, flow, proper vacuum	Replace parts, inspect, clean	300 hours of usage
Flow Devices	Levelling, zeroing, obstruction, deformation	Clean, replace, or re-calibrate	300 hours of usage
Calibration Gases	Expiration date, tank pressure	Re-certify, order new gases	2 months and prior to field testing
Regulators	Malfunction, Gauge precision	Repair or replace	3 months and prior to field testing
Gas Divider	Malfunction, precision	Repair or replace	Monthly and before field testing
Condensers	Leakage, temperature	Repair or replace	Monthly and before field testing
Heated lines	Leakage, temperature, cleanliness	Repair, replace, clean	Monthly and before field testing

APPENDICES

APPENDIX A

GENERAL CALCULATIONS AND FORMULAE

GENERAL CALCULATIONS

Standard conditions: 29.92 in. Hg, 60 °F

Gas Moisture at standard conditions (scf): $V_{WTR} = K2*V_{COND}$
K2 = 0.04707 @ 68 °F, 0.0464 @ 60 °F

Sample volume at standard conditions (scf):
Vmstd =K1*Vmacf*Ym*(Pbar+dH/13.6)/(Tm+460)
K1 = 17.64 @ 68 °F, 17.38 @ 60 °F

Percent of water: $\%H_2O = 100*Vmstd/(Vmstd+Vwtr)$

Dry molecular weight: $M_d = (44*\%CO_2+32*\%O_2+28*(\%N_2+\%CO))/100$

Wet molecular weight: $M_w = M_d*(1-\%H_2O/100)+18*(\%H_2O/100)$

Stack gas pressure (In. Hg): $P_{stk} = P_{bar}+P_{sta}/13.6$

Average velocity head: Ave. dP = $\{SQRT\ (dP)\}^2$

Stack gas velocity (fps): $V = 85.49*C_p*SQRT(dP)*SQRT((T_S+460)/(P_{STK}*M_w))$

Percent of excess air: $\%EXCA = 100*(\%O_2-0.5\%CO)/(0.264(\%N_2-(\%O_2-0.5\%CO)))$

Stack gas flow (dscfm): $Q_{STK} = 60(1-\%H_2O/100)*V*A*(528/(T_s+460))*P_{stk}/29.92$

Concentration at 3% O_2: $PPM\ @\ 3\%\ O_2 = PPM_{measured}*17.9/(20.9-\%O_2)$

Emissions lb/MMBtu:

lb/MMBtu = lb/hr /HI (heat input rate in MMBtu/hr)

Emissions lb/hr:
lb/hr = $PPM*10^{-6}*((MW\ lb/lb\text{-}mole)/SV)*dscfm*60$
MMBtu/hr = facility fuel usage (scfh)*HHV (1050 Btu/scf)* 10^{-6}

CALCULATIONS FOR METHOD 100.1:

Corrected PPM = $(PPM_{measured}-C_o)*C_{ma}/(C_m-C_o)$

Where: C_o = Average of initial and final bias zeros
C_m = Average of initial and final bias calibrations
C_{ma} = Certified gas value used for the bias calibration.

GENERAL CALCULATIONS – continued

CALCULATIONS FOR METHOD 100.1, continued

Calibration Error=	100*(Certified value-Analyzer response)/Analyzer range
Percent Bias=	100*(Direct Analyzer response-Bias response)/Analyzer range
System Zero/Span Drifts=	100*(Final-Initial)/Analyzer range
Linearity=	100*(Analyzer mid. gas response-Predicted value)/range

Where the Predictive Value for the mid gas is found by a straight line drawn between the span gas and zero gas calibration points which can be calculated from the straight line equation, Y=mx+b where m is the slope of the line and b is the Y-intercept. The calculation is done by a computer spreadsheet for Method 100.1.

DEFINITIONS

A:	Stack cross area, square feet
Cp:	Pitot coefficient
@H:	Orifice pressure, in. H_2O
MW:	Molecular weight
Md:	Dry molecular weight of flue gas
Mw:	Wet molecular weight of flue gas
Pbar:	Barometric pressure, in. Hg
Psta:	Static pressure, in. H_2O
Pstk:	Stack pressure, in. Hg
P:	Stack differential pressure, in. H_2O
Qstk:	Stack gas flow, scfm
Tm:	Meter temperature, °F
Ts:	Stack gas temperature, °F
Vcond:	Volume of water condensation, ml
Vm:	Meter volume, acf
Vmstd:	Sample gas at standard conditions, scf
Vwtr:	Water vapor volume, scf
Ym:	Meter correction factor
SV:	Specific molar volume, 379.5 dscf/lb-mole at 60°F, or 385.3 dscf/lb-mole at 68°F
FF:	Fuel flow rate (scf/hr)
Fd:	Dry fuel factor, for natural gas Fd=8710 dscf/MMBtu at 68°F

APPENDIX B

APPROVALS AND CERTIFICATIONS

Appendix B1

SCAQMD and CARB Testing Approvals

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

June 10, 2015

Mr. John W. Phillips
Almega Environmental
10602 Walker Street
Cypress, CA 90630

Subject: LAP Approval Notice
Reference # 93LA0827

Dear Mr. Phillips:

We completed our review of the renewal application you submitted for approval under the South Coast Air Quality Management District's Laboratory Approval Program (SCAQMD LAP). We are pleased to inform you that your firm is approved for the period beginning June 30, 2015, and ending June 30, 2016 for the following methods, subject to the requirements in the LAP Conditions For Approval Agreement and conditions listed in the attachment to this letter:

SCAQMD Methods 1-4	SCAQMD Method 7.1
SCAQMD Method 10.1	SCAQMD Rule 1121/ 1146.2 Protocols
SCAQMD Method 100.1	SCAQMD Rule 1420/1420.1 – (Lead) Source Sampling
SCAQMD Method 25.1 (Sampling)	SCAQMD Rule 1420/1420.1 – (Lead) Ambient Sampling
SCAQMD Method 25.1 (Analysis)	SCAQMD Rule 462 Testing
SCAQMD Method 25.3 (Analysis)	ASTM D6522-00/ USEPA CTM-030
SCAQMD Methods 5.1 and 6.1	

Thank you for participating in the SCAQMD LAP. Your cooperation helps us to achieve the goal of the LAP: to maintain high standards of quality in the sampling and analysis of source emissions. You may direct any questions or information to LAP Coordinator, Glenn Kasai. He may be reached by telephone at (909) 396-2271, or via e-mail at gkasai@aqmd.gov.

Sincerely,

Rudy Eden, Senior Manager
Laboratory Services &
Source Test Engineering

RE:GK/gk

cc: Dipankar Sarkar

150610 LapRenewal.doc

ATTACHMENT

Conditions For Almega Environmental's LAP Approval

1) Almega shall adhere to the following requirements when conducting portable analyzer tests using CTM-030 or ASTM D6522:
   a) Deviations to CTM-030 or ASTM D6522 shall be documented in the Test Critique section of the test report;
   b) The test report shall be formatted and organized in a manner consistent with the example portable analyzer test report, dated September 24, 2011, and the District Source Test Manual, Chapter II; and,
   c) NO_2 measurements may be quantified to 10% of the NO_2 span under the following conditions:
      - Calibrations shall be conducted per Sections 7.3 and 7.6 of CTM-030 at the span, mid-span (40-60% of span), low-span (10% of span), and zero level. The low-span calibration shall satisfy the requirements in Section 4.2 of CTM-030;
      - A linearity check shall be conducted once every five days using the low-span calibration gas; and,
      - If the measured NO_2 emission is less than 10% of the NO_2 span, it shall be reported as less than 10% of the span, and added to the NO emission to determine the total NOx concentration.

State of California

Air Resources Board

Approved Independent Contractor

Almega Environmental & Technical Services

This is to certify that the company listed above has been approved by the Air Resources Board to conduct compliance testing pursuant to California Code of Regulations, Title 17, Section 91207, until June 30, 2016, for the test methods listed below:

ARB Source Test Methods:

1, 2, 3, 4, 5, 8

100 (CO, CO_2, NO_X, O_2, SO_2)

Dr. Michael T. Benjamin, Chief
Monitoring and Laboratory Division

Almega ENVIRONMENTAL

State of California

Air Resources Board

Approved Independent Contractor

Almega Environmental & Technical Services

This is to certify that the company listed above has been approved by the Air Resources Board to conduct compliance testing pursuant to California Code of Regulations, Title 17, Section 91207, until June 30, 2010, for the test method listed below:

Visible Emissions Evaluation

Dr. Michael T. Benjamin, Chief
Monitoring and Laboratory Division

Almega ENVIRONMENTAL

Appendix B2

Certification of No Conflict-of-Interest

Certification of No Conflict-of-Interest

Almega Environmental & Technical Services
10602 Walker Street
Cypress, CA 90630

I certify that I am responsible for the testing operations of Almega and am authorized to sign this certificate on the Company's behalf.

Almega may conduct tests as an independent tester pursuant to SCAQMD Rule 304(k). I further certify that Almega has no conflict-of-interests, and is not related or owned in any way to the company being tested.

Company being tested:	Orange County Sanitation District
Facility ID No.:	29110
Permit No.:	Permit G27398, A/N 540712
Signature:	
Name (printed or typed):	Christopher Lovett
Title:	Project Manager
Date:	10/15/15

Appendix B3

Non-RECLAIM CEMS Final Certification

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

Almega ENVIRONMENTAL

March 2, 2010
S/T File:C06039
(Final Certification)

Terry Ahn
Orange County Sanitation District
P.O. Box 8127
Fountain Valley, CA 92728-8127

Subject: **Final Certification of Non-RECLAIM CEMS**
Serving IC Engine Unit 5 CG5-HB (A/N 414657)

Dear Ms. Terry Ahn:

I have completed the evaluation of your certification report (please refer to the accompanying attachments for specific information and conditions). The evaluation was made to determine if final certification could be granted based on the monitoring requirements of the applicable protocols found in District Rules 218 and 218.1, and EPA 40CFR60 APPENDICES B and F.

This letter serves as an official notification of final certification for the CEMS at your facility serving the process equipment described in the accompanying attachment, "DISTRICT RULE 218 - EPA 40CFR60 APPENDICES B and F, NON-RECLAIM CEMS FINAL CERTIFICATION: Specific Device-Based Information and Conditions". If the CEMS information in the accompanying attachments is not accurate, please notify me as soon as possible at (909) 396-2265. Also, please remember to notify the District for direction, prior to replacement or modification of the described CEMS or the device(s) that it serves, since such modifications may change the compliance status of the affected CEMS. Again, thank you for your continued cooperation and support.

Sincerely,

Phillip E Padilla

P. Eric Padilla, Air Quality Engineer
Source Test Engineering Branch
(909) 396-2265 FAX (909) 396-2099
epadilla@aqmd.gov@aqmd.gov

Attachment
MG:EP

cc: Rudy Eden
Mike Garibay

840CEMS_Cert - OCSD Plant 2 Unit 5 - C06039.doc

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

Almega ENVIRONMENTAL

Source Test I.D:	C06039	Date:	March 2, 2010
Facility I.D:	029110		
Application/Permit No.:	414657	CEMS Certification Date:	
CEMS Rule/Regulation:	Permit Condition 13		July 16, 2009

DISTRICT RULE 218 - EPA 40CFR60 APPENDICES B & F
NON-RECLAIM CEMS FINAL CERTIFICATION:
Specific Device-Based Information and Conditions
(This document must be displayed on or near strip chart recorder or data handling system)

Name of Facility:	**Orange County Sanitation District**
Certification Test Date:	**July 16, 2009**
Test Operating Load:	**Mid Operating Load (> 50% capacity)**
Equipment Description:	**IC Engine Unit 5 – 4166 HP, 3000 kW Generator**
Equipment Location:	**Reclamation Plant 2, 22212 Brookhurst St, Huntington Beach, CA 92646**
Mailing Address:	**P.O. Box 8127 Fountain Valley, CA 92728-8127**

A. The components described below comprise the "CEMS" which has been granted Final Certification or Approval and they may not be changed or modified without prior District approval. (Unauthorized modification to the components shown below may void CEMS certification, and result in non-compliance with District Rule 218, EPA 40CFR60 APPENDIX B, and/or source specific rules pertaining to CEMS monitoring and recordkeeping. Be sure the information below is correct. Contact your District Source Testing representative if there are any questions):

Gaseous Emission Measurement Analyzer:

Gaseous Component Monitored	Make	Model No.	Serial No.	Method of Detection	Certified Range(s): **Instrument Range** (Valid Reporting Range[1])
CO (Dry)	**Thermo**	**48i**	**09010029**	**Gas Filter Correlation (GFC)**	**0-1000 ppm**
NOx/O_2 (Dry)	**Thermo**	**42i-LS**	**0910435617**	**NOx: Chemiluminescence O_2: Paramagnetic**	**NOx: 0-100 ppm O_2: 0-25%**

[1] The valid reporting range of a certified CEMS is normally 10-95% of the certified instrument range or ranges, unless additional QA testing is

Fuel or Flue Gas Flow Measurement Analyzer

Instrument Type	Manufacturer	Model No.	Serial No.
Natural Gas: Positive Displacement Meter	**Dresser Roots**	**11M175 (Range 0 – 11,000 cfh)**	***NA – renewed annually for calibration purposes***
Digester Gas: Positive Displacement Meter	**Dresser Roots**	**16M175 (Range 0 – 16,000 cfh)**	***NA – renewed annually for calibration purposes***

Sample Condition and Calibration System

Type	Manufacturer	Model No.	Serial No.
Gas Sample Conditioning Unit	**M&C**	**ECM-2G**	***NA***

Supporting Equipment (Data Acquisition, Reduction, and Recording) Excluding RTU

Type	Manufacturer	Model No.	Serial No.
DAS	**Dell**		***NA***
PLC	**Modicon**	**M340**	***NA***

DAHS, PLC Programming Formulas and Correction Factors

Parameter	Formula
NOx Concentration	**Uncorrected, and standard correction to 15% O_2 for concentration compliance requirement (no additional factors, BAFs or constants are authorized).**
CO Concentration	**Uncorrected, and std. correction to 15% O_2 for concentration compliance requirement (no additional factors, BAFs or constants are authorized).**
Stack Flow Rate	**Based on fuel usage & standard fuel F-Factor calculation using default HHV of 1050 Btu/scf and Fd_{O2} of 8710 dscf/mmBtu for natural gas and using analysis results for digester gas (no additional factors, BAFs or constants are authorized).**
NOx Emission Rate	**Based on the product of uncorrected concentration and stack flow rate as described above (no additional factors, BAFs or constants are authorized).**

B. The CEMS described above is subject to the following conditions:

1. CEMS Operating Range

The operating range(s) selected for each gas analyzer must be such that most all measurements fall within 10-95%[2] of range full-scale. With time, these ranges may not prove adequate and the analyzer(s) must be re-ranged, or more-than-one range must be used to maintain compliance. Always consult your AQMD CEMS Engineer before modifying the process monitored and/or the CEMS itself.

2. CEMS Specific Operating Requirements

This CEMS shall be operated pursuant to the requirements of District Rules 218/218.1 and/or 40CFR60 Appendices B & F, and be subject to the following specific monitoring, reporting, and recordkeeping requirements:

PERMIT CONDITION 13:

- Monitor/record/report raw NOx concentration (ppm)
- Monitor/record/report raw O_2 concentration (%)
- Calculate/record/report NOx concentration (ppm), corrected to 15% O2
- Calculate/record/report exceedances in the permitted limit of: 36 ppmv for NOx or 2000 ppmv for CO, both corrected to 15% O_2

The Data Acquisition & Handling System/Programmable Logic Controller (DAHS/PLC) shall perform the calculations necessary to meet the above emission reporting requirements, using accepted methods.

3. *Periodic Testing, Record Keeping, Quality Assurance, and Reporting*

Orange County Sanitation District has elected to maintain this CEMS according to EPA 40CFR60 APPENDICES B & F. This includes periodic testing[3], quality assurance, reporting, and recordkeeping. Designated personnel at Orange County Sanitation District shall be instructed and be responsible regarding periodic testing dates and requirements, scheduled and unscheduled breakdown and outage procedures, and CEMS and process modifications. A comprehensive Quality Assurance Plan describing the above procedures and other contingencies as described in EPA 40CFR60 APPENDIX F, must be compiled and stored on-site for review by authorized AQMD personnel. This Quality Assurance Plan must be regularly updated with CEMS, process, and responsibility changes.

4. *On-Site Data Availability*

Orange County Sanitation District understands that CEMS emission measurements shall be available in realtime display and as a continuous record, on-site, upon request by authorized

[2] There are circumstances where analyzer measurements less than 10% of full-scale are acceptable. See your assigned Source Testing Engineer for details.

[3] Units must be tested annually at a minimum, or sooner if modifications to process and/or CEMS are performed, or as prescribed by the AQMD.

AQMD personnel. This also includes raw data and calculations used for realtime displays and records.

5. *RATA Protocol*
Orange County Sanitation District shall submit a periodic CEMS assessment/RATA protocol for approval if the RATA procedures differ from the previously approved CEMS certification test protocol.

6. *Notification of RATA Schedule*
Orange County Sanitation District shall notify the District at least two weeks prior to conducting all subsequent periodic CEMS assessments/RATAs. Notification is to be made to Eric Padilla, either by phone at 909-296-2265, or via e-mail at epadilla@aqmd.gov.

7. *Quality Assurance Program (QAP)*
The QAP shall automatically be updated as needed (e.g., as personnel are reassigned, or the process and/or the CEMS components are modified).

Evaluated By: Phillip E. Padilla Dated: March 2, 2010

P. Eric Padilla, Air Quality Engineer
Source Test Engineering Branch
(909) 396-2265 FAX (909) 396-2099
epadilla@aqmd.gov@aqmd.gov

840CEMS_Cert - OCSD Plant 2 Unit 5 - C06039.doc

APPENDIX C

SCAQMD METHOD 1.1-4.1 – STACK GAS FLOW RATE

Appendix C1

STACK GAS FLOW RATE – Results and Calculations

STACK GAS MOISTURE AND FLOW RATE CALCULATIONS

Facility: OCSD, Plant No. 2 **Source:** Engine 5 **Test Date:** 10/1/15
City: Huntington Beach, CA **Test:** RATA

DATA ENTRY	Symbols	Units	RUN 1.0	RUN 2.0	RUN 3.0	RUN 4.0	RUN 5.0	RUN 6.0	RUN 7.0	RUN 8.0	RUN 9.0		
Stack Diameter	D	in.	30	30	30	30	30	30	30	30	30		
Length	L	in.		0	0	0	0	0	0	0	0		
Width	W	in.		0	0	0	0	0	0	0	0		
Barometric Pressure	Pbar	in. Hg.	29.91	29.91	29.91	29.91	29.91	29.91	29.91	29.91	29.91		
Static Pressure	Ps	in. H2O	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25		
Pitot Coefficient	Cp	none	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84		
Meter Cal. Factor	Y	none	0.9871	0.9871	0.9871	0.9871	0.9871	0.9871	0.9871	0.9871	0.9871		
Standard Temperature	Tstd	deg. F	60	60	60	60	60	60	60	60	60		
Moisture Factor	K1	cu.ft./mL	.0464	.0464	.0464	.0464	.0464	.0464	.0464	.0464	.0464		
PT Factor	K2	R/in.Hg	17.38	17.38	17.38	17.38	17.38	17.38	17.38	17.38	17.38		
Velocity Head (dP)	(dP)	(in. H2O)	0.811	0.821	0.825	0.833	0.831	0.831	0.809	0.819	0.823		
Velocity Head (Sqrt dP)	Sqrt (dP)	Sqrt(in. H2O)	0.899	0.905	0.907	0.912	0.911	0.911	0.899	0.905	0.907		
Average Delta H	dH	in. H2O	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000		
Gas Volume Collected	Vm	cf	68.105	68.105	68.105	68.144	68.144	68.144	68.117	68.117	68.117		
Stack Gas Temperature	Ts	deg. F	539.8	540.4	540.3	541.0	541.3	540.6	541.3	541.4	540.9		
Meter Temperature	Tm	deg. F	82.2	82.2	82.2	85.4	85.4	85.4	89.1	89.1	89.1		
%O2 in Stack Gas	%O2	%	11.78	11.78	11.86	11.80	11.83	11.90	11.75	11.83	11.81		
%CO2 in Stack Gas	%CO2	%	7.58	7.69	7.66	7.18	7.19	7.14	7.34	7.30	7.31		
Total Impinger Water	Ww	g	160.9	160.9	160.9	143.9	143.9	143.9	161.9	161.9	161.9		
CALCULATIONS	**Symbols**	**Units**	**RUN 1.0**	**RUN 2.0**	**RUN 3.0**	**RUN 4.0**	**RUN 5.0**	**RUN 6.0**	**RUN 7.0**	**RUN 8.0**	**RUN 9.0**		
Stack Area	As	sq. ft.	4.91	4.91	4.91	4.91	4.91	4.91	4.91	4.91	4.91		
Stack Gas Temperature	Ts,r	deg. R	1000	1000	1000	1001	1001	1001	1001	1001	1001		
Meter Temperature	Tm,r	deg. R	542	542	542	545	545	545	549	549	549		
Abs Stk Pressure	Pabs	in. Hg.	29.89	29.89	29.89	29.89	29.89	29.89	29.89	29.89	29.89		
Gas Vol. @ STD	Vmstd	dscf	64.77	64.77	64.77	64.43	64.43	64.43	63.97	63.97	63.97		
Vol. of Water Vapor	Vwstd	dscf	7.47	7.47	7.47	6.68	6.68	6.68	7.51	7.51	7.51		
Dry Mol. Wt.	Md	lb/lb-mol.	29.68	29.70	29.70	29.62	29.62	29.62	29.64	29.64	29.64		
Wet Mol. Wt.	Ms	lb/lb-mol.	28.48	28.49	28.49	28.53	28.53	28.53	28.42	28.42	28.42		
Average Velocity	Vs	ft/s	70.00	70.42	70.61	70.95	70.91	70.86	70.10	70.55	70.66		
Moisture Content	Bws	%	10.34	10.34	10.34	9.39	9.39	9.39	10.51	10.51	10.51		
Actual Stack Gas Flow Rate	Qa	acfm	20,618	20,741	20,795	20,896	20,885	20,870	20,647	20,778	20,813		
Dry Stack Gas Flow Rate	Qds	dscfm	**9,606**	**9,658**	**9,685**	**9,827**	**9,819**	**9,818**	**9,587**	**9,646**	**9,667**		
Dry Stack Gas Flow Rate	Qds	dscfh	**576,377**	**579,502**	**581,080**	**589,604**	**589,123**	**589,078**	**575,211**	**578,771**	**580,031**		
Wet Stack Gas Flow Rate	Qws	wscfm	**10,714**	**10,772**	**10,801**	**10,845**	**10,836**	**10,835**	**10,713**	**10,779**	**10,802**		

CALCULATIONS

Abs Stk Pressure	Pabs	Pabs=Pbar +(Ps/13.6)	Average Velocity	Vs	Vs = 85.49Cp Sqrt(dp)[Sqrt(Ts,r/(Pabs Ms))]
Gas Vol. @ STD	Vmstd	Vmstd=17.64VmY[Pbar+dH/13.6)]/Tm	Moisture Content	Bws	Bws = 100 Vwstd/(Vmstd+Vwstd)
Vol. of Water Vapor	Vwstd	Vwstd=0.04707 Vh2o	Actual Stack Gas Flow Rate	Qa	Qa = 60 Vs As
Dry Mol. Wt.	Md	Md=.44(%CO2)+.32(%O2)+.28[100-(%CO2+%O2)]	Dry Stack Gas Flow Rate	Qds	Qds=17.64 Qa[1-(Bws/100)](Pabs/Ts,r)
Wet Mol. Wt.	Ms	Ms=Md[1-(Bws/100)]+18(Bws/100)	Wet Stack Gas Flow Rate	Qws	Qws= Qds(dscfm)/(1-Bws/100)

Almega ENVIRONMENTAL

STACK GAS MOISTURE AND FLOW RATE CALCULATIONS

Facility: OCSD, Plant No. 2
City: Huntington Beach, CA

Source: Engine 5
Test: RATA

Test Date: 10/1/15

Point	RUN 1.0 dP (in. H2O)	Ts (deg F)	SQRT (dP)	Qds (dscfm)	RUN 2.0 dP (in. H2O)	Ts (deg F)	SQRT (dP)	Qds (dscfm)	RUN 3.0 dP (in. H2O)	Ts (deg F)	SQRT (dP)	Qds (dscfm)
Avg	**0.811**	**539.8**	**.8995**	**9,606**	**0.821**	**540.4**	**.9048**	**9,658**	**0.825**	**540.3**	**.9072**	**9,685**
1	0.87	531	.9327	10,006	0.88	531	.9381	10,060	0.92	532	.9592	10,281
2	0.87	540	.9327	9,960	0.89	540	.9434	10,071	0.91	540	.9539	10,184
3	0.92	542	.9592	10,232	0.94	541	.9695	10,345	0.93	541	.9644	10,290
4	0.79	543	.8888	9,477	0.81	543	.9000	9,594	0.82	543	.9055	9,653
5	0.76	542	.8718	9,300	0.76	542	.8718	9,298	0.78	542	.8832	9,419
6	0.71	541	.8426	8,994	0.72	542	.8485	9,050	0.70	542	.8367	8,923
7	0.80	540	.8944	9,551	0.81	541	.9000	9,603	0.81	541	.9000	9,604
8	0.74	539	.8602	9,191	0.72	540	.8485	9,059	0.69	539	.8307	8,873
9	0.87	532	.9327	10,000	0.89	533	.9434	10,107	0.89	533	.9434	10,107
10	0.89	540	.9434	10,074	0.91	541	.9539	10,179	0.90	541	.9487	10,123
11	0.94	541	.9695	10,348	0.96	542	.9798	10,450	0.95	542	.9747	10,395
12	0.78	543	.8832	9,417	0.76	544	.8718	9,288	0.79	544	.8888	9,470
13	0.76	542	.8718	9,300	0.76	543	.8718	9,293	0.78	543	.8832	9,415
14	0.74	541	.8602	9,182	0.75	542	.8660	9,236	0.76	541	.8718	9,303
15	0.82	541	.9055	9,665	0.84	541	.9165	9,780	0.82	541	.9055	9,663
16	0.71	539	.8426	9,003	0.73	540	.8544	9,121	0.75	539	.8660	9,250
17												
18												
19												
20												
21												
22												
23												
24												
25												

	Orifice dH	Meter Temp. Inlet	Meter Temp. Outlet	DGM Volume	Moist. Collect.		Orifice dH	Meter Temp. Inlet	Meter Temp. Outlet	DGM Volume	Moist. Collect.		Orifice dH	Meter Temp. Inlet	Meter Temp. Outlet	DGM Volume	Moist. Collect.	
	2.00	**Avg:**	**82.2**	**68.105**	**160.9**	**Net:**	**2.00**	**Avg:**	**82.2**	**68.105**	**160.9**	**Net:**	**2.00**	**Avg:**	**82.2**	**68.105**	**160.9**	**Net:**
10	2.00	83	80	981.835	745.0	Initial	2.00	83	80	981.835	745.0	Initial	2.00	83	80	981.835	745.0	Initial
20	2.00	83	80	1049.940	867.2	Final	2.00	83	80	1049.940	867.2	Final	2.00	83	80	1049.940	867.2	Final
30	2.00	84	80		685.3	Initial	2.00	84	80		685.3	Initial	2.00	84	80		685.3	Initial
40	2.00	84	80		700.4	Final	2.00	84	80		700.4	Final	2.00	84	80		700.4	Final
50	2.00	84	81		606.8	Initial	2.00	84	81		606.8	Initial	2.00	84	81		606.8	Initial
60	2.00	84	81		613.0	Final	2.00	84	81		613.0	Final	2.00	84	81		613.0	Final
70	2.00	84	81		804.5	Initial	2.00	84	81		804.5	Initial	2.00	84	81		804.5	Initial
80	2.00	84	81		821.9	Final	2.00	84	81		821.9	Final	2.00	84	81		821.9	Final
90	2.00	85	81				2.00	85	81				2.00	85	81			

Almega ENVIRONMENTAL

STACK GAS MOISTURE AND FLOW RATE CALCULATIONS

Facility: OCSD, Plant No. 2
City: Huntington Beach, CA

Source: Engine 5
Test: RATA

Test Date: 10/1/15

	RUN 4.0			
Point	dP (in. H2O)	Ts (deg F)	SQRT (dP)	Qds (dscfm)
Avg	**0.833**	**541.0**	**.9119**	**9,827**
1	0.84	533	.9165	9,916
2	0.88	541	.9381	10,109
3	0.94	542	.9695	10,442
4	0.86	544	.9274	9,978
5	0.82	543	.9055	9,748
6	0.75	542	.8660	9,328
7	0.81	541	.9000	9,698
8	0.79	541	.8888	9,578
9	0.84	533	.9165	9,916
10	0.86	541	.9274	9,993
11	0.93	543	.9644	10,382
12	0.88	544	.9381	10,094
13	0.81	543	.9000	9,689
14	0.78	542	.8832	9,512
15	0.77	542	.8775	9,451
16	0.76	541	.8718	9,394
17				
18				
19				
20				
21				
22				
23				
24				
25				

	Orifice	Meter Temp.		DGM	Moist.	
	dH	Inlet	Outlet	Volume	Collect.	
	2.00	**Avg:**	**85.4**	**68.144**	**143.9**	**Net:**
10	2.00	86	83	50.644	766.2	Initial
20	2.00	87	83	118.788	887.6	Final
30	2.00	87	83		700.4	Initial
40	2.00	87	84		710.9	Final
50	2.00	87	84		613.0	Initial
60	2.00	87	84		615.1	Final
70	2.00	87	84		821.9	Initial
80	2.00	88	84		831.8	Final
90	2.00	88	84			

	RUN 5.0			
	dP (in. H2O)	Ts (deg F)	SQRT (dP)	Qds (dscfm)
	0.831	**541.3**	**.9113**	**9,819**
	0.84	532	.9165	9,920
	0.89	541	.9434	10,165
	0.89	543	.9434	10,155
	0.88	545	.9381	10,088
	0.77	543	.8775	9,446
	0.80	542	.8944	9,633
	0.82	542	.9055	9,753
	0.81	541	.9000	9,698
	0.83	534	.9110	9,851
	0.88	542	.9381	10,103
	0.92	544	.9592	10,320
	0.86	544	.9274	9,978
	0.80	543	.8944	9,628
	0.76	542	.8718	9,389
	0.78	542	.8832	9,512
	0.77	540	.8775	9,460

	Orifice	Meter Temp.		DGM	Moist.	
	dH	Inlet	Outlet	Volume	Collect.	
	2.00	**Avg:**	**85.4**	**68.144**	**143.9**	**Net:**
	2.00	86	83	50.644	766.2	Initial
	2.00	87	83	118.788	887.6	Final
	2.00	87	83		700.4	Initial
	2.00	87	84		710.9	Final
	2.00	87	84		613.0	Initial
	2.00	87	84		615.1	Final
	2.00	87	84		821.9	Initial
	2.00	88	84		831.8	Final
	2.00	88	84			

	RUN 6.0			
	dP (in. H2O)	Ts (deg F)	SQRT (dP)	Qds (dscfm)
	0.831	**540.6**	**.9109**	**9,818**
	0.83	532	.9110	9,862
	0.89	541	.9434	10,166
	0.91	542	.9539	10,275
	0.89	543	.9434	10,156
	0.78	542	.8832	9,513
	0.78	541	.8832	9,517
	0.80	540	.8944	9,643
	0.81	540	.9000	9,704
	0.82	533	.9055	9,798
	0.86	541	.9274	9,994
	0.94	542	.9695	10,443
	0.87	544	.9327	10,036
	0.81	543	.9000	9,689
	0.79	543	.8888	9,569
	0.75	542	.8660	9,328
	0.76	541	.8718	9,395

	Orifice	Meter Temp.		DGM	Moist.	
	dH	Inlet	Outlet	Volume	Collect.	
	2.00	**Avg:**	**85.4**	**68.144**	**143.9**	**Net:**
	2.00	86	83	50.644	766.2	Initial
	2.00	87	83	118.738	887.6	Final
	2.00	87	83		700.4	Initial
	2.00	87	84		710.9	Final
	2.00	87	84		613.0	Initial
	2.00	87	84		615.1	Final
	2.00	87	84		821.9	Initial
	2.00	88	84		831.8	Final
	2.00	88	84			

Almega ENVIRONMENTAL

STACK GAS MOISTURE AND FLOW RATE CALCULATIONS

Facility: OCSD, Plant No. 2
City: Huntington Beach, CA

Source: Engine 5
Test: RATA

Test Date: 10/01/15

Point	RUN 7.0 dP (in. H2O)	Ts (deg F)	SQRT (dP)	Qds (dscfm)	RUN 8.0 dP (in. H2O)	Ts (deg F)	SQRT (dP)	Qds (dscfm)	RUN 9.0 dP (in. H2O)	Ts (deg F)	SQRT (dP)	Qds (dscfm)
Avg	**0.809**	**541.3**	**.8992**	**9,587**	**0.819**	**541.4**	**.9048**	**9,646**	**0.823**	**540.9**	**.9065**	**9,667**
1	0.82	534	.9055	9,690	0.86	533	.9274	9,929	0.87	533	.9327	9,986
2	0.82	541	.9055	9,656	0.83	541	.9110	9,715	0.84	541	.9165	9,773
3	0.88	543	.9381	9,993	0.89	542	.9434	10,055	0.89	543	.9434	10,050
4	0.75	545	.8660	9,216	0.75	544	.8660	9,221	0.73	544	.8544	9,097
5	0.75	543	.8660	9,225	0.76	544	.8718	9,282	0.76	543	.8718	9,287
6	0.75	543	.8660	9,225	0.76	542	.8718	9,292	0.77	542	.8775	9,352
7	0.79	542	.8888	9,473	0.80	542	.8944	9,533	0.82	540	.9055	9,661
8	0.79	542	.8888	9,473	0.79	541	.8888	9,478	0.79	540	.8888	9,483
9	0.84	533	.9165	9,812	0.85	534	.9220	9,866	0.84	533	.9165	9,813
10	0.84	541	.9165	9,773	0.86	542	.9274	9,884	0.87	542	.9327	9,941
11	0.93	542	.9644	10,278	0.92	544	.9592	10,213	0.91	542	.9539	10,167
12	0.88	544	.9381	9,988	0.88	545	.9381	9,983	0.86	544	.9274	9,874
13	0.81	543	.9000	9,587	0.81	543	.9000	9,588	0.82	543	.9055	9,647
14	0.78	542	.8832	9,413	0.79	543	.8888	9,469	0.81	542	.9000	9,592
15	0.77	542	.8775	9,352	0.78	542	.8832	9,413	0.79	542	.8888	9,473
16	0.75	541	.8660	9,235	0.78	541	.8832	9,418	0.79	541	.8888	9,478
17												
18												
19												
20												
21												
22												
23												
24												
25												

	Orifice dH	Meter Temp. Inlet	Meter Temp. Outlet	DGM Volume	Moist. Collect.		Orifice dH	Meter Temp. Inlet	Meter Temp. Outlet	DGM Volume	Moist. Collect.		Orifice dH	Meter Temp. Inlet	Meter Temp. Outlet	DGM Volume	Moist. Collect.	
	2.00	**Avg:**	**89.1**	**68.117**	**161.9**	**Net:**	**2.00**	**Avg:**	**89.1**	**68.117**	**161.9**	**Net:**	**2.00**	**Avg:**	**89.1**	**68.117**	**161.9**	**Net:**
10	2.00	90	87	119.020	782.5	Initial	2.00	90	87	119.020	782.5	Initial	2.00	90	87	119.020	782.5	Initial
20	2.00	90	87	187.137	912.3	Final	2.00	90	87	187.137	912.3	Final	2.00	90	87	187.137	912.3	Final
30	2.00	90	87		710.9	Initial	2.00	90	87		710.9	Initial	2.00	90	87		710.9	Initial
40	2.00	91	87		723.6	Final	2.00	91	87		723.6	Final	2.00	91	87		723.6	Final
50	2.00	91	88		615.1	Initial	2.00	91	88		615.1	Initial	2.00	91	88		615.1	Initial
60	2.00	91	88		619.5	Final	2.00	91	88		619.5	Final	2.00	91	88		619.5	Final
70	2.00	91	88		765.0	Initial	2.00	91	88		765.0	Initial	2.00	91	88		765.0	Initial
80	2.00	91	88		780.0	Final	2.00	91	88		780.0	Final	2.00	91	88		780.0	Final
90	2.00	91	88				2.00	91	88				2.00	91	88			

Almega ENVIRONMENTAL

Appendix C2

STACK GAS FLOW RATE – Field Data

SAMPLING AND VELOCITY TRAVERSE POINT DETERMINATION
SCAQMD METHOD 1.2

FACILITY: Orange County Sanitation District
CITY, STATE: Huntington Beach, CA
SAMPLING LOCATION: Plant No. 2, Engine 5
TYPE OF TESTING: RATA

NO. OF PORTS AVAILABLE: 2
NO. OF PORTS TO BE USED: 2
PORT INSIDE DIAMETER: 4 inches

DISTANCE FROM FAR WALL TO OUTSIDE OF PORT: 35.5 inches
NIPPLE LENGTH AND/OR WALL THICKNESS: 5.5 inches
DEPTH OF STACK OR DUCT, D: 30.0 inches
STACK OR DUCT WIDTH (IF RECTANGULAR), W: inches

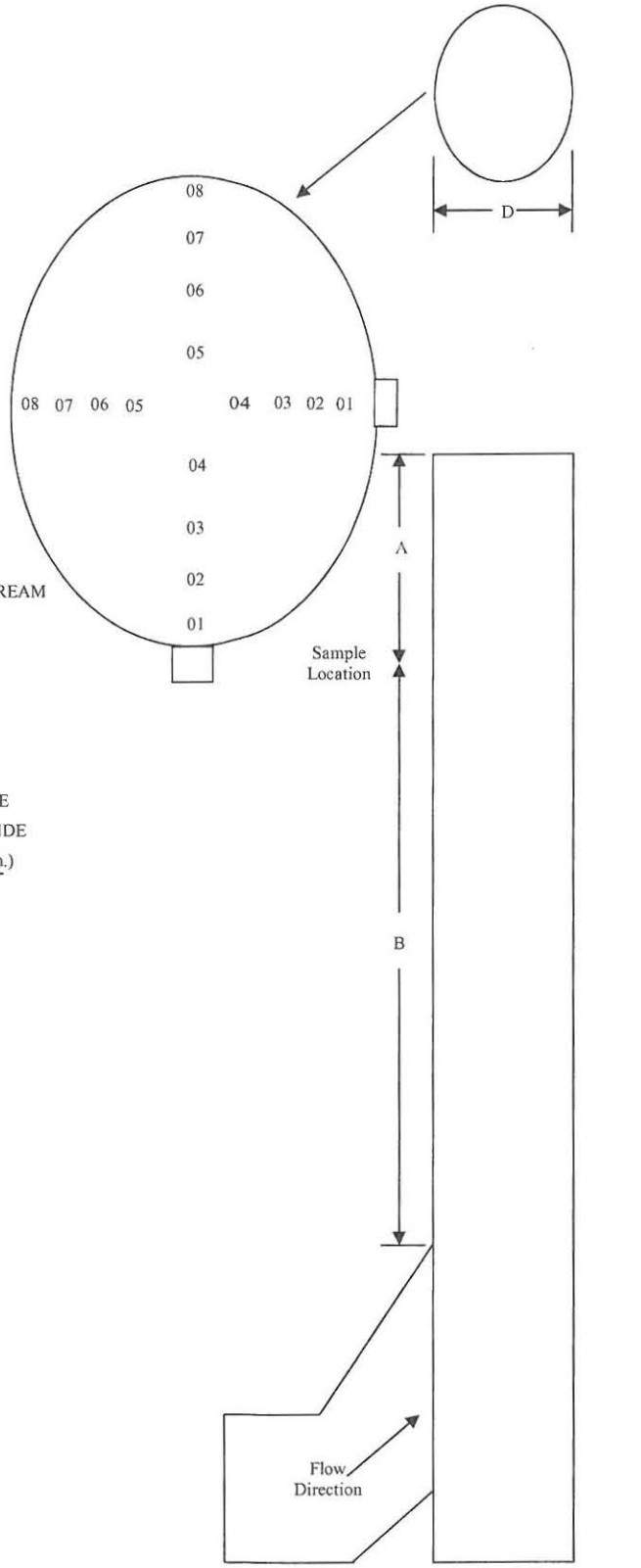
EQUIVALENT DIAMETER
De = 2*(DEPTH)*(WIDTH)/(DEPTH+WIDTH) = inches

STACK/DUCT AREA = sq.feet sq.inches

DISTANCE FROM PORT TO FLOW DISTURBANCES	UPSTREAM	DOWNSTREAM
	B	A
# OF INCHES	135.0	54.0
# OF DIAMETERS	4.50	1.80

MINIMUM NUMBER OF TRAVERSE POINTS: 16

POINT NO.	% OF DUCT DEPTH	DISTANCE FROM INSIDE WALL (in.)	DISTANCE FROM OUTSIDE OF PORT (in.)
1	6.3	1.00	6 1/2
2	18.8	5.64	11 1/8
3	31.3	9.39	14 7/8
4	43.8	13.14	18 5/8
5	56.3	16.89	22 3/8
6	68.8	20.64	26 1/8
7	81.3	24.39	29 7/8
8	93.8	29.00	34 1/2



DRAWING NOT TO SCALE

Almega ENVIRONMENTAL

SCAQMD METHODS 2-4

Almega ENVIRONMENTAL

Run # :	1, 2, 3	Pitot ID :	STYPE	Impinger	Initial	Final	Net	Pitot Leak Check		
Date :	10/1/15	Pitot Coeff. :	.84	Water 1 :	745.0	867.2		Initial :	✓	✓
Client :	OCSD	Meter Box # :	002	Water 2 :	685.3	780.4		Final :	✓	✓
Unit :	Engine 5	Meter @ Dh :	1.981	Blank :	686.8	693.0				
Operator :	L. Barrow	Meter Y :	.9871	Sil. Gel :	804.5	821.9				
Stack Dia :	30"	TC # :	83	H2O Gain =				Meter Box Leak Check		
Amb. Press :	29.91	Start Time :	7:43	Pressure Type/Range					Rate	"HG
Static Press :	-.25	Stop Time :	9:13	ADM 880C	—			Initial :	.000	22"
								Final :	.000	22"

							Sample	Port 1 :		Port 2 :	S / W		
Time (Minute)	Meter Volume (acf)	Pump Vac (inch Hg)	Meter Temperatures Inlet (F)	Outlet (F)	Set Delta H (Inch H2O)	Impinger Temp. (F)	Point #	Delta P ("H2O)	Stack Temp. (F)	Delta P ("H2O)	Stack Temp. (F)	Cyclonic Flow ("H2O)	TE Cooler Temp. (F)
0	981.835				2.0		1	.87	531	.87	532		33
10	989.42	5	83	80		53	2	.87	540	.89	540		33
20	997.03		83	80		53	3	.92	542	.94	541		33
30	004.66		84	80		54	4	.79	543	.78	543		34
40	012.18		84	80		54	5	.76	542	.76	542		34
50	019.69		84	81		54	6	.71	541	.74	541		34
60	027.25		84	81		55	7	.80	540	.82	541		34
70	034.77		84	81		55	8	.74	539	.71	539		34
80	042.38	↓	84	81	↓	56							34
90	049.94	5	85	81	2.0	56	1	.88	531	.89	533		
							2	.89	540	.91	541		
							3	.94	541	.96	542		
							4	.86	543	.76	544		
							5	.76	542	.76	543		
							6	.72	542	.75	542		
							7	.81	541	.84	541		
							8	.72	540	.73	540		
							1	.92	532	.89	533		
							2	.91	540	.90	541		
							3	.93	541	.95	542		
							4	.82	543	.79	544		
							5	.78	542	.78	543		
							6	.70	542	.76	541		
							7	.81	541	.82	541		
							8	.89	539	.75	539		

1 of 3

Almega ENVIRONMENTAL

Almega ENVIRONMENTAL

SCAQMD METHODS 2-4

Run # :	4,5,6	Pitot ID :	S type	Impinger	Initial	Final	Net		
Date :	10/1/15	Pitot Coeff. :	.84	Water 1 :	766.2	887.6			
Client :	OCSD	Meter Box # :	002	Water 2 :	700.4	710.9			
Unit :	Engine 5	Meter @ Dh :	1.987	Blank :	613.0	615.1			
Operator :	L. Barrow	Meter Y :	.9871	Sil. Gel :	821.9	831.8			
Stack Dia :	30"	TC # :	83	H2O Gain =					
Amb. Press :	29.91	Start Time :	9:31	Pressure Type/Range					
Static Press :	-.25	Stop Time :	11:01	ADM 880C	—				

Pitot Leak Check		
Initial :	✓	✓
Final :	✓	✓

Meter Box Leak Check

	Rate	"HG
Initial :	.001	24"
Final :	.001	24"

Time (Minute)	Meter Volume (acf)	Pump Vac (inch Hg)	Meter Temperatures Inlet (F)	Outlet (F)	Set Delta H (Inch H2O)	Impinger Temp. (F)	Sample Point #	Port 1 : Delta P ("H2O)	Stack Temp. (F)	Port 2 : Delta P ("H2O)	Stack Temp. (F)	Pitot ID: Cyclonic Flow ("H2O)	TE Cooler Temp. (F)
0	050.644				2.0		1	.84	533	.84	533		34
10	058.22	6	86	83	↓	53	2	.88	541	.86	541		34
20	065.81	↓	87	83		54	3	.94	542	.93	543		35
30	073.44		87	83		54	4	.86	544	.88	544		35
40	081.03		87	84		55	5	.82	543	.81	543		35
50	088.62		87	84		55	6	.75	542	.78	542		35
60	096.18		87	84		56	7	.81	541	.77	542		35
70	103.69		87	84		57	8	.79	541	.76	541		35
80	111.24	↓	88	84	↓	53							35
90	118.788	6	88	84	2.0	53	1	.84	532	.83	534		36
							2	.89	541	.88	542		
							3	.89	543	.92	544		
							4	.88	545	.86	544		
							5	.77	543	.80	543		
							6	.80	542	.76	542		
							7	.82	542	.78	542		
							8	.81	541	.77	540		
							1	.83	532	.82	533		
							2	.89	541	.86	541		
							3	.91	542	.94	542		
							4	.89	543	.87	544		
							5	.78	542	.81	543		
							6	.78	541	.79	543		
							7	.80	540	.75	542		
							8	.81	540	.76	541		

Almega ENVIRONMENTAL

Almega ENVIRONMENTAL

SCAQMD METHODS 2-4

Run # :	7,8,9
Date :	10/1/15
Client :	OCSD
Unit :	Engine 5
Operator :	L. Barrow
Stack Dia :	30"
Amb. Press :	29.91
Static Press :	-.25

Pitot ID :	S type
Pitot Coeff. :	.84
Meter Box # :	002
Meter @ Dh :	1.987
Meter Y :	.9871
TC # :	83
Start Time :	11:16
Stop Time :	12:46

Impinger	Initial	Final	Net
Water 1 :	782.5	912.3	
Water 2 :	710.9	723.6	
Blank :	615.1	619.5	
Sil. Gel :	765.0	780.0	
H2O Gain =			
Pressure Type/Range	ADM 850 C	—	

Pitot Leak Check

Initial :	✓	✓
Final :	✓	✓

Meter Box Leak Check

	Rate	"HG
Initial :	.001	25"
Final :	.001	25"

Time (Minute)	Meter Volume (acf)	Pump Vac (inch Hg)	Meter Temperatures Inlet (F)	Meter Temperatures Outlet (F)	Set Delta H (Inch H2O)	Impinger Temp. (F)	Sample Point #	Port 1: Delta P ("H2O)	Port 1: Stack Temp. (F)	Port 2: Delta P ("H2O)	Port 2: Stack Temp. (F)	Pitot ID: Cyclonic Flow ("H2O)	Pitot ID: TE Cooler Temp. (F)
0	119.020				2.0		1	.82	534	.84	533		36
10	126.64	6	90	87		53	2	.82	541	.84	541		36
20	134.20		90	87		53	3	.88	543	.93	542		36
30	141.81		90	87		54	4	.75	545	.88	544		36
40	149.43		91	87		54	5	.75	543	.81	543		36
50	156.98		91	88		55	6	.75	543	.78	542		36
60	164.52		91	88		56	7	.79	542	.77	542		36
70	172.11		91	88		57	8	.79	542	.75	541		36
80	179.65	↓	91	88	↓	53							36
90	187.137	6	91	88	2.0	53	1	.86	533	.85	534		36
							2	.83	541	.86	542		
							3	.89	542	.92	542		
							4	.75	544	.88	545		
							5	.76	544	.81	543		
							6	.76	542	.79	543		
							7	.80	542	.78	542		
							8	.79	541	.78	541		
							1	.87	533	.84	533		
							2	.84	541	.87	542		
							3	.89	543	.91	542		
							4	.73	544	.86	544		
							5	.76	543	.82	543		
							6	.77	542	.81	542		
							7	.82	540	.79	542		
							8	.79	540	.79	541		

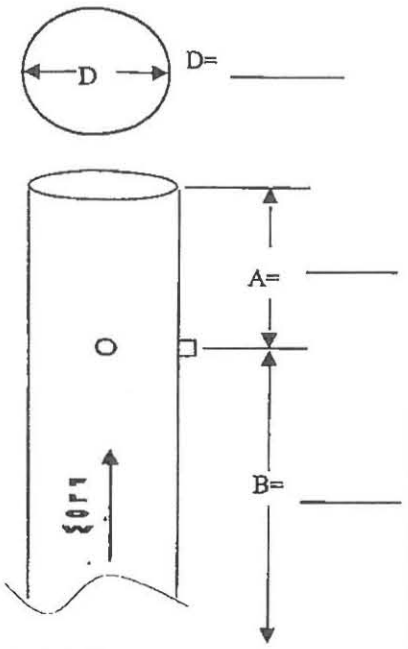
ALMEGA ENVIRONMENTAL TECHNICAL SERVICES
10602 Walker Street
Cypress, CA 90630

Almega ENVIRONMENTAL

SAMPLE POINT LOCATION DATA SHEET - Round Stack

Facility:	OCSD #2
Project Number:	9849
Date:	10/1/2015
Unit ID #	Engs 1 → 5
Inside of far wall to outside of port:	35.5
Port Distance:	5.5
Stack Diameter (D):	30"
Upstream Distance (A):	54"
Equivalent Duct Diameter (A/D):	
Downstream Distance (B):	135"
Equivalent Duct Diameter (B/D):	
Total Number of Traverse Points :	16
Number of Sampling Ports Used:	2
Port Diameter:	4"

STACK DRAWING



Sample Point No.	% of Stack Diameter	x	Stack Diameter	=	Distance from Wall	+	Port Distance	=	Distance from Sample Port
1	3.2	x	30	=	.96	+	5.5	=	6.46
2	10.5	x	↓	=	3.15	+	↓	=	8.65
3	19.4	x	↓	=	5.82	+	↓	=	11.32
4	32.3	x	↓	=	9.69	+	↓	=	15.19
5	67.7	x	↓	=	20.31	+	↓	=	25.81
6	80.6	x	↓	=	24.18	+	↓	=	29.68
7	89.5	x	↓	=	26.85	+	↓	=	32.35
8	96.8	x	↓	=	29.04	+	↓	=	34.54
		x		=		+		=	
		x		=		+		=	
		x		=		+		=	
		x		=		+		=	

APPENDIX D

SCAQMD METHOD 100.1 – CONTINUOUS MONITORING OF GASEOUS EMISSIONS

Appendix D1

CEMS – Results and Calculations

REFERENCE METHOD DATA SUMMARY

Facility: OCSD, Plant No. 2
City: Huntington Beach, CA
Source: Engine 5
Test: RATA

Run No.	Time (hh:mm)	NOx ppm	NOx ppm@15%O2	NOx lb/hr	CO ppm	CO ppm@15%O2	CO lb/hr	Dry Flow dscfh	O2 %	CO2 %
1	7:43-8:12	34.05	22.02	2.38	591.37	382.4	25.151	576,377	11.78	7.58
2	8:13-8:42	35.97	23.27	2.53	574.10	371.4	24.549	579,502	11.78	7.69
3	8:43-9:12	36.47	23.79	2.57	580.31	378.6	24.882	581,080	11.86	7.66
4	9:31-10:00	35.03	22.72	2.50	590.16	382.7	25.675	589,604	11.80	7.18
5	10:01-10:30	35.63	23.17	2.54	578.80	376.5	25.161	589,123	11.83	7.19
6	10:31-11:00	35.86	23.51	2.56	580.92	380.9	25.251	589,078	11.90	7.14
7	11:16-11:45	36.38	23.44	2.54	579.05	373.2	24.577	575,211	11.75	7.34
8	11:46-12:15	35.90	23.36	2.52	585.05	380.6	24.986	578,771	11.83	7.30
9	12:16-12:45	36.55	23.71	2.57	573.98	372.4	24.566	580,031	11.81	7.31
		35.76	**23.22**	**2.52**	**581.5**	**377.6**	**24.98**	**582,086**	**11.81**	**7.38**

Reference Method CEMS Summary

Facility: OCSD, Plant No. 2
City: Huntington Beach, CA
Source: Engine 5
Test: RATA

Run Information			Flue Gas Composition						Pollutant 1: NOx (MW: 46 lb/lb-mole)			Pollutant 2: CO (MW: 28 lb/lb-mole)		
			Moisture	Flow Rate:		O2	CO2		dry	dry ppm		dry	dry ppm	
No.	Date	Time	%	dry scfm	dry scfh	dry %	dry %	wet %	ppm	@15%O2	lbs/hr	ppm	@15%O2	lbs/hr
1	10/01/15	7:43-8:12	10.34	9,606	576,377	11.78	7.58	6.80	34.05	22.02	2.379	591.367	382.424	25.151
2	10/01/15	8:13-8:42	10.34	9,658	579,502	11.78	7.69	6.89	35.97	23.27	2.527	574.102	371.353	24.549
3	10/01/15	8:43-9:12	10.34	9,685	581,080	11.86	7.66	6.87	36.47	23.79	2.569	580.305	378.551	24.882
4	10/01/15	9:31-10:00	9.39	9,827	589,604	11.80	7.18	6.50	35.03	22.72	2.504	590.157	382.746	25.675
5	10/01/15	10:01-10:30	9.39	9,819	589,123	11.83	7.19	6.51	35.63	23.17	2.545	578.799	376.453	25.161
6	10/01/15	10:31-11:00	9.39	9,818	589,078	11.90	7.14	6.47	35.86	23.51	2.561	580.924	380.880	25.251
7	10/01/15	11:16-11:45	10.51	9,587	575,211	11.75	7.34	6.57	36.38	23.44	2.536	579.049	373.185	24.577
8	10/01/15	11:46-12:15	10.51	9,646	578,771	11.83	7.30	6.53	35.90	23.36	2.519	585.055	380.641	24.986
9	10/01/15	12:16-12:45	10.51	9,667	580,031	11.81	7.31	6.54	36.55	23.71	2.570	573.981	372.370	24.566

* Based on Standard
Conditions of:
60 deg. F and
29.92 in. Hg

Almega ENVIRONMENTAL

Facility:	**OCSD, Plant No. 2**	Run No.:	**1**
City:	**Huntington Beach, CA**	Test Date:	**10/01/15**
Source:	**Engine 5**	Run Time:	**7:43-8:12**
Test:	**RATA**		

TEST DATA		Pollutant 1	Pollutant 2	Diluent 1	Diluent 2
VARIABLE	DESCRIPTION	NOx	CO	O2	CO2
A	ANALYTICAL RANGE	**100**	**1000**	**25**	**10**
	Unit of Measurement	**ppmd**	**ppmd**	**% dry**	**% dry**
	CALIBRATION GAS INFORMATION				
B	Zero Gas	**0.00**	**0.00**	**0.00**	**0.00**
C	Mid Gas Concentration	**45.45**	**453.8**	**12.01**	**4.32**
	Mid Gas Cylinder S/N:	XC019657B	CC39463	CC248731	CC248731
D	High Gas Concentration	**89.91**	**899**	**21.99**	**8.749**
	High Gas Cylinder S/N:	CC199782	CC259973	CC408131	CC408131
	Primary Gas Cylinder S/N:				
E	UPSCALE CALIBRATION GAS USED	**45.45**	**453.8**	**12.01**	**4.32**
	L=Low, M=Mid, H=High	**M**	**M**	**M**	**M**
	INITIAL CALIBRATION ERROR TEST				
F	Zero Gas Response	**0.00**	**0.70**	**0.03**	**0.00**
G	Mid Gas Response	**45.40**	**454.4**	**12.12**	**4.38**
H	High Gas Reponse	**89.92**	**896.5**	**21.94**	**8.76**
	INITIAL SYSTEM CALIBRATION CHECK				
I	Zero Gas Response	**0.27**	**0.80**	**0.03**	**0.00**
J	Upscale Gas Response	**45.38**	**450.2**	**12.11**	**4.31**
	FINAL SYSTEM CALIBRATION CHECK				
K	Zero Gas Response	**0.48**	**0.20**	**0.04**	**-0.03**
L	Upscale Gas Response	**45.50**	**447.6**	**12.06**	**4.30**
	FINAL CALIBRATION ERROR CHECK				
M	Zero Gas Response	**0.38**	**0.40**	**0.03**	**-0.02**
N	Mid Gas Response	**45.27**	**454.1**	**12.15**	**4.29**
O	High Gas Reponse	**89.88**	**900.3**	**21.94**	**8.75**
P	AS MEASURED FLUE GAS CONCENTRATION	**34.13**	**584.83**	**11.85**	**7.57**

CALCULATIONS						FORMULA
	AVERAGE SYSTEM CALIBRATION					
Q	Zero Response	0.38	0.50	0.04	-0.02	(I+K)/2
R	Upscale Response	45.44	448.90	12.09	4.31	(J+L)/2
S	CORRECTED CONC.	34.05	591.37	11.78	7.58	E*(P-Q)/(R-Q)

QA/QC CALCULATIONS

CALIBRATION GAS SELECTION, % of Range					
Low Gas					C'*100/A
Mid Gas	45.5	45.4	48.0	43.2	C*100/A
High Gas	89.9	89.9	88.0	87.5	D*100/A
CALIBRATION ERROR, % of Range					
Initial Zero Gas Error	0.00	0.07	0.12	0.00	(F-B)*100/A
Initial Low Gas Error					(G'-C')*100/A
Initial Mid Gas Error	-0.05	0.06	0.44	0.60	(G-C)*100/A
Initial High Gas Error	0.01	-0.25	-0.20	0.11	(H-D)*100/A
Final Zero Gas Error	0.38	0.04	0.12	-0.20	(M-B)*100/A
Final Low Gas Error					(N'-C')*100/A
Final Mid Gas Error	-0.18	0.03	0.56	-0.30	(N-C)*100/A
Final High Gas Error	-0.03	0.13	-0.20	0.01	(O-D)*100/A
LINEARITY, % of Range					
Initial	-0.06	0.15	0.49	0.55	{(G-F)-[(H-F)*C]/D}*100/A
Final	-0.35	-0.06	0.61	-0.20	{(N-M)-[(O-M)*C]/D}*100/A
SAMPLING SYSTEM BIAS, % of Range					
Initial Zero Gas Bias	0.27	0.01	0.00	0.00	(I-F)*100/A
Initial Upscale Gas Bias	-0.02	-0.42	-0.04	-0.70	(J-G[or G', or H]*100/A
Final Zero Gas Bias	0.10	-0.02	0.04	-0.10	(K-M)*100/A
Final Upscale Gas Bias	0.23	-0.65	-0.36	0.10	(L-N[or N', or O]*100/A
CALIBRATION DRIFT, % of Range					
Zero	0.21	-0.06	0.04	-0.30	(K-I)*100/A
Upscale	0.12	-0.26	-0.20	-0.10	(L-J)*100/A

Almega ENVIRONMENTAL

Facility:	**OCSD, Plant No. 2**	Run No.:	**2**
City:	**Huntington Beach, CA**	Test Date:	**10/01/15**
Source:	**Engine 5**	Run Time:	**8:13-8:42**
Test:	**RATA**		

TEST DATA		Pollutant 1	Pollutant 2	Diluent 1	Diluent 2
VARIABLE	DESCRIPTION	NOx	CO	O2	CO2
A	ANALYTICAL RANGE	**100**	**1000**	**25**	**10**
	Unit of Measurement	**ppmd**	**ppmd**	**% dry**	**% dry**
	CALIBRATION GAS INFORMATION				
B	Zero Gas	**0.00**	**0.00**	**0.00**	**0.00**
C	Mid Gas Concentration	**45.45**	**453.8**	**12.01**	**4.32**
	Mid Gas Cylinder S/N:	XC019657B	CC39463	CC248731	CC248731
D	High Gas Concentration	**89.91**	**899**	**21.99**	**8.75**
	High Gas Cylinder S/N:	CC199782	CC259973	CC408131	CC408131
	Primary Gas Cylinder S/N:				
E	UPSCALE CALIBRATION GAS USED	**45.45**	**453.8**	**12.01**	**4.32**
	L=Low, M=Mid, H=High	**M**	**M**	**M**	**M**
	INITIAL CALIBRATION ERROR TEST				
F	Zero Gas Response	**0.00**	**0.70**	**0.03**	**0.00**
G	Mid Gas Response	**45.40**	**454.4**	**12.12**	**4.38**
H	High Gas Reponse	**89.92**	**896.5**	**21.94**	**8.76**
	INITIAL SYSTEM CALIBRATION CHECK				
I	Zero Gas Response	**0.27**	**0.80**	**0.03**	**0.00**
J	Upscale Gas Response	**45.38**	**450.2**	**12.11**	**4.31**
	FINAL SYSTEM CALIBRATION CHECK				
K	Zero Gas Response	**0.48**	**0.20**	**0.04**	**-0.03**
L	Upscale Gas Response	**45.50**	**447.6**	**12.06**	**4.30**
	FINAL CALIBRATION ERROR CHECK				
M	Zero Gas Response	**0.38**	**0.40**	**0.03**	**-0.02**
N	Mid Gas Response	**45.27**	**454.1**	**12.15**	**4.29**
O	High Gas Reponse	**89.88**	**900.3**	**21.94**	**8.75**
P	AS MEASURED FLUE GAS CONCENTRATION	**36.04**	**567.77**	**11.85**	**7.67**

CALCULATIONS						FORMULA
	AVERAGE SYSTEM CALIBRATION					
Q	Zero Response	0.38	0.50	0.04	-0.02	(I+K)/2
R	Upscale Response	45.44	448.90	12.09	4.31	(J+L)/2
S	CORRECTED CONC.	35.97	574.10	11.78	7.69	E*(P-Q)/(R-Q)

QA/QC CALCULATIONS

CALIBRATION GAS SELECTION, % of Range					
Mid Gas	45.5	45.4	48.0	43.2	C*100/A
High Gas	89.9	89.9	88.0	87.5	D*100/A
CALIBRATION ERROR, % of Range					
Initial Zero Gas Error	0.00	0.07	0.12	0.00	(F-B)*100/A
Initial Mid Gas Error	-0.05	0.06	0.44	0.60	(G-C)*100/A
Initial High Gas Error	0.01	-0.25	-0.20	0.11	(H-D)*100/A
Final Zero Gas Error	0.38	0.04	0.12	-0.20	(M-B)*100/A
Final Mid Gas Error	-0.18	0.03	0.56	-0.30	(N-C)*100/A
Final High Gas Error	-0.03	0.13	-0.20	0.01	(O-D)*100/A
LINEARITY, % of Range					
Initial	-0.06	0.15	0.49	0.55	{(G-F)-[(H-F)*C]/D}*100/A
Final	-0.35	-0.06	0.61	-0.20	{(N-M)-[(O-M)*C]/D}*100/A
SAMPLING SYSTEM BIAS, % of Range					
Initial Zero Gas Bias	0.27	0.01	0.00	0.00	(I-F)*100/A
Initial Upscale Gas Bias	-0.02	-0.42	-0.04	-0.70	(J-G[or G', or H]*100/A
Final Zero Gas Bias	0.10	-0.02	0.04	-0.10	(K-M)*100/A
Final Upscale Gas Bias	0.23	-0.65	-0.36	0.10	(L-N[or N', or O]*100/A
CALIBRATION DRIFT, % of Range					
Zero	0.21	-0.06	0.04	-0.30	(K-I)*100/A
Upscale	0.12	-0.26	-0.20	-0.10	(L-J)*100/A

Almega ENVIRONMENTAL

Facility:	**OCSD, Plant No. 2**	Run No.:	**3**
City:	**Huntington Beach, CA**	Test Date:	**10/01/15**
Source:	**Engine 5**	Run Time:	**8:43-9:12**
Test:	**RATA**		

TEST DATA		Pollutant 1	Pollutant 2	Diluent 1	Diluent 2
VARIABLE	DESCRIPTION	NOx	CO	O2	CO2
A	ANALYTICAL RANGE	**100**	**1000**	**25**	**10**
	Unit of Measurement	**ppmd**	**ppmd**	**% dry**	**% dry**
	CALIBRATION GAS INFORMATION				
B	Zero Gas	**0.00**	**0.00**	**0.00**	**0.00**
C	Mid Gas Concentration	**45.45**	**453.8**	**12.01**	**4.32**
	Mid Gas Cylinder S/N:	XC019657B	CC39463	CC248731	CC248731
D	High Gas Concentration	**89.91**	**899**	**21.99**	**8.75**
	High Gas Cylinder S/N:	CC199782	CC259973	CC408131	CC408131
	Primary Gas Cylinder S/N:				
E	UPSCALE CALIBRATION GAS USED	**45.45**	**453.8**	**12.01**	**4.32**
	L=Low, M=Mid, H=High	**M**	**M**	**M**	**M**
	INITIAL CALIBRATION ERROR TEST				
F	Zero Gas Response	**0.00**	**0.70**	**0.03**	**0.00**
G	Mid Gas Response	**45.40**	**454.4**	**12.12**	**4.38**
H	High Gas Reponse	**89.92**	**896.5**	**21.94**	**8.76**
	INITIAL SYSTEM CALIBRATION CHECK				
I	Zero Gas Response	**0.27**	**0.80**	**0.03**	**0.00**
J	Upscale Gas Response	**45.38**	**450.2**	**12.11**	**4.31**
	FINAL SYSTEM CALIBRATION CHECK				
K	Zero Gas Response	**0.48**	**0.20**	**0.04**	**-0.03**
L	Upscale Gas Response	**45.50**	**447.6**	**12.06**	**4.30**
	FINAL CALIBRATION ERROR CHECK				
M	Zero Gas Response	**0.38**	**0.40**	**0.03**	**-0.02**
N	Mid Gas Response	**45.27**	**454.1**	**12.15**	**4.29**
O	High Gas Reponse	**89.88**	**900.3**	**21.94**	**8.75**
P	AS MEASURED FLUE GAS CONCENTRATION	**36.54**	**573.90**	**11.93**	**7.64**

CALCULATIONS						FORMULA
	AVERAGE SYSTEM CALIBRATION					
Q	Zero Response	0.38	0.50	0.04	-0.02	(I+K)/2
R	Upscale Response	45.44	448.90	12.09	4.31	(J+L)/2
S	CORRECTED CONC.	36.47	580.31	11.86	7.66	E*(P-Q)/(R-Q)

QA/QC CALCULATIONS

CALIBRATION GAS SELECTION, % of Range					
Mid Gas	45.5	45.4	48.0	43.2	C*100/A
High Gas	89.9	89.9	88.0	87.5	D*100/A
CALIBRATION ERROR, % of Range					
Initial Zero Gas Error	0.00	0.07	0.12	0.00	(F-B)*100/A
Initial Mid Gas Error	-0.05	0.06	0.44	0.60	(G-C)*100/A
Initial High Gas Error	0.01	-0.25	-0.20	0.11	(H-D)*100/A
Final Zero Gas Error	0.38	0.04	0.12	-0.20	(M-B)*100/A
Final Mid Gas Error	-0.18	0.03	0.56	-0.30	(N-C)*100/A
Final High Gas Error	-0.03	0.13	-0.20	0.01	(O-D)*100/A
LINEARITY, % of Range					
Initial	-0.06	0.15	0.49	0.55	{(G-F)-[(H-F)*C]/D}*100/A
Final	-0.35	-0.06	0.61	-0.20	{(N-M)-[(O-M)*C]/D}*100/A
SAMPLING SYSTEM BIAS, % of Range					
Initial Zero Gas Bias	0.27	0.01	0.00	0.00	(I-F)*100/A
Initial Upscale Gas Bias	-0.02	-0.42	-0.04	-0.70	(J-G[or G', or H]*100/A
Final Zero Gas Bias	0.10	-0.02	0.04	-0.10	(K-M)*100/A
Final Upscale Gas Bias	0.23	-0.65	-0.36	0.10	(L-N[or N', or O]*100/A
CALIBRATION DRIFT, % of Range					
Zero	0.21	-0.06	0.04	-0.30	(K-I)*100/A
Upscale	0.12	-0.26	-0.20	-0.10	(L-J)*100/A

Almega ENVIRONMENTAL

Facility:	**OCSD, Plant No. 2**	Run No.:	**4**
City:	**Huntington Beach, CA**	Test Date:	**10/01/15**
Source:	**Engine 5**	Run Time:	**9:31-10:00**
Test:	**RATA**		

TEST DATA		Pollutant 1	Pollutant 2	Diluent 1	Diluent 2
VARIABLE	DESCRIPTION	NOx	CO	O2	CO2
A	ANALYTICAL RANGE	**100**	**1000**	**25**	**10**
	Unit of Measurement	**ppmd**	**ppmd**	**% dry**	**% dry**
	CALIBRATION GAS INFORMATION				
B	Zero Gas	**0.00**	**0.0**	**0.00**	**0.00**
C	Mid Gas Concentration	**45.45**	**453.8**	**12.01**	**4.32**
	Mid Gas Cylinder S/N:	XC019657B	CC39463	CC248731	CC248731
D	High Gas Concentration	**89.91**	**899**	**21.99**	**8.75**
	High Gas Cylinder S/N:	CC199782	CC259973	CC408131	CC408131
	Primary Gas Cylinder S/N:				
E	UPSCALE CALIBRATION GAS USED	**45.45**	**453.8**	**12.01**	**4.32**
	L=Low, M=Mid, H=High	**M**	**M**	**M**	**M**
	INITIAL CALIBRATION ERROR TEST				
F	Zero Gas Response	**0.00**	**0.70**	**0.03**	**0.00**
G	Mid Gas Response	**45.40**	**454.4**	**12.12**	**4.38**
H	High Gas Reponse	**89.92**	**896.5**	**21.94**	**8.76**
	INITIAL SYSTEM CALIBRATION CHECK				
I	Zero Gas Response	**0.48**	**0.20**	**0.04**	**-0.03**
J	Upscale Gas Response	**45.50**	**447.6**	**12.06**	**4.30**
	FINAL SYSTEM CALIBRATION CHECK				
K	Zero Gas Response	**0.48**	**1.00**	**0.09**	**0.05**
L	Upscale Gas Response	**45.50**	**444.8**	**12.14**	**4.12**
	FINAL CALIBRATION ERROR CHECK				
M	Zero Gas Response	**0.38**	**0.40**	**0.03**	**-0.02**
N	Mid Gas Response	**45.27**	**454.1**	**12.15**	**4.29**
O	High Gas Reponse	**89.88**	**900.3**	**21.94**	**8.75**
P	AS MEASURED FLUE GAS CONCENTRATION	**35.18**	**580.09**	**11.89**	**6.99**

CALCULATIONS						FORMULA
	AVERAGE SYSTEM CALIBRATION					
Q	Zero Response	0.48	0.60	0.07	0.01	(I+K)/2
R	Upscale Response	45.50	446.20	12.10	4.21	(J+L)/2
S	CORRECTED CONC.	35.03	590.16	11.80	7.18	E*(P-Q)/(R-Q)

QA/QC CALCULATIONS						
	CALIBRATION GAS SELECTION, % of Range					
	Low Gas					C'*100/A
	Mid Gas	45.5	45.4	48.0	43.2	C*100/A
	High Gas	89.9	89.9	88.0	87.5	D*100/A
	CALIBRATION ERROR, % of Range					
	Initial Zero Gas Error	0.00	0.07	0.12	0.00	(F-B)*100/A
	Initial Low Gas Error					(G'-C')*100/A
	Initial Mid Gas Error	-0.05	0.06	0.44	0.60	(G-C)*100/A
	Initial High Gas Error	0.01	-0.25	-0.20	0.11	(H-D)*100/A
	Final Zero Gas Error	0.38	0.04	0.12	-0.20	(M-B)*100/A
	Final Low Gas Error					(N'-C')*100/A
	Final Mid Gas Error	-0.18	0.03	0.56	-0.30	(N-C)*100/A
	Final High Gas Error	-0.03	0.13	-0.20	0.01	(O-D)*100/A
	LINEARITY, % of Range					
	Initial	-0.06	0.15	0.49	0.55	{(G-F)-[(H-F)*C]/D}*100/A
	Final	-0.35	-0.06	0.61	-0.20	{(N-M)-[(O-M)*C]/D}*100/A
	SAMPLING SYSTEM BIAS, % of Range					
	Initial Zero Gas Bias	0.48	-0.05	0.04	-0.30	(I-F)*100/A
	Initial Upscale Gas Bias	0.10	-0.68	-0.24	-0.80	(J-G[or G', or H]*100/A
	Final Zero Gas Bias	0.10	0.06	0.24	0.70	(K-M)*100/A
	Final Upscale Gas Bias	0.23	-0.93	-0.04	-1.70	(L-N[or N', or O]*100/A
	CALIBRATION DRIFT, % of Range					
	Zero	0.00	0.08	0.20	0.80	(K-I)*100/A
	Upscale	0.00	-0.28	0.32	-1.80	(L-J)*100/A

Almega ENVIRONMENTAL

Facility:	**OCSD, Plant No. 2**	Run No.:	**5**
City:	**Huntington Beach, CA**	Test Date:	**10/01/15**
Source:	**Engine 5**	Run Time:	**10:01-10:30**
Test:	**RATA**		

TEST DATA		Pollutant 1	Pollutant 2	Diluent 1	Diluent 2
VARIABLE	DESCRIPTION	NOx	CO	O2	CO2
A	ANALYTICAL RANGE	**100**	**1000**	**25**	**10**
	Unit of Measurement	**ppmd**	**ppmd**	**% dry**	**% dry**
	CALIBRATION GAS INFORMATION				
B	Zero Gas	**0.00**	**0.00**	**0.00**	**0.00**
C	Mid Gas Concentration	**45.45**	**453.8**	**12.01**	**4.32**
	Mid Gas Cylinder S/N:	XC019657B	CC39463	CC248731	CC248731
D	High Gas Concentration	**89.91**	**899**	**21.99**	**8.75**
	High Gas Cylinder S/N:	CC199782	CC259973	CC408131	CC408131
	Primary Gas Cylinder S/N:				
E	UPSCALE CALIBRATION GAS USED	**45.45**	**453.8**	**12.01**	**4.32**
	L=Low, M=Mid, H=High	**M**	**M**	**M**	**M**
	INITIAL CALIBRATION ERROR TEST				
F	Zero Gas Response	**0.00**	**0.70**	**0.03**	**0.00**
G	Mid Gas Response	**45.40**	**454.4**	**12.12**	**4.38**
H	High Gas Reponse	**89.92**	**896.5**	**21.94**	**8.76**
	INITIAL SYSTEM CALIBRATION CHECK				
I	Zero Gas Response	**0.48**	**0.20**	**0.04**	**-0.03**
J	Upscale Gas Response	**45.50**	**447.6**	**12.06**	**4.30**
	FINAL SYSTEM CALIBRATION CHECK				
K	Zero Gas Response	**0.48**	**1.00**	**0.09**	**0.05**
L	Upscale Gas Response	**45.50**	**444.8**	**12.14**	**4.12**
	FINAL CALIBRATION ERROR CHECK				
M	Zero Gas Response	**0.38**	**0.40**	**0.03**	**-0.02**
N	Mid Gas Response	**45.27**	**454.1**	**12.15**	**4.29**
O	High Gas Reponse	**89.88**	**900.3**	**21.94**	**8.75**
P	AS MEASURED FLUE GAS CONCENTRATION	**35.77**	**568.94**	**11.92**	**7.00**

CALCULATIONS						FORMULA
	AVERAGE SYSTEM CALIBRATION					
Q	Zero Response	0.48	0.60	0.07	0.01	(I+K)/2
R	Upscale Response	45.50	446.20	12.10	4.21	(J+L)/2
S	CORRECTED CONC.	35.63	578.80	11.83	7.19	E*(P-Q)/(R-Q)

QA/QC CALCULATIONS

CALIBRATION GAS SELECTION, % of Range					
Low Gas					C'*100/A
Mid Gas	45.5	45.4	48.0	43.2	C*100/A
High Gas	89.9	89.9	88.0	87.5	D*100/A
CALIBRATION ERROR, % of Range					
Initial Zero Gas Error	0.00	0.07	0.12	0.00	(F-B)*100/A
Initial Low Gas Error					(G'-C')*100/A
Initial Mid Gas Error	-0.05	0.06	0.44	0.60	(G-C)*100/A
Initial High Gas Error	0.01	-0.25	-0.20	0.11	(H-D)*100/A
Final Zero Gas Error	0.38	0.04	0.12	-0.20	(M-B)*100/A
Final Low Gas Error					(N'-C')*100/A
Final Mid Gas Error	-0.18	0.03	0.56	-0.30	(N-C)*100/A
Final High Gas Error	-0.03	0.13	-0.20	0.01	(O-D)*100/A
LINEARITY, % of Range					
Initial	-0.06	0.15	0.49	0.55	{(G-F)-[(H-F)*C]/D}*100/A
Final	-0.35	-0.06	0.61	-0.20	{(N-M)-[(O-M)*C]/D}*100/A
SAMPLING SYSTEM BIAS, % of Range					
Initial Zero Gas Bias	0.48	-0.05	0.04	-0.30	(I-F)*100/A
Initial Upscale Gas Bias	0.10	-0.68	-0.24	-0.80	(J-G[or G', or H]*100/A
Final Zero Gas Bias	0.10	0.06	0.24	0.70	(K-M)*100/A
Final Upscale Gas Bias	0.23	-0.93	-0.04	-1.70	(L-N[or N', or O]*100/A
CALIBRATION DRIFT, % of Range					
Zero	0.00	0.08	0.20	0.80	(K-I)*100/A
Upscale	0.00	-0.28	0.32	-1.80	(L-J)*100/A

Almega ENVIRONMENTAL

Facility:	**OCSD, Plant No. 2**	Run No.:	**6**
City:	**Huntington Beach, CA**	Test Date:	**10/01/15**
Source:	**Engine 5**	Run Time:	**10:31-11:00**
Test:	**RATA**		

TEST DATA		Pollutant 1	Pollutant 2	Diluent 1	Diluent 2
VARIABLE	DESCRIPTION	NOx	CO	O2	CO2
A	ANALYTICAL RANGE	**100**	**1000**	**25**	**10**
	Unit of Measurement	**ppmd**	**ppmd**	**% dry**	**% dry**
	CALIBRATION GAS INFORMATION				
B	Zero Gas	**0.00**	**0.00**	**0.00**	**0.00**
C	Mid Gas Concentration	**45.45**	**453.8**	**12.01**	**4.32**
	Mid Gas Cylinder S/N:	XC019657B	CC39463	CC248731	CC248731
D	High Gas Concentration	**89.91**	**899**	**21.99**	**8.75**
	High Gas Cylinder S/N:	CC199782	CC259973	CC408131	CC408131
	Primary Gas Cylinder S/N:				
E	UPSCALE CALIBRATION GAS USED	**45.45**	**453.8**	**12.01**	**4.32**
	L=Low, M=Mid, H=High	**M**	**M**	**M**	**M**
	INITIAL CALIBRATION ERROR TEST				
F	Zero Gas Response	**0.00**	**0.70**	**0.03**	**0.00**
G	Mid Gas Response	**45.40**	**454.4**	**12.12**	**4.38**
H	High Gas Reponse	**89.92**	**896.5**	**21.94**	**8.76**
	INITIAL SYSTEM CALIBRATION CHECK				
I	Zero Gas Response	**0.48**	**0.20**	**0.04**	**-0.03**
J	Upscale Gas Response	**45.50**	**447.6**	**12.06**	**4.30**
	FINAL SYSTEM CALIBRATION CHECK				
K	Zero Gas Response	**0.48**	**1.00**	**0.09**	**0.05**
L	Upscale Gas Response	**45.50**	**444.8**	**12.14**	**4.12**
	FINAL CALIBRATION ERROR CHECK				
M	Zero Gas Response	**0.38**	**0.40**	**0.03**	**-0.02**
N	Mid Gas Response	**45.27**	**454.1**	**12.15**	**4.29**
O	High Gas Reponse	**89.88**	**900.3**	**21.94**	**8.75**
P	AS MEASURED FLUE GAS CONCENTRATION	**36.00**	**571.03**	**11.99**	**6.95**

CALCULATIONS						FORMULA
	AVERAGE SYSTEM CALIBRATION					
Q	Zero Response	0.48	0.60	0.07	0.01	(I+K)/2
R	Upscale Response	45.50	446.20	12.10	4.21	(J+L)/2
S	CORRECTED CONC.	35.86	580.92	11.90	7.14	E*(P-Q)/(R-Q)

QA/QC CALCULATIONS

CALIBRATION GAS SELECTION, % of Range					
Low Gas					C'*100/A
Mid Gas	45.5	45.4	48.0	43.2	C*100/A
High Gas	89.9	89.9	88.0	87.5	D*100/A
CALIBRATION ERROR, % of Range					
Initial Zero Gas Error	0.00	0.07	0.12	0.00	(F-B)*100/A
Initial Mid Gas Error	-0.05	0.06	0.44	0.60	(G-C)*100/A
Initial High Gas Error	0.01	-0.25	-0.20	0.11	(H-D)*100/A
Final Zero Gas Error	0.38	0.04	0.12	-0.20	(M-B)*100/A
Final Mid Gas Error	-0.18	0.03	0.56	-0.30	(N-C)*100/A
Final High Gas Error	-0.03	0.13	-0.20	0.01	(O-D)*100/A
LINEARITY, % of Range					
Initial	-0.06	0.15	0.49	0.55	{(G-F)-[(H-F)*C]/D}*100/A
Final	-0.35	-0.06	0.61	-0.20	{(N-M)-[(O-M)*C]/D}*100/A
SAMPLING SYSTEM BIAS, % of Range					
Initial Zero Gas Bias	0.48	-0.05	0.04	-0.30	(I-F)*100/A
Initial Upscale Gas Bias	0.10	-0.68	-0.24	-0.80	(J-G[or G', or H]*100/A
Final Zero Gas Bias	0.10	0.06	0.24	0.70	(K-M)*100/A
Final Upscale Gas Bias	0.23	-0.93	-0.04	-1.70	(L-N[or N', or O]*100/A
CALIBRATION DRIFT, % of Range					
Zero	0.00	0.08	0.20	0.80	(K-I)*100/A
Upscale	0.00	-0.28	0.32	-1.80	(L-J)*100/A

Almega ENVIRONMENTAL

Facility:	**OCSD, Plant No. 2**	Run No.:	**7**
City:	**Huntington Beach, CA**	Test Date:	**10/01/15**
Source:	**Engine 5**	Run Time:	**11:16-11:45**
Test:	**RATA**		

TEST DATA		Pollutant 1	Pollutant 2	Diluent 1	Diluent 2
VARIABLE	DESCRIPTION	NOx	CO	O2	CO2
A	ANALYTICAL RANGE	**100**	**1000**	**25**	**10**
	Unit of Measurement	**ppmd**	**ppmd**	**% dry**	**% dry**
	CALIBRATION GAS INFORMATION				
B	Zero Gas	**0.00**	**0.00**	**0.00**	**0.00**
C	Mid Gas Concentration	**45.45**	**453.8**	**12.01**	**4.32**
	Mid Gas Cylinder S/N:	XC019657B	CC39463	CC248731	CC248731
D	High Gas Concentration	**89.91**	**899**	**21.99**	**8.75**
	High Gas Cylinder S/N:	CC199782	CC259973	CC408131	CC408131
	Primary Gas Cylinder S/N:				
E	UPSCALE CALIBRATION GAS USED	**45.45**	**453.8**	**12.01**	**4.32**
	L=Low, M=Mid, H=High	**M**	**M**	**M**	**M**
	INITIAL CALIBRATION ERROR TEST				
F	Zero Gas Response	**0.00**	**0.70**	**0.03**	**0.00**
G	Mid Gas Response	**45.40**	**454.4**	**12.12**	**4.38**
H	High Gas Reponse	**89.92**	**896.5**	**21.94**	**8.76**
	INITIAL SYSTEM CALIBRATION CHECK				
I	Zero Gas Response	**0.48**	**1.00**	**0.09**	**0.05**
J	Upscale Gas Response	**45.50**	**444.8**	**12.14**	**4.12**
	FINAL SYSTEM CALIBRATION CHECK				
K	Zero Gas Response	**0.42**	**0.60**	**0.03**	**-0.01**
L	Upscale Gas Response	**45.32**	**443.9**	**12.03**	**4.21**
	FINAL CALIBRATION ERROR CHECK				
M	Zero Gas Response	**0.38**	**0.40**	**0.03**	**-0.02**
N	Mid Gas Response	**45.27**	**454.1**	**12.15**	**4.29**
O	High Gas Reponse	**89.88**	**900.3**	**21.94**	**8.75**
P	AS MEASURED FLUE GAS CONCENTRATION	**36.43**	**566.77**	**11.82**	**7.06**

CALCULATIONS						FORMULA
	AVERAGE SYSTEM CALIBRATION					
Q	Zero Response	0.45	0.80	0.06	0.02	(I+K)/2
R	Upscale Response	45.41	444.35	12.09	4.17	(J+L)/2
S	CORRECTED CONC.	36.38	579.05	11.75	7.34	E*(P-Q)/(R-Q)

QA/QC CALCULATIONS

CALIBRATION GAS SELECTION, % of Range					
Low Gas					C'*100/A
Mid Gas	45.5	45.4	48.0	43.2	C*100/A
High Gas	89.9	89.9	88.0	87.5	D*100/A
CALIBRATION ERROR, % of Range					
Initial Zero Gas Error	0.00	0.07	0.12	0.00	(F-B)*100/A
Initial Low Gas Error					(G'-C')*100/A
Initial Mid Gas Error	-0.05	0.06	0.44	0.60	(G-C)*100/A
Initial High Gas Error	0.01	-0.25	-0.20	0.11	(H-D)*100/A
Final Zero Gas Error	0.38	0.04	0.12	-0.20	(M-B)*100/A
Final Low Gas Error					(N'-C')*100/A
Final Mid Gas Error	-0.18	0.03	0.56	-0.30	(N-C)*100/A
Final High Gas Error	-0.03	0.13	-0.20	0.01	(O-D)*100/A
LINEARITY, % of Range					
Initial	-0.06	0.15	0.49	0.55	{(G-F)-[(H-F)*C]/D}*100/A
Final	-0.35	-0.06	0.61	-0.20	{(N-M)-[(O-M)*C]/D}*100/A
SAMPLING SYSTEM BIAS, % of Range					
Initial Zero Gas Bias	0.48	0.03	0.24	0.50	(I-F)*100/A
Initial Upscale Gas Bias	0.10	-0.96	0.08	-2.60	(J-G[or G', or H]*100/A
Final Zero Gas Bias	0.04	0.02	0.00	0.10	(K-M)*100/A
Final Upscale Gas Bias	0.05	-1.02	-0.48	-0.80	(L-N[or N', or O]*100/A
CALIBRATION DRIFT, % of Range					
Zero	-0.06	-0.04	-0.24	-0.60	(K-I)*100/A
Upscale	-0.18	-0.09	-0.44	0.90	(L-J)*100/A

Almega ENVIRONMENTAL

Facility:	**OCSD, Plant No. 2**	Run No.:	**8**
City:	**Huntington Beach, CA**	Test Date:	**10/01/15**
Source:	**Engine 5**	Run Time:	**11:46-12:15**
Test:	**RATA**		

TEST DATA		Pollutant 1	Pollutant 2	Diluent 1	Diluent 2
VARIABLE	DESCRIPTION	NOx	CO	O2	CO2
A	ANALYTICAL RANGE	**100**	**1000**	**25**	**10**
	Unit of Measurement	**ppmd**	**ppmd**	**% dry**	**% dry**
	CALIBRATION GAS INFORMATION				
B	Zero Gas	**0.00**	**0.00**	**0.00**	**0.00**
C	Mid Gas Concentration	**45.45**	**453.8**	**12.01**	**4.32**
	Mid Gas Cylinder S/N:	XC019657B	CC39463	CC248731	CC248731
D	High Gas Concentration	**89.91**	**899**	**21.99**	**8.75**
	High Gas Cylinder S/N:	CC199782	CC259973	CC408131	CC408131
	Primary Gas Cylinder S/N:				
E	UPSCALE CALIBRATION GAS USED	**45.45**	**453.8**	**12.01**	**4.32**
	L=Low, M=Mid, H=High	**M**	**M**	**M**	**M**
	INITIAL CALIBRATION ERROR TEST				
F	Zero Gas Response	**0.00**	**0.70**	**0.03**	**0.00**
G	Mid Gas Response	**45.40**	**454.4**	**12.12**	**4.38**
H	High Gas Reponse	**89.92**	**896.5**	**21.94**	**8.76**
	INITIAL SYSTEM CALIBRATION CHECK				
I	Zero Gas Response	**0.48**	**1.00**	**0.09**	**0.05**
J	Upscale Gas Response	**45.50**	**444.8**	**12.14**	**4.12**
	FINAL SYSTEM CALIBRATION CHECK				
K	Zero Gas Response	**0.42**	**0.60**	**0.03**	**-0.01**
L	Upscale Gas Response	**45.32**	**443.9**	**12.03**	**4.21**
	FINAL CALIBRATION ERROR CHECK				
M	Zero Gas Response	**0.38**	**0.40**	**0.03**	**-0.02**
N	Mid Gas Response	**45.27**	**454.1**	**12.15**	**4.29**
O	High Gas Reponse	**89.88**	**900.3**	**21.94**	**8.75**
P	AS MEASURED FLUE GAS CONCENTRATION	**35.97**	**572.64**	**11.91**	**7.02**

CALCULATIONS						FORMULA
	AVERAGE SYSTEM CALIBRATION					
Q	Zero Response	0.45	0.80	0.06	0.02	(I+K)/2
R	Upscale Response	45.41	444.35	12.09	4.17	(J+L)/2
S	CORRECTED CONC.	35.90	585.05	11.83	7.30	E*(P-Q)/(R-Q)

QA/QC CALCULATIONS						
	CALIBRATION GAS SELECTION, % of Range					
	Mid Gas	45.5	45.4	48.0	43.2	C*100/A
	High Gas	89.9	89.9	88.0	87.5	D*100/A
	CALIBRATION ERROR, % of Range					
	Initial Zero Gas Error	0.00	0.07	0.12	0.00	(F-B)*100/A
	Initial Mid Gas Error	-0.05	0.06	0.44	0.60	(G-C)*100/A
	Initial High Gas Error	0.01	-0.25	-0.20	0.11	(H-D)*100/A
	Final Zero Gas Error	0.38	0.04	0.12	-0.20	(M-B)*100/A
	Final Mid Gas Error	-0.18	0.03	0.56	-0.30	(N-C)*100/A
	Final High Gas Error	-0.03	0.13	-0.20	0.01	(O-D)*100/A
	LINEARITY, % of Range					
	Initial	-0.06	0.15	0.49	0.55	{(G-F)-[(H-F)*C]/D}*100/A
	Final	-0.35	-0.06	0.61	-0.20	{(N-M)-[(O-M)*C]/D}*100/A
	SAMPLING SYSTEM BIAS, % of Range					
	Initial Zero Gas Bias	0.48	0.03	0.24	0.50	(I-F)*100/A
	Initial Upscale Gas Bias	0.10	-0.96	0.08	-2.60	(J-G[or G', or H]*100/A
	Final Zero Gas Bias	0.04	0.02	0.00	0.10	(K-M)*100/A
	Final Upscale Gas Bias	0.05	-1.02	-0.48	-0.80	(L-N[or N', or O]*100/A
	CALIBRATION DRIFT, % of Range					
	Zero	-0.06	-0.04	-0.24	-0.60	(K-I)*100/A
	Upscale	-0.18	-0.09	-0.44	0.90	(L-J)*100/A

Almega ENVIRONMENTAL

Facility:	**OCSD, Plant No. 2**	Run No.:	**9**
City:	**Huntington Beach, CA**	Test Date:	**10/01/15**
Source:	**Engine 5**	Run Time:	**12:16-12:45**
Test:	**RATA**		

TEST DATA

VARIABLE	DESCRIPTION	Pollutant 1 NOx	Pollutant 2 CO	Diluent 1 O2	Diluent 2 CO2
A	ANALYTICAL RANGE	**100**	**1000**	**25**	**10**
	Unit of Measurement	**ppmd**	**ppmd**	**% dry**	**% dry**
	CALIBRATION GAS INFORMATION				
B	Zero Gas	**0.00**	**0.00**	**0.00**	**0.00**
C	Mid Gas Concentration	**45.45**	**453.8**	**12.01**	**4.32**
	Mid Gas Cylinder S/N:	XC019657B	CC39463	CC248731	CC248731
D	High Gas Concentration	**89.91**	**899**	**21.99**	**8.75**
	High Gas Cylinder S/N:	CC199782	CC259973	CC408131	CC408131
	Primary Gas Cylinder S/N:				
E	UPSCALE CALIBRATION GAS USED	**45.45**	**453.8**	**12.01**	**4.32**
	L=Low, M=Mid, H=High	**M**	**M**	**M**	**M**
	INITIAL CALIBRATION ERROR TEST				
F	Zero Gas Response	**0.00**	**0.70**	**0.03**	**0.00**
G	Mid Gas Response	**45.40**	**454.4**	**12.12**	**4.38**
H	High Gas Reponse	**89.92**	**896.5**	**21.94**	**8.76**
	INITIAL SYSTEM CALIBRATION CHECK				
I	Zero Gas Response	**0.48**	**1.00**	**0.09**	**0.05**
J	Upscale Gas Response	**45.50**	**444.8**	**12.14**	**4.12**
	FINAL SYSTEM CALIBRATION CHECK				
K	Zero Gas Response	**0.42**	**0.60**	**0.03**	**-0.01**
L	Upscale Gas Response	**45.32**	**443.9**	**12.03**	**4.21**
	FINAL CALIBRATION ERROR CHECK				
M	Zero Gas Response	**0.38**	**0.40**	**0.03**	**-0.02**
N	Mid Gas Response	**45.27**	**454.1**	**12.15**	**4.29**
O	High Gas Reponse	**89.88**	**900.3**	**21.94**	**8.75**
P	AS MEASURED FLUE GAS CONCENTRATION	**36.60**	**561.82**	**11.88**	**7.03**

CALCULATIONS

						FORMULA
	AVERAGE SYSTEM CALIBRATION					
Q	Zero Response	0.45	0.80	0.06	0.02	(I+K)/2
R	Upscale Response	45.41	444.35	12.09	4.17	(J+L)/2
S	CORRECTED CONC.	36.55	573.98	11.81	7.31	E*(P-Q)/(R-Q)

QA/QC CALCULATIONS

CALIBRATION GAS SELECTION, % of Range					
Low Gas					C'*100/A
Mid Gas	45.5	45.4	48.0	43.2	C*100/A
High Gas	89.9	89.9	88.0	87.5	D*100/A
CALIBRATION ERROR, % of Range					
Initial Zero Gas Error	0.00	0.07	0.12	0.00	(F-B)*100/A
Initial Low Gas Error					(G'-C')*100/A
Initial Mid Gas Error	-0.05	0.06	0.44	0.60	(G-C)*100/A
Initial High Gas Error	0.01	-0.25	-0.20	0.11	(H-D)*100/A
Final Zero Gas Error	0.38	0.04	0.12	-0.20	(M-B)*100/A
Final Low Gas Error					(N'-C')*100/A
Final Mid Gas Error	-0.18	0.03	0.56	-0.30	(N-C)*100/A
Final High Gas Error	-0.03	0.13	-0.20	0.01	(O-D)*100/A
LINEARITY, % of Range					
Initial	-0.06	0.15	0.49	0.55	{(G-F)-[(H-F)*C]/D}*100/A
Final	-0.35	-0.06	0.61	-0.20	{(N-M)-[(O-M)*C]/D}*100/A
SAMPLING SYSTEM BIAS, % of Range					
Initial Zero Gas Bias	0.48	0.03	0.24	0.50	(I-F)*100/A
Initial Upscale Gas Bias	0.10	-0.96	0.08	-2.60	(J-G[or G', or H]*100/A
Final Zero Gas Bias	0.04	0.02	0.00	0.10	(K-M)*100/A
Final Upscale Gas Bias	0.05	-1.02	-0.48	-0.80	(L-N[or N', or O]*100/A
CALIBRATION DRIFT, % of Range					
Zero	-0.06	-0.04	-0.24	-0.60	(K-I)*100/A
Upscale	-0.18	-0.09	-0.44	0.90	(L-J)*100/A

AETS CEMS Data -- Run-by-Run Basis

	RUN 1.0				
	Time	NOx	CO	O2	CO2
#	AVG	34.13	584.83	11.85	7.57
1	7:43:03	33.09	594.80	11.80	7.44
2	7:44:03	34.06	586.60	11.76	7.50
3	7:45:03	33.31	593.90	11.81	7.50
4	7:46:03	33.21	590.20	11.82	7.50
5	7:47:03	33.19	598.90	11.85	7.51
6	7:48:03	34.06	583.50	11.84	7.52
7	7:49:03	33.03	592.70	11.89	7.51
8	7:50:03	32.73	608.30	11.91	7.45
9	7:51:03	33.41	592.00	11.80	7.57
10	7:52:03	33.43	582.50	11.88	7.55
11	7:53:03	33.47	592.00	11.82	7.55
12	7:54:03	34.01	586.30	11.81	7.59
13	7:55:03	33.60	588.40	11.91	7.55
14	7:56:03	33.56	585.70	11.90	7.54
15	7:57:03	34.86	585.70	11.85	7.56
16	7:58:03	34.62	572.30	11.87	7.58
17	7:59:03	34.15	596.30	11.94	7.53
18	8:00:03	34.58	585.30	11.92	7.54
19	8:01:03	34.21	580.80	11.95	7.54
20	8:02:03	34.64	584.60	11.88	7.56
21	8:03:03	33.99	588.70	11.93	7.58
22	8:04:03	33.51	604.70	11.94	7.54
23	8:05:03	34.66	589.30	11.86	7.61
24	8:06:03	34.51	580.10	11.85	7.63
25	8:07:03	34.32	587.30	11.91	7.59
26	8:08:03	35.76	573.00	11.77	7.66
27	8:09:03	35.47	565.40	11.77	7.68
28	8:10:03	35.62	559.50	11.76	7.70
29	8:11:03	35.17	560.70	11.77	7.70
30	8:12:03	35.77	555.40	11.75	7.71

	RUN 2.0				
	Time	NOx	CO	O2	CO2
#	AVG	36.04	567.77	11.85	7.67
1	8:13:03	36.35	555.80	11.69	7.74
2	8:14:03	36.10	553.60	11.72	7.76
3	8:15:03	36.34	556.80	11.74	7.75
4	8:16:03	36.75	547.20	11.73	7.75
5	8:17:03	36.38	550.10	11.72	7.75
6	8:18:03	37.00	550.80	11.73	7.75
7	8:19:03	36.66	551.60	11.77	7.75
8	8:20:03	35.73	565.40	11.86	7.66
9	8:21:03	35.50	573.00	11.88	7.66
10	8:22:03	36.39	566.90	11.81	7.66
11	8:23:03	36.61	554.50	11.82	7.67
12	8:24:03	35.34	566.90	11.86	7.67
13	8:25:03	35.45	573.50	11.83	7.67
14	8:26:03	35.32	572.20	11.86	7.67
15	8:27:03	35.21	581.10	11.90	7.66
16	8:28:03	36.11	566.40	11.85	7.67
17	8:29:03	35.78	562.70	11.90	7.65
18	8:30:03	36.73	560.90	11.75	7.71
19	8:31:03	36.44	564.80	11.79	7.73
20	8:32:03	35.77	570.70	11.89	7.70
21	8:33:03	36.29	569.20	11.84	7.67
22	8:34:03	35.96	574.30	11.90	7.67
23	8:35:03	35.94	574.90	11.94	7.65
24	8:36:03	36.57	573.10	11.93	7.65
25	8:37:03	35.86	573.30	12.01	7.60
26	8:38:03	35.80	580.60	11.99	7.56
27	8:39:03	35.45	583.20	12.03	7.57
28	8:40:03	36.66	581.20	11.88	7.64
29	8:41:03	35.72	577.30	11.96	7.63
30	8:42:03	35.03	601.10	12.01	7.57

AETS CEMS Data -- Run-by-Run Basis

	RUN 3.0					RUN 4.0				
	Time	NOx	CO	O2	CO2	Time	NOx	CO	O2	CO2
#	AVG	36.54	573.90	11.93	7.64	AVG	35.18	580.09	11.89	6.99
1	8:43:03	35.96	589.80	11.93	7.61	9:31:03	37.86	564.00	11.62	7.03
2	8:44:03	36.64	571.90	11.91	7.65	9:32:03	37.07	568.60	11.72	7.05
3	8:45:03	36.04	576.20	11.97	7.63	9:33:03	36.43	577.80	11.76	7.05
4	8:46:03	36.17	578.90	11.94	7.63	9:34:03	35.88	583.40	11.84	7.04
5	8:47:03	36.58	580.40	11.90	7.62	9:35:03	35.56	580.40	11.92	6.99
6	8:48:03	36.88	565.70	11.92	7.63	9:36:03	35.73	578.50	11.87	7.00
7	8:49:03	37.16	566.80	11.90	7.65	9:37:03	34.96	585.80	11.99	6.95
8	8:50:03	36.60	575.40	11.97	7.64	9:38:03	34.70	582.30	12.01	6.91
9	8:51:03	36.41	577.50	11.96	7.62	9:39:03	35.00	583.20	11.94	6.92
10	8:52:03	35.87	583.60	12.00	7.61	9:40:03	35.43	583.00	11.86	6.99
11	8:53:03	36.25	580.20	11.97	7.61	9:41:03	35.43	575.30	11.92	6.99
12	8:54:03	36.12	572.60	11.99	7.61	9:42:03	34.93	576.20	12.00	6.94
13	8:55:03	36.37	572.10	12.02	7.59	9:43:03	35.01	584.60	11.85	6.98
14	8:56:03	36.79	566.90	11.94	7.60	9:44:03	35.11	583.20	11.87	7.00
15	8:57:03	38.02	564.90	11.87	7.66	9:45:03	35.36	583.10	11.86	7.00
16	8:58:03	37.07	558.90	11.95	7.66	9:46:03	35.27	572.80	11.94	6.99
17	8:59:03	36.83	567.10	11.92	7.64	9:47:03	34.84	572.10	11.94	6.97
18	9:00:03	36.62	570.00	11.93	7.65	9:48:03	35.06	586.30	11.92	6.97
19	9:01:03	36.27	571.70	11.93	7.64	9:49:03	34.62	573.70	11.98	6.96
20	9:02:03	36.38	582.20	11.94	7.64	9:50:03	34.20	588.70	11.96	6.92
21	9:03:03	36.04	583.80	11.98	7.64	9:51:03	35.56	588.80	11.78	7.04
22	9:04:03	35.90	581.50	11.94	7.64	9:52:03	35.52	578.00	11.80	7.07
23	9:05:03	36.26	581.20	11.89	7.67	9:53:03	34.66	583.30	11.91	7.03
24	9:06:03	36.65	578.30	11.86	7.68	9:54:03	35.21	575.50	11.86	7.03
25	9:07:03	36.62	569.90	11.88	7.69	9:55:03	34.17	572.00	11.99	6.96
26	9:08:03	36.68	566.00	11.91	7.69	9:56:03	33.58	599.00	11.99	6.92
27	9:09:03	37.15	567.10	11.87	7.67	9:57:03	34.34	580.20	11.93	6.97
28	9:10:03	36.98	563.30	11.88	7.68	9:58:03	34.33	582.80	11.95	6.97
29	9:11:03	36.74	569.20	11.91	7.69	9:59:03	34.63	581.40	11.89	6.97
30	9:12:03	36.07	583.90	11.92	7.66	10:00:03	34.99	578.80	11.90	6.99

AETS CEMS Data -- Run-by-Run Basis

	RUN 5.0					RUN 6.0				
	Time	NOx	CO	O2	CO2	Time	NOx	CO	O2	CO2
#	AVG	35.77	568.94	11.92	7.00	AVG	36.00	571.03	11.99	6.95
1	10:01:03	34.51	573.90	11.95	6.98	10:31:03	35.60	567.80	11.92	6.97
2	10:02:03	34.88	572.50	11.92	6.97	10:32:03	36.81	561.10	11.92	7.00
3	10:03:03	34.93	569.70	11.89	7.01	10:33:03	36.34	552.90	11.97	6.96
4	10:04:03	34.62	577.70	11.98	6.99	10:34:03	36.36	569.90	11.94	6.97
5	10:05:03	34.78	578.70	11.95	6.98	10:35:03	36.31	561.30	12.00	6.97
6	10:06:03	35.39	580.90	11.89	6.98	10:36:03	36.52	563.00	11.93	7.00
7	10:07:03	35.00	574.70	11.89	6.99	10:37:03	35.86	568.40	11.97	6.99
8	10:08:03	34.85	580.20	11.87	7.00	10:38:03	35.79	573.50	12.00	6.95
9	10:09:03	35.08	578.00	11.91	7.01	10:39:03	36.23	565.70	11.99	6.95
10	10:10:03	36.08	573.60	11.91	6.98	10:40:03	35.56	568.30	12.11	6.89
11	10:11:03	37.35	543.80	11.87	7.02	10:41:03	36.35	574.00	11.98	6.92
12	10:12:03	37.32	554.40	11.79	7.04	10:42:03	36.52	572.40	11.92	6.99
13	10:13:03	36.61	566.50	11.86	7.05	10:43:03	36.10	577.60	11.97	6.99
14	10:14:03	36.16	569.40	11.86	7.05	10:44:03	35.43	579.20	12.06	6.92
15	10:15:03	35.95	573.40	11.89	7.05	10:45:03	35.71	579.90	12.03	6.92
16	10:16:03	36.03	567.00	11.96	6.99	10:46:03	35.43	574.60	12.05	6.89
17	10:17:03	36.25	567.40	11.90	6.99	10:47:03	35.45	582.30	12.01	6.93
18	10:18:03	35.71	571.60	11.92	7.00	10:48:03	35.30	586.20	12.01	6.94
19	10:19:03	35.88	568.10	11.94	7.00	10:49:03	36.01	578.90	11.99	6.96
20	10:20:03	35.66	568.30	11.96	6.96	10:50:03	36.58	572.30	11.97	6.96
21	10:21:03	36.65	564.80	11.83	7.04	10:51:03	35.30	574.90	12.12	6.85
22	10:22:03	36.32	569.90	11.86	7.07	10:52:03	36.10	572.70	12.00	6.91
23	10:23:03	36.12	566.90	11.92	7.03	10:53:03	36.04	575.70	11.97	6.93
24	10:24:03	35.76	573.10	11.92	7.02	10:54:03	36.46	567.20	12.01	6.93
25	10:25:03	35.63	564.50	12.04	6.97	10:55:03	36.87	565.00	11.97	6.97
26	10:26:03	35.86	562.00	11.99	6.94	10:56:03	35.79	568.50	12.01	6.91
27	10:27:03	36.36	562.80	11.93	6.99	10:57:03	35.89	572.00	11.97	6.97
28	10:28:03	35.96	559.50	11.97	6.99	10:58:03	36.20	567.60	11.92	6.99
29	10:29:03	35.75	569.40	11.98	6.99	10:59:03	35.55	567.30	12.04	6.94
30	10:30:03	35.76	565.50	12.00	6.93	11:00:03	35.64	570.60	11.98	6.94

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AETS CEMS Data -- Run-by-Run Basis

	RUN 7.0				
	Time	NOx	CO	O2	CO2
#	AVG	36.43	566.77	11.82	7.06
1	11:16:03	36.15	575.20	11.67	7.03
2	11:17:03	35.71	581.30	11.73	7.03
3	11:18:03	36.29	574.50	11.72	7.07
4	11:19:03	35.91	565.70	11.78	7.07
5	11:20:03	35.78	572.10	11.79	7.07
6	11:21:03	36.74	564.60	11.74	7.08
7	11:22:03	36.71	560.00	11.77	7.10
8	11:23:03	36.68	564.90	11.77	7.10
9	11:24:03	37.16	554.60	11.79	7.07
10	11:25:03	37.56	551.70	11.76	7.08
11	11:26:03	36.84	558.70	11.76	7.09
12	11:27:03	36.06	564.00	11.84	7.08
13	11:28:03	36.52	564.70	11.82	7.06
14	11:29:03	36.28	560.00	11.91	7.03
15	11:30:03	36.37	567.20	11.83	7.03
16	11:31:03	36.69	562.30	11.83	7.05
17	11:32:03	36.29	569.70	11.85	7.05
18	11:33:03	37.09	561.90	11.84	7.05
19	11:34:03	36.60	562.40	11.90	7.03
20	11:35:03	36.01	566.30	11.89	7.04
21	11:36:03	36.50	574.80	11.82	7.05
22	11:37:03	36.04	566.40	11.92	7.04
23	11:38:03	36.19	571.70	11.84	7.05
24	11:39:03	36.25	568.10	11.82	7.08
25	11:40:03	35.82	574.40	11.94	7.05
26	11:41:03	36.71	567.10	11.83	7.07
27	11:42:03	36.66	565.30	11.89	7.06
28	11:43:03	36.56	565.10	11.88	7.04
29	11:44:03	36.27	572.40	11.82	7.08
30	11:45:03	36.58	576.00	11.85	7.08

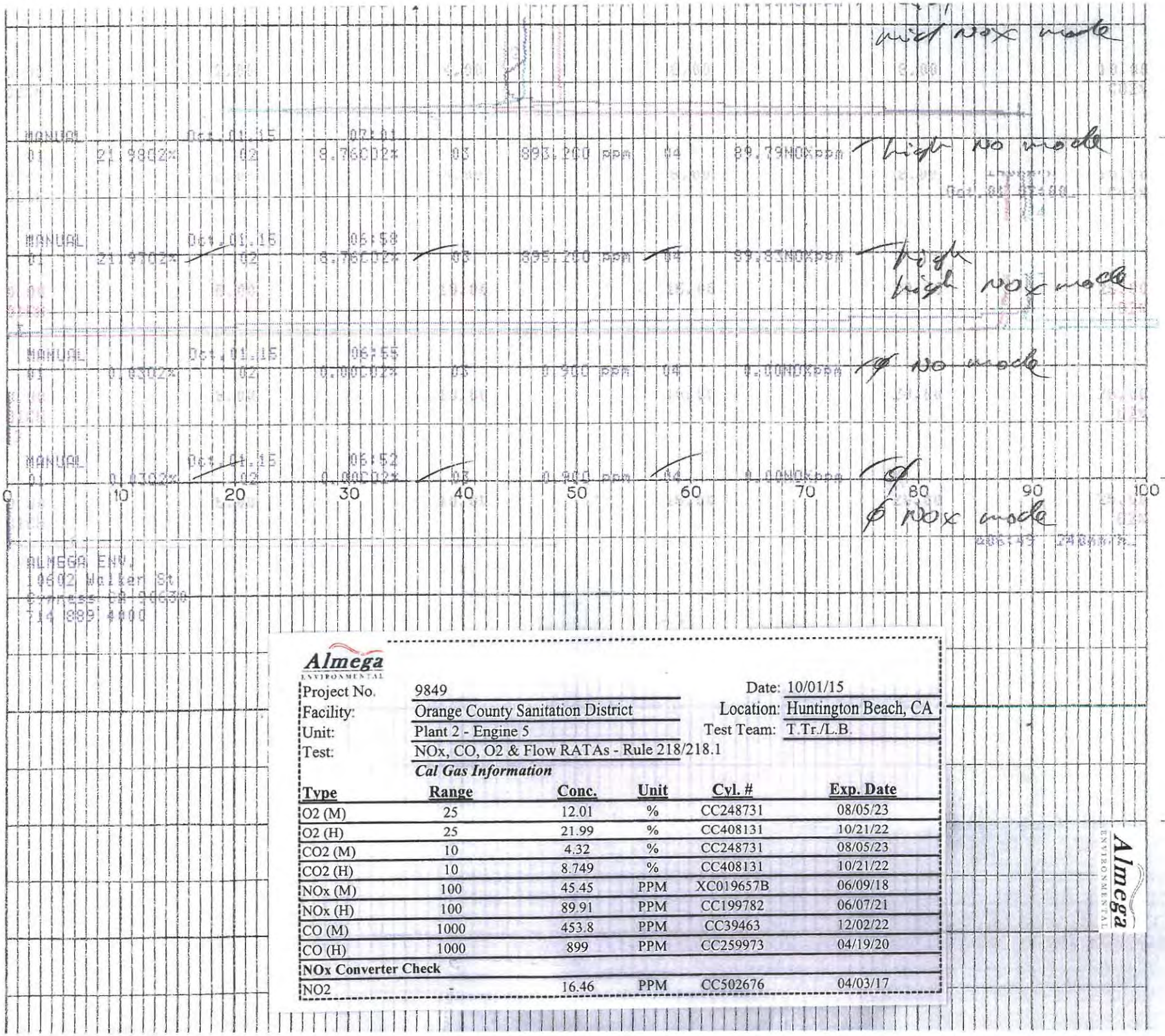
	RUN 8.0				
	Time	NOx	CO	O2	CO2
#	AVG	35.97	572.64	11.91	7.02
1	11:46:03	35.94	570.20	11.93	7.04
2	11:47:03	36.03	577.30	11.92	7.00
3	11:48:03	36.10	579.20	11.94	7.00
4	11:49:03	35.62	574.70	11.94	7.00
5	11:50:03	36.64	573.20	11.87	7.06
6	11:51:03	35.91	571.70	11.94	7.02
7	11:52:03	36.16	577.50	11.91	7.02
8	11:53:03	36.04	566.40	11.93	7.01
9	11:54:03	35.90	570.70	11.91	7.01
10	11:55:03	36.66	567.00	11.83	7.05
11	11:56:03	36.32	559.30	11.89	7.04
12	11:57:03	35.88	570.50	11.86	7.03
13	11:58:03	36.41	569.60	11.83	7.05
14	11:59:03	35.59	570.90	11.96	7.00
15	12:00:03	35.32	575.70	11.95	6.99
16	12:01:03	34.90	582.20	11.96	6.99
17	12:02:03	35.49	581.30	11.91	7.00
18	12:03:03	35.36	577.00	11.96	7.02
19	12:04:03	35.96	569.20	11.90	7.02
20	12:05:03	35.90	570.30	11.88	7.05
21	12:06:03	35.36	580.10	11.96	7.01
22	12:07:03	36.12	572.80	11.88	7.03
23	12:08:03	36.84	567.60	11.81	7.06
24	12:09:03	36.15	560.60	11.95	7.04
25	12:10:03	35.97	582.10	11.91	7.01
26	12:11:03	36.17	576.50	11.90	7.03
27	12:12:03	36.00	577.20	11.87	7.03
28	12:13:03	36.16	566.90	11.91	7.04
29	12:14:03	35.89	571.60	11.90	7.02
30	12:15:03	36.18	569.90	11.88	7.03

AETS CEMS Data -- Run-by-Run Basis

	RUN 9.0				
	Time	NOx	CO	O2	CO2
#	AVG	36.60	561.82	11.88	7.03
1	12:16:03	36.59	563.60	11.87	7.05
2	12:17:03	36.84	566.70	11.83	7.05
3	12:18:03	35.36	577.60	12.00	6.95
4	12:19:03	36.30	577.20	11.88	7.03
5	12:20:03	35.65	574.80	11.99	6.95
6	12:21:03	36.01	568.20	11.94	7.00
7	12:22:03	36.42	569.90	11.84	7.04
8	12:23:03	35.85	569.20	11.89	7.05
9	12:24:03	35.24	577.50	11.96	7.03
10	12:25:03	35.75	578.10	11.94	7.00
11	12:26:03	35.55	570.60	11.96	7.00
12	12:27:03	36.80	568.50	11.85	7.05
13	12:28:03	36.89	549.50	11.85	7.08
14	12:29:03	36.91	553.50	11.81	7.08
15	12:30:03	37.31	552.60	11.79	7.08
16	12:31:03	36.88	553.80	11.81	7.08
17	12:32:03	36.76	552.90	11.92	7.04
18	12:33:03	36.38	557.10	11.89	7.04
19	12:34:03	35.92	568.50	11.98	7.00
20	12:35:03	36.58	563.80	11.90	7.04
21	12:36:03	36.74	561.90	11.84	7.03
22	12:37:03	36.99	558.20	11.87	7.03
23	12:38:03	38.00	545.70	11.77	7.10
24	12:39:03	37.41	551.70	11.82	7.09
25	12:40:03	36.99	552.10	11.90	7.03
26	12:41:03	36.87	552.20	11.89	7.00
27	12:42:03	37.65	553.30	11.85	7.02
28	12:43:03	37.36	548.60	11.85	7.03
29	12:44:03	36.98	555.60	11.87	7.04
30	12:45:03	37.10	561.60	11.85	7.03

Appendix D2

CEMS – Strip Chart



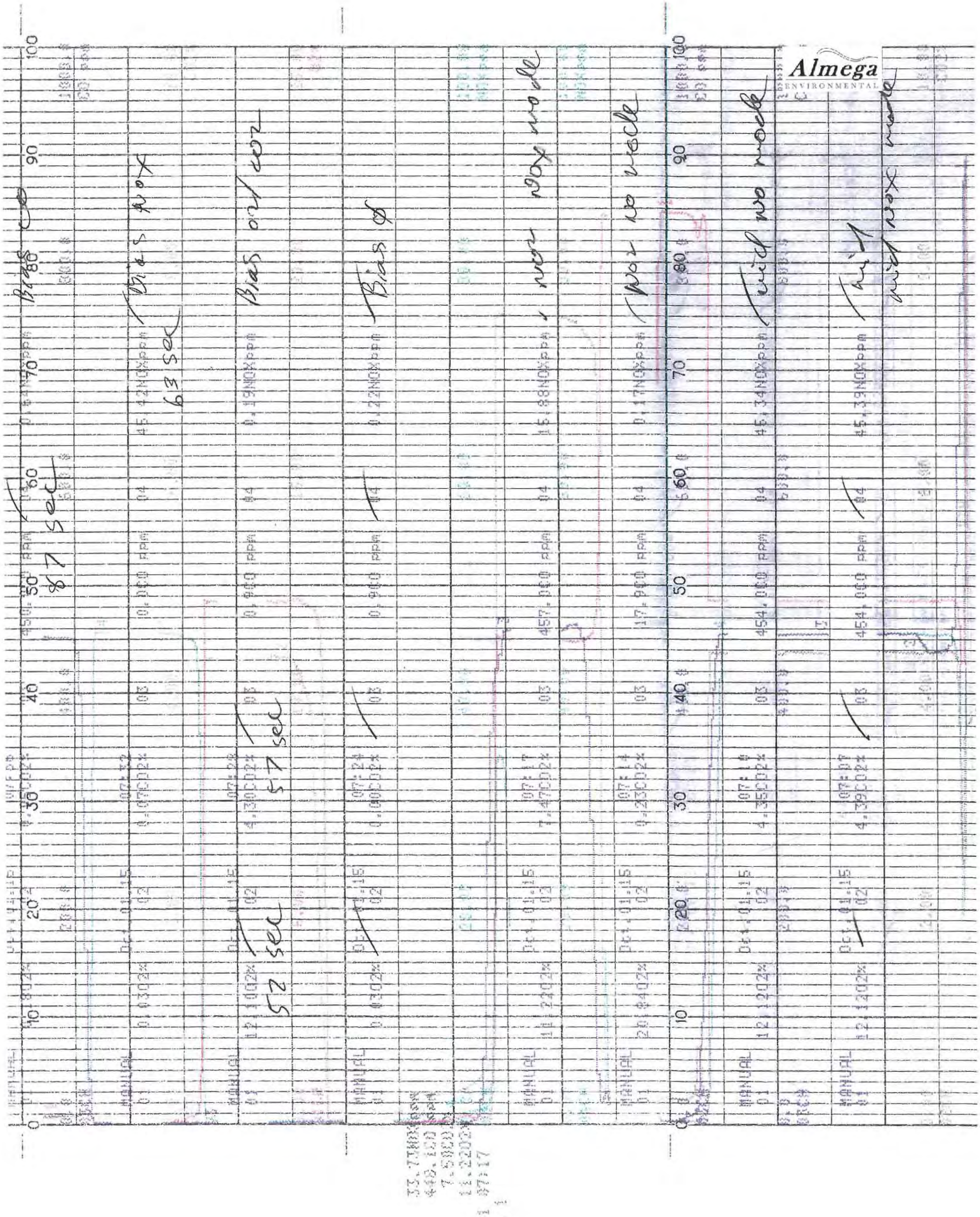
Almega ENVIRONMENTAL

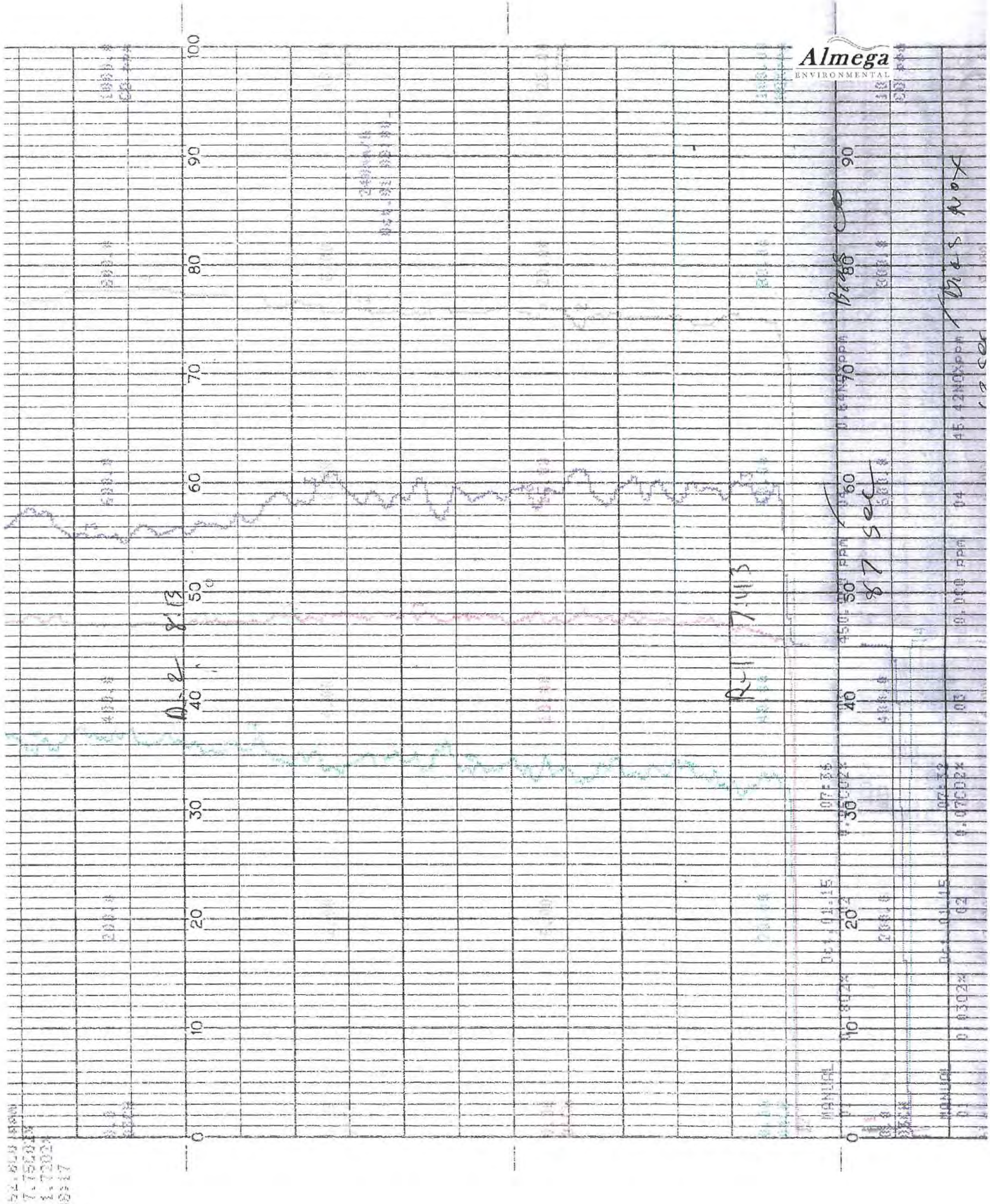
Project No.	9849	Date:	10/01/15
Facility:	Orange County Sanitation District	Location:	Huntington Beach, CA
Unit:	Plant 2 - Engine 5	Test Team:	T.Tr./L.B.
Test:	NOx, CO, O2 & Flow RATAs - Rule 218/218.1		

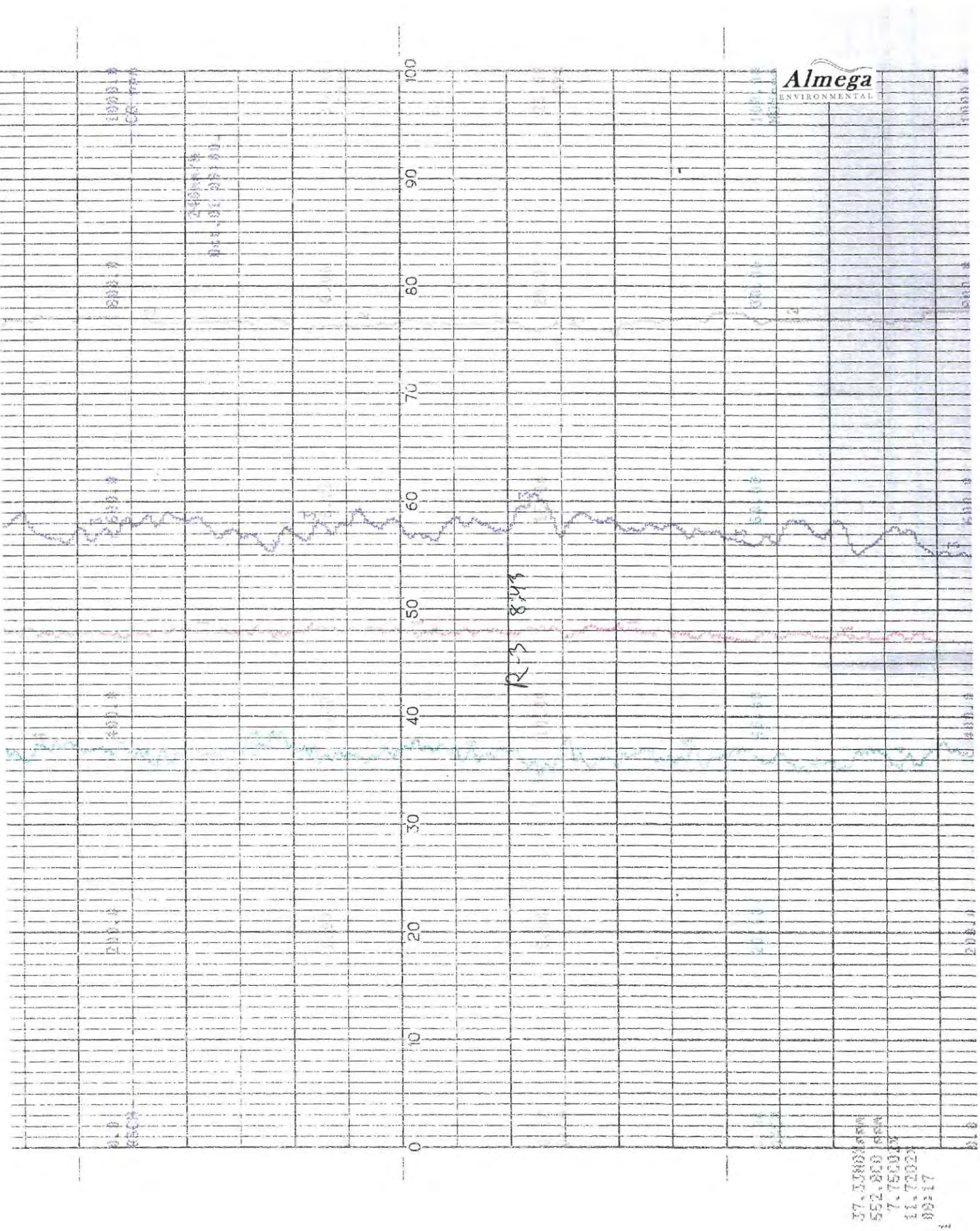
Cal Gas Information

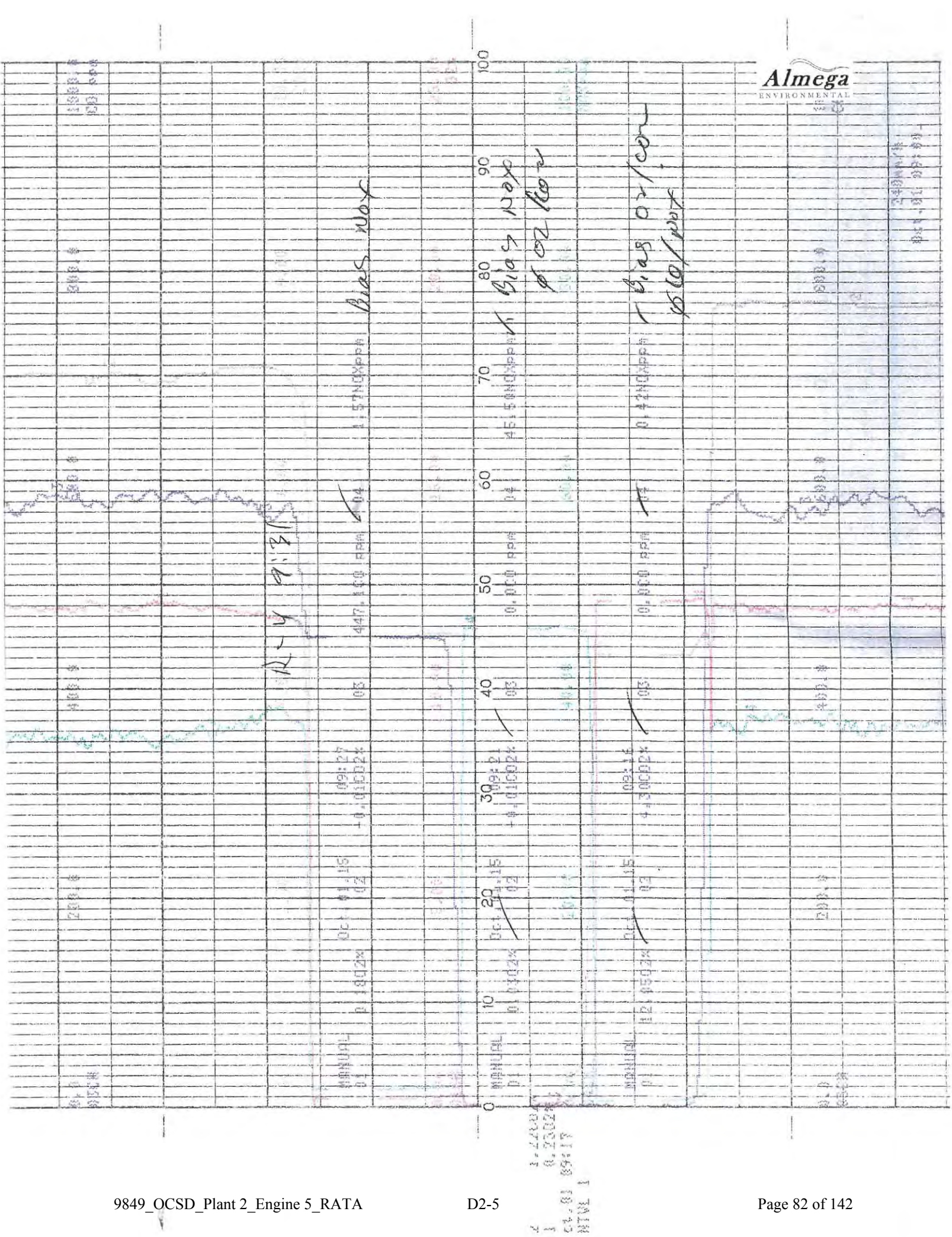
Type	Range	Conc.	Unit	Cyl. #	Exp. Date
O2 (M)	25	12.01	%	CC248731	08/05/23
O2 (H)	25	21.99	%	CC408131	10/21/22
CO2 (M)	10	4.32	%	CC248731	08/05/23
CO2 (H)	10	8.749	%	CC408131	10/21/22
NOx (M)	100	45.45	PPM	XC019657B	06/09/18
NOx (H)	100	89.91	PPM	CC199782	06/07/21
CO (M)	1000	453.8	PPM	CC39463	12/02/22
CO (H)	1000	899	PPM	CC259973	04/19/20
NOx Converter Check					
NO2	-	16.46	PPM	CC502676	04/03/17

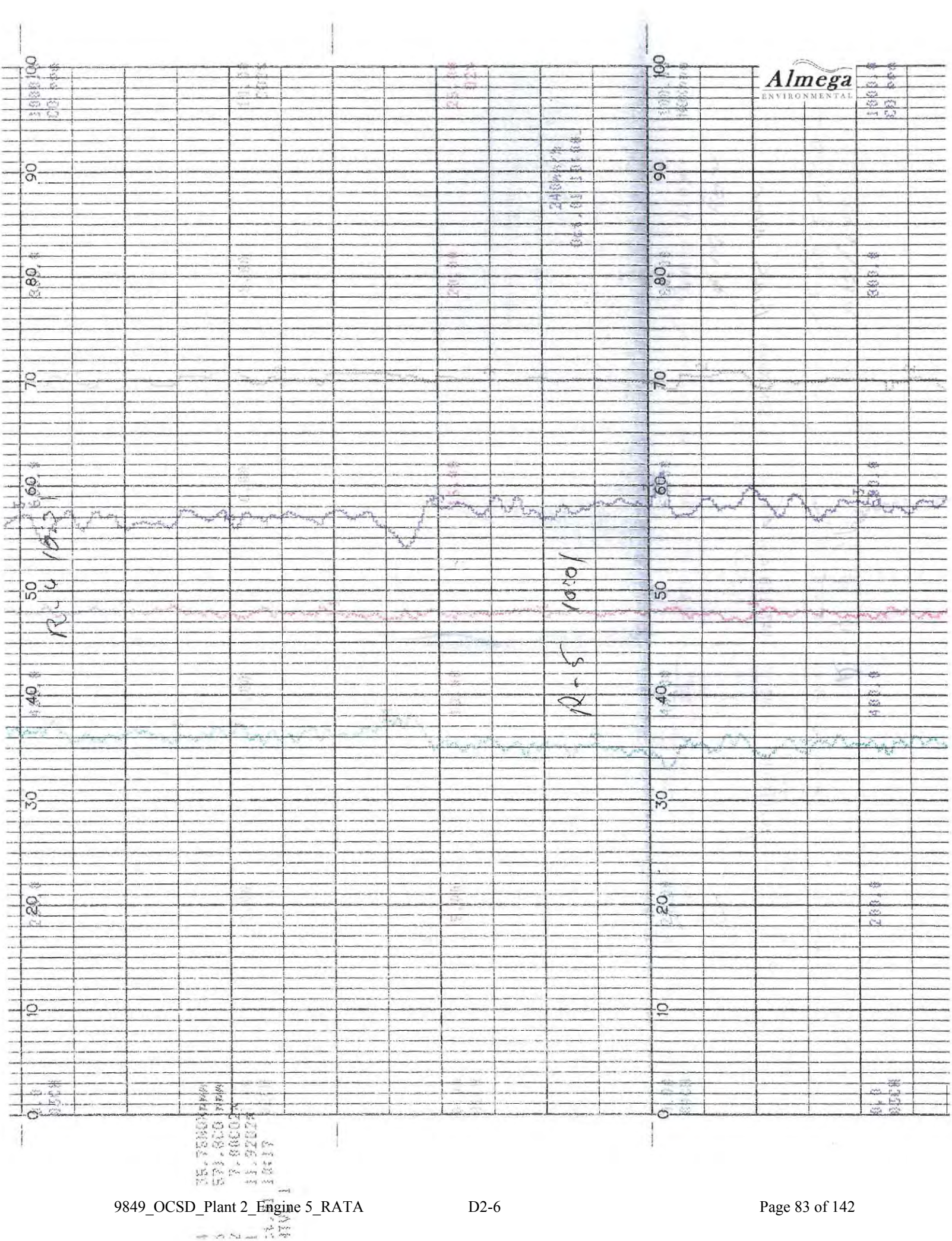
Almega ENVIRONMENTAL


Almega
ENVIRONMENTAL

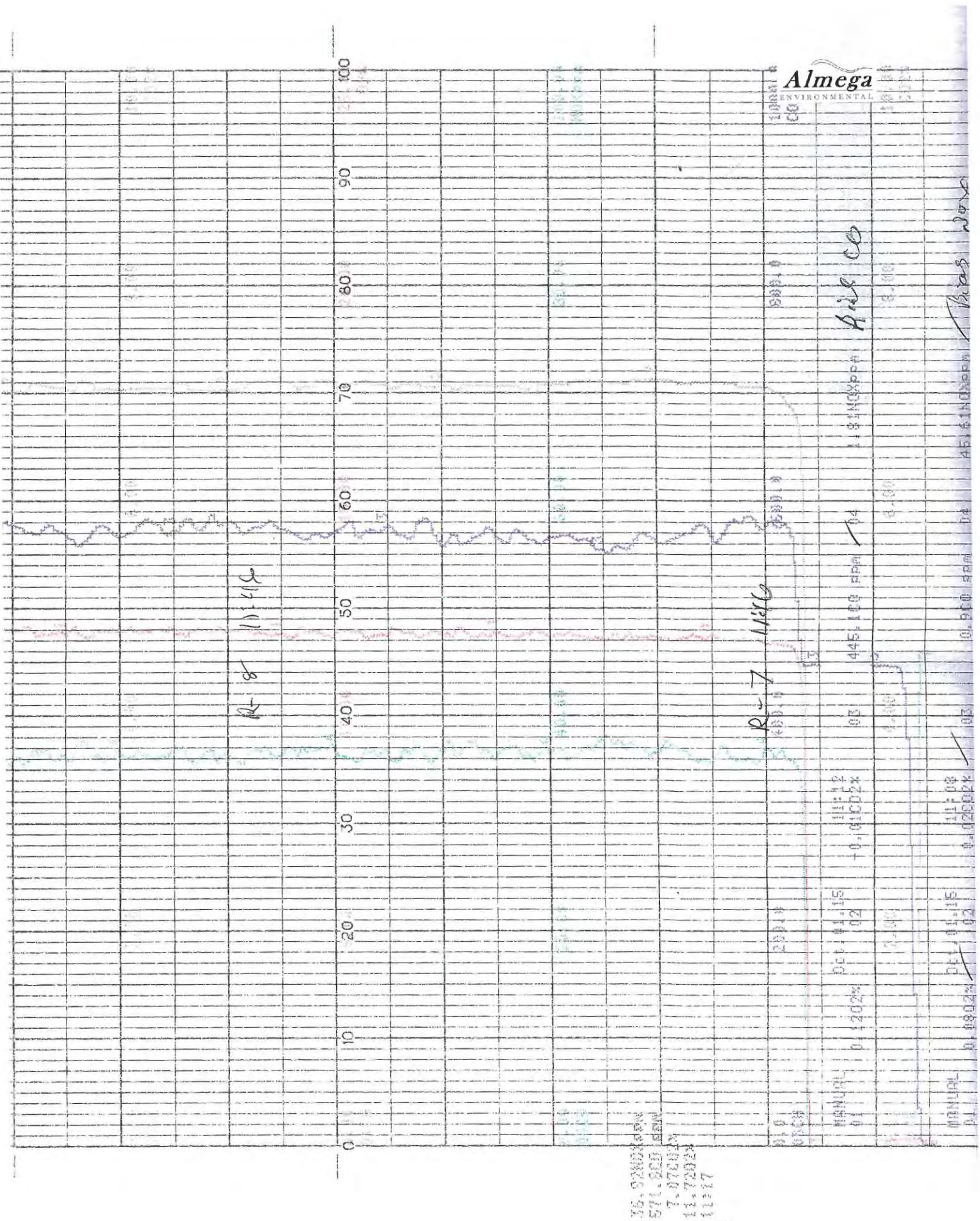


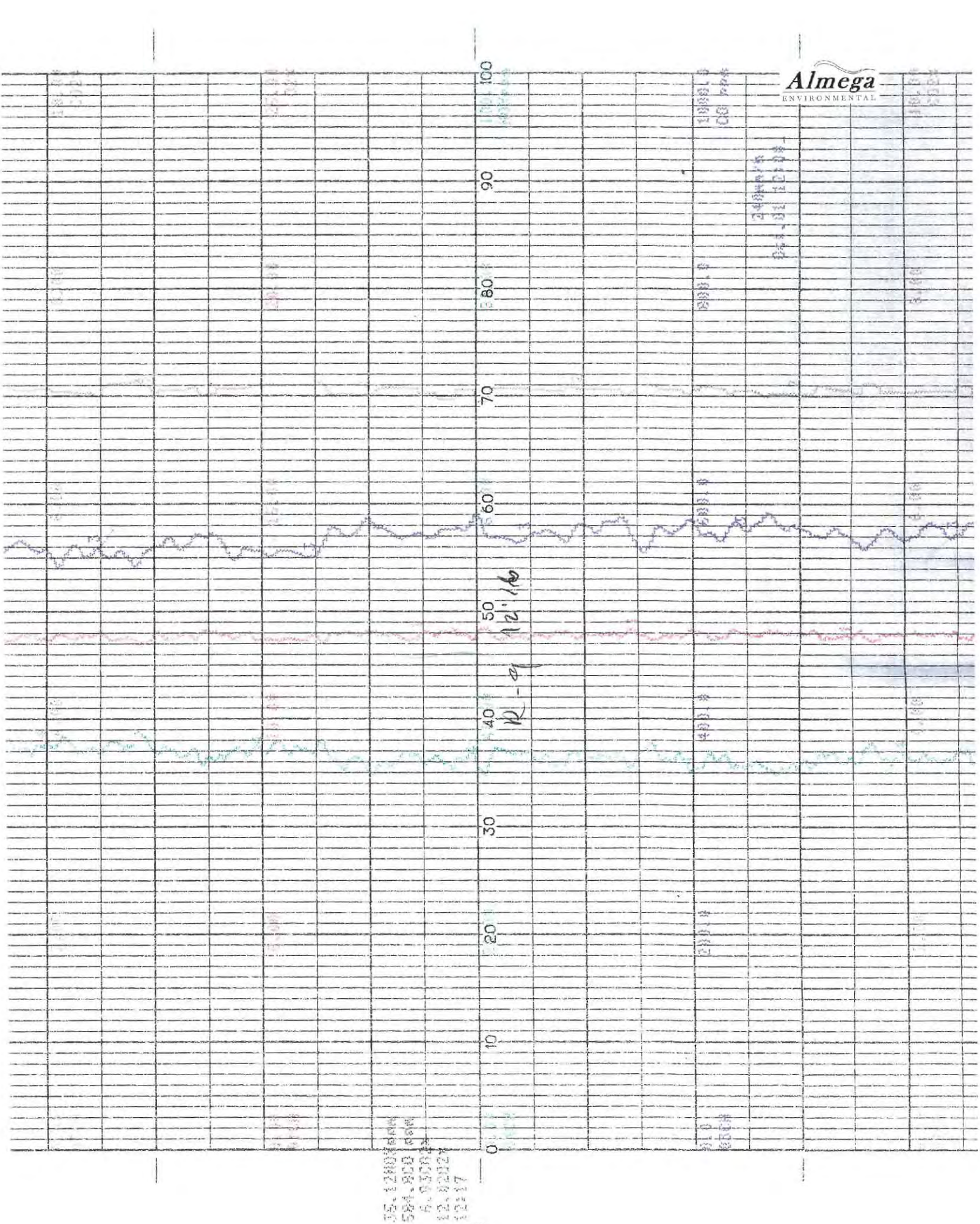

Almega
ENVIRONMENTAL
100
90
80
70
60
50
40
30
20
10
0
R-3 8:43

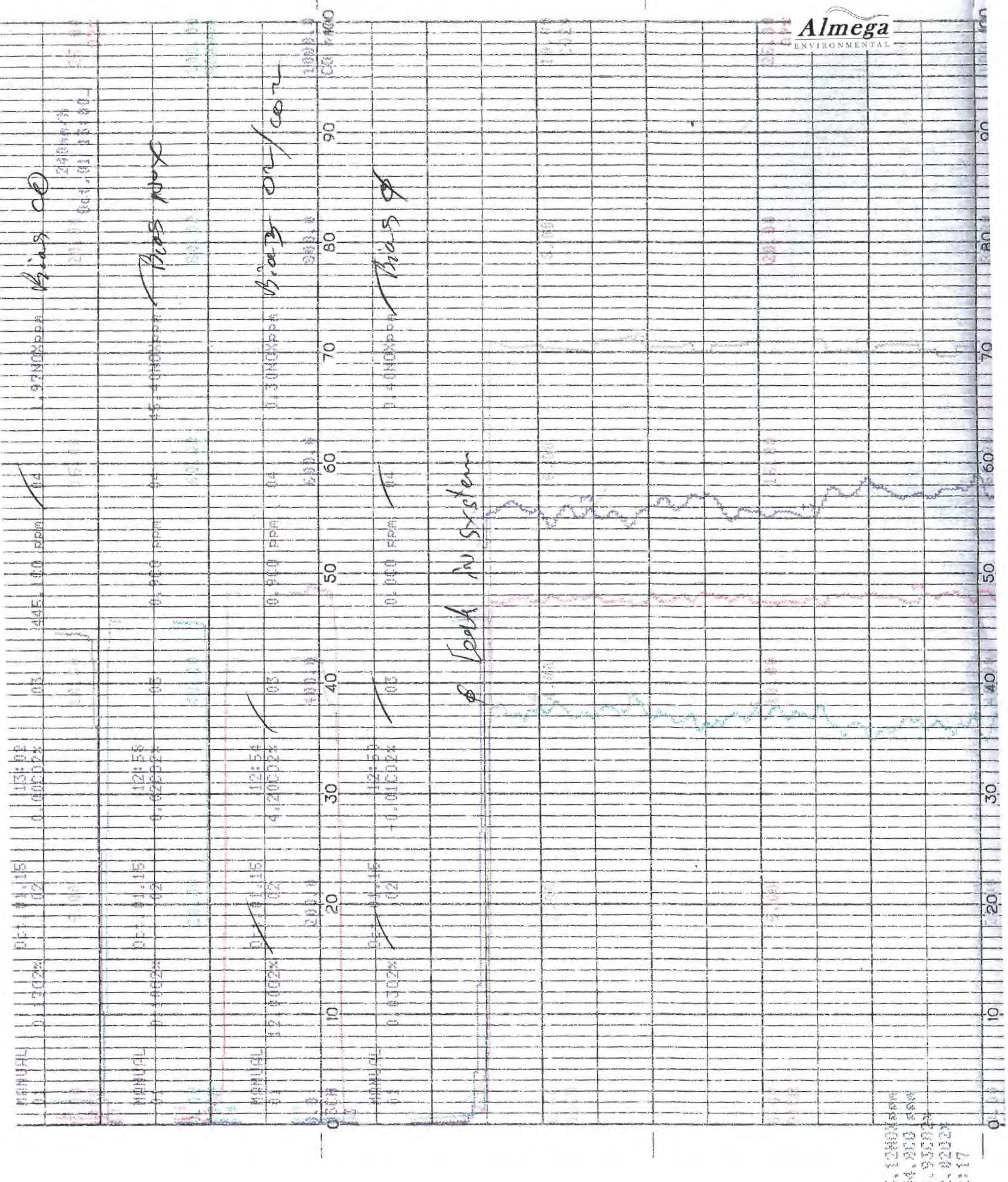

Almega
ENVIRONMENTAL
100
90
80
70
60
50
40
30
20
10
0


Almega
ENVIRONMENTAL
100
90
80
70
60
50
40
30
20
10
0

Almega
ENVIRONMENTAL


Almega
ENVIRONMENTAL
100
90
80
70
60
50
40
30
20
10
0


Almega
ENVIRONMENTAL
100
90
80
70
60
50
40
30
20
10
0


Almega
ENVIRONMENTAL
Bias CO
Bias NOx
Bias O2/CO2
Bias Ø
Ø Leak in System

Almega
ENVIRONMENTAL
100
90
80
70
60
50
40
30
20
10
0

Appendix D3

CEMS –DAS One-Minute Data

Datalogger Printout

Almega ENVIRONMENTAL

Client	OCSD
Location	Huntington Beach
Unit	ICE 5
Date	10/1/2015
Job Number	9849

Date	Time	O2%	CO2%	CO ppm	NOXppm	
10/1/2015	6:50:03	4.53	-0.21	1.4	0	
10/1/2015	6:51:03	0.03	0	0.6	0	
10/1/2015	6:52:03	0.03	0	0.7	0	zero
10/1/2015	6:53:03	0.03	0	0.7	0	zero NOx mode
10/1/2015	6:54:03	0.03	0	0.8	0	
10/1/2015	6:55:03	0.03	0	0.9	0	zero NO mode
10/1/2015	6:56:03	15.8	5.74	134.5	143.65	
10/1/2015	6:57:03	21.84	8.79	864.2	89.56	
10/1/2015	6:58:03	21.94	8.76	896.5	89.92	high
10/1/2015	6:59:03	21.97	8.76	895.5	89.86	high NOx mode
10/1/2015	7:00:03	21.97	8.77	894.4	89.89	
10/1/2015	7:01:03	21.98	8.77	893.8	89.86	high NO mode
10/1/2015	7:02:03	20.47	7.48	885.3	79.49	
10/1/2015	7:03:03	11.85	4.02	540.6	42.19	
10/1/2015	7:04:03	12.13	4.37	438.2	45.3	
10/1/2015	7:05:03	12.12	4.37	448	45.36	
10/1/2015	7:06:03	12.12	4.37	454.5	45.41	
10/1/2015	7:07:03	12.12	4.38	454.4	45.4	mid
10/1/2015	7:08:03	12.12	4.37	454	45.37	mid NOx mode
10/1/2015	7:09:03	12.12	4.37	454	45.36	
10/1/2015	7:10:03	12.12	4.36	453.6	45.31	mid NO mode
10/1/2015	7:11:03	12.12	4.36	447.8	38.96	
10/1/2015	7:12:03	17.73	1.75	193.3	3.91	
10/1/2015	7:13:03	21.03	0.28	7.4	0.16	
10/1/2015	7:14:03	21.07	0.23	2.2	0.16	NO2 NO mode
10/1/2015	7:15:03	18.57	1.74	18.7	8.62	
10/1/2015	7:16:03	11.36	7.27	309.3	15.91	
10/1/2015	7:17:03	11.17	7.45	460.5	15.91	NO2 NOx mode
10/1/2015	7:18:03	11.22	7.49	449.5	25.89	
10/1/2015	7:19:03	2.43	1.45	256.4	8.07	
10/1/2015	7:20:03	0.15	0.37	5.2	1.05	
10/1/2015	7:21:03	0.11	0.29	0.9	0.88	
10/1/2015	7:22:03	0.06	0.26	0.9	0.81	
10/1/2015	7:23:03	0.04	0.09	0.9	0.62	
10/1/2015	7:24:03	0.03	0	0.8	0.27	bias zero
10/1/2015	7:25:03	0.03	0	0.8	0.21	
10/1/2015	7:26:03	9.01	1.68	0.9	0.19	
10/1/2015	7:27:03	12.08	4.08	0.8	0.18	
10/1/2015	7:28:03	12.11	4.31	0.8	0.19	bias O2/CO2

Datalogger Printout

Almega ENVIRONMENTAL

Client	OCSD
Location	Huntington Beach
Unit	ICE 5
Date	10/1/2015
Job Number	9849

Date	Time	O2%	CO2%	CO ppm	NOXppm	
10/1/2015	7:29:03	12.09	4.31	0.6	0.19	
10/1/2015	7:30:03	6.79	2.34	0.9	17.07	
10/1/2015	7:31:03	0.13	0.17	0.6	44.98	
10/1/2015	7:32:03	0.04	0.1	0.9	45.38	bias NOx
10/1/2015	7:33:03	0.03	0.07	0.4	45.39	
10/1/2015	7:34:03	0.2	0.05	172.9	8.15	
10/1/2015	7:35:03	0.2	0.05	447.3	0.7	
10/1/2015	7:36:03	0.18	0.05	450.2	0.66	bias CO
10/1/2015	7:37:03	0.17	0.09	450.4	0.65	
10/1/2015	7:38:03	9.94	6.66	513.3	27.14	
10/1/2015	7:39:03	11.47	7.46	587.9	32.97	
10/1/2015	7:40:03	11.61	7.49	591.8	31.92	
10/1/2015	7:41:03	11.66	7.52	593.9	31.87	
10/1/2015	7:42:03	11.78	7.47	591.1	32.51	
10/1/2015	7:43:03	11.8	7.44	594.8	33.09	R 1
10/1/2015	7:44:03	11.76	7.5	586.6	34.06	
10/1/2015	7:45:03	11.81	7.5	593.9	33.31	
10/1/2015	7:46:03	11.82	7.5	590.2	33.21	
10/1/2015	7:47:03	11.85	7.51	598.9	33.19	
10/1/2015	7:48:03	11.84	7.52	583.5	34.06	
10/1/2015	7:49:03	11.89	7.51	592.7	33.03	
10/1/2015	7:50:03	11.91	7.45	608.3	32.73	
10/1/2015	7:51:03	11.8	7.57	592	33.41	
10/1/2015	7:52:03	11.88	7.55	582.5	33.43	
10/1/2015	7:53:03	11.82	7.55	592	33.47	
10/1/2015	7:54:03	11.81	7.59	586.3	34.01	
10/1/2015	7:55:03	11.91	7.55	588.4	33.6	
10/1/2015	7:56:03	11.9	7.54	585.7	33.56	
10/1/2015	7:57:03	11.85	7.56	585.7	34.86	
10/1/2015	7:58:03	11.87	7.58	572.3	34.62	
10/1/2015	7:59:03	11.94	7.53	596.3	34.15	
10/1/2015	8:00:03	11.92	7.54	585.3	34.58	
10/1/2015	8:01:03	11.95	7.54	580.8	34.21	
10/1/2015	8:02:03	11.88	7.56	584.6	34.64	
10/1/2015	8:03:03	11.93	7.58	588.7	33.99	
10/1/2015	8:04:03	11.94	7.54	604.7	33.51	
10/1/2015	8:05:03	11.86	7.61	589.3	34.66	
10/1/2015	8:06:03	11.85	7.63	580.1	34.51	
10/1/2015	8:07:03	11.91	7.59	587.3	34.32	

Datalogger Printout

Almega ENVIRONMENTAL

Client	OCSD
Location	Huntington Beach
Unit	ICE 5
Date	10/1/2015
Job Number	9849

Date	Time	O2%	CO2%	CO ppm	NOXppm	
10/1/2015	8:08:03	11.77	7.66	573	35.76	
10/1/2015	8:09:03	11.77	7.68	565.4	35.47	
10/1/2015	8:10:03	11.76	7.7	559.5	35.62	
10/1/2015	8:11:03	11.77	7.7	560.7	35.17	
10/1/2015	8:12:03	11.75	7.71	555.4	35.77	
10/1/2015	8:13:03	11.69	7.74	555.8	36.35	**R 2**
10/1/2015	8:14:03	11.72	7.76	553.6	36.1	
10/1/2015	8:15:03	11.74	7.75	556.8	36.34	
10/1/2015	8:16:03	11.73	7.75	547.2	36.75	
10/1/2015	8:17:03	11.72	7.75	550.1	36.38	
10/1/2015	8:18:03	11.73	7.75	550.8	37	
10/1/2015	8:19:03	11.77	7.75	551.6	36.66	
10/1/2015	8:20:03	11.86	7.66	565.4	35.73	
10/1/2015	8:21:03	11.88	7.66	573	35.5	
10/1/2015	8:22:03	11.81	7.66	566.9	36.39	
10/1/2015	8:23:03	11.82	7.67	554.5	36.61	
10/1/2015	8:24:03	11.86	7.67	566.9	35.34	
10/1/2015	8:25:03	11.83	7.67	573.5	35.45	
10/1/2015	8:26:03	11.86	7.67	572.2	35.32	
10/1/2015	8:27:03	11.9	7.66	581.1	35.21	
10/1/2015	8:28:03	11.85	7.67	566.4	36.11	
10/1/2015	8:29:03	11.9	7.65	562.7	35.78	
10/1/2015	8:30:03	11.75	7.71	560.9	36.73	
10/1/2015	8:31:03	11.79	7.73	564.8	36.44	
10/1/2015	8:32:03	11.89	7.7	570.7	35.77	
10/1/2015	8:33:03	11.84	7.67	569.2	36.29	
10/1/2015	8:34:03	11.9	7.67	574.3	35.96	
10/1/2015	8:35:03	11.94	7.65	574.9	35.94	
10/1/2015	8:36:03	11.93	7.65	573.1	36.57	
10/1/2015	8:37:03	12.01	7.6	573.3	35.86	
10/1/2015	8:38:03	11.99	7.56	580.6	35.8	
10/1/2015	8:39:03	12.03	7.57	583.2	35.45	
10/1/2015	8:40:03	11.88	7.64	581.2	36.66	
10/1/2015	8:41:03	11.96	7.63	577.3	35.72	
10/1/2015	8:42:03	12.01	7.57	601.1	35.03	
10/1/2015	8:43:03	11.93	7.61	589.8	35.96	**R 3**
10/1/2015	8:44:03	11.91	7.65	571.9	36.64	
10/1/2015	8:45:03	11.97	7.63	576.2	36.04	
10/1/2015	8:46:03	11.94	7.63	578.9	36.17	
10/1/2015	8:47:03	11.9	7.62	580.4	36.58	

Datalogger Printout

Almega ENVIRONMENTAL

Client	OCSD
Location	Huntington Beach
Unit	ICE 5
Date	10/1/2015
Job Number	9849

Date	Time	O2%	CO2%	CO ppm	NOXppm	
10/1/2015	8:48:03	11.92	7.63	565.7	36.88	
10/1/2015	8:49:03	11.9	7.65	566.8	37.16	
10/1/2015	8:50:03	11.97	7.64	575.4	36.6	
10/1/2015	8:51:03	11.96	7.62	577.5	36.41	
10/1/2015	8:52:03	12	7.61	583.6	35.87	
10/1/2015	8:53:03	11.97	7.61	580.2	36.25	
10/1/2015	8:54:03	11.99	7.61	572.6	36.12	
10/1/2015	8:55:03	12.02	7.59	572.1	36.37	
10/1/2015	8:56:03	11.94	7.6	566.9	36.79	
10/1/2015	8:57:03	11.87	7.66	564.9	38.02	
10/1/2015	8:58:03	11.95	7.66	558.9	37.07	
10/1/2015	8:59:03	11.92	7.64	567.1	36.83	
10/1/2015	9:00:03	11.93	7.65	570	36.62	
10/1/2015	9:01:03	11.93	7.64	571.7	36.27	
10/1/2015	9:02:03	11.94	7.64	582.2	36.38	
10/1/2015	9:03:03	11.98	7.64	583.8	36.04	
10/1/2015	9:04:03	11.94	7.64	581.5	35.9	
10/1/2015	9:05:03	11.89	7.67	581.2	36.26	
10/1/2015	9:06:03	11.86	7.68	578.3	36.65	
10/1/2015	9:07:03	11.88	7.69	569.9	36.62	
10/1/2015	9:08:03	11.91	7.69	566	36.68	
10/1/2015	9:09:03	11.87	7.67	567.1	37.15	
10/1/2015	9:10:03	11.88	7.68	563.3	36.98	
10/1/2015	9:11:03	11.91	7.69	569.2	36.74	
10/1/2015	9:12:03	11.92	7.66	583.9	36.07	
10/1/2015	9:13:03	11.5	7.02	575.9	34.59	
10/1/2015	9:14:03	11.99	4.45	231.4	2.43	
10/1/2015	9:15:03	12.07	4.3	1.3	0.61	
10/1/2015	9:16:03	12.06	4.3	0.2	0.48	**bias O2/CO2**
10/1/2015	9:17:03	12.05	4.3	0.2	0.41	**zero NOx/CO**
10/1/2015	9:18:03	1.97	2.22	0.4	34.22	
10/1/2015	9:19:03	0.19	0.3	0.2	45.53	
10/1/2015	9:20:03	0.06	0.05	0.3	45.66	
10/1/2015	9:21:03	0.04	-0.03	0.2	45.5	**bias NOx**
10/1/2015	9:22:03	0.03	0	0	45.53	**zero O2/CO2**
10/1/2015	9:23:03	0.19	0	142.6	13.06	
10/1/2015	9:24:03	0.22	-0.01	441.7	1.72	
10/1/2015	9:25:03	0.2	-0.01	447.1	1.65	
10/1/2015	9:26:03	0.18	-0.01	447.2	1.62	

Datalogger Printout

Almega ENVIRONMENTAL

Client	OCSD
Location	Huntington Beach
Unit	ICE 5
Date	10/1/2015
Job Number	9849

Date	Time	O2%	CO2%	CO ppm	NOXppm	
10/1/2015	9:27:03	0.18	-0.01	447.6	1.58	bias CO
10/1/2015	9:28:03	0.18	-0.01	447.5	1.56	
10/1/2015	9:29:03	3.64	2.51	451.4	11.59	
10/1/2015	9:30:03	11.55	6.85	550.9	36.76	
10/1/2015	9:31:03	11.62	7.03	564	37.86	R 4
10/1/2015	9:32:03	11.72	7.05	568.6	37.07	
10/1/2015	9:33:03	11.76	7.05	577.8	36.43	
10/1/2015	9:34:03	11.84	7.04	583.4	35.88	
10/1/2015	9:35:03	11.92	6.99	580.4	35.56	
10/1/2015	9:36:03	11.87	7	578.5	35.73	
10/1/2015	9:37:03	11.99	6.95	585.8	34.96	
10/1/2015	9:38:03	12.01	6.91	582.3	34.7	
10/1/2015	9:39:03	11.94	6.92	583.2	35	
10/1/2015	9:40:03	11.86	6.99	583	35.43	
10/1/2015	9:41:03	11.92	6.99	575.3	35.43	
10/1/2015	9:42:03	12	6.94	576.2	34.93	
10/1/2015	9:43:03	11.85	6.98	584.6	35.01	
10/1/2015	9:44:03	11.87	7	583.2	35.11	
10/1/2015	9:45:03	11.86	7	583.1	35.36	
10/1/2015	9:46:03	11.94	6.99	572.8	35.27	
10/1/2015	9:47:03	11.94	6.97	572.1	34.84	
10/1/2015	9:48:03	11.92	6.97	586.3	35.06	
10/1/2015	9:49:03	11.98	6.96	573.7	34.62	
10/1/2015	9:50:03	11.96	6.92	588.7	34.2	
10/1/2015	9:51:03	11.78	7.04	588.8	35.56	
10/1/2015	9:52:03	11.8	7.07	578	35.52	
10/1/2015	9:53:03	11.91	7.03	583.3	34.66	
10/1/2015	9:54:03	11.86	7.03	575.5	35.21	
10/1/2015	9:55:03	11.99	6.96	572	34.17	
10/1/2015	9:56:03	11.99	6.92	599	33.58	
10/1/2015	9:57:03	11.93	6.97	580.2	34.34	
10/1/2015	9:58:03	11.95	6.97	582.8	34.33	
10/1/2015	9:59:03	11.89	6.97	581.4	34.63	
10/1/2015	10:00:03	11.9	6.99	578.8	34.99	
10/1/2015	10:01:03	11.95	6.98	573.9	34.51	R 5
10/1/2015	10:02:03	11.92	6.97	572.5	34.88	
10/1/2015	10:03:03	11.89	7.01	569.7	34.93	
10/1/2015	10:04:03	11.98	6.99	577.7	34.62	
10/1/2015	10:05:03	11.95	6.98	578.7	34.78	

Datalogger Printout

Almega ENVIRONMENTAL

Client	OCSD
Location	Huntington Beach
Unit	ICE 5
Date	10/1/2015
Job Number	9849

Date	Time	O2%	CO2%	CO ppm	NOXppm	
10/1/2015	10:06:03	11.89	6.98	580.9	35.39	
10/1/2015	10:07:03	11.89	6.99	574.7	35	
10/1/2015	10:08:03	11.87	7	580.2	34.85	
10/1/2015	10:09:03	11.91	7.01	578	35.08	
10/1/2015	10:10:03	11.91	6.98	573.6	36.08	
10/1/2015	10:11:03	11.87	7.02	543.8	37.35	
10/1/2015	10:12:03	11.79	7.04	554.4	37.32	
10/1/2015	10:13:03	11.86	7.05	566.5	36.61	
10/1/2015	10:14:03	11.86	7.05	569.4	36.16	
10/1/2015	10:15:03	11.89	7.05	573.4	35.95	
10/1/2015	10:16:03	11.96	6.99	567	36.03	
10/1/2015	10:17:03	11.9	6.99	567.4	36.25	
10/1/2015	10:18:03	11.92	7	571.6	35.71	
10/1/2015	10:19:03	11.94	7	568.1	35.88	
10/1/2015	10:20:03	11.96	6.96	568.3	35.66	
10/1/2015	10:21:03	11.83	7.04	564.8	36.65	
10/1/2015	10:22:03	11.86	7.07	569.9	36.32	
10/1/2015	10:23:03	11.92	7.03	566.9	36.12	
10/1/2015	10:24:03	11.92	7.02	573.1	35.76	
10/1/2015	10:25:03	12.04	6.97	564.5	35.63	
10/1/2015	10:26:03	11.99	6.94	562	35.86	
10/1/2015	10:27:03	11.93	6.99	562.8	36.36	
10/1/2015	10:28:03	11.97	6.99	559.5	35.96	
10/1/2015	10:29:03	11.98	6.99	569.4	35.75	
10/1/2015	10:30:03	12	6.93	565.5	35.76	
10/1/2015	10:31:03	11.92	6.97	567.8	35.6	R 6
10/1/2015	10:32:03	11.92	7	561.1	36.81	
10/1/2015	10:33:03	11.97	6.96	552.9	36.34	
10/1/2015	10:34:03	11.94	6.97	569.9	36.36	
10/1/2015	10:35:03	12	6.97	561.3	36.31	
10/1/2015	10:36:03	11.93	7	563	36.52	
10/1/2015	10:37:03	11.97	6.99	568.4	35.86	
10/1/2015	10:38:03	12	6.95	573.5	35.79	
10/1/2015	10:39:03	11.99	6.95	565.7	36.23	
10/1/2015	10:40:03	12.11	6.89	568.3	35.56	
10/1/2015	10:41:03	11.98	6.92	574	36.35	
10/1/2015	10:42:03	11.92	6.99	572.4	36.52	
10/1/2015	10:43:03	11.97	6.99	577.6	36.1	
10/1/2015	10:44:03	12.06	6.92	579.2	35.43	
10/1/2015	10:45:03	12.03	6.92	579.9	35.71	

Datalogger Printout

Almega ENVIRONMENTAL

Client	OCSD
Location	Huntington Beach
Unit	ICE 5
Date	10/1/2015
Job Number	9849

Date	Time	O2%	CO2%	CO ppm	NOXppm	
10/1/2015	10:46:03	12.05	6.89	574.6	35.43	
10/1/2015	10:47:03	12.01	6.93	582.3	35.45	
10/1/2015	10:48:03	12.01	6.94	586.2	35.3	
10/1/2015	10:49:03	11.99	6.96	578.9	36.01	
10/1/2015	10:50:03	11.97	6.96	572.3	36.58	
10/1/2015	10:51:03	12.12	6.85	574.9	35.3	
10/1/2015	10:52:03	12	6.91	572.7	36.1	
10/1/2015	10:53:03	11.97	6.93	575.7	36.04	
10/1/2015	10:54:03	12.01	6.93	567.2	36.46	
10/1/2015	10:55:03	11.97	6.97	565	36.87	
10/1/2015	10:56:03	12.01	6.91	568.5	35.79	
10/1/2015	10:57:03	11.97	6.97	572	35.89	
10/1/2015	10:58:03	11.92	6.99	567.6	36.2	
10/1/2015	10:59:03	12.04	6.94	567.3	35.55	
10/1/2015	11:00:03	11.98	6.94	570.6	35.64	
10/1/2015	11:01:03	11.96	6.96	574.2	35.81	
10/1/2015	11:02:03	11.41	4.46	402	10.5	
10/1/2015	11:03:03	12.03	4.13	15.1	0.62	
10/1/2015	11:04:03	12.14	4.12	1	0.48	bias O2/CO2
10/1/2015	11:05:03	12.15	4.09	0.9	0.42	zero CO/NOx
10/1/2015	11:06:03	3.38	0.86	3	29.47	
10/1/2015	11:07:03	0.19	0.12	1	45.12	
10/1/2015	11:08:03	0.09	0.05	0.9	45.5	bias NOx
10/1/2015	11:09:03	0.09	0.02	0.9	45.62	zero O2/CO2
10/1/2015	11:10:03	0.14	0	160.2	11.98	
10/1/2015	11:11:03	0.14	0	440.4	1.9	
10/1/2015	11:12:03	0.12	0	444.8	1.84	bias CO
10/1/2015	11:13:03	0.17	0.07	445.3	1.83	
10/1/2015	11:14:03	10.22	6.28	502.2	30.17	
10/1/2015	11:15:03	11.61	6.96	575.1	36.15	
10/1/2015	11:16:03	11.67	7.03	575.2	36.15	R 7
10/1/2015	11:17:03	11.73	7.03	581.3	35.71	
10/1/2015	11:18:03	11.72	7.07	574.5	36.29	
10/1/2015	11:19:03	11.78	7.07	565.7	35.91	
10/1/2015	11:20:03	11.79	7.07	572.1	35.78	
10/1/2015	11:21:03	11.74	7.08	564.6	36.74	
10/1/2015	11:22:03	11.77	7.1	560	36.71	
10/1/2015	11:23:03	11.77	7.1	564.9	36.68	
10/1/2015	11:24:03	11.79	7.07	554.6	37.16	

Datalogger Printout

Almega ENVIRONMENTAL

Client	OCSD
Location	Huntington Beach
Unit	ICE 5
Date	10/1/2015
Job Number	9849

Date	Time	O2%	CO2%	CO ppm	NOXppm	
10/1/2015	11:25:03	11.76	7.08	551.7	37.56	
10/1/2015	11:26:03	11.76	7.09	558.7	36.84	
10/1/2015	11:27:03	11.84	7.08	564	36.06	
10/1/2015	11:28:03	11.82	7.06	564.7	36.52	
10/1/2015	11:29:03	11.91	7.03	560	36.28	
10/1/2015	11:30:03	11.83	7.03	567.2	36.37	
10/1/2015	11:31:03	11.83	7.05	562.3	36.69	
10/1/2015	11:32:03	11.85	7.05	569.7	36.29	
10/1/2015	11:33:03	11.84	7.05	561.9	37.09	
10/1/2015	11:34:03	11.9	7.03	562.4	36.6	
10/1/2015	11:35:03	11.89	7.04	566.3	36.01	
10/1/2015	11:36:03	11.82	7.05	574.8	36.5	
10/1/2015	11:37:03	11.92	7.04	566.4	36.04	
10/1/2015	11:38:03	11.84	7.05	571.7	36.19	
10/1/2015	11:39:03	11.82	7.08	568.1	36.25	
10/1/2015	11:40:03	11.94	7.05	574.4	35.82	
10/1/2015	11:41:03	11.83	7.07	567.1	36.71	
10/1/2015	11:42:03	11.89	7.06	565.3	36.66	
10/1/2015	11:43:03	11.88	7.04	565.1	36.56	
10/1/2015	11:44:03	11.82	7.08	572.4	36.27	
10/1/2015	11:45:03	11.85	7.08	576	36.58	
10/1/2015	11:46:03	11.93	7.04	570.2	35.94	**R 8**
10/1/2015	11:47:03	11.92	7	577.3	36.03	
10/1/2015	11:48:03	11.94	7	579.2	36.1	
10/1/2015	11:49:03	11.94	7	574.7	35.62	
10/1/2015	11:50:03	11.87	7.06	573.2	36.64	
10/1/2015	11:51:03	11.94	7.02	571.7	35.91	
10/1/2015	11:52:03	11.91	7.02	577.5	36.16	
10/1/2015	11:53:03	11.93	7.01	566.4	36.04	
10/1/2015	11:54:03	11.91	7.01	570.7	35.9	
10/1/2015	11:55:03	11.83	7.05	567	36.66	
10/1/2015	11:56:03	11.89	7.04	559.3	36.32	
10/1/2015	11:57:03	11.86	7.03	570.5	35.88	
10/1/2015	11:58:03	11.83	7.05	569.6	36.41	
10/1/2015	11:59:03	11.96	7	570.9	35.59	
10/1/2015	12:00:03	11.95	6.99	575.7	35.32	
10/1/2015	12:01:03	11.96	6.99	582.2	34.9	
10/1/2015	12:02:03	11.91	7	581.3	35.49	
10/1/2015	12:03:03	11.96	7.02	577	35.36	
10/1/2015	12:04:03	11.9	7.02	569.2	35.96	

Datalogger Printout

Almega ENVIRONMENTAL

Client	OCSD
Location	Huntington Beach
Unit	ICE 5
Date	10/1/2015
Job Number	9849

Date	Time	O2%	CO2%	CO ppm	NOXppm	
10/1/2015	12:05:03	11.88	7.05	570.3	35.9	
10/1/2015	12:06:03	11.96	7.01	580.1	35.36	
10/1/2015	12:07:03	11.88	7.03	572.8	36.12	
10/1/2015	12:08:03	11.81	7.06	567.6	36.84	
10/1/2015	12:09:03	11.95	7.04	560.6	36.15	
10/1/2015	12:10:03	11.91	7.01	582.1	35.97	
10/1/2015	12:11:03	11.9	7.03	576.5	36.17	
10/1/2015	12:12:03	11.87	7.03	577.2	36	
10/1/2015	12:13:03	11.91	7.04	566.9	36.16	
10/1/2015	12:14:03	11.9	7.02	571.6	35.89	
10/1/2015	12:15:03	11.88	7.03	569.9	36.18	
10/1/2015	12:16:03	11.87	7.05	563.6	36.59	**R 9**
10/1/2015	12:17:03	11.83	7.05	566.7	36.84	
10/1/2015	12:18:03	12	6.95	577.6	35.36	
10/1/2015	12:19:03	11.88	7.03	577.2	36.3	
10/1/2015	12:20:03	11.99	6.95	574.8	35.65	
10/1/2015	12:21:03	11.94	7	568.2	36.01	
10/1/2015	12:22:03	11.84	7.04	569.9	36.42	
10/1/2015	12:23:03	11.89	7.05	569.2	35.85	
10/1/2015	12:24:03	11.96	7.03	577.5	35.24	
10/1/2015	12:25:03	11.94	7	578.1	35.75	
10/1/2015	12:26:03	11.96	7	570.6	35.55	
10/1/2015	12:27:03	11.85	7.05	568.5	36.8	
10/1/2015	12:28:03	11.85	7.08	549.5	36.89	
10/1/2015	12:29:03	11.81	7.08	553.5	36.91	
10/1/2015	12:30:03	11.79	7.08	552.6	37.31	
10/1/2015	12:31:03	11.81	7.08	553.8	36.88	
10/1/2015	12:32:03	11.92	7.04	552.9	36.76	
10/1/2015	12:33:03	11.89	7.04	557.1	36.38	
10/1/2015	12:34:03	11.98	7	568.5	35.92	
10/1/2015	12:35:03	11.9	7.04	563.8	36.58	
10/1/2015	12:36:03	11.84	7.03	561.9	36.74	
10/1/2015	12:37:03	11.87	7.03	558.2	36.99	
10/1/2015	12:38:03	11.77	7.1	545.7	38	
10/1/2015	12:39:03	11.82	7.09	551.7	37.41	
10/1/2015	12:40:03	11.9	7.03	552.1	36.99	
10/1/2015	12:41:03	11.89	7	552.2	36.87	
10/1/2015	12:42:03	11.85	7.02	553.3	37.65	
10/1/2015	12:43:03	11.85	7.03	548.6	37.36	
10/1/2015	12:44:03	11.87	7.04	555.6	36.98	

Datalogger Printout

Almega ENVIRONMENTAL

Client	OCSD
Location	Huntington Beach
Unit	ICE 5
Date	10/1/2015
Job Number	9849

Date	Time	O2%	CO2%	CO ppm	NOXppm	
10/1/2015	12:45:03	11.85	7.03	561.6	37.1	
10/1/2015	12:46:03	9.2	5.42	549.5	32.54	
10/1/2015	12:47:03	0.35	0.35	173.4	1.43	
10/1/2015	12:48:03	0.07	0.06	1.5	0.62	
10/1/2015	12:49:03	0.03	-0.01	0.7	0.5	
10/1/2015	12:50:03	0.03	-0.01	0.7	0.44	
10/1/2015	12:51:03	0.03	-0.01	0.6	0.42	bias zero
10/1/2015	12:52:03	7.07	2.37	1	0.36	
10/1/2015	12:53:03	12.09	4.1	1.1	0.33	
10/1/2015	12:54:03	12.03	4.21	0.7	0.31	bias O2/CO2
10/1/2015	12:55:03	12	4.17	0.8	0.3	
10/1/2015	12:56:03	2.55	0.76	1	0.28	
10/1/2015	12:57:03	0.1	0.1	0.4	40.15	
10/1/2015	12:58:03	0.11	0.04	0.6	45.32	bias NOx
10/1/2015	12:59:03	0.09	0.02	1	44.25	
10/1/2015	13:00:03	0.15	0	243.8	4.36	
10/1/2015	13:01:03	0.12	0	443.1	2.02	
10/1/2015	13:02:03	0.13	0	443.9	1.97	bias CO
10/1/2015	13:03:03	0.07	-0.01	334.9	1.21	
10/1/2015	13:04:03	0.03	-0.02	9.5	0.45	
10/1/2015	13:05:03	0.03	-0.02	0.4	0.38	zero
10/1/2015	13:06:03	13.45	5.23	93.4	70.12	
10/1/2015	13:07:03	21.67	8.35	842.2	81.81	
10/1/2015	13:08:03	21.84	8.71	902.6	90.98	
10/1/2015	13:09:03	21.94	8.75	900.3	89.88	high
10/1/2015	13:10:03	19.09	7.59	874.5	78.75	
10/1/2015	13:11:03	12.19	4.3	510.1	45.3	
10/1/2015	13:12:03	12.15	4.29	454.1	45.27	mid
10/1/2015	13:13:03	9.35	3.19	447.5	39.46	
10/1/2015	13:14:03	0.07	-0.02	103.3	0.38	
10/1/2015	13:15:03	0.03	-0.02	0.5	0.29	

APPENDIX E

QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

Appendix E1

Test Equipment Calibration Data

Almega ENVIRONMENTAL

Semi-Annual Field Dry Gas Meter Calibration* Calibration Date: 8/7/2015

DRY GAS METER CALIBRATION FACTOR Y	ORIFICE CALIBRATION FACTOR dH@
Yds = 0.9871	dH@ = 1.987

Orifice Series: 33-73

Serial Number: AE_1/AE_2

Cal Type: Semi-Annual

Calibrated by: MC

(signature): Matt Clark

Reviewed by: Sun

DRY GAS METER READINGS								QUALITY CONTROL CHECKS				DGM ID. MB-002
DGM INLET		DGM OUTLET		Meter Reading		Orifice Reading						Serial #: 2241676
Initial (°F)	Final (°F)	Initial (°F)	Final (°F)	Initial (cu.ft.)	Final (cu.ft.)	Initial (in.H2O)	Final (in H2O)	$(Y_{fm,max} - Y_{fm,min})$ < 0.010 **	0.98 < (Y_{fm}/Y_{fm}) < 1.02	Average Coeff (Y) (0.95<Y<1.05)	$dH@_{i,avg}$ < (dH@ ± 0.15)	Calibration Interval:
76.0	76.0	76.0	76.0	828.305	834.155	0.150	0.150					Semi-Annual: x
76.0	76.0	76.0	76.0	834.155	840.010	0.150	0.150	0.0013	0.999	0.986	2.049	Bi-monthly:
76.0	76.0	76.0	76.0	840.010	845.868	0.150	0.150	PASS	PASS	PASS	PASS	Other
76.0	77.0	77.0	77.0	847.300	853.420	0.840	0.840					
77.0	77.0	77.0	77.0	853.420	859.540	0.840	0.840	0.0025	0.997	0.984	1.941	Standard Temperature (deg F)
77.0	78.0	77.0	77.0	859.540	865.650	0.840	0.840	PASS	PASS	PASS	PASS	Tstd = 60
78.0	80.0	77.0	77.0	867.700	873.245	2.100	2.100					Barometric Pressure (in.Hg)
80.0	81.0	77.0	77.0	873.245	878.815	2.100	2.100	0.0045	1.000	0.987	1.997	Initial: 29.89
81.0	82.0	77.0	77.0	878.815	884.365	2.100	2.100	PASS	PASS	PASS	PASS	Final: 29.88
83.0	86.0	77.0	78.0	889.000	895.555	3.900	3.900					$Pbar_{avg}$: 29.89
86.0	87.0	78.0	78.0	895.555	902.100	3.900	3.900	0.0056	1.003	0.990	1.982	
87.0	87.0	78.0	78.0	902.100	908.636	3.900	3.900	PASS	PASS	PASS	PASS	

Orifice Series No.	Run Time (min)	CRITICAL ORIFICE					DRY GAS METER					CALCULATIONS	
		Orifice K-factor	Tested Vacuum (in.Hg)	Ambient Temp. (°F)	Corrected Flowrate Q'rm (SCFM)	Corrected Volume (cu.ft.)	Orifice dH (in.H2O)	AVG Temp (°F)	NET Volume (cu.ft.)	Corrected Flowrate Q'fm (SCFM)	Corrected Volume (SCF)	Coefficient $Y_{fm,i}$ (0.95 < $Y_{fm,i}$ < 1.05)	Orifice $dH@_i$ (in.H2O)
33	28	0.1549	26.50	76.0	0.2000	5.600	0.150	76.00	5.850	0.203	5.674	0.9870	2.049
33	28	0.1549	26.50	76.0	0.200	5.600	0.150	76.00	5.855	0.203	5.679	0.9861	2.049
33	28	0.1549	26.50	76.0	0.200	5.600	0.150	76.00	5.858	0.203	5.682	0.9856	2.049
52	12	0.3769	22.50	76.0	0.487	5.840	0.840	76.75	6.120	0.495	5.938	0.9835	1.942
52	12	0.3769	22.50	76.0	0.487	5.840	0.840	77.00	6.120	0.495	5.935	0.9840	1.941
52	12	0.3769	22.50	76.0	0.487	5.840	0.840	77.25	6.110	0.494	5.923	0.9860	1.940
63	7	0.5890	20.50	77.0	0.760	5.319	2.100	78.00	5.545	0.769	5.384	0.9879	1.999
63	7	0.5890	20.50	77.0	0.760	5.319	2.100	78.75	5.570	0.772	5.401	0.9848	1.996
63	7	0.5890	20.50	77.0	0.760	5.319	2.100	79.25	5.550	0.768	5.376	0.9893	1.995
73	6	0.8109	18.00	77.0	1.046	6.276	3.900	81.00	6.555	1.060	6.357	0.9873	1.965
73	6	0.8109	18.00	77.0	1.046	6.276	3.900	82.25	6.545	1.055	6.333	0.9911	1.961
73	6	0.8109	18.00	77.0	1.046	6.276	3.900	82.50	6.536	1.054	6.321	0.9929	1.960

* Critical Orifice used.

Almega ENVIRONMENTAL

Bi-Monthly Field Dry Gas Meter Calibration*

Calibration Date: 10/7/2015

Orifice Series: 52,63

Serial Number: AE_1/AE_2

Cal Type: Bi-Monthly

Calibrated by: DJ

(signature):

Reviewed by:

SEMI TO BI CHECK		DRY GAS METER	ORIFICE
(+2% of Y)	(-2% of Y)	CALIBRATION FACTOR	CALIBRATION FACTOR
1.0068	0.9674	Y	dH@
PASS		Yds = 0.9675	dH@ = 1.975

DRY GAS METER READINGS								QUALITY CONTROL CHECKS				DGM ID: MB-002
DGM INLET		DGM OUTLET		Meter Reading		Orifice Reading		($Y_{fm,max}$ - $Y_{fm,min}$) < 0.010 **	0.98 < ($Y_{fm,i}/Y_{fm}$) < 1.02	Average Coeff. $Y_{fm,i}$	$dH@_{i,avg}$ < (dH@ ± 0.15)	Serial #:
Initial (°F)	Final (°F)	Initial (°F)	Final (°F)	Initial (cu.ft.)	Final (cu.ft.)	Initial (in.H2O)	Final (in.H2O)					Semi A Yfm: 0.9871
74.0	74.0	74.0	74.0	416.467	422.685	0.850	0.850					Calibration Interval:
74.0	76.0	74.0	75.0	422.685	428.911	0.850	0.850	0.0032	0.997	0.965	1.962	Bi-monthly: x
75.0	77.0	75.0	75.0	428.911	435.120	0.850	0.850	PASS	PASS	PASS	PASS	Standard Temperature (deg.F)
79.0	80.0	76.0	76.0	452.990	458.620	2.100	2.100					Tstd = 60
80.0	81.0	76.0	77.0	458.620	464.255	2.100	2.100	0.0098	1.003	0.970	1.989	Barometric Pressure (in.Hg)
81.0	81.0	77.0	77.0	464.255	469.950	2.100	2.100	PASS	PASS	PASS	PASS	Pbar: 30.00

Orifice Series No.	Run Time (min)	CRITICAL ORIFICE					DRY GAS METER					CALCULATIONS	
		Orifice K-factor	Tested Vacuum (in.Hg)	Ambient Temp. (°F)	Corrected Flowrate Q'rm (SCFM)	Corrected Volume (cu.ft.)	Orifice dH (in.H2O)	AVG Temp. (°F)	NET Volume (cu.ft.)	Corrected Flowrate Q'fm (SCFM)	Corrected Volume (SCF)	Coefficient $Y_{fm,i}$ (0.95 < $Y_{fm,i}$ < 1.05)	Orifice $dH@_i$ (in.H2O)
52	12	0.3769	23.0	75.0	0.489	5.868	0.850	74.00	6.218	0.507	6.087	0.9639	1.964
52	12	0.3769	23.0	75.0	0.489	5.868	0.850	74.75	6.226	0.507	6.087	0.9640	1.961
52	12	0.3769	23.0	76.0	0.489	5.862	0.850	75.50	6.209	0.505	6.062	0.9671	1.962
63	7	0.5890	21.0	76.0	0.763	5.344	2.100	77.75	5.630	0.784	5.490	0.9734	1.989
63	7	0.5890	21.0	77.0	0.763	5.339	2.100	78.50	5.635	0.784	5.487	0.9730	1.990
63	7	0.5890	21.0	77.0	0.763	5.339	2.100	79.00	5.695	0.792	5.541	0.9636	1.988

* Critical Orifice used.

Almega ENVIRONMENTAL

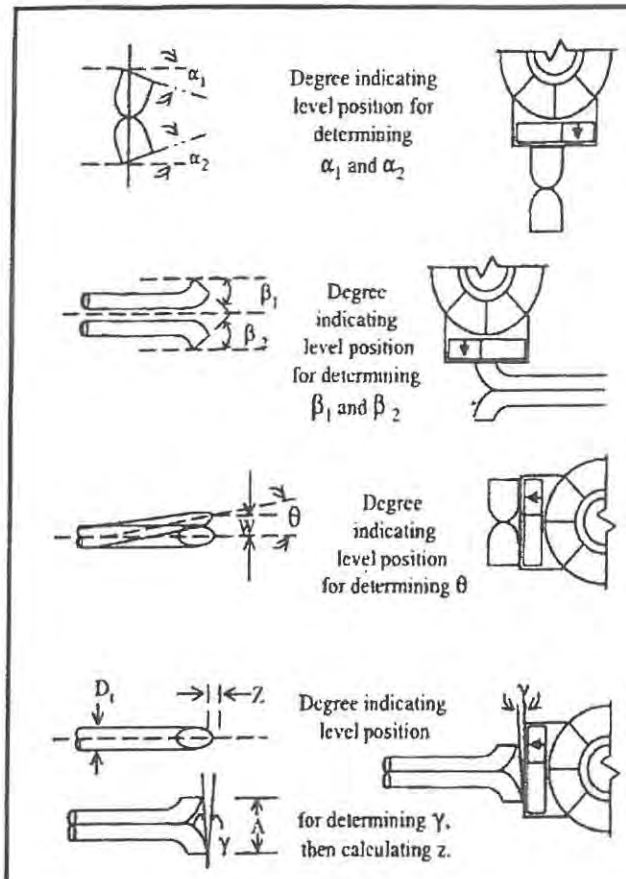
Almega ENVIRONMENTAL

TYPE S PITOT TUBE SEMIANNUAL INSPECTION SHEET

CAL DATE: 7/2/2015

NEXT DUE DATE: 12/31/2015

PITOT ID: PT-83



Parameter	Values	Allowable Range
Level and Perpendicular?	Yes OR No	Yes
Obstruction?	Yes OR No	No
Damaged?	Yes OR No	No
α1	1	$-10° \le \alpha1 \le +10°$
α2	-1	$-10° \le \alpha2 \le +10°$
β1	1	$-5° \le \beta1 \le +5°$
β2	1	$-5° \le \beta2 \le +5°$
γ	2	NA
θ	2	NA
Z = A (tan γ)	0.022	≤ 0.125 in.
W = A (tan θ)	0.022	≤ 0.031 in.
Dt	0.248	$0.188 \le Dt \le 0.375$
A	0.640	NA
A/2/(Dt)	1.29	$1.05 \le PA/Dt \le 1.5$

Certification:

I certify that this pitot tube meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor Cp of 0.84.

Certified By: _____ **Date:** 7/2/2015

Almega
ENVIRONMENTAL

ALMEGA ENVIRONMENTAL AND TECHNICAL SERVICES
10602 WALKER STREET
CYPRESS, CA 90630

STACK TEMPERATURE SENSOR SEMI-ANNUAL CALIBRATION

TEMPERATURE SENSOR I.D:	83	REF. IMMERSION GLASS THERMOMETER ID:	: 1, 2 & 3
READ OUT I.D:	TRO-2	ICE BATH: YES	
PITOT TUBE I.D:	S-83	BOILING WATER:	YES
PITOT TUBE LENGTH:	113 inch	HOT OIL:	YES
DATE:	9/24/2015	CALIBRATED BY:	LB

ICE BATH			
REF. IN HG. GLASS THERMOMETER TEMPERATURE (^{O}F)	FIELD METER TEMPERATURE (^{O}F)	ABSOLUTE DIFFERENCE TEMPERATURE (^{O}F)	% DIFFERENCE (%)
35.0	35.0	0.0	0.0
35.0	35.0	0.0	0.0
34.0	34.0	0.0	0.0

BOILING WATER			
REF. IN HG. GLASS THERMOMETER TEMPERATURE (^{O}F)	FIELD METER TEMPERATURE (^{O}F)	ABSOLUTE DIFFERENCE TEMPERATURE (^{O}F)	% DIFFERENCE (%)
212.0	211.0	1.0	0.5
213.0	212.0	1.0	0.5
214.0	213.0	1.0	0.5

HOT OIL			
REF. IN HG. GLASS THERMOMETER TEMPERATURE (^{O}F)	FIELD METER TEMPERATURE (^{O}F)	ABSOLUTE DIFFERENCE TEMPERATURE (^{O}F)	% DIFFERENCE (%)
446.0	446.0	0.0	0.0
448.0	448.0	0.0	0.0
448.0	447.0	1.0	0.2

NOTE:
MAXIMUM TOLERANCE BETWEEN ANY TWO MEASUREMENT IS 1.5%.
TAKE READING EVERY ONE MINUTE.

REF. ICE BATH THERMOMETER: -30 - 120 (F)
REF. BOILING WATER THERMOMETER: 20 - 500 (F)
REF. HOT OIL THERMOMETER: 20 - 500 (F)

Almega ENVIRONMENTAL

ALMEGA ENVIRONMENTAL AND TECHNICAL SERVICES
10602 WALKER STREET
CYPRESS, CA 90630

STACK TEMPERATURE SENSOR BI-MONTHLY CALIBRATION

TEMPERATURE SENSOR I.D:	83	REF. IMMERSION GLASS THERMOMETER ID:	: 1, 2 & 3
READ OUT I.D:	TRO-1	ICE BATH: YES	
PITOT TUBE I.D:	83	BOILING WATER:	YES
PITOT TUBE LENGTH:	113'	HOT OIL:	YES
DATE:	8/17/2015	CALIBRATED BY:	LB L.B.

ICE BATH			
REF. IN HG. GLASS THERMOMETER TEMPERATURE (^{O}F)	FIELD METER TEMPERATURE (^{O}F)	ABSOLUTE DIFFERENCE TEMPERATURE (^{O}F)	% DIFFERENCE (%)
34.0	33.5	0.5	1.5

BOILING WATER			
REF. IN HG. GLASS THERMOMETER TEMPERATURE (^{O}F)	FIELD METER TEMPERATURE (^{O}F)	ABSOLUTE DIFFERENCE TEMPERATURE (^{O}F)	% DIFFERENCE (%)
213.0	215.0	2.0	0.9

HOT OIL			
REF. IN HG. GLASS THERMOMETER TEMPERATURE (^{O}F)	FIELD METER TEMPERATURE (^{O}F)	ABSOLUTE DIFFERENCE TEMPERATURE (^{O}F)	% DIFFERENCE (%)
415.0	414.0	1.0	0.2

NOTE:
MAXIMUM TOLERANCE BETWEEN ANY TWO MEASUREMENT IS 1.5%.
TAKE READING EVERY ONE MINUTE.

REF. ICE BATH THERMOMETER: -30 - 120 (F)
REF. BOILING WATER THERMOMETER: 20 - 500 (F)
REF. HOT OIL THERMOMETER: 20 - 500 (F)

CERTIFICATE OF CALIBRATION

CUSTOMER:	ALMEGA ENVIRONMENTAL	**CALIBRATION DATE:**	07/13/2015
PO NUMBER:		**CALIBRATION DUE:**	07/13/2016
INST. MANUFACTURER:	SHORTRIDGE	**PROCEDURE:**	NAVAIR-17-20MP-03
INST. DESCRIPTION:	AIR FLOW TESTER	**CALIBRATION FLUID:**	AIR @ 70F
MODEL NUMBER:	ADM-880C	**STANDARD(S) USED:**	A321 DUE 2-2016
SERIAL NUMBER:	M10327	**NIST TRACE #' S:**	1236086968
RATED UNCERTAINTY:	+/- 3% RD. + 5 FPM	**AMBIENT CONDITIONS:**	764 mmHGA, 43% RH, 74F
UNCERTAINTY GIVEN:	+/- .17% RD.; K=2	**CERTIFICATE FILE #:**	460189.2015A

NOTES: AS RECEIVED / AS LEFT WITHIN SPECS.

RUN 1			RUN 2			RUN 3		
UUT INDICATED "H2O	DM.STD. ACTUAL "H2O	% RD. ERROR	UUT INDICATED "H2O	DM.STD. ACTUAL "H2O	% RD. ERROR	UUT INDICATED "H2O	DM.STD. ACTUAL "H2O	% RD. ERROR
0.0000	0.00000	0.000	0.0000	0.00000	0.000	0.0000	0.00000	0.000
0.0010	0.00102	2.000	0.0010	0.00101	1.000	0.0010	0.00102	2.000
0.0025	0.00252	0.800	0.0025	0.00252	0.800	0.0025	0.00252	0.800
0.0050	0.00505	1.000	0.0050	0.00507	1.400	0.0050	0.00506	1.200
0.0100	0.01009	0.900	0.0100	0.01008	0.800	0.0100	0.01010	1.000
0.0500	0.05015	0.300	0.0500	0.05012	0.240	0.0500	0.05011	0.220
0.5000	0.50033	0.066	0.5000	0.50025	0.050	0.5000	0.50028	0.056
1.0000	1.00530	0.530	1.0000	1.00041	0.041	1.0000	1.00045	0.045
2.5000	2.50099	0.040	2.5000	2.50097	0.039	2.5000	2.50089	0.036
5.0000	5.00174	0.035	5.0000	5.00122	0.024	5.0000	5.00115	0.023
7.5000	7.50185	0.025	7.5000	7.50179	0.024	7.5000	7.50153	0.020
10.0000	10.00256	0.026	10.0000	10.00255	0.025	10.0000	10.00224	0.022
	AVERAGE =	0.477		AVERAGE =	0.370		AVERAGE =	0.452

All instruments used in the performance of the shown calibration have traceability to the National Institute of Standards and Technology (NIST). The uncertainty ratio between the calibration standards (DM.STD.) used and the unit under test (UUT) is a minimum of 4:1, unless otherwise noted. Calibration has been performed per the shown procedure number, in accordance with ISO 10012:2003, ISO 17025:2005, ANSI/NCSL-Z-540.3, and/or MIL-STD-45662A. Test methods: API2530-92 & ASME MFC-3M-1989.

Dick Munns Company • 10572 Calle Lee #130 • Los Alamitos, CA 90720
Phone (714) 827-1215 • Fax (714) 827-0823

Date: 7-13-2015 Approved By: Calibration Technician:

Appendix E2

CEMS Calibration Gas Certificates

Airgas

Almega ENVIRONMENTAL

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Airgas Specialty Gases
11711 S. Alameda Street
Los Angeles , CA 90059
(323) 568-2208 Fax (323) 567-3686
www.airgas.com

Part Number:	E03NI69E15A3832	Reference Number:	48-124459216-1
Cylinder Number:	CC408131	Cylinder Volume:	151.4 CF
Laboratory:	ASG - Los Angeles - CA	Cylinder Pressure:	2015 PSIG
PGVP Number:	B32014	Valve Outlet:	590
Gas Code:	CO2,O2,BALN	Certification Date:	Oct 21, 2014

Expiration Date: Oct 21, 2022

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON DIOXIDE	8.750 %	8.749 %	G1	+/- 0.6% NIST Traceable	10/21/2014
OXYGEN	22.00 %	21.99 %	G1	+/- 0.4% NIST Traceable	10/21/2014
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	12061353	CC360995	11.002 % CARBON DIOXIDE/NITROGEN	+/- 0.6%	Jan 11, 2018
NTRM	09061417	CC273563	22.53 % OXYGEN/NITROGEN	+/- 0.4%	Mar 08, 2019

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
SIEMENS 6E CO2	NDIR	Oct 13, 2014
SIEMENS OXYMAT 6	PARAMAGNETIC	Oct 13, 2014

Triad Data Available Upon Request

Approved for Release

Almega ENVIRONMENTAL

PRAXAIR

Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Tel: (323) 585-2154 Fax:(714) 542-6689
PGVPID: F22015

DocNumber: 000082722

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

PRAXAIR WHSE SIGNAL HILL
2677 SIGNAL PARKWAY
SIGNAL HILL CA 907550

Praxair Order Number: 32010813
Customer P. O. Number: 05655758
Customer Reference Number:

Fill Date: 7/30/2015
Part Number: NI CD4 3O1E-AS
Lot Number: 109521109
Cylinder Style & Outlet: AS CGA 590
Cylinder Pressure & Volume: 2000 psig 140 cu. ft

Certified Concentration:

Expiration Date: 8/5/2023
Cylinder Number: CC248731

			NIST Traceable Analytical Uncertainty:
4.32	%	CARBON DIOXIDE	± 0.7 %
12.01	%	OXYGEN	± 0.4 %
	Balance	NITROGEN	

Certifcation Information: *Certification Date:* 8/5/2015 *Term:* 96 Months *Expiration Date:* 8/5/2023

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG.

O2 responses have been corrected for CO2 interference.

Analytical Data: *(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)*

1. Component: CARBON DIOXIDE

Requested Concentration: 4 3 %
Certified Concentration: 4.32 %
Instrument Used: Horiba VIA-510 S/N 2807014
Analytical Method: NDIR
Last Multipoint Calibration: 7/13/2015

First Analysis Data: Date: 8/5/2015

Z:	0	R:	9.87	C:	4.32	Conc:	4.32
R:	9 87	Z:	0	C:	4.32	Conc:	4 32
Z:	0	C:	4.32	R:	9 87	Conc:	4.32

UOM: % Mean Test Assay: 4 32 %

Reference Standard Type: GMIS
Ref Std Cylinder # : SA17695
Ref Std Conc: 9 87%
Ref Std Traceable to SRM # : 1674b
SRM Sample #: 7-H-07
SRM Cylinder #: FF10831

Second Analysis Data: Date:

Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0

UOM: % Mean Test Assay: 0 %

2. Component: OXYGEN

Requested Concentration: 12 %
Certified Concentration: 12 01 %
Instrument Used: OXYMAT 5E
Analytical Method: PARAMAGNETIC
Last Multipoint Calibration: 7/24/2015

First Analysis Data: Date: 8/5/2015

Z:	0	R:	19 9	C:	12 01	Conc:	12 01
R:	19.9	Z:	0	C:	12 01	Conc:	12 01
Z:	0	C:	12 01	R:	19 9	Conc:	12 01

UOM: % Mean Test Assay: 12 01 %

Reference Standard Type: GMIS
Ref Std Cylinder #: SA16022
Ref Std Conc: 19 90%
Ref Std Traceable to SRM #: 2659a
SRM Sample #: 71-E-19
SRM Cylinder #: FF22331

Second Analysis Data: Date:

Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0

UOM: % Mean Test Assay: 0 %

Analyzed by: Ying Yu

Certified by: Jack Fu (cont)
Jack Fu

AIR LIQUIDE | Air Liquide America Specialty Gases LLC | Intertek

Almega ENVIRONMENTAL

COMPLIANCE CLASS

Dual-Analyzed Calibration Standard

8832 DICE ROAD, SANTA FE SPRINGS, CA 90670-2516 Phone: 800-323-2212 Fax: 562-464-5262

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A52012

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
8832 DICE ROAD
SANTA FE SPRINGS, CA 90670-2516

P.O. No.: RECERT
Document # : 45861199-001

Customer
ALMEGA ENVIRONMENTAL & TECHNICAL SE

WEDNESDAY DELIVERY ONLY U
5251 MC FADDEN AVE.
HUNTINGTON BEACH CA 92649
US

ANALYTICAL INFORMATION Gas Type : CO,BALN

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: CC259973
Cylinder Pressure*:** 1700 PSIG
Certification Date: 18Apr2012
Prev Certification Date: 07Apr2009
Exp. Date: 19Apr2020
Batch No: SB00052655

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ACCURACY**	TRACEABILITY
CARBON MONOXIDE	899 PPM	+/- 2%	NIST and VSL
NITROGEN	BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol procedures , September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1681	15Jun2015	KAL004633	970.0 PPM	CARBON MONOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//001785245	09Apr2012	FTIR

Special Notes: The expiration date has been extended without re-assay per EPA 600/R-12/531.

APPROVED BY: MT

Airgas

Almega ENVIRONMENTAL

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Airgas Specialty Gases
11711 S. Alameda Street
Los Angeles , CA 90059
323-568-2208 Fax: 323-567-3686
www.airgas.com

Part Number:	E02NI99E15A0499	Reference Number:	48-124465925-1
Cylinder Number:	CC39463	Cylinder Volume:	144.3 CF
Laboratory:	ASG - Los Angeles - CA	Cylinder Pressure:	2015 PSIG
PGVP Number:	B32014	Valve Outlet:	350
Gas Code:	CO,BALN	Certification Date:	Dec 02, 2014

Expiration Date: Dec 02, 2022

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON MONOXIDE	450.0 PPM	453.8 PPM	G1	+/- 0.8% NIST Traceable	12/02/2014
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	12062425	CC366875	487.1 PPM CARBON MONOXIDE/NITROGEN	+/- 0.6%	Jun 22, 2018

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AMP0900118 CO	FTIR	Nov 21, 2014

Triad Data Available Upon Request

Approved for Release

Airgas

Almega ENVIRONMENTAL

Airgas Specialty Gases
11711 S. Alameda Street
Los Angeles , CA 90059
323-568-2208 Fax: 323-567-3686
Airgas.com

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Part Number:	E02NI99E15AC0D7	Reference Number:	48-124495805-1
Cylinder Number:	XC019657B	Cylinder Volume:	144.3 CF
Laboratory:	ASG - Los Angeles - CA	Cylinder Pressure:	2015 PSIG
PGVP Number:	B32015	Valve Outlet:	660
Gas Code:	NO,NOX,BALN	Certification Date:	Jun 09, 2015

Expiration Date: Jun 09, 2018

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	45.00 PPM	45.45 PPM	G1	+/- 1.0% NIST Traceable	06/01/2015, 06/09/2015
NITRIC OXIDE	45.00 PPM	45.31 PPM	G1	+/- 1.0% NIST Traceable	06/01/2015, 06/09/2015
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	13061216	CC403894	49.40 PPM NITRIC OXIDE/NITROGEN	+/- 0.8%	Nov 19, 2019
PRM	12328	680179	10.01 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Oct 15, 2014
NTRM	13061245	CC403940	49.40 PPM NITRIC OXIDE/NITROGEN	+/- 0.8%	Nov 19, 2019
GMIS	1211201301	CC501041	4.950 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Dec 11, 2016

The SRM, PRM or RGM noted above is only in reference to the GMIS used in the assay and not part of the analysis.

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AHR0801551 NO	FTIR	May 22, 2015
Nicolet 6700 AHR0801551 NO2	FTIR	May 21, 2015

Triad Data Available Upon Request

Approved for Release

Airgas

Almega ENVIRONMENTAL

Airgas Specialty Gases
11711 South Alameda Street
Los Angeles, CA 90059
(323) 568-2203 Fax: (323) 567-3686
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI99E15A3576	Reference Number:	48-124376725-6
Cylinder Number:	CC199782	Cylinder Volume:	144.3 Cubic Feet
Laboratory:	ASG - Los Angeles - CA	Cylinder Pressure:	2015 PSIG
PGVP Number:	B32013	Valve Outlet:	660
Gas Code:	NO,BALN	Certification Date:	Jun 07, 2013

Expiration Date: Jun 07, 2021

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	90.00 PPM	89.91 PPM	G1	+/- 0.9% NIST Traceable	05/31/2013, 06/07/2013
NITRIC OXIDE	90.00 PPM	89.88 PPM	G1	+/- 0.9% NIST Traceable	05/31/2013, 06/07/2013
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	11060532	CC331845	101.2 PPM NITRIC OXIDE/NITROGEN	+/- 0.6%	Feb 16, 2017
PRM	12312	680179	10.01 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Feb 14, 2012
GMIS	124208889129	CC323206	4.835 PPM NITROGEN DIOXIDE/NITROGEN	+/-2.0%	Oct 11, 2013

The SRM or PRM noted above is only in reference to the GMIS used in the assay and not part of the analysis.

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AMP0900118 NO	FTIR	May 09, 2013
Nicolet 6700 AMP0900118 NO2	FTIR	May 20, 2013

Triad Data Available Upon Request

Notes:

Approved for Release

Airgas

Almega ENVIRONMENTAL

Airgas Specialty Gases
11711 S. Alameda Street
Los Angeles, CA 90059
(323) 568-2208 Fax: (323) 567-3686
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI99E15W4BQ4	Reference Number:	48-124424353-1
Cylinder Number:	CC502676	Cylinder Volume:	CF
Laboratory:	ASG - Los Angeles - CA	Cylinder Pressure:	
PGVP Number:	B32014	Valve Outlet:	660
Gas Code:	NO2,BALN	Certification Date:	Mar 27, 2014

Expiration Date: Apr 03, 2017

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NITROGEN DIOXIDE	16.50 PPM	16.46 PPM	G1	+/- 2.0% NIST Traceable	03/27/2014, 04/03/2014
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
GMIS	1211201301	CC500610	14.91 PPM NITROGEN DIOXIDE/NITROGEN	+/- 1.6%	Dec 11, 2016
PRM	12329	726612	25.02 PPM NITROGEN DIOXIDE/NITROGEN	+/- 1.5%	Oct 15, 2014

The SRM, PRM or RGM noted above is only in reference to the GMIS used in the assay and not part of the analysis.

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AHR0801551 NO2	FTIR	Mar 13, 2014

Triad Data Available Upon Request

Permanent Notes: OXYGEN ADDED TO MAINTAIN STABILITY

Notes:

Approved for Release

Appendix E3

Other QA/QC

Facility: OCSD, Plant No. 2
City: Huntington Beach, CA
Source: Engine 5
Test: RATA
Test Date: 10/01/15

NO_2-to-NO CONVERTER EFFICIENCY CALCULATION

NO2 CONCENTRATION (Co):	16.46
AUDIT GAS WITH NO MODE (C1):	0.16
AUDIT GAS WITH NOx MODE (C2):	15.91

CALCULATIONS:

D1=|C2-C1|=	15.75
D2=|Co-C2|=	**0.55**

% CONVERTER EFFICIENCY: %CE=D1*100/Co= 95.7

Acceptance Criteria*	**(Yes/No)**
D2 < 1 ppm:	yes
% Converter Efficiency > 90% :	yes

STATUS: PASS

* NO2-to-NO Conversion Efficiency must be greater than 90%

Note: Stripchart and DAS can be found in Appendix D2 and D3 respectively.
NOx analyzer was calibrated on a 0-100ppm range, while the NO_2 calibration gas used was below 20% of this range (16.46ppm). Converter efficiency value is still considered valid.

Almega ENVIRONMENTAL

NOx Converter, QA/QC Check

Facility:	**OCSD, Plant No. 2**	**Run No.: 1**
City:	**Huntington Beach, CA**	**Test Date: 10/01/2015**
Source:	**Engine 5**	**Test: NOx Converter Check**
Test:	**RATA**	

TEST DATA

VARIABLE	DESCRIPTION	Pollutant 1 NOx
A	ANALYTICAL RANGE	**100**
	Unit of Measurement	**ppmd**
	CALIBRATION GAS INFORMATION	
B	Zero Gas	**0.00**
C	Mid Gas Concentration	**45.31**
	Mid Gas Cylinder S/N:	XC019657B
D	High Gas Concentration	**89.88**
	High Gas Cylinder S/N:	CC199782
	Primary Gas Cylinder S/N:	
E	UPSCALE CALIBRATION GAS USED	**45.31**
	L=Low, M=Mid, H=High	**M**
	INITIAL CALIBRATION ERROR TEST	
F	Zero Gas Response	**0.00**
G	Mid Gas Response	**45.31**
H	High Gas Reponse	**89.86**

QA/QC CALCULATIONS

CALIBRATION GAS SELECTION, % of Range		
Mid Gas	45.3	C*100/A
High Gas	89.9	D*100/A
CALIBRATION ERROR, % of Range		
Initial Zero Gas Error	0.00	(F-B)*100/A
Initial Mid Gas Error	0.00	(G-C)*100/A
Initial High Gas Error	-0.02	(H-D)*100/A
LINEARITY, % of Range		
Initial	0.01	{(G-F)-[(H-F)*C]/D}*100/A

APPENDIX F

FACILITY CEMS DATA

Appendix F1

FACILITY CEMS – Results and Calculations

Almega
ENVIRONMENTAL

Facility CEMS Data Summary

Facility: OCSD, Plant No. 2
City: Huntington Beach, CA
Source: Engine 5
Test: RATA
Date: 10/1/2015

Run No.	Time (hh:mm)	NOx ppm	NOx ppm@15%O2	NOx lb/hr	CO ppm	CO ppm@15%O2	CO lb/hr	Dry Flow dscfh	O2 %
1	7:43-8:12	38.01	25.02	2.71	644.87	424.59	28.03	597,826	11.94
2	8:13-8:42	39.79	26.03	2.85	627.39	410.59	27.38	600,191	11.88
3	8:43-9:12	39.60	26.33	2.93	632.74	420.71	28.44	618,448	12.03
4	9:31-10:00	38.89	25.53	2.79	638.91	419.45	27.88	600,512	11.91
5	10:01-10:30	40.14	26.56	2.91	629.02	416.17	27.73	606,556	11.98
6	10:31-11:00	39.73	26.31	2.93	634.26	419.98	28.45	617,090	11.99
7	11:16-11:45	39.61	25.75	2.81	629.08	408.90	27.16	593,955	11.82
8	11:46-12:15	39.46	26.15	2.86	632.51	419.20	27.88	606,370	12.00
9	12:16-12:45	40.01	26.21	2.86	623.82	408.64	27.16	599,077	11.89
Average:		39.47	25.99	2.85	632.51	416.47	27.79	604,447	11.94

Facility Process Data

Facility: OCSD, Plant No. 2
City: Huntington Beach, CA
Source: Engine 5
Test: RATA
Date: 10/1/2015

Run No.	Load %	Nat Gas Flow dscfm	Dig Gas Flow dscfm
1	80.46	14.55	732.22
2	83.18	14.70	739.55
3	84.78	15.00	749.90
4	82.32	14.64	737.63
5	83.86	14.70	739.24
6	84.96	14.98	751.40
7	84.30	14.62	736.90
8	83.50	14.87	737.46
9	83.17	15.64	735.93
Average:	83.39	14.86	740.03

RATA Report 1

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 7:43

Report End Date/Time : Thu 10/01/2015 8:12

DATE/TIME	NOx Raw (ppmvd)	NOx @15%O2 (ppmvd)	NOx Lbs/Hr	O2 (%)	Stack Flow (dscfm)	CO Raw (ppmvd)	CO @15%O2 (ppmvd)	CO Lbs/Hr
10/01/2015 7:43	37.61 V	24.86 V	2.75 V	11.97 V	10208.54 V	656.50 V	433.87 V	29.23 V
10/01/2015 7:44	38.10 V	25.57 V	2.83 V	12.11 V	10368.84 V	643.90 V	432.20 V	29.12 V
10/01/2015 7:45	37.89 V	25.12 V	2.78 V	12.00 V	10240.38 V	648.80 V	430.10 V	28.97 V
10/01/2015 7:46	36.95 V	24.54 V	2.71 V	12.02 V	10225.46 V	662.10 V	439.79 V	29.52 V
10/01/2015 7:47	37.54 V	24.81 V	2.74 V	11.97 V	10192.42 V	649.90 V	429.51 V	28.89 V
10/01/2015 7:48	37.78 V	25.09 V	2.79 V	12.02 V	10284.66 V	644.30 V	427.84 V	28.90 V
10/01/2015 7:49	37.02 V	24.93 V	2.70 V	12.14 V	10162.03 V	671.40 V	452.07 V	29.75 V
10/01/2015 7:50	37.24 V	24.62 V	2.64 V	11.98 V	9896.09 V	654.70 V	432.80 V	28.25 V
10/01/2015 7:51	37.44 V	24.44 V	2.65 V	11.86 V	9873.67 V	653.40 V	426.45 V	28.13 V
10/01/2015 7:52	37.05 V	24.42 V	2.65 V	11.95 V	9983.97 V	655.90 V	432.38 V	28.56 V
10/01/2015 7:53	37.54 V	24.62 V	2.71 V	11.91 V	10051.94 V	648.20 V	425.17 V	28.41 V
10/01/2015 7:54	37.44 V	24.67 V	2.69 V	11.95 V	10016.01 V	648.50 V	427.38 V	28.33 V
10/01/2015 7:55	38.24 V	25.27 V	2.77 V	11.97 V	10089.73 V	646.70 V	427.39 V	28.45 V
10/01/2015 7:56	37.55 V	24.75 V	2.71 V	11.95 V	10079.71 V	653.50 V	430.68 V	28.73 V
10/01/2015 7:57	39.11 V	25.65 V	2.82 V	11.91 V	10072.08 V	624.20 V	409.43 V	27.42 V
10/01/2015 7:58	37.38 V	24.96 V	2.73 V	12.06 V	10197.61 V	657.80 V	439.15 V	29.25 V
10/01/2015 7:59	38.66 V	25.61 V	2.81 V	12.00 V	10128.69 V	645.00 V	427.34 V	28.49 V
10/01/2015 8:00	38.45 V	25.41 V	2.75 V	11.97 V	9958.09 V	639.10 V	422.37 V	27.75 V
10/01/2015 8:01	37.54 V	24.69 V	2.68 V	11.93 V	9958.74 V	654.80 V	430.69 V	28.44 V
10/01/2015 8:02	38.21 V	25.25 V	2.76 V	11.97 V	10089.43 V	641.30 V	423.82 V	28.22 V
10/01/2015 8:03	37.34 V	24.94 V	2.71 V	12.07 V	10108.50 V	658.60 V	439.81 V	29.03 V
10/01/2015 8:04	36.87 V	24.25 V	2.61 V	11.93 V	9859.81 V	659.30 V	433.65 V	28.35 V
10/01/2015 8:05	37.92 V	24.75 V	2.67 V	11.86 V	9817.36 V	639.10 V	417.11 V	27.36 V
10/01/2015 8:06	37.99 V	25.04 V	2.68 V	11.95 V	9833.54 V	645.60 V	425.47 V	27.69 V
10/01/2015 8:07	38.02 V	24.75 V	2.61 V	11.84 V	9560.39 V	644.30 V	419.46 V	26.86 V
10/01/2015 8:08	39.57 V	25.63 V	2.71 V	11.79 V	9549.14 V	617.80 V	400.22 V	25.73 V
10/01/2015 8:09	39.68 V	25.70 V	2.72 V	11.79 V	9556.76 V	623.00 V	403.48 V	25.96 V
10/01/2015 8:10	39.22 V	25.41 V	2.69 V	11.79 V	9564.94 V	619.00 V	401.00 V	25.82 V
10/01/2015 8:11	39.26 V	25.29 V	2.67 V	11.74 V	9491.79 V	621.20 V	400.12 V	25.71 V
10/01/2015 8:12	39.64 V	25.46 V	2.70 V	11.72 V	9492.36 V	618.10 V	397.04 V	25.59 V
Average:	38.01	25.02	2.71	11.94	9963.76	644.87	424.59	28.03
Maximum:	39.68	25.70	2.83	12.14	10368.84	671.40	452.07	29.75
Minimum:	36.87	24.25	2.61	11.72	9491.79	617.80	397.04	25.59

R-1

Engine 5 Minute Emissions Data

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 7:43

Report End Date/Time : Thu 10/01/2015 8:12

DATE/TIME	ICE % Load	Digester Gas Flow (dscfm)	Natural Gas Flow (dscfm)	NOx @15%O2 (ppmvd)	CO @15%O2 (ppmvd)			
10/01/2015 7:43	78.31	747.24	14.93	24.86	433.87			
10/01/2015 7:44	78.07	746.84	15.21	25.57	432.20			
10/01/2015 7:45	80.77	747.04	15.07	25.12	430.10			
10/01/2015 7:46	80.21	744.40	15.07	24.54	439.79			
10/01/2015 7:47	79.94	746.03	14.93	24.81	429.51			
10/01/2015 7:48	77.17	749.07	15.07	25.09	427.84			
10/01/2015 7:49	82.54	729.99	14.65	24.93	452.07			
10/01/2015 7:50	85.54	724.10	14.51	24.62	432.80			
10/01/2015 7:51	80.51	732.02	14.51	24.44	426.45			
10/01/2015 7:52	84.29	732.63	14.65	24.42	432.38			
10/01/2015 7:53	79.23	741.15	14.93	24.62	425.17			
10/01/2015 7:54	82.78	735.27	14.65	24.67	427.38			
10/01/2015 7:55	80.32	738.72	14.65	25.27	427.39			
10/01/2015 7:56	82.39	740.54	14.37	24.75	430.68			
10/01/2015 7:57	76.99	743.59	14.37	25.65	409.43			
10/01/2015 7:58	86.02	739.33	14.51	24.96	439.15			
10/01/2015 7:59	80.75	739.73	14.65	25.61	427.34			
10/01/2015 8:00	78.33	728.77	14.65	25.41	422.37			
10/01/2015 8:01	82.13	732.63	14.51	24.69	430.69			
10/01/2015 8:02	77.36	738.92	14.51	25.25	423.82			
10/01/2015 8:03	83.50	732.22	14.65	24.94	439.81			
10/01/2015 8:04	76.34	725.12	14.51	24.25	433.65			
10/01/2015 8:05	81.63	728.16	14.23	24.75	417.11			
10/01/2015 8:06	79.81	721.67	14.51	25.04	425.47			
10/01/2015 8:07	83.63	710.09	14.37	24.75	419.46			
10/01/2015 8:08	76.21	713.55	13.95	25.63	400.22			
10/01/2015 8:09	82.29	714.56	13.81	25.70	403.48			
10/01/2015 8:10	79.76	714.76	13.95	25.41	401.00			
10/01/2015 8:11	79.19	713.34	13.95	25.29	400.12			
10/01/2015 8:12	77.84	715.17	14.09	25.46	397.04			
Total:								
Average:	80.46	732.22	14.55	25.02	424.59			
Maximum:	86.02	749.07	15.21	25.70	452.07			
Minimum:	76.21	710.09	13.81	24.25	397.04			

R-1

RATA Report 1

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 8:13

Report End Date/Time : Thu 10/01/2015 8:42

DATE/TIME	NOx Raw (ppmvd)	NOx @15%O2 (ppmvd)	NOx Lbs/Hr	O2 (%)	Stack Flow (dscfm)	CO Raw (ppmvd)	CO @15%O2 (ppmvd)	CO Lbs/Hr
10/01/2015 8:13	40.72 V	26.15 V	2.77 V	11.71 V	9482.23 V	609.10 V	391.15 V	25.19 V
10/01/2015 8:14	39.51 V	25.37 V	2.70 V	11.71 V	9523.71 V	616.80 V	396.10 V	25.62 V
10/01/2015 8:15	40.79 V	26.20 V	2.78 V	11.72 V	9508.03 V	603.80 V	387.85 V	25.04 V
10/01/2015 8:16	40.88 V	26.25 V	2.83 V	11.71 V	9651.33 V	607.80 V	390.32 V	25.58 V
10/01/2015 8:17	40.40 V	25.94 V	2.84 V	11.71 V	9805.93 V	608.10 V	390.51 V	26.00 V
10/01/2015 8:18	41.02 V	26.49 V	2.88 V	11.76 V	9778.52 V	608.50 V	392.90 V	25.95 V
10/01/2015 8:19	40.23 V	26.25 V	2.86 V	11.86 V	9929.88 V	618.10 V	403.29 V	26.77 V
10/01/2015 8:20	40.33 V	26.32 V	2.85 V	11.86 V	9861.29 V	628.50 V	410.19 V	27.03 V
10/01/2015 8:21	39.32 V	25.52 V	2.74 V	11.81 V	9713.82 V	635.40 V	412.42 V	26.92 V
10/01/2015 8:22	40.22 V	25.91 V	2.85 V	11.74 V	9867.08 V	617.50 V	397.74 V	26.57 V
10/01/2015 8:23	40.65 V	26.46 V	2.88 V	11.84 V	9887.01 V	617.20 V	401.71 V	26.61 V
10/01/2015 8:24	38.98 V	25.37 V	2.74 V	11.84 V	9817.63 V	640.50 V	416.87 V	27.42 V
10/01/2015 8:25	38.97 V	25.36 V	2.76 V	11.84 V	9869.95 V	625.40 V	407.05 V	26.92 V
10/01/2015 8:26	38.87 V	25.42 V	2.76 V	11.88 V	9890.16 V	642.20 V	419.95 V	27.70 V
10/01/2015 8:27	39.64 V	25.67 V	2.76 V	11.79 V	9710.63 V	635.10 V	411.32 V	26.89 V
10/01/2015 8:28	39.32 V	25.59 V	2.76 V	11.84 V	9801.76 V	627.50 V	408.41 V	26.82 V
10/01/2015 8:29	39.50 V	25.58 V	2.78 V	11.79 V	9829.39 V	622.60 V	403.22 V	26.69 V
10/01/2015 8:30	39.97 V	25.89 V	2.85 V	11.79 V	9929.73 V	620.50 V	401.86 V	26.87 V
10/01/2015 8:31	39.82 V	26.11 V	2.88 V	11.90 V	10077.87 V	630.20 V	413.25 V	27.70 V
10/01/2015 8:32	38.93 V	25.45 V	2.82 V	11.88 V	10087.03 V	632.30 V	413.36 V	27.81 V
10/01/2015 8:33	39.57 V	26.07 V	2.93 V	11.95 V	10314.08 V	626.00 V	412.44 V	28.16 V
10/01/2015 8:34	39.88 V	26.36 V	2.95 V	11.97 V	10318.98 V	632.00 V	417.68 V	28.44 V
10/01/2015 8:35	39.95 V	26.40 V	2.97 V	11.97 V	10357.49 V	635.00 V	419.66 V	28.68 V
10/01/2015 8:36	39.94 V	26.52 V	3.00 V	12.02 V	10471.22 V	631.20 V	419.14 V	28.82 V
10/01/2015 8:37	39.54 V	26.32 V	2.98 V	12.04 V	10497.80 V	642.50 V	427.73 V	29.41 V
10/01/2015 8:38	39.66 V	26.48 V	2.95 V	12.06 V	10386.99 V	636.40 V	424.87 V	28.83 V
10/01/2015 8:39	39.00 V	25.97 V	2.89 V	12.04 V	10345.86 V	644.90 V	429.45 V	29.10 V
10/01/2015 8:40	40.49 V	26.96 V	3.01 V	12.04 V	10365.42 V	621.10 V	413.60 V	28.08 V
10/01/2015 8:41	38.93 V	26.49 V	2.96 V	12.23 V	10606.09 V	656.80 V	446.96 V	30.38 V
10/01/2015 8:42	38.62 V	26.00 V	2.88 V	12.14 V	10408.74 V	648.80 V	436.73 V	29.45 V
Average:	39.79	26.03	2.85	11.88	10003.19	627.39	410.59	27.38
Maximum:	41.02	26.96	3.01	12.23	10606.09	656.80	446.96	30.38
Minimum:	38.62	25.36	2.70	11.71	9482.23	603.80	387.85	25.04

R-2

Engine 5 Minute Emissions Data

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 8:13

Report End Date/Time : Thu 10/01/2015 8:42

DATE/TIME	ICE % Load	Digester Gas Flow (dscfm)	Natural Gas Flow (dscfm)	NOx @15%O2 (ppmvd)	CO @15%O2 (ppmvd)			
10/01/2015 8:13	81.71	714.36	14.23	26.15	391.15			
10/01/2015 8:14	83.03	717.81	14.09	25.37	396.10			
10/01/2015 8:15	77.20	716.39	14.09	26.20	387.85			
10/01/2015 8:16	79.17	727.96	13.95	26.25	390.32			
10/01/2015 8:17	81.21	739.53	14.23	25.94	390.51			
10/01/2015 8:18	83.18	733.03	14.37	26.49	392.90			
10/01/2015 8:19	79.77	736.08	14.79	26.25	403.29			
10/01/2015 8:20	79.90	730.39	14.93	26.32	410.19			
10/01/2015 8:21	80.86	723.90	14.51	25.52	412.42			
10/01/2015 8:22	88.48	741.76	14.37	25.91	397.74			
10/01/2015 8:23	80.18	734.45	14.93	26.46	401.71			
10/01/2015 8:24	82.65	729.58	14.65	25.37	416.87			
10/01/2015 8:25	85.94	734.05	14.37	25.36	407.05			
10/01/2015 8:26	83.33	731.82	14.51	25.42	419.95			
10/01/2015 8:27	79.13	725.52	14.37	25.67	411.32			
10/01/2015 8:28	84.65	728.36	14.65	25.59	408.41			
10/01/2015 8:29	84.32	734.45	14.51	25.58	403.22			
10/01/2015 8:30	85.16	741.97	14.65	25.89	401.86			
10/01/2015 8:31	84.82	743.79	14.65	26.11	413.25			
10/01/2015 8:32	88.39	746.84	14.65	25.45	413.36			
10/01/2015 8:33	87.25	757.39	15.07	26.07	412.44			
10/01/2015 8:34	87.87	755.36	15.07	26.36	417.68			
10/01/2015 8:35	82.91	757.60	15.48	26.40	419.66			
10/01/2015 8:36	82.97	762.87	15.21	26.52	419.14			
10/01/2015 8:37	84.67	762.87	15.21	26.32	427.73			
10/01/2015 8:38	84.88	751.91	15.48	26.48	424.87			
10/01/2015 8:39	82.42	751.71	14.93	25.97	429.45			
10/01/2015 8:40	81.83	752.72	15.21	26.96	413.60			
10/01/2015 8:41	82.95	753.94	15.07	26.49	446.96			
10/01/2015 8:42	84.70	748.06	14.93	26.00	436.73			
Total:								
Average:	83.18	739.55	14.70	26.03	410.59			
Maximum:	88.48	762.87	15.48	26.96	446.96			
Minimum:	77.20	714.36	13.95	25.36	387.85			

RCT

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 8:43

Report End Date/Time : Thu 10/01/2015 9:12

DATE/TIME	NOx Raw (ppmvd)	NOx @15%O2 (ppmvd)	NOx Lbs/Hr	O2 (%)	Stack Flow (dscfm)	CO Raw (ppmvd)	CO @15%O2 (ppmvd)	CO Lbs/Hr
10/01/2015 8:43	39.71 V	26.44 V	2.95 V	12.04 V	10351.28 V	629.80 V	419.39 V	28.43 V
10/01/2015 8:44	40.08 V	26.82 V	2.98 V	12.08 V	10363.39 V	629.80 V	421.41 V	28.46 V
10/01/2015 8:45	39.25 V	26.15 V	2.91 V	12.04 V	10335.25 V	640.10 V	426.37 V	28.85 V
10/01/2015 8:46	39.35 V	26.21 V	2.91 V	12.04 V	10327.43 V	640.40 V	426.57 V	28.84 V
10/01/2015 8:47	39.81 V	26.31 V	2.94 V	11.97 V	10286.74 V	627.50 V	414.70 V	28.15 V
10/01/2015 8:48	40.19 V	26.89 V	3.03 V	12.08 V	10496.67 V	627.90 V	420.14 V	28.74 V
10/01/2015 8:49	40.39 V	26.90 V	3.03 V	12.04 V	10449.33 V	623.90 V	415.46 V	28.43 V
10/01/2015 8:50	39.28 V	26.23 V	2.94 V	12.07 V	10446.93 V	641.60 V	428.46 V	29.23 V
10/01/2015 8:51	39.27 V	26.43 V	2.98 V	12.14 V	10568.67 V	637.70 V	429.26 V	29.39 V
10/01/2015 8:52	39.46 V	26.40 V	2.93 V	12.08 V	10357.65 V	642.80 V	430.11 V	29.03 V
10/01/2015 8:53	39.60 V	26.38 V	2.95 V	12.04 V	10370.45 V	633.70 V	422.11 V	28.66 V
10/01/2015 8:54	39.28 V	26.36 V	2.97 V	12.11 V	10526.21 V	642.00 V	430.80 V	29.47 V
10/01/2015 8:55	40.13 V	26.72 V	2.99 V	12.04 V	10403.31 V	629.80 V	419.39 V	28.57 V
10/01/2015 8:56	39.88 V	26.43 V	2.95 V	12.00 V	10324.02 V	633.70 V	419.98 V	28.53 V
10/01/2015 8:57	41.34 V	27.53 V	3.06 V	12.04 V	10338.35 V	611.20 V	407.01 V	27.56 V
10/01/2015 8:58	39.67 V	26.09 V	2.90 V	11.93 V	10200.41 V	629.80 V	414.13 V	28.02 V
10/01/2015 8:59	39.78 V	26.57 V	2.96 V	12.07 V	10380.87 V	631.90 V	421.98 V	28.61 V
10/01/2015 9:00	39.60 V	26.30 V	2.94 V	12.02 V	10354.54 V	626.00 V	415.69 V	28.27 V
10/01/2015 9:01	39.11 V	26.05 V	2.91 V	12.04 V	10365.33 V	636.90 V	424.24 V	28.79 V
10/01/2015 9:02	39.25 V	26.14 V	2.89 V	12.04 V	10251.42 V	640.80 V	426.72 V	28.65 V
10/01/2015 9:03	38.83 V	25.73 V	2.84 V	12.00 V	10197.10 V	647.50 V	429.12 V	28.79 V
10/01/2015 9:04	38.27 V	25.41 V	2.80 V	12.02 V	10216.27 V	645.00 V	428.31 V	28.74 V
10/01/2015 9:05	39.11 V	26.12 V	2.87 V	12.07 V	10247.25 V	634.80 V	423.92 V	28.37 V
10/01/2015 9:06	40.12 V	26.64 V	2.93 V	12.02 V	10181.18 V	620.80 V	412.24 V	27.56 V
10/01/2015 9:07	39.78 V	26.22 V	2.89 V	11.95 V	10128.23 V	627.40 V	413.48 V	27.71 V
10/01/2015 9:08	39.32 V	25.78 V	2.85 V	11.90 V	10102.46 V	631.90 V	414.36 V	27.84 V
10/01/2015 9:09	40.40 V	26.63 V	2.94 V	11.95 V	10147.88 V	619.20 V	408.07 V	27.40 V
10/01/2015 9:10	39.92 V	26.31 V	2.93 V	11.95 V	10238.67 V	624.20 V	411.37 V	27.87 V
10/01/2015 9:11	38.66 V	25.75 V	2.82 V	12.04 V	10164.96 V	639.20 V	425.77 V	28.33 V
10/01/2015 9:12	39.14 V	25.94 V	2.84 V	12.00 V	10101.90 V	635.00 V	420.84 V	27.97 V
Average:	39.60	26.33	2.93	12.03	10307.47	632.74	420.71	28.44
Maximum:	41.34	27.53	3.06	12.14	10568.67	647.50	430.80	29.47
Minimum:	38.27	25.41	2.80	11.90	10101.90	611.20	407.01	27.40

R-3

Engine 5 Minute Emissions Data

Almega ENVIRONMENTAL

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 8:43

Report End Date/Time : Thu 10/01/2015 9:12

DATE/TIME	ICE % Load	Digester Gas Flow (dscfm)	Natural Gas Flow (dscfm)	NOx @15%O2 (ppmvd)	CO @15%O2 (ppmvd)			
10/01/2015 8:43	89.11	752.12	14.93	26.44	419.39			
10/01/2015 8:44	83.15	749.07	15.07	26.82	421.41			
10/01/2015 8:45	86.24	750.69	14.93	26.15	426.37			
10/01/2015 8:46	87.46	749.88	15.07	26.21	426.57			
10/01/2015 8:47	91.15	752.93	15.07	26.31	414.70			
10/01/2015 8:48	85.42	759.02	15.07	26.89	420.14			
10/01/2015 8:49	86.05	759.02	15.21	26.90	415.46			
10/01/2015 8:50	85.21	756.18	15.48	26.23	428.46			
10/01/2015 8:51	87.09	759.02	15.48	26.43	429.26			
10/01/2015 8:52	81.29	748.87	14.93	26.40	430.11			
10/01/2015 8:53	81.52	753.33	14.93	26.38	422.11			
10/01/2015 8:54	80.64	759.22	14.93	26.36	430.80			
10/01/2015 8:55	83.19	755.57	15.21	26.72	419.39			
10/01/2015 8:56	81.21	753.33	15.21	26.43	419.98			
10/01/2015 8:57	86.00	750.69	15.21	27.53	407.01			
10/01/2015 8:58	84.87	750.29	15.07	26.09	414.13			
10/01/2015 8:59	86.69	751.91	15.07	26.57	421.98			
10/01/2015 9:00	83.23	754.55	14.93	26.30	415.69			
10/01/2015 9:01	89.03	752.72	15.07	26.05	424.24			
10/01/2015 9:02	87.59	744.40	15.07	26.14	426.72			
10/01/2015 9:03	82.42	744.00	15.07	25.73	429.12			
10/01/2015 9:04	85.94	744.60	14.65	25.41	428.31			
10/01/2015 9:05	79.45	742.37	14.79	26.12	423.92			
10/01/2015 9:06	80.82	741.97	14.65	26.64	412.24			
10/01/2015 9:07	90.56	744.00	14.51	26.22	413.48			
10/01/2015 9:08	84.54	745.21	14.93	25.78	414.36			
10/01/2015 9:09	78.51	744.81	14.93	26.63	408.07			
10/01/2015 9:10	83.72	751.91	14.79	26.31	411.37			
10/01/2015 9:11	86.91	737.70	15.07	25.75	425.77			
10/01/2015 9:12	84.34	737.50	14.65	25.94	420.84			
Total:								
Average:	84.78	749.90	15.00	26.33	420.71			
Maximum:	91.15	759.22	15.48	27.53	430.80			
Minimum:	78.51	737.50	14.51	25.41	407.01			

R-3

RATA Report 1

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 9:31

Report End Date/Time : Thu 10/01/2015 10:00

DATE/TIME	NOx Raw (ppmvd)	NOx @15%O2 (ppmvd)	NOx Lbs/Hr	O2 (%)	Stack Flow (dscfm)	CO Raw (ppmvd)	CO @15%O2 (ppmvd)	CO Lbs/Hr
10/01/2015 9:31	41.38 V	27.06 V	2.98 V	11.88 V	10031.34 V	614.00 V	401.51 V	26.86 V
10/01/2015 9:32	40.33 V	26.59 V	2.94 V	11.95 V	10160.84 V	624.20 V	411.48 V	27.66 V
10/01/2015 9:33	39.36 V	26.01 V	2.88 V	11.97 V	10197.19 V	629.50 V	416.02 V	27.99 V
10/01/2015 9:34	39.54 V	26.21 V	2.88 V	12.00 V	10148.60 V	634.10 V	420.24 V	28.06 V
10/01/2015 9:35	39.88 V	26.28 V	2.90 V	11.95 V	10139.84 V	633.10 V	417.23 V	27.99 V
10/01/2015 9:36	38.52 V	25.45 V	2.79 V	11.97 V	10113.16 V	641.70 V	423.97 V	28.30 V
10/01/2015 9:37	38.73 V	25.52 V	2.79 V	11.95 V	10061.42 V	640.10 V	421.73 V	28.09 V
10/01/2015 9:38	38.35 V	25.23 V	2.76 V	11.93 V	10018.46 V	651.00 V	428.19 V	28.44 V
10/01/2015 9:39	39.18 V	25.69 V	2.79 V	11.90 V	9944.59 V	642.80 V	421.51 V	27.88 V
10/01/2015 9:40	38.73 V	25.20 V	2.74 V	11.83 V	9849.31 V	637.50 V	414.81 V	27.38 V
10/01/2015 9:41	39.22 V	25.72 V	2.82 V	11.90 V	10014.20 V	640.50 V	420.00 V	27.97 V
10/01/2015 9:42	38.47 V	25.49 V	2.76 V	12.00 V	10018.27 V	648.60 V	429.73 V	28.34 V
10/01/2015 9:43	38.52 V	25.19 V	2.78 V	11.88 V	10065.60 V	638.50 V	417.53 V	28.03 V
10/01/2015 9:44	38.42 V	25.39 V	2.79 V	11.97 V	10116.90 V	638.50 V	421.97 V	28.17 V
10/01/2015 9:45	39.35 V	25.80 V	2.83 V	11.90 V	10035.52 V	630.90 V	413.71 V	27.61 V
10/01/2015 9:46	39.47 V	25.88 V	2.85 V	11.90 V	10065.14 V	629.10 V	412.53 V	27.61 V
10/01/2015 9:47	37.96 V	24.96 V	2.74 V	11.93 V	10068.53 V	650.00 V	427.42 V	28.54 V
10/01/2015 9:48	39.22 V	25.72 V	2.81 V	11.90 V	9998.20 V	629.20 V	412.59 V	27.43 V
10/01/2015 9:49	38.24 V	25.35 V	2.78 V	12.00 V	10145.16 V	650.30 V	431.10 V	28.77 V
10/01/2015 9:50	38.16 V	24.95 V	2.73 V	11.88 V	9989.00 V	653.10 V	426.96 V	28.45 V
10/01/2015 9:51	38.67 V	25.16 V	2.77 V	11.83 V	9992.14 V	630.90 V	410.51 V	27.49 V
10/01/2015 9:52	38.42 V	25.20 V	2.74 V	11.91 V	9931.06 V	639.20 V	419.26 V	27.68 V
10/01/2015 9:53	39.15 V	25.48 V	2.77 V	11.84 V	9864.96 V	638.90 V	415.83 V	27.49 V
10/01/2015 9:54	38.87 V	25.29 V	2.77 V	11.83 V	9941.88 V	631.70 V	411.03 V	27.39 V
10/01/2015 9:55	36.84 V	24.42 V	2.65 V	12.00 V	10042.15 V	668.40 V	443.10 V	29.27 V
10/01/2015 9:56	38.41 V	25.19 V	2.74 V	11.91 V	9939.06 V	639.60 V	419.53 V	27.72 V
10/01/2015 9:57	38.70 V	25.46 V	2.77 V	11.93 V	9995.57 V	641.00 V	421.62 V	27.94 V
10/01/2015 9:58	38.52 V	25.20 V	2.71 V	11.88 V	9802.50 V	643.30 V	420.78 V	27.50 V
10/01/2015 9:59	38.73 V	25.21 V	2.72 V	11.84 V	9809.10 V	639.70 V	416.35 V	27.36 V
10/01/2015 10:00	39.28 V	25.57 V	2.75 V	11.84 V	9756.53 V	637.80 V	415.23 V	27.14 V
Average:	38.89	25.53	2.79	11.91	10008.54	638.91	419.45	27.88
Maximum:	41.38	27.06	2.98	12.00	10197.19	668.40	443.10	29.27
Minimum:	36.84	24.42	2.65	11.83	9756.53	614.00	401.51	26.86

R-4

Engine 5 Minute Emissions Data

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 9:31

Report End Date/Time : Thu 10/01/2015 10:00

DATE/TIME	ICE % Load	Digester Gas Flow (dscfm)	Natural Gas Flow (dscfm)	NOx @15%O2 (ppmvd)	CO @15%O2 (ppmvd)			
10/01/2015 9:31	83.12	742.37	14.65	27.06	401.51			
10/01/2015 9:32	80.01	746.03	14.65	26.59	411.48			
10/01/2015 9:33	84.37	746.84	14.65	26.01	416.02			
10/01/2015 9:34	83.20	740.34	15.07	26.21	420.24			
10/01/2015 9:35	84.28	744.20	14.93	26.28	417.23			
10/01/2015 9:36	85.90	741.15	14.37	25.45	423.97			
10/01/2015 9:37	85.65	738.92	14.65	25.52	421.73			
10/01/2015 9:38	78.99	736.48	14.93	25.23	428.19			
10/01/2015 9:39	82.59	733.64	14.65	25.69	421.51			
10/01/2015 9:40	82.16	732.22	14.65	25.20	414.81			
10/01/2015 9:41	84.13	738.72	14.79	25.72	420.00			
10/01/2015 9:42	80.87	731.41	14.65	25.49	429.73			
10/01/2015 9:43	83.38	745.21	14.51	25.19	417.53			
10/01/2015 9:44	78.43	740.54	14.79	25.39	421.97			
10/01/2015 9:45	84.10	740.34	14.79	25.80	413.71			
10/01/2015 9:46	81.50	742.37	14.93	25.88	412.53			
10/01/2015 9:47	79.27	740.95	14.65	24.96	427.42			
10/01/2015 9:48	79.67	737.50	14.79	25.72	412.59			
10/01/2015 9:49	81.90	740.54	14.65	25.35	431.10			
10/01/2015 9:50	79.59	739.12	14.79	24.95	426.96			
10/01/2015 9:51	79.05	743.18	14.65	25.16	410.51			
10/01/2015 9:52	85.16	732.63	14.51	25.20	419.26			
10/01/2015 9:53	86.53	733.44	14.51	25.48	415.83			
10/01/2015 9:54	79.99	739.33	14.65	25.29	411.03			
10/01/2015 9:55	81.10	733.24	14.37	24.42	443.10			
10/01/2015 9:56	84.36	733.24	14.51	25.19	419.53			
10/01/2015 9:57	81.96	735.88	14.23	25.46	421.62			
10/01/2015 9:58	80.70	724.91	14.51	25.20	420.78			
10/01/2015 9:59	81.72	729.38	14.37	25.21	416.35			
10/01/2015 10:00	86.06	724.91	14.51	25.57	415.23			
Total:								
Average:	82.32	737.63	14.64	25.53	419.45			
Maximum:	86.53	746.84	15.07	27.06	443.10			
Minimum:	78.43	724.91	14.23	24.42	401.51			

RATA Report 1

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 10:01

Report End Date/Time : Thu 10/01/2015 10:30

DATE/TIME	NOx Raw (ppmvd)	NOx @15%O2 (ppmvd)	NOx Lbs/Hr	O2 (%)	Stack Flow (dscfm)	CO Raw (ppmvd)	CO @15%O2 (ppmvd)	CO Lbs/Hr
10/01/2015 10:01	38.45 V	25.03 V	2.68 V	11.84 V	9710.91 V	639.90 V	416.48 V	27.10 V
10/01/2015 10:02	38.62 V	25.14 V	2.76 V	11.84 V	9957.56 V	627.50 V	408.41 V	27.25 V
10/01/2015 10:03	39.38 V	26.03 V	2.81 V	11.97 V	9946.45 V	633.80 V	418.87 V	27.49 V
10/01/2015 10:04	39.56 V	26.06 V	2.86 V	11.95 V	10064.10 V	636.90 V	419.62 V	27.95 V
10/01/2015 10:05	38.55 V	25.35 V	2.76 V	11.93 V	9982.70 V	644.70 V	423.93 V	28.07 V
10/01/2015 10:06	39.67 V	26.21 V	2.83 V	11.97 V	9941.58 V	630.20 V	416.37 V	27.32 V
10/01/2015 10:07	38.72 V	25.52 V	2.76 V	11.95 V	9922.25 V	638.50 V	420.79 V	27.63 V
10/01/2015 10:08	39.21 V	25.91 V	2.83 V	11.97 V	10055.41 V	632.70 V	418.14 V	27.74 V
10/01/2015 10:09	39.31 V	25.90 V	2.84 V	11.95 V	10061.72 V	644.00 V	424.30 V	28.26 V
10/01/2015 10:10	42.22 V	27.47 V	3.04 V	11.83 V	10037.10 V	603.90 V	392.94 V	26.43 V
10/01/2015 10:11	41.86 V	27.74 V	3.09 V	12.00 V	10302.16 V	613.00 V	406.26 V	27.54 V
10/01/2015 10:12	41.44 V	27.51 V	3.03 V	12.01 V	10205.30 V	613.30 V	407.14 V	27.29 V
10/01/2015 10:13	40.98 V	27.15 V	2.98 V	12.00 V	10148.15 V	625.00 V	414.09 V	27.66 V
10/01/2015 10:14	40.50 V	26.83 V	2.93 V	11.99 V	10095.93 V	631.50 V	418.28 V	27.80 V
10/01/2015 10:15	40.53 V	26.86 V	2.97 V	12.00 V	10212.35 V	629.10 V	416.93 V	28.02 V
10/01/2015 10:16	41.09 V	27.44 V	3.03 V	12.07 V	10269.27 V	628.80 V	419.91 V	28.16 V
10/01/2015 10:17	40.01 V	26.64 V	2.94 V	12.04 V	10251.12 V	631.90 V	420.79 V	28.25 V
10/01/2015 10:18	40.15 V	26.61 V	2.93 V	12.00 V	10169.55 V	629.40 V	417.13 V	27.91 V
10/01/2015 10:19	39.78 V	26.42 V	2.91 V	12.02 V	10189.58 V	630.50 V	418.68 V	28.02 V
10/01/2015 10:20	40.47 V	26.67 V	2.96 V	11.95 V	10190.75 V	629.40 V	414.80 V	27.97 V
10/01/2015 10:21	40.95 V	27.34 V	3.02 V	12.06 V	10290.18 V	625.60 V	417.66 V	28.07 V
10/01/2015 10:22	41.01 V	27.44 V	3.01 V	12.08 V	10246.13 V	621.90 V	416.13 V	27.79 V
10/01/2015 10:23	40.12 V	26.79 V	2.92 V	12.07 V	10141.38 V	631.10 V	421.45 V	27.91 V
10/01/2015 10:24	40.57 V	26.89 V	2.94 V	12.00 V	10099.21 V	628.70 V	416.66 V	27.69 V
10/01/2015 10:25	39.95 V	26.48 V	2.88 V	12.00 V	10061.49 V	631.50 V	418.52 V	27.71 V
10/01/2015 10:26	40.40 V	26.62 V	2.91 V	11.95 V	10058.75 V	626.40 V	412.70 V	27.48 V
10/01/2015 10:27	40.57 V	26.94 V	2.96 V	12.02 V	10170.08 V	619.20 V	411.17 V	27.46 V
10/01/2015 10:28	40.22 V	26.71 V	2.91 V	12.02 V	10095.41 V	630.50 V	418.68 V	27.76 V
10/01/2015 10:29	40.08 V	26.56 V	2.91 V	12.00 V	10126.45 V	636.40 V	421.77 V	28.10 V
10/01/2015 10:30	39.78 V	26.49 V	2.93 V	12.04 V	10275.18 V	625.30 V	416.40 V	28.02 V
Average:	40.14	26.56	2.91	11.98	10109.27	629.02	416.17	27.73
Maximum:	42.22	27.74	3.09	12.08	10302.16	644.70	424.30	28.26
Minimum:	38.45	25.03	2.68	11.83	9710.91	603.90	392.94	26.43

R-5

Engine 5 Minute Emissions Data

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 10:01

Report End Date/Time : Thu 10/01/2015 10:30

DATE/TIME	ICE % Load	Digester Gas Flow (dscfm)	Natural Gas Flow (dscfm)	NOx @15%O2 (ppmvd)	CO @15%O2 (ppmvd)			
10/01/2015 10:01	83.94	722.07	14.23	25.03	416.48			
10/01/2015 10:02	80.49	740.54	14.51	25.14	408.41			
10/01/2015 10:03	85.20	728.57	14.23	26.03	418.87			
10/01/2015 10:04	79.59	739.12	14.65	26.06	419.62			
10/01/2015 10:05	76.46	734.66	14.51	25.35	423.93			
10/01/2015 10:06	82.73	727.96	14.51	26.21	416.37			
10/01/2015 10:07	78.33	728.16	14.65	25.52	420.79			
10/01/2015 10:08	82.51	735.67	14.93	25.91	418.14			
10/01/2015 10:09	84.18	738.72	14.79	25.90	424.30			
10/01/2015 10:10	85.90	746.63	14.65	27.47	392.94			
10/01/2015 10:11	89.07	751.91	15.07	27.74	406.26			
10/01/2015 10:12	86.41	744.00	14.65	27.51	407.14			
10/01/2015 10:13	84.51	740.75	14.93	27.15	414.09			
10/01/2015 10:14	81.86	737.70	14.51	26.83	418.28			
10/01/2015 10:15	85.32	745.82	14.65	26.86	416.93			
10/01/2015 10:16	84.44	743.79	14.93	27.44	419.91			
10/01/2015 10:17	81.66	744.60	14.93	26.64	420.79			
10/01/2015 10:18	81.21	742.37	14.79	26.61	417.13			
10/01/2015 10:19	91.40	742.37	14.79	26.42	418.68			
10/01/2015 10:20	86.76	748.06	14.93	26.67	414.80			
10/01/2015 10:21	83.63	746.03	14.65	27.34	417.66			
10/01/2015 10:22	84.34	740.54	14.93	27.44	416.13			
10/01/2015 10:23	80.82	734.45	14.79	26.79	421.45			
10/01/2015 10:24	84.94	737.30	14.65	26.89	416.66			
10/01/2015 10:25	84.70	734.45	14.65	26.48	418.52			
10/01/2015 10:26	86.36	738.72	14.65	26.62	412.70			
10/01/2015 10:27	83.12	741.36	14.51	26.94	411.17			
10/01/2015 10:28	82.19	735.06	14.93	26.71	418.68			
10/01/2015 10:29	89.25	739.12	14.79	26.56	421.77			
10/01/2015 10:30	84.51	746.63	14.79	26.49	416.40			
Total:								
Average:	83.86	739.24	14.70	26.56	416.17			
Maximum:	91.40	751.91	15.07	27.74	424.30			
Minimum:	76.46	722.07	14.23	25.03	392.94			

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 10:31

Report End Date/Time : Thu 10/01/2015 11:00

DATE/TIME	NOx Raw (ppmvd)	NOx @15%O2 (ppmvd)	NOx Lbs/Hr	O2 (%)	Stack Flow (dscfm)	CO Raw (ppmvd)	CO @15%O2 (ppmvd)	CO Lbs/Hr
10/01/2015 10:31	40.43 V	26.65 V	2.96 V	11.95 V	10219.61 V	625.60 V	412.29 V	27.88 V
10/01/2015 10:32	41.72 V	27.56 V	3.07 V	11.97 V	10251.94 V	612.60 V	404.74 V	27.39 V
10/01/2015 10:33	40.19 V	26.77 V	3.00 V	12.04 V	10405.65 V	629.10 V	419.05 V	28.55 V
10/01/2015 10:34	40.39 V	26.61 V	2.97 V	11.95 V	10260.21 V	622.20 V	409.94 V	27.84 V
10/01/2015 10:35	40.46 V	26.74 V	2.98 V	11.97 V	10284.36 V	625.90 V	413.64 V	28.07 V
10/01/2015 10:36	39.92 V	26.38 V	2.95 V	11.97 V	10292.12 V	627.70 V	414.83 V	28.17 V
10/01/2015 10:37	39.60 V	26.45 V	2.95 V	12.07 V	10383.59 V	635.30 V	424.25 V	28.77 V
10/01/2015 10:38	39.85 V	26.41 V	2.97 V	12.00 V	10380.59 V	627.10 V	415.60 V	28.39 V
10/01/2015 10:39	40.19 V	26.70 V	2.98 V	12.02 V	10347.86 V	630.20 V	418.60 V	28.44 V
10/01/2015 10:40	38.94 V	25.86 V	2.88 V	12.02 V	10311.66 V	648.50 V	430.63 V	29.16 V
10/01/2015 10:41	39.85 V	26.46 V	2.97 V	12.02 V	10376.14 V	626.50 V	416.02 V	28.35 V
10/01/2015 10:42	40.12 V	26.80 V	3.02 V	12.07 V	10500.57 V	635.00 V	424.17 V	29.08 V
10/01/2015 10:43	39.99 V	26.77 V	2.99 V	12.09 V	10442.52 V	636.50 V	426.02 V	28.99 V
10/01/2015 10:44	38.51 V	25.45 V	2.88 V	11.97 V	10410.62 V	648.40 V	428.51 V	29.44 V
10/01/2015 10:45	39.28 V	26.28 V	2.98 V	12.08 V	10575.55 V	633.50 V	423.89 V	29.22 V
10/01/2015 10:46	39.75 V	26.48 V	2.96 V	12.04 V	10370.45 V	639.50 V	425.97 V	28.92 V
10/01/2015 10:47	38.69 V	25.88 V	2.89 V	12.08 V	10425.41 V	646.00 V	432.13 V	29.37 V
10/01/2015 10:48	38.80 V	25.65 V	2.85 V	11.98 V	10249.32 V	645.40 V	426.65 V	28.85 V
10/01/2015 10:49	39.91 V	26.30 V	2.95 V	11.95 V	10319.43 V	636.10 V	419.09 V	28.63 V
10/01/2015 10:50	39.47 V	26.21 V	2.92 V	12.02 V	10333.55 V	640.10 V	425.05 V	28.85 V
10/01/2015 10:51	39.28 V	25.96 V	2.88 V	11.97 V	10230.03 V	644.30 V	425.81 V	28.74 V
10/01/2015 10:52	39.15 V	25.87 V	2.88 V	11.97 V	10241.07 V	638.80 V	422.17 V	28.53 V
10/01/2015 10:53	39.99 V	26.30 V	2.94 V	11.93 V	10243.06 V	633.30 V	416.55 V	28.29 V
10/01/2015 10:54	40.46 V	26.61 V	2.95 V	11.93 V	10176.21 V	628.20 V	413.20 V	27.88 V
10/01/2015 10:55	39.57 V	26.09 V	2.89 V	11.95 V	10180.19 V	632.80 V	417.15 V	28.09 V
10/01/2015 10:56	39.74 V	26.26 V	2.88 V	11.97 V	10100.33 V	633.10 V	418.29 V	27.89 V
10/01/2015 10:57	39.99 V	26.30 V	2.88 V	11.93 V	10049.82 V	631.00 V	414.92 V	27.65 V
10/01/2015 10:58	39.57 V	26.15 V	2.87 V	11.97 V	10119.28 V	633.70 V	418.80 V	27.96 V
10/01/2015 10:59	39.12 V	25.72 V	2.82 V	11.93 V	10036.16 V	633.70 V	416.70 V	27.73 V
10/01/2015 11:00	38.94 V	25.53 V	2.80 V	11.90 V	10027.82 V	647.80 V	424.79 V	28.33 V
Average:	39.73	26.31	2.93	11.99	10284.84	634.26	419.98	28.45
Maximum:	41.72	27.56	3.07	12.09	10575.55	648.50	432.13	29.44
Minimum:	38.51	25.45	2.80	11.90	10027.82	612.60	404.74	27.39

R-6

Engine 5 Minute Emissions Data

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 10:31

Report End Date/Time : Thu 10/01/2015 11:00

DATE/TIME	ICE % Load	Digester Gas Flow (dscfm)	Natural Gas Flow (dscfm)	NOx @15%O2 (ppmvd)	CO @15%O2 (ppmvd)			
10/01/2015 10:31	85.53	750.69	14.65	26.65	412.29			
10/01/2015 10:32	88.10	750.29	15.21	27.56	404.74			
10/01/2015 10:33	81.87	755.97	14.93	26.77	419.05			
10/01/2015 10:34	83.27	753.54	14.93	26.61	409.94			
10/01/2015 10:35	81.57	752.52	15.21	26.74	413.64			
10/01/2015 10:36	84.33	753.33	15.07	26.38	414.83			
10/01/2015 10:37	87.59	752.12	15.07	26.45	424.25			
10/01/2015 10:38	88.97	757.60	15.21	26.41	415.60			
10/01/2015 10:39	87.88	752.93	15.48	26.70	418.60			
10/01/2015 10:40	88.42	751.10	15.07	25.86	430.63			
10/01/2015 10:41	88.63	756.18	14.93	26.46	416.02			
10/01/2015 10:42	82.25	760.64	15.07	26.80	424.17			
10/01/2015 10:43	81.28	754.75	15.07	26.77	426.02			
10/01/2015 10:44	84.52	762.06	15.21	25.45	428.51			
10/01/2015 10:45	82.20	764.90	15.07	26.28	423.89			
10/01/2015 10:46	78.90	753.33	14.93	26.48	425.97			
10/01/2015 10:47	78.97	754.15	14.93	25.88	432.13			
10/01/2015 10:48	88.78	749.88	15.07	25.65	426.65			
10/01/2015 10:49	88.97	757.80	15.07	26.30	419.09			
10/01/2015 10:50	86.32	752.52	15.21	26.21	425.05			
10/01/2015 10:51	84.38	748.87	14.93	25.96	425.81			
10/01/2015 10:52	88.53	749.48	15.07	25.87	422.17			
10/01/2015 10:53	83.71	753.54	14.93	26.30	416.55			
10/01/2015 10:54	85.66	748.46	14.93	26.61	413.20			
10/01/2015 10:55	84.81	747.04	14.93	26.09	417.15			
10/01/2015 10:56	85.65	739.73	14.65	26.26	418.29			
10/01/2015 10:57	87.67	739.53	14.65	26.30	414.92			
10/01/2015 10:58	82.78	740.95	14.65	26.15	418.80			
10/01/2015 10:59	84.29	738.72	14.51	25.72	416.70			
10/01/2015 11:00	82.90	739.53	14.93	25.53	424.79			
Total:								
Average:	84.96	751.40	14.98	26.31	419.98			
Maximum:	88.97	764.90	15.48	27.56	432.13			
Minimum:	78.90	738.72	14.51	25.45	404.74			

RATA Report 1

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 11:16

Report End Date/Time : Thu 10/01/2015 11:45

DATE/TIME	NOx Raw (ppmvd)	NOx @15%O2 (ppmvd)	NOx Lbs/Hr	O2 (%)	Stack Flow (dscfm)	CO Raw (ppmvd)	CO @15%O2 (ppmvd)	CO Lbs/Hr
10/01/2015 11:16	38.48 V	25.11 V	2.69 V	11.86 V	9756.93 V	640.80 V	418.22 V	27.27 V
10/01/2015 11:17	38.59 V	25.04 V	2.74 V	11.81 V	9903.70 V	637.90 V	413.93 V	27.55 V
10/01/2015 11:18	40.12 V	26.11 V	2.82 V	11.84 V	9811.45 V	621.00 V	404.18 V	26.57 V
10/01/2015 11:19	38.91 V	25.25 V	2.72 V	11.81 V	9734.89 V	637.70 V	413.80 V	27.07 V
10/01/2015 11:20	39.32 V	25.52 V	2.75 V	11.81 V	9737.56 V	631.00 V	409.56 V	26.80 V
10/01/2015 11:21	40.05 V	25.87 V	2.80 V	11.77 V	9759.90 V	618.50 V	399.47 V	26.32 V
10/01/2015 11:22	39.68 V	25.75 V	2.79 V	11.81 V	9800.83 V	626.40 V	406.46 V	26.77 V
10/01/2015 11:23	40.39 V	26.08 V	2.83 V	11.76 V	9770.94 V	616.40 V	398.00 V	26.26 V
10/01/2015 11:24	40.51 V	26.10 V	2.86 V	11.74 V	9833.11 V	613.70 V	395.40 V	26.32 V
10/01/2015 11:25	40.75 V	26.45 V	2.90 V	11.81 V	9908.47 V	612.70 V	397.68 V	26.47 V
10/01/2015 11:26	40.26 V	26.20 V	2.85 V	11.84 V	9867.60 V	622.30 V	405.03 V	26.78 V
10/01/2015 11:27	39.35 V	25.53 V	2.78 V	11.81 V	9868.82 V	629.90 V	408.73 V	27.11 V
10/01/2015 11:28	39.85 V	25.81 V	2.82 V	11.79 V	9861.87 V	623.60 V	403.87 V	26.82 V
10/01/2015 11:29	39.67 V	25.81 V	2.82 V	11.83 V	9920.63 V	632.40 V	411.37 V	27.36 V
10/01/2015 11:30	40.09 V	25.89 V	2.85 V	11.76 V	9912.96 V	625.10 V	403.62 V	27.02 V
10/01/2015 11:31	39.44 V	25.66 V	2.79 V	11.83 V	9864.88 V	631.90 V	411.16 V	27.18 V
10/01/2015 11:32	39.54 V	25.54 V	2.81 V	11.77 V	9903.14 V	627.20 V	405.09 V	27.09 V
10/01/2015 11:33	40.47 V	26.54 V	2.93 V	11.90 V	10096.53 V	626.10 V	410.56 V	27.57 V
10/01/2015 11:34	39.84 V	25.93 V	2.85 V	11.84 V	9968.44 V	620.80 V	404.05 V	26.99 V
10/01/2015 11:35	38.94 V	25.34 V	2.76 V	11.83 V	9888.98 V	648.20 V	421.77 V	27.95 V
10/01/2015 11:36	39.61 V	25.66 V	2.81 V	11.79 V	9888.27 V	625.70 V	405.34 V	26.98 V
10/01/2015 11:37	38.97 V	25.28 V	2.77 V	11.81 V	9906.84 V	642.40 V	416.73 V	27.75 V
10/01/2015 11:38	39.21 V	25.51 V	2.80 V	11.83 V	9955.11 V	635.50 V	413.50 V	27.59 V
10/01/2015 11:39	38.94 V	25.46 V	2.79 V	11.88 V	9992.06 V	634.50 V	414.91 V	27.65 V
10/01/2015 11:40	39.50 V	25.70 V	2.84 V	11.83 V	10023.58 V	636.20 V	413.96 V	27.81 V
10/01/2015 11:41	39.77 V	26.00 V	2.85 V	11.88 V	9986.04 V	626.40 V	409.50 V	27.28 V
10/01/2015 11:42	39.39 V	25.64 V	2.82 V	11.84 V	9976.67 V	624.00 V	406.13 V	27.15 V
10/01/2015 11:43	39.84 V	26.05 V	2.86 V	11.88 V	10018.64 V	632.40 V	413.54 V	27.63 V
10/01/2015 11:44	39.25 V	25.67 V	2.82 V	11.88 V	10008.01 V	638.50 V	417.53 V	27.87 V
10/01/2015 11:45	39.57 V	25.88 V	2.85 V	11.88 V	10050.54 V	633.10 V	414.00 V	27.75 V
Average:	39.61	25.75	2.81	11.82	9899.25	629.08	408.90	27.16
Maximum:	40.75	26.54	2.93	11.90	10096.53	648.20	421.77	27.95
Minimum:	38.48	25.04	2.69	11.74	9734.89	612.70	395.40	26.26

R-7

Engine 5 Minute Emissions Data

Almega ENVIRONMENTAL

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 11:16

Report End Date/Time : Thu 10/01/2015 11:45

DATE/TIME	ICE % Load	Digester Gas Flow (dscfm)	Natural Gas Flow (dscfm)	NOx @15%O2 (ppmvd)	CO @15%O2 (ppmvd)			
10/01/2015 11:16	81.62	723.09	14.51	25.11	418.22			
10/01/2015 11:17	85.28	738.72	14.51	25.04	413.93			
10/01/2015 11:18	82.01	729.79	14.23	26.11	404.18			
10/01/2015 11:19	82.16	725.73	14.51	25.25	413.80			
10/01/2015 11:20	84.54	725.73	14.51	25.52	409.56			
10/01/2015 11:21	84.74	731.61	14.23	25.87	399.47			
10/01/2015 11:22	83.11	730.80	14.51	25.75	406.46			
10/01/2015 11:23	83.62	732.22	14.51	26.08	398.00			
10/01/2015 11:24	84.21	738.92	14.37	26.10	395.40			
10/01/2015 11:25	85.64	739.33	14.23	26.45	397.68			
10/01/2015 11:26	85.35	733.64	14.51	26.20	405.03			
10/01/2015 11:27	81.41	736.48	14.23	25.53	408.73			
10/01/2015 11:28	81.36	736.28	14.93	25.81	403.87			
10/01/2015 11:29	90.22	737.91	14.65	25.81	411.37			
10/01/2015 11:30	82.58	742.98	14.65	25.89	403.62			
10/01/2015 11:31	83.42	733.64	14.51	25.66	411.16			
10/01/2015 11:32	87.13	741.56	14.93	25.54	405.09			
10/01/2015 11:33	80.53	745.21	14.65	26.54	410.56			
10/01/2015 11:34	82.56	741.15	14.65	25.93	404.05			
10/01/2015 11:35	82.86	735.27	14.65	25.34	421.77			
10/01/2015 11:36	86.63	738.11	14.93	25.66	405.34			
10/01/2015 11:37	86.01	738.72	14.79	25.28	416.73			
10/01/2015 11:38	82.18	740.34	14.65	25.51	413.50			
10/01/2015 11:39	84.89	738.92	14.93	25.46	414.91			
10/01/2015 11:40	85.39	745.82	14.51	25.70	413.96			
10/01/2015 11:41	87.89	739.12	14.65	26.00	409.50			
10/01/2015 11:42	84.81	741.56	14.79	25.64	406.13			
10/01/2015 11:43	79.85	740.95	14.93	26.05	413.54			
10/01/2015 11:44	86.94	740.14	14.93	25.67	417.53			
10/01/2015 11:45	89.94	743.39	14.93	25.88	414.00			
Total:								
Average:	84.30	736.90	14.62	25.75	408.90			
Maximum:	90.22	745.82	14.93	26.54	421.77			
Minimum:	79.85	723.09	14.23	25.04	395.40			

RATA Report 1

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 11:46

Report End Date/Time : Thu 10/01/2015 12:15

DATE/TIME	NOx Raw (ppmvd)	NOx @15%O2 (ppmvd)	NOx Lbs/Hr	O2 (%)	Stack Flow (dscfm)	CO Raw (ppmvd)	CO @15%O2 (ppmvd)	CO Lbs/Hr
10/01/2015 11:46	38.79 V	25.56 V	2.82 V	11.95 V	10120.94 V	638.90 V	420.94 V	28.20 V
10/01/2015 11:47	39.50 V	26.38 V	2.89 V	12.07 V	10214.37 V	635.70 V	424.52 V	28.32 V
10/01/2015 11:48	39.60 V	26.24 V	2.84 V	12.00 V	9996.72 V	632.60 V	419.13 V	27.58 V
10/01/2015 11:49	38.86 V	25.55 V	2.82 V	11.93 V	10114.57 V	639.20 V	420.32 V	28.19 V
10/01/2015 11:50	40.11 V	26.64 V	2.94 V	12.02 V	10227.07 V	625.30 V	415.23 V	27.89 V
10/01/2015 11:51	39.38 V	26.10 V	2.87 V	12.00 V	10166.86 V	639.80 V	424.02 V	28.37 V
10/01/2015 11:52	39.70 V	26.30 V	2.88 V	12.00 V	10104.45 V	626.40 V	415.02 V	27.60 V
10/01/2015 11:53	40.11 V	26.71 V	2.86 V	12.04 V	9954.55 V	629.90 V	419.46 V	27.34 V
10/01/2015 11:54	39.74 V	26.33 V	2.85 V	12.00 V	10015.27 V	635.70 V	421.18 V	27.76 V
10/01/2015 11:55	40.67 V	26.80 V	2.86 V	11.95 V	9817.40 V	614.70 V	405.00 V	26.32 V
10/01/2015 11:56	39.31 V	26.05 V	2.78 V	12.00 V	9875.22 V	631.90 V	418.67 V	27.21 V
10/01/2015 11:57	39.81 V	26.31 V	2.88 V	11.97 V	10094.20 V	633.70 V	418.80 V	27.90 V
10/01/2015 11:58	39.67 V	26.42 V	2.89 V	12.04 V	10145.55 V	626.70 V	417.33 V	27.73 V
10/01/2015 11:59	39.21 V	26.24 V	2.84 V	12.08 V	10090.48 V	633.80 V	424.09 V	27.89 V
10/01/2015 12:00	38.86 V	25.96 V	2.82 V	12.07 V	10133.08 V	639.10 V	426.91 V	28.24 V
10/01/2015 12:01	38.62 V	25.78 V	2.81 V	12.06 V	10162.63 V	647.10 V	432.01 V	28.68 V
10/01/2015 12:02	38.86 V	25.95 V	2.83 V	12.07 V	10163.10 V	631.20 V	421.51 V	27.97 V
10/01/2015 12:03	38.93 V	25.73 V	2.83 V	11.97 V	10141.07 V	636.40 V	420.58 V	28.14 V
10/01/2015 12:04	39.60 V	26.09 V	2.87 V	11.95 V	10104.88 V	629.50 V	414.75 V	27.74 V
10/01/2015 12:05	38.90 V	25.90 V	2.82 V	12.04 V	10105.55 V	638.40 V	425.12 V	28.13 V
10/01/2015 12:06	39.17 V	25.89 V	2.87 V	11.97 V	10200.78 V	635.70 V	420.12 V	28.28 V
10/01/2015 12:07	39.35 V	25.93 V	2.88 V	11.95 V	10199.08 V	633.70 V	417.63 V	28.19 V
10/01/2015 12:08	40.61 V	26.83 V	2.99 V	11.97 V	10251.64 V	611.40 V	403.95 V	27.33 V
10/01/2015 12:09	38.69 V	25.77 V	2.84 V	12.04 V	10235.66 V	643.90 V	428.90 V	28.74 V
10/01/2015 12:10	39.25 V	26.01 V	2.84 V	12.00 V	10100.41 V	641.60 V	425.21 V	28.26 V
10/01/2015 12:11	39.25 V	26.01 V	2.84 V	12.00 V	10102.81 V	633.10 V	419.58 V	27.89 V
10/01/2015 12:12	39.89 V	26.29 V	2.88 V	11.95 V	10078.23 V	628.20 V	414.01 V	27.61 V
10/01/2015 12:13	39.61 V	26.30 V	2.88 V	12.02 V	10150.00 V	631.30 V	419.21 V	27.94 V
10/01/2015 12:14	39.67 V	26.14 V	2.86 V	11.95 V	10058.76 V	629.50 V	414.75 V	27.61 V
10/01/2015 12:15	40.08 V	26.35 V	2.89 V	11.93 V	10059.80 V	620.90 V	408.17 V	27.24 V
Average:	39.46	26.15	2.86	12.00	10106.17	632.51	419.20	27.88
Maximum:	40.67	26.83	2.99	12.08	10251.64	647.10	432.01	28.74
Minimum:	38.62	25.55	2.78	11.93	9817.40	611.40	403.95	26.32

R. 8

Engine 5 Minute Emissions Data

Almega ENVIRONMENTAL

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 11:46

Report End Date/Time : Thu 10/01/2015 12:15

DATE/TIME	ICE % Load	Digester Gas Flow (dscfm)	Natural Gas Flow (dscfm)	NOx @15%O2 (ppmvd)	CO @15%O2 (ppmvd)			
10/01/2015 11:46	87.00	742.98	14.93	25.56	420.94			
10/01/2015 11:47	81.86	740.14	14.65	26.38	424.52			
10/01/2015 11:48	87.70	729.79	14.65	26.24	419.13			
10/01/2015 11:49	81.00	744.00	14.93	25.55	420.32			
10/01/2015 11:50	83.00	745.42	14.65	26.64	415.23			
10/01/2015 11:51	85.86	742.17	14.79	26.10	424.02			
10/01/2015 11:52	80.10	737.91	14.65	26.30	415.02			
10/01/2015 11:53	80.86	723.49	14.23	26.71	419.46			
10/01/2015 11:54	81.04	731.41	14.51	26.33	421.18			
10/01/2015 11:55	82.65	720.65	14.51	26.80	405.00			
10/01/2015 11:56	80.72	720.85	14.51	26.05	418.67			
10/01/2015 11:57	82.09	739.73	14.23	26.31	418.80			
10/01/2015 11:58	85.57	736.69	14.93	26.42	417.33			
10/01/2015 11:59	85.49	729.38	14.65	26.24	424.09			
10/01/2015 12:00	81.32	733.85	14.65	25.96	426.91			
10/01/2015 12:01	87.14	736.48	14.65	25.78	432.01			
10/01/2015 12:02	83.75	736.08	14.79	25.95	421.51			
10/01/2015 12:03	81.84	742.37	14.79	25.73	420.58			
10/01/2015 12:04	76.14	741.76	14.93	26.09	414.75			
10/01/2015 12:05	85.26	733.24	15.21	25.90	425.12			
10/01/2015 12:06	80.99	746.43	15.07	25.89	420.12			
10/01/2015 12:07	86.42	748.46	15.07	25.93	417.63			
10/01/2015 12:08	83.70	750.49	15.07	26.83	403.95			
10/01/2015 12:09	83.07	742.78	15.21	25.77	428.90			
10/01/2015 12:10	87.69	736.48	15.21	26.01	425.21			
10/01/2015 12:11	86.14	736.89	15.07	26.01	419.58			
10/01/2015 12:12	88.68	739.53	14.93	26.29	414.01			
10/01/2015 12:13	84.49	738.72	15.21	26.30	419.21			
10/01/2015 12:14	84.18	736.69	15.90	26.14	414.75			
10/01/2015 12:15	79.23	738.92	15.62	26.35	408.17			
Total:								
Average:	83.50	737.46	14.87	26.15	419.20			
Maximum:	88.68	750.49	15.90	26.83	432.01			
Minimum:	76.14	720.65	14.23	25.55	403.95			

RATA Report 1

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 12:16

Report End Date/Time : Thu 10/01/2015 12:45

DATE/TIME	NOx Raw (ppmvd)	NOx @15%O2 (ppmvd)	NOx Lbs/Hr	O2 (%)	Stack Flow (dscfm)	CO Raw (ppmvd)	CO @15%O2 (ppmvd)	CO Lbs/Hr
10/01/2015 12:16	40.06 V	26.40 V	2.92 V	11.95 V	10159.54 V	624.80 V	411.76 V	27.68 V
10/01/2015 12:17	39.75 V	26.67 V	2.93 V	12.11 V	10268.04 V	625.40 V	419.66 V	28.00 V
10/01/2015 12:18	39.71 V	26.16 V	2.89 V	11.95 V	10134.67 V	642.60 V	423.38 V	28.40 V
10/01/2015 12:19	39.35 V	26.28 V	2.89 V	12.07 V	10237.94 V	632.70 V	422.52 V	28.25 V
10/01/2015 12:20	39.46 V	26.00 V	2.84 V	11.95 V	10021.28 V	633.10 V	417.12 V	27.67 V
10/01/2015 12:21	39.39 V	25.83 V	2.83 V	11.90 V	10009.18 V	634.60 V	416.13 V	27.70 V
10/01/2015 12:22	39.99 V	26.43 V	2.88 V	11.97 V	10045.88 V	626.80 V	414.24 V	27.46 V
10/01/2015 12:23	38.80 V	25.65 V	2.81 V	11.98 V	10085.71 V	636.90 V	421.03 V	28.01 V
10/01/2015 12:24	37.99 V	25.11 V	2.75 V	11.97 V	10079.00 V	646.40 V	427.19 V	28.41 V
10/01/2015 12:25	39.61 V	26.17 V	2.86 V	11.97 V	10084.84 V	628.80 V	415.45 V	27.65 V
10/01/2015 12:26	39.32 V	25.86 V	2.80 V	11.93 V	9940.54 V	640.20 V	420.97 V	27.75 V
10/01/2015 12:27	40.68 V	26.55 V	2.88 V	11.86 V	9882.23 V	608.90 V	397.40 V	26.24 V
10/01/2015 12:28	40.12 V	26.03 V	2.80 V	11.81 V	9743.40 V	615.00 V	399.07 V	26.13 V
10/01/2015 12:29	40.65 V	26.38 V	2.89 V	11.81 V	9907.52 V	616.50 V	400.04 V	26.64 V
10/01/2015 12:30	40.12 V	26.19 V	2.87 V	11.86 V	9967.52 V	613.00 V	400.19 V	26.65 V
10/01/2015 12:31	40.15 V	26.21 V	2.86 V	11.86 V	9926.82 V	619.00 V	404.11 V	26.80 V
10/01/2015 12:32	40.65 V	26.66 V	2.92 V	11.90 V	10026.33 V	614.40 V	402.89 V	26.86 V
10/01/2015 12:33	39.35 V	25.80 V	2.79 V	11.90 V	9888.62 V	632.00 V	414.43 V	27.25 V
10/01/2015 12:34	39.28 V	25.56 V	2.80 V	11.83 V	9936.59 V	636.80 V	414.35 V	27.59 V
10/01/2015 12:35	39.38 V	25.82 V	2.85 V	11.90 V	10074.31 V	623.90 V	409.12 V	27.41 V
10/01/2015 12:36	40.81 V	26.69 V	2.88 V	11.88 V	9844.97 V	620.50 V	405.76 V	26.64 V
10/01/2015 12:37	41.02 V	26.49 V	2.90 V	11.77 V	9852.67 V	615.00 V	397.21 V	26.42 V
10/01/2015 12:38	40.54 V	26.39 V	2.89 V	11.84 V	9946.38 V	612.60 V	398.71 V	26.57 V
10/01/2015 12:39	41.20 V	26.82 V	2.96 V	11.84 V	10026.64 V	611.70 V	398.13 V	26.75 V
10/01/2015 12:40	40.65 V	26.34 V	2.86 V	11.80 V	9827.18 V	616.80 V	399.68 V	26.43 V
10/01/2015 12:41	39.75 V	25.74 V	2.83 V	11.79 V	9919.78 V	623.10 V	403.54 V	26.95 V
10/01/2015 12:42	41.10 V	26.75 V	2.94 V	11.84 V	9963.14 V	606.60 V	394.81 V	26.36 V
10/01/2015 12:43	40.58 V	26.41 V	2.90 V	11.84 V	9955.80 V	612.00 V	398.32 V	26.57 V
10/01/2015 12:44	40.30 V	26.35 V	2.86 V	11.88 V	9893.11 V	628.80 V	411.19 V	27.13 V
10/01/2015 12:45	40.68 V	26.48 V	2.88 V	11.84 V	9889.06 V	615.80 V	400.80 V	26.56 V
Average:	40.01	26.21	2.86	11.89	9984.62	623.82	408.64	27.16
Maximum:	41.20	26.82	2.96	12.11	10268.04	646.40	427.19	28.41
Minimum:	37.99	25.11	2.75	11.77	9743.40	606.60	394.81	26.13

R-9

Engine 5 Minute Emissions Data

Unit Name: OCSD P2 Unit 5

Report Start Date/Time : Thu 10/01/2015 12:16

Report End Date/Time : Thu 10/01/2015 12:45

DATE/TIME	ICE % Load	Digester Gas Flow (dscfm)	Natural Gas Flow (dscfm)	NOx @15%O2 (ppmvd)	CO @15%O2 (ppmvd)			
10/01/2015 12:16	88.29	738.92	19.11	26.40	411.76			
10/01/2015 12:17	83.69	733.24	19.11	26.67	419.66			
10/01/2015 12:18	83.60	739.73	17.58	26.16	423.38			
10/01/2015 12:19	80.86	736.48	18.00	26.28	422.52			
10/01/2015 12:20	85.71	731.82	17.16	26.00	417.12			
10/01/2015 12:21	86.35	736.08	16.18	25.83	416.13			
10/01/2015 12:22	80.96	732.02	16.74	26.43	414.24			
10/01/2015 12:23	81.91	735.27	16.46	25.65	421.03			
10/01/2015 12:24	81.58	735.88	15.90	25.11	427.19			
10/01/2015 12:25	82.82	736.08	16.18	26.17	415.45			
10/01/2015 12:26	90.26	728.97	16.04	25.86	420.97			
10/01/2015 12:27	85.87	730.19	16.04	26.55	397.40			
10/01/2015 12:28	83.44	723.90	16.04	26.03	399.07			
10/01/2015 12:29	84.07	738.11	15.07	26.38	400.04			
10/01/2015 12:30	84.47	738.31	14.93	26.19	400.19			
10/01/2015 12:31	80.30	735.88	14.51	26.21	404.11			
10/01/2015 12:32	80.93	740.54	14.23	26.66	402.89			
10/01/2015 12:33	86.27	729.38	14.65	25.80	414.43			
10/01/2015 12:34	82.21	738.92	14.65	25.56	414.35			
10/01/2015 12:35	79.89	744.20	14.23	25.82	409.12			
10/01/2015 12:36	81.87	728.36	14.51	26.69	405.76			
10/01/2015 12:37	80.83	738.11	14.65	26.49	397.21			
10/01/2015 12:38	85.18	740.14	14.23	26.39	398.71			
10/01/2015 12:39	80.45	745.62	14.65	26.82	398.13			
10/01/2015 12:40	81.18	733.64	14.65	26.34	399.68			
10/01/2015 12:41	84.85	740.75	14.93	25.74	403.54			
10/01/2015 12:42	79.57	740.75	14.65	26.75	394.81			
10/01/2015 12:43	77.68	739.73	14.93	26.41	398.32			
10/01/2015 12:44	84.18	731.82	14.65	26.35	411.19			
10/01/2015 12:45	85.82	735.06	14.65	26.48	400.80			
Total:								
Average:	83.17	735.93	15.64	26.21	408.64			
Maximum:	90.26	745.62	19.11	26.82	427.19			
Minimum:	77.68	723.90	14.23	25.11	394.81			

APPENDIX G

SCAQMD CHECKLIST FOR SOURCE TEST REPORTS

ENGINEERING FORM
CHECK LIST FOR SOURCE TEST REPORTS

Please check off all the following items to verify that the information is provided in the source test report, and then send the checklist along with the source test report.

[X] Brief description of the equipment tested.

[X] Brief process description, including maximum and normal operating temperatures, pressures, throughput, etc.

[X] Operating conditions under which test was performed.

[X] Process schematic diagram showing the ports and sampling locations, including the dimensions of the ducts/stacks at the sampling locations, along with upstream and downstream locations, and distances of flow disturbances, (e.g. elbows, tees, fans, dampers) from the sampling locations (upstream and downstream).

[X] Field and laboratory data forms, strip charts and analyses.

[X] Brief description of sampling and analytical methods for each gaseous and particulate constituent measured.

[X] Calculations for volumetric flow rates and emission rates.

[X] Description of calibration and quality assurance procedures.

[X] Determination that the testing laboratory qualifies as an "independent testing laboratory" under Rule 304 (no conflict of interest).

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

Title Page
Facility ID: 029110
Revision #: 11
Date: February 05, 2015

FACILITY PERMIT TO OPERATE

ORANGE COUNTY SANITATION DISTRICT
22212 BROOKHURST ST
HUNTINGTON BEACH, CA 92646

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR A COPY THEREOF MUST BE KEPT AT THE LOCATION FOR WHICH IT IS ISSUED.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT SHALL NOT BE CONSTRUED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF ANY OTHER FEDERAL, STATE OR LOCAL GOVERNMENTAL AGENCIES.

Barry R. Wallerstein, D. Env.
EXECUTIVE OFFICER

By _____ for
Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering & Compliance

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

TABLE OF CONTENTS

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION A: FACILITY INFORMATION

LEGAL OWNER &/OR OPERATOR:	ORANGE COUNTY SANITATION DISTRICT
LEGAL OPERATOR (if different than owner):	
EQUIPMENT LOCATION:	22212 BROOKHURST ST HUNTINGTON BEACH, CA 92646-8457
MAILING ADDRESS:	P O BOX 8127 FOUNTAIN VALLEY, CA 92728-8127
RESPONSIBLE OFFICIAL:	JAMES HERBERG
TITLE:	GENERAL MANAGER
TELEPHONE NUMBER:	(714) 593-7300
CONTACT PERSON:	LISA ROTHBART
TITLE:	ENVIRONMENTAL SUPERVISOR
TELEPHONE NUMBER:	(714) 593-7405
TITLE V PERMIT ISSUED:	April 16, 2014
TITLE V PERMIT EXPIRATION DATE:	April 15, 2019

TITLE V	RECLAIM	
YES	NOx:	NO
	SOx:	NO
	CYCLE:	0
	ZONE:	COASTAL

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION B: RECLAIM ANNUAL EMISSION ALLOCATION

NOT APPLICABLE

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION C: FACILITY PLOT PLAN

(TO BE DEVELOPED)

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

Facility Equipment and Requirements
(Section D)

This section consists of a table listing all permitted equipment at the facility, facility wide requirements, copies of all individual Permits to Construct and Permits to Operate issued to various equipment at the facility, and Rule 219-exempt equipment subject to source-specific requirements. Each permit and Rule 219-exempt equipment will list operating conditions including periodic monitoring requirements, and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMITTED EQUIPMENT LIST

The following is a list of all permits to construct and operate at this facility:

Application Number	Permit Number	Equipment Description	Page Number
06045A	R-M29144	ICE (>500 HP) EMERGENCY ELECTRICAL GENERATOR DIESEL	6
06046A	R-M29146	ICE (>500 HP) EMERGENCY ELECTRICAL GENERATOR DIESEL	8
06047A	R-M29147	ICE (>500 HP) EMERGENCY ELECTRICAL GENERATOR DIESEL	10
06048A	R-M29148	ICE (>500 HP) EMERGENCY ELECTRICAL GENERATOR DIESEL	12
291030	R-D94235	BOILER (5-20 MMBTU/HR) NATURAL & DIGESTER GAS	14
291031	R-D94232	BOILER (5-20 MMBTU/HR) NATURAL & DIGESTER GAS	16
331911	F11229	SCRUBBER, ODOR	18
424369	F65823	ICE (>500 HP) EMERGENCY ELECTRICAL GENERATOR DIESEL	20
428804	G34370	ODOR CONTROL FACILITY, TRUNKLINES AND HEADWORKS	22
429663	F71055	FLARE, ENCLOSED LANDFILL/DIGESTER GAS	25
444111	F99405	SCRUBBER, ODOR	29
444112	F99406	SCRUBBER, ODOR	31
444113	F99408	SCRUBBER, ODOR	33
453240	G25942	SEWAGE TREATMENT (>5 MGD) ANAEROBIC	35
453244	G27920	APC SYSTEM, ACTIVATED CARBON ADSORBER	38
455670	R-F81554	ICE (>500 HP) EMERGENCY ELECTRICAL GENERATOR DIESEL	41
455671	R-F81555	ICE (>500 HP) EMERGENCY ELECTRICAL GENERATOR DIESEL	42
455673	R-F81556	ICE (>500 HP) EMERGENCY ELECTRICAL GENERATOR DIESEL	44
457410	G24634	ACTIVATED CARBON ADSORBER, DRUM VENT SINGLE SOURCE	46
474766	F95584	ICE (>500 HP) EMERGENCY ELECTRICAL GENERATOR DIESEL	48
474767	F95585	ICE (>500 HP) EMERGENCY ELECTRICAL GENERATOR DIESEL	50
474768	F95586	ICE (>500 HP) EMERGENCY ELECTRICAL GENERATOR DIESEL	52
474769	F95587	ICE (>500 HP) EMERGENCY ELECTRICAL GENERATOR DIESEL	54
474770	F95588	ICE (>500 HP) EMERGENCY ELECTRICAL GENERATOR DIESEL	56
512604	G12233	STORAGE TANK, FIXED ROOF, HCl, W/SPARGER	58
512832	G12234	STORAGE TANK, FIXED ROOF, HCl, W/CONTROL	59
512833	G12235	STORAGE TANK, FIXED ROOF, HCl, W/CONTROL	60

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMITTED EQUIPMENT LIST (CONT'D)

The following is a list of all permits to construct and permits to operate at this facility:

Application Number	Permit Number	Equipment Description	Page Number
540708	G27394	ICE (>500 HP) NATURAL & DIGESTER GAS	61
540709	G27395	ICE (>500 HP) NATURAL & DIGESTER GAS	64
540710	G27396	ICE (>500 HP) NATURAL & DIGESTER GAS	67
540711	G27397	ICE (>500 HP) NATURAL & DIGESTER GAS	70
540712	G27398	ICE (>500 HP) NATURAL & DIGESTER GAS	73

NOTE: APPLICATIONS THAT ARE STILL BEING PROCESSED AND HAVE NOT BEEN ISSUED PERMITS TO CONSTRUCT OR PERMITS TO OPERATE WILL NOT BE FOUND IN THIS TITLE V PERMIT.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

FACILITY WIDE CONDITION (S)

Condition(s):

1. EXCEPT FOR OPEN ABRASIVE BLASTING OPERATIONS, THE OPERATOR SHALL NOT DISCHARGE INTO THE ATMOSPHERE FROM ANY SINGLE SOURCE OF EMISSIONS WHATSOEVER ANY AIR CONTAMINANT FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR WHICH IS:

   A. AS DARK OR DARKER IN SHADE AS THAT DESIGNATED NO. 1 ON THE RINGLEMANN CHART, AS PUBLISHED BY THE UNITED STATES BUREAU OF MINES; OR
   B. OF SUCH OPACITY AS TO OBSCURE AN OBSERVER'S VIEW TO A DEGREE EQUAL TO OR GREATER THAN DOES SMOKE DESCRIBED IN SUBPARAGRAPH (A) OF THIS CONDITION. [RULE 401]

2. THE OPERATOR SHALL NOT COMBUST DIGESTER GAS CONTAINING SULFUR COMPOUNDS IN EXCESS OF 40 PPMV CALCULATED AS HYDROGEN SULFIDE AVERAGED DAILY. [RULE 431.1]

3. THE OPERATOR SHALL NOT USE FUEL OIL CONTAINING SULFUR COMPOUNDS IN EXCESS OF 0.05 PERCENT BY WEIGHT. ON OR AFTER JUNE 1, 2004, A PERSON SHALL NOT PURCHASE ANY DIESEL FUEL FOR STATIONARY SOURCE APPLICATION IN THE DISTRICT, UNLESS THE FUEL IS LOW SULFUR DIESEL FOR WHICH THE SULFUR CONTENT SHALL NOT EXCEED 15 PPM BY WEIGHT AS SUPPLIED BY THE SUPPLIER. [RULE 431.2]

4. THE OWNER/OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART VVV - NON-INDUSTRIAL POTW PLANT NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) AND ALL APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART ZZZZ – STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES NESHAP. [40 CFR 63 SUBPART VVV, AND 40 CFR 63 SUBPART ZZZZ]

5. THE OPERATOR SHALL MEASURE THE SULFUR CONTENT OF THE DIGESTER GAS ACCORDING TO THE FOLLOWING:

   A. FOR READINGS UP TO 36 PPM AS H2S, DAILY ANALYSIS OF THE DIGESTER GAS FOR H2S, USING COLORIMETRIC TUBES, AND WEEKLY ANALYSIS OF THE DIGESTER GAS BY AQMD METHOD 307 – TOTAL SULFUR COMPOUNDS IN FUEL GAS BY GAS CHROMATOGRAPHY AND SULFUR CHEMILUMINESCENCE DETECTOR.

   B. FOR READINGS ABOVE 36 PPM AS H2S, DAILY ANALYSIS OF THE DIGESTER GAS FOR H2S BY AQMD METHOD 307 – TOTAL SULFUR COMPOUNDS IN FUEL GAS BY GAS CHROMATOGRAPHY AND SULFUR CHEMILUMINESCENCE DETECTOR. A MINIMUM OF THREE CONSECUTIVE DAILY SAMPLES ARE REQUIRED TO DEMONSTRATE THE TOTAL SULFUR CONTENT IS BELOW 36 PPM. [RULE 431.1]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

6. A COMPLETE APPLICATION FOR COMPLIANCE ASSURANCE MONITORING (CAM, 40 CFR PART 64) SHALL BE SUBMITTED WHENEVER ANNUAL MASS OF VOC OF THE DIGESTER GAS EXCEEDS 19,999 LBS/YR. THE VOC CONTENT OF THE DIGESTER GAS SHALL BE ANALYZED IN CONJUNCTION WITH THE ANNUAL SOURCE TESTING OF THE CGS ENGINES USING THE APPROVED METHODS. FOR EACH CALENDAR YEAR, THE VOC EMISSIONS SHALL BE CALCULATED BY MARCH 31ST OF THE SUBSEQUENT CALENDAR YEAR BASED ON THE DIGESTER GAS CONCENTRATION DATA FROM THE MOST RECENT ANNUAL RULE 1110.2 SOURCE TESTING OF THE ENGINES. IF THE VOC EMISSIONS EXCEED 19,999 LBS/YR, THE CAM APPLICATION SHALL BE SUBMITTED BY MAY 31ST (WITHIN 60 DAYS AFTER THE CALCULATION DUE DATE).
[40 CFR PART 64, CAM]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. R-M29144
A/N 06045A

Equipment Description:

INTERNAL COMBUSTION ENGINE NO. 1, DETROIT DIESEL, EMERGENCY ELECTRICAL GENERATION, MODEL NO. 9163-7305, DIESEL-FUELED, 16 CYLINDERS, TURBOCHARGED, 1515 BHP.

Conditions:

1. OPERATION OF THIS EQUIPMENT MUST BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR WHICH INCLUDES NOT MORE THAN 20 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING PURPOSES.
[RULE 1304(a), RULE 1110.2, RULE 1470]

4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1304(a), RULE 1110.2, RULE 1470]

5. THE OPERATION OF ENGINE BEYOND THE 20 HOURS PER YEAR ALLOTTED FOR ENGINE MAINTENANCE AND TESTING SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR TO A ROTATING OUTAGE, PROVIDED THAT THE ELECTRICAL GRID OPERATOR OR ELECTRIC UTILITY HAS ORDERED ROTATING OUTAGES IN THE CONTROL AREA WHERE THE ENGINE IS LOCATED OR HAS INDICATED THAT IT EXPECTS TO ISSUE SUCH AN ORDER AT A CERTAIN TIME, AND THE ENGINE IS LOCATED IN A UTILITY SERVICE BLOCK THAT IS SUBJECT TO THE ROTATING OUTAGE. ENGINE OPERATION SHALL BE TERMINATED IMMEDIATELY AFTER THE UTILITY DISTRIBUTION COMPANY ADVISES THAT A ROTATING OUTAGE IS NO LONGER IMMINENT OR IN EFFECT.
[RULE 1304 (a) (1)-BACT, RULE 1470]

6. THIS ENGINE SHALL NOT BE USED AS PART OF A DEMAND RESPONSE PROGRAM USING INTERRUPTIBLE SERVICE CONTRACT IN WHICH A FACILITY RECEIVES A PAYMENT OR REDUCED RATES IN RETURN FOR REDUCING ITS ELECTRIC LOAD ON THE GRID WHEN REQUESTED TO SO BY THE UTILITY OR THE GRID OPERATOR.
[RULE 1303 (a) (1)-BACT, RULE 1470]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. AN ENGINE OPERATING LOG SHALL BE MAINTAINED WHICH ON A MONTHLY BASIS SHALL LIST ALL ENGINE OPERATIONS IN EACH OF THE FOLLOWING AREAS:

   A. EMERGENCY USE HOURS OF OPERATION

   B. MAINTENANCE AND TESTING HOURS

   C. OTHER OPERATING HOURS (DESCRIBE THE REASON FOR OPERATION)

   IN ADDITION, EACH TIME THE ENGINE IS STARTED MANUALLY, THE LOG SHALL INCLUDE THE DATE OF OPERATION AND THE TIMER READING IN HOURS AT THE BEGINNING AND END OF OPERATION THE LOG SHALL BE KEPT FOR A MINIMUM OF THREE CALENDAR YEARS PRIOR TO THE CURRENT YEAR AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THE TOTAL HOURS OF OPERATION FOR THE PREVIOUS CALENDAR YEAR SHALL BE RECORDED SOMETIME DURING THE FIRST 15 DAYS OF JANUARY OF EACH YEAR.
   [RULE 1304(A), RULE 1110.2, RULE 1470]

8. THE OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
   [RULE 431.2, RULE 1470]

THIS PERMIT TO OPERATE R-M29144 SUPERSEDES PERMIT TO OPERATE M29144 ISSUED 01/20/1983.

Emissions And Requirements:

9. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
   PM: RULE 1470

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. R-M29146
A/N 06046A

Equipment Description:

INTERNAL COMBUSTION ENGINE NO. 2, DETROIT DIESEL, EMERGENCY ELECTRICAL GENERATION, MODEL NO. 9163-7305, DIESEL-FUELED, 16 CYLINDERS, TURBOCHARGED, 1515 BHP.

Conditions:

1. OPERATION OF THIS EQUIPMENT MUST BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR WHICH INCLUDES NOT MORE THAN 20 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING PURPOSES.
   [RULE 1304(a), RULE 1110.2, RULE 1470]

4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
   [RULE 1304(a), RULE 1110.2, RULE 1470]

5. THE OPERATION OF ENGINE BEYOND THE 20 HOURS PER YEAR ALLOTTED FOR ENGINE MAINTENANCE AND TESTING SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR TO A ROTATING OUTAGE, PROVIDED THAT THE ELECTRICAL GRID OPERATOR OR ELECTRIC UTILITY HAS ORDERED ROTATING OUTAGES IN THE CONTROL AREA WHERE THE ENGINE IS LOCATED OR HAS INDICATED THAT IT EXPECTS TO ISSUE SUCH AN ORDER AT A CERTAIN TIME, AND THE ENGINE IS LOCATED IN A UTILITY SERVICE BLOCK THAT IS SUBJECT TO THE ROTATING OUTAGE. ENGINE OPERATION SHALL BE TERMINATED IMMEDIATELY AFTER THE UTILITY DISTRIBUTION COMPANY ADVISES THAT A ROTATING OUTAGE IS NO LONGER IMMINENT OR IN EFFECT.
   [RULE 1304 (a) (1)-BACT, RULE 1470]

6. THIS ENGINE SHALL NOT BE USED AS PART OF A DEMAND RESPONSE PROGRAM USING INTERRUPTIBLE SERVICE CONTRACT IN WHICH A FACILITY RECEIVES A PAYMENT OR REDUCED RATES IN RETURN FOR REDUCING ITS ELECTRIC LOAD ON THE GRID WHEN REQUESTED TO SO BY THE UTILITY OR THE GRID OPERATOR.
   [RULE 1303 (a) (1)-BACT, RULE 1470]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. AN ENGINE OPERATING LOG SHALL BE MAINTAINED WHICH ON A MONTHLY BASIS SHALL LIST ALL ENGINE OPERATIONS IN EACH OF THE FOLLOWING AREAS:

   A. EMERGENCY USE HOURS OF OPERATION

   B. MAINTENANCE AND TESTING HOURS

   C. OTHER OPERATING HOURS (DESCRIBE THE REASON FOR OPERATION)

   IN ADDITION, EACH TIME THE ENGINE IS STARTED MANUALLY, THE LOG SHALL INCLUDE THE DATE OF OPERATION AND THE TIMER READING IN HOURS AT THE BEGINNING AND END OF OPERATION THE LOG SHALL BE KEPT FOR A MINIMUM OF THREE CALENDAR YEARS PRIOR TO THE CURRENT YEAR AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THE TOTAL HOURS OF OPERATION FOR THE PREVIOUS CALENDAR YEAR SHALL BE RECORDED SOMETIME DURING THE FIRST 15 DAYS OF JANUARY OF EACH YEAR.
   [RULE 1304(A), RULE 1110.2, RULE 1470]

8. THE OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
   [RULE 431.2, RULE 1470]

THIS PERMIT TO OPERATE R-M29146 SUPERSEDES PERMIT TO OPERATE M29146 ISSUED 01/20/1983.

Emissions And Requirements:

9. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
   PM: RULE 1470

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. R-M29147
A/N 06047A

Equipment Description:

INTERNAL COMBUSTION ENGINE NO. 3, DETROIT DIESEL, EMERGENCY ELECTRICAL GENERATION, MODEL NO. 9163-7305, DIESEL-FUELED, 16 CYLINDERS, TURBOCHARGED, 1515 BHP.

Conditions:

1. OPERATION OF THIS EQUIPMENT MUST BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR WHICH INCLUDES NOT MORE THAN 20 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING PURPOSES.
   [RULE 1304(a), RULE 1110.2, RULE 1470]

4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
   [RULE 1304(a), RULE 1110.2, RULE 1470]

5. THE OPERATION OF ENGINE BEYOND THE 20 HOURS PER YEAR ALLOTTED FOR ENGINE MAINTENANCE AND TESTING SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR TO A ROTATING OUTAGE, PROVIDED THAT THE ELECTRICAL GRID OPERATOR OR ELECTRIC UTILITY HAS ORDERED ROTATING OUTAGES IN THE CONTROL AREA WHERE THE ENGINE IS LOCATED OR HAS INDICATED THAT IT EXPECTS TO ISSUE SUCH AN ORDER AT A CERTAIN TIME, AND THE ENGINE IS LOCATED IN A UTILITY SERVICE BLOCK THAT IS SUBJECT TO THE ROTATING OUTAGE. ENGINE OPERATION SHALL BE TERMINATED IMMEDIATELY AFTER THE UTILITY DISTRIBUTION COMPANY ADVISES THAT A ROTATING OUTAGE IS NO LONGER IMMINENT OR IN EFFECT.
   [RULE 1304 (a) (1)-BACT, RULE 1470]

6. THIS ENGINE SHALL NOT BE USED AS PART OF A DEMAND RESPONSE PROGRAM USING INTERRUPTIBLE SERVICE CONTRACT IN WHICH A FACILITY RECEIVES A PAYMENT OR REDUCED RATES IN RETURN FOR REDUCING ITS ELECTRIC LOAD ON THE GRID WHEN REQUESTED TO SO BY THE UTILITY OR THE GRID OPERATOR.
   [RULE 1303 (a) (1)-BACT, RULE 1470]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. AN ENGINE OPERATING LOG SHALL BE MAINTAINED WHICH ON A MONTHLY BASIS SHALL LIST ALL ENGINE OPERATIONS IN EACH OF THE FOLLOWING AREAS:

   A. EMERGENCY USE HOURS OF OPERATION

   B. MAINTENANCE AND TESTING HOURS

   C. OTHER OPERATING HOURS (DESCRIBE THE REASON FOR OPERATION)

   IN ADDITION, EACH TIME THE ENGINE IS STARTED MANUALLY, THE LOG SHALL INCLUDE THE DATE OF OPERATION AND THE TIMER READING IN HOURS AT THE BEGINNING AND END OF OPERATION THE LOG SHALL BE KEPT FOR A MINIMUM OF THREE CALENDAR YEARS PRIOR TO THE CURRENT YEAR AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THE TOTAL HOURS OF OPERATION FOR THE PREVIOUS CALENDAR YEAR SHALL BE RECORDED SOMETIME DURING THE FIRST 15 DAYS OF JANUARY OF EACH YEAR.
   [RULE 1304(A), RULE 1110.2, RULE 1470]

8. THE OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
   [RULE 431.2, RULE 1470]

THIS PERMIT TO OPERATE R-M29147 SUPERSEDES PERMIT TO OPERATE M29147 ISSUED 01/20/1983.

Emissions And Requirements:

9. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
   PM: RULE 1470

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. R-M29148
A/N 06048A

Equipment Description:

INTERNAL COMBUSTION ENGINE NO. 4, DETROIT DIESEL, EMERGENCY ELECTRICAL GENERATION, MODEL NO. 9163-7305. DIESEL-FUELED, 16 CYLINDERS, TURBOCHARGED, 1,515-H.P.

Conditions:

1. OPERATION OF THIS EQUIPMENT MUST BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR WHICH INCLUDES NOT MORE THAN 20 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING PURPOSES.
[RULE 1304(a), RULE 1110.2, RULE 1470]

4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1304(a), RULE 1110.2, RULE 1470]

5. THE OPERATION OF ENGINE BEYOND THE 20 HOURS PER YEAR ALLOTTED FOR ENGINE MAINTENANCE AND TESTING SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR TO A ROTATING OUTAGE, PROVIDED THAT THE ELECTRICAL GRID OPERATOR OR ELECTRIC UTILITY HAS ORDERED ROTATING OUTAGES IN THE CONTROL AREA WHERE THE ENGINE IS LOCATED OR HAS INDICATED THAT IT EXPECTS TO ISSUE SUCH AN ORDER AT A CERTAIN TIME, AND THE ENGINE IS LOCATED IN A UTILITY SERVICE BLOCK THAT IS SUBJECT TO THE ROTATING OUTAGE. ENGINE OPERATION SHALL BE TERMINATED IMMEDIATELY AFTER THE UTILITY DISTRIBUTION COMPANY ADVISES THAT A ROTATING OUTAGE IS NO LONGER IMMINENT OR IN EFFECT.
[RULE 1304 (a) (1)-BACT, RULE 1470]

6. THIS ENGINE SHALL NOT BE USED AS PART OF A DEMAND RESPONSE PROGRAM USING INTERRUPTIBLE SERVICE CONTRACT IN WHICH A FACILITY RECEIVES A PAYMENT OR REDUCED RATES IN RETURN FOR REDUCING ITS ELECTRIC LOAD ON THE GRID WHEN REQUESTED TO SO BY THE UTILITY OR THE GRID OPERATOR.
[RULE 1303 (a) (1)-BACT, RULE 1470]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. AN ENGINE OPERATING LOG SHALL BE MAINTAINED WHICH ON A MONTHLY BASIS SHALL LIST ALL ENGINE OPERATIONS IN EACH OF THE FOLLOWING AREAS:

   A. EMERGENCY USE HOURS OF OPERATION

   B. MAINTENANCE AND TESTING HOURS

   C. OTHER OPERATING HOURS (DESCRIBE THE REASON FOR OPERATION)

   IN ADDITION, EACH TIME THE ENGINE IS STARTED MANUALLY, THE LOG SHALL INCLUDE THE DATE OF OPERATION AND THE TIMER READING IN HOURS AT THE BEGINNING AND END OF OPERATION THE LOG SHALL BE KEPT FOR A MINIMUM OF THREE CALENDAR YEARS PRIOR TO THE CURRENT YEAR AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THE TOTAL HOURS OF OPERATION FOR THE PREVIOUS CALENDAR YEAR SHALL BE RECORDED SOMETIME DURING THE FIRST 15 DAYS OF JANUARY OF EACH YEAR.
   [RULE 1304(A), RULE 1110.2, RULE 1470]

8. THE OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
   [RULE 431.2, RULE 1470]

THIS PERMIT TO OPERATE R-M29148 SUPERSEDES PERMIT TO OPERATE M29148 ISSUED 01/20/1983.

Emissions And Requirements:

9. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
   PM: RULE 1470

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. R-D94235
A/N 291030

Equipment Description:

BOILER, CLEAVER BROOKS, FIRE TUBE TYPE, MODEL CB700-250, SERIAL NO. L-092869, 10.46 MMBTU PER HOUR, DIGESTER GAS AND NATURAL GAS FIRED WITH LO-NOx BURNERS AND FLUE GAS RECIRCULATION (FGR) SYSTEM.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS BOILER SHALL BE FIRED ON DIGESTER GAS AND OR NATURAL GAS ONLY.
[RULE 204]

4. CSDOC SHALL PROPERLY MAINTAIN AND OPERATE A DRY GAS METER TO MEASURE THE QUANTITY (IN CFM) OF DIGESTER GAS USED IN THIS EQUIPMENT.
[RULE 1146, RULE 1303(b) (1), (b) (2)-MODELING AND OFFSETS]

5. RECORDS OF THE DAILY FUEL USAGE OF THIS EQUIPMENT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

6. EMISSIONS OF NOx SHALL NOT EXCEED 40 PPM REFERENCED AT 3% 02 ON A DRY BASIS, AVERAGED OVER A PERIOD OF 15 CONSECUTIVE MINUTES.
[RULE 1146]

7. EMISSIONS OF CO SHALL NOT EXCEED 400 PPM REFERENCED AT 3% 02 ON A DRY BASIS, AVERAGED OVER A PERIOD OF 15 CONSECUTIVE MINUTES.
[RULE 1146]

8. THE FLUE GAS RECIRCULATION SYSTEM SHALL BE IN FULL USE WHENEVER THE BOILER IS IN OPERATION.
[RULE 1303(A) (1)-BACT]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

Emissions And Requirements:

9. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   CO: 2000 PPMV, RULE 407
   CO: 400 PPMV, RULE 1146
   NOx 30 PPMV, RULE 1146
   PM: RULE 404, SEE APPENDIX B.
   PM: 0.1 gr/scf, RULE 409
   SO2: 500 PPMV AS SO2, ORANGE COUNTY, RULE 53

10. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE CO AND NOx EMISSION LIMIT(S) EITHER BY: (a) CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY FIVE YEARS USING AQMD METHOD 100.1 OR 10.1 (METHOD 7.1 FOR NOx); OR (b) CONDUCTING A TEST AT LEAST ANNUALLY USING A PORTABLE ANALYZER AND AQMD-APPROVED TEST METHOD.. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1146 CONCENTRATIONS LIMITS. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.
    [RULE 3004 (a) (4)]

THIS PERMIT TO OPERATE R-D94235 SUPERSEDES PERMIT TO OPERATE D94235 ISSUED 11/06/1995.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. R-D94232
A/N 291031

Equipment Description:

BOILER, CLEAVER BROOKS, FIRE TUBE TYPE, MODEL CB700-250, SERIAL NO. L-092868, 10.46 MMBTU PER HOUR, DIGESTER GAS AND NATURAL GAS FIRED WITH LO-NOx BURNERS AND FLUE GAS RECIRCULATION (FGR) SYSTEM.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS BOILER SHALL BE FIRED ON DIGESTER GAS AND OR NATURAL GAS ONLY.
   [RULE 204]

4. CSDOC SHALL PROPERLY MAINTAIN AND OPERATE A DRY GAS METER TO MEASURE THE QUANTITY (IN CFM) OF DIGESTER GAS USED IN THIS EQUIPMENT.
   [RULE 1146; RULE 1303(b) (1), (b) (2)-MODELING AND OFFSETS]

5. RECORDS OF THE DAILY FUEL USAGE OF THIS EQUIPMENT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
   [RULE 204]

6. EMISSIONS OF NOx SHALL NOT EXCEED 40 PPM REFERENCED AT 3% 02 ON A DRY BASIS, AVERAGED OVER A PERIOD OF 15 CONSECUTIVE MINUTES.
   [RULE 1146]

7. EMISSIONS OF CO SHALL NOT EXCEED 400 PPM REFERENCED AT 3% 02 ON A DRY BASIS, AVERAGED OVER A PERIOD OF 15 CONSECUTIVE MINUTES.
   [RULE 1146]

8. THE FLUE GAS RECIRCULATION SYSTEM SHALL BE IN FULL USE WHENEVER THE BOILER IS IN OPERATION.
   [RULE 1303(A) (1)-BACT]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

Emissions And Requirements:

9. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   CO: 2000 PPMV, RULE 407
   CO: 400 PPMV, RULE 1146
   NOx 30 PPMV, RULE 1146
   PM: RULE 404, SEE APPENDIX B.
   PM: 0.1 gr/scf, RULE 409
   SO2: 500 PPMV AS SO2, ORANGE COUNTY, RULE 53

10. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE CO AND NOx EMISSION LIMIT(S) EITHER BY: (a) CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY FIVE YEARS USING AQMD METHOD 100.1 OR 10.1 (METHOD 7.1 FOR NOx); OR (b) CONDUCTING A TEST AT LEAST ANNUALLY USING A PORTABLE ANALYZER AND AQMD-APPROVED TEST METHOD.. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1146 CONCENTRATIONS LIMITS. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.
    [RULE 3004 (a) (4)]

THIS PERMIT TO OPERATE R-D94232 SUPERSEDES PERMIT TO OPERATE D94232 ISSUED 11/06/1995.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. F11229
A/N 331911

Equipment Description:

AIR POLLUTION CONTROL SYSTEM (SOUTH COMPLEX, P2-33) CONSISTING OF:

1. FOUR SCRUBBERS NOS. U THROUGH X, EACH VERTICAL TYPE, PACKED TOWER, 10'-0" DIA. X 33'-0" H., WITH ASSOCIATED PUMPS.

2. ACID AND CAUSTIC FEED SYSTEM.

3. AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H2S) MONITORING SYSTEM.

4. EXHAUST SYSTEM WITH ASSOCIATED BLOWERS VENTING PRIMARY TREATMENT CLARIFIERS.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. A SUFFICIENT NUMBER OF SCRUBBERS, FROM U THROUGH X, SHALL BE IN OPERATION WHEN THE BASIC EQUIPMENT ARE IN OPERATION TO MAINTAIN THE SCRUBBER OUTLET H2S CONCENTRATIONS, AS MEASURED BY THE AUTOMATIC CHEMICAL FEED AND H2S MONITORING SYSTEM, LESS THAN THE MAXIMUM OUTLET H2S LIMITS AS SPECIFIED IN CONDITION NO. 7 EXCEPT DURING UNFORESEEN AND ROUTINE MAINTENANCE WORK OR POWER OUTAGE IN THE PLANT THAT REQUIRES THE SCRUBBERS TO BE SHUTDOWN FOR A PERIOD NOT TO EXCEED 10 HOURS PER INCIDENT PER EQUIPMENT AND 50 HOURS PER YEAR PER EQUIPMENT.
[RULE 402]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

5. WHEN THE SCRUBBERS ARE IN OPERATION, AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H2S) MONITORING SYSTEM SHALL BE IN OPERATION AND MAINTAINED TO RECORD THE SCRUBBER OUTLET H2S CONCENTRATION, IN PPMV, EXCEPT DURING SHUTDOWN FOR MAINTENANCE. THE H2S MONITORING SYSTEM SHALL BE CALIBRATED PURSUANT TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
[RULE 402]

6. WHEN THE AUTOMATIC CHEMICAL FEED AND H2S MONITORING SYSTEM IS SHUTDOWN FOR MAINTENANCE, PH OF THE SCRUBBING LIQUID AND THE SCRUBBER OUTLET H2S CONCENTRATION SHALL BE MEASURED AND RECORDED AT LEAST ONCE PER SHIFT.
[RULE 402]

7. WHEN THE SCRUBBERS ARE IN OPERATION, THE DAILY AVERAGE CONCENTRATION OF SULFUR COMPOUNDS, CALCULATED AS H2S MEASURED AT THE OUTLET OF EACH SCRUBBER SHALL NOT EXCEED 1.33 PPMV AND 2 PPMV, WHEN THE EXHAUST BLOWER IS OPERATING AT LOW AND HIGH SPEED, RESPECTIVELY.
[RULE 402]

8. RECORDS SHALL BE KEPT AND MAINTAINED FOR EACH SCRUBBER'S OUTLET H2S CONCENTRATION, AND THE DAILY AVERAGE H2S CONCENTRATION, IN PPMV, AT THE OUTLET OF EACH SCRUBBER.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. F65823
A/N 424369

Equipment Description:

INTERNAL COMBUSTION ENGINE, DETROIT DIESEL, 16 CYLINDER, "TURBOCHARGED, AFTERCOOLED," MODEL T1 637 M36 (2936 BHP), 2936 BHP, DIESEL FUEL-FUELED, DRIVING AN EMERGENCY ELECTRICAL GENERATOR.

Conditions:

1. OPERATION OF THIS EQUIPMENT MUST BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR WHICH INCLUDES NOT MORE THAN 20 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING PURPOSES.
   [RULE 1304(a), RULE 1110.2, RULE 1470]

4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
   [RULE 1304(a), RULE 1110.2, RULE 1470]

5. THE OPERATION OF ENGINE BEYOND THE 20 HOURS PER YEAR ALLOTTED FOR ENGINE MAINTENANCE AND TESTING SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR TO A ROTATING OUTAGE, PROVIDED THAT THE ELECTRICAL GRID OPERATOR OR ELECTRIC UTILITY HAS ORDERED ROTATING OUTAGES IN THE CONTROL AREA WHERE THE ENGINE IS LOCATED OR HAS INDICATED THAT IT EXPECTS TO ISSUE SUCH AN ORDER AT A CERTAIN TIME, AND THE ENGINE IS LOCATED IN A UTILITY SERVICE BLOCK THAT IS SUBJECT TO THE ROTATING OUTAGE. ENGINE OPERATION SHALL BE TERMINATED IMMEDIATELY AFTER THE UTILITY DISTRIBUTION COMPANY ADVISES THAT A ROTATING OUTAGE IS NO LONGER IMMINENT OR IN EFFECT.
   [RULE 1303 (a) (1)-BACT, RULE 1470]

6. THIS ENGINE SHALL NOT BE USED AS PART OF A DEMAND RESPONSE PROGRAM USING INTERRUPTIBLE SERVICE CONTRACT IN WHICH A FACILITY RECEIVES A PAYMENT OR REDUCED RATES IN RETURN FOR REDUCING ITS ELECTRIC LOAD ON THE GRID WHEN REQUESTED TO SO BY THE UTILITY OR THE GRID OPERATOR.
   [RULE 1303 (a) (1)-BACT, RULE 1470]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. AN ENGINE OPERATING LOG SHALL BE MAINTAINED WHICH ON A MONTHLY BASIS SHALL LIST ALL ENGINE OPERATIONS IN EACH OF THE FOLLOWING AREAS:

   A. EMERGENCY USE HOURS OF OPERATION

   B. MAINTENANCE AND TESTING HOURS

   C. OTHER OPERATING HOURS (DESCRIBE THE REASON FOR OPERATION)

   IN ADDITION, EACH TIME THE ENGINE IS STARTED MANUALLY, THE LOG SHALL INCLUDE THE DATE OF OPERATION AND THE TIMER READING IN HOURS AT THE BEGINNING AND END OF OPERATION THE LOG SHALL BE KEPT FOR A MINIMUM OF THREE CALENDAR YEARS PRIOR TO THE CURRENT YEAR AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THE TOTAL HOURS OF OPERATION FOR THE PREVIOUS CALENDAR YEAR SHALL BE RECORDED SOMETIME DURING THE FIRST 15 DAYS OF JANUARY OF EACH YEAR.
   [RULE 1304(A), RULE 1110.2, RULE 1470]

8. THE OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
   [RULE 431.2, RULE 1470]

Emissions And Requirements:

9. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
   PM: RULE 1470

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G34370
A/N 428804

Equipment Description:

ODOR CONTROL FACILITY CONSISTING OF:

A. TRUNKLINES ODOR CONTROL SYSTEM:

1) THREE (3) SINGLE STAGE BIOTRICKLING FILTERS (BIOTOWERS), IDENTICAL, (ONE STAND-BY), VERTICAL TYPE, EACH 10'- 0" DIA. X 47'- 9" H., OVERALL DIMENSIONS, WITH 8' – 6" H. POLYURETHANE FOAM PACKING AND A MIST ELIMINATOR, ASSOCIATED RECIRCULATING PUMPS, AND AN EXHAUST SYSTEM WITH THREE 75 HP BLOWERS (40,000 SCFM TOTAL), TREATING FOUL AIR EXHAUST FROM THE DIVERSION STRUCTURE AND INFLUENT TRUNKLINES, VENTING TO THE 1ST STAGE BIOTRICKLING FILTERS AT THE HEADWORKS ODOR CONTROL FACILITY.

B. HEADWORKS ODOR CONTROL SYSTEM:

1) 1ST STAGE, THIRTEEN (13) BIOTRICKLING FILTERS (BIOTOWERS), IDENTICAL, (THREE ON STAND-BY), VERTICAL TYPE, EACH 10'- 0" DIA. X 47'- 9" H., OVERALL DIMENSIONS, WITH 8'– 6" H. POLYURETHANE FOAM PACKING, A MIST ELIMINATOR, ASSOCIATED PUMPS, AND AN EXHAUST SYSTEM WITH THIRTEEN 75 HP BLOWERS (188,300 SCFM TOTAL), TREATING FOUL AIR FROM HEADWORKS FACILITY AND PRETREATED EXHAUST AIR FROM TRUNKLINE ODOR CONTROL FACILITY VENTING TO THE 2ND STAGE CHEMICAL SCRUBBERS AT THE HEADWORKS ODOR CONTROL FACILITY.

2) 2ND STAGE, EIGHT (8) CHEMICAL SCRUBBERS, IDENTICAL, (TWO ON STAND-BY), VERTICAL TYPE, EACH 10'- 0" DIA. X 52'- 7" H., OVERALL DIMENSIONS (INCLUDES 3' 6" DIA. X 8' – 9" H. STACK EXTENSION), WITH Q-PAC OR TRIPACK TYPE, 10' – 0" H. POLYURETHANE PACKING, A MIST ELIMINATOR, AUTOMATIC CHEMICAL FEED, ASSOCIATED RECIRCULATION PUMPS, AND AN EXHAUST SYSTEM WITH EIGHT 60 HP BLOWERS (188,300 SCFM TOTAL), TREATING EXHAUST AIR FROM 1ST STAGE BIOTRICKLING FILTERS, AND VENTING TO THE ATMOSPHERE.

C. SODIUM HYPOCHLORITE, SODIUM HYDROXIDE AND HYDROCHLORIC ACID STORAGE TANKS.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED, UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

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3 THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. THIS EQUIPMENT SHALL ONLY TREAT FOUL AIR GENERATED FROM THE DIVERSION STRUCTURE AND TRUNKLINES, GRIT HANDLING BUILDING, BAR SCREEN BUILDING AND CHANNELS, PUMP STATION WET WELL, SCREENINGS WASHING AND LOADING BUILDINGS, GRIT BASINS, PRIMARY SPLITTER BOX, AND INFLUENT PUMP STATION DISCHARGE CHANNEL.
[RULE 402]

5. ALL THE EXHAUST FROM THE BIOTRICKLING FILTERS (TRUNKLINE AND HEADWORKS BIOTRICKLING FILTERS) SHALL BE VENTED TO AND TREATED BY THE FINAL CHEMICAL SCRUBBERS PRIOR TO RELEASE TO THE ATMOSPHERE.
[RULE 1303 (a) (1) - BACT]

6. A SUFFICIENT NUMBER OF BIOTRICKLING (BIOTOWERS) AND CHEMICAL SCRUBBERS SHALL BE IN OPERATION WHEN THE BASIC EQUIPMENT ARE IN OPERATION TO MAINTAIN THE CHEMICAL SCRUBBERS OUTLET H2S CONCENTRATIONS, AS MEASURED BY THE AUTOMATIC CHEMICAL FEED AND H2S MONITORING SYSTEM, LESS THAN THE MAXIMUM OUTLET H2S LIMITS AS SPECIFIED IN CONDITION NO. 14 EXCEPT DURING UNFORESEEN AND ROUTINE MAINTENANCE WORK OR POWER OUTAGE IN THE PLANT THAT REQUIRES THE SCRUBBERS TO BE SHUTDOWN FOR A PERIOD NOT TO EXCEED 10 HOURS PER INCIDENT PER EQUIPMENT AND 50 HOURS PER YEAR PER EQUIPMENT.
[RULE 204]

7. ALL BIOTRICKLING FILTERS AND CHEMICAL SCRUBBERS SHALL BE EQUIPPED WITH INLET AND OUTLET CONTINUOUS HYDROGEN SULFIDE MONITORING SYSTEM (VAPAX UNIT OR EQUIVALENT).
[RULE 204]

8. WHEN THE CHEMICAL SCRUBBERS ARE IN OPERATION, AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H_2S) MONITORING SYSTEM SHALL BE IN OPERATION AND MAINTAINED TO RECORD THE SCRUBBER INLET AND OUTLET H2S CONCENTRATIONS, IN PPMV, EXCEPT DURING SHUTDOWN FOR MAINTENANCE. THE H_2S MONITORING SYSTEM SHALL BE CALIBRATED PERIODICALLY PURSUANT TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
[RULE 204]

9. A FLOW METER, INDICATING GALLONS PER MINUTE (GPM) SHALL BE INSTALLED AND MAINTAINED IN THE CHEMICAL SCRUBBING SOLUTION [SODIUM HYDROXIDE (NaOH) AND SODIUM HYPOCHLORITE (NaOCl)] RECIRCULATION LINE FOR EACH OF THE CHEMICAL SCRUBBER. AT LEAST 785 GPM OF CHEMICAL SCRUBBING SOLUTION SHALL BE SUPPLIED TO EACH CHEMICAL SCRUBBER WHEN IT IS IN OPERATION. [RULE 204]

10. FOR THE CHEMICAL SCRUBBER(S), A DIFFERENTIAL PRESSURE GAUGE OR OTHER DEVICE SHALL BE INSTALLED AND MAINTAINED TO INDICATE, IN INCHES OF WATER COLUMN, THE DIFFERENTIAL PRESSURE DROP ACROSS THE SCRUBBER. DURING NORMAL OPERATION, THE PRESSURE DROP MEASURED ACROSS THE SCRUBBER SHALL BE LESS THAN 4 INCHES OF WATER COLUMN.
[RULE 204]

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11. THE PH OF THE CHEMICAL SCRUBBING SOLUTION SHALL BE MAINTAINED BETWEEN 9 TO 10.5. [RULE 204]

12. WHEN THE AUTOMATIC CHEMICAL FEED AND H_2S MONITORING SYSTEM IS NOT OPERATING, PH OF THE SCRUBBING LIQUID, SCRUBBER SOLUTION RECIRCULATION RATE (GPM), THE SCRUBBER INLET AND OUTLET H_2S CONCENTRATION (PPMV) AND DIFFERENTIAL PRESSURE (INCHES OF WATER COLUMN) ACROSS THE SCRUBBER SHALL BE MEASURED AND RECORDED AT LEAST ONCE PER SHIFT.
[RULE 204]

13. WHEN THE CHEMICAL SCRUBBERS ARE IN OPERATION, THE DAILY AVERAGE CONCENTRATION OF SULFUR COMPOUNDS, CALCULATED AS H2S MEASURED AT THE OUTLET OF THE SCRUBBER SHALL NOT EXCEED 1 PPMV.
[RULE 402, 1401]

14. ALL RECORDS SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO SCAQMD PERSONNEL UPON REQUEST.
[RULE 204]

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ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. F71055
A/N 429663

Equipment Description:

DIGESTER GAS FLARING SYSTEM (PLANT NO. 2) CONSISTING OF:

1. THREE FLARES NOS. A, B AND C, EACH SUR-LITE CORP., VERTICAL TYPE, 6'-6" W. X 6'-6- L. X 24'-3" H., 27,000,000 BTU PER HOUR MAXIMUM HEAT INPUT, WITH A DIGESTER GAS PILOT BURNER, A NATURAL GAS PILOT BURNER, AN AUTOMATIC COMBUSTION AIR DAMPER AND A RESTART IGNITION SYSTEM.

2. THREE GAS FILTERS, DOLLINGER, MODEL GP-188.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. THE HOURLY AVERAGE VOLUME OF DIGESTER GAS BURNED IN EACH FLARE SHALL NOT EXCEED 750 SCFM.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING & OFFSETS]

5. THE HOURLY AVERAGE OF TOTAL VOLUME OF DIGESTER GAS BURNED IN THE FLARING SYSTEM (3-FLARES) SHALL NOT EXCEED 2250 SCFM.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING & OFFSETS]

6. FLOW INDICATORS, AND RECORDERS SHALL BE MAINTAINED TO MEASURE THE INDIVIDUAL FLOW RATE TO EACH FLARE AND TOTAL FLOW RATE TO THE FLARING SYSTEM.
[RULE 1303(b) (2)-OFFSETS]

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7. WHEN THE FLARES ARE IN OPERATION, A TEMPERATURE OF NOT LESS THAN 1400 DEGREES F, AVERAGED OVER ONE HOUR, AS MEASURED BY THE TEMPERATURE INDICATOR SHALL BE MAINTAINED IN THE FLARE STACK, EXCEPT FOR A MAXIMUM OF THIRTY- MINUTES DURING START-UP AND FIFTEEN- MINUTES DURING SHUT-DOWN, AND THREE MINUTES WHEN THERMOCOUPLES SWITCH OCCURS. THE THERMOCOUPLE USED TO MEASURE THE TEMPERATURE SHALL BE ABOVE THE FLAME ZONE AND AT LEAST 0.6 SECONDS DOWNSTREAM OF THE BURNER.
[RULE 1303(a) (1) - BACT]

8. A TEMPERATURE INDICATOR AND RECORDER SHALL BE MAINTAINED TO MEASURE THE EXHAUST GAS TEMPERATURE IN EACH OF THE FLARE STACKS.
[RULE 1303(a) (1)-BACT]

9. AUTOMATIC DAMPERS TO REGULATE THE FLOW OF COMBUSTION AIR SHALL BE MAINTAINED ON EACH FLARE.
[RULE 1303(a) (1)-BACT]

10. THE OPERATOR SHALL KEEP THE RECORDS OF DIGESTER GAS FLOW RATES AND OPERATING TEMPERATURE. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE UPON REQUEST TO AQMD PERSONNEL.
[RULE 204]

11. A FLARE FAILURE ALARM SYSTEM CONSISTING OF A FLAME-OUT WARNING LIGHT BY THE FLARE STATION AND AN AUDIBLE ALARM IN THE CONTROL ROOM SHALL BE MAINTAINED. THIS SAFETY SYSTEM SHALL BE TESTED MONTHLY FOR PROPER OPERATION AND THE RESULTS RECORDED AND MAINTAINED FOR FIVE YEARS.
[RULE 204, RULE 1303(a) (1)-BACT]

12. THE ORANGE COUNTY SANITATION DISTRICT SHALL, AT LEAST ONCE EVERY FIVE YEARS, CONDUCT TEST ON ONE OF THE THREE FLARES IN ACCORDANCE WITH SCAQMD TEST PROCEDURES AND FURNISH THE AQMD WITH WRITTEN RESULTS OF SUCH PERFORMANCE TEST WITHIN 45 DAYS AFTER THE TESTING. SUBSEQUENT TESTS SHALL BE PERFORMED ON ALTERNATE FLARES AT THE MAXIMUM FIRING RATE. WRITTEN NOTICE OF THE PERFORMANCE TESTS SHALL BE PROVIDED TO THE AQMD 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT.THE PERFORMANCE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, A TEST OF THE DIGESTER GAS INLET TO THE FLARE AND THE FLARE EXHAUST FOR THE FOLLOWING:

I. METHANE (LBS/HR)
II. TOTAL NON-METHANE HYDROCARBONS (LB/HR)
III. OXIDES OF NITROGEN (AS NO_2, EXHAUST ONLY, PPMV @ 3% 02, DRY, LBS/HR)
IV. CARBON MONOXIDE (EXHAUST ONLY, PPMV @3% 02, DRY, LBS/HR).
V. TOTAL PARTICULATES (EXHAUST ONLY, GR/DSCF, LBS/HR).
VI. CHEMICAL COMPOUNDS CONCENTRATION IN UG/M3,-INCLUDING BUT NOT LIMITED TO:

a. ACETALDEHYDE
b. ACROLEIN
c. BENZENE
d. CARBON TETRACHLORIDE

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e. CHLOROBENZENE
f. CHLOROFORM
g. 1, 4 (p)-DICHLOROBENZENE
h. 1, 2 - DICHLOROETHANE
i. FORMALDEHYDE
j. METHYLENE CHLORIDE
k. STYRENE
l. TETRACHLOROETHYLENE
m. TOLUENE
n. TRICHLOROETHYLENE
o. 1, 1, 1 – TRICHLOROETHANE
p. VINYL CHLORIDE
q. XYLENES

[RULE 1303(a) (1)-BACT, RULE 1303(b) (2) - OFFSETS, RULE 1401]

13. SAMPLING PORTS SHALL BE MAINTAINED IN EACH FLARE STACK AT LEAST 3 FEET UPSTREAM OF FLARE OUTLET AND SHALL CONSIST OF 4-INCH COUPLINGS WITH PLUGS. AN EQUIVALENT METHOD OF EMISSION SAMPLING MAY BE USED UPON APPROVAL BY THE AQMD. ADEQUATE AND SAFE ACCESS TO THE TEST PORTS SHALL BE PROVIDED BY THE COUNTY SANITATION DISTRICTS OF ORANGE COUNTY.
[RULE 217]

14. EMISSIONS RESULTING FROM EACH FLARE OPERATION SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	LBS/HR
NOX, AS N02	1.75
SOX, AS S02	0.30
CO	8.33
PM	1.13
ROG	0.50

[RULE 1303(b) (2) – OFFSETS, RULE 431.1]

15. EMISSIONS RESULTING FROM THE FLARING OPERATION (3-FLARES) SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	LBS/DAY
NOX, AS N02	126
SOX, AS S02	22
CO	600
PM	81
ROG	36

[RULE 1303(b) (2) – OFFSETS]

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16. THESE FLARES SHALL NOT OPERATE SIMULTANEOUSLY WITH THE CENTRAL POWER GENERATION ENGINES, AT PLANT NO. 2, EXCEPT DURING ROUTINE AND UNFORESEEN MAINTENANCE PERIODS, ENGINE START-UP, SOURCE TESTING PERIODS, AND WHEN THERE IS EXCESS DIGESTER GAS THAT CANNOT BE USED BY THE ENGINES DUE TO MAINTENANCE. [RULE 1303(b) (2) - OFFSETS]

17. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF DAY. [RULE 204]

18. A SAMPLING PORT SHALL BE MAINTAINED AT THE INLET GAS LINE TO THE FLARING SYSTEM TO ALLOW THE COLLECTION OF A DIGESTER GAS SAMPLE. [RULE 217]

19. ALL RECORDS AS REQUIRED BY THIS PERMIT SHALL BE MAINTAINED ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST. [RULE 204]

20. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULE 431.1.

Emissions and Requirements:

21. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO:	2000 PPMV, RULE 407
PM:	RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
PM:	0.1 gr/scf, RULE 409
NO_X	0.06 lb/MMBTU, RULE 1303 (a) (1)- BACT.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. F99405
A/N 444111

Equipment Description:

AIR POLLUTION CONTROL SYSTEM (NORTH SCRUBBER COMPLEX, P2-33) CONSISTING OF:

1. SCRUBBER 'H', VERTICAL TYPE, PACKED TOWER, 6'- 0" DIA. X 27'- 0" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.

2. BIOTRICKLING FILTER 'I', WITH POLYURETHANE FOAM PACKING, 6'-0" DIA. X 27'- 0" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.

3. SEVEN (7) SCRUBBERS 'M' THROUGH 'P' AND 'R' THROUGH T', VERTICAL TYPE, PACKED TOWER, 10'- 0" DIA. X 27'- 0" H., WITH ASSOCIATED PUMPS AND INLET BLOWERS.

4. BIOTRICKLING FILTER 'Q', WITH POLYURETHANE FOAM PACKING, 10'-0" DIA. X 27'- 0" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.

5. AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H2S) MONITORING SYSTEMS.

6. EXHAUST SYSTEM WITH ASSOCIATED BLOWERS VENTING THE INFLUENT TRUNKLINES, HEADWORKS AND PRIMARY TREATMENT FACILITIES.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED, UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3 THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. SCRUBBER 'H' AND BIOTRICKLING FILTER 'I' SHALL ONLY EXHAUST INTO THE SCRUBBERS 'M' THROUGH 'P' AND 'R' THROUGH 'T' AND BIOTRICKLING FILTER 'Q'.
[RULE 204]

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5. AT LEAST THREE APC EQUIPMENT (SCRUBBERS OR BIOTRICKLING FILTERS) SHALL BE IN OPERATION WHEN THE BASIC EQUIPMENT ARE IN OPERATION EXCEPT DURING THE FOLLOWING EVENTS:

   UNFORESEEN AND ROUTINE MAINTENANCE WORK OR POWER OUTAGE IN THE PLANT THAT REQUIRES THE SCRUBBERS OR BIOTRICKLING FILTERS TO BE SHUTDOWN FOR A PERIOD NOT TO EXCEED 10 HOURS PER INCIDENT PER EQUIPMENT AND 50 HOURS PER YEAR PER EQUIPMENT, OR LONGER IF CHEMICAL TREATMENT OF THE BASIC EQUIPMENT REDUCES THE OUTLET H2S CONCENTRATION OF THE AIR POLLUTION CONTROL SYSTEM TO LESS THAN THE LIMIT AS SPECIFIED IN CONDITION NO. 8. A LOG OF SHUTDOWN DATE, DURATION, AND REASON FOR THE SHUTDOWN SHALL BE MAINTAINED.
   [RULE 204, 402]

6. WHEN ANY OF THE SCRUBBERS, 'M' THROUGH 'P' AND 'R' THROUGH 'T' OR SCRUBBER 'H' OR BIOTRICKLING FILTERS ARE IN OPERATION, AUTOMATIC HYDROGEN SULFIDE (H2S) MONITORING SYSTEM SHALL BE IN OPERATION AND MAINTAINED TO RECORD THE AIR POLLUTION CONTROL SYSTEM OUTLET H2S CONCENTRATION, IN PPMV. THE H2S MONITORING SYSTEM SHALL BE CALIBRATED PURSUANT TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
   [RULE 204]

7. WHEN THE AUTOMATIC CHEMICAL FEED AND H2S MONITORING SYSTEM IS NOT OPERATING, THE PH OF THE SCRUBBING OR RECYCLING LIQUID, MAKEUP WATER FLOW RATE (GPM), DIFFERENTIAL PRESSURE DROP (IN INCHES OF WATER COLUMN), FOR SCRUBBERS 'M' THROUGH 'P', 'R' THROUGH 'T' OR SCRUBBER 'H' OR BIOTRICKLING FILTERS SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATIONS. THE OPERATING PARAMETERS SHALL BE MEASURED AND RECORDED AT LEAST ONCE PER SHIFT.
   [RULE 204]

8. THE DAILY AVERAGE CONCENTRATION OF SULFUR COMPOUNDS, MEASURED, AND CALCULATED AS H2S, AT THE OUTLET OF THE AIR POLLUTION CONTROL SYSTEM SHALL NOT EXCEED 1.33 PPMV AND 2 PPMV, WHEN THE EXHAUST BLOWER IS OPERATING AT LOW AND HIGH SPEED, RESPECTIVELY. EMISSION AT THE EXHAUST STACK SHALL BE MONITORED AND RECORDED AT LEAST ONCE PER SHIFT.
   [RULE 402, 1401]

9. RECORDS SHALL BE KEPT AND MAINTAINED FOR DAILY AVERAGE OPERATING PARAMETERS AND H2S CONCENTRATION, IN PPMV, AT THE OUTLET OF EACH SCRUBBER OR BIOFILETER IN OPERATION. ALL RECORDS AS REQUIRED BY THIS PERMIT SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
   [RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. F99406
A/N 444112

Equipment Description:

AIR POLLUTION CONTROL SYSTEM (DEWATERING, P2-28-1) CONSISTING OF:

1. TWO (2) SCRUBBERS, 'C', AND 'D' (STAND-BY MODE), EACH VERTICAL TYPE, PACKED TOWER, 10'- 0" DIA. X 35'- 9" H., WITH ASSOCIATED PUMPS AND INLET BLOWERS.

2. BIOTRICKLING FILTERS 'J' AND 'K', EACH 10'- 0" DIA. X 35'- 9" H., 23,000 CFM AIR FLOW, WITH 10' POLYURETHANE FOAM PACKING HEIGHT, SPRAY NOZZLES, MIST ELIMINATOR PAD, ASSOCIATED PUMPS AND INLET BLOWER.

3. CHEMICAL FEED SYSTEM FOR SCRUBBERS.

4. EXHAUST SYSTEM WITH ASSOCIATED BLOWERS VENTING THE BELT FILTER PRESSES AND THE DEWATERING BUILDING.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED, UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3 THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. WHEN ANY OF THE SCRUBBERS OR BIOTRICKLING FILTERS ARE IN OPERATION, THE PH OF THE SCRUBBING OR RECYCLING LIQUID, MAKEUP WATER FLOW RATE (GPM), DIFFERENTIAL PRESSURE DROP (IN INCHES OF WATER COLUMN), SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATIONS. THE OPERATING PARAMETERS AS DESCRIBED SHALL BE MEASURED AND RECORDED AT LEAST ONCE PER SHIFT.
[RULE 204]

5. WHEN ANY OF THE SCRUBBERS OR BIOTRICKLING FILTER ARE IN OPERATION, THE H2S EMISSION AT THE EXHAUST STACK SHALL BE MONITORED AND RECORDED AT LEAST ONCE PER SHIFT. THE DAILY AVERAGE CONCENTRATION OF SULFUR COMPOUNDS MEASURED, AND CALCULATED AS H2S, AT THE OUTLET OF SCRUBBERS OR THE BIOTRICKLING FILTER SHALL NOT EXCEED 2.5 PPMV.
[RULE 402, 1401]

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6. RECORDS SHALL BE KEPT AND MAINTAINED FOR DAILY AVERAGE OPERATING PARAMETERS, AND H2S CONCENTRATION, IN PPMV, AT THE OUTLET OF EACH SCRUBBER IN OPERATION. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. F99408
A/N 444113

Equipment Description:

AIR POLLUTION CONTROL SYSTEM (DISSOLVED AIR FLOATATION FACILITY) CONSISTING OF:

1. SCRUBBER 'F' (STAND-BY MODE), VERTICAL TYPE, PACKED TOWER, 9'- 6" DIA. X 21'- 4" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.

2. BIOTRICKLING FILTER 'G', WITH POLYURETHANE FOAM PACKING, 9'- 6" DIA. X 21'- 4" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.

3. CHEMICAL FEED SYSTEM FOR SCRUBBERS.

4. EXHAUST SYSTEM WITH ASSOCIATED BLOWERS VENTING DISSOLVED AIR FLOATATION THICKENERS.

CONDITIONS:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED, UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3 THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. WHEN SCRUBBER 'F' OR BIOTRICKLING FILTER 'G' IS IN OPERATION, THE PH OF THE SCRUBBING OR RECYCLING LIQUID, MAKEUP WATER FLOW RATE (GPM), DIFFERENTIAL PRESSURE DROP (IN INCHES OF WATER COLUMN), SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATIONS. THE OPERATING PARAMETERS AS DESCRIBED SHALL BE MEASURED AND RECORDED AT LEAST ONCE PER SHIFT.
[RULE 204]

5. WHEN SCRUBBER 'F' OR BIOTRICKLING FILTER 'G' IS IN OPERATION, THE H2S EMISSION AT THE EXHAUST STACK SHALL BE MONITORED AND RECORDED AT LEAST ONCE PER SHIFT. THE DAILY AVERAGE CONCENTRATION OF SULFUR COMPOUNDS, MEASURED, AND CALCULATED AS H2S, AT THE OUTLET OF SCRUBBER OR THE BIOTRICKLING FILTER SHALL NOT EXCEED 3.5 PPMV.
[RULE 204]

FACILITY PERMIT TO OPERATE
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6. RECORDS SHALL BE KEPT AND MAINTAINED FOR DAILY AVERAGE OPERATING PARAMETERS, AND H2S CONCENTRATION, IN PPMV, AT THE OUTLET OF THE SCRUBBER IN OPERATION. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 3004 (a) (4)]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G25942
A/N 453240

Equipment Description:

SEWAGE TREATMENT PLANT, 250 MGD CAPACITY, CONSISTING OF:

1. INFLUENT STATION (HEADWORKS "D") CONSISTING OF INFLUENT TRUNKLINES, INFLUENT DIVERSION AND METERING, SIX (5 DUTY + 1 STANDBY) BARSCREENS, SCREENING HANDLING, INFLUENT PUMPS, GRIT REMOVAL AND HANDLING, PRIMARY INFLUENT SPLITTER AND METERING, AND FERRIC CHLORIDE FACILITY.

2. WETWELL (WASTE SIDE STREAM PUMP STATION) WITH ASSOCIATED PUMPS.

3. SEVENTEEN PRIMARY BASINS, THREE 41'-0" W. X 179'-0" L. X 8'-0" D., WITH ALUMINUM COVERS, FOURTEEN 140'-0" DIA. X 9'-0" D., WITH ALUMINUM GEODESIC DOME COVERS, AND ASSOCIATED SLUDGE AND SCUM COLLECTORS AND PUMPS.

4. EIGHT ACTIVATED SLUDGE OXYGEN REACTORS, 139,656 CUBIC FEET CAPACITY, 46'-0" W. X 184'-0" L. X 16'-6" D., WITH ASSOCIATED MIXERS.

5. TWO PURE OXYGEN GENERATION UNITS, 40,000 GALLON CAPACITY EACH, WITH TWO STORAGE TANKS AND ASSOCIATED COMPRESSORS.

6. TWELVE SECONDARY CLARIFIERS, 61'-0" W. X 171'-0" L. X 14'-0" D., WITH ASSOCIATED SLUDGE COLLECTORS.

7. EAST SECONDARY SLUDGE PUMP STATION WITH ASSOCIATED PUMPS.

8. WEST SECONDARY SLUDGE PUMP STATION WITH ASSOCIATED PUMPS.

9. FOUR DISSOLVED AIR FLOATATION THICKENERS, EACH 55'-0" DIA. X 8'-6" D., WITH ASSOCIATED COLLECTOR DRIVES AND PUMPS.

10. TWENTY DIGESTER TANKS, TWO 90'-0" DIA. X 30'-0" D., EACH 190,800 CUBIC FEET CAPACITY, SIX 80'-0" DIA. X 33'-0" D., EACH 164,120 CUBIC FEET CAPACITY, THREE 80'-0" DIA. X 33'-0" D., EACH 166,630 CUBIC FEET CAPACITY, FOUR 105'-0" DIA. X 30'-0" D., EACH 293,680 CUBIC FEET CAPACITY, FIVE 80'-0" DIA. X 18'-0" H., WITH ASSOCIATED PUMPS AND GRINDERS. EQUIPPED WITH OPTIONAL PASSIVE CARBON ADSORBERS.

11. LOW PRESSURE DIGESTER GAS STORAGE TANK, 25,000 CUBIC FEET CAPACITY, 42'-0" DIA. X 30'-0" H., WITH ASSOCIATED COMPRESSORS.

12. FERROUS AND/OR FERRIC CHLORIDE INJECTION STATION WITH TWO STORAGE TANKS, EACH 12'-0" DIA. X 18'-0" H., AND ASSOCIATED PUMPS.

FACILITY PERMIT TO OPERATE
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13. SLUDGE PROCESSING STATION WITH ASSOCIATED GRINDERS, BELT FILTER PRESSES, DEWATERED STORAGE HOPPERS, AND TRUCK LOADING HOPPER.

14. TWO POLYMER STORAGE TANKS, EACH 20,000 GALLON CAPACITY, WITH ASSOCIATED PUMPS.

15. FOUR POLYMER MIX TANKS, EACH 8,500 GALLON CAPACITY, WITH ASSOCIATED MIXERS AND PUMPS.

16. PRIMARY EFFLUENT DIVERSION STRUCTURE.

17. THREE TRICKLING FILTERS, COVERED, PRIMARY EFFLUENT TREATMENT (TOTAL 60 MGD AVERAGE CAPACITY AND 182 MGD PEAK FLOW), EACH 150' DIA. X 28' H., OVERALL, WITH MODULAR PLASTIC CROSS - FLOW FILTER MEDIA, SPRAY NOZZLES, AND ASSOCIATED PUMPS.

18. FOUR SOLIDS CONTACT (SC) REACTORS, FOUR SLUDGE RE-AERATION (SR) REACTORS, UNCOVERED, TWO MIXED LIQUOR CHANNELS (TOTAL 1.68 MG VOLUME), AND WITH ASSOCIATED AIR BLOWERS.

19. SIX TRICKLING FILTER CLARIFIERS, UNCOVERED, EACH 135' DIA. X 19' SIDEWATER DEPTH, WITH FLOCCULATING CENTER WELLS, HYDRAULIC SLUDGE COLLECTORS, AND INBOARD LAUNDERS.

20. SLUDGE BLENDING FACILITY WITH TWO SLUDGE BLENDING TANKS (SBTs), EACH 26,000 GALLON CAPACITY, WITH ASSOCIATED PIPING AND PUMPS.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. HEADWORKS FACILITY, PRIMARY BASINS, SLUDGE BLENDING FACILITY, DISSOLVED AIR FLOATATION THICKENERS, TRICKLING FILTER FACILITY AND SLUDGE PROCESSING STATION SHALL BE VENTED TO THEIR DESIGNATED AIR POLLUTION CONTROL SYSTEMS WHICH ARE IN OPERATION PER ITS' VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD. IN THE EVENT AN AIR POLLUTION CONTROL SYSTEM IS REMOVED FROM OPERATION DURING CONSTRUCTION OR MAINTENANCE WORK, THE H2S CONCENTRATION IN EXHAUST AIR SHALL BE BELOW THE LIMITS SPECIFIED IN THE REMOVED AIR POLLUTION CONTROL SYSTEM'S PERMIT. EACH SUCH CONSTRUCTION OR MAINTENANCE EVENT SHALL BE RECORDED IN A DAILY LOG.
[RULE 402, 1303(a) (1)-BACT, 1401]

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ORANGE COUNTY SANITATION DISTRICT

5. THE FERROUS AND/OR FERRIC CHLORIDE INJECTION STATION SHALL BE IN USE TO THE EXTENT NECESSARY TO MAINTAIN THE H2S CONCENTRATION IN THE DIGESTER GAS TO THE PERMITTED LIMIT.
[RULE 431.1]

6. RAW DIGESTER GAS PRODUCED AT THIS FACILITY SHALL NOT BE RELEASED INTO THE ATMOSPHERE, EXCEPT DURING MOMENTARY AUTOMATIC ACTIVATION OF PRESSURE RELIEF SAFETY DEVICES. ALL COLLECTED DIGESTER GAS SHALL BE EITHER COMBUSTED IN DIGESTER GAS FLARES, INTERNAL COMBUSTION ENGINES, OR BOILERS WITH VALID AQMD PERMIT, OR SHALL BE TREATED THROUGH OPTIONAL PASSIVE CARBON ADSORBERS. EACH SUCH PRESSURE RELIEF ACTIVATION SHALL BE MAINTAINED IN A DAILY LOG.
[RULE 402, RULE 1401]

7. RAW DIGESTER GAS RELEASES DUE TO EQUIPMENT FAILURE SHALL BE REPORTED IN ACCORDANCE WITH RULE 430. UPON DISCOVERY OF SUCH EMISSIONS, IMMEDIATE REMEDIAL MEASURES SHALL BE PUT INTO ACTION TO CORRECT THE PROBLEM AND PREVENT FURTHER EMISSIONS INTO THE ATMOSPHERE.
[RULE 402, RULE 430]

8. THE CALENDAR MONTHLY AVERAGE DAILY PRIMARY EFFLUENT FLOW RATE, TO THE SECONDARY TREATMENT PROCESS, SHALL NOT EXCEED 150 MILLIONS GALLONS PER DAY, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH SAFETY. THE RECORDS FOR THE PRIMARY EFFLUENT AVERAGE DAILY FLOW RATE (MGD), TREATED BY THE SECONDARY PROCESS, SHALL BE KEPT ON FILE.
[RULE 1303(b) (2) –OFFSETS, 402, 1401]

9. THE CALENDAR MONTHLY AVERAGE DAILY FLOW RATE OF WASTEWATER TREATED AT THIS FACILITY SHALL NOT EXCEED 250 MILLION GALLONS PER DAY (MGD) EXCEPT DURING WET WEATHER PERIODS. THE RECORDS FOR THE WASTEWATER FLOW RATE (MGD) MEASURED SHALL BE RECORDED AND KEPT ON FILE.
[RULE 1303(b) (2) –OFFSETS, 402, 1401]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G27920
A/N 453244

Equipment Description:

AIR POLLUTION CONTROL SYSTEM, CONSISTING OF;

1. FOUL AIR EXHAUST DUCTS FROM THREE (3) TRICKLING FILTERS, TRICKLING FILTER FACILITY'S (JOB NO. P2-90), IN PARALLEL.

2. THREE (3) EXHAUST BLOWERS, IN PARALLEL, EACH 11,000 SCFM, 25 H.P.

3. THREE (3) CAUSTIC IMPREGNATED ACTIVATED CARBON UNITS, IN PARALLEL, EACH CONTAINING MINIMUM OF 10,600 LBS OF ACTIVATED CARBON BY NORIT AMERICAS OR WESTATES OR EQUIVALENT, EACH VENTING A SINGLE TRICKLING FILTER.

4. THREE (3) EXHAUST STACKS, EACH 2.0'- 3" DIA. X 28' HIGH.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATIONS UNDER WHICH THIS PERMIT IS ISSUED.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITIONS AT ALL TIMES.
[RULE 204]

3. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH OF THE CARBON UNIT TO INDICATE THE TOTAL FOUL AIR EXHAUST FROM THE TRICKLING FILTER TREATED, IN STANDARD CUBIC FEET PER MINUTE (SCFM). IN CASE A PRESSURE SENSOR DEVICE IS USED TO DETERMINE FLOW RATE, IN PLACE OF THE FLOW METER, A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDENT FLOW RATE, IN SCFM, TO THE PRESSURE READING.
[RULE 204]

4. MAXIMUM FOUL AIR EXHAUST FLOW RATE FROM EACH TRICKLING FILTER TO BE TREATED BY EACH CARBON UNIT SHALL NOT EXCEED 11,000 SCFM, AVERAGED OVER CALENDAR MONTH.
[RULE 204]

5. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE PRESSURE ACROSS THE CARBON BED IS LESS THAN 6.0 INCHES WATER COLUMN. TO COMPLY WITH THIS CONDITION THE OPERATOR SHALL INSTALL AND MAINTAIN A DIFFERENTIAL PRESSURE GAUGE TO ACCURATELY INDICATE THE DIFFERENTIAL PRESSURE ACROSS THE CARBON BED. THE OPERATOR SHALL DETERMINE AND RECORD THE PARAMETER BEING MONITORED ONCE EVERY WEEK.
[RULE 204]

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ORANGE COUNTY SANITATION DISTRICT

6. WHENEVER THE CARBON UNIT IS IN OPERATION THE HYDROGEN SULFIDE (H2S) CONCENTRATION IN THE EXHAUST SHALL BE MONITORED USING AN AUTOMATIC H2S MONITORING DEVICE OR MEASURED MANUALLY AT LEAST ONCE A WEEK USING AN APPROVED AND CALIBRATED INSTRUMENT. H2S MEASUREMENT READINGS SHALL BE RECORDED AND MAINTAINED ON FILE.
[RULE 402, 1401]

7. CONCENTRATIONS MEASURED AT THE OUTLET OF THE CARBON ADSORBER SHALL NOT EXCEED THE FOLLOWING:

CONSTITUENT	CONCENTRATION, IN PPMV (DAILY AVG.)
H2S	1.0

[RULE 402, 1401]

8. WHENEVER THE DAILY AVERAGE HYDROGEN SULFIDE (H2S) CONCENTRATION IS 0.9 PPMV OR HIGHER, THEN OPERATOR SHALL INVESTIGATE THE CAUSE AND TAKE IMMEDIATE CORRECTIVE MEASURES THAT MAY INCLUDE FRESH ACTIVATED CARBON REPLACEMENT AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS. THE OPERATOR SHALL RECORD THE DATE AND QUANTITY OF CARBON AT EACH REPLACEMENT EVENT, THE RESULTS OF THE INVESTIGATION AND CORRECTIVE MEASURES TAKEN.
[RULE 204]

9. SPENT CARBON REMOVED FROM THIS SYSTEM SHALL BE MAINTAINED OR STORED IN CLOSED CONTAINERS PRIOR TO REMOVAL FROM SITE.
[RULE 402]

10. RECORDS SHALL BE MAINTAINED AS REQUIRED BY THIS PERMIT FOR COMPLIANCE. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. R-F81554
A/N 455670

Equipment Description:

INTERNAL COMBUSTION ENGINE, DETROIT DIESEL, 16 CYLINDER, TURBOCHARGED, AFTERCOOLED, MODEL T1637M36 (2936 BHP), SERIAL NO. 527200-2104, 2936 BHP, DIESEL FUEL-FUELED, DRIVING AN EMERGENCY ELECTRICAL GENERATOR.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR WHICH INCLUDES NOT MORE THAN 50 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING PURPOSES.
   [RULE 1304(a), RULE 1110.2, RULE 1470]

4. THE OPERATION OF ENGINE BEYOND THE 50 HOURS PER YEAR ALLOTTED FOR ENGINE MAINTENANCE AND TESTING SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR TO A ROTATING OUTAGE, PROVIDED THAT THE ELECTRICAL GRID OPERATOR OR ELECTRIC UTILITY HAS ORDERED ROTATING OUTAGES IN THE CONTROL AREA WHERE THE ENGINE IS LOCATED OR HAS INDICATED THAT IT EXPECTS TO ISSUE SUCH AN ORDER AT A CERTAIN TIME, AND THE ENGINE IS LOCATED IN A UTILITY SERVICE BLOCK THAT IS SUBJECT TO THE ROTATING OUTAGE. ENGINE OPERATION SHALL BE TERMINATED IMMEDIATELY AFTER THE UTILITY DISTRIBUTION COMPANY ADVISES THAT A ROTATING OUTAGE IS NO LONGER IMMINENT OR IN EFFECT.
   [RULE 1304 (a) (1)-BACT, RULE 1470]

5. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
   [RULE 1304(a), RULE 1110.2, RULE 1470]

6. THIS ENGINE SHALL NOT BE USED AS PART OF A DEMAND RESPONSE PROGRAM USING INTERRUPTIBLE SERVICE CONTRACT IN WHICH A FACILITY RECEIVES A PAYMENT OR REDUCED RATES IN RETURN FOR REDUCING ITS ELECTRIC LOAD ON THE GRID WHEN REQUESTED TO SO BY THE UTILITY OR THE GRID OPERATOR.
   [RULE 1303 (a) (1)-BACT, RULE 1470]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. AN ENGINE OPERATING LOG SHALL BE MAINTAINED WHICH ON A MONTHLY BASIS SHALL LIST ALL ENGINE OPERATIONS IN EACH OF THE FOLLOWING AREAS:

   A. EMERGENCY USE HOURS OF OPERATION

   B. MAINTENANCE AND TESTING HOURS

   C. OTHER OPERATING HOURS (DESCRIBE THE REASON FOR OPERATION)

   IN ADDITION, EACH TIME THE ENGINE IS STARTED MANUALLY, THE LOG SHALL INCLUDE THE DATE OF OPERATION AND THE TIMER READING IN HOURS AT THE BEGINNING AND END OF OPERATION THE LOG SHALL BE KEPT FOR A MINIMUM OF THREE CALENDAR YEARS PRIOR TO THE CURRENT YEAR AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THE TOTAL HOURS OF OPERATION FOR THE PREVIOUS CALENDAR YEAR SHALL BE RECORDED SOMETIME DURING THE FIRST 15 DAYS OF JANUARY OF EACH YEAR.
   [RULE 1304(A), RULE 1110.2, RULE 1470]

8. THE OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
   [RULE 431.2, RULE 1470]

THIS PERMIT TO OPERATE R-F81554 SUPERSEDES PERMIT TO OPERATE F81554 ISSUED 6/14/2007.

Emissions And Requirements:

9. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
   PM: RULE 1470.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. R-F81555
A/N 455671

Equipment Description:

INTERNAL COMBUSTION ENGINE, DETROIT DIESEL, 16 CYLINDER, TURBOCHARGED, AFTERCOOLED, MODEL T1637M36 (2936 BHP), SERIAL NO. 527200-2105, 2936 BHP, DIESEL FUEL-FUELED, DRIVING AN EMERGENCY ELECTRICAL GENERATOR.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR WHICH INCLUDES NOT MORE THAN 50 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING PURPOSES.
[RULE 1304(a), RULE 1110.2, RULE 1470]

4. THE OPERATION OF ENGINE BEYOND THE 50 HOURS PER YEAR ALLOTTED FOR ENGINE MAINTENANCE AND TESTING SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR TO A ROTATING OUTAGE, PROVIDED THAT THE ELECTRICAL GRID OPERATOR OR ELECTRIC UTILITY HAS ORDERED ROTATING OUTAGES IN THE CONTROL AREA WHERE THE ENGINE IS LOCATED OR HAS INDICATED THAT IT EXPECTS TO ISSUE SUCH AN ORDER AT A CERTAIN TIME, AND THE ENGINE IS LOCATED IN A UTILITY SERVICE BLOCK THAT IS SUBJECT TO THE ROTATING OUTAGE. ENGINE OPERATION SHALL BE TERMINATED IMMEDIATELY AFTER THE UTILITY DISTRIBUTION COMPANY ADVISES THAT A ROTATING OUTAGE IS NO LONGER IMMINENT OR IN EFFECT.
[RULE 1304 (a) (1)-BACT, RULE 1470]

5. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1304(a), RULE 1110.2, RULE 1470]

6. THIS ENGINE SHALL NOT BE USED AS PART OF A DEMAND RESPONSE PROGRAM USING INTERRUPTIBLE SERVICE CONTRACT IN WHICH A FACILITY RECEIVES A PAYMENT OR REDUCED RATES IN RETURN FOR REDUCING ITS ELECTRIC LOAD ON THE GRID WHEN REQUESTED TO SO BY THE UTILITY OR THE GRID OPERATOR.
[RULE 1303 (a) (1)-BACT, RULE 1470]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. AN ENGINE OPERATING LOG SHALL BE MAINTAINED WHICH ON A MONTHLY BASIS SHALL LIST ALL ENGINE OPERATIONS IN EACH OF THE FOLLOWING AREAS:

   A. EMERGENCY USE HOURS OF OPERATION

   B. MAINTENANCE AND TESTING HOURS

   C. OTHER OPERATING HOURS (DESCRIBE THE REASON FOR OPERATION)

   IN ADDITION, EACH TIME THE ENGINE IS STARTED MANUALLY, THE LOG SHALL INCLUDE THE DATE OF OPERATION AND THE TIMER READING IN HOURS AT THE BEGINNING AND END OF OPERATION THE LOG SHALL BE KEPT FOR A MINIMUM OF THREE CALENDAR YEARS PRIOR TO THE CURRENT YEAR AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THE TOTAL HOURS OF OPERATION FOR THE PREVIOUS CALENDAR YEAR SHALL BE RECORDED SOMETIME DURING THE FIRST 15 DAYS OF JANUARY OF EACH YEAR.
   [RULE 1304(A), RULE 1110.2, RULE 1470]

8. THE OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
   [RULE 431.2, RULE 1470]

Emissions And Requirements:

9. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
   PM: RULE 1470.

THIS PERMIT TO OPERATE R-F81555 SUPERSEDES PERMIT TO OPERATE F81555 ISSUED 4/12/2006.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. R-F81556
A/N 455673

Equipment Description:

INTERNAL COMBUSTION ENGINE, DETROIT DIESEL, 16 CYLINDER, TURBOCHARGED, AFTERCOOLED, MODEL T1637M36 (2936 BHP), SERIAL NO. 527200-2106, 2936 BHP, DIESEL FUEL-FUELED, DRIVING AN EMERGENCY ELECTRICAL GENERATOR.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR WHICH INCLUDES NOT MORE THAN 50 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING PURPOSES.
[RULE 1304(a), RULE 1110.2, RULE 1470]

4. THE OPERATION OF ENGINE BEYOND THE 50 HOURS PER YEAR ALLOTTED FOR ENGINE MAINTENANCE AND TESTING SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR TO A ROTATING OUTAGE, PROVIDED THAT THE ELECTRICAL GRID OPERATOR OR ELECTRIC UTILITY HAS ORDERED ROTATING OUTAGES IN THE CONTROL AREA WHERE THE ENGINE IS LOCATED OR HAS INDICATED THAT IT EXPECTS TO ISSUE SUCH AN ORDER AT A CERTAIN TIME, AND THE ENGINE IS LOCATED IN A UTILITY SERVICE BLOCK THAT IS SUBJECT TO THE ROTATING OUTAGE. ENGINE OPERATION SHALL BE TERMINATED IMMEDIATELY AFTER THE UTILITY DISTRIBUTION COMPANY ADVISES THAT A ROTATING OUTAGE IS NO LONGER IMMINENT OR IN EFFECT.
[RULE 1304 (a) (1)-BACT, RULE 1470]

5. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1304(a), RULE 1110.2, RULE 1470]

6. THIS ENGINE SHALL NOT BE USED AS PART OF A DEMAND RESPONSE PROGRAM USING INTERRUPTIBLE SERVICE CONTRACT IN WHICH A FACILITY RECEIVES A PAYMENT OR REDUCED RATES IN RETURN FOR REDUCING ITS ELECTRIC LOAD ON THE GRID WHEN REQUESTED TO SO BY THE UTILITY OR THE GRID OPERATOR.
[RULE 1303 (a) (1)-BACT, RULE 1470]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. AN ENGINE OPERATING LOG SHALL BE MAINTAINED WHICH ON A MONTHLY BASIS SHALL LIST ALL ENGINE OPERATIONS IN EACH OF THE FOLLOWING AREAS:

   A. EMERGENCY USE HOURS OF OPERATION

   B. MAINTENANCE AND TESTING HOURS

   C. OTHER OPERATING HOURS (DESCRIBE THE REASON FOR OPERATION)

   IN ADDITION, EACH TIME THE ENGINE IS STARTED MANUALLY, THE LOG SHALL INCLUDE THE DATE OF OPERATION AND THE TIMER READING IN HOURS AT THE BEGINNING AND END OF OPERATION THE LOG SHALL BE KEPT FOR A MINIMUM OF THREE CALENDAR YEARS PRIOR TO THE CURRENT YEAR AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THE TOTAL HOURS OF OPERATION FOR THE PREVIOUS CALENDAR YEAR SHALL BE RECORDED SOMETIME DURING THE FIRST 15 DAYS OF JANUARY OF EACH YEAR.
   [RULE 1304(A), RULE 1110.2, RULE 1470]

8. THE OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
   [RULE 431.2, RULE 1470]

Emissions And Requirements:

9. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
   PM: RULE 1470.

THIS PERMIT TO OPERATE R-F81556 SUPERSEDES PERMIT TO OPERATE F81556 ISSUED 04/12/2006.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G24634
A/N 457410

Equipment Description:

AIR POLLUTION CONTROL SYSTEM CONSISTING OF;

1. FOUL AIR EXHAUST DUCTS FROM TWO (2) SLUDGE BLENDING TANKS (ONE STAND-BY), IN PARALLEL.

2. TWO (2) EXHAUST BLOWERS (ONE STAND-BY), IN PARALLEL, EACH 400 CFM, 1.5 H.P.

3. TWO (2) ADSORBERS (ONE STAND-BY), IN PARALLEL, CARBTROL CORPORATION, MODEL GC-21 SP, EACH CONTAINING MINIMUM OF 200 LBS OF GRANULAR ACTIVATED CARBON.

4. TWO (2) EXHAUST STACKS (ONE STAND-BY), EACH 0'- 6" DIA. X 8' HIGH.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATIONS UNDER WHICH THIS PERMIT IS ISSUED.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITIONS AT ALL TIMES.
[RULE 204]

3. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE GAUGES TO ACCURATELY INDICATE THE DIFFERENTIAL PRESSURE ACROSS EACH CARBON BED AND EACH EXHAUST BLOWER.
[RULE 402]

4. ONCE A MONTH, DIFFERENTIAL PRESSURE DROP ACROSS THE BLOWER AND THE ADSORBER SHALL ME MEASURED, IN INCHES OF WATER COLUMN, AND SHALL BE MAINTAINED AS FOLLOWS;

	DIFFERENTIAL PRESSURE DROP (INCHES OF WATER COLUMN)
BLOWER	8.0 – 11.0
ADSORBER	6.5 – 8.5

[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

5. HYDROGEN SULFIDE (H2S) CONCENTRATION (PPMV) IN THE EXHAUST SHALL BE CONTINUOUSLY MONITORED OR MEASURED MANUALLY AND RECORDED AT LEAST ONCE A DAY USING A DISTRICT APPROVED DEVICE.
[RULE 204]

6. THE HYDROGEN SULFIDE (H2S) CONCENTRATION IN THE EXHAUST SHALL NOT EXCEED 1 PPMV.
[RULE 402, 1401]

7. IF THE AVERAGE HYDROGEN SULFIDE (H2S) CONCENTRATION IS DETECTED 0.9 PPMV OR HIGHER, THE CARBON SHALL BE REPLACED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
[RULE 402]

8. SPENT CARBON REMOVED FROM THIS SYSTEM SHALL BE MAINTAINED OR STORED IN CLOSED CONTAINERS PRIOR TO REMOVAL FROM SITE.
[RULE 402]

9. RECORDS SHALL BE MAINTAINED AS REQUIRED BY THIS PERMIT INCLUDING CARBON CHANGE OVER DATE(S) FOR COMPLIANCE. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. F95584
A/N 474766

Equipment Description:

INTERNAL COMBUSTION ENGINE, NO. 2, AT PB-C, CATERPILLAR, COMPRESSION-IGNITION, FOUR STROKE, TURBOCHARGED-AFTERCOOLED, V-12 TYPE, MODEL NO. 3512, SERIAL NUMBER 24Z01547, 1482 HP, DIESEL OIL-FIRED, DRIVING A 1000 KW EMERGENCY ELECTRICAL GENERATOR.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR WHICH INCLUDES NOT MORE THAN 30 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING PURPOSES.
[RULE 1304(a), RULE 1110.2, RULE 1470]

4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1304(a), RULE 1110.2, RULE 1470]

5. THE OPERATION OF ENGINE BEYOND THE 30 HOURS PER YEAR ALLOTTED FOR ENGINE MAINTENANCE AND TESTING SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR TO A ROTATING OUTAGE, PROVIDED THAT THE ELECTRICAL GRID OPERATOR OR ELECTRIC UTILITY HAS ORDERED ROTATING OUTAGES IN THE CONTROL AREA WHERE THE ENGINE IS LOCATED OR HAS INDICATED THAT IT EXPECTS TO ISSUE SUCH AN ORDER AT A CERTAIN TIME, AND THE ENGINE IS LOCATED IN A UTILITY SERVICE BLOCK THAT IS SUBJECT TO THE ROTATING OUTAGE. ENGINE OPERATION SHALL BE TERMINATED IMMEDIATELY AFTER THE UTILITY DISTRIBUTION COMPANY ADVISES THAT A ROTATING OUTAGE IS NO LONGER IMMINENT OR IN EFFECT.
[RULE 1304 (a) (1)-BACT, RULE 1470]

6. THIS ENGINE SHALL NOT BE USED AS PART OF A DEMAND RESPONSE PROGRAM USING INTERRUPTIBLE SERVICE CONTRACT IN WHICH A FACILITY RECEIVES A PAYMENT OR REDUCED RATES IN RETURN FOR REDUCING ITS ELECTRIC LOAD ON THE GRID WHEN REQUESTED TO SO BY THE UTILITY OR THE GRID OPERATOR.
[RULE 1303 (a) (1)-BACT, RULE 1470]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. AN ENGINE OPERATING LOG SHALL BE MAINTAINED WHICH ON A MONTHLY BASIS SHALL LIST ALL ENGINE OPERATIONS IN EACH OF THE FOLLOWING AREAS:

   A. EMERGENCY USE HOURS OF OPERATION

   B. MAINTENANCE AND TESTING HOURS

   C. OTHER OPERATING HOURS (DESCRIBE THE REASON FOR OPERATION)

   IN ADDITION, EACH TIME THE ENGINE IS STARTED MANUALLY, THE LOG SHALL INCLUDE THE DATE OF OPERATION AND THE TIMER READING IN HOURS AT THE BEGINNING AND END OF OPERATION THE LOG SHALL BE KEPT FOR A MINIMUM OF THREE CALENDAR YEARS PRIOR TO THE CURRENT YEAR AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THE TOTAL HOURS OF OPERATION FOR THE PREVIOUS CALENDAR YEAR SHALL BE RECORDED SOMETIME DURING THE FIRST 15 DAYS OF JANUARY OF EACH YEAR.
   [RULE 1304(A), RULE 1110.2, RULE 1470]

8. THE OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
   [RULE 431.2, RULE 1470]

Emissions And Requirements:

9. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
   PM: RULE 1470.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. F95585
A/N 474767

Equipment Description:

INTERNAL COMBUSTION ENGINE, NO. 1, AT PB-C, CATERPILLAR, COMPRESSION-IGNITION, FOUR STROKE, TURBOCHARGED-AFTERCOOLED, V-12 TYPE, MODEL NO. 3512, SERIAL NUMBER 24Z01541, 1482 HP, DIESEL OIL-FIRED, DRIVING A 1000 KW EMERGENCY ELECTRICAL GENERATOR.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR WHICH INCLUDES NOT MORE THAN 30 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING PURPOSES.
[RULE 1304(a), RULE 1110.2, RULE 1470]

4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1304(a), RULE 1110.2, RULE 1470]

5. THE OPERATION OF ENGINE BEYOND THE 30 HOURS PER YEAR ALLOTTED FOR ENGINE MAINTENANCE AND TESTING SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR TO A ROTATING OUTAGE, PROVIDED THAT THE ELECTRICAL GRID OPERATOR OR ELECTRIC UTILITY HAS ORDERED ROTATING OUTAGES IN THE CONTROL AREA WHERE THE ENGINE IS LOCATED OR HAS INDICATED THAT IT EXPECTS TO ISSUE SUCH AN ORDER AT A CERTAIN TIME, AND THE ENGINE IS LOCATED IN A UTILITY SERVICE BLOCK THAT IS SUBJECT TO THE ROTATING OUTAGE. ENGINE OPERATION SHALL BE TERMINATED IMMEDIATELY AFTER THE UTILITY DISTRIBUTION COMPANY ADVISES THAT A ROTATING OUTAGE IS NO LONGER IMMINENT OR IN EFFECT.
[RULE 1304 (a) (1)-BACT, RULE 1470]

6. THIS ENGINE SHALL NOT BE USED AS PART OF A DEMAND RESPONSE PROGRAM USING INTERRUPTIBLE SERVICE CONTRACT IN WHICH A FACILITY RECEIVES A PAYMENT OR REDUCED RATES IN RETURN FOR REDUCING ITS ELECTRIC LOAD ON THE GRID WHEN REQUESTED TO SO BY THE UTILITY OR THE GRID OPERATOR.
[RULE 1303 (a) (1)-BACT, RULE 1470]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. AN ENGINE OPERATING LOG SHALL BE MAINTAINED WHICH ON A MONTHLY BASIS SHALL LIST ALL ENGINE OPERATIONS IN EACH OF THE FOLLOWING AREAS:

   A. EMERGENCY USE HOURS OF OPERATION

   B. MAINTENANCE AND TESTING HOURS

   C. OTHER OPERATING HOURS (DESCRIBE THE REASON FOR OPERATION)

   IN ADDITION, EACH TIME THE ENGINE IS STARTED MANUALLY, THE LOG SHALL INCLUDE THE DATE OF OPERATION AND THE TIMER READING IN HOURS AT THE BEGINNING AND END OF OPERATION THE LOG SHALL BE KEPT FOR A MINIMUM OF THREE CALENDAR YEARS PRIOR TO THE CURRENT YEAR AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THE TOTAL HOURS OF OPERATION FOR THE PREVIOUS CALENDAR YEAR SHALL BE RECORDED SOMETIME DURING THE FIRST 15 DAYS OF JANUARY OF EACH YEAR.
   [RULE 1304(A), RULE 1110.2, RULE 1470]

8. THE OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
   [RULE 431.2, RULE 1470]

Emissions And Requirements:

9. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
   PM: RULE 1470.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. F95586
A/N 474768

Equipment Description:

INTERNAL COMBUSTION ENGINE, NO. 1, AT PB-D, CATERPILLAR, COMPRESSION-IGNITION, FOUR STROKE, TURBOCHARGED-AFTERCOOLED, V-12 TYPE, MODEL NO. 3512, SERIAL NUMBER 24Z01544, 1482 HP, DIESEL OIL-FIRED, DRIVING A 1000 KW EMERGENCY ELECTRICAL GENERATOR.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR WHICH INCLUDES NOT MORE THAN 30 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING PURPOSES.
   [RULE 1304(a), RULE 1110.2, RULE 1470]

4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
   [RULE 1304(a), RULE 1110.2, RULE 1470]

5. THE OPERATION OF ENGINE BEYOND THE 30 HOURS PER YEAR ALLOTTED FOR ENGINE MAINTENANCE AND TESTING SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR TO A ROTATING OUTAGE, PROVIDED THAT THE ELECTRICAL GRID OPERATOR OR ELECTRIC UTILITY HAS ORDERED ROTATING OUTAGES IN THE CONTROL AREA WHERE THE ENGINE IS LOCATED OR HAS INDICATED THAT IT EXPECTS TO ISSUE SUCH AN ORDER AT A CERTAIN TIME, AND THE ENGINE IS LOCATED IN A UTILITY SERVICE BLOCK THAT IS SUBJECT TO THE ROTATING OUTAGE. ENGINE OPERATION SHALL BE TERMINATED IMMEDIATELY AFTER THE UTILITY DISTRIBUTION COMPANY ADVISES THAT A ROTATING OUTAGE IS NO LONGER IMMINENT OR IN EFFECT.
   [RULE 1304 (a) (1)-BACT, RULE 1470]

6. THIS ENGINE SHALL NOT BE USED AS PART OF A DEMAND RESPONSE PROGRAM USING INTERRUPTIBLE SERVICE CONTRACT IN WHICH A FACILITY RECEIVES A PAYMENT OR REDUCED RATES IN RETURN FOR REDUCING ITS ELECTRIC LOAD ON THE GRID WHEN REQUESTED TO SO BY THE UTILITY OR THE GRID OPERATOR.
   [RULE 1303 (a) (1)-BACT, RULE 1470]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. AN ENGINE OPERATING LOG SHALL BE MAINTAINED WHICH ON A MONTHLY BASIS SHALL LIST ALL ENGINE OPERATIONS IN EACH OF THE FOLLOWING AREAS:

   A. EMERGENCY USE HOURS OF OPERATION

   B. MAINTENANCE AND TESTING HOURS

   C. OTHER OPERATING HOURS (DESCRIBE THE REASON FOR OPERATION)

   IN ADDITION, EACH TIME THE ENGINE IS STARTED MANUALLY, THE LOG SHALL INCLUDE THE DATE OF OPERATION AND THE TIMER READING IN HOURS AT THE BEGINNING AND END OF OPERATION THE LOG SHALL BE KEPT FOR A MINIMUM OF THREE CALENDAR YEARS PRIOR TO THE CURRENT YEAR AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THE TOTAL HOURS OF OPERATION FOR THE PREVIOUS CALENDAR YEAR SHALL BE RECORDED SOMETIME DURING THE FIRST 15 DAYS OF JANUARY OF EACH YEAR.
   [RULE 1304(A), RULE 1110.2, RULE 1470]

8. THE OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
   [RULE 431.2, RULE 1470]

Emissions And Requirements:

9. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
   PM: RULE 1470.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. F95587
A/N 474769

Equipment Description:

INTERNAL COMBUSTION ENGINE, NO. 2, AT PB-B, DETROIT DIESEL, 16 CYLINDER, TURBOCHARGED, AFTERCOOLED, MODEL T163-7K16, 2935 BHP, SERIAL NUMBER DD5272000531, DIESEL - FUELED, DRIVING AN EMERGENCY ELECTRICAL GENERATOR.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR WHICH INCLUDES NOT MORE THAN 50 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING PURPOSES.
[RULE 1304(a), RULE 1110.2, RULE 1470]

4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1304(a), RULE 1110.2, RULE 1470]

5. THE OPERATION OF ENGINE BEYOND THE 50 HOURS PER YEAR ALLOTTED FOR ENGINE MAINTENANCE AND TESTING SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR TO A ROTATING OUTAGE, PROVIDED THAT THE ELECTRICAL GRID OPERATOR OR ELECTRIC UTILITY HAS ORDERED ROTATING OUTAGES IN THE CONTROL AREA WHERE THE ENGINE IS LOCATED OR HAS INDICATED THAT IT EXPECTS TO ISSUE SUCH AN ORDER AT A CERTAIN TIME, AND THE ENGINE IS LOCATED IN A UTILITY SERVICE BLOCK THAT IS SUBJECT TO THE ROTATING OUTAGE. ENGINE OPERATION SHALL BE TERMINATED IMMEDIATELY AFTER THE UTILITY DISTRIBUTION COMPANY ADVISES THAT A ROTATING OUTAGE IS NO LONGER IMMINENT OR IN EFFECT.
[RULE 1304 (a) (1)-BACT, RULE 1470]

6. THIS ENGINE SHALL NOT BE USED AS PART OF A DEMAND RESPONSE PROGRAM USING INTERRUPTIBLE SERVICE CONTRACT IN WHICH A FACILITY RECEIVES A PAYMENT OR REDUCED RATES IN RETURN FOR REDUCING ITS ELECTRIC LOAD ON THE GRID WHEN REQUESTED TO SO BY THE UTILITY OR THE GRID OPERATOR.
[RULE 1303 (a) (1)-BACT, RULE 1470]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. AN ENGINE OPERATING LOG SHALL BE MAINTAINED WHICH ON A MONTHLY BASIS SHALL LIST ALL ENGINE OPERATIONS IN EACH OF THE FOLLOWING AREAS:

   A. EMERGENCY USE HOURS OF OPERATION

   B. MAINTENANCE AND TESTING HOURS

   C. OTHER OPERATING HOURS (DESCRIBE THE REASON FOR OPERATION)

   IN ADDITION, EACH TIME THE ENGINE IS STARTED MANUALLY, THE LOG SHALL INCLUDE THE DATE OF OPERATION AND THE TIMER READING IN HOURS AT THE BEGINNING AND END OF OPERATION THE LOG SHALL BE KEPT FOR A MINIMUM OF THREE CALENDAR YEARS PRIOR TO THE CURRENT YEAR AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THE TOTAL HOURS OF OPERATION FOR THE PREVIOUS CALENDAR YEAR SHALL BE RECORDED SOMETIME DURING THE FIRST 15 DAYS OF JANUARY OF EACH YEAR.
   [RULE 1304(A), RULE 1110.2, RULE 1470]

8. THE OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
   [RULE 431.2, RULE 1470]

Emissions And Requirements:

9. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
   PM: RULE 1470.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. F95588
A/N 474770

Equipment Description:

INTERNAL COMBUSTION ENGINE, NO. 1, AT PB-B, DETROIT DIESEL, 16 CYLINDER, TURBOCHARGED, AFTERCOOLED, MODEL T163-7K16, 2935 BHP, SERIAL NUMBER DD5272000532, DIESEL - FUELED, DRIVING AN EMERGENCY ELECTRICAL GENERATOR.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR WHICH INCLUDES NOT MORE THAN 50 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING PURPOSES.
[RULE 1304(a), RULE 1110.2, RULE 1470]

4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1304(a), RULE 1110.2, RULE 1470]

5. THE OPERATION OF ENGINE BEYOND THE 50 HOURS PER YEAR ALLOTTED FOR ENGINE MAINTENANCE AND TESTING SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR TO A ROTATING OUTAGE, PROVIDED THAT THE ELECTRICAL GRID OPERATOR OR ELECTRIC UTILITY HAS ORDERED ROTATING OUTAGES IN THE CONTROL AREA WHERE THE ENGINE IS LOCATED OR HAS INDICATED THAT IT EXPECTS TO ISSUE SUCH AN ORDER AT A CERTAIN TIME, AND THE ENGINE IS LOCATED IN A UTILITY SERVICE BLOCK THAT IS SUBJECT TO THE ROTATING OUTAGE. ENGINE OPERATION SHALL BE TERMINATED IMMEDIATELY AFTER THE UTILITY DISTRIBUTION COMPANY ADVISES THAT A ROTATING OUTAGE IS NO LONGER IMMINENT OR IN EFFECT.
[RULE 1304 (a) (1)-BACT, RULE 1470]

6. THIS ENGINE SHALL NOT BE USED AS PART OF A DEMAND RESPONSE PROGRAM USING INTERRUPTIBLE SERVICE CONTRACT IN WHICH A FACILITY RECEIVES A PAYMENT OR REDUCED RATES IN RETURN FOR REDUCING ITS ELECTRIC LOAD ON THE GRID WHEN REQUESTED TO SO BY THE UTILITY OR THE GRID OPERATOR.
[RULE 1303 (a) (1)-BACT, RULE 1470]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. AN ENGINE OPERATING LOG SHALL BE MAINTAINED WHICH ON A MONTHLY BASIS SHALL LIST ALL ENGINE OPERATIONS IN EACH OF THE FOLLOWING AREAS:

   A. EMERGENCY USE HOURS OF OPERATION

   B. MAINTENANCE AND TESTING HOURS

   C. OTHER OPERATING HOURS (DESCRIBE THE REASON FOR OPERATION)

   IN ADDITION, EACH TIME THE ENGINE IS STARTED MANUALLY, THE LOG SHALL INCLUDE THE DATE OF OPERATION AND THE TIMER READING IN HOURS AT THE BEGINNING AND END OF OPERATION THE LOG SHALL BE KEPT FOR A MINIMUM OF THREE CALENDAR YEARS PRIOR TO THE CURRENT YEAR AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THE TOTAL HOURS OF OPERATION FOR THE PREVIOUS CALENDAR YEAR SHALL BE RECORDED SOMETIME DURING THE FIRST 15 DAYS OF JANUARY OF EACH YEAR.
   [RULE 1304(A), RULE 1110.2, RULE 1470]

8. THE OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULES 431.2 AND 1470.
   [RULE 431.2, RULE 1470]

Emissions And Requirements:

9. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
   PM: RULE 1470.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT/OPERATE

Permit No. G12233
A/N 512604

Equipment Description:

STORAGE TANK, VERTICAL FIXED ROOF, ID NO. 20GTNK500, HYDROCHLORIC ACID, 10' - 0" DIA. X 17' - 0" H., 10,000- GALLON CAPACITY, AND VENTING THROUGH A SPARGER TANK, 370 GALLON CAPACITY, CONTAINING WATER.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THIS EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM MARCH 3, 2011 UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.
   [RULE 205]

4. THIS EQUIPMENT SHALL STORE HYDROCHLORIC ACID WITH CONCENTRATION OF 38 WEIGHT PERCENT OR LESS ONLY.
   [RULE 204]

5. THE MAXIMUM AMOUNT OF HYDROCHLORIC ACID FILLED INTO THIS STORAGE TANK SHALL NOT EXCEED 10,000 GALLONS PER MONTH.
   [RULE 1303 (b) (1) - OFFSET]

6. THE OPERATOR SHALL NOT OPERATE THIS TANK UNLESS VENT GASES ARE SPARGED AT LEAST 10 INCHES BELOW THE LIQUID SURFACE OF A TRAP CONTAINING AT LEAST 190 GALLONS OF WATER.
   [RULE 1303 (a) (1)-BACT]

7. THE SPARGER TANK SHALL BE FILLED WITH FRESH WATER PRIOR TO EACH ACID TANK FILLING EVENT.
   [RULE 204]

8. RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
   [RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G12234
A/N 512832

Equipment Description:

STORAGE TANK, FIXED ROOF, ID NO. 211TNK076 (P2 NSC), HYDROCHLORIC ACID, 8' - 0" DIA. X 13' - 0" H., 4,000- GALLON CAPACITY AND VENTING PASSIVELY THROUGH A 55-GALLON DRUM CONTAINING (50% SULPHASORB XL AND 50% SAFETYSORB BLEND OR EQUAL) ACTIVATED CARBON.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL STORE HYDROCHLORIC ACID WITH CONCENTRATION OF 38 WEIGHT PERCENT OR LESS ONLY.
[RULE 204]

4. THE MAXIMUM AMOUNT OF HYDROCHLORIC ACID FILLED INTO THIS STORAGE TANK SHALL NOT EXCEED 2,000 GALLONS PER MONTH.
[RULE 1303 (b) (1) - OFFSET]

5. THIS EQUIPMENT SHALL NOT BE FILLED UNLESS THE VENT GASES PASS THROUGH A 55-GALLON DRUM CONTAINING ACTIVATED CARBON.
[RULE 1303 (a) (1)-BACT]

6. THE OPERATOR SHALL REPLACE THE CARBON PER MANUFACTURER'S RECOMMENDATION.
[RULE 204]

7. RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G12235
A/N 512833

Equipment Description:

STORAGE TANK, FIXED ROOF, ID NO. 201TNK450 (P2 SSC), HYDROCHLORIC ACID, 7' - 0" DIA. X 10' - 0" H., 2,000- GALLON CAPACITY AND VENTING PASSIVELY THROUGH A 55-GALLON DRUM CONTAINING (50% SULPHASORB XL AND 50% SAFETYSORB BLEND OR EQUAL) ACTIVATED CARBON.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL STORE HYDROCHLORIC ACID WITH CONCENTRATION OF 38 WEIGHT PERCENT OR LESS ONLY.
[RULE 204]

4. THE MAXIMUM AMOUNT OF HYDROCHLORIC ACID FILLED INTO THIS STORAGE TANK SHALL NOT EXCEED 2000 GALLONS PER MONTH.
[RULE 1303 (b) (1) - OFFSET]

5. THIS EQUIPMENT SHALL NOT BE FILLED UNLESS THE VENT GASES PASS THROUGH A 55-GALLON DRUM CONTAINING ACTIVATED CARBON.
[RULE 1303 (a) (1)-BACT]

6. THE OPERATOR SHALL REPLACE THE CARBON PER MANUFACTURER'S RECOMMENDATION.
[RULE 204]

7. RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G27394
A/N 540708

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 1 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG1-HB), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-16 TYPE, MODEL NO. LSVB-16-SGC, 4166 HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 3000 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 6,010,200 BTU/HR CAPACITY, UNFIRED.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
   [RULE 1110.2]

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
   [RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
   [RULE 204]

7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
   [RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
   [RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 33 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	600 PPMV AT 15% O2
PARTICULATES (PM10)	0.0058 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	115 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE FOUR (4) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	2,644
NITROGEN OXIDES (AS NO2)	828
PARTICULATES (PM10)	72
ROG OR TNMHC (AS CH4)	372
SULFUR DIOXIDE	84

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O2, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY)
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).

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E. OXYGEN
F. FLOW RATE
G. MOISTURE
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (FUEL ONLY)
M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

16. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: 2000 PPMV, RULE 1110.2
NOx: 45.4 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
ROG: 315 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G27395
A/N 540709

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 2 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG2-HB), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-16 TYPE, MODEL NO. LSVB-16-SGC, 4166 HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 3000 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 6,010,200 BTU/HR CAPACITY, UNFIRED.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
   [RULE 1110.2]

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
   [RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
   [RULE 204]

7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
   [RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
   [RULE 204]

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9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 33 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	600 PPMV AT 15% O2
PARTICULATES (PM10)	0.0058 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	115 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE FOUR (4) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	2,644
NITROGEN OXIDES (AS NO2)	828
PARTICULATES (PM10)	72
ROG OR TNMHC (AS CH4)	372
SULFUR DIOXIDE	84

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O2, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY)
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).

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E. OXYGEN
F. FLOW RATE
G. MOISTURE
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (FUEL ONLY)
M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

16. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: 2000 PPMV, RULE 1110.2
NOx: 45.4 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
ROG: 315 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26).
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G27396
A/N 540710

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 3 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG3-HB), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-16 TYPE, MODEL NO. LSVB-16-SGC, 4166 HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 3000 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 6,010,200 BTU/HR CAPACITY, UNFIRED.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
   [RULE 1110.2]

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
   [RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
   [RULE 204]

7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
   [RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
   [RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 33 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	600 PPMV AT 15% O2
PARTICULATES (PM10)	0.0058 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	115 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE FOUR (4) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	2,644
NITROGEN OXIDES (AS NO2)	828
PARTICULATES (PM10)	72
ROG OR TNMHC (AS CH4)	372
SULFUR DIOXIDE	84

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O2, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY)
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).

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E. OXYGEN
F. FLOW RATE
G. MOISTURE
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (FUEL ONLY)
M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

16. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: 2000 PPMV, RULE 1110.2
NOx: 45.4 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
ROG: 315 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G27397
A/N 540711

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 4 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG4-HB), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-16 TYPE, MODEL NO. LSVB-16-SGC, 4166 HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 3000 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 6,010,200 BTU/HR CAPACITY, UNFIRED.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
   [RULE 1110.2]

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
   [RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
   [RULE 204]

7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
   [RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
   [RULE 204]

FACILITY PERMIT TO OPERATE
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9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 33 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	600 PPMV AT 15% O2
PARTICULATES (PM10)	0.0058 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	115 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE FOUR (4) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	2,644
NITROGEN OXIDES (AS NO2)	828
PARTICULATES (PM10)	72
ROG OR TNMHC (AS CH4)	372
SULFUR DIOXIDE	84

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O2, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY)
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).

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E. OXYGEN
F. FLOW RATE
G. MOISTURE
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (FUEL ONLY)
M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

16. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: 2000 PPMV, RULE 1110.2
NOx: 45.4 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
ROG: 315 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G27398
A/N 540712

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 5 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG5-HB), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-16 TYPE, MODEL NO. LSVB-16-SGC, 4166 HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 3000 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 6,010,200 BTU/HR CAPACITY, UNFIRED.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
   [RULE 1110.2]

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
   [RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
   [RULE 204]

7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
   [RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
   [RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 33 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEED.

AIR CONTAMINANT	
CARBON MONOXIDE	600 PPMV AT 15% O2
PARTICULATES (PM10)	0.0058 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	115 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE FOUR (4) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	2,644
NITROGEN OXIDES (AS NO2)	828
PARTICULATES (PM10)	72
ROG OR TNMHC (AS CH4)	372
SULFUR DIOXIDE	84

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O2, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY)
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).

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E. OXYGEN
F. FLOW RATE
G. MOISTURE
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (FUEL ONLY)
M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

16. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: 2000 PPMV, RULE 1110.2
NOx: 45.4 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
ROG: 315 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

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ORANGE COUNTY SANITATION DISTRICT

RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, ABRASIVE BLASTING EQUIPMENT, GLOVE-BOX, < 53 FT^3, WITH DUST FILTER.

Periodic Monitoring:

1. THE OPERATOR SHALL PERFORM AN ANNUAL INSPECTION OF THE EQUIPMENT AND FILTER MEDIA FOR LEAKS, BROKEN OR TORN FILTER MEDIA AND IMPROPERLY INSTALLED FILTER MEDIA. THE OPERATOR SHALL KEEP RECORDS, IN A MANNER APPROVED BY THE DISTRICT, FOR THE FOLLOWING PARAMETER(S) OR ITEM(S):
   A. THE NAME OF THE PERSON PERFORMING THE INSPECTION AND/OR MAINTENANCE OF THE FILTER MEDIA;
   B. THE DATE, TIME AND RESULTS OF THE INSPECTION; AND
   C. THE DATE, TIME AND DESCRIPTION OF ANY MAINTENANCE OR REPAIRS RESULTING FROM THE INSPECTION.
   [RULE 3004 (a)(4)]

2. THE OPERATOR SHALL DISCHARGE DUST COLLECTED IN THIS EQUIPMENT ONLY INTO CLOSED CONTAINERS.
   [RULE 3004 (a)(4)]

3. THE OPERATOR SHALL CONDUCT AN INSPECTION FOR VISIBLE EMISSIONS FROM ALL STACKS AND OTHER EMISSION POINTS OF THIS EQUIPMENT WHENEVER THERE IS A PUBLIC COMPLAINT OF VISIBLE EMISSIONS, WHENEVER VISIBLE EMISSIONS ARE OBSERVED, AND ON AN ANNUAL BASIS, AT LEAST, UNLESS THE EQUIPMENT DID NOT OPERATE DURING THE ENTIRE ANNUAL PERIOD. THE ROUTINE ANNUAL INSPECTION SHALL BE CONDUCTED WHILE THE EQUIPMENT IS IN OPERATION AND DURING DAYLIGHT HOURS. IF ANY VISIBLE EMISSIONS (NOT INCLUDING CONDENSED WATER VAPOR) ARE DETECTED, THE OPERATOR SHALL TAKE CORRECTIVE ACTION(S) THAT ELIMINATES THE VISIBLE EMISSIONS WITHIN 24 HOURS AND REPORT THE VISIBLE EMISSIONS AS A POTENTIAL DEVIATION IN ACCORDANCE WITH THE REPORTING REQUIREMENTS IN SECTION K OF THIS PERMIT.

   THE OPERATOR SHALL KEEP THE RECORDS IN ACCORDANCE WITH THE RECORDKEEPING REQUIREMENTS IN SECTION K OF THIS PERMIT AND THE FOLLOWING RECORDS:

   A. STACK OR EMISSION POINT IDENTIFICATION;
   B. DESCRIPTION OF ANY CORRECTIVE ACTIONS TAKEN TO ABATE VISIBLE EMISSIONS; AND
   C. DATE AND TIME VISIBLE EMISSION WAS ABATED.
   [RULE 3004 (a)(4)]

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RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, CLEANING EQUIPMENT, SMALL UNHEATED, NON-CONVEYORIZED

Emissions And Requirements:

1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

   VOC: RULE 1122
   VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, BOILER, WITH RATED HEAT INPUT STARTING AT 75, 000 BTU/HR UP TO AND INCLUDING 2 MMBTU/HR.

Emissions And Requirements:

1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   PM: 0.1 gr/scf, RULE 409
   CO: 2000 PPMV, RULE 407
   NOx; 30 PPMV @3% O2, DRY-TYPE 2 UNIT, > 400,000 BTU/HR AND ≤2 MM BTU/HR, RULE 1146.2
   NOx; 55 PPMV @3% O2, DRY-TYPE 1 UNIT, ≥ 400,000 BTU/HR AND ≤400,000 BTU/HR, RULE 1146.2

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, ABRASIVE BLASTING EQUIPMENT, GLOVE-BOX, < 53 FT^3, WITH DUST FILTER.

Periodic Monitoring:

4. THE OPERATOR SHALL PERFORM AN ANNUAL INSPECTION OF THE EQUIPMENT AND FILTER MEDIA FOR LEAKS, BROKEN OR TORN FILTER MEDIA AND IMPROPERLY INSTALLED FILTER MEDIA. THE OPERATOR SHALL KEEP RECORDS, IN A MANNER APPROVED BY THE DISTRICT, FOR THE FOLLOWING PARAMETER(S) OR ITEM(S):
   D. THE NAME OF THE PERSON PERFORMING THE INSPECTION AND/OR MAINTENANCE OF THE FILTER MEDIA;
   E. THE DATE, TIME AND RESULTS OF THE INSPECTION; AND
   F. THE DATE, TIME AND DESCRIPTION OF ANY MAINTENANCE OR REPAIRS RESULTING FROM THE INSPECTION.
   [RULE 3004 (a)(4)]

5. THE OPERATOR SHALL DISCHARGE DUST COLLECTED IN THIS EQUIPMENT ONLY INTO CLOSED CONTAINERS.
   [RULE 3004 (a)(4)]

6. THE OPERATOR SHALL CONDUCT AN INSPECTION FOR VISIBLE EMISSIONS FROM ALL STACKS AND OTHER EMISSION POINTS OF THIS EQUIPMENT WHENEVER THERE IS A PUBLIC COMPLAINT OF VISIBLE EMISSIONS, WHENEVER VISIBLE EMISSIONS ARE OBSERVED, AND ON AN ANNUAL BASIS, AT LEAST, UNLESS THE EQUIPMENT DID NOT OPERATE DURING THE ENTIRE ANNUAL PERIOD. THE ROUTINE ANNUAL INSPECTION SHALL BE CONDUCTED WHILE THE EQUIPMENT IS IN OPERATION AND DURING DAYLIGHT HOURS. IF ANY VISIBLE EMISSIONS (NOT INCLUDING CONDENSED WATER VAPOR) ARE DETECTED, THE OPERATOR SHALL TAKE CORRECTIVE ACTION(S) THAT ELIMINATES THE VISIBLE EMISSIONS WITHIN 24 HOURS AND REPORT THE VISIBLE EMISSIONS AS A POTENTIAL DEVIATION IN ACCORDANCE WITH THE REPORTING REQUIREMENTS IN SECTION K OF THIS PERMIT.

   THE OPERATOR SHALL KEEP THE RECORDS IN ACCORDANCE WITH THE RECORDKEEPING REQUIREMENTS IN SECTION K OF THIS PERMIT AND THE FOLLOWING RECORDS:

   D. STACK OR EMISSION POINT IDENTIFICATION;
   E. DESCRIPTION OF ANY CORRECTIVE ACTIONS TAKEN TO ABATE VISIBLE EMISSIONS; AND
   F. DATE AND TIME VISIBLE EMISSION WAS ABATED.
   [RULE 3004 (a)(4)]

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RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, CLEANING EQUIPMENT, SMALL UNHEATED, NON-CONVEYORIZED

Emissions And Requirements:

2. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

   VOC: RULE 1122
   VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS

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RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, HAND WIPING OPERATIONS.

Emissions and Requirements:

1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

   VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, BOILER, WITH RATED HEAT INPUT STARTING AT 75, 000 BTU/HR UP TO AND INCLUDING 2 MMBTU/HR.

Emissions And Requirements:

1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   PM: 0.1 gr/scf, RULE 409
   CO: 2000 PPMV, RULE 407
   NOx; 30 PPMV @3% O2, DRY-TYPE 2 UNIT, > 400,000 BTU/HR AND ≤2 MM BTU/HR, RULE 1146.2
   NOx; 55 PPMV @3% O2, DRY-TYPE 1 UNIT, ≥ 400,000 BTU/HR AND ≤400,000 BTU/HR, RULE 1146.2

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RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, COATING EQUIPMENT, PORTABLE, ARCHITECTURAL COATINGS.

Periodic Monitoring:

1. THE OPERATOR SHALL KEEP RECORDS, IN A MANNER APPROVED BY THE DISTRICT, FOR THE FOLLOWING PARAMETER(S) OR ITEM(S):

   FOR ARCHITECTURAL APPLICATIONS WHERE NO THINNERS, REDUCERS, OR OTHER VOC CONTAINING MATERIALS ARE ADDED, MAINTAIN SEMI-ANNUAL RECORDS OF ALL COATINGS CONSISTING OF (a) COATING TYPE, (b) VOC CONTENT AS SUPPLIED IN GRAMS PER LITER (g/l) OF MATERIALS FOR LOW-SOLIDS COATINGS, (c) VOC CONTENT AS SUPPLIED IN g/l OF COATING, LESS WATER AND EXEMPT SOLVENT, FOR OTHER COATING.

   FOR OTHER ARCHITECTURAL APPLICATIONS WHERE THINNERS, REDUCERS, OR OTHER VOC CONTAINING MATERIALS ARE ADDED, MAINTAIN DAILY RECORDS FOR EACH COATING CONSISTING OF (a) COATING TYPE, (b) VOC CONTENT AS APPLIED IN GRAMS PER LITER (g/l) OF MATERIALS USED FOR LOW-SOLIDS COATINGS, (c) VOC CONTENT AS APPLIED IN g/l OF COATING, LESS WATER AND EXEMPT SOLVENT, FOR OTHER COATING.
   [RULE 3004(a)(4)]

Emissions And Requirements:

2. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

   VOC: RULE 1113, SEE APPENDIX B FOR EMISSION LIMITS
   VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS

FACILITY PERMIT TO OPERATE
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RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, AIR CONDITIONING UNITS.

Emissions And Requirements:

1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

   VOC: RULE 1415
   VOC: 40CFR 82 SUBPART F

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RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, FIRE EXTINGUISHING EQUIPMENT

Emissions And Requirements:

1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

   HALON: RULE 1418

FACILITY PERMIT TO OPERATE
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SECTION E: ADMINISTRATIVE CONDITIONS

The operating conditions in this section shall apply to all permitted equipment at this facility unless superseded by condition(s) listed elsewhere in this permit.

1. The permit shall remain effective unless this permit is suspended, revoked, modified, reissued, denied, or it is expired for nonpayment of permit processing or annual operating fees. [201, 203, 209, 301]
   a. The permit must be renewed annually by paying annual operating fees, and the permit shall expire if annual operating fees are not paid pursuant to requirements of Rule 301(d). [301(d)]
   b. The Permit to Construct listed in Section H shall expire one year from the Permit to Construct issuance date, unless a Permit to Construct extension has been granted by the Executive Officer or unless the equipment has been constructed and the operator has notified the Executive Officer prior to the operation of the equipment, in which case the Permit to Construct serves as a temporary Permit to Operate. [202, 205]
   c. The Title V permit shall expire as specified under Section K of the Title V permit. The permit expiration date of the Title V facility permit does not supercede the requirements of Rule 205. [205, 3004]
2. The operator shall maintain all equipment in such a manner that ensures proper operation of the equipment. [204]
3. This permit does not authorize the emissions of air contaminants in excess of those allowed by Division 26 of the Health and Safety Code of the State of California or the Rules and Regulations of the AQMD. This permit cannot be considered as permission to violate existing laws, ordinances, regulations, or statutes of other governmental agencies. [204]
4. The operator shall not use equipment identified in this facility permit as being connected to air pollution control equipment unless they are so vented to the identified air pollution control equipment which is in full use and which has been included in this permit. [204]

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SECTION E: ADMINISTRATIVE CONDITIONS

5. The operator shall not use any equipment having air pollution control device(s) incorporated within the equipment unless the air pollution control device is in full operation. [204]

6. The operator shall maintain records to demonstrate compliance with rules or permit conditions that limit equipment operating parameters, or the type or quantity of material processed. These records shall be made available to AQMD personnel upon request and be maintained for at least five years. [204]

7. The operator shall maintain and operate all equipment to ensure compliance with all emission limits as specified in this facility permit. Compliance with emission limits shall be determined according to the following specifications, unless otherwise specified by AQMD rules or permit conditions: [204]

   a. For internal combustion engines and gas turbines, measured concentrations shall be corrected to 15 percent stack-gas oxygen content on a dry basis and be averaged over a period of 15 consecutive minutes; [1110.2, 1134]

   b. For other combustion devices, measured concentrations shall be corrected to 3 percent stack-gas oxygen content on a dry basis and be averaged over a period of 15 consecutive minutes; [1146, 1146.1, 204]

   c. For non-combustion sources, compliance with emission limits shall be determined and averaged over a period of 60 minutes; [204]

   d. For the purpose of determining compliance with Rule 407, carbon monoxide (CO) shall be measured on a dry basis and be averaged over 15 consecutive minutes, and sulfur compounds which would exist as liquid or gas at standard conditions shall be calculated as sulfur dioxide (SO2) and be averaged over 15 consecutive minutes; [407]

   e. For the purpose of determining compliance with Rule 409, combustion contaminant emission measurements shall be corrected to 12 percent of carbon dioxide (CO2) at standard conditions and averaged over a minimum of 15 consecutive minutes. [409]

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SECTION E: ADMINISTRATIVE CONDITIONS

f. For the purpose of determining compliance with Rule 475, combustion contaminant emission measurements shall be corrected to 3 percent of oxygen (O2) at standard conditions and averaged over 15 consecutive minutes or any other averaging time specified by the Executive Officer. [475]

8. The operator shall, when a source test is required by AQMD, provide a source test protocol to AQMD no later than 60 days before the proposed test date. The test shall not commence until the protocol is approved by AQMD. The test protocol shall contain the following information: [204, 304]

   a. Brief description of the equipment tested.

   b. Brief process description, including maximum and normal operating temperatures, pressures, throughput, etc.

   c. Operating conditions under which the test will be performed.

   d. Method of measuring operating parameters, such as fuel rate and process weight. Process schematic diagram showing the ports and sampling locations, including the dimensions of the ducts and stacks at the sampling locations, and distances of flow disturbances, (e.g. elbows, tees, fans, dampers) from the sampling locations (upstream and downstream).

   e. Brief description of sampling and analytical methods used to measure each pollutant, temperature, flow rates, and moisture.

   f. Description of calibration and quality assurance procedures.

   g. Determination that the testing laboratory qualifies as an "independent testing laboratory" under Rule 304 (conflict of interest).

9. The operator shall submit a report no later than 60 days after conducting a source test, unless otherwise required by AQMD rules or equipment-specific conditions. The report shall contain the following information: [204]

   a. The results of the source test.

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SECTION E: ADMINISTRATIVE CONDITIONS

b. Brief description of the equipment tested.

c. Operating conditions under which the test was performed.

d. Method of measuring operating parameters, such as fuel rate and process weight. Process schematic diagram showing the ports and sampling locations, including the dimensions of the ducts and stacks at the sampling locations, and distances of flow disturbances, (e.g. elbows, tees, fans, dampers) from the sampling locations (upstream and downstream).

e. Field and laboratory data forms, strip charts and analyses.

f. Calculations for volumetric flow rates, emission rates, control efficiency, and overall control efficiency.

10. The operator shall, when a source test is required, provide and maintain facilities for sampling and testing. These facilities shall comply with the requirements of AQMD Source Test Method 1.1 and 1.2. [217]

11. Whenever required to submit a written report, notification or other submittal to the Executive Officer, AQMD, or the District, the operator shall mail or deliver the material to: Deputy Executive Officer, Engineering and Compliance, AQMD, 21865 E. Copley Drive, Diamond Bar, CA 91765-4182. [204]

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SECTION F: RECLAIM MONITORING AND SOURCE TESTING REQUIREMENTS

NOT APPLICABLE

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SECTION G: RECORDKEEPING AND REPORTING REQUIREMENTS FOR RECLAIM SOURCES

NOT APPLICABLE

FACILITY PERMIT TO OPERATE
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SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

This section consists of a table listing all equipment with Permits to Construct and copies of all individual Permits to Construct issued to various equipment at the facility. Each permit will list operating conditions including periodic monitoring requirements and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.

FACILITY PERMIT TO OPERATE
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PERMITTED EQUIPMENT LIST

THE FOLLOWING IS A LIST OF ALL PERMITS TO CONSTRUCT AND PERMITS TO OPERATE AT THIS FACILITY:

Application Number	Permit to Construct Granted On	Equipment Description	Page Number
519422	6/07/2012	ODOR CONTROL SYSTEM, FOR BIOSOLIDS TRUCK LOADING STATION	5
518276	6/07/2012	ODOR CONTROL SYSTEM, FOR DAF THICKENING PROCESS	7
545003	6/26/2014	ODOR CONTROL UNIT, BIOFILTER	10
545004	10/17/2013, will supersede R-D94235	BOILER, 10.2 MMBTU/HR, DIGESTER GAS AND NATURAL GAS	13
545005	10/17/2013, will supersede R-D94232	BOILER, 10.2 MMBTU/HR, DIGESTER GAS AND NATURAL GAS	16
546364	4/16/2014	ICE CG-1, 4166 HP, DG/NG WITH DG FUEL PRETREATMENT	19
546365	4/16/2014	ICE CG-2, 4166 HP, DG/NG WITH DG FUEL PRETREATMENT	23
546366	4/16/2014	ICE CG-3, 4166 HP, DG/NG WITH DG FUEL PRETREATMENT	27
546367	4/16/2014	ICE CG-4, 4166 HP, DG/NG WITH DG FUEL PRETREATMENT	31
546368	4/16/2014	ICE CG-5, 4166 HP, DG/NG WITH DG FUEL PRETREATMENT	35
556626	6/26/2014	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	39
556627	6/26/2014	AIR POLLUTION CONTROL SYSTEM, WET SCRUBBER AND BIOFILTER	43
557229	4/16/2014	STORAGE TANK, AQUEOUS UREA SOLUTION	46
557230	4/16/2014	STORAGE TANK, AQUEOUS UREA SOLUTION	47
559228	4/16/2014	APC SYSTEM 1, SCR/CO CATALYST	48
559229	4/16/2014	APC SYSTEM 2, SCR/CO CATALYST	51
559230	4/16/2014	APC SYSTEM 3, SCR/CO CATALYST	54
559231	4/16/2014	APC SYSTEM 4, SCR/CO CATALYST	57
559232	4/16/2014	APC SYSTEM 4, SCR/CO CATALYST	60
565930	11/12/2014	AIR POLLUTION CONTROL SYSTEM, CHEM. SCRUBBERS FOR TRICKLING FILTERS	63

NOTE: EQUIPMENT LISTED ABOVE THAT HAVE NO CORRESPONDING PERMITS TO OPERATE NUMBER ARE ISSUED PERMITS TO CONSTRUCT. THE ISSUANCE OR DENIAL OF THEIR PERMITS TO OPERATE IS SUBJECT TO ENGINEERING FINAL REVIEW. ANY OTHER APPLICATIONS THAT ARE STILL BEING PROCESSED AND HAVE NOT BEEN ISSUED PERMITS TO CONSTRUCT OR PERMITS TO OPERATE WILL NOT BE FOUND IN THIS TITLE V PERMIT.

FACILITY PERMIT TO OPERATE
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FACILITY WIDE CONDITION (S)

Condition(s):

1. EXCEPT FOR OPEN ABRASIVE BLASTING OPERATIONS, THE OPERATOR SHALL NOT DISCHARGE INTO THE ATMOSPHERE FROM ANY SINGLE SOURCE OF EMISSIONS WHATSOEVER ANY AIR CONTAMINANT FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR WHICH IS:

   A. AS DARK OR DARKER IN SHADE AS THAT DESIGNATED NO. 1 ON THE RINGLEMANN CHART, AS PUBLISHED BY THE UNITED STATES BUREAU OF MINES; OR
   B. OF SUCH OPACITY AS TO OBSCURE AN OBSERVER'S VIEW TO A DEGREE EQUAL TO OR GREATER THAN DOES SMOKE DESCRIBED IN SUBPARAGRAPH (A) OF THIS CONDITION. [RULE 401]

2. THE OPERATOR SHALL NOT COMBUST DIGESTER GAS CONTAINING SULFUR COMPOUNDS IN EXCESS OF 40 PPMV CALCULATED AS HYDROGEN SULFIDE AVERAGED DAILY. [RULE 431.1]

3. THE OPERATOR SHALL NOT USE FUEL OIL CONTAINING SULFUR COMPOUNDS IN EXCESS OF 0.05 PERCENT BY WEIGHT. ON OR AFTER JUNE 1, 2004, A PERSON SHALL NOT PURCHASE ANY DIESEL FUEL FOR STATIONARY SOURCE APPLICATION IN THE DISTRICT, UNLESS THE FUEL IS LOW SULFUR DIESEL FOR WHICH THE SULFUR CONTENT SHALL NOT EXCEED 15 PPM BY WEIGHT AS SUPPLIED BY THE SUPPLIER. [RULE 431.2]

4. THE OWNER/OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART VVV - NON-INDUSTRIAL POTW PLANT NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) AND ALL APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART ZZZZ – STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES NESHAP. [40 CFR 63 SUBPART VVV, AND 40 CFR 63 SUBPART ZZZZ]

5. THE OPERATOR SHALL MEASURE THE SULFUR CONTENT OF THE DIGESTER GAS ACCORDING TO THE FOLLOWING:

   A. FOR READINGS UP TO 36 PPM AS H2S, DAILY ANALYSIS OF THE DIGESTER GAS FOR H2S, USING COLORIMETRIC TUBES, AND WEEKLY ANALYSIS OF THE DIGESTER GAS BY AQMD METHOD 307 – TOTAL SULFUR COMPOUNDS IN FUEL GAS BY GAS CHROMATOGRAPHY AND SULFUR CHEMILUMINESCENCE DETECTOR.

   B. FOR READINGS ABOVE 36 PPM AS H2S, DAILY ANALYSIS OF THE DIGESTER GAS FOR H2S BY AQMD METHOD 307 – TOTAL SULFUR COMPOUNDS IN FUEL GAS BY GAS CHROMATOGRAPHY AND SULFUR CHEMILUMINESCENCE DETECTOR. A MINIMUM OF THREE CONSECUTIVE DAILY SAMPLES ARE REQUIRED TO DEMONSTRATE THE TOTAL SULFUR CONTENT IS BELOW 36 PPM. [RULE 431.1]

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6. A COMPLETE APPLICATION FOR COMPLIANCE ASSURANCE MONITORING (CAM, 40 CFR PART 64) SHALL BE SUBMITTED WHENEVER THE ANNUAL MASS OF VOC OF THE DIGESTER GAS EXCEEDS 19,999 LBS/YR. THE VOC CONTENT OF THE DIGESTER GAS SHALL BE ANALYZED IN CONJUNCTION WITH THE ANNUAL SOURCE TESTING OF THE CGS ENGINES USING THE APPROVED METHODS. FOR EACH CALENDAR YEAR, THE VOC EMISSIONS SHALL BE CALCULATED BY MARCH 31ST OF THE SUBSEQUENT CALENDAR YEAR, OR WITHIN 30 DAYS OF SOURCE TEST REPORT DATE, WHICHEVER IS LATER, BASED ON THE DIGESTER GAS CONCENTRATION DATA FROM ANNUAL RULE 1110.2 SOURCE TESTING OF THE ENGINES. IF THE VOC EMISSIONS EXCEED 19,999 LBS/YR, THE CAM APPLICATION SHALL BE SUBMITTED BY MARCH 31ST, OR WITHIN 60 DAYS AFTER THE CALCULATION DUE DATE, WHICHEVER IS LATER.
[40 CFR PART 64, CAM]

FACILITY PERMIT TO OPERATE
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PERMIT TO CONSTRUCT

A/N 519422
Granted as of 6/07/2012

Equipment Description:

ODOR CONTROL SYSTEM FOR THE BIOSOLIDS TRUCK LOADING STATION, CONSISTING OF;

1. EXHAUST BLOWER, MAXIMUM 3000 CFM, 15 H. P., VENTING TWO (2) BIOSOLIDS STORAGE SILOS (PART OF THE SLUDGE PROCESSING STATION, PC 453240).

2. ADSORBER, BAY PRODUCTS, SPARROW 3000, 8' DIA. X 7'- 3" H. OVERALL, CONTAINING MINIMUM OF 3800 LBS OF ACTIVATED CARBON (BOTTOM LAYER) AND 1500 LBS OF POTASSIUM PERMANGANATE (KMNO4) IMPREGNATED MEDIA (TOP LAYER). EQUIPPED WITH DIFFERENTIAL PRESSURE GAUGE AND A DEMISTER.

3. EXHAUST STACK, 1' - 6" DIA. X 13' – 6" HIGH ABOVE GROUND.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATIONS UNDER WHICH THIS PERMIT IS ISSUED.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITIONS AT ALL TIMES.
[RULE 204]

3. THE OPERATOR MAY USE ALTERNATE MEDIA AND AMOUNTS IN ORDER TO OPTIMIZE THE ODOR CONTROL SYSTEM, PROVIDED SUCH ALTERNATE MEDIA AND AMOUNTS ARE GUARANTEED BY THE VENDOR TO MEET THE EMISSION LIMITS IN THIS PERMIT.
[RULE 204]

4. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THE EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.
[RULE 205]

5. SAMPLING PORTS SHALL BE PROVIDED AT THE INLET AND OUTLET OF THE ODOR CONTROL SYSTEM TO ALLOW COLLECTION/ANALYSIS OF THE INLET FOUL AIR AND TREATED EXHAUST STREAM.
[RULE 204]

6. THE OPERATOR SHALL INSTALL AND MAINTAIN A DIFFERENTIAL PRESSURE GAUGE TO ACCURATELY INDICATE THE DIFFERENTIAL PRESSURE, IN INCHES OF WATER COLUMN, ACROSS THE MEDIA BED.
[RULE 204]

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7. THE OPERATOR SHALL, ON A WEEKLY BASIS, MEASURE AND RECORD THE DIFFERENTIAL PRESSURE DROP, IN INCHES OF WATER COLUMN, ACROSS THE MEDIA BED.
[RULE 204]

8. IN OPERATION, THE PRESSURE DROP MEASURED ACROSS THE MEDIA BED SHALL BE MAINTAINED BETWEEN 4.8 AND 8.4 INCHES OF WATER COLUMN, OR ANOTHER RANGE SPECIFIED BY THE MANUFACTURER. MANUFACTURER'S PRESSURE DROP RANGE SPECIFICATIONS FOR THIS EQUIPMENT SHALL BE KEPT ON FILE AND SHALL BE MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.
[RULE 204]

9. THE HYDROGEN SULFIDE (H2S) CONCENTRATION (PPMV) AT THE INLET TO ODOR CONTROL SYSTEM SHALL BE MONITORED AND RECORDED ON A WEEKLY BASIS FOR THE FIRST MONTH OF OPERATION, AND MONTHLY THEREAFTER USING COLORIMETRIC H2S TUBES OR ANY OTHER DISTRICT APPROVED METHOD.
[RULE 204]

10. THE HYDROGEN SULFIDE (H2S) CONCENTRATION (PPMV) IN THE EXHAUST OF THE ODOR CONTROL SYSTEM SHALL BE MEASURED AND RECORDED AT LEAST ONCE A WEEK USING COLORIMETRIC H2S TUBES, HANDHELD H2S ANALYZER, OR ANY OTHER DISTRICT APPROVED METHOD.
[RULE 204]

11. IN OPERATION, THE HYDROGEN SULFIDE (H2S) CONCENTRATION IN THE EXHAUST OF THE ODOR CONTROL SYSTEM SHALL NOT EXCEED 1.0 PPMV.
[RULE 402, 1401]

12. THE MEDIA IN THE ADSORBER SHALL BE REPLACED WITH MINIMUM AMOUNT (LBS) OF FRESH CARBON MEDIA, AS DESCRIBED UNDER EQUIPMENT DESCRIPTION OR CONDITION NO. 3, WHENEVER NECESSARY TO COMPLY WITH THE CONDITIONS OF THIS PERMIT.
[RULE 204]

13. SPENT MEDIA REMOVED FROM THIS SYSTEM SHALL BE MAINTAINED OR STORED IN CLOSED CONTAINERS PRIOR TO REMOVAL FROM SITE.
[RULE 402]

14. RECORDS SHALL BE MAINTAINED AS REQUIRED BY THIS PERMIT INCLUDING MEDIA CHANGE OVER DATE(S), QUANTITY, AND VENDOR GUARANTEES FOR COMPLIANCE. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

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ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 518276
Granted as of 6/07/2012

Equipment Description:

ODOR CONTROL SYSTEM, TREATING EXHAUST FROM DISSOLVED AIR FLOATATION THICKENERS (DAFTS), CONSISTING OF:

1. EXHAUST HEADER FROM FOUR (4) DISSOLVED AIR FLOATATION THICKENERS (DAFTS) AND TWO (2) POLYMER MIX TANKS.

2. THREE (3) FOUL-AIR EXHAUST FANS (ONE STANDBY), EACH 100 H.P., MAXIMUM 35,000 CFM CAPACITY.

3. HUMIDIFICATION, IN-DUCT, WITH TWELVE (12) SPRAY NOZZLES, AND EQUIPPED WITH HYDROGEN SULFIDE (H2S) ANALYZER.

4. THREE (3) BIOFILTER CELLS, CONCRETE WALLED, CUSTOM DESIGNED, EACH BIOFILTER CELL 20' W. X 33' L. X 9' D., CONTAINING PROPRIETARY INORGANIC MINERAL BASED MEDIA, EQUIPPED WITH INLET FOUL-AIR FLOW METERS, SAMPLING PORTS AND SURFACE IRRIGATION SYSTEM.

Conditions:

1. CONSTRUCTION AND OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT TO CONSTRUCT IS ISSUED UNLESS OTHERWISE NOTED BELOW. [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES. [RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION. [RULE 204]

4. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THE EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER. [RULE 205]

5. A TEMPERATURE INDICATOR SHALL BE INSTALLED AND MAINTAINED IN THE MAIN FOUL-AIR HEADER PRIOR TO FOUL-AIR DISTRIBUTION TO THE BIOFILTERS. THE INLET FOUL AIR TEMPERATURE READINGS, TAKEN ON A MONTHLY BASIS, SHALL BE MAINTAINED IN THE

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RANGE OF EQUIPMENT DESIGN SPECIFICATIONS OR AS PER MANUFACTURER'S RECOMMENDATION, AND WRITTEN SPECIFICATIONS SHALL BE KEPT ON FILE.
[RULE 204]

6. A HYDROGEN SULFIDE (H2S) ANALYZER SHALL BE INSTALLED AND MAINTAINED IN THE MAIN FOUL-AIR HEADER PRIOR TO FOUL-AIR DISTRIBUTION TO THE BIOFILTERS. FOUL-AIR H2S CONCENTRATION (PPMV) SHALL BE MONITORED ON A MONTHLY BASIS AND RESULTS RECORDED. WHEN H2S ANALYZER IS NOT OPERATING, COLORIMETRIC H2S TUBES, HAND HELD H2S ANALYZERS OR ANY OTHER DISTRICT APPROVED METHODS SHALL BE USED FOR H2S MONITORING.
[RULE 204]

7. FOUL-AIR FLOW RATE (SCFM) MONITORING AND INDICATING DEVICE OR SYSTEM SHALL BE INSTALLED AND MAINTAINED IN THE FOUL AIR INLET DUCT TO EACH BIOFILTER.
[RULE 204]

8. FOUL-AIR FLOW RATE SHALL BE MONITORED AND RECORDED ON A DAILY BASIS. TOTAL FLOW RATE READING FOR INLET FOUL-AIR TO THREE (3) BIOFILTER CELLS SHALL NOT EXCEED 35, 000 SCFM.
[RULE 402, 1401]

9. THE INCOMING FOUL AIR HUMIDIFICATION AND SURFACE IRRIGATION SYSTEMS SHALL BE MAINTAINED IN GOOD OPERATING CONDITION, AT ALL TIMES, AND SHALL BE UTILIZED TO MAINTAIN THE DESIRED MOISTURE CONTENT FOR THE BIOFILTER MEDIA.
[RULE 204]

10. HYDROGEN SULFIDE (H2S) AND AMMONIA (NH_3) EMISSIONS FROM EACH BIOFILTER SURFACE (MULTI-POINT) SHALL BE MONITORED AT LEAST ONCE A MONTH USING PORTABLE ANALYZERS. THE MULTI-POINT SURFACE READINGS (PPMV) SHALL BE AVERAGED AND RECORDED.
[RULE 204]

11. EMISSIONS OF H2S FROM THE BIOFILTER SHALL NOT EXCEED 0.0175 LB/HR (93 PPBV AT THE SURFACE AT 35,000 CFM).
[RULE 204]

12. THE OWNER OR OPERATOR OF THE EQUIPMENT SHALL CONDUCT SOURCE PERFORMANCE TESTS UNDER THE FOLLOWING CONDITIONS:

    I. A TEST PROTOCOL SHALL BE SUBMITTED TO AQMD NO LATER THAN 45 DAYS BEFORE THE PROPOSED TEST DATE AND SHALL BE APPROVED BY THE EXECUTIVE OFFICER BEFORE THE TEST COMMENCES. AT A MINIMUM, THE TEST PROTOCOL SHOULD INCLUDE THE FOLLOWING:

        a. A DESCRIPTION OF THE EQUIPMENT TESTED. INCLUDE A PROCESS SCHEMATIC INDICATING SAMPLING LOCATIONS/PORTS; SAMPLING DUCT/STACK DIMENSIONS ALONG WITH UPSTREAM AND DOWNSTREAM FLOW DISTURBANCES (E.G. ELBOWS, TEES AND FANS).

        b. A BRIEF PROCESS DESCRIPTION.

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c. OPERATING CONDITIONS UNDER WHICH THE TEST WILL BE PERFORMED, INCLUDING INLET AIR FLOW RATE (SCFM), TEMPERATURE, AND % MOISTURE.

d. A DESCRIPTION OF THE SAMPLING AND ANALYTICAL METHODS FOR EACH CONSTITUENT MEASURED.

e. COMPLETE CALCULATIONS FOR FLOW RATES, CONCENTRATIONS (PPMV), EMISSION RATES AND CONTROL EFFICIENCIES.

f. A DESCRIPTION OF THE CALIBRATION AND QUALITY ASSURANCE PROCEDURES.

g. SAMPLING FACILITIES SHALL COMPLY WITH THE DISTRICT GUIDELINES FOR CONSTRUCTION OF SAMPLING AND TESTING FACILITIES, PURSUANT TO RULE 217.

h. A STATEMENT DETERMINING THAT THE TESTING LABORATORY QUALIFIES AS AN "INDEPENDENT TESTING LABORATORY" UNDER RULE 304 (NO CONFLICT OF INTEREST) AND SIGNED BY THE RESPONSIBLE AUTHORITY.

II. THE TESTS SHALL DETERMINE BIOFILTER'S INLET AND OUTLET EMISSIONS FOR TOTAL NON-METHANE ORGANIC COMPOUNDS (TNMOC), H2S AND AMMONIA TO DETERMINE BIOFILTER'S CONTROL EFFICIENCY, IN WEIGHT PERCENT. TEST RESULTS SHOULD INCLUDE INLET AND OUTLET TNMOC AND AMMONIA CONCENTRATIONS (PPMV), AND EMISSIONS (LBS/HR), AND SPECIATED ANALYSIS FOR TNMOCS,

III. THE TESTS SHALL BE CONDUCTED AND A WRITTEN REPORT SUBMITTED TO THE SCAQMD WITHIN 60 DAYS AT MAXIMUM FOUL-AIR INLET FLOW RATE AT WHICH THE EQUIPMENT WILL BE OPERATED, BUT NOT LATER THAN 180 DAYS AFTER INITIAL START-UP.

[RULE 204, 217, 402, 1401]

13. SMOKE BOMB TESTS SHALL BE CONDUCTED INITIALLY AND, THEREAFTER, EVERY THREE (3) YEARS TO DEMONSTRATE UNIFORM DISTRIBUTION OF AIR FLOWS, AREA OF COMPACTION AND/OR CHANNELING THAT NEEDS REPAIR.
[RULE 204]

14. ANY BREAKDOWN OR MALFUNCTION OF THIS EQUIPMENT RESULTING IN EXCESSIVE ODOR EMISSIONS INTO THE ATMOSPHERE SHALL BE REPORTED TO THE SCAQMD WITHIN TWENTY FOUR HOURS AFTER OCCURRENCE, AND IMMEDIATE REMEDIAL MEASURES SHALL BE UNDERTAKEN TO CORRECT THE PROBLEM AND PREVENT FURTHER EMISSIONS INTO THE ATMOSPHERE.
[RULE 430, 402]

15. ALL RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS, AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 545003
Granted as of 6-26-2014

Equipment Description:

ODOR CONTROL SYSTEM CONSISTING OF :

1. EXHAUST HEADER FROM FOUR (4) DISSOLVED AIR FLOATATION THICKENERS (DAFTS).

2. OPTIONAL EXHAUST FROM TWO (2) POLYMER MIX TANKS.

3. THREE (3) FOUL-AIR EXHAUST FANS (ONE STANDBY), EACH APPROXIMATELY 100 HP, TOTAL MAXIMUM 35,000 CFM CAPACITY.

4. IN-DUCT INLET AIR HUMIDIFICATION SYSTEM WITH APPROXIMATELY TWELVE (12) WATER SPRAY NOZZLES.

5. THREE (3) BIOFILTERS, CONCRETE WALLED, CUSTOM DESIGNED, EACH BIOFILTER APPROXIMATELY 20' W. X 33' L. X 9' D., CONTAINING PROPRIETARY INORGANIC MINERAL BASED MEDIA, EQUIPPED WITH A SURFACE IRRIGATION SYSTEM.

Conditions:

1. CONSTRUCTION AND OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT TO CONSTRUCT IS ISSUED UNLESS OTHERWISE NOTED BELOW. [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES. [RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION. [RULE 204]

4. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THE EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER. [RULE 205]

5. FOUL-AIR INLET FLOW RATE (SCFM) MONITORING AND INDICATING DEVICE OR RECORDING SYSTEM SHALL BE INSTALLED AND MAINTAINED IN THE FOUL AIR INLET DUCT TO THE BIOFILTERS. [RULE 204]

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6. FOUL-AIR INLET FLOW RATE TO THE BIOFILTERS SHALL BE MONITORED AND RECORDED AT LEAST ONCE EACH DAY. TOTAL AIR FLOW RATE MEASURED SHALL NOT EXCEED 35,000 SCFM, DAILY AVERAGE.
[RULE 402, 1401]

7. THE INCOMING FOUL AIR HUMIDIFICATION AND SURFACE IRRIGATION SYSTEMS SHALL BE MAINTAINED IN GOOD OPERATING CONDITION, AT ALL TIMES, AND SHALL BE UTILIZED TO MAINTAIN THE DESIRED MOISTURE CONTENT FOR THE BIOFILTER MEDIA.
[RULE 204]

8. WHEN IN OPERATION, HYDROGEN SULFIDE (H2S) EMISSIONS FROM EACH BIOFILTER SURFACE (MULTI-POINT) SHALL BE MONITORED AT LEAST ONCE A MONTH USING PORTABLE ANALYZERS. THE MULTI-POINT SURFACE READINGS (PPMV) SHALL BE AVERAGED AND RECORDED.
[RULE 204]

9. H2S EMISSIONS MEASURED FROM THE BIOFILTERS' SURFACES SHALL NOT EXCEED 1 PPMV.
[RULE 402, 1401]

10. THE OWNER OR OPERATOR OF THE EQUIPMENT SHALL CONDUCT SOURCE PERFORMANCE TESTS UNDER THE FOLLOWING CONDITIONS:

    I. A TEST PROTOCOL SHALL BE SUBMITTED TO AQMD NO LATER THAN 45 DAYS BEFORE THE PROPOSED TEST DATE AND SHALL BE APPROVED BY THE EXECUTIVE OFFICER BEFORE THE TEST COMMENCES. AT A MINIMUM, THE TEST PROTOCOL SHOULD INCLUDE THE FOLLOWING:

        a. A DESCRIPTION OF THE EQUIPMENT TESTED. INCLUDE A PROCESS SCHEMATIC INDICATING SAMPLING LOCATIONS/PORTS; SAMPLING DUCT/STACK DIMENSIONS ALONG WITH UPSTREAM AND DOWNSTREAM FLOW DISTURBANCES (E.G. ELBOWS, TEES AND FANS).

        b. A BRIEF PROCESS DESCRIPTION.

        c. OPERATING CONDITIONS UNDER WHICH THE TEST WILL BE PERFORMED, INCLUDING INLET AIR FLOW RATE (SCFM), TEMPERATURE, AND % MOISTURE.

        d. A DESCRIPTION OF THE SAMPLING AND ANALYTICAL METHODS FOR EACH CONSTITUENT MEASURED.

        e. COMPLETE CALCULATIONS FOR FLOW RATES, CONCENTRATIONS (PPMV), EMISSION RATES AND CONTROL EFFICIENCIES.

        f. A DESCRIPTION OF THE CALIBRATION AND QUALITY ASSURANCE PROCEDURES.

        g. SAMPLING FACILITIES SHALL COMPLY WITH THE DISTRICT GUIDELINES FOR CONSTRUCTION OF SAMPLING AND TESTING FACILITIES, PURSUANT TO RULE 217.

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h. A STATEMENT DETERMINING THAT THE TESTING LABORATORY QUALIFIES AS AN "INDEPENDENT TESTING LABORATORY" UNDER RULE 304 (NO CONFLICT OF INTEREST) AND SIGNED BY THE RESPONSIBLE AUTHORITY.

II. THE TESTS SHALL DETERMINE BIOFILTER'S INLET AND OUTLET EMISSIONS FOR TOTAL NON-METHANE ORGANIC COMPOUNDS (TNMOC) AND AMMONIA (AT LEAST FOR ONE BIOFILTER), AND H2S (FROM EACH BIOFILTER) TO DETERMINE BIOFILTER'S CONTROL EFFICIENCY, IN WEIGHT PERCENT. TEST RESULTS SHOULD INCLUDE INLET AND OUTLET H2S, TNMOC AND AMMONIA CONCENTRATIONS (PPMV), AND EMISSIONS (LBS/HR), AND SPECIATED ANALYSIS FOR ORGANIC COMPOUNDS (EXHAUST FROM ONE BIOFILTER).

III. THE TESTS SHALL BE CONDUCTED AFTER EQUIPMENT INITIAL START-UP, BUT NOT LATER THAN 180 DAYS, AT A MAXIMUM ACHIEVABLE INLET FOUL-AIR FLOW RATE AT WHICH THE EQUIPMENT WILL BE OPERATED. A WRITTEN REPORT SHALL BE SUBMITTED TO THE SCAQMD WITHIN 60 DAYS UPON SOURCE TESTS COMPLETION. [RULE 204, 217, 402, 1401]

11. SMOKE BOMB TESTS SHALL BE CONDUCTED INITIALLY AND, THEREAFTER, EVERY THREE (3) YEARS TO DEMONSTRATE UNIFORM DISTRIBUTION OF AIR FLOWS OR IDENTIFY RESTRICTED OR CHANNELED AIR FLOW THAT NEEDS IMPROVEMENT.
[RULE 204]

12. ANY BREAKDOWN OR MALFUNCTION OF THIS EQUIPMENT RESULTING IN EXCESSIVE ODOR EMISSIONS INTO THE ATMOSPHERE SHALL BE REPORTED TO THE SCAQMD WITHIN TWENTY FOUR HOURS AFTER OCCURRENCE, AND IMMEDIATE REMEDIAL MEASURES SHALL BE UNDERTAKEN TO CORRECT THE PROBLEM AND PREVENT FURTHER EMISSIONS INTO THE ATMOSPHERE.
[RULE 430, 402]

13. ALL RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS, AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 545004
Granted as of 10/17/2013

Equipment Description:
MODIFICATION TO BOILER, NO. 1, WITH PERMIT TO OPERATE D94235, BY THE REMOVAL OF THE EXISTING BURNER AND THE ADDITION OF A NEW BURNER, AMERICAN COMBUSTION TECHNOLOGY OR EQUAL, MODEL SLE-05-250 OR EQUAL, 10,205,800 BTU PER HOUR MAXIMUM, DIGESTER GAS AND NATURAL GAS (AS SECONDARY FUEL), AND REHABILITATION OF ANCILLARY EQUIPMENT

Conditions:

1. CONSTRUCTION AND OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS BOILER SHALL BE FIRED ON DIGESTER GAS AND OR NATURAL GAS ONLY. EXCEPT FOR PILOT GAS, NATURAL GAS SHALL ONLY BE USED IF DIGESTER GAS IS NOT AVAILABLE IN SUFFICIENT AMOUNT.
[RULE 204]

4. A FUEL METER SHALL BE INSTALLED AND MAINTAINED IN THE FUEL SUPPLY LINE(S) TO MEASURE, INDICATE AND RECORD THE AMOUNT OF FUEL(S) (SCFM) BURNED IN THIS EQUIPMENT.
[RULE 1303 (b) (1) & 1303 (b) (2) – MODELING & OFFSET]

5. WHEN IN OPERATION, TOTAL HEAT INPUT FOR THIS EQUIPMENT SHALL NOT EXCEED 10, 205, 800 BTU/HR. A DAILY LOG SHALL BE KEPT, INDICATING THE TOTAL HEATING VALUE (BTU/SCF) OF FUEL BURNED IN THIS EQUIPMENT, BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) & 1303 (b) (2) – MODELING & OFFSET]

6. THIS EQUIPMENT SHALL BE EQUIPPED WITH A CONTROL SYSTEM TO AUTOMATICALLY REGULATE THE COMBUSTION AIR AND FUEL RATE AS THE BOILER LOAD VARIES. THIS AUTOMATIC CONTROL SYSTEM SHALL BE ADJUSTED AND TUNED PERIODICALLY, ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS TO ASSURE ITS ABILITY TO REPEAT THE SAME PERFORMANCE AT THE SAME BURNER FIRING RATE.
[RULE 1146]

7. THE FLUE GAS RECIRCULATION SYSTEM SHALL BE IN FULL USE WHENEVER THE BOILER IS IN OPERATION.
[RULE 1303(a) (1)-BACT]

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ORANGE COUNTY SANITATION DISTRICT

8. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL CONDUCT AN INITIAL PERFORMANCE SOURCE TESTS, FOR EACH FUEL, UNDER THE FOLLOWING CONDITIONS:

   A. A TESTING LABORATORY CERTIFIED BY THE CALIFORNIA AIR RESOURCES BOARD AND IN COMPLIANCE WITH DISTRICT RULE 304 (NO CONFLICT OF INTEREST) SHALL CONDUCT THIS TEST.

   B. A SOURCE TEST PROTOCOL SHALL BE SUBMITTED TO AQMD WITHIN 30 DAYS OF INITIAL START UP AND SHALL BE APPROVED BY AQMD BEFORE THE TEST COMMENCES. THE PROTOCOL SHALL INCLUDE PROPOSED OPERATING CONDITIONS OF THE EQUIPMENT DURING THE TEST, AND A DESCRIPTION OF ALL SAMPLING AND ANALYTICAL PROCEDURES TO BE USED.

   C. SOURCE TESTING SHALL BE CONDUCTED WITHIN 60 CALENDAR DAYS AFTER NORMAL OPERATION OF THE EQUIPMENT HAS BEEN ESTABLISHED, BUT NO LATER THAN 180 DAYS AFTER INITIAL START UP.

   D. THE INITIAL PERFORMANCE SOURCE TESTS SHALL BE PERFORMED WHEN THE BOILER IS OPERATING AT MAXIMUM, MINIMUM AND AVERAGE LOAD FOR EACH FUEL (DIGESTER GAS AND NATURAL GAS) TO BE BURNED. THE SAMPLING TIME AT EACH LOAD SHALL BE FOR A MINIMUM OF 15 CONSECUTIVE MINUTES.

   E. TWO COPIES OF THE SOURCE TEST RESULTS SHALL BE SUBMITTED TO AQMD, ATTN. GAURANG RAWAL, WITHIN 60 DAYS OF THE TESTS COMPLETION. THE REPORT SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

      FUEL FLOW RATE (EACH FUEL)
      FLUE GAS FLOW RATE (EACH FUEL)
      TOTAL HEAT INPUT RATE, BTU/HR
      TOTAL NON-METHANE ORGANICS (EXHAUST)
      SPECIATED TRACE ORGANICS (EXHAUST, DIGESTER GAS)
      TOTAL PARTICULATES (EXHAUST)
      OXIDES OF NITROGEN (EXHAUST)
      CARBON MONOXIDE (EXHAUST)
      OXYGEN
      DIGESTER GAS BTU (HHV), AND TOTAL SULFUR CONTENT (AS H2S, PPMV)

      THE REPORT SHALL PRESENT THE EMISSIONS DATA IN PARTS PER MILLION (PPMV) ON A DRY BASIS, POUNDS PER HOUR, AND LBS/MMBTU.
      [RULE 217, RULE 404, RULE 1146, RULE 1303(A) (1), 1303 (B) (1), 1303(B) (2) - BACT, MODELING AND OFFSET, 1401]

9. THE SOURCE TEST PROTOCOL AND REPORT, PER CONDITION NO. 8, SHALL BE SUBMITTED TO,
   SCAQMD – ATTN. GAURANG RAWAL
   ENERGY/ PUBLIC SERVICES/WASTE MGMT. / TERMINALS - PERMITTING
   ENGINEERING AND COMPLIANCE DIVISION
   21865 COPLEY DRIVE
   DIAMOND BAR, CA 91765

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10. EMISSIONS RESULTING FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	POUNDS PER DAY
CO	90.6
NOx	5.52 (3.1 WITH NATURAL GAS)
PM10	3.1
ROG	2.6
SOx	1.4

[RULE 1146, RULE 1303(a) (1), 1303(b) (2) - OFFSET]

Periodic Monitoring:

11. THE OPERATOR, AT LEAST ONCE EVERY FIVE YEARS, SHALL DETERMINE COMPLIANCE WITH THE EMISSION LIMITS IN CONDITION NO. 10 OF THIS PERMIT USING AQMD-APPROVED TEST METHODS. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS. RULE 1146 COMPLIANCE TESTS MAY BE USED TO SATISFY PART OF THIS REQUIREMENT PROVIDED THAT MASS RATES ARE ALSO REPORTED. TO DEMONSTRATE COMPLIANCE WITH RULE 1146 CONCENTRATIONS LIMITS THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.
[RULE 1146, RULE 1303(a)(1) – BACT, 1303(b) (2) - OFFSET , RULE 3004 (a) (4) – PERIODIC MONITORING]

Emissions and Requirements:

12. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: 2000 PPMV, RULE 407
CO: 400 PPMV, @ 3% O2, DRY BASIS, RULE 1146
NOx: 30 PPMV, @ 3% O2, DRY BASIS, RULE 1146 (UNTIL 1/1/2015)
NOx: 15 PPMV, @ 3% O2, DRY BASIS, ON AND AFTER JANUARY 1, 2015, DIGESTER GAS, RULE 1146
NOx: 9 PPMV, @ 3% O2, DRY BASIS, ON AND AFTER JANUARY 1, 2015, NATURAL GAS, RULE 1146
PM: RULE 404, SEE APPENDIX B.
PM: 0.1 gr/scf, RULE 409
SO2: 500 PPMV AS SO2, ORANGE COUNTY, RULE 53
H2S: 40 PPMV TOTAL SULFUR, DIGESTER GAS

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 545005
Granted as of 10/17/2013

Equipment Description:
MODIFICATION TO BOILER, NO. 2, WITH PERMIT TO OPERATE D94232, BY THE REMOVAL OF THE EXISTING BURNER AND THE ADDITION OF A NEW BURNER, AMERICAN COMBUSTION TECHNOLOGY OR EQUAL, MODEL SLE-05-250 OR EQUAL, 10,205,800 BTU PER HOUR MAXIMUM, DIGESTER GAS AND NATURAL GAS (AS SECONDARY FUEL), AND REHABILITATION OF ANCILLARY EQUIPMENT

Conditions:

1. CONSTRUCTION AND OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS BOILER SHALL BE FIRED ON DIGESTER GAS AND OR NATURAL GAS ONLY. EXCEPT FOR PILOT GAS, NATURAL GAS SHALL ONLY BE USED IF DIGESTER GAS IS NOT AVAILABLE IN SUFFICIENT AMOUNT.
[RULE 204]

4. A FUEL METER SHALL BE INSTALLED AND MAINTAINED IN THE FUEL SUPPLY LINE(S) TO MEASURE, INDICATE AND RECORD THE AMOUNT OF FUEL(S) (SCFM) BURNED IN THIS EQUIPMENT.
[RULE 1303 (b) (1) & 1303 (b) (2) – MODELING & OFFSET]

5. WHEN IN OPERATION, TOTAL HEAT INPUT FOR THIS EQUIPMENT SHALL NOT EXCEED 10, 205, 800 BTU/HR. A DAILY LOG SHALL BE KEPT, INDICATING THE TOTAL HEATING VALUE (BTU/SCF) OF FUEL BURNED IN THIS EQUIPMENT, BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) & 1303 (b) (2) – MODELING & OFFSET]

6. THIS EQUIPMENT SHALL BE EQUIPPED WITH A CONTROL SYSTEM TO AUTOMATICALLY REGULATE THE COMBUSTION AIR AND FUEL RATE AS THE BOILER LOAD VARIES. THIS AUTOMATIC CONTROL SYSTEM SHALL BE ADJUSTED AND TUNED PERIODICALLY, ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS TO ASSURE ITS ABILITY TO REPEAT THE SAME PERFORMANCE AT THE SAME BURNER FIRING RATE.
[RULE 1146]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. THE FLUE GAS RECIRCULATION SYSTEM SHALL BE IN FULL USE WHENEVER THE BOILER IS IN OPERATION.
[RULE 1303(a) (1)-BACT]

8. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL CONDUCT AN INITIAL PERFORMANCE SOURCE TESTS, FOR EACH FUEL, UNDER THE FOLLOWING CONDITIONS:

   A. A TESTING LABORATORY CERTIFIED BY THE CALIFORNIA AIR RESOURCES BOARD AND IN COMPLIANCE WITH DISTRICT RULE 304 (NO CONFLICT OF INTEREST) SHALL CONDUCT THIS TEST.

   B. A SOURCE TEST PROTOCOL SHALL BE SUBMITTED TO AQMD WITHIN 30 DAYS OF INITIAL START UP AND SHALL BE APPROVED BY AQMD BEFORE THE TEST COMMENCES. THE PROTOCOL SHALL INCLUDE PROPOSED OPERATING CONDITIONS OF THE EQUIPMENT DURING THE TEST, AND A DESCRIPTION OF ALL SAMPLING AND ANALYTICAL PROCEDURES TO BE USED.

   C. SOURCE TESTING SHALL BE CONDUCTED WITHIN 60 CALENDAR DAYS AFTER NORMAL OPERATION OF THE EQUIPMENT HAS BEEN ESTABLISHED, BUT NO LATER THAN 180 DAYS AFTER INITIAL START UP.

   D. THE INITIAL PERFORMANCE SOURCE TESTS SHALL BE PERFORMED WHEN THE BOILER IS OPERATING AT MAXIMUM, MINIMUM AND AVERAGE LOAD FOR EACH FUEL (DIGESTER GAS AND NATURAL GAS) TO BE BURNED. THE SAMPLING TIME AT EACH LOAD SHALL BE FOR A MINIMUM OF 15 CONSECUTIVE MINUTES.

   E. TWO COPIES OF THE SOURCE TEST RESULTS SHALL BE SUBMITTED TO AQMD, ATTN. GAURANG RAWAL, WITHIN 60 DAYS OF THE TESTS COMPLETION. THE REPORT SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

      FUEL FLOW RATE (EACH FUEL)
      FLUE GAS FLOW RATE (EACH FUEL)
      TOTAL HEAT INPUT RATE, BTU/HR
      TOTAL NON-METHANE ORGANICS (EXHAUST)
      SPECIATED TRACE ORGANICS (EXHAUST, DIGESTER GAS)
      TOTAL PARTICULATES (EXHAUST)
      OXIDES OF NITROGEN (EXHAUST)
      CARBON MONOXIDE (EXHAUST)
      OXYGEN
      DIGESTER GAS BTU (HHV), AND TOTAL SULFUR CONTENT (AS H2S, PPMV)

      THE REPORT SHALL PRESENT THE EMISSIONS DATA IN PARTS PER MILLION (PPMV) ON A DRY BASIS, POUNDS PER HOUR, AND LBS/MMBTU.
      [RULE 217, RULE 404, RULE 1146, RULE 1303(A) (1), 1303 (B) (1), 1303(B) (2) - BACT, MODELING AND OFFSET, 1401]

9. THE SOURCE TEST PROTOCOL AND REPORT, PER CONDITION NO. 8, SHALL BE SUBMITTED TO,
   SCAQMD – ATTN. GAURANG RAWAL
   ENERGY/ PUBLIC SERVICES/WASTE MGMT. / TERMINALS - PERMITTING
   ENGINEERING AND COMPLIANCE DIVISION
   21865 COPLEY DRIVE
   DIAMOND BAR, CA 91765

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ORANGE COUNTY SANITATION DISTRICT

10. EMISSIONS RESULTING FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	POUNDS PER DAY
CO	90.6
NOx	5.52 (3.1 WITH NATURAL GAS)
PM10	3.1
ROG	2.6
SOx	1.4

[RULE 1146, RULE 1303(a) (1), 1303(b) (2) - OFFSET]

Periodic Monitoring:

11. THE OPERATOR, AT LEAST ONCE EVERY FIVE YEARS, SHALL DETERMINE COMPLIANCE WITH THE EMISSION LIMITS IN CONDITION NO. 10 OF THIS PERMIT USING AQMD-APPROVED TEST METHODS. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS. RULE 1146 COMPLIANCE TESTS MAY BE USED TO SATISFY PART OF THIS REQUIREMENT PROVIDED THAT MASS RATES ARE ALSO REPORTED. TO DEMONSTRATE COMPLIANCE WITH RULE 1146 CONCENTRATIONS LIMITS THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.
[RULE 1146, RULE 1303(a)(1) – BACT, 1303(b) (2) - OFFSET , RULE 3004 (a) (4) – PERIODIC MONITORING]

Emissions and Requirements:

12. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: 2000 PPMV, RULE 407
CO: 400 PPMV, @ 3% O2, DRY BASIS, RULE 1146
NOx: 30 PPMV, @ 3% O2, DRY BASIS, RULE 1146 (UNTIL 1/1/2015)
NOx: 15 PPMV, @ 3% O2, DRY BASIS, ON AND AFTER JANUARY 1, 2015, DIGESTER GAS, RULE 1146
NOx: 9 PPMV, @ 3% O2, DRY BASIS, ON AND AFTER JANUARY 1, 2015, NATURAL GAS, RULE 1146
PM: RULE 404, SEE APPENDIX B.
PM: 0.1 gr/scf, RULE 409
SO2: 500 PPMV AS SO2, ORANGE COUNTY, RULE 53
H2S: 40 PPMV TOTAL SULFUR, DIGESTER GAS

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 546364
Granted as of 4/16/2014

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 1 (G27394) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG1-HB), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-16 TYPE, MODEL NO. LSVB-16-SGC, 4166 HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 3000 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 6,010,200 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), THREE VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO FIVE ENGINES (CG1-HB, CG2-HB, CG3-HB, CG4-HB AND CG5-HB)

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
   [RULE 204]

5. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID PERMIT TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
   [RULE 1110.2]

6. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
   [RULE 1110.2]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BURNED.
[RULE 204]

8. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS SAMPLE.
[RULE 204]

9. MONTHLY READINGS OF THE BTU CONTENT OF DIGESTER GAS (BTU/SCF) SUPPLIED TO THE ENGINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

10. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

11. THE TOTAL HEAT INPUT OF GASEOUS FUEL BURNED IN THIS ENGINE SHALL NOT EXCEED 33 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	600 PPMV AT 15% O2
PARTICULATES (PM10)	0.0058 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	115 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

13. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL MEET THE EMISSIONS LIMITS (EXHAUST) OF TABLE III-B IN RULE 1110.2 (d) (1) (C), UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d) (1) (H).
[RULE 1110.2]

14. THE COMBINED EMISSIONS FROM THE FOUR (4) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016) :

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	2,644
NITROGEN OXIDES (AS NO2)	828
PARTICULATES (PM10)	72
ROG OR TNMHC (AS CH4)	372
SULFUR DIOXIDE	84

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

15. POST-COMBUSTION CONTROLLED EMISSIONS, INTO THE ATMOSPHERE, FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	497.6
NITROGEN OXIDES (AS NO2)	36.0
PARTICULATES (PM10)	18.0
ROG OR TNMHC (AS CH4)	25.60
SULFUR DIOXIDE	21.0

[RULE 204]

16. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

17. WITHIN 180 DAYS AFTER INITIAL START-UP, (POST- MODIFICATION OF FIVE ENGINES; CG1-HB, CG2-HB, CG3-HB, CG4-HB AND CG5-HB), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.
[RULE 404], [RULE 1110.2], [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET]

18. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

19. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: RULE 1110.2 LIMIT
NOx: RULE 1110.2 LIMIT
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
VOC (TNMHC): RULE 1110.2 LIMIT
H2S: RULE 431.1

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 546365
Granted as of 4/16/2014

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 2 (G27395) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG2-HB), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-16 TYPE, MODEL NO. LSVB-16-SGC, 4166 HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 3000 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 6,010,200 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

3. DIGESTER GAS CLEANING SYSTEM (DGCS), THREE VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO FIVE ENGINES (CG1-HB, CG2-HB, CG3-HB, CG4-HB AND CG5-HB)

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
   [RULE 204]

5. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID PERMIT TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
   [RULE 1110.2]

6. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
   [RULE 1110.2]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BURNED.
[RULE 204]

8. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS SAMPLE.
[RULE 204]

9. MONTHLY READINGS OF THE BTU CONTENT OF DIGESTER GAS (BTU/SCF) SUPPLIED TO THE ENGINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

10. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

11. THE TOTAL HEAT INPUT OF GASEOUS FUEL BURNED IN THIS ENGINE SHALL NOT EXCEED 33 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	600 PPMV AT 15% O2
PARTICULATES (PM10)	0.0058 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	115 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

13. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL MEET THE EMISSIONS LIMITS (EXHAUST) OF TABLE III-B IN RULE 1110.2 (d) (1) (C), UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d) (1) (H).
[RULE 1110.2]

14. THE COMBINED EMISSIONS FROM THE FOUR (4) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016) :

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	2,644
NITROGEN OXIDES (AS NO2)	828
PARTICULATES (PM10)	72
ROG OR TNMHC (AS CH4)	372
SULFUR DIOXIDE	84

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

15. POST-COMBUSTION CONTROLLED EMISSIONS, INTO THE ATMOSPHERE, FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	497.6
NITROGEN OXIDES (AS NO2)	36.0
PARTICULATES (PM10)	18.0
ROG OR TNMHC (AS CH4)	25.60
SULFUR DIOXIDE	21.0

[RULE 204]

16. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

17. WITHIN 180 DAYS AFTER INITIAL START-UP, (POST- MODIFICATION OF FIVE ENGINES; CG1-HB, CG2-HB, CG3-HB, CG4-HB AND CG5-HB), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.
[RULE 404], [RULE 1110.2], [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET]

18. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

19. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: RULE 1110.2 LIMIT
NOx: RULE 1110.2 LIMIT
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
VOC (TNMHC): RULE 1110.2 LIMIT
H2S: RULE 431.1

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 546366
Granted as of 4/16/2014

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 3 (G27396) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG3-HB), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-16 TYPE, MODEL NO. LSVB-16-SGC, 4166 HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 3000 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 6,010,200 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

4. DIGESTER GAS CLEANING SYSTEM (DGCS), THREE VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO FIVE ENGINES (CG1-HB, CG2-HB, CG3-HB, CG4-HB AND CG5-HB)

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
   [RULE 204]

5. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID PERMIT TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
   [RULE 1110.2]

6. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
   [RULE 1110.2]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BURNED.
[RULE 204]

8. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS SAMPLE.
[RULE 204]

9. MONTHLY READINGS OF THE BTU CONTENT OF DIGESTER GAS (BTU/SCF) SUPPLIED TO THE ENGINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

10. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

11. THE TOTAL HEAT INPUT OF GASEOUS FUEL BURNED IN THIS ENGINE SHALL NOT EXCEED 33 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	600 PPMV AT 15% O2
PARTICULATES (PM10)	0.0058 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	115 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

13. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL MEET THE EMISSIONS LIMITS (EXHAUST) OF TABLE III-B IN RULE 1110.2 (d) (1) (C), UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d) (1) (H).
[RULE 1110.2]

14. THE COMBINED EMISSIONS FROM THE FOUR (4) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016) :

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	2,644
NITROGEN OXIDES (AS NO2)	828
PARTICULATES (PM10)	72
ROG OR TNMHC (AS CH4)	372
SULFUR DIOXIDE	84

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

15. POST-COMBUSTION CONTROLLED EMISSIONS, INTO THE ATMOSPHERE, FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	497.6
NITROGEN OXIDES (AS NO2)	36.0
PARTICULATES (PM10)	18.0
ROG OR TNMHC (AS CH4)	25.60
SULFUR DIOXIDE	21.0

[RULE 204]

16. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

17. WITHIN 180 DAYS AFTER INITIAL START-UP, (POST- MODIFICATION OF FIVE ENGINES; CG1-HB, CG2-HB, CG3-HB, CG4-HB AND CG5-HB), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.
[RULE 404], [RULE 1110.2], [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET]

18. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

19. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: RULE 1110.2 LIMIT
NOx: RULE 1110.2 LIMIT
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
VOC (TNMHC): RULE 1110.2 LIMIT
H2S: RULE 431.1

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 546367
Granted as of 4/16/2014

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 4 (G27397) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG4-HB), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-16 TYPE, MODEL NO. LSVB-16-SGC, 4166 HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 3000 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 6,010,200 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

5. DIGESTER GAS CLEANING SYSTEM (DGCS), THREE VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO FIVE ENGINES (CG1-HB, CG2-HB, CG3-HB, CG4-HB AND CG5-HB)

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
   [RULE 204]

5. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID PERMIT TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
   [RULE 1110.2]

6. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
   [RULE 1110.2]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BURNED.
[RULE 204]

8. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS SAMPLE.
[RULE 204]

9. MONTHLY READINGS OF THE BTU CONTENT OF DIGESTER GAS (BTU/SCF) SUPPLIED TO THE ENGINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

10. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

11. THE TOTAL HEAT INPUT OF GASEOUS FUEL BURNED IN THIS ENGINE SHALL NOT EXCEED 33 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	600 PPMV AT 15% O2
PARTICULATES (PM10)	0.0058 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	115 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

13. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL MEET THE EMISSIONS LIMITS (EXHAUST) OF TABLE III-B IN RULE 1110.2 (d) (1) (C), UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d) (1) (H).
[RULE 1110.2]

14. THE COMBINED EMISSIONS FROM THE FOUR (4) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016) :

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	2,644
NITROGEN OXIDES (AS NO2)	828
PARTICULATES (PM10)	72
ROG OR TNMHC (AS CH4)	372
SULFUR DIOXIDE	84

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

15. POST-COMBUSTION CONTROLLED EMISSIONS, INTO THE ATMOSPHERE, FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	497.6
NITROGEN OXIDES (AS NO2)	36.0
PARTICULATES (PM10)	18.0
ROG OR TNMHC (AS CH4)	25.60
SULFUR DIOXIDE	21.0

[RULE 204]

16. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

17. WITHIN 180 DAYS AFTER INITIAL START-UP, (POST- MODIFICATION OF FIVE ENGINES; CG1-HB, CG2-HB, CG3-HB, CG4-HB AND CG5-HB), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.
[RULE 404], [RULE 1110.2], [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET]

18. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

19. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: RULE 1110.2 LIMIT
NOx: RULE 1110.2 LIMIT
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
VOC (TNMHC): RULE 1110.2 LIMIT
H2S: RULE 431.1

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 546368
Granted as of 4/16/2014

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 5 (G27397) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG5-HB), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-16 TYPE, MODEL NO. LSVB-16-SGC, 4166 HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 3000 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 6,010,200 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

6. DIGESTER GAS CLEANING SYSTEM (DGCS), THREE VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO FIVE ENGINES (CG1-HB, CG2-HB, CG3-HB, CG4-HB AND CG5-HB)

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
   [RULE 204]

5. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID PERMIT TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
   [RULE 1110.2]

6. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
   [RULE 1110.2]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BURNED.
[RULE 204]

8. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS SAMPLE.
[RULE 204]

9. MONTHLY READINGS OF THE BTU CONTENT OF DIGESTER GAS (BTU/SCF) SUPPLIED TO THE ENGINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

10. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

11. THE TOTAL HEAT INPUT OF GASEOUS FUEL BURNED IN THIS ENGINE SHALL NOT EXCEED 33 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	600 PPMV AT 15% O2
PARTICULATES (PM10)	0.0058 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	115 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

13. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL MEET THE EMISSIONS LIMITS (EXHAUST) OF TABLE III-B IN RULE 1110.2 (d) (1) (C), UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d) (1) (H).
[RULE 1110.2]

14. THE COMBINED EMISSIONS FROM THE FOUR (4) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016) :

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	2,644
NITROGEN OXIDES (AS NO2)	828
PARTICULATES (PM10)	72
ROG OR TNMHC (AS CH4)	372
SULFUR DIOXIDE	84

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

15. POST-COMBUSTION CONTROLLED EMISSIONS, INTO THE ATMOSPHERE, FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	497.6
NITROGEN OXIDES (AS NO2)	36.0
PARTICULATES (PM10)	18.0
ROG OR TNMHC (AS CH4)	25.60
SULFUR DIOXIDE	21.0

[RULE 204]

16. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

17. WITHIN 180 DAYS AFTER INITIAL START-UP, (POST- MODIFICATION OF FIVE ENGINES; CG1-HB, CG2-HB, CG3-HB, CG4-HB AND CG5-HB), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.
[RULE 404], [RULE 1110.2], [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET]

18. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

19. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: RULE 1110.2 LIMIT
NOx: RULE 1110.2 LIMIT
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
VOC (TNMHC): RULE 1110.2 LIMIT
H2S: RULE 431.1

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 556626
Granted as of 6-26-2014

Equipment Description:

ALTERATION OF THE EXISTING SEWAGE TREATMENT PLANT (250 MGD), P/O G25942, CONSISTING OF:

1. INFLUENT STATION (HEADWORKS "D") CONSISTING OF INFLUENT TRUNKLINES, INFLUENT DIVERSION AND METERING, SIX (5 DUTY + 1 STANDBY) BARSCREENS, SCREENING HANDLING, INFLUENT PUMPS, GRIT REMOVAL AND HANDLING, PRIMARY INFLUENT SPLITTER AND METERING, AND FERRIC CHLORIDE FACILITY.

2. WETWELL (WASTE SIDE STREAM PUMP STATION) WITH ASSOCIATED PUMPS.

3. SEVENTEEN PRIMARY BASINS, THREE 41'-0" W. X 179'-0" L. X 8'-0" D., WITH ALUMINUM COVERS, FOURTEEN 140'-0" DIA. X 9'-0" D., WITH ALUMINUM GEODESIC DOME COVERS, AND ASSOCIATED SLUDGE AND SCUM COLLECTORS AND PUMPS.

4. EIGHT ACTIVATED SLUDGE OXYGEN REACTORS, 139,656 CUBIC FEET CAPACITY, 46'-0" W. X 184'-0" L. X 16'-6" D., WITH ASSOCIATED MIXERS.

5. TWO PURE OXYGEN GENERATION UNITS, 40,000 GALLON CAPACITY EACH, WITH TWO STORAGE TANKS AND ASSOCIATED COMPRESSORS.

6. TWELVE SECONDARY CLARIFIERS, 61'-0" W. X 171'-0" L. X 14'-0" D., WITH ASSOCIATED SLUDGE COLLECTORS.

7. EAST SECONDARY SLUDGE PUMP STATION WITH ASSOCIATED PUMPS.

8. WEST SECONDARY SLUDGE PUMP STATION WITH ASSOCIATED PUMPS.

9. FOUR DISSOLVED AIR FLOATATION THICKENERS, EACH 55'-0" DIA. X 8'-6" D., WITH ASSOCIATED COLLECTOR DRIVES AND PUMPS.

10. TWENTY DIGESTER TANKS, TWO 90'-0" DIA. X 30'-0" D., EACH 190,800 CUBIC FEET CAPACITY, SIX 80'-0" DIA. X 33'-0" D., EACH 164,120 CUBIC FEET CAPACITY, THREE 80'-0" DIA. X 33'-0" D., EACH 166,630 CUBIC FEET CAPACITY, FOUR 105'-0" DIA. X 30'-0" D., EACH 293,680 CUBIC FEET CAPACITY, FIVE 80'-0" DIA. X 18'-0" H., WITH ASSOCIATED PUMPS AND GRINDERS. EQUIPPED WITH OPTIONAL PASSIVE CARBON ADSORBERS.

11. LOW PRESSURE DIGESTER GAS STORAGE TANK, 25,000 CUBIC FEET CAPACITY, 42'-0" DIA. X 30'-0" H., WITH ASSOCIATED COMPRESSORS.

12. FERROUS AND/OR FERRIC CHLORIDE INJECTION STATION WITH TWO STORAGE TANKS, EACH 12'-0" DIA. X 18'-0" H., AND ASSOCIATED PUMPS.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

13. SLUDGE PROCESSING STATION WITH ASSOCIATED GRINDERS, BELT FILTER PRESSES, DEWATERED BIOSOLIDS STORAGE SILOS (OR CAKE STORAGE BINS), AND TRUCK LOADING BAY..

14. TWO POLYMER STORAGE TANKS, EACH 20,000 GALLON CAPACITY, WITH ASSOCIATED PUMPS.

15. FOUR POLYMER MIX TANKS, EACH 8,500 GALLON CAPACITY, WITH ASSOCIATED MIXERS AND PUMPS.

16. PRIMARY EFFLUENT DIVERSION STRUCTURE.

17. THREE TRICKLING FILTERS, COVERED, PRIMARY EFFLUENT TREATMENT (TOTAL 60 MGD AVERAGE CAPACITY AND 182 MGD PEAK FLOW), EACH 150' DIA. X 28' H., OVERALL, WITH MODULAR PLASTIC CROSS - FLOW FILTER MEDIA, SPRAY NOZZLES, AND ASSOCIATED PUMPS.

18. FOUR SOLIDS CONTACT (SC) REACTORS, FOUR SLUDGE RE-AERATION (SR) REACTORS, UNCOVERED, TWO MIXED LIQUOR CHANNELS (TOTAL 1.68 MG VOLUME), AND WITH ASSOCIATED AIR BLOWERS.

19. SIX TRICKLING FILTER CLARIFIERS, UNCOVERED, EACH 135' DIA. X 19' SIDEWATER DEPTH, WITH FLOCCULATING CENTER WELLS, HYDRAULIC SLUDGE COLLECTORS, AND INBOARD LAUNDERS.

20. SLUDGE BLENDING FACILITY WITH TWO SLUDGE BLENDING TANKS (SBTs), EACH 26,000 GALLON CAPACITY, WITH ASSOCIATED PIPING AND PUMPS.

BY THE REMOVAL OF:

13. SLUDGE PROCESSING STATION WITH ASSOCIATED GRINDERS AND BELT FILTER PRESSES.

14. TWO POLYMER STORAGE TANKS, EACH 20,000 GALLON CAPACITY, WITH ASSOCIATED PUMPS.

15. FOUR POLYMER MIX TANKS, EACH 8,500 GALLON CAPACITY, WITH ASSOCIATED MIXERS AND PUMPS.

AND BY THE ADDITION OF:
DIGESTED SLUDGE DEWATERING FACILITY, LOCATED IN A BUILDING, (OCSD PROJECT P2-92)

21. CENTRATE WET WELL.

22. BIOSOLIDS LOADING SLUDGE PUMPS (5)
CENTRIFUGES (5): ANDRITZ SEPARATION, TYPE D7LL OR SIMILAR
CENTRATE PUMPS (2): FAIRBANKS MORSE, MAXIMUM 1474 GPM, 18.5 H.P. OR SIMILAR
CAKE PUMPS (5) - SCHWING BIOSET, MODEL KSP25 V (HD) L, 39 GPM, 150 H.P. OR SIMILAR

23. TWO POLYMER STORAGE TANKS, EACH APPROXIMATELY 7,500 GALLON CAPACITY, WITH ASSOCIATED PUMPS.

24. TWO POLYMER AGING TANKS, EACH APPROXIMATELY 5,000 GALLON CAPACITY, WITH ASSOCIATED PUMPS.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THE EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.
[RULE 205]

5. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL COMPLY WITH ALL APPLICABLE MITIGATION MEASURES STIPULATED IN THE STATEMENT OF FINDINGS, STATEMENT OF OVERRIDING CONSIDERATION, AND MITIGATION OR MONITORING PLAN DOCUMENT (THAT APPLIES TO PROJECT P2-92), WHICH IS PART OF THE CERTIFIED FINAL SUBSEQUENT ENVIRONMENTAL IMPACT REPORT (SEIR) FOR THIS FACILITY AS APPROVED BY THE LEAD AGENCY.
[CA PRC CEQA, 11-23-1970]

6. HEADWORKS FACILITY, PRIMARY BASINS, SLUDGE BLENDING FACILITY, DISSOLVED AIR FLOATATION THICKENERS, TRICKLING FILTER FACILITY AND NEW SLUDGE DEWATERING FACILITY (PROJECT P2-92) SHALL BE VENTED TO THEIR DESIGNATED AIR POLLUTION CONTROL SYSTEMS WHICH ARE IN OPERATION PER ITS' VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD. IN THE EVENT AN AIR POLLUTION CONTROL SYSTEM IS REMOVED FROM OPERATION DURING CONSTRUCTION OR MAINTENANCE WORK, THE H2S CONCENTRATION IN EXHAUST AIR SHALL BE BELOW THE LIMITS SPECIFIED IN THE REMOVED AIR POLLUTION CONTROL SYSTEM'S PERMIT. EACH SUCH CONSTRUCTION OR MAINTENANCE EVENT SHALL BE RECORDED IN A DAILY LOG.
[RULE 402, 1303(a) (1)-BACT, 1401]

7. AFTER COMPLETION OF CONSTRUCTION OF P2-92, THE BUILDING ENCLOSING THE DIGESTED SLUDGE DEWATERING FACILITY SHALL REMAIN CLOSED AT ALL TIMES, EXCEPT TO ALLOW PERSONNEL TO ENTER OR EXIT; AFTER COMPLETION OF CONSTRUCTION OF P2-92, THE BUILDING ENCLOSING THE DIGESTED SLUDGE DEWATERING FACILITY SHALL REMAIN CLOSED AT ALL TIMES, EXCEPT TO ALLOW PERSONNEL TO ENTER OR EXIT; FACILITATE OPERATIONS/MAINTENANCE ACTIVITIES OR TO ALLEVIATE SAFETY ISSUES.
[RULE 204, 402]

8. THE FERROUS AND/OR FERRIC CHLORIDE INJECTION STATION SHALL BE IN USE TO THE EXTENT NECESSARY TO MAINTAIN THE H2S CONCENTRATION IN THE DIGESTER GAS TO THE PERMITTED LIMIT.
[RULE 431.1]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

9. RAW DIGESTER GAS PRODUCED AT THIS FACILITY SHALL NOT BE RELEASED INTO THE ATMOSPHERE, EXCEPT DURING MOMENTARY AUTOMATIC ACTIVATION OF PRESSURE RELIEF SAFETY DEVICES. ALL COLLECTED DIGESTER GAS SHALL BE EITHER COMBUSTED IN DIGESTER GAS FLARES, INTERNAL COMBUSTION ENGINES, OR BOILERS WITH VALID AQMD PERMIT, OR SHALL BE TREATED THROUGH OPTIONAL PASSIVE CARBON ADSORBERS. EACH SUCH PRESSURE RELIEF ACTIVATION SHALL BE MAINTAINED IN A DAILY LOG.
[RULE 402, RULE 1401]

10. RAW DIGESTER GAS RELEASES DUE TO EQUIPMENT FAILURE SHALL BE REPORTED IN ACCORDANCE WITH RULE 430. UPON DISCOVERY OF SUCH EMISSIONS, IMMEDIATE REMEDIAL MEASURES SHALL BE PUT INTO ACTION TO CORRECT THE PROBLEM AND PREVENT FURTHER EMISSIONS INTO THE ATMOSPHERE.
[RULE 402, RULE 430]

11. THE CALENDAR MONTHLY AVERAGE DAILY PRIMARY EFFLUENT FLOW RATE, TO THE SECONDARY TREATMENT PROCESS, SHALL NOT EXCEED 150 MILLIONS GALLONS PER DAY, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH SAFETY. THE RECORDS FOR THE PRIMARY EFFLUENT AVERAGE DAILY FLOW RATE (MGD), TREATED BY THE SECONDARY PROCESS, SHALL BE KEPT ON FILE.
[RULE 1303(b) (2) –OFFSETS, 402, 1401]

12. THE CALENDAR MONTHLY AVERAGE DAILY FLOW RATE OF WASTEWATER TREATED AT THIS FACILITY SHALL NOT EXCEED 250 MILLION GALLONS PER DAY (MGD) EXCEPT DURING WET WEATHER PERIODS. THE RECORDS FOR THE WASTEWATER FLOW RATE (MGD) MEASURED SHALL BE RECORDED AND KEPT ON FILE.
[RULE 1303(b) (2) –OFFSETS, 402, 1401]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 556627
Granted as of 6-26-2014

Equipment Description:

AIR POLLUTION CONTROL SYSTEM FOR THE NEW SLUDGE DEWATERING FACILITY (P2-92), CONSISTING OF;

1. FOUL-AIR DUCT(S) FROM THE CENTRIFUGES, CAKE (BIOSOLIDS) BINS AND CENTRATE WET WELL.

2. TWO BLOWERS, ONE STANDBY, HARTZELL SERIES 41 TYPE FA, OR SIMILAR, CAPABLE OF APPROXIMATELY 7500 CFM AT 12" STATIC PRESSURE.

3. WET SCRUBBER, PACKED BED, APPROXIMATELY 4' DIA. X 8' H., WITH 4' H. POLYPROPYLENE PACKING MATERIAL, SPRAY NOZZLES, WATER RECIRCULATION, MAKE-UP WATER AND ACID SUPPLY (AS BACK-UP) LINES, SUMP WITH PH PROBE, AND ASSOCIATED PUMPS.

4. BIOFILTER, CELL A, B AND C, CUSTOM MADE, APPROXIMATELY 20' W. X 43' L. X 22' H., OVERALL DIMENSIONS, WITH APPROXIMATELY 8' H. INORGANIC ENGINEERED MEDIA, AND AN IRRIGATION SPRAY(S) SYSTEM.

5. TREATED AIR EXHAUST STACK, 2' DIA. X 47' - 6" H. ABOVE GRADE.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THE EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.
[RULE 205]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

5. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL COMPLY WITH ALL APPLICABLE MITIGATION MEASURES STIPULATED IN THE STATEMENT OF FINDINGS, STATEMENT OF OVERRIDING CONSIDERATION, AND MITIGATION OR MONITORING PLAN DOCUMENT (THAT APPLIES TO PROJECT P2-92), WHICH IS PART OF THE CERTIFIED FINAL SUBSEQUENT ENVIRONMENTAL IMPACT REPORT (SEIR) FOR THIS FACILITY AS APPROVED BY THE LEAD AGENCY.
[CA PRC CEQA, 11-23-1970]

6. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO THE WET SCRUBBER TO INDICATE THE TOTAL AIR FLOW RATE IN CUBIC FEET PER MINUTE (CFM). THE TOTAL AIR FLOW RATE SHALL NOT EXCEED 7,500 CFM, DAILY AVERAGE. IN CASE A PRESSURE SENSOR DEVICE IS USED IN PLACE OF THE FLOW METER, A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDING FLOW RATE, IN CFM, TO THE PRESSURE READING.
[RULE 203]

7. A PRESSURE DIFFERENTIAL GAUGE INDICATING THE PRESSURE DROP ACROSS THE SCRUBBER PACKING BED SHALL BE INSTALLED AND MAINTAINED. THE PRESSURE DROP ACROSS THE PACKING BED SHALL BE MAINTAINED BELOW 2 INCHES OF WATER COLUMN, WHEN THE SCRUBBER IS IN OPERATION.
[RULE 203]

8. A PH METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE PH OF THE SCRUBBING SOLUTION (SUMP), WHENEVER SULFURIC ACID IS USED. THE PH OF THE SCRUBBING SOLUTION SHALL BE MAINTAINED BETWEEN 1 TO 8.
[RULE 203]

9. WHEN THE EQUIPMENT IS IN OPERATION, THE INLET FLOW RATE, SCRUBBING SOLUTION FLOW RATE, PH OF THE SCRUBBING SOLUTION, PRESSURE DIFFERENTIAL ACROSS THE SCRUBBER PACKING BED SHALL BE MONITORED AND RECORDED AT LEAST ONCE A DAY FOR THE FIRST MONTH OF OPERATION AND WEEKLY THEREAFTER.
[RULE 203]

10. WHEN BIOFILTER IS IN OPERATION, THE CONCENTRATION, PPMV, OF HYDROGEN SULFIDE (H2S), IN EXHAUST AIR (STACK) SHALL BE MONITORED AND RECORDED, AT LEAST DAILY. THE BIOFILTER SURFACE IRRIGATION SYSTEM SHALL BE MAINTAINED IN GOOD OPERATING CONDITION AT ALL TIMES AND SHALL BE UTILIZED TO MAINTAIN THE DESIRED MOISTURE CONTENT FOR THE BIOFILTER MEDIA.
[RULE 402, 1401]

11. EMISSIONS FROM THIS EQUIPMENT MEASURED IN THE EXHAUST STACK SHALL NOT EXCEED THE FOLLOWING:

HYDROGEN SULFIDE (H2S)	1 PPMV- DAILY AVERAGE
AMMONIA (NH3)	5 PPMV- DAILY AVERAGE

[RULE 402, 1401]

12. IF THE OPERATION OF THIS EQUIPMENT RESULTS IN CONSIDERABLE NUMBER OF ODOR COMPLAINTS, MITIGATION MEASURES SHALL BE IMPLEMENTED IMMEDIATELY.
[RULE 402]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

13. ALL RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS, AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST. [RULE 203]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 557229
Granted as of 4/16/2014

Equipment Description:

STORAGE TANK, NO. 26KTNK001, AQUEOUS UREA SOLUTION (32.5% v), ABOVE GROUND, 2,000 GALLON CAPACITY, VENTING TO ATMOSPHERE.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

3. THIS EQUIPMENT SHALL ONLY BE USED FOR STORAGE OF AQUEOUS UREA SOLUTION.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 557230
Granted as of 4/16/2014

Equipment Description:

STORAGE TANK, NO. 26KTNK005, AQUEOUS UREA SOLUTION (32.5% v), ABOVE GROUND, 2,000 GALLON CAPACITY, VENTING TO ATMOSPHERE.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

3. THIS EQUIPMENT SHALL ONLY BE USED FOR STORAGE OF AQUEOUS UREA SOLUTION.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 559228
Granted as of 4/16/2014

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 1 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.
2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.
3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC TEMPERATURE, PRESSURE MONITORING AND CONTROL DEVICES.
4. EXHAUST STACK, 2'-6" DIA. X 59' H., ABOVE GROUND.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
[RULE 204]

4. THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

5. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET PRESSURES ACROSS THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. HE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.
[RULE 204]

6. BASED ON THE OPERATING PARAMETERS' MEASURED AND MONITORED RESULTS OVER THE TWO-YEAR PERIOD (PER CONDITION #4 AND #5), OPERATING PARAMETERS' RANGE SHALL BE ESTABLISHED FOR THE PERMIT TO OPERATE.
[RULE 204]

7. EXCEPT DURING STARTUP AND SHUTDOWN OF THE SCR SYSTEM, THE UREA FEED CONTROL SYSTEM SHALL BE IN OPERATION.
[RULE 204]

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 204]

10. WHEN SCR IS IN OPERATION, THE OPERATOR SHALL ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.
[RULE 204]

11. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.
[RULE 204]

12. THE AMMONIA SLIP SHALL BE TESTED WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.
[RULE 1303(b) (1)], [RULE 1401]

13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

Emissions and Requirements:

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP.
[RULE 1303(b) (1)], [RULE 1402]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 559229
Granted as of 4/16/2014

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 2 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.
2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.
3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC TEMPERATURE, PRESSURE MONITORING AND CONTROL DEVICES.
4. EXHAUST STACK, 2'-6" DIA. X 59' H., ABOVE GROUND.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
[RULE 204]

4. THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

5. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET PRESSURES ACROSS THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. HE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.
[RULE 204]

6. BASED ON THE OPERATING PARAMETERS' MEASURED AND MONITORED RESULTS OVER THE TWO-YEAR PERIOD (PER CONDITION #4 AND #5), OPERATING PARAMETERS' RANGE SHALL BE ESTABLISHED FOR THE PERMIT TO OPERATE.
[RULE 204]

7. EXCEPT DURING STARTUP AND SHUTDOWN OF THE SCR SYSTEM, THE UREA FEED CONTROL SYSTEM SHALL BE IN OPERATION.
[RULE 204]

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 204]

10. WHEN SCR IS IN OPERATION, THE OPERATOR SHALL ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.
[RULE 204]

11. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.
[RULE 204]

12. THE AMMONIA SLIP SHALL BE TESTED WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.
[RULE 1303(b) (1)], [RULE 1401]

13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

Emissions and Requirements:

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP.
[RULE 1303(b) (1)], [RULE 1402]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 559230
Granted as of 4/16/2014

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 3 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.
2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.
3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC TEMPERATURE, PRESSURE MONITORING AND CONTROL DEVICES.
4. EXHAUST STACK, 2'-6" DIA. X 59' H., ABOVE GROUND.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
[RULE 204]

4. THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.
[RULE 204]

5. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET PRESSURES ACROSS THE

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. HE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.
[RULE 204]

6. BASED ON THE OPERATING PARAMETERS' MEASURED AND MONITORED RESULTS OVER THE TWO-YEAR PERIOD (PER CONDITION #4 AND #5), OPERATING PARAMETERS' RANGE SHALL BE ESTABLISHED FOR THE PERMIT TO OPERATE.
[RULE 204]

7. EXCEPT DURING STARTUP AND SHUTDOWN OF THE SCR SYSTEM, THE UREA FEED CONTROL SYSTEM SHALL BE IN OPERATION.
[RULE 204]

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 204]

10. WHEN SCR IS IN OPERATION, THE OPERATOR SHALL ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.
[RULE 204]

11. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.
[RULE 204]

12. THE AMMONIA SLIP SHALL BE TESTED WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.
[RULE 1303(b) (1)], [RULE 1401]

13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

Emissions and Requirements:

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP.
[RULE 1303(b) (1)], [RULE 1402]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 559231
Granted as of 4/16/2014

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 4 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.
2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.
3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC TEMPERATURE, PRESSURE MONITORING AND CONTROL DEVICES.
4. EXHAUST STACK, 2'-6" DIA. X 59' H., ABOVE GROUND.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
[RULE 204]

4. THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.
[RULE 204]

5. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET PRESSURES ACROSS THE

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. HE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.
[RULE 204]

6. BASED ON THE OPERATING PARAMETERS' MEASURED AND MONITORED RESULTS OVER THE TWO-YEAR PERIOD (PER CONDITION #4 AND #5), OPERATING PARAMETERS' RANGE SHALL BE ESTABLISHED FOR THE PERMIT TO OPERATE.
[RULE 204]

7. EXCEPT DURING STARTUP AND SHUTDOWN OF THE SCR SYSTEM, THE UREA FEED CONTROL SYSTEM SHALL BE IN OPERATION.
[RULE 204]

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 204]

10. WHEN SCR IS IN OPERATION, THE OPERATOR SHALL ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.
[RULE 204]

11. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.
[RULE 204]

12. THE AMMONIA SLIP SHALL BE TESTED WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.
[RULE 1303(b) (1)], [RULE 1401]

13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

Emissions and Requirements:

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP.
[RULE 1303(b) (1)], [RULE 1402]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 559232
Granted as of 4/16/2014

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 5 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.
2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.
3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC TEMPERATURE, PRESSURE MONITORING AND CONTROL DEVICES.
4. EXHAUST STACK, 2'-6" DIA. X 59' H., ABOVE GROUND.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
[RULE 204]

4. THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.
[RULE 204]

5. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET PRESSURES ACROSS THE

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. HE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.
[RULE 204]

6. BASED ON THE OPERATING PARAMETERS' MEASURED AND MONITORED RESULTS OVER THE TWO-YEAR PERIOD (PER CONDITION #4 AND #5), OPERATING PARAMETERS' RANGE SHALL BE ESTABLISHED FOR THE PERMIT TO OPERATE.
[RULE 204]

7. EXCEPT DURING STARTUP AND SHUTDOWN OF THE SCR SYSTEM, THE UREA FEED CONTROL SYSTEM SHALL BE IN OPERATION.
[RULE 204]

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 204]

10. WHEN SCR IS IN OPERATION, THE OPERATOR SHALL ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.
[RULE 204]

11. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.
[RULE 204]

12. THE AMMONIA SLIP SHALL BE TESTED WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.
[RULE 1303(b) (1)], [RULE 1401]

13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

Emissions and Requirements:

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP.
[RULE 1303(b) (1)], [RULE 1402]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 565930
Granted as of 11/12/2014

Equipment Description:

MODIFICATIONS TO AIR POLLUTION CONTROL SYSTEM (G27920) CONSISTING OF;

1. FOUL AIR EXHAUST DUCTS FROM THREE (3) TRICKLING FILTERS, TRICKLING FILTER FACILITY'S (JOB NO. P2-90), IN PARALLEL.

2. THREE (3) EXHAUST BLOWERS, IN PARALLEL, EACH 11,000 SCFM, 25 H.P.

3. THREE (3) CAUSTIC IMPREGNATED ACTIVATED CARBON UNITS, IN PARALLEL, EACH CONTAINING MINIMUM OF 10,600 LBS OF ACTIVATED CARBON BY NORIT AMERICAS OR WESTATES OR EQUIVALENT, EACH VENTING A SINGLE TRICKLING FILTER.

4. THREE (3) EXHAUST STACKS, EACH 2.0'- 3" DIA. X 28' HIGH.

BY THE ADDITION OF:

5. THREE (3) CHEMICAL SCRUBBERS (JOB NO. FE13-04), EACH SINGLE STAGE, SIEMENS OR EQUIVALENT, APPROXIMATELY 20' H. X 6' D., JAEGER 7' -10' H. PACKING MATERIAL OR EQUAL, SCRUBBING SOLUTION RECIRCULATION LINE, ASSOCIATED PUMPS, METERS AND AUTOMATIC CONTROLS, MIST ELIMINATOR AND CONTINUOUS H2S MONITORING SYSTEM (OPTIONAL).

6. ASSOCIATED SODIUM HYDROXIDE AND SODIUM HYPOCHLORITE STORAGE TANKS.

7. ITEM NO. 3 ABOVE, USED AS OPTIONAL POLISHING UNIT CONTAINING GRANULAR ACTIVATED CARBON, IF NEEDED, OR EMPTY VESSEL USED AS EXHAUST FOR THE CHEMICAL SCRUBBERS.

PERMIT CONDITIONS:

1. CONSTRUCTION AND OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATIONS UNDER WHICH THIS PERMIT IS ISSUED.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITIONS AT ALL TIMES.
[RULE 204]

3. THIS PERMIT TO CONSTRUCT IS VALID FOR ONE YEAR FROM ITS' ISSUANCE DATE. AN EXTENSION MAY BE GRANTED UPON WRITTEN REQUEST. SUCH A REQUEST SHALL INCLUDE THE REASONS THE EXTENSION IS REQUIRED, THE LENGTH OF THE EXTENSION, AND THE STATUS OF THE CONSTRUCTION ACTIVITIES COMPLETED TO DATE.
[RULE 204]

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4. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

5. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT EACH OF THE ODOR CONTROL SYSTEM EXHAUST TO INDICATE THE TOTAL FOUL AIR FROM EACH OF THE TRICKLING FILTER TREATED, IN STANDARD CUBIC FEET PER MINUTE (SCFM). IN CASE A PRESSURE SENSOR DEVICE IS USED TO DETERMINE FLOW RATE, IN PLACE OF THE FLOW METER, A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDENT FLOW RATE, IN SCFM, TO THE PRESSURE READING.
[RULE 204]

6. MAXIMUM FOUL AIR FLOW RATE FROM EACH TRICKLING FILTER TO BE TREATED SHALL NOT EXCEED 11,000 SCFM, AVERAGED OVER CALENDAR MONTH.
[RULE 204]

7. SCRUBBER SYSTEM SHALL BE EQUIPPED WITH DIFFERENTIAL PRESSURE GAUGE, PH METER AND FLOW METER TO INDICATE AND MEASURE (GPM) FOR SCRUBBING LIQUID RECIRCULATION RATE.
[RULE 204]

8. WHEN THE SCRUBBERS ARE IN OPERATION, AUTOMATIC HYDROGEN SULFIDE (H2S) MONITORING SYSTEM SHALL BE IN OPERATION AND MAINTAINED TO RECORD THE OUTLET H2S CONCENTRATION, IN PPMV. THE H2S MONITORING SYSTEM SHALL BE CALIBRATED PURSUANT TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
[RULE 204]

9. WHEN THE AUTOMATIC H2S MONITORING SYSTEM IS NOT OPERATING, THE OPERATOR SHALL, ON A DAILY BASIS, MONITOR, RECORD AND MAINTAIN THE FOLLOWING PARAMETERS PER MANUFACTURER'S RECOMMENDATIONS.

- DIFFERENTIAL PRESSURE ACROSS THE SCRUBBER, INCHES OF WATER COLUMN
- SCRUBBING SOLUTION RECIRCULATION RATE, GPM
- PH OF THE SCRUBBING SOLUTION
- HYDROGEN SULFIDE (H2S) CONCENTRATION, PPMV, IN THE SCRUBBER EXHAUST.

[RULE 204]

10. THE PH OF THE SCRUBBING SOLUTION SHALL BE MAINTAINED BETWEEN 8 AND 12 ON A DAILY AVERAGE.
[RULE 204]

11. CONCENTRATION MEASURED AT EXHAUST SHALL NOT EXCEED THE FOLLOWING:

CONSTITUENT	CONCENTRATION
H2S	1.0 PPMV, DAILY AVERAGE

[RULE 402, 1401]

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12. IN CASE, WHEN AN OPTIONAL POLISHING UNIT (GRANULAR ACTIVATED CARBON) IS PUT IN SERVICE, THE UNIT SHALL BE OPERATED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS AND, IN COMPLIANCE WITH ABOVE CONDITION NO. 11.
[RULE 204]

13. RECORDS SHALL BE MAINTAINED AS REQUIRED BY THIS PERMIT FOR COMPLIANCE. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO SCAQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION I: PLANS AND SCHEDULES

This section lists all plans approved by AQMD for the purposes of meeting the requirements of applicable AQMD rules specified below. The operator shall comply with all conditions specified in the approval of these plans.

Documents pertaining to the plan applications listed below are available for public review at AQMD Headquarters. Any changes to plan applications will require permit modification in accordance with Title V permit revision procedures.

List of approved plans:

Application	Rule
267656	431.1

NOTE: This section does not list compliance schedules pursuant to the requirements of Regulation XXX - Title V Permits; Rule 3004(a)(10)(C). For equipment subject to a variance, order for abatement, or alternative operating condition granted pursuant to Rule 518.2, equipment specific conditions are added to the equipment in Section D or H of the permit.

FACILITY PERMIT TO OPERATE
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SECTION J: AIR TOXICS
[40CFR 63 Subpart VVV 03-23-2001]

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: PUBLICLY OWNED TREATMENT WORKS (NON-INDUSTRIAL PLANT)

(1) The owner/operator of a Publicly Owned Treatment Works (POTW) shall comply with all applicable requirements of 40 CFR Subpart VVV and general requirements applicable to Non-Industrial POTW Plant (emission points and control point requirements) as listed under § 63.1586 including covers on all emission points up to the secondary influent pumping station or secondary treatment unit. Covers shall be tightly fitted and designed and operated to minimize exposure of wastewater to the atmosphere. Each opening in a treatment unit shall be maintained in a closed, sealed position unless wastewater is not present or except when plant personnel are present and conducting wastewater or sludge sampling, or equipment inspection, maintenance or repair.

(2) The owner/operator of a Publicly Owned Treatment Works (POTW) shall comply with all applicable requirements of inspections listed under 40 CFR Subpart VVV, § 63.1588 including a visual inspection of all covers and their closure devices for defects that could results in air emissions. Inspections shall be conducted initially follow-up inspections at least once per year. Defects that are found on treatment units in use shall be repaired within 45 days. The owner/operator shall follow the notification and reporting requirements in § 63.1588 for repairs that cannot be completed in 45 days. Defects that are found on treatment units that are not in use shall be repaired prior to putting the treatment unit back in service.

(3) The owner/operator of a Publicly Owned Treatment Works (POTW) shall comply with all applicable requirements to prepare and maintain the records for each treatment unit inspection, each defect detected during inspection, date of detection, corrective actions taken to repair the defect, the date the repair is completed, and all other requirements listed under 40 CFR Subpart VVV, § 63.1589

(4) The owner/operator of a Publicly Owned Treatment Works (POTW) shall comply with all applicable requirements and notification of compliance status, as applicable, and other reports submittal as listed under 40 CFR Subpart VVV, § 63.1590

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SECTION J: AIR TOXICS
[40CFR 63 Subpart ZZZZ, #1 03-09-2011]

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES

The owner/operator of stationary Reciprocating Internal Combustion Engines (RICE) located at an area source of hazardous air pollutant (HAP) emissions shall comply with the applicable requirements of 40 CFR 63 Subpart ZZZZ including but not limited to the following:

1. The owner/operator shall comply with the applicable requirements as specified in 63.6603 including but not limited to the following:

Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
11. Non-emergency, non-black start landfill or digester gas-fired stationary RICE.	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

[1]Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

2. The owner/operator shall comply with the applicable general requirements as specified in 63.6605.

3. The owner/operator shall comply with the applicable monitoring, installation, collection, operation, and maintenance requirements specified in 63.6625.

4. The owner/operator shall demonstrate continuous compliance with the applicable emission limitations and operating limitations specified in 63.6640 including but not limited to the following:

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation according to methods specified in Table 6 to this subpart.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION J: AIR TOXICS
[40CFR 63 Subpart ZZZZ, #1 03-09-2011]

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, Operating Limitations, Work Practices, and Management Practices

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
existing non-emergency landfill or digester gas stationary SI RICE located at an area source of HAP	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650.

5. The owner/operator shall comply with the applicable record keeping requirements specified in 63.6655 and 63.6660.

FACILITY PERMIT TO OPERATE
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SECTION J: AIR TOXICS
[40CFR 63SubpartZZZZ 03-09-2011]

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES

The owner/operator of existing emergency stationary Reciprocating Internal Combustion Engines (RICE) located at an area source of hazardous air pollutant (HAP) emissions shall comply with the applicable requirements of 40 CFR 63 Subpart ZZZZ including but not limited to the following:

1. The owner/operator shall comply with the applicable requirements as specified in 63.6603 including but not limited to the following:

Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
5. Emergency stationary SI RICE; black start stationary SI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1] b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	

[1]Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law

FACILITY PERMIT TO OPERATE
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SECTION J: AIR TOXICS
[40CFR 63SubpartZZZZ 03-09-2011]

has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

2. The owner/operator shall comply with the applicable general requirements as specified in 63.6605.

3. The owner/operator shall comply with the applicable monitoring, installation, collection, operation, and maintenance requirements specified in 63.6625.

4. The owner/operator shall demonstrate continuous compliance with the applicable emission limitations and operating limitations specified in 63.6640 including but not limited to the following:

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation according to methods specified in Table 6 to this subpart.

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, Operating Limitations, Work Practices, and Management Practices

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
existing emergency and black start stationary RICE located at an area source of HAP	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650.

(c) you must operate the emergency stationary RICE according to the requirements in paragraphs (i) through (iii) of this section. Any operation other than emergency operation, maintenance and

testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (i) through (iii) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (iii), as long as the power provided by the financial arrangement is limited to emergency power.

5. The owner/operator shall comply with the applicable record keeping requirements specified in 63.6655 and 63.6660.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION K: TITLE V Administration

GENERAL PROVISIONS

1. This permit may be revised, revoked, reopened and reissued, or terminated for cause, or for failure to comply with regulatory requirements, permit terms, or conditions. [3004(a)(7)(C)]

2. This permit does not convey any property rights of any sort or any exclusive privilege. [3004(a)(7)(E)]

Permit Renewal and Expiration

3. (A) Except for solid waste incineration facilities subject to standards under section 129(e) of the Clean Air Act, this permit shall expire five years from the date that this Title V permit is issued. The operator's right to operate under this permit terminates at midnight on this date, unless the facility is protected by an application shield in accordance with Rule 3002(b), due to the filing of a timely and complete application for a Title V permit renewal, consistent with Rule 3003. [3004(a)(2), 3004(f)]

   (B) A Title V permit for a solid waste incineration facility combusting municipal waste subject to standards under Section 129(e) of the Clean Air Act shall expire 12 years from the date of issuance unless such permit has been renewed pursuant to this regulation. These permits shall be reviewed by the Executive Officer at least every five years from the date of issuance. [3004(f)(2)]

4. To renew this permit, the operator shall submit to the Executive Officer an application for renewal at least 180 days, but not more than 545 days, prior to the expiration date of this permit. [3003(a)(6)]

Duty to Provide Information

5. The applicant for, or holder of, a Title V permit shall furnish, pursuant to Rule 3002(d) and (e), timely information and records to the Executive Officer or designee within a reasonable time as specified in writing by the Executive Officer or designee. [3004(a)(7)(F)]

Payment of Fees

6. The operator shall pay all required fees specified in Regulation III - Fees. [3004(a)(7)(G)]

FACILITY PERMIT TO OPERATE
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Reopening for Cause

7. The Executive Officer will reopen and revise this permit if any of the following circumstances occur:

   (A) Additional regulatory requirements become applicable with a remaining permit term of three or more years. Reopening is not required if the effective date of the requirement is later than the expiration date of this permit, unless the permit or any of its terms and conditions has been extended pursuant to paragraph (f)(4) of Rule 3004.

   (B) The Executive Officer or EPA Administrator determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.

   (C) The Executive Officer or EPA Administrator determines that the permit must be revised or revoked to assure compliance with the applicable requirements. [3005(g)(1)]

COMPLIANCE PROVISIONS

8. The operator shall comply with all regulatory requirements, and all permit terms and conditions, except:

   (A) As provided for by the emergency provisions of condition no. 17 or condition no. 18, or

   (B) As provided by an alternative operating condition granted pursuant to a federally approved (SIP-approved) Rule 518.2.

   Any non-compliance with any federally enforceable permit condition constitutes a violation of the Federal Clean Air Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or denial of a permit renewal application. Non-compliance may also be grounds for civil or criminal penalties under the California State Health and Safety Code. [3004(a)(7)(A)]

FACILITY PERMIT TO OPERATE
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SECTION K: TITLE V Administration

9. The operator shall allow the Executive Officer or authorized representative, upon presentation of appropriate credentials to:

   (A) Enter the operator's premises where emission-related activities are conducted, or records are kept under the conditions of this permit;

   (B) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

   (C) Inspect at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

   (D) Sample or monitor at reasonable times, substances or parameters for the purpose of assuring compliance with the facility permit or regulatory requirements. [3004(a)(10)(B)]

10. All terms and conditions in this permit, including any provisions designed to limit a facility's potential to emit, are enforceable by the EPA Administrator and citizens under the federal Clean Air Act, unless the term or condition is designated as not federally enforceable. Each day during any portion of which a violation occurs is a separate offense. [3004(g)]

11. A challenge to any permit condition or requirement raised by EPA, the operator, or any other person, shall not invalidate or otherwise affect the remaining portions of this permit. [3007(b)]

12. The filing of any application for a permit revision, revocation, or termination, or a notification of planned changes or anticipated non-compliance does not stay any permit condition. [3004(a)(7)(D)]

13. It shall not be a defense for a person in an enforcement action, including those listed in Rule 3002(c)(2), that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit, except as provided for in "Emergency Provisions" of this section. [3004(a)(7)(H)]

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14. The operator shall not build, erect, install, or use any equipment, the use of which, without resulting in a reduction in the total release of air contaminants to atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Chapter 3 (commencing with Section 41700) of Part 4, of Division 26 of the California Health and Safety Code or of AQMD rules. This rule shall not apply to cases in which the only violation involved is of Section 41700 of the California Health and Safety Code, or Rule 402 of AQMD Rules. [408]

15. Nothing in this permit or in any permit shield can alter or affect:

    (A) Under Section 303 of the federal Clean Air Act, the provisions for emergency orders;

    (B) The liability of the operator for any violation of applicable requirements prior to or at the time of permit issuance;

    (C) The applicable requirements of the Acid Rain Program, Regulation XXXI;

    (D) The ability of EPA to obtain information from the operator pursuant to Section 114 of the federal Clean Air Act;

    (E) The applicability of state or local requirements that are not "applicable requirements", as defined in Rule 3000, at the time of permit issuance but which do apply to the facility, such as toxics requirements unique to the State; and

    (F) The applicability of regulatory requirements with compliance dates after the permit issuance date. [3004(c)(3)]

16. For any portable equipment that requires an AQMD or state permit or registration, excluding a) portable engines, b) military tactical support equipment and c) AQMD-permitted portable equipment that are not a major source, are not located at the facility for more than 12 consecutive months after commencing operation, and whose operation does not conflict with the terms or conditions of this Title V permit: 1) the facility operator shall keep a copy of the AQMD or state permit or registration; 2) the equipment operator shall comply with the conditions on the permit or registration and all other regulatory requirements; and 3) the facility operator shall treat the permit or registration as a part of its Title V permit, subject to recordkeeping, reporting and certification requirements. [3004(a)(1)]

FACILITY PERMIT TO OPERATE
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EMERGENCY PROVISIONS

17. An emergency[1] constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limit only if:

    (A) Properly signed, contemporaneous operating records or other credible evidence demonstrate that:

        (1) An emergency occurred and the operator can identify the cause(s) of the emergency;

        (2) The facility was operated properly (i.e. operated and maintained in accordance with the manufacturer's specifications, and in compliance with all regulatory requirements or a compliance plan), before the emergency occurred;

        (3) The operator took all reasonable steps to minimize levels of emissions that exceeded emissions standard, or other requirements in the permit; and,

        (4) The operator submitted a written notice of the emergency to the AQMD within two working days of the time when the emissions limitations were exceeded due to the emergency. The notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and

    (B) The operator complies with the breakdown provisions of Rule 430 – Breakdown Provisions, or subdivision (i) of Rule 2004 – Requirements, whichever is applicable. [3002(g), 430, 2004(i)]

18. The operator is excused from complying with any regulatory requirement that is suspended by the Executive Officer during a state of emergency or state of war emergency, in accordance with Rule 118 - Emergencies. [118]

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1 "Emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the operator, including acts of God, which: (A) requires immediate corrective action to restore normal operation; and (B) causes the facility to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency; and (C) is not caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

FACILITY PERMIT TO OPERATE
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RECORDKEEPING PROVISIONS

19. In addition to any other recordkeeping requirements specified elsewhere in this permit, the operator shall keep records of required monitoring information, where applicable, that include:

    (A) The date, place as defined in the Title V permit, and time of sampling or measurements;

    (B) The date(s) analyses were performed;

    (C) The company or entity that performed the analyses;

    (D) The analytical techniques or methods used;

    (E) The results of such analyses; and

    (F) The operating conditions as existing at the time of sampling or measurement. [3004(a)(4)(B)]

20. The operator shall maintain records pursuant to Rule 109 and any applicable material safety data sheet (MSDS) for any equipment claimed to be exempt from a written permit by Rule 219 based on the information in those records. [219(t)]

21. The operator shall keep all records of monitoring data required by this permit or by regulatory requirements for a period of at least five years from the date of the monitoring sample, measurement, report, or application. [3004(a)(4)(E)]

REPORTING PROVISIONS

22. The operator shall comply with the following requirements for prompt reporting of deviations:

    (A) Breakdowns shall be reported as required by Rule 430 – Breakdown Provisions or subdivision (i) of Rule 2004 - Requirements, whichever is applicable.

FACILITY PERMIT TO OPERATE
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(B) Other deviations from permit or applicable rule emission limitations, equipment operating conditions, or work practice standards, determined by observation or by any monitoring or testing required by the permit or applicable rules that result in emissions greater than those allowed by the permit or applicable rules shall be reported within 72 hours (unless a shorter reporting period is specified in an applicable State or Federal Regulation) of discovery of the deviation by contacting AQMD enforcement personnel assigned to this facility or otherwise calling (800) CUT-SMOG.

(C) A written report of such deviations reported pursuant to (B), and any corrective actions or preventative measures taken, shall be submitted to AQMD, in an AQMD approved format, within 14 days of discovery of the deviation.

(D) All other deviations shall be reported with the monitoring report required by condition no. 23. [3004(a)(5)]

23. Unless more frequent reporting of monitoring results are specified in other permit conditions or in regulatory requirements, the operator shall submit reports of any required monitoring to the AQMD at least twice per year. The report shall include a) a statement whether all monitoring required by the permit was conducted; and b) identification of all instances of deviations from permit or regulatory requirements. A report for the first six calendar months of the year is due by August 31 and a report for the last six calendar months of the year is due by February 28. [3004(a)(4)(F)]

24. The operator shall submit to the Executive Officer and to the Environmental Protection Agency (EPA), an annual compliance certification. For RECLAIM facilities, the certification is due when the Annual Permit Emissions Program (APEP) report is due and shall cover the same reporting period. For other facilities, the certification is due on March 1 for the previous calendar year. The certification need not include the period preceding the date the initial Title V permit was issued. Each compliance certification shall include:

(A) Identification of each permit term or condition that is the basis of the certification;

(B) The compliance status during the reporting period;

(C) Whether compliance was continuous or intermittent;

(D) The method(s) used to determine compliance over the reporting period and currently, and

(E) Any other facts specifically required by the Executive Officer to determine compliance.

The EPA copy of the certification shall be sent to: Director of the Air Division Attn: Air-3 USEPA, Region IX 75 Hawthorne St. San Francisco, CA 94105 [3004(a)(10)(E)]

25. All records, reports, and documents required to be submitted by a Title V operator to AQMD or EPA shall contain a certification of accuracy consistent with Rule 3003(c)(7) by a responsible official (as defined in Rule 3000). [3004(a)(12)]

PERIODIC MONITORING

26. All periodic monitoring required by this permit pursuant to Rule 3004(a)(4)(c) is based on the requirements and justifications in the AQMD document "Periodic Monitoring Guidelines for Title V Facilities" or in case-by-case determinations documented in the TitleV application file. [3004(a)(4)]

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FACILITY RULES

This facility is subject to the following rules and regulations

With the exception of Rule 402, 473, 477, 1118 and Rules 1401 through 1420, the following rules that are designated as non-federally enforceable are pending EPA approval as part of the state implementation plan. Upon the effective date of that approval, the approved rule(s) will become federally enforceable, and any earlier versions of those rules will no longer be federally enforceable.

RULE SOURCE	Adopted/Amended Date	FEDERAL Enforceability
RULE 104	1-9-1976	Federally enforceable
RULE 109	5-2-2003	Federally enforceable
RULE 1107	1-6-2006	Federally enforceable
RULE 1110.1	10-4-1985	Non federally enforceable
RULE 1110.2	11-14-1997	Non federally enforceable
RULE 1110.2	9-7-2012	Non federally enforceable
RULE 1113	7-13-2007	Federally enforceable
RULE 1113	9-6-2013	Non federally enforceable
RULE 1122	7-11-1997	Federally enforceable
RULE 1140	2-1-1980	Federally enforceable
RULE 1140	8-2-1985	Non federally enforceable
RULE 1146	11-17-2000	Federally enforceable
RULE 1146	5-13-1994	Federally enforceable
RULE 1146	9-5-2008	Non federally enforceable
RULE 1168	1-7-2005	Federally enforceable
RULE 1171	2-1-2008	Federally enforceable
RULE 1171	5-1-2009	Non federally enforceable
RULE 1303(a)(1)-BACT	12-6-2002	Non federally enforceable
RULE 1303(a)(1)-BACT	5-10-1996	Federally enforceable
RULE 1303(b)(1)	10-20-2000	Non federally enforceable
RULE 1303(b)(1)-Modeling	5-10-1996	Federally enforceable
RULE 1303(b)(2)-Offset	12-6-2002	Non federally enforceable

FACILITY PERMIT TO OPERATE
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RULE SOURCE	Adopted/Amended Date	FEDERAL Enforceability
RULE 1303(b)(2)-Offset	5-10-1996	Federally enforceable
RULE 1304(a)-Modeling and Offset Exemption	6-14-1996	Federally enforceable
RULE 1309.1	5-3-2002	Federally enforceable
RULE 1309.1	8-3-2007	Non federally enforceable
RULE 1401	9-10-2010	Non federally enforceable
RULE 1402	3-4-2005	Non federally enforceable
RULE 1415	12-3-2010	Non federally enforceable
RULE 1418	9-10-1999	Non federally enforceable
RULE 1470	5-4-2012	Non federally enforceable
RULE 1472	3-7-2008	Non federally enforceable
RULE 204	10-8-1993	Federally enforceable
RULE 217	1-5-1990	Federally enforceable
RULE 218	5-14-1999	Federally enforceable
RULE 218.1	5-14-1999	Federally enforceable
RULE 219	5-3-2013	Non federally enforceable
RULE 3002	11-14-1997	Federally enforceable
RULE 3002	11-5-2010	Non federally enforceable
RULE 3003	11-14-1997	Federally enforceable
RULE 3003	11-5-2010	Non federally enforceable
RULE 3004	12-12-1997	Federally enforceable
RULE 3004(a)(4)-Periodic Monitoring	12-12-1997	Federally enforceable
RULE 3005	11-14-1997	Federally enforceable
RULE 3005	11-5-2010	Non federally enforceable
RULE 3006	11-14-1997	Federally enforceable
RULE 3006	11-5-2010	Non federally enforceable
RULE 3007	10-8-1993	Federally enforceable
RULE 301	6-1-2012	Non federally enforceable
RULE 304	6-1-2012	Non federally enforceable
RULE 306	6-1-2012	Non federally enforceable
RULE 401	11-9-2001	Non federally enforceable
RULE 401	3-2-1984	Federally enforceable

FACILITY PERMIT TO OPERATE
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SECTION K: TITLE V Administration

RULE SOURCE	Adopted/Amended Date	FEDERAL Enforceability
RULE 402	5-7-1976	Non federally enforceable
RULE 403.1	1-15-1993	Federally enforceable
RULE 403.1	6-16-2000	Non federally enforceable
RULE 404	2-7-1986	Federally enforceable
RULE 407	4-2-1982	Federally enforceable
RULE 408	5-7-1976	Federally enforceable
RULE 409	8-7-1981	Federally enforceable
RULE 430	7-12-1996	Non federally enforceable
RULE 431.1	6-12-1998	Federally enforceable
RULE 431.2	5-4-1990	Federally enforceable
RULE 431.2	9-15-2000	Non federally enforceable
RULE 461	4-21-2000	Federally enforceable
RULE 461	6-15-2001	Non federally enforceable
RULE 701	6-13-1997	Federally enforceable
40CFR 63 Subpart VVV	3-23-2001	Federally enforceable
40CFR 63SubpartZZZZ	3-9-2011	Federally enforceable
40CFR 63SubpartZZZZ_01	3-9-2011	Federally enforceable
40CFR 82 Subpart B	7-14-1992	Federally enforceable
40CFR 82 Subpart F	5-14-1993	Federally enforceable

FACILITY PERMIT TO OPERATE
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APPENDIX A: NOX AND SOX EMITTING EQUIPMENT EXEMPT FROM WRITTEN PERMIT PURSUANT TO RULE 219

1. NONE

FACILITY PERMIT TO OPERATE
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APPENDIX B: RULE EMISSION LIMITS
[RULE 1107 01-06-2006]

Except as otherwise provided in Rule 1107

(1) VOC Content of Coatings

A person shall not apply to metal parts and products subject to the provisions of this rule any coatings, including any VOC-containing materials added to the original coating supplied by the manufacturer, which contain VOC in excess of the limits specified below:

VOC LIMITS
Less Water and Less Exempt Compounds
Effective Dates

Coating	Air-Dried				Baked			
	gm/l		lb/gal		gm/l		lb/gal	
	Current	7/1/07	Current	7/1/07	Current	7/1/07	Current	7/1/07
General One-Component	275	275	2.3	2.3	275	275	2.3	2.3
General Multi-Component	340	340	2.8	2.8	275	275	2.3	2.3
Military Specification	340	340	2.8	2.8	275	275	2.3	2.3
Etching Filler	420	420	3.5	3.5	420	420	3.5	3.5
Solar-Absorbent	420	420	3.5	3.5	360	360	3.0	3.0
Heat-Resistant	420	420	3.5	3.5	360	360	3.0	3.0
Extreme High-Gloss	420	340	3.5	2.8	360	360	3.0	3.0
Metallic	420	420	3.5	3.5	420	420	3.5	3.5

FACILITY PERMIT TO OPERATE
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APPENDIX B: RULE EMISSION LIMITS
[RULE 1107 01-06-2006]

VOC LIMITS
Less Water and Less Exempt Compounds
Effective Dates, cont.

Coating	Air-Dried				Baked			
	gm/l		lb/gal		gm/l		lb/gal	
	Current	7/1/07	Current	7/1/07	Current	7/1/07	Current	7/1/07
Extreme Performance	420	420	3.5	3.5	360	360	3.0	3.0
Prefabricated Architectural One-Component	420	275	3.5	2.3	275	275	2.3	2.3
Prefabricated Architectural Multi-Component	420	340	3.5	2.8	275	275	2.3	2.3
Touch Up	420	420	3.5	3.5	360	360	3.0	3.0
Repair	420	420	3.5	3.5	360	360	3.0	3.0
Silicone Release	420	420	3.5	3.5	420	420	3.5	3.5
High-Performance Architectural	420	420	3.5	3.5	420	420	3.5	3.5
Camouflage	420	420	3.5	3.5	420	420	3.5	3.5
Vacuum-Metalizing	420	420	3.5	3.5	420	420	3.5	3.5
Mold-Seal	420	420	3.5	3.5	420	420	3.5	3.5
High-Temperature	420	420	3.5	3.5	420	420	3.5	3.5
Electric-Insulating Varnish	420	420	3.5	3.5	420	420	3.5	3.5
Pan Backing	420	420	3.5	3.5	420	420	3.5	3.5
Pretreatment Coatings	420	420	3.5	3.5	420	420	3.5	3.5

APPENDIX B: RULE EMISSION LIMITS
[RULE 1107 01-06-2006]

(2) A person shall not use VOC-containing materials which have a VOC content of more than 200 grams per liter of material for stripping any coating governed by this rule.

FACILITY PERMIT TO OPERATE
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APPENDIX B: RULE EMISSION LIMITS
[RULE 1113 07-13-2007]

(1) Except as provided in paragraphs (c)(2), (c)(3), (c)(4), and specified coatings averaged under (c)(6), no person shall supply, sell, offer for sale, manufacture, blend, or repackage any architectural coating for use in the District which, at the time of sale or manufacture, contains more than 250 grams of VOC per liter of coating (2.08 pounds per gallon), less water, less exempt compounds, and less any colorant added to tint bases, and no person shall apply or solicit the application of any architectural coating within the District that exceeds 250 grams of VOC per liter of coating as calculated in this paragraph.

(2) Except as provided in paragraphs (c)(3), (c)(4), and designated coatings averaged under (c)(6), no person shall supply, sell, offer for sale, manufacture, blend, or repackage, for use within the District, any architectural coating listed in the Table of Standards which contains VOC (excluding any colorant added to tint bases) in excess of the corresponding VOC limit specified in the table, after the effective date specified, and no person shall apply or solicit the application of any architectural coating within the District that exceeds the VOC limit as specified in this paragraph. No person shall apply or solicit the application within the District of any industrial maintenance coatings, except anti-graffiti coatings, for residential use or for use in areas such as office space and meeting rooms of industrial, commercial or institutional facilities not exposed to such extreme environmental conditions described in the definition of industrial maintenance coatings; or of any rust-preventative coating for industrial use, unless such a rust preventative coating complies with the Industrial Maintenance Coating VOC limit specified in the Table of Standards.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1113 07-13-2007]
TABLE OF STANDARDS
VOC LIMITS

Grams of VOC Per Liter of Coating, Less Water and Less Exempt Compounds

COATING CATEGORY	Ceiling Limit*	Current Limit	Effective Date					
			1/1/03	1/1/04	1/1/05	7/1/06	7/1/07	7/1/08
Bond Breakers	350							
Clear Wood Finishes	350					275		
Varnish	350					275		
Sanding Sealers	350					275		
Lacquer	680	550			275			
Clear Brushing Lacquer	680				275			
Concrete-Curing Compounds	350						100	
Concrete-Curing Compounds For Roadways and Bridges**	350							
Dry-Fog Coatings	400						150	
Fire-Proofing Exterior Coatings	450	350						
Fire-Retardant Coatings***								
Clear	650							
Pigmented	350							
Flats	250	100						50
Floor Coatings	420		100			50		
Graphic Arts (Sign) Coatings	500							
Industrial Maintenance (IM) Coatings	420			250		100		
High Temperature IM Coatings			420					
Zinc-Rich IM Primers	420		340			100		
Japans/Faux Finishing Coatings	700	350						
Magnesite Cement Coatings	600	450						
Mastic Coatings	300							
Metallic Pigmented Coatings	500							
Multi-Color Coatings	420	250						
Nonflat Coatings	250		150			50		

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1113 07-13-2007]

COATING CATEGORY	Ceiling Limit*	Current Limit	Effective Date					
			*1/1/03	1/1/04	1/1/05	7/1/06	7/1/07	7/1/08
Nonflat High Gloss	250		150				50	
Pigmented Lacquer	680	550			275			
Pre-Treatment Wash Primers	780		420					
Primers, Sealers, and Undercoaters	350		200			100		
Quick-Dry Enamels	400		250			150	50	
Quick-Dry Primers, Sealers, and Undercoaters	350		200			100		
Recycled Coatings			250					
Roof Coatings Roof Coatings, Aluminum	300 500		250		50 100			
Roof Primers, Bituminous	350		350					
Rust Preventative Coatings	420		400			100		
Shellac Clear Pigmented	 730 550							
Specialty Primers	350					250	100	
Stains Stains, Interior	350 250		250				100	
Swimming Pool Coatings Repair Other	 650 340		340					
Traffic Coatings	250	150					100	
Waterproofing Sealers	400		250			100		
Waterproofing Concrete/Masonry Sealers	400					100		
Wood Preservatives Below-Ground Other	 350 350							

* The specified limits remain in effect unless revised limits are listed in subsequent columns in the Table of Standards.

** Does not include compounds used for curbs and gutters, sidewalks, islands, driveways and other miscellaneous concrete areas.

*** The Fire-Retardant Coating category will be eliminated on January 1, 2007 and subsumed by the coating category for which they are formulated.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1113 07-13-2007]

TABLE OF STANDARDS (cont.)
VOC LIMITS

Grams of VOC Per Liter of Material

COATING	Limit
Low-Solids Coating	120

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1113 09-06-2013]

(1) Except as provided in paragraphs (c)(3), (c)(4), and designated coatings averaged under (c)(6), no person shall supply, sell, offer for sale, market, manufacture, blend, repackage, apply, store at a worksite, or solid the application of any architectural coating within in the District:

(A) That is listed in the Table of Standards 1 and contains VOC (exclusing any colorant added to tint bases) in excess of the corresponding VOC limit specified in the table, after the effective date specified; or

(B) That is not listed in the Table of Standards 1, and contains VOC (excluding any colorant added to tint bases) in excess of 250 grams of VOC per liter of coating (2.08 pounds per gallon), less water, less exempt compounds, until January 1, 2014, at which time the limit drops to 50 grams of VOC per liter of coating, less water, less exempt compounds (0.42 pounds per gallon).

(2) No person within the District shall add colorant at the point of sale that is listed in the Table of Standards 2 and contains VOC in excess of the corresponding VOC limit specified in the Table of Standards 2, after the effective date specified.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1113 09-06-2013]

TABLE OF STANDARDS 1
VOC LIMITS

Grams of VOC Per Liter of Coating, Less Water and Less Exempt Compounds

COATING CATEGORY	Ceiling Limit[1]	Current Limit[2]	Effective Date		
			7/1/08	1/1/12	1/1/14
Bond Breakers		350			
Clear Wood Finishes		275			
Varnish	350	275			
Sanding Sealers	350	275			
Lacquer		275			
Concrete-Curing Compounds		100			
Concrete-Curing Compounds For Roadways and Bridges[3]		350			
Concrete Surface Retarder		250			50
Driveway Sealer		100		50	
Dry-Fog Coatings		150			50
Faux Finishing Coatings					
Clear Topcoat		350		200	100
Decorative Coatings		350			
Glazes		350			
Japan		350			
Trowel Applied Coatings		350		150	50
Fire-Proofing Coatings		350			150
Flats	250	50	50		
Floor Coatings	100	50			
Form Release Compound		250			100
Graphic Arts (Sign) Coatings		500			150
Industrial Maintenance (IM) Coatings	420	100			
High Temperature IM Coatings		420			
Non-SacrificialAnti-Graffiti Coatings		100			
Zinc-Rich IM Primers		100			
Magnesite Cement Coatings		450			
Mastic Coatings		300			100
Metallic Pigmented Coatings	500	500			150
Multi-Color Coatings		250			
Nonflat Coatings	150	50			
Pre-Treatment Wash Primers		420			
Primers, Sealers, and Undercoaters		100			
Reactive Penetrating Sealers		350			

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1113 09-06-2013]

Recycled Coatings		250			
Roof Coatings		50			
Roof Coatings, Aluminum		100			
Roof Primers, Bituminous		350			
Rust Preventative Coatings	400	100			
Sacrificial Anti-Graffiti Coatings		100		50	
Shellac					
Clear		730			

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1113 09-06-2013]

COATING CATEGORY	Ceiling Limit[1]	Current Limit[2]	Effective Date		
			7/1/08	1/1/12	1/1/14
Pigmented		550			
Specialty Primers		100			
Stains	350	100			
Stains, Interior	250	250			
Stone Consolidant		450			
Swimming Pool Coatings					
Repair		340			
Other		340			
Traffic Coatings		100			
Waterproofing Sealers		100			
Waterproofing Concrete/Masonry Sealers		100			
Wood Preservatives		350			

1 The specified ceiling limits are applicable to products sold under the Averaging Compliance Option.

2 The specified limits remain in effect unless revised limits are listed in subsequent columns in the Table of Standards.

3. Does not include compounds used for curbs and gutters, sidewalks, islands, driveways and other miscellaneous concrete areas.

TABLE OF STANDARDS 1 (cont.)
VOC LIMITS

Grams of VOC Per Liter of Material

COATING	Limit
Low-Solids Coating	120

TABLE OF STANDARDS 2
VOC LIMITS FOR COLORANTS

Grams of VOC Per Liter of Colorant
Less Water and Less Exempt Compounds

COLORANT ADDED TO	Limit[4]
Architectural Coatings, excluding IM Coatings	50
Solvent-Based IM	600
Waterborne IM	50

4. Effective January 1, 2014.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1168 01-07-2005]

(1) Unless otherwise specified in paragraph (c)(2), a person shall not apply any adhesives, adhesive bonding primers, adhesive primers, or any other primer which have a VOC content in excess of 250 g/L less water and less exempt compounds.

(2) A person shall not apply adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primer which have a VOC content in excess of the limits specified below:

VOC Limit*, Less Water and Less Exempt Compounds in Grams per Liter

Architectural Applications	Current VOC Limit*
Indoor Carpet Adhesives	50
Carpet Pad Adhesives	50
Outdoor Carpet Adhesives	150
Wood Flooring Adhesive	100
Rubber Floor Adhesives	60
Subfloor Adhesives	50
Ceramic Tile Adhesives	65
VCT and Asphalt Tile Adhesives	50
Dry Wall and Panel Adhesives	50
Cove Base Adhesives	50
Multipurpose Construction Adhesives	70
Structural Glazing Adhesives	100
Single Ply Roof Membrane Adhesives	250

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1168 01-07-2005]

Specialty Applications	VOC Limits and Effective Dates**			
	Current VOC Limit*	1-1-05	7-1-05	1-1-07
PVC Welding	510			
CPVC Welding	490			
ABS Welding	400		325	
Plastic Cement Welding	350	250		
Adhesive Primer for Plastic	650		550	
Computer Diskette Manufacturing	350			
Contact Adhesive	80			
Special Purpose Contact Adhesive	250			
Tire Retread	100			
Adhesive Primer for Traffic Marking Tape	150			
Structural Wood Member Adhesive	140			
Sheet Applied Rubber Lining Operations	850			
Top and Trim Adhesive	540			250

** The specified limits remain in effect unless revised limits are listed in subsequent columns.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1168 01-07-2005]

For adhesives, adhesive bonding primers, or any other primer not regulated by the above two tables and applied to the following substrates, the following limits shall apply:

Substrate Specific Applications	Current VOC Limit*
Metal to Metal	30
Plastic Foams	50
Porous Material (except wood)	50
Wood	30
Fiberglass	80

If an adhesive is used to bond dissimilar substrates together the adhesive with the highest VOC content shall be allowed.

Sealants	Current VOC Limit*
Architectural	250
Marine Deck	760
Nonmembrane Roof	300
Roadway	250
Single-Ply Roof Membrane	450
Other	420

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1168 01-07-2005]

Sealant Primers	Current VOC Limit*
Architectural	
Non Porous	250
Porous	775
Modified Bituminous	500
Marine Deck	760
Other	750

* For low-solid adhesives or sealants the VOC limit is expressed in grams per liter of material as determined in paragraph (b)(32); for all other adhesives and sealants, VOC limits are expressed as grams of VOC per liter of adhesive or sealant less water and less exempt compounds as determined in paragraph (b)(31).

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1171 02-01-2008]

(1) Solvent Requirements

A person shall not use a solvent to perform solvent cleaning operations unless the solvent complies with the applicable requirements set forth below:

SOLVENT CLEANING ACTIVITY	CURRENT LIMITS* VOC g/l (lb/gal)	EFFECTIVE 1/1/2008* VOC g/l (lb/gal)	EFFECTIVE 1/1/2009 VOC g/l (lb/gal)
(A) Product Cleaning During Manufacturing Process Or Surface Preparation For Coating, Adhesive, Or Ink Application			
(i) General	25 (0.21)		
(ii) Electrical Apparatus Components & Electronic Components	100 (0.83)		
(iii) Medical Devices & Pharmaceuticals	800 (6.7)		
(B) Repair and Maintenance Cleaning			
(i) General	25 (0.21)		
(ii) Electrical Apparatus Components & Electronic Components	100 (0.83)		

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1171 02-01-2008]

SOLVENT CLEANING ACTIVITY (cont.)	CURRENT LIMITS* VOC g/l (lb/gal)	EFFECTIVE 1/1/2008* VOC g/l (lb/gal)	EFFECTIVE 1/1/2009 VOC g/l (lb/gal)
(iii) Medical Devices & Pharmaceuticals			
(A) Tools, Equipment, & Machinery	800 (6.7)		
(B) General Work Surfaces	600 (5.0)		
(C) Cleaning of Coatings or Adhesives Application Equipment	25 (0.21)		
(D) Cleaning of Ink Application Equipment			
(i) General	25 (0.21)		
(ii) Flexographic Printing	25 (0.21)		
(iii) Gravure Printing			
(A) Publication	100 (0.83)		
(B) Packaging	25 (0.21)		
(iv) Lithographic (Offset) or Letter Press Printing			
(A) Roller Wash, Blanket Wash, & On-Press Components			
(I) Newsprint	100 (0.83)		

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1171 02-01-2008]

SOLVENT CLEANING ACTIVITY (cont.)	CURRENT LIMITS* VOC g/l (lb/gal)	EFFECTIVE 1/1/2008* VOC g/l (lb/gal)	EFFECTIVE 1/1/2009 VOC g/l (lb/gal)
(II) Other Substrates	500 (4.2)	100 (0.83)	
(B) Removable Press Components	25 (0.21)		
(v) Screen Printing	500 (4.2)	100 (0.83)	
(vi) Ultraviolet Ink/ Electron Beam Ink Application Equipment (except screen printing)	650 (5.4)	650 (5.4)	100 (0.83)
(vii) Specialty Flexographic Printing	100 (0.83)		
(E) Cleaning of Polyester Resin Application Equipment	25 (0.21)		

* The specified limits remain in effect unless revised limits are listed in subsequent columns.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1171 05-01-2009]

(1) Solvent Requirements

A person shall not use a solvent to perform solvent cleaning operations unless the solvent complies with the applicable requirements set forth below:

SOLVENT CLEANING ACTIVITY	CURRENT LIMITS* VOC g/l (lb/gal)	EFFECTIVE 1/1/2010 VOC g/l (lb/gal)
(A) Product Cleaning During Manufacturing Process Or Surface Preparation For Coating, Adhesive, Or Ink Application		
(i) General	25 (0.21)	
(ii) Electrical Apparatus Components & Electronic Components	100 (0.83)	
(iii) Medical Devices & Pharmaceuticals	800 (6.7)	
(B) Repair and Maintenance Cleaning		
(i) General	25 (0.21)	
(ii) Electrical Apparatus Components & Electronic Components	100 (0.83)	

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1171 05-01-2009]

	CURRENT LIMITS*	EFFECTIVE 1/1/2010
SOLVENT CLEANING ACTIVITY (cont.)	**VOC g/l (lb/gal)**	**VOC g/l (lb/gal)**
(iii) Medical Devices & Pharmaceuticals		
(A) Tools, Equipment, & Machinery	800 (6.7)	
(B) General Work Surfaces	600 (5.0)	
(C) Cleaning of Coatings or Adhesives Application Equipment	25 (0.21)	
(D) Cleaning of Ink Application Equipment		
(i) General	25 (0.21)	
(ii) Flexographic Printing	25 (0.21)	
(iii) Gravure Printing		
(A) Publication	100 (0.83)	
(B) Packaging	25 (0.21)	
(iv) Lithographic (Offset) or Letter Press Printing		
(A) Roller Wash, Blanket Wash, & On-Press Components	100 (0.83)	

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1171 05-01-2009]

	CURRENT LIMITS*	EFFECTIVE 1/1/2010
SOLVENT CLEANING ACTIVITY (cont.)	VOC g/l (lb/gal)	VOC g/l (lb/gal)
(B) Removable Press Components	25 (0.21)	
(v) Screen Printing	100 (0.83)	
(vi) Ultraviolet Ink/ Electron Beam Ink Application Equipment (except screen printing)	650 (5.4)	100 (0.83)
(vii) Specialty Flexographic Printing	100 (0.83)	
(E) Cleaning of Polyester Resin Application Equipment	25 (0.21)	

* The specified limits remain in effect unless revised limits are listed in subsequent columns.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 404 02-07-1986]

The operator shall not discharge into the atmosphere from this equipment, particulate matter in excess of the concentration at standard conditions, shown in Table 404(a). Where the volume discharged is between figures listed in the Table, the exact concentration permitted to be discharged shall be determined by linear interpolation.

For the purposes of this rule, emissions shall be averaged over one complete cycle of operation or one hour, whichever is the lesser time period.

TABLE 404(a)

Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter" Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions		Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions	
Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot	Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot
25 or less	883 or less	450	0.196	900	31780	118	0.0515
30	1059	420	.183	1000	35310	113	.0493
35	1236	397	.173	1100	38850	109	.0476
40	1413	377	.165	1200	42380	106	.0463
45	1589	361	.158	1300	45910	102	.0445

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 404 02-07-1986]

Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter"Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions		Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions	
Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot	Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot
50	1766	347	.152	1400	49440	100	.0437
60	2119	324	.141	1500	52970	97	.0424
70	2472	306	.134	1750	61800	92	.0402
80	2825	291	.127	2000	70630	87	.0380
90	3178	279	.122	2250	79460	83	.0362
100	3531	267	.117	2500	88290	80	.0349
125	4414	246	.107	3000	105900	75	.0327
150	5297	230	.100	4000	141300	67	.0293
175	6180	217	.0947	5000	176600	62	.0271
200	7063	206	.0900	6000	211900	58	.0253
250	8829	190	.0830	8000	282500	52	.0227
300	10590	177	.0773	10000	353100	48	.0210
350	12360	167	.0730	15000	529700	41	.0179
400	14130	159	.0694	20000	706300	37	.0162
450	15890	152	.0664	25000	882900	34	.0148

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 404 02-07-1986]

Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter"Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions		Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions	
Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot	Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot
500	17660	146	.0637	30000	1059000	32	.0140
600	21190	137	.0598	40000	1413000	28	.0122
700	24720	129	.0563	50000	1766000	26	.0114
800	28250	123	.0537	70000 or more	2472000 or more	23	.0100

Orange County Sanitation District
Boiler (Reclamation Plant No. 2)
P 15308

ROUTING RECORD			
DATE	FROM	TO	ACTION
SEP 01 2015	GL	DS	To Assign
9/2/15	DS	MW	Evaluate
12/3/15	MW	AV	Proof
12/9/15	AV	MAC	REVIEW
12-9-15	MAC	MW	TYPOS
12/10/15	MW	MC	Revision
12-10-15	MAC	DS	REVIEWED
12/22/15	DS	MW	QUESTIONS
12/22/15	MW	DS	Revised
REFERENCE TO OTHER RECORDS INCLUDING VARIANCES			

12/22/15 DS MW EDIT
12/23/15 MW DS Revised
12/23/15 DS GL Logout

ROUTING RECORD			
DATE	FROM	TO	ACTION
DEC 23 2015	GL	MW	Bill/memo sent
1-13-16	MW	GL	Bill
2-1-16	GL		Scanned
REFERENCE TO OTHER RECORDS INCLUDING VARIANCES			

South Coast Air Quality Mangement District

Source Test Engineering

PERFORMANCE TEST DATABASE

STID: P 15308 ☐ PRIORITY PROTOCOL ☐ PRIORITY REPORT

COMPANY: Orange County Sanitation District
COID: 29110
EQUIPMENT: Boiler (Reclamation Plant No. 2)
APPL#: 545004, 545005
EQUIPMENT ADDRESS: 22212 BROOKHURST ST
EQUIPMENT CITY: HUNTINGTON BEACH
FAC. CONTACT: Vlad Kogan Phone 714-593-7085

REQUESTOR: Gaurang Rawal **Phone:** 2543

TESTFIRM: Accurate Environmental Services, Inc.
CONTACT: Wally Moe Phone 714-379-9200

DATECOND:
Prot. Rec'd Date: 8/28/2015
Rept. Rec'd Date:
Prot Requested by: 9/30/2015
Rept Requested by:

Evaluation Hours

Protocol	Report
7	

☐ Retain Hardcopy

Check one of the following:

☐ Upload e-file to Onbase instead of hardcopy
☐ Scan hardcopy, discard e-file
☐ N/A, No e-file attached

Pollutant(s) To Be Tested:	Applicable Rule/Permit Condition	Allowed Conc.	Allowed Mass Emis.
CO	Cond. 10, 12	Confirm ppmv, @3%O2	90.6 lbs/day (DG)
NOx, NO/NO2	Cond. 10, 12	Confirm ppmv, @3%O2	5.52 lbs/day (DG), 3.1 lbs/day (NG)
Organics		PPMV (DG)	
Other	HHV, Cond. 8		
PM	Cond.12	gr/scf	
PM10	Cond. 10		3.1 lbs/day
SOx	Cond. 10		1.4 lbs/day
Total Sulfur (TS)	R 431.1, Cond. 12	Confirm reported results	
VOC	Cond. 10		2.6 lbs/day

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

M E M O R A N D U M

DATE: December 4, 2015

TO: Andrew Lee

FROM: Rudy Eden D. S. for Rudy Eden

SUBJECT: Evaluation of Source Test Protocol:
(Requested by Gaurang Rawal, August 26, 2015)

IDENTIFICATION: **(Application No. 545004, 545005)** **(Facility ID No. 29110)**
COMPANY: **Orange County Sanitation District**
EQUIPMENT: **Boiler, 10.2 MM Btu/hr, Model SLE-05-250**

TEST LOCATION: **22212 Brookhurst Street, Huntington Beach, CA 92646**

TEST DATE: **10 Day Notice Required**

REFERENCE: **P15308** (STE Source Test File)

Source Test Engineering has completed the evaluation of the subject source test protocol for testing and has concluded that it is:

CONDITIONALLY ACCEPTABLE

Some of the applicable Rules and/or Permit Conditions may not have been acceptably addressed, and/or the proposed sampling locations, and/or the proposed sampling and analytical methods will need to be modified before testing can commence. Refer to the attached evaluation for a complete discussion concerning the modifications that must be implemented into this existing source test protocol.

The attached evaluation has not been forwarded to the facility or the source testing firm. It is the responsibility of the requestor to review the attached evaluation and forward it to the parties involved, if you concur with our findings. If there are any questions, please contact Mike Wickson at Ext. 2258.

DS:MDW

Attachment
cc: Dipankar Sarkar
Gaurang Rawal

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
MONITORING & ANALYSIS DIVISION * SOURCE TEST ENGINEERING BRANCH

SOURCE TEST PROTOCOL EVALUATION

S/T ID: **P15308**

SCAQMD ID: *FACILITY ID NO.* **29110** *A/N:* **545004, 545005**
COMPANY: **Orange County Sanitation District**
EQUIPMENT: **Boiler, 10.2 MM Btu/hr, Model SLE-05-250**

TEST LOCATION: **22212 Brookhurst Street, Huntington Beach, CA 92646**
TEST DATE: **10 Day Notice Required**

REQUESTED BY: **Gaurang Rawal (Memo Dated August 26, 2015)**
TYPE OF TEST: **PERFORMANCE/COMPLIANCE PROTOCOL** *DOCUMENT DATE:* **July 20, 2015**
REASON FOR TEST: *(TESTING SUBJECT TO THE FOLLOWING RULE, PERMIT, OR SPECIFIED CONDITIONS):*
- Conditions 8, 10, 12
- Rule 431.1

REQUESTED EVAL: **NOx, CO, VOC, PM, SOx/TRS, Speciated Organics**
TEST FIRM: **Accurate Environmental Services, Inc.**

STE.EVALUATOR: **Mike Wickson** *EXT:* **2258** *REVIEW DATE:* **December 4, 2015**

OVERVIEW OF EVALUATION:

OVERALL CONFIDENCE IN SOURCE TEST PROTOCOL:

☐ **ACCEPTABLE** ☒ **CONDITIONALLY ACCEPTABLE** ☐ **UNACCEPTABLE** ☐ **NOT REVIEWED**

DEFICIENCIES IDENTIFIED:

- Deficiency noted concerning proposed **NOx, CO, PM, H_2S/TRS, Speciated Organics, VOC** emission testing.
- Deficiency noted concerning proposed sampling location(s) and/or representativeness with respect to process and required testing.
- Deficiency noted concerning proposed stack velocity and/or fuel flow measurements.

MODIFICATIONS OR REMEDIAL MEASURES REQUIRED:

- This source test protocol must be modified to address the deficiencies described in the following section of this evaluation; the source testing which incorporates these modifications may proceed without further discussion.

(REFER TO NEXT SECTION FOR COMPLETE DISCUSSION OF THESE DEFICIENCIES)

SPECIFIC REQUIREMENTS

This source test protocol has been reviewed by the Source Test Engineering Branch staff. The following item(s) specifically explain the required modifications to the existing source test protocol which must be implemented, or items requiring further discussion or explanation, before testing can proceed:

- ☒ Completeness of Application/Protocol/Report
- ☒ Representativeness of Data & Process
- ☒ Rule/Permit Fulfillment
- ☒ Sampling & Analytical Methods
- ☒ Quality Assurance
- ☒ Calculations

COMPLETENESS OF PROTOCOL

- Mike Wickson shall be notified of the scheduled test dates and changes by email to mwickson@aqmd.gov or telephone at 909-396-2258 at least 10 days in advance.

- Each page of the final test report (including raw analytical and field data, as well as other third party reports) must have a unique and sequential **page number** which can be referenced in future correspondences.

- The percentage of Digester gas (DG) and Natural Gas (NG) during each run shall be reported in the final report and a statement provided on how these ratios compare to normal operations.

- Field data sheets shall be provided for fuel consumption of both DG and NG. A diagram showing the fuel routing and meter test locations is desirable to ensure the tester is sampling DG lines as well as NG lines separately.

- Permit condition number 10 lists concentration and mass emission limits for SOx. The tester does not propose to sample SOx for either NG or DG firing. The permit engineer may wish to require the additional testing for SOx.

REPRESENTATIVENESS OF DATA & PROCESS

- PM_{10} emissions are to be estimated using total PM Methods. Actual PM_{10} emissions may be overstated. Therefore, these emission data should not be used for banking or offset purposes in the future.

- SCAQMD Method 5.2 shall be used in place of the proposed Method 5.1.

- Individual fuel rates shall be provided where multiple fuels are combusted as well as total heat input rates.

SPECIFIC REQUIREMENTS

- As per permit condition 8, maximum, minimum, and average load testing is also required for PM and VOC testing and must be documented and explained in the final report. Normal load testing is appropriate where the permit conditions are silent for other pollutants and tests.

RULE/PERMIT FULFILLMENT

Testing must be conducted pursuant to the following Rule/Permit Conditions:

- P/C conditions 8, 10, 12
- Rule 431.1

All of the above requirements have been addressed in this protocol and are satisfactory as proposed, or as modified and discussed in this review. The source test report emission information must also be formatted to satisfy the above Rule/Permit Conditions.

SAMPLING & ANALYTICAL METHODS

- Fuel usage is to be taken for calculating inlet-based emissions. The following information must be recorded during testing and provided in the final source test report:
  - The fuel meter must be dedicated exclusively to that source or verified that only that source is operating during testing.
  - The fuel meter must be clearly identified and documented as to type (turbine, orifice, volumetric, etc.), make, model, serial no., min/max flow.
  - A current meter calibration certificate or "meter proof" relative to a NIST traceable standard, or SCAQMD equivalent, or District Method 1-4 Reference Method Velocity/Flowrate comparison (3-Run RAA).
  - Fuel meter corrections to standard temperature and pressure, and other corrections, if applicable, must be clearly shown.
  - If the fuel meter is also going to be used for stack velocity/flowrate determination by standard F-Factor calculation, then the fuel source must be of constant heating value and only standard HHV (1050 Btu/scf) and Fd_{O2} (8710 dscf/mmBtu) may be applied.

- Samples for total sulfur compounds using SCAQMD Method 307-91 are to be collected in Tedlar bags with plastic (non-metal) fittings. Analysis must be completed within 24 hours of sampling. This may be increased to 7 days when using treated canisters.

- Total PM using Method 5.2 is required and may also be used as a substitute for the Method 4.1 moisture data. The one hour standard run length may not be enough to

collect 5 mg of sample and a four hour test is recommended. Lab analysis should not dilute the sample to under the 5 mg confidence level.

- All particulate sampling analyses must include analysis of entire sample – not aliquots or fractions of the total sample. Particulate analysis samples may not be split for other analyses of soluble substances, etc.

- CARB Method 430 is an approved method for aldehydes and shall be used. However there are known interferences associated with **nitrogen oxides** present in combustion equipment that may make this method inappropriate for this boiler. This may be an issue if the NO_x emissions exceed 50 ppm and the test company must address this concern by providing adequate and detailed proof via appropriate QA tests (spiking) showing that the reported results were not detrimentally affected. If the NO_x levels are very high, the use of EPA Method 323 may be considered as the best method available substitute for Method 430. However, prior to its use, the SCAQMD shall be consulted.

- A cyclonic flow check is required at each load tested.

- Multi-pollutant stratification tests must be done at the stack outlet where NO_x is to be measured. This is especially important downstream of a catalytic device and in horizontal ducts. If stratified, the complete set of traverse points (per Method 1.1) shall be used to acquire a representative sample during the Method 100.1 testing. Copies or original DAS/SC readings for the reference method are to be included with the range values and trace lines of the analyzers clearly presented. All tests must be clearly documented, including delineation.

- Oxygen levels shall not be used for a stratification check. This is inappropriate for trace ppm levels pollutants. NO_x or other similar trace pollutant must be checked directly.

- VOC analysis must include assay for CO, CO_2, and oxygen as a QA measure.

- A Standard pitot tube may be required instead of a S-type pitot tube if outlet velocities fall below 0.05 in. W.C., and may be used provided it meets the specifications stated in SCAQMD Method 2.1. Whenever a standard pitot tube is used to perform a traverse, adequate proof must be furnished that the openings of the Pitot tube have not plugged up during the traverse period. The recording device must also be of increased precision. Use of electronic manometers is allowed subject to calibration reports and test procedures being provided, and proof of following such procedures, is supplied in the final report.

- Particulate sampling in exhaust streams with appreciable amounts of sulfur compounds (e.g., sulfuric acid) may require additional procedures/analyses to assure accurate reporting of total and solid particulates, since some forms of sulfur are

defined as particulates. In this case, the preferred sampling protocol is a District Method 5.2[1] particulate sampling train with a heated probe/heated filter and a companion Method 6.1 SOx train. The filter/probe temperature influences total/solid particulate determination, depending upon the rule application:

- For District Rule 404/405 compliance, the probe/filter temperature is maintained between 180-200^{0}F and liquid sulfuric acid (defined as particulate) and solid particulates are collected in the front half (probe+filter) of the sampling train with appropriate adjustments for total/solid particulate reporting. The back-half impinger train catch is also counted for total/solid particulate reporting after appropriate adjustments. If the probe/filter temperatures are maintained above 200^{0}F, adjustments to certain particulate fractions are not allowed which can bias particulate reporting high, unless used in conjunction with the Method 6.1 SOx train results.
- For EPA/District REG IX New Source Compliance Standards (NSPS) particulate testing, the filter temperature is maintained at about 250^{0}F and only the front-half particulate collection (probe and filter) are counted. If the probe/filter temperatures are maintained between 180-200^{0}F, adjustments to front-half particulate fractions are not allowed which can bias particulate reporting high.

- Flow rate and concentration testing shall be performed simultaneously. Alternatively a reference point velocity may be used to establish the temporal flow changes, if the stack composition and velocity profile can be shown as stable.

- The following attachments highlight what the District requires whenever District Method 100.1 testing is specified or utilized:

ATTACHMENT A	**GENERAL CONTINUOUS GAS MONITORING REQUIREMENTS**
ATTACHMENT B	**SAMPLE CONDITIONING REQUIREMENTS FOR METHOD 100.1**
ATTACHMENT C	**NO_2 TO NO CONVERSION TEST PROCEDURE**

QUALITY ASSURANCE

- A copy of this test protocol evaluation shall be included in the final report.

- All applicable pieces of source test and process equipment used directly or indirectly for measurement of source test emission data must be calibrated, and the calibrations included in the final report (this includes gas meters, Pitot tubes, pressure gages, nozzles, temperature devices, calibration gases, fuel usage meters, totalizers, etc.).

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[1] Use of District Method 5.1 particulate sampling train ("wet impingement" without up-front heated filter) is not recommended in high sulfur situations unless used in conjunction with a Method 6.1 SOx train.

- Where appropriate, field blanks, reagent blanks and recovery spikes must be performed and the information submitted with the source test report. Only reagent blanks may be deducted for emission calculations.

- All raw data field data sheets, as well as recorder strip charts, must accompany the certification test report.

- Where laboratory instrument analysis is required, instrument raw stripcharts, calibrations and standards, and limit of detection must be included in the source test report. This also includes equipment transfer and "chain-of-custody" form clearly describing all equipment and laboratory ID numbers, dates and times, required analysis, and the signature/initials of persons involved in transfers. TCA analyses must also include trap burn-outs from previous test, if applicable.

CALCULATIONS

- All calculations concerning intermediate process, emission, and/or flow information must be shown and included in the final report. This also applies to calculations concerning laboratory analyses emission calculations.

FINAL TEST REPORT

The final Source Test Report must include the following information:

1. Signed "Statement of Non-Conflict as an Independent Laboratory" (District Rule 304(k)) and CARB Lab Approval or District Lab Approval Program (LAP) document (if applicable).

2. A brief opening statement identifying the Facility I.D., the equipment A/N, P/O, or Device I.D. and the reason(s) for testing (applicable rules permit conditions, etc.). Include a copy of the Permit-to-Construct, Permit-to-Operate, or Facility Permit. Also identify the test dates, the personnel on hand for the test, names, titles and phone numbers of responsible test firm and facility personnel.

3. A summary of the Source Test results, including applicable rules and permit conditions (show allowable standards) and source test data properly formatted to satisfy these requirements.

4. A brief process description. Indicate equipment operation during testing; as well as any other information which may influence the final report.

5. A "self-critique" of anything that transpired during the test which you feel is useful in the interpretation of the test results.

6. A simple schematic diagram of the process, showing the sampling location, with respect to the upstream and downstream flow disturbances. Also include a cross-sectional diagram of the stack or duct at the sampling location, depicting the sampling points with respect to compass direction.

7. The sampling and analytical procedures. Be specific about all aspects of sampling and analysis. Include diagrams of test equipment and methods.

8. Complete raw field data, including production data indicative of the testing interval, lab analyses, and the test results (show all calculations).

9. Current calibration data regarding all sampling and measuring equipment utilized during testing. This also includes all laboratory calibrations, as well as facility fuel meter calibrations. (see District Source Testing Manual, Chapter III or "Quality Assurance Handbook For Air Pollution Measurement Systems", Vol..III, U.S. EPA-600/4-77-0276).

ATTACHMENT A

GENERAL CONTINUOUS GAS MONITORING REQUIREMENTS

(600perf_pro : REV 12/10/2015 1:36.00 PM)

The District requires continuous gas monitoring equipment employing sample extraction and conditioning, and electronic detection, to be conducted strictly according to District Method 100.1, with the emphasis upon representativeness, documentation, and quality assurance. This includes, in part:

1. Gas analyzers must meet minimum acceptable standards for method of detection, sensitivity, noise, precision, linearity, and interference (see TABLE 100.1-1 for details). Also, the gas sample extraction and conditioning equipment (probe, filter, pump, conditioner, connective plumbing, etc., and data acquisition and logging equipment shall meet minimum acceptable specifications, as described in Method 100.1.

2. It is recommended that the entire sampling system for continuous gas monitoring instruments should be leak checked before and after each test run by evacuating the system to a minimum of 20 in. Hg vacuum, and plugging for a period of 5 minutes. The resultant loss of vacuum can not exceed 1 in. Hg during this period.

3. Calibration of all analyzers must be accomplished at zero, mid span (40-60% of full scale range), and high span (80-95% of full scale range). The lowest practicable range should be selected for monitoring, so that the measured emission values are within 20-95% of the range. If a significant amount of the data are outside of this range, the data may be rejected, depending upon the application.

4. The calibration gases must be certified according to EPA Protocol Number 1, or certified to an analytical accuracy of ±1% and be NIST traceable (except cal gases used for system bias check), following EPA-600/R93/224, "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards", TABLE 2-2. Superblend or multi-component blend gas recertifications are based upon the individual component(s) with the shortest recertification date.

5. Field calibrations employing gas dilution systems (mass flow or critical orifice) must be performed in accordance with EPA Method 205, "Gas Dilution Verification Protocol", or available "Draft" SCAQMD Method, and supported with appropriate documentation. A 5-point check is required.

6. A calibration error check, and zero/span drift check must be performed before and after each test run. Calibration error must be less than ±2% of the range of measurement for zero, mid, and high range calibration gases. Zero/span drift must be less than ±3% of the range of measurement.

7. A system bias check must be performed before and after each test run by alternately introducing cal gases to the entire sampling system, then to the gas analyzer(s), for comparison. The difference can not exceed ±5% of the analyzer range.

8. Semi-annual analyzer certifications consisting of linearity plot, calibration curve, response time, and interference response must be furnished with the other calibrations to satisfy Q/A documentational requirements.

9. NO_X measurement must be performed in the NO_X mode of the analyzer. An NO_2 to NO converter is required if NO_2 constitutes 5% or more of the total NO_X in the sample stream, or the rule or permit condition requires "NO_X" monitoring. The NO_2 to NO converter must be at least 90% efficient (use the NO_2 to NO converter efficiency procedure). The converter should be high temperature (650°C) stainless steel, if no NH_3 is present. If NH_3 is present in the sample stream, then a low temperature (350°C) molybdenum catalyst must be used in the converter. This check must be done at the beginning of the test.

10. The connective tubing from the probe to the sample conditioner must be heated above the dewpoint and the dewpoint reported. The sample conditioner must be able to maintain a dewpoint temperature of 37°F or less. (Refer to the "Sample Conditioning Requirements for Method 100.1" Addendum, for details)

11. Data recorder resolution must be at least 0.5% of the range of measurement. A data point for each contaminant/diluent monitored must be recorded at least once/minute. Analog chart recorders must have a minimum 10-inch chart width, with 100 minor divisions.

12. All facets of testing must be continuously recorded. This includes the 3-point calibration, system bias, calibration error, and zero/span drift checks, which must precede and conclude each test run.

13. All chart traces, or digital printouts, must be included in the final report and must be clearly identified as to:

    - location/source
    - operator initials
    - date/running times
    - actual test interval
    - contaminant/diluent
    - range changes
    - range of measurement
    - calibrations
    - cal gas concentration/cyl. no.
    - range of calibration

14. When more than one gas trace is shown on a chart, the individual traces must be distinguishable by color coding or some other means (original charts may be submitted, and returned following evaluation). If a gas measurement range has been "offset" from zero, or zero has been "transposed to the right side of the recorder chart, it must be clearly identified. this offset should not be more than 5-small divisions of the chart. This data must be corrected using the ratio of the offset.

15. Gaseous measurements must be conducted a minimum of 15 continuous minutes at each load or specified condition, after the readings have stabilized (RECLAIM reference method sampling requires a minimum of 30 continuous minutes at each load for RATAs). Processes having multiple exhausts exhibiting non-cyclic (i.e. steady- state) characteristics may alternatively be monitored using the above criteria. Otherwise, simultaneous sampling may be required.

16. Sampling locations not meeting the minimum site selection standards for District Method 1 must be tested for absence of stratification. (A gaseous constituent concentration profile differing more than 10% between any two monitoring points within the same cross-sectional plane of a stack or duct indicates stratification.) If stratification is present, and alternate approved site selection or modification is not possible, then special monitoring (see Chapter X of the District Source Testing Manual) will be required.

ATTACHMENT B

ADDENDUM TO "General Continuous Gas Monitoring Requirements"

SAMPLE CONDITIONING REQUIREMENTS FOR METHOD 100.1

For Method 100.1 tests, proper sample conditioning is essential for representative sampling. Sample conditioning includes removal of particulate matter and moisture present in the sample gas stream. The design of the sample conditioning system must be such that during the process of particulate and moisture removal, the pollutants of interest are not also removed from the gas stream. Method 100.1 requires that the tester select a system which will have a minimum "scrubbing" effect. In particular, NO_2 and SO_2 are more susceptible to scrubbing than, for example NO or CO, because of their high solubility in water. Since Method 100.1 is a reference method, it is required that a sample conditioning system cause only minimum loss of these pollutants.

The District recommends a gas sampling system which can be used universally[1] (i.e. under all testing conditions). The set-up includes a heated 1/4-inch stainless steel probe with a 50-80 micron size, sintered 316 stainless steel or ceramic filter at the tip; and a short (not more than 6 feet) heated Teflon line to the sample conditioning system. The temperature of the probe and the Teflon line should be maintained at about 250°F. The conditioning system consists of a pair of standard Greenburg-Smith impingers with the stems cut to about 1-inch length from the top, immersed in a bath containing water and dry ice pellets, and immediately followed by a thermo-electric cooler or permeation drier. The gas temperature at the outlet of the impinger shall be less than 60°F and the gas at the drier outlet shall be maintained at a dew point less than 37°F. If the drier can not be directly connected to the impinger outlet, then a Teflon line heated to 10°F above the impinger outlet gas temperature can be used for connection. Another particulate filter (about 5 microns) should be in the line right after the cooler/drier. All the temperatures should be measured and recorded, preferably on a strip chart recorder. If the moisture content of the exhaust gas is below 5% and the sample gas flow rate is less than 10 liters/minute, the impinger set-up need not be used, as long as no moisture condensation occurs in the system and the conditioned sample is maintained at the required dew point.

PRECAUTIONS: Never allow the water in the impingers to accumulate more than 1/4 of the impinger height. Don't allow the water bath to become frozen around the impingers, or cracking of the glassware may result. Assure that the thermo-electric cooler/permeation drier has adequate design capacity. Follow a good maintenance schedule for the cooler/drier gas conditioning system.

Other systems may be used, upon District approval, emphasizing the requirements that water is removed immediately after separation from the gas stream, and minimal water contact with the gas stream is assured.

1. An example of a non-universally applicable water removal system is based on the refrigerated cooling coil principle. A refrigerated cooling coil system can scrub out a high percentage of water soluble pollutants due to a comparatively long residence time, and intimate contact between the sample gases and the water droplets collected on the inside of the coil. Consequently, it will show a high bias for the CEMS being tested if the sample gas contains a significant amount of NO_2, compared to NOx or SO_2, and therefore it may not be suitable in all cases.

ATTACHMENT C

ADDENDUM TO "General Continuous Gas Monitoring Requirements"

NO_2 TO NO CONVERSION TEST PROCEDURE

(Alternative to O_3 Titration Method-40 CFR 50.1, Appendix F)

1. NO_x Analyzer Requirements

a. Full span range 0-20 ppm or 0-25 ppm
b. Equipped with NO and NO_x modes

2. Auditing Gas Requirements

a. NO_2 in air (or N_2): Use NO_2 in air for a stainless steel converter.
b. Concentration of NO_2: 15 to 18 ppm (C_0, *ppm*)
c. Recertification: An audit gas should be recertified after six months.

3. Calibration Gas Requirements

a. Concentration: NO (17 to 19 ppm) with less than 0.1 ppm NO_2 – High Span
NO (10 to 13 ppm) with less than 0.1 ppm NO_2 – Mid Span
b. Zero Gas: High purity N_2

4. Calibration of Analyzer:

a. Calibrate NO mode with the NO calibration gases.
b. Calibrate NO_x mode with the same gases without any gain adjustment.
b1. If the analyzer is equipped with two independent gain adjusting circuits, skip 4.b., then repeat 4.a. for the NO_x mode.

5. Conversion Efficiency (CE) Test

a. Analyze the audit gas with NO mode. Read and standardize concentration. (C_1, *ppm*)
b. Analyze the audit gas with NO_x mode. Read and standardize concentration. (C_2, *ppm*)

6. Calculation for Conversion Efficiency:

$$\%CE = \frac{|C_2 - C_1|}{C_0} x100$$

7. Criteria for Acceptability of CE

a. $\%CE$ must be larger than 90%.
b. C_1 must be less than 5% of total NO_x (NO + NO_2) in the NO_2 audit gas (Section 2b).

NOTE: NO_2 audit gas concentration of higher value than what is specified in *Section 2.* may be required where NO_2 present in the exhaust gas being measured is greater than 30 ppm. Select the NO_2 gas within 10% of the expected NO_2 concentration in the exhaust.

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Buena Park
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Fountain Valley
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La Habra
La Palma
Los Alamitos
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Orange
Placentia
Santa Ana
Seal Beach
Stanton
Tustin
Villa Park
County of Orange
Costa Mesa Sanitary District
Midway City Sanitary District
Irvine Ranch Water District
Yorba Linda Water District

Orange County Sanitation District
10844 Ellis Avenue, Fountain Valley, CA 92708
714.962.2411 • www.ocsewers.com

August 24, 2015

Charles Tupac, Air Quality Analysis & Compliance Supervisor
Toxics and Waste Management
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, CA 91765-4182

SUBJECT: Submittal of Source Test Protocol for Modified Cleaver Brooks Boilers (A/Nos. 545004 and 545005) located at Orange County Sanitation Districts (OCSD) Treatment Plant No. 2 (Facility ID No. 29110)

In accordance with Permit Condition No. 8(B) of the above referenced Permits-to-Construct application numbers, we hereby submit for your review and approval one (1) original copy of the test protocol including a description of all sampling and analytical procedures to be used on a single representative boiler. Following SCAQMD evaluation and approval of the proposed testing procedures, OCSD will proceed with scheduling testing activities.

Should you have any questions and/or comments with regards to the enclosed material, please contact me at (714) 593–7405 or Vlad Kogan of our staff at (714) 593–7085.

Lisa Rothbart, P.E.
Environmental Supervisor

LR:RA:jb
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Enclosure

cc: V. Kogan
R. AbuShaban

Accurate Environmental Services, Inc.

P15308

COMPLIANCE SOURCE TEST PROTOCOL FOR THE DETERMINATION OF NO_X, CO, VOCs, PM, AND TRS FROM DIGESTER GAS AND NATURAL GAS AS A STANDBY FUEL-FIRED TWO CLEAVER BROOKS BOILERS OPERATED AT ORANGE COUNTY SANITATION DISTRICT TREATMENT PLANT NO. 2

FACILITY ID 29110, APPLICATIONS NO. 545004 OR 545005

Prepared for:

Orange County Sanitation District Treatment Plant No. 2
10844 Ellis Ave.
Fountain Valley, CA 92708

Facility Representative:	**Randa AbuShaban**
Equipment Description:	**Two Cleaver Brooks Boilers**
Application No.:	**545004 or 545005**
Proposed Test Date(s):	**TBD**
Issue Date:	**July 20, 2015**

Prepared by:

Wally Moe
Source Testing Manager

Reviewed by:

Hassan Amin
Project Manager

Source Testing Firm:

Accurate Environmental Services, Inc.
8200 Katella Ave, Suite D
Stanton, California 90680
(714) 379-9200

STA RECEIVED
AUG 28 2015
M&STE BRANCH

Protocol Identification Number: TP 03322 OCSD

Content

1.0 Introduction

Accurate Environmental Services, Inc. (AES) has been contracted by Orange County Sanitation District Treatment Plant No. 2. The primary objective in executing the source test is to obtain reliable and representative data on the composition of the effluent gasses and the rate of emissions from a single process boiler at Orange County Sanitation District Treatment Plant No. 2 in Huntington Beach, California. The source testing is to be conducted on the Digester Gas and Natural Gas as a standby fuel fired one Cleaver Brooks Boiler at maximum, minimum, and normal operational loads in order to determine the emissions of oxides of nitrogen (NO_x), carbon monoxide (CO), oxygen (O_2), carbon dioxide (CO_2), and Stack gas flow rates in one Cleaver Brooks Boiler exhaust. In addition the Normal load will include a Total non-methane organics (TNMHC's), Particulate Matter (PM), Total Reduced Sulfur as H_2S, and speciated trace organics. The source test matrix is detailed in the protocol.

In addition, Stratification checks will also be conducted at the sampling locations.

Accurate Inc. is an independent test contractor with no conflict of interest as defined by SCAQMD Rule 304(k) (4).

Contact Summary

Contracting Firm
Orange County Sanitation District
10844 Ellis Ave.
Fountain Valley, CA 92708
Contact: Randa AbuShaban (714) 593-7413

Site and Equipment Location:
Orange County Sanitation District Treatment Plant No. 2
22212 Brookhurst St.
Huntington Beach, CA 92646
Contact: Randa AbuShaban (714) 593-7413

Source Testing Firm:
Accurate Environmental Services, Inc.
8200 Katella Avenue, Suite D
Stanton, California 90680
Contact: Wally Moe (714) 379-9200

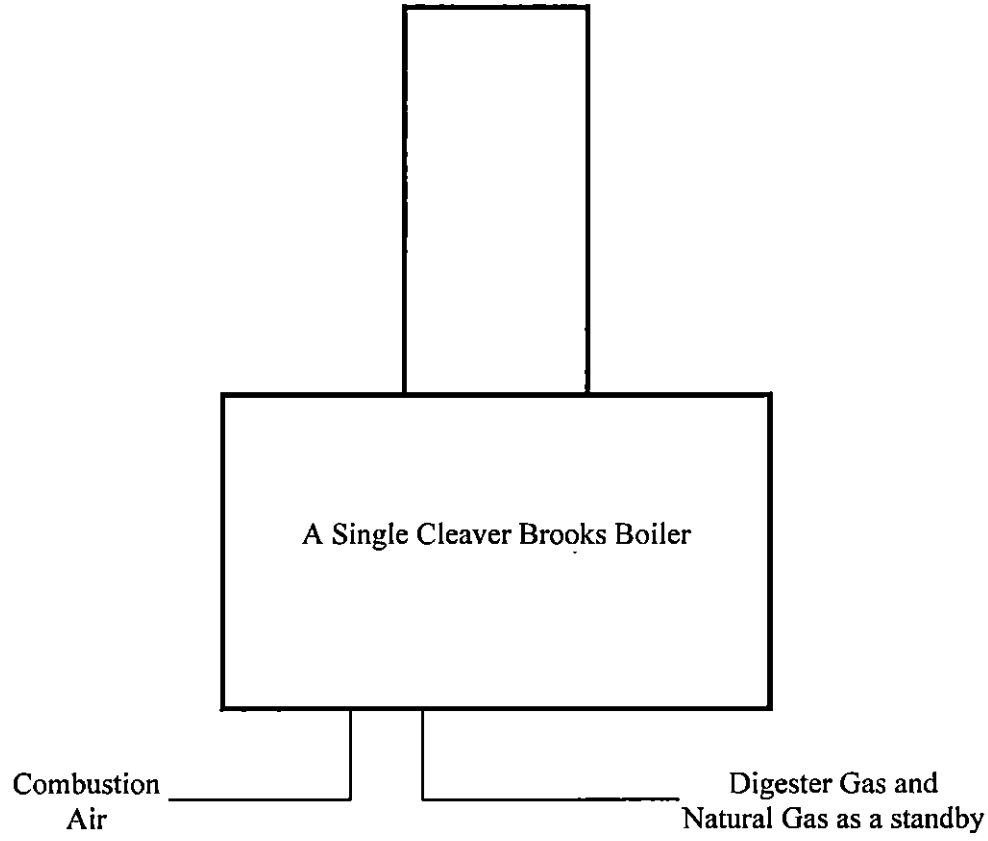
Regulatory Agency:
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765
Contact: Gaurang Rawal (909) 396-2543

2.0 Processes and Equipment Description

The two Cleaver Brooks Boilers, with American Combustion Technology or equal, model No SLE-05-250, rated at 10.205,800 Btu/hr on Digester Gas as primary fuel, and Natural Gas as a standby fuel.

A block flow diagram is presented as Figure 3-1.

Figure 3-1
Process Diagram



3.0 Process Conditions during the Test

Documentation of operating parameters and process conditions will be performed using existing monitoring instruments. These conditions and parameters will be included in the final source test report. A single representative Cleaver Brooks Boiler will be tested at maximum (16 minutes), minimum (16 minutes), and normal (one hour) operating loads for natural gas and digester gas.

The following operating parameters will be included in the source test report:

1. Fuel flow at each load.
2. The exhaust flow rate (see Methods 1.1 thru 4.1).
3. The exhaust Temperature in degree F
4. The Oxygen content of the exhaust gases in percent.
5. The firing rate in BTU per hour.
6. Emission data in Pounds Per Hour

4.0 Sampling and Analytical Techniques

The compliance source testing will be performed at the exhaust of a single representative Cleaver Brooks Boilers. This compliance test will be conducted in accordance with the applicable SCAQMD and EPA test methodologies. Table 4.1 and 4.2 summarizes the test methods, locations, duration, and number of tests.

TABLE 4-1
INLET SOURCE TEST REQUIREMENTS

CONSTITUENTS	Fuel Type	REQUIRED UNITS	ANALYTICAL METHOD(S)	# OF SAMPLES
Total Heat Input Rate	Digester & Natural	BTU/Hr	SCAQMD 19	1
Digester Gas Btu Content (HHV)	Digester Gas	BTU/SCF	ASTM D3588	1
Digester Gas Sulfur Content (as H2S)	Digester Gas	PPMV	SCAQMD 307-91	2
Fuel Flow Rate	Digester & Natural	DSCFM	SCAQMD 1.1,2.1,3.1	1

TABLE 4-2
OUTLET SOURCE TEST REQUIREMENTS

CONSTITUENTS	Fuel Type			REQUIRED UNITS			ANALYTICAL METHOD(S)	# OF SAMPLES
Total Non-Methane Hydrocarbons (TNMHC)	Digester Gas			Lbs/Hr	&	lb/mmcf	SCAQMD 25.3	2 Sample Trays
Toxic Air Contaminants:								
Formaldehyde/ Acetaldehyde	Digester Gas			Lbs/Hr	Lb/mmcf	PPMV	EPA 323	2
Acrolein	Digester Gas			Lbs/Hr	Lb/mmcf	PPMV	EPA TO-15	2
Benzene								2
Carbon Tetrachloride								2
Chlorobenzene								2
Chloroform								2
1,4(p)-Dichlorobenzene								2
Ethylene Dichloride (1,2 - Dichloroethane)								2
Methylene Chloride								2
Styrene								2
Tetrachloroethylene								2
Toluene								2
1,1,1-Trichloroethane								2
Trichloroethylene								2
Vinyl Chloride								2
Xylenes								2
Ammonia							SCAQMD 207.1	2
Total Particulate Matter (PM10)	Digester Gas			Lbs/Hr	lb/mmcf	gr/DSCF	SCAQMD 5.1	1
Oxides of Nitrogen (As NO_2)	Digester Gas	&	Natural Gas	Lbs/Hr	lb/mmcf	PPMV @ 3% O_2	SCAQMD 100.1	1
Carbon Monoxide	Digester Gas	&	Natural Gas	Lbs/Hr	lb/mmcf	PPMV @ 3% O_2	SCAQMD 100.1	1
Oxygen	Digester Gas	&	Natural Gas	%			SCAQMD 100.1	1
Nitrogen	Digester Gas	&	Natural Gas	%			SCAQMD 100.1	1
Moisture Content	Digester Gas	&	Natural Gas	%			SCAQMD 4.1	1
Temperature	Digester Gas	&	Natural Gas	°F			N/A	1
Flue Gas Flow Rate	Digester Gas	&	Natural Gas	DSCFM			SCAQMD 1.1,2.1,3.1	1

4.1 SCAQMD Method 1.1

The reference method measurements will be made from sample ports accessible from the stack-sampling platform on the unit, roof, or from a man lift. The stack inside dimensions at the sample plane is, 20.0 inches. The sample ports are located 115.0 inches (5.75 diameters) downstream of the nearest flow disturbance and 63.0 inches (3.15 diameters) from the stack exit. Prior to the source test, the test location will be checked for cyclonic flow by rotating the Pitot tube until a null reading is obtained and the angle will be recorded by using a protractor. All gaseous samples will be collected by using multiple sampling points to show that no significant stratification exists at this location. A 16-point traverse for the flow rate and 8 points for the CEMS will be performed. A schematic of the Sampling and points locations are presented in Figures 4-1.

4.2 SCAQMD Method 2.1 (Velocity)

The stack gas velocity will be measured using SCAQMD Method 2.1. A 16-point traverse will be conducted during each test. The velocity will be measured by aligning the S-type pitot tube parallel to the stack axis and recording the differential pressure indicated on the Incline manometer and temperature. A schematic of the velocity equipment is presented in Figure 4-2.

Flue gas temperature will be measured using a thermocouple. Flue gas molecular weight is calculated from independently measured O_2, CO_2, and H_2O concentrations. Absolute pressure of the flue gas is determined from the barometric pressure at the sample location and the measured static pressure inside the duct or stack. Axial velocity is calculated using the following equations:

$$V_s = 2.9 * C_p * \sqrt{\Delta P * Ts * \frac{29.92 * 28.95}{P_s * MW_{wet}}}$$

Where:

C_p = Pitot flow coefficient, dimensionless
ΔP = Velocity head, inches of water
T_s = Gas temperature, °R
P_s = Absolute stack pressure, inches Hg.
MW = Molecular weight of gas, lb/lb-mole

The flue gas flow rate is calculated from the measured stack gas velocity, and area of the measurement plane. The flow rate is then corrected to standard conditions using the gas temperature and gas pressure. The flow rate can be presented on a wet or dry basis by including or removing the moisture content of the gas. These calculations are presented below.

$$Q = V_s * Area * 60, \text{ Wet actual cubic feet per minute}$$

$$Q_{ws} = Q * \frac{T_{ref}}{T_s} * \frac{P_s}{29.92}, \text{ Wet standard cubic feet per minute}$$

$$Q_{sd} = Q_{ws} * (1 - \frac{\%H_2O}{100}), \text{ Dry standard cubic feet per minute}$$

4.3 SCAQMD Method 4.1 (Moisture)

For the Normal Load the moisture content will be determined using a sampling train consisting of a stainless steel probe, Teflon line, four impingers in an ice-water bath, a leak-free pump, a vacuum gauge, and a temperature compensated dry gas meter. Prior to sampling, a leak check of the sampling train will be performed to ensure system integrity. Additionally, tare weights of the charged individual impingers will be recorded using an electronic balance capable of weighing to the nearest 0.1 grams. The sample rate will be adjusted to approximately 0.75 cubic feet per minute and sampled for the duration of 30 minutes. A schematic of the moisture sample equipment is presented in Figure 4-3.

Following the test, the impingers are weighed and the moisture content of the flue gas is calculated from the measured moisture volume and dry gas volume.

For the maximum and minimum loads the moisture will be calculated using the following formula:

O2 Formula

$$y_w = 1 - \frac{20.9\ (1 - B_{wa})}{\frac{F_w}{F_d}(20.9 - \%O_{2d}) + \%O_{2d}}$$

Where:

B_{ws} = 0.01
F_w = 10,610
F_d = 8,710
O_{2d} = Dry Stack Oxygen concentration

4.4 SCAQMD Method 100.1 (Continuous Emission Monitoring System)

Accurate Inc. utilizes a mobile emission measurement laboratory for the measurements of NO_x, CO, O_2, and CO_2 using SCAQMD Method 100.1. The laboratory is housed in a clean, quiet, environmentally controlled base. The laboratory has air conditioning and heating to support the test instruments performance. A diagram of Accurate Inc.'s mobile emission monitoring system is presented in Figure 4-4.

Prior to beginning of testing, a system leak check, calibration error, and system bias check will be performed. The leak check will be accomplished by plugging the probe tip and drawing at least 22" Hg vacuum on the entire sampling system. When all flow meters indicate 0.0 SCFH flow and holds for five minutes, the system is proven to be free of any leaks.

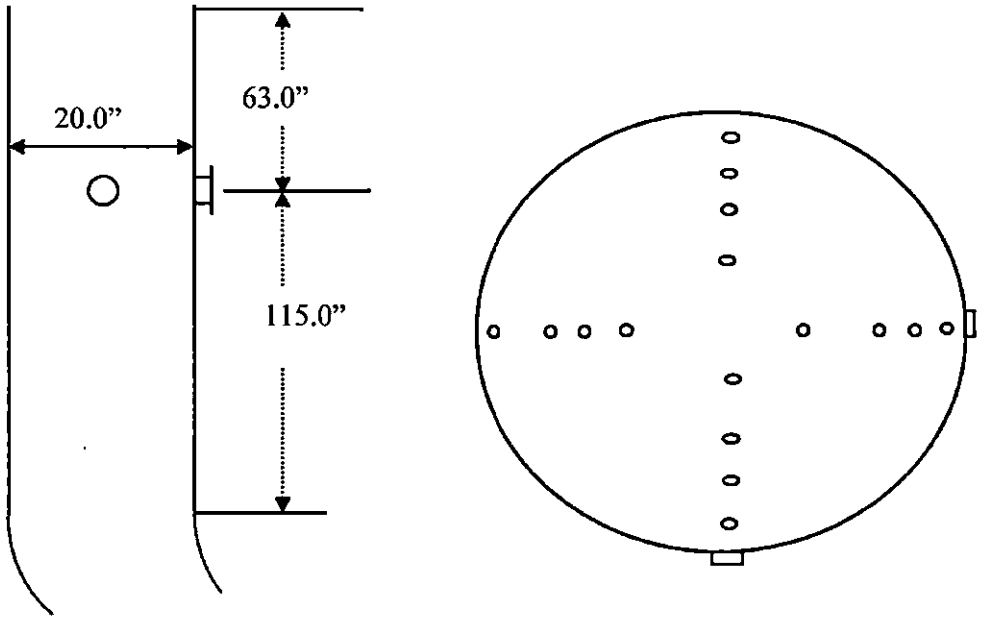
The calibration error check will be performed as follows: After zeroing all analyzers, EPA Protocol No. 1 gases are used to calibrate each analyzer within 80-100% of full scale of the selected range. Then a 40%-60% of the selected range gas is introduced to each analyzer. Additionally, a system bias calibration check is performed by passing EPA protocol I zero and calibration gases through the entire sampling system using a three-way valve located at the probe tip. Sampling system bias checks are determined by comparing the external calibration values to that of the values when introduced directly to each instrument.

NO_x, CO, O_2, and CO_2 concentrations are measured using an extractive sampling system consisting of a heated probe, a heat traced Teflon sample line connected to a thermo-electrically cooled sample dryer. Following the dryer, the sample is drawn into a Teflon lined pump where it is pressurized and then filtered for delivery to the gas analysis portion of the system. Table 4-2 summarizes the reference method analyzers, which will be used for this test program.

Table 4-2
Reference Method Analyzers

Analyzer	Make	Model	S/N	Range	Comments
NO_x	Rosemount	NG 2000	45099259898	0-10 ppm 0-50 ppm	NO_x mode with Molly NO_2 converter
O_2	Rosemount	NG 2000	45099259898	0-10% 0-25%	-
CO_2	Rosemount	NG 2000	45099259898	0-10% 0-20%	-
CO	Rosemount	NG 2000	45099259898	0-10 ppm 0-500 ppm	-
Chart Recorder	Yokogawa	DR 241	42VF0687	n/a	-
DAS	Omega	MF 5500	n/a	n/a	-

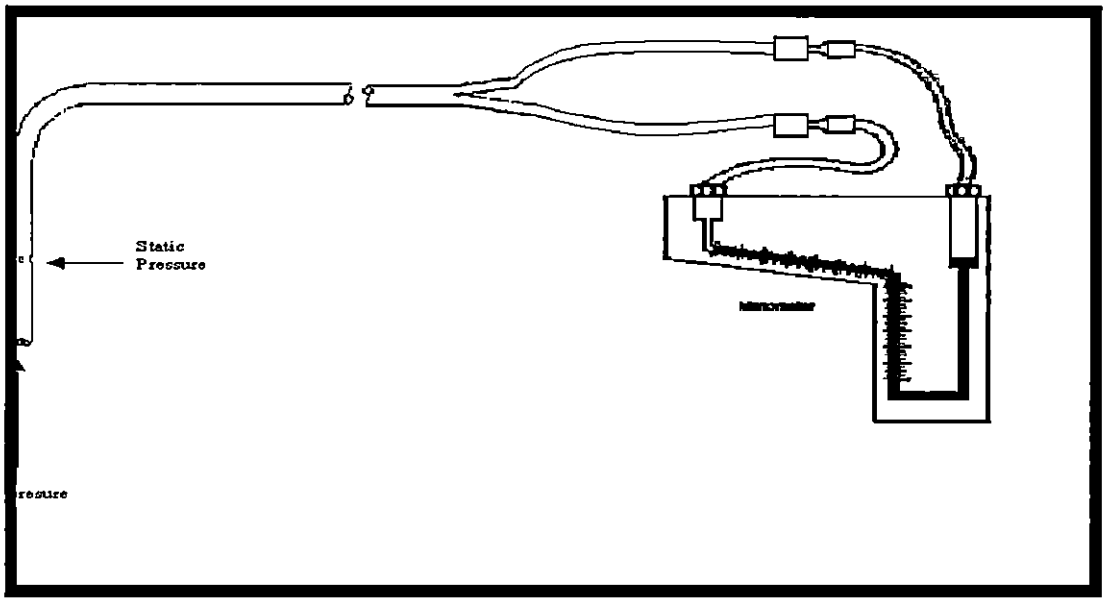
Figure 4-1
Stack Diagram and Sampling Points Location



Port Length: 2.00

	CEMS Sample Points			Velocity Sample Points		
Point	% of Diameter	Inches from Wall	Inches Include Port L.	% of Diameter	Inches from Wall	Inches Include Port L
1				3.2	1.0	3.0
2	10.5	2.1	4.1	10.5	2.1	4.1
3				19.4	3.9	5.9
4	32.3	6.5	8.5	32.3	6.5	8.5
5				67.7	13.5	15.5
6	80.6	16.1	18.1	80.6	16.1	18.1
7				89.5	17.9	19.9
8	96.8	19.4	21.4	96.8	19.0	21.0

Figure 4-2
SCAQMD Method 2.1 Equipment



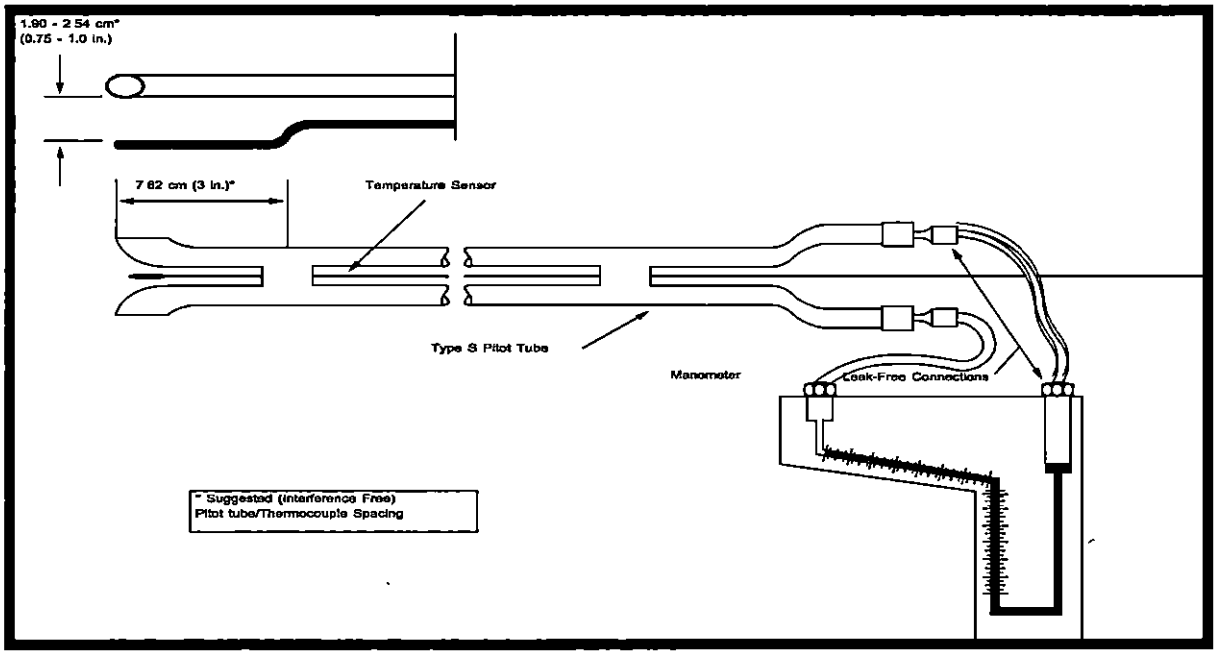


Figure 4-3
SCAQMD Method 5.2/4.1 Equipment

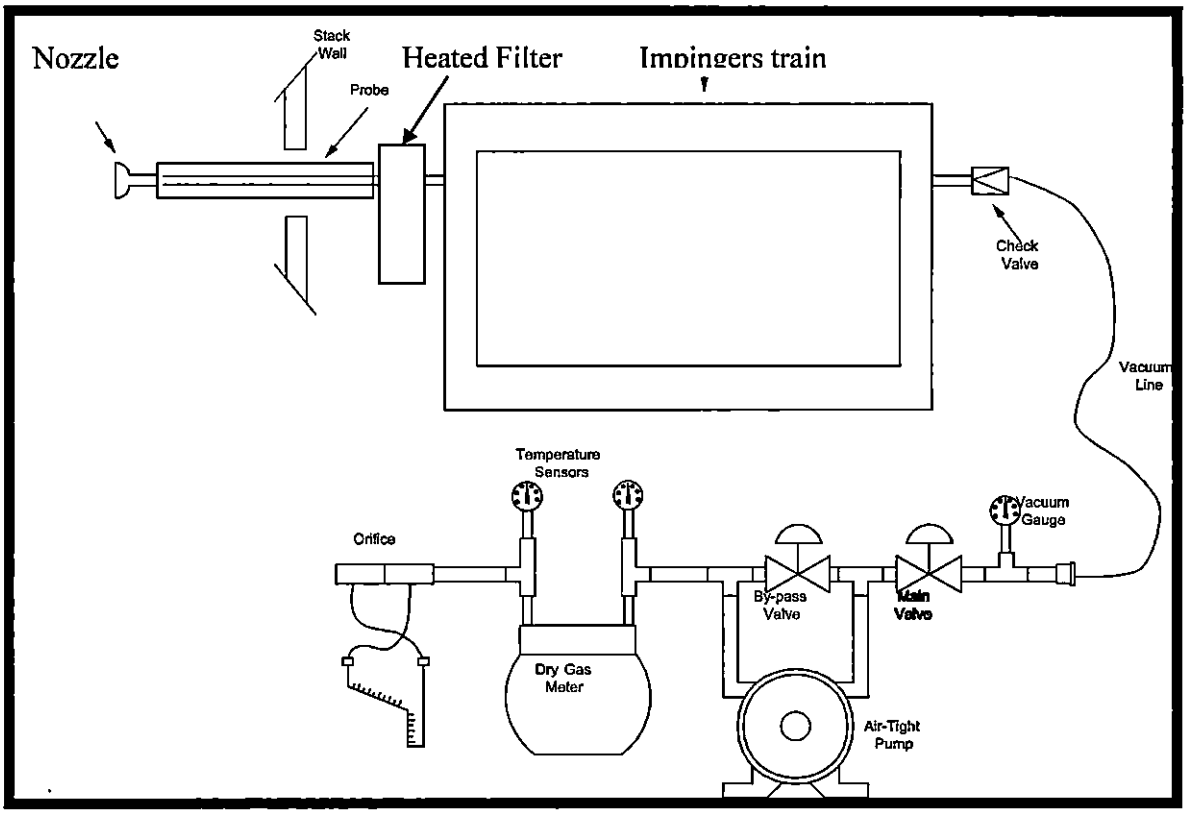
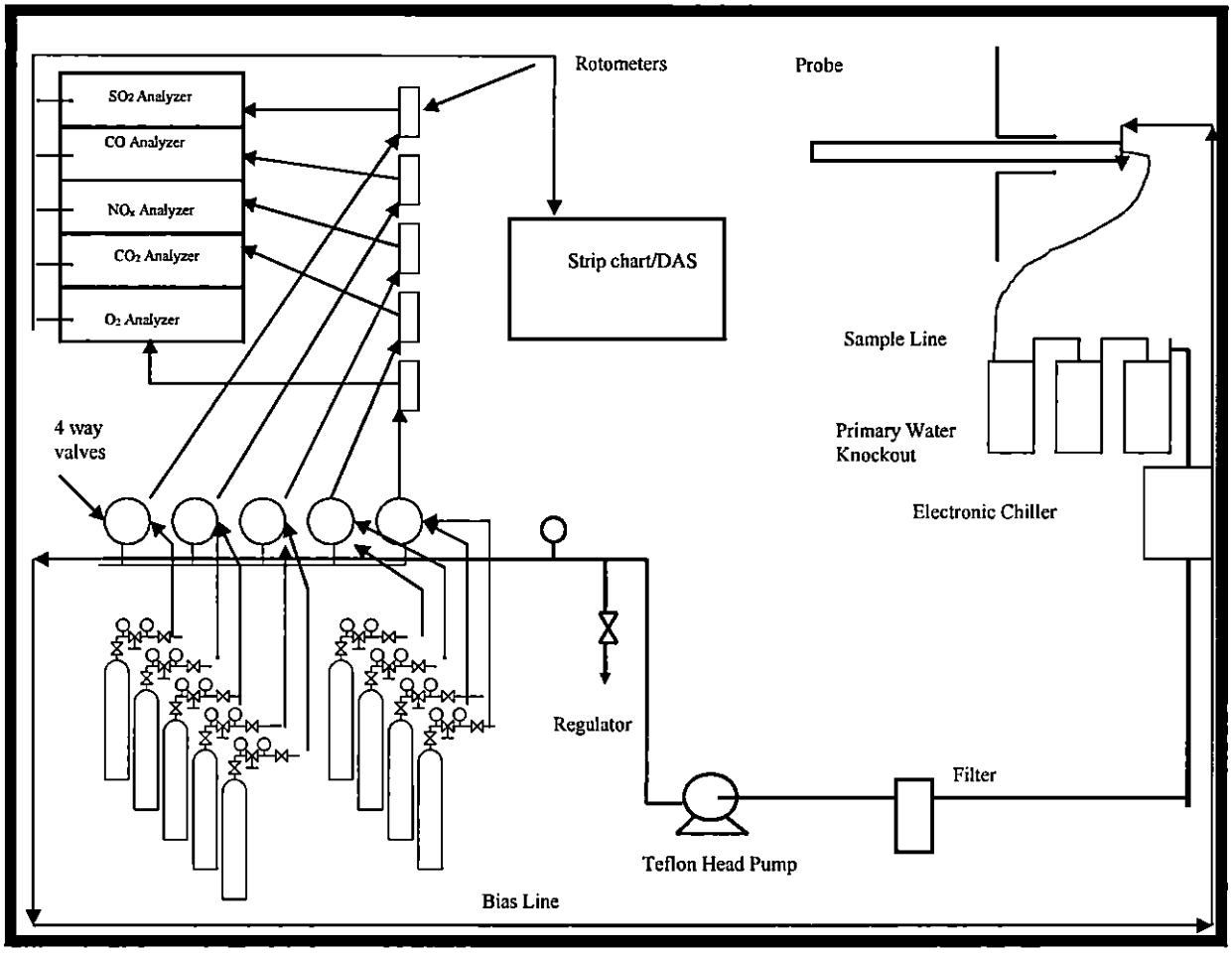


Figure 4-4
Reference Method CEMS Diagram (SCAQMD Method 100.1)



4.5 SCAQMD Method 25.3, Reactive Organic Gases

Reactive organic gases will be measured using SCAQMD Method 25.3. Duplicate samples will be simultaneously extracted using co-located stainless steel probes. The probes are connected to water condensate traps immersed in an ice bath. Evacuated tanks with metering valves and flow meters are connected to the water traps. The metering valves are opened at the beginning of the test period and adjusted to achieve a constant sample rate as indicated on the flow meter. Sampling is stopped when the vacuum in the tank reaches 1 to 5 inches high. Heavy organic components condense as liquids and solids in the water traps and lighter components pass through as gases into the tanks. Volatile organic compounds (VOC) as total non-methane organics (TGNMO) are determined by combining results from independent analyses of condensate in the traps and gases in the tanks.

CO_2, CO, CH_4, non-volatile organics, and non-methane volatile organics are separated prior to the TGNMO oxidation to CO_2 and measurement by non-dispersive infrared (NDIR) detector. The contents of the trap and tank are analyzed separately for methane, ethane, and total carbon. Results are reported as total gaseous non-methane (non-ethane) organic compounds.

I. Pretest preparation

A) Determine site specific sample approach as necessary

1. Access
2. Utilities
3. Safety
4. Process operation, type
5. Stack or duct dimensions including upstream and downstream diameters from flow disturbances. The diameter should be measured carefully and the location inspected for the width of insulation or other obstructions that will affect the diameter measurement
6. Port connections for monorail support
7. Flue gas temperature
8. Flue gas pressure
9. Flue gas velocity
10. Flue gas content
11. Limits of quantification
12. Compliance limit or other data objective
13. Acceptability limits for normal process and sampling parameters

B) Get sampling system components (from Approved Lab)

1. Tanks supplied by analytical lab (Quantum Analytical), precleaned with QA/QC audit.
2. Water traps supplied by analytical lab (Quantum Analytical), precleaned with QA/QC audit.
3. Sample flow controllers (Variflow), supplied by analytical lab (Quantum Analytical)
4. Water traps bucket
5. Stainless Steel Probes with nut (nut is used as a quartz glass wool holder used as filter)
6. Probe to impinger connection (glass or teflon tubing w/glass connectors)
7. Mobile laboratory supplies and equipment

a) Distilled water
   (1) Water used shall be distilled deionized water, ASTM specification D1193-77 Type 3. Distilled H_2O is obtained from an outside vendor (i.e., VWR).
b) Aluminum foil
c) Labels
d) Prepared filters
   (1) Precleaned Quartz Glass wool
e) Tweezers, spatula
f) Data sheets
g) Nalgene wash bottles
h) Paper towels

C) Collect sampling support equipment

1. Power cords
2. Multiple power outlet adapter
3. Port rags or seal
4. Gloves
5. Hot gloves if necessary
6. Rope and pulley system
7. Tools
8. Digital volt meter
9. Calculator
10. Clipboard
11. Pens

D) Collect data handling equipment and supplies

1. Portable computer with Method 25.3 sampling workbook
2. Data sheets
   a) Method 1
   b) Sampling
   c) Chain of custody
3. Project Notebook
   a) Protocol
   b) Correspondence and protocol modifications
   c) Space for test data

II. Mobilization and setup

A) Load equipment securely into mobile laboratory vehicle and prepare for transport
B) Transport mobile laboratory and all equipment to test site
C) Check in with host site representatives
D) Locate mobile laboratory in a clean, quiet, safe, level, location on site as close as practical to sample location area
E) Establish radio communication between test team members

F) Connect power and energize illumination and temperature control systems
G) Remove all equipment and supplies stowed for transport in work areas
H) Set up sample recovery area in mobile laboratory
   1. Clean counter top
   2. Place new aluminum foil on counter as blotter
   3. Fill wash bottles with distilled water
I) Determine barometric pressure by calling nearest National Weather Service station and making appropriate corrections for differences in elevation
J) Arrange sampling equipment at sample location
K) Set up portable computer, start Excel™ program, open appropriate workbook (25_1_calcs.xls) file containing method 1 worksheet, isokinetic setup worksheet, and data summary worksheets
L) Prepare sampling equipment
   1. Inspect tanks, traps, and rotometer with critical flow limiting valve. Note tanks and traps number on data sheet. Label tanks and traps with test number, project number, and date
   2. Assemble train
      a) Use two ranches to connect traps to rotometer with critical flow limiting valve and then to tanks and tighten all connecting fittings.

III. Sampling

A) Perform sample system leak check
   1. Using an 1/8" male plugs, assure that each probe tip is tightly plugged
   2. Record the tank Vacuum as indicated by the vacuum gage.
   3. Open the sample flow valves and wait for 10 minutes.
   4. Recheck the indicated Vacuum
   5. If vacuum did not change, the system is acceptable
   6. Correct if not within limits
B) Add ice to traps in traps holder 5 minutes prior to sampling.
C) Put glass wool into nut at tip of probe.
D) Using a high temperature wire connect the two probe ends together.
E) Verify with Team Leader that process conditions are proper and that sampling can begin
F) Insert probe into port and locate nozzle at test point oriented away from flow stream being careful not to touch port wall with nozzle tip.
G) Allow time for probe temperature to equilibrate with stack temperature. Plug port with flame retardant cloth
H) Begin sampling as follows. Record time and open the sample flow valve on one line of data sheet.
   1. Record other required information on data sheet
   2. Add ice to traps bucket if needed
I) End sampling when the sample time period has been reached or vacuum on any tank is 5 in. Hg. whichever occurs first.
J) Close samples flow valves and record the final clock and vacuum.
K) Remove sample probes from port being careful not to touch the port wall.

1. Check sample systems for leaks by sealing probes inlet (when probes is cool enough)
2. Open the sample flow valves and wait for 10 minutes.
3. Recheck the indicated Vacuum
4. If vacuum did not change, the system is acceptable

L) Complete any notes on the testing on the sample data sheet and attach sample data sheet securely to sampling system for transport to sample recovery area

M) Close the sample flow valve.

N) Disconnect the condensate traps and tightly cap the vials, place in ice.

O) Add ice to condensate traps to the top until returned to lab.

IV. Sample Analysis

Analysis of samples will be performed by an SCAQMD Approved Lab

4.6 EPA Methods 323 (Formaldehyde Emission)

An emission sample from the combustion exhaust is drawn through a midget impinger train containing chilled reagent water to absorb formaldehyde. The formaldehyde concentration in the impinger is determined by reaction with acetyl acetone to form a colored derivative which is measured colorimetrically.

4.7 EPA Methods 15 (Volatile Organic Compounds)

Two Samples of hydrocarbons will be collected in an evacuated Summa Canister. The sample will be analyzed for C_1-C_6 and C_{6+} using gas chromatography/FID. Data is reported as hexane.

4.8 EPA Method 19

The fuel meter reading will be taken at the start, during and at the end of each test run (Maximum, Minimum and Normal loads). The fuel flow will be corrected to standard conditions (pressure (29.92") and temperature (60^0F)). The stack gas flowrate will then be calculated stochiometrically based on the Digester Gas and Natural Gas as a standby fuel higher heating value (HHV) of 1,050 BTU/scf and an F factor of 8,710 dscf/MBTU. The HHV and the fuel F factor for the Digester Gas and Natural Gas as a standby fuel will be used in accordance with EPA Method 19 protocol. A fuel meter calibration certificate will be included in the final report.

4.9 SCAQMD Method 5.1 Total Particulate Matter (PM) with Condensable Analysis

Particulate testing using SCAQMD Method 5.1. Particulate matter will be collected in the sampling probe, impinger train containing DI water and on a back-up filter. In this method, metered flue gas is collected isokinetically

The flue gas is collected isokinetically through a Stainless Steel nozzle, and a probe. This followed by a Teflon sample line, two Smith-Greenburg impingers, which contain 100 ml of distilled water, an empty impinger as a knockout, a back-up filter and an impinger containing silica gel. The impingers collect condensable particulate species while the filter collects any species existing the impingers.

Following testing, the impingers are weighed for moisture determination and the following sample fractions are recovered:

1. Probe, nozzle - water washing and brushing;
2. Impingers and connecting glassware - water wash;
3. Filter.

The probe wash, impinger contents are extracted with methylene chloride to determine condensable hydrocarbons that are considered particulate under SCAQMD requirements.

Filter and the impinger catch are dried at 105°C or evaporated, desiccated, and weighed to constant weight.

Each sample train fraction will be analyzed by acid-base titration for its acid content according to SCAQMD procedures, and for sulfate content also by barium thorn titration.

4.10 SCAQMD Method 307.91 (Total Reduced Sulfur as H_2S)

AES will use flow-through "silica lined fuel bombs" during the test. The fuel bomb will be attached to a 1/4 inch teflon tube at the sample location and then opened on both ends so fuel gas can purge through the fuel bomb for about five minute. The tester first close the outlet side of the fuel bomb and then the inlet side to ensure that the sample is collected inside the fuel bomb.

The samples were analyzed within forty-eight hours by Quantum Laboratory.

4.11 Reference Method QA/QC Program Summary

Accurate Environmental Services, Inc. is committed to providing emission related data, which is complete, precise, accurate, representative, and comparable. Accurate Inc.'s quality assurance program and procedures are designed to ensure that the data meet or exceed the requirements set forth by the EPA, CARB, SCAQMD, and SDAPCD of each test method for each of these items. The quality assurance program consists of the following items:

- Assignment of an Internal QA Officer
- Development and use of an internal QA Manual
- Personnel training
- Equipment maintenance and calibration
- Knowledge of current test methods
- Chain-of-custody
- QA reviews of test programs

Generally, Accurate Inc. QA/QC procedures follow guidelines in *Quality Assurance Handbook for Air Pollution Measurement Systems*, Volumes I through III. These procedures outline pretest preparation and calibrations of sampling equipment, post-test sample handling, and post-test calibrations. Standardized, written procedures, calculator programs, and spreadsheets are used for test planning, pre-surveys,

equipment checklists, preliminary calculations, data and sample collection, sample tracking, data analysis, and reporting. Pre-test preparations and maintenance.

Assignment of an Internal QA Officer: Accurate Inc. has assigned an internal QA Officer who is responsible for administering all aspects of the QA program.

Internal Quality Assurance Manual: Accurate Inc. has prepared a QA Manual according to the guidelines issued by EPA. The manual documents and formalizes all of Accurate Inc.'s QA efforts. The manual is a "living" document, which is revised as Accurate Inc. adds capabilities and procedures. The QA manual provides details on the items provided in this summary.

Personnel Training: Personnel training is essential to the production of high quality test results. Accurate Inc.'s training programs include:

- requirement for all technical personnel to read and understand the test methods performed
- requirement for all technical personnel to read and understand the Accurate Inc. QA manual
- In-house training
- Quality Assurance meetings
- Attendance at EPA sponsored training courses
- Maintenance of training records.

Equipment Maintenance and Calibration: All laboratory and field equipment used as a part of Accurate Inc.'s emission measurement programs is maintained according to manufacturer's recommendations. A summary of the major equipment maintenance schedules is summarized in Table 4-3. In addition to routine maintenance, calibrations are performed on all sampling equipment according to the procedures outlined in the applicable test method. The calibration intervals and techniques for major equipment components are summarized in Table 4-4.

Knowledge of Current Test Methods: Accurate Inc. maintains current copies of EPA, ARB, and SCAQMD Source Test Manuals and Rules and Regulations. Accurate Inc. personnel coordinate, attend, and present papers at emission testing related conferences. Accurate Inc. personnel maintain memberships in the Air and Waste Management Association and Source Evaluation Society. Accurate Inc. personnel continually work with industry and regulatory agencies in monitoring and developing new methods and rules.

Chain-of-Custody: Accurate Inc. maintains chain-of-custody documentation on all data sheets and samples. Samples are stored in a locked area accessible only to Accurate Inc. source test personnel. Data sheets are kept in the custody of the originator, program manager, or in locked storage until return to Accurate Inc.'s office. Upon return to the office, copies are made and stored in a locking file. The original data sheets are used for report preparation and any additions are initialed and dated.

QA Reviews: Every Accurate Inc. report is reviewed by someone separate from the report author. The reviewer is selected based on knowledge of the test methods used and the source tested. Periodic field, laboratory, and report reviews are performed by the QA Officer. Test plans are reviewed to ensure proper test methods are selected and reports are reviewed to ensure that the methods will be followed and any deviations from the methods are justified and documented.

Generally, Accurate Inc.'s QA/QC procedures follow guidelines in *Quality Assurance Handbook for Air Pollution Measurement Systems*, Volumes I through III. These procedures outline pretest preparation and calibrations of sampling equipment, post-test sample handling, and post-test calibrations. Standardized, written procedures, calculator programs, and spreadsheets are used for test planning, pre-surveys,

equipment checklists, preliminary calculations, data and sample collection, sample tracking, data analysis, and reporting. Pre-test preparations and maintenance include organization of the following equipment:

Table 4-3
Equipment Maintenance Schedule

Equipment	Acceptance Limits	Frequency of Service	Methods of Service
Pumps	1. Absence of leaks 2. Ability to draw manufacturers required vacuum and flow	Every 500 hours of operation or 6 months, whichever is less	1. Visual inspection 2. Clean 3. Replace parts 4. Leak check
Flow Meters	1. Free mechanical movement	Every 500 hours of operation or 6 months, whichever is less	1. Visual inspection 2. Clean 3. Calibrate
Sampling Instruments	1. Absence of malfunction 2. Proper response to zero, span gas	As recommended by manufacturer	As recommended by manufacturer
Integrated Sampling Tanks	1. Absence of leaks	Depends on nature of use	1. Steam clean 2. Leak check
Mobile Lab Sampling System	1. Absence of leaks	Depends on nature of use	1. Change filters 2. Change gas dryer 3. Leak check 4. Check for system contamination
Sampling lines	1. Sample degradation less than 2%	After each test series	1. Blow dry, inert gas through line until dry.

Table 4-4
Sampling Equipment Calibration Requirements

Sampling Equipment	Calibration Frequency	Calibration Procedure	Acceptable Calibration Criteria
Continuous Analyzers	Before and after each test day	3-point calibration error test	< 2% of analyzer range
Continuous Analyzers	Before and after each test run	2-point sample system bias check	< 5% of analyzer range
Continuous Analyzers	After each test run	2-point analyzer drift determination	< 3% of analyzer range
CEMS System	Beginning of each day	leak check	< 1 in. Hg decrease in 5 min. at > 20 in. Hg
Continuous Analyzers	Before and after each test day	3-point linearity	< 1% of analyzer range
NO_x analyzer	Before or after each test day	NO_2 -> NO converter efficiency	> 90%
S-type pitot tube	Semi-annually	Dimensional calibration	Meet dimensional criteria of Method 2
S-type pitot tube	Annually	Wind tunnel calibration	Defined in Method 2
S-type pitot tube	Prior to each project	Visual inspection	Meet dimensional criteria of Method 2
Differential Pressure Gauges (except for manometers)	Semi-annually	Correction factor based on 5-point comparison to standard	+/- 5%
Differential Pressure Gauges (except for manometers)	Bi-monthly	3-point comparison to standard, no correction factor	+/- 5%
Manometer	Semi-annually	Clean and replace fluid	
Barometer	Semi-annually	Adjusted to mercury-in-glass or National Weather Service Station	+/- 0.1 inches Hg
Dry gas meter	Semi-annually	Calibration check at 4 flow rates using a NIST traceable standard	+/- 2%
Dry gas meter	Bi-monthly	Calibration check at 2 flow rates using a NIST traceable standard	+/- 2% of semi-annual factor
Dry gas meter orifice	Annually	4-point calibration for ΔH@	--
Temperature sensors	Semi-annually	3-point calibration vs. NIST traceable standard	+/- 1.5%

5.0 Report Format

The information in the Final Emissions Source Test Report will be formatted as follows:

I. Table of Contents

II. Executive Summary

III. Results Table

IV. Introduction/Test Description
   a. Test Conditions
   b. Sample Locations

V. Equipment/Process Description including fuel meters(s), if applicable. This section shall include a statement that verifies acceptability of the method test location and the operating condition during the test.
   a. List Legal Facility Owner and Address
   b. Facility Contact Person and Information
   c. Equipment Location and Address

VI. Discussion of Results

VII. List of Sampling and Analytical Methods Used. This section shall include a list of the test methods used. Do not include copies or descriptions of the source test methods if the methods were adhered to as written. If exceptions were made to the methods, submit only an explanation of the exceptions.
   a. Test Procedures/Methods
   b. Sampling Procedures & Equations

VIII. Appendices
   a. SCAQMD Method Results
   b. Portable Analyzer Results
   c. Schematic of Stack Sampling Locations
   d. Field Data Sheets – testing method and process data sheets shall be compiled in separate sections
   e. QA/QC
   f. Laboratory Analytical Data
   g. Calibration Data and Calculations
   h. Calibration Gas Certificates
   i. Chain of Custody Information (as necessary)
   j. Process Operating Data
   k. Certifications (AQMD LAP or CARB Approval)
   l. SCAQMD Permit(s)

6.0 Calculations

General Emission Calculations

I. Stack Gas Velocity

A. Stack gas molecular weight, lb/lb-mole

$$MW_{dry} = 0.44 * \%CO_2 + 0.32 * \%O_2 + 0.28 * \%N_2$$

$$MW_{wet} = MW_{dry} * (1-B_{wo}) + 18 * B_{wo}$$

B. Absolute stack pressure, iwg

$$Ps = Pbar + \frac{Psg}{13.6}$$

C. Stack gas velocity, ft/sec

$$V_s = 2.9 * C_p * \sqrt{\Delta P} * \sqrt{T_s} * \sqrt{\frac{29.92 * 28.95}{P_s * MW_{wet}}}$$

II. Moisture

A. Sample gas volume, dscf

$$V_{mstd} = 0.03342 * V_m * (P_{bar} + \frac{\Delta H}{13.6}) * \frac{T_{ref}}{T_m} * Y_d$$

B. Water vapor volume, scf

$$V_{wstd} = 0.0472 * V_{lc} * \frac{T_{ref}}{528\ ^\circ R}$$

C. Moisture content, dimensionless

$$B_{wo} = \frac{V_{wstd}}{(V_{mstd} + V_{wstd})}$$

III. Stack gas flow rate

A. Actual stack gas volumetric flow rate, wacfm

$$Q = V_s * A_s * 60$$

B. Standard stack gas flow rate, dscfm

$$Q_{sd} = Q * (1-B_{wo}) * \frac{T_{ref}}{T_s} * \frac{P_s}{29.92}$$

IV. Gaseous Mass Emission Rates, lb/hr

$$M = \frac{ppm * MW_i * Q_{sd} * 60}{SV * 10^6}$$

V. *Emission Rates, lb/MMBtu*

$$\frac{lb}{MMBtu} = \frac{ppm * MW_i * F}{SV * 10^6} * \frac{20.9}{20.9 - \%O_2}$$

Nomenclature:

A_s	= stack area, ft^2
B_{wo}	= flue gas moisture content, dimensionless
C_p	= pitot calibration factor, dimensionless
F	= fuel F-Factor, dscf/MMBtu @ 0% O_2
H	= orifice differential pressure, iwg
M_n	= mass of collected particulate, mg
M_i	= mass emission rate of specie i, lb/hr
MW	= molecular weight of flue gas, lb/lb-mole
M_{ix}	= molecular weight of specie i: SO_2: 64 NO_x: 46 CO: 28 HC: 16
0	= sample time, min.
ΔP	= average velocity head, iwg = $(\sqrt{\Delta P})^2$
P_{bar}	= barometric pressure, inches Hg
P_s	= stack absolute pressure, inches Hg
P_{sg}	= stack static pressure, iwb
Q	= wet stack flow rate at actual conditions, wacfm
Q_{sd}	= dry standard stack flow rate, dscfm
SV	= specific molar volume of an ideal gas at standard conditions, ft^3/lb-mole
T_m	= meter temperature, °R
T_{ref}	= reference temperature, °R
T_s	= stack temperature, °R
V_s	= stack gas velocity, ft/sec
V_{lc}	= volume of liquid collected in impingers, ml
V_m	= uncorrected dry meter volume, dcf
V_{mstd}	= dry meter volume at standard conditions, dscf
V_{wstd}	= volume of water vapor at standard conditions, scf
Y_d	= meter calibration coefficient

7.0 Verification Forms

The following forms are presented in this section:

- Statement of No Conflict of Interest
- Accurate Inc.'s current SCAQMD Laboratory Approval Program (LAP) certificate

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

December 3, 2014

Mr. Walid Mohamed
Accurate Environmental Services
8200 Katella Ave., Suite D
Stanton, CA 90680

Subject: LAP Approval Notice
Reference # 01LA0921

Dear Mr. Mohamed:

We completed our review of the renewal application you submitted for approval under the South Coast Air Quality Management District's Laboratory Approval Program (SCAQMD LAP). We are pleased to inform you that your firm is approved for the period beginning December 31, 2014, and ending December 31, 2015 for the following methods:

SCAQMD Methods 1-4
SCAQMD Method 25.1 (Sampling)
SCAQMD Method 25.3 (Sampling)
SCAQMD Rule 1121/ 1146.2 Protocols
SCAQMD Method 100.1 (CO, CO_2, NOx, O_2, SO_2)
SCAQMD Methods 5.1, 5.2, and 5.3 (Sampling)
SCAQMD Method 6.1 (Sampling)

Your LAP approval to perform nitrogen oxide emissions compliance testing for SCAQMD Rule 1121/ 1146.2 Protocols includes a satellite facility located at:

Union Pacific Railroad
2000 S. Sycamore Avenue
Bloomington, CA 92316

Thank you for participating in the SCAQMD LAP. Your cooperation helps us to achieve the goal of the LAP: to maintain high standards of quality in the sampling and analysis of source emissions. You may direct any questions or information to LAP Coordinator, Glenn Kasai. He may be reached by telephone at (909) 396-2271, or via e-mail at gkasai@aqmd.gov.

Sincerely,

Rudy Eden, Senior Manager
Laboratory Services &
Source Test Engineering

Attachment

RE:GK/gk

cc: Dipankar Sarkar

141203 LapRenewal.doc

7.2 Statement of No Conflict of Interest

(To be completed by authorized source testing firm representative and included in source test report)

The following facility and equipment will be tested by my source-testing firm, and are the subjects of this Statement:

Facility ID:	29110
Date(s) Tested:	TBD
Facility Name:	Orange County Sanitation District Treatment Plant No. 2
Equipment Address:	22212 Brookhurst St. Huntington Beach, CA 92646
Equipment to be Tested:	A Single Cleaver Brooks Boiler
Application No.:	545004 or 545005

I state, as its legally authorized representative, that the source testing firm of:

Source Test Firm: Accurate Environmental Services, Inc.

Business Address: 8200 Katella Ave, Suite D
Stanton, California 90680

is an "Independent Testing Laboratory" as defined in District Rule 304(k):

For the purposes of this Rule, when an independent testing laboratory is used for the purposes of establishing compliance with District rules or to obtain a District permit to operate, it must meet all of the following criteria:
(1) The testing laboratory shall have no financial interest in the company or facility being tested. or in the parent company or any subsidiary thereof-
(2) The company or facility being tested, or parent company or any subsidiary thereof, shall have no financial interest in the testing laboratory;
(3) Any company or facility responsible for the emission of significant quantities of pollutants to the atmosphere, or parent company or any subsidiary thereof shall have no financial interest in the testing laboratory; and
(4) The testing laboratory shall not be in partnership with, own or be owned by, in part or in full, the contractor who has provided or installed equipment (basic or control), or monitoring systems, or is providing maintenance for installed equipment or monitoring systems, for the company being tested

Furthermore, I state that any contracts or agreements entered into by my source testing firm and the facility referenced above, or its designated contractor(s), either verbal or written, are not contingent upon the outcome of the source testing, or the source testing information provided to the SCAQMD.

Signature: Wally Moe **Date:** 7/20/2015

Wally Moe	Source Testing Manager	714-379-9200	7/20/2015
(Name)	**(Title)**	**(Phone)**	**(Date)**

FORM ST-110

Summary of Results

Facility:
Equipment:
Test Date:

Parameter	Units	High Load	Low Load	Normal Load	Allowable Limit
NOx, Concentration	ppm				
NO_x, @ 3% O_2	ppm				
NO_x, Emission Rate	lb/hr				
CO, Concentration	ppm				
CO, @ 3% O_2	ppm				
CO Emission Rate	lb/hr				
Total Stack Flow Rate, measured	dscfm				
Total Stack Flow Rate, calculated	dscfm				
% Difference	%				
Stack Gas Flow Rate, Actual	acfm				
Fuel Flow Rate	scfm				
Stack Temperature	°F				
Air/Fuel Ratio	N/A				
O_2	%				
Firing Rate	MMBtu/hr				
% of Full Load	%				

Summary of Results

Facility:
Source:
Date:

Parameter
Stack Gas Velocity (ft/sec)
Stack Temp (F)
Moisture Fraction
Fuel Flow Rate (scfm)
Stack Flow, Dry
Stack Flow, Actual
O_2, (%)
CO_2, (%)
Nitrogen Oxides (NOx)
NOx Concentration, ppmv
Concentration ppmv @ 3%O_2
Concentration, ppmv @ 3%CO_1
Mass Emissions, Normal, lb/hr
Carbon Monoxide (CO)
CO Concentration, ppmv
Concentration, ppmv @ 3%O_2
Mass Emissions, lb/hr

Run Number: 1

Facility:
Source:
Load:
Date:
Start Time:
End Time:
Operator:

Absolute Pstack:
Stack Gas MW:
Stack Area
Bws

Barometric Pressure:
Meter Gamma:
Pitot Factor:
Static Pressure (Pg), in. H_2O:
Stack Diam.(in.) (Equivalent):
Stack width (if rectangular):
Stack length (if rectangular):

Species		O_2	CO_2	NO_x	CO
High-Range Gas Fraction of Span					
Span					
Span Gas Concentration, Cma	HIGH				
	MID				
	ZERO				
Initial Analyzer Calibration Check, Cai	HIGH				
	MID				
	ZERO				
Response Time (seconds)					
Initial Analyzer Calibration Error, Ei	HIGH				
Ei = ((Cma - Cai)/Span)x100%	MID				
	ZERO				
Initial Bias Check, Cbi	Upscale High (H) or Mid (M)?				
	UPSCALE				
(Select Calibration Gas Closest to Stack Gas Conc)	ZERO				
Initial System Calibration Bias, Bi	UPSCALE				
Bi = ((Cbi-Cai)/Span)x100%	ZERO				
Final Bias Check, Cbf	UPSCALE				
(Select Calibration Gas Closest to Stack Gas Conc.)	ZERO				
Final System Calibration Bias, Bf	UPSCALE				
Bf = ((Cbf - Cai)/(Span))x100%	ZERO				
Drift Check, D	UPSCALE				
D = ((Cbf - Cbi)/(Span))x100%	ZERO				
Average Bias Response, zero Gas, Co=(Cbi,zero+Cbf,zero)/2					
Average Bias Response, Upscale Gas, Cm=(Cbi,upscale+Cbf,upscale)/2					
Average Measured Concentration, Cavg					
Drift Corrected Concentration, Cgas=(Cavg-Co)xCma/(Cm-Co)					

Method 2.1 Data

Point	dP (in. H_2O)	Angle	Temp °F	Vel. (fps)	Dry Flowrate (Qsd)
Average					

SCAQMD Method 4.1

Point	Orifice Pres. dH (in. H2O)	Meter Vol. Vm (cu. ft.)	Dry Gas Meter Temp. Inlet (°F)
final			
Total/Average			

Imp. No.	1	2	3	4
Final (g)				
Initial (g)				
Net (g)				
Total (g)				

VELOCITY AND MOISTURE DATA, CALCULATION

Facility:

Source:

Date:

Parameter Raw	Symbol	Units					
Round Stack, Diameter	ds	in.					
Rectangular Stack, Length	L	in.					
Width	W	in.					
Fuel Flow Rate	Ff	scfm					
Average Stack Temperature	Fs,f	deg. F					
Average Meter Temperature	Tm	deg. F					
Barometric Pressure	Pbar	in. Hg					
Stack Static Pressure	Pg	in. H20					
Avg. Delta H	dH	in. H20					
Avg. Velocity Head (mean square root)	dP	in. H20					
Pitot Coefficient	Cp	N/A					
Gas Sample Volume	Vm	cu ft.					
Meter Calibration Factor	Y	N/A					
%O2 in Stack Gas	C, O2	%, dry					
%CO2 in Stack Gas	C, CO2	%, dry					
Stack Gas Nitrogen Oxide Content,drift/bias corr.	C, NOx	ppmv,dry					
Total Impingers Gain (H2O)	Ww	grams					

VELOCITY AND MOISTURE DATA, CALCULATION

Facility:

Source:

Parameter Calculated	Symbol	Units					
Stack Area, As = 3.14*(ds)**2/576 (Round) = L * W/144 (Rectangular)	As	sq feet					
Avg. Stack Temperature, Ts,f = Fs,f + 460	Ts,f	degrees R					
Avg. Meter Temperature, Tm = Fm + 460	Tm	degrees R					
Gas Sample Volume @ Standard Conditions, VmStd = 17.64*Vm * Y *Tm (Pbar + dH/13.6)	VmStd	cubic ft.					
Volume of Water Vapor, VwStd = 0.04707*Ww	VwStd	cubic ft.					
Moisture Fraction, Bws = 1-((20.9-(1-Bws)/((Fw/Fd*(20.9-O2stack)-O2stack))	Bws	none					
Moisture Fraction, Bws = VwStd/(VmStd + VwStd)	Bws	none					
Dry Stack Gas Mol. Weight, Md = 0.32(Co2,m)+ 0.44(Cco2,m)+0.28{100-(C02,m)-(Cco2,m)]	Md	g/g-mole					
Wet Stack Gas Molecular Weight, Mw = Md(1-Bws)+18.0(Bws)	Mw	g/g-mole					
Nitrogen volume fraction in the stack gas, 1 – mole fraction of O2 in stack gas – mole fraction of CO2 in stack gas	N2f	mole					
Absolute Stack Pressure, Ps = Pbar + Pg/13.6	Ps	in. Hg					
Stack Gas Velocity vs = 85.49*Cp*[sqrt (dP)]avg * sqrt [Ts,avg /(Ps*Mw)]	vs	ft/s					
Actual Stack Gas Flowrate, Q = 60*vs*As	Q	acfm					
Standard Stack Gas Flowrate Qsd = 528/29.92*Q*(Ps/Ts)	Qs	scfm					
Dry Standard Stack Gas Flowrate Qsd = 528/29.92*Q*(Ps/Ts)*(1-Bws)	Qsd	dscfm					
Volume Flow Rate of Combustion Air DSCFM x N2f)/0 791 (0.791 nitrogen volume fraction in ambient air)	Qsd	vdscfm					
Air-to-Fuel Ratio, Volume Flow Rate of Combustion Air / Fuel Usage	NA	NA					
NOx Emissions, MNOx = 1.558e-7 * CNOx,m * Qsd * 46	MNOx	lb/hr					

Accurate Environmental Services Data Acquisition

Date & Time	O_2 (%)	CO_2 (%)	NOx (ppm)	CO (ppm)

EPA Method 19, Stack Gas Flowrate Calculation

Facility:
Source:
Date:

Fuel Meter Model:
Fuel Meter S/N:
Fuel Manufacturer:

Run	Time Start	Time End	O_2 (%)	Fuel Flow Corr. (scfm)	HHV (btu/scf)	F Factor	System Flow (scfm)	Firing Rate

Fuel Flow Corrected (SCFM) = Fuel Used x Cal Factor / minutes
Flow Rate = Fuel Flow Rate x F Factor x HHV/1000000 x 20.95/(20.95 - O2 conc)

Fuel Flow correction to STD Conditions

Facility:
Source:
Date:

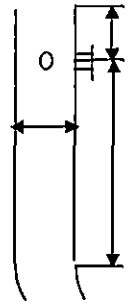
Run	Time Start	Time End	F. Flow Uncorr	Time (min)	Fuel Flow per min	Pres psig	Pressure Factor	Temp F	Corr. Fuel Flow

Corr. Fuel Flow Fuel Flow per min * (528/(Temp F+460)) * Pressure Factor (from Table)

SCAQMD Velocity and Moisture Data Sheet

Facility: _____
Unit: _____
Start Date: _____
dP Indicator ID: _____
dP Indicator Type: _____
Zero: _____ Level: _____
Pitot Tube ID: _____
Pitot Cp: _____
Pitot Leak Check Pre: _____
Post: _____

Meter Y: _____
Performed By: _____
TC Readout ID: _____
TC ID: _____
D. G. Meter ID _____
dH @ _____
Pbar: _____
Pstatic: _____
Stack Diam: _____
Port Length: _____ Port Dia. _____



Method 4.1 Data, Run_____Through										
Impingers				Dry Gas Meter						
#/Matl.	End	Start	Diff.	Time	dH	Vol.	T_m(in)	T_m(out)	Ti_{mp}	Vac.
1-H_2O										
2-H_2O										
3-Empty										
4-SilicaGel										
Total				Total						

Method 4.1 Leak Check: Pre: cfm@ in.Hg., Post: cfm@ in.Hg.

Method 2.1 Data											
Run #:				Run #:				Run # :			
Start - End Time:				Start - End Time:				Start - End Time:			
Point	Angle	dP (in. H_2O)	Temp °F	Point	Angle	dP (in. H_2O)	Temp °F	Point	Angle	dP (in. H_2O)	Temp °F
1-1				1-1				1-1			
1-2				1-2				1-2			
1-3				1-3				1-3			
1-4				1-4				1-4			
1-5				1-5				1-5			
1-6				1-6				1-6			
1-7				1-7				1-7			
1-8				1-8				1-8			
2-1				2-1				2-1			
2-2				2-2				2-2			
2-3				2-3				2-3			
2-4				2-4				2-4			
2-5				2-5				2-5			
2-6				2-6				2-6			
2-7				2-7				2-7			
2-8				2-8				2-8			
Chiller Temp. °F				Chiller Temp. °F				Chiller Temp. °F			
Probe Temp. °F				Probe Temp. °F				Probe Temp. °F			
Heated Line Temp. °F				Heated Line Temp. °F				Heated Line Temp. °F			

SCAQMD Method 100.1 Temps. Data Sheet

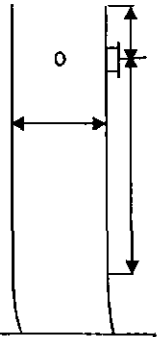
Facility: ______________________ **Performed By:** ______________

Unit: ______________________ **Leak Check Pre:** ______________

Test Date: ______________________ **Pbar:** ______________

Time	Probe Temp.	Heated Line Temp.	Primary Knockout Temp.	Thermo Electrical Chiller Temp

Accurate Environmental services, Inc.
EPA Method 19, Stack Gas Flow rate Calculations



Facility:		**Fuel Meter Manufacturer:**	
Unit:		**Fuel Meter S/N:**	
Start Date:		**FGR:**	Yes ( ) No ( )
Pbar:		**Stack Dia.:**	
Steam Pressure:		**Port Length:**	
Steam Temp.:		**Port Dia.:**	
Fuel Meter Model:		**Performed By:**	

Time	Time/Rev. (sec.)	Readings per Rev. (cf)	Pressure (psi)	Temp. (^{0}F)	Raw Readings (cf)	Corrected Readings (ccf)	Comments
Total/Average							

Analog Instrument/ DPM Calibration

Work Order Number	Process Area	Loop Tag Number
110017	Boiler #1 Natural Gas Flow	25FFIT031
Test Equipment Information		
Manufacturer	Model Number	Serial Number
FLUKE	718-100G	2541131
Calibration Certificate Number	Calibration Date	Calibration Due Date
120937	12/12/2014	12/12/2015
Manufacturer	Model Number	Serial Number
Calibration Certificate Number	Calibration Date	Calibration Due Date
Calibration Gas Information		
Manufacturer	Lot Number	Gas Type
Manufacturer	Lot Number	Gas Type
Instrument Information		
Manufacturer	Model Number	Serial Number
FOXBORO	IDP10-A22B21F-M1	*

Instrument Type

Transmitter	X	Controller		Isolator	
Transducer		Indicator	X	Other	

Range	54	Eng Units	INCH/H20	Input	PRESS.	Output	MA

	% of Range	Simulated Value	Output As Found	Output As Left
Point 1	0%	0.0	4.0	4.0
Point 2	25%	3.4	8.0	8.0
Point 3	50%	13.6	12.0	12.0
Point 4	75%	30.4	16.0	16.0
Point 5	100%	54.0	20.0	20.0

Comments: Changed span from 125" to 54.0" per calibration sheet from primary V-cone received from McCrometer. Calibrated transmitter.

Technician: Carl Herrigstad Date: 4/22/2015

Analog Instrument/ DPM Calibration

Work Order Number	Process Area	Loop Tag Number
110017	Boiler #2 Digester Gas Flow	25FFIT071
Test Equipment Information		
Manufacturer	Model Number	Serial Number
FLUKE	718-100G	2541131
Calibration Certificate Number	Calibration Date	Calibration Due Date
120937	12/12/2014	12/12/2015
Manufacturer	Model Number	Serial Number
Calibration Certificate Number	Calibration Date	Calibration Due Date
Calibration Gas Information		
Manufacturer	Lot Number	Gas Type
Manufacturer	Lot Number	Gas Type
Instrument Information		
Manufacturer	Model Number	Serial Number
FOXBORO	IDP10-A22B21F-M1	*
Instrument Type		

Transmitter	X	Controller		Isolator	
Transducer		Indicator	X	Other	

Range	0-69.2	Eng Units	INCH/H20	Input	PRESS.	Output	MA

	% of Range	Simulated Value	Output As Found	Output As Left
Point 1	0%	0.0	4.0	4.0
Point 2	25%	4.4	8.0	8.0
Point 3	50%	17.3	12.0	12.0
Point 4	75%	38.9	16.0	16.0
Point 5	100%	69.2	20.0	20.0

Comments: Changed span from 125" to 69.2" per calibration sheet from primary V-cone received from McCrometer. Calibrated transmitter.

Technician: Carl Herrigstad Date: 4/22/2015

Analog Instrument/ DPM Calibration

Work Order Number	Process Area	Loop Tag Number
110017	Boiler #2 Natural Gas Flow	25FFIT081

Test Equipment Information

Manufacturer	Model Number	Serial Number
FLUKE	718-100G	2541131
Calibration Certificate Number	Calibration Date	Calibration Due Date
120937	12/12/2014	12/12/2015
Manufacturer	Model Number	Serial Number
Calibration Certificate Number	Calibration Date	Calibration Due Date

Calibration Gas Information

Manufacturer	Lot Number	Gas Type
Manufacturer	Lot Number	Gas Type

Instrument Information

Manufacturer	Model Number	Serial Number
FOXBORO	IDP10-A22B21F-M1	*

Instrument Type

Transmitter	X	Controller		Isolator	
Transducer		Indicator	X	Other	

Range	55.4	Eng Units	INCH/H20	Input	PRESS.	Output	MA

	% of Range	Simulated Value	Output As Found	Output As Left
Point 1	0%	0.0	4.0	4.0
Point 2	25%	3.5	8.0	8.0
Point 3	50%	13.9	12.0	12.0
Point 4	75%	31.2	16.0	16.0
Point 5	100%	55.4	20.0	20.0

Comments: Changed span from 125" to 55.4" per calibration sheet from primary V-cone received from McCrometer. Calibrated transmitter.

Technician: Carl Herrigstad Date: 4/22/2015

Analog Instrument/ DPM Calibration

Work Order Number	Process Area	Loop Tag Number
110017	Boiler #1 Digester Gas Totalizer	25FFQI021

Test Equipment Information

Manufacturer	Model Number	Serial Number
TRANSMATION	CALMATE 1143	10656017
Calibration Certificate Number	**Calibration Date**	**Calibration Due Date**
117293	6/10/2014	6/10/2015
Manufacturer	**Model Number**	**Serial Number**
Calibration Certificate Number	**Calibration Date**	**Calibration Due Date**

Calibration Gas Information

Manufacturer	Lot Number	Gas Type
Manufacturer	**Lot Number**	**Gas Type**

Instrument Information

Manufacturer	Model Number	Serial Number
PRECISION DIGITAL	PD6200	*

Instrument Type

Transmitter		Controller		Isolator	
Transducer		Indicator	X	Other	

Range	0-350	Eng Units	SCFM	Input	MA	Output	DISPLAY

	% of Range	Simulated Value	Output As Found	Output As Left
Point 1	0%	4.0	0.0	0.0
Point 2	25%	8.0	175.0	175.0
Point 3	50%	12.0	247.5	247.5
Point 4	75%	16.0	303.0	303.0
Point 5	100%	20.0	350.0	350.0

Comments: Changed span from 35 to 350. Changed to square root input from linear. Calibrated indicator.

Technician: Carl Herrigstad Date: 4/22/2015

Analog Instrument/ DPM Calibration

Work Order Number	Process Area	Loop Tag Number
110017	Boiler #1 Natural Gas Totalizer	25FFQI031

Test Equipment Information

Manufacturer	Model Number	Serial Number
TRANSMATION	CALMATE 1143	10656017
Calibration Certificate Number	**Calibration Date**	**Calibration Due Date**
117293	6/10/2014	6/10/2015
Manufacturer	**Model Number**	**Serial Number**
Calibration Certificate Number	**Calibration Date**	**Calibration Due Date**

Calibration Gas Information

Manufacturer	Lot Number	Gas Type
Manufacturer	**Lot Number**	**Gas Type**

Instrument Information

Manufacturer	Model Number	Serial Number
PRECISION DIGITAL	PD6200	*

Instrument Type

Transmitter		Controller		Isolator	
Transducer		Indicator	X	Other	

Range	0-201.9	Eng Units	SCFM	Input	MA	Output	DISPLAY

	% of Range	Simulated Value	Output As Found	Output As Left
Point 1	0%	4.0	0.0	0.0
Point 2	25%	8.0	100.9	100.9
Point 3	50%	12.0	142.8	142.8
Point 4	75%	16.0	174.8	174.8
Point 5	100%	20.0	201.9	201.9

Comments: Changed span from 20 to 201.9. Changed to square root input from linear. Calibrated indicator.

Technician: Carl Herrigstad Date: 4/22/2015

Analog Instrument/ DPM Calibration

Work Order Number	Process Area	Loop Tag Number
110017	Boiler #2 Digester Gas Totalizer	25FFQI071

Test Equipment Information

Manufacturer	Model Number	Serial Number
TRANSMATION	CALMATE 1143	10656017
Calibration Certificate Number	**Calibration Date**	**Calibration Due Date**
117293	6/10/2014	6/10/2015
Manufacturer	**Model Number**	**Serial Number**
Calibration Certificate Number	**Calibration Date**	**Calibration Due Date**

Calibration Gas Information

Manufacturer	Lot Number	Gas Type
Manufacturer	**Lot Number**	**Gas Type**

Instrument Information

Manufacturer	Model Number	Serial Number
PRECISION DIGITAL	PD6200	*

Instrument Type

Transmitter		Controller		Isolator	
Transducer		Indicator	X	Other	

Range	0-350	Eng Units	SCFM	Input	MA	Output	DISPLAY

	% of Range	Simulated Value	Output As Found	Output As Left
Point 1	0%	4.0	0.0	0.0
Point 2	25%	8.0	175.0	175.0
Point 3	50%	12.0	247.4	247.4
Point 4	75%	16.0	303.1	303.1
Point 5	100%	20.0	350.0	350.0

Comments: Changed span from 35 to 350. Changed to square root input from linear. Calibrated indicator.

Technician: Carl Herrigstad Date: 4/22/2015

Analog Instrument/ DPM Calibration

Work Order Number	Process Area	Loop Tag Number
110017	Boiler #2 Natural Gas Totalizer	25FFQI081

Test Equipment Information

Manufacturer	Model Number	Serial Number
TRANSMATION	CALMATE 1143	10656017
Calibration Certificate Number	**Calibration Date**	**Calibration Due Date**
117293	6/10/2014	6/10/2015
Manufacturer	**Model Number**	**Serial Number**
Calibration Certificate Number	**Calibration Date**	**Calibration Due Date**

Calibration Gas Information

Manufacturer	Lot Number	Gas Type
Manufacturer	**Lot Number**	**Gas Type**

Instrument Information

Manufacturer	Model Number	Serial Number
PRECISION DIGITAL	PD6200	*

Instrument Type

Transmitter		Controller		Isolator	
Transducer		Indicator	X	Other	

Range	0-201.9	Eng Units	SCFM	Input	MA	Output	DISPLAY

	% of Range	Simulated Value	Output As Found	Output As Left
Point 1	0%	4.0	0.0	0.0
Point 2	25%	8.0	101.0	101.0
Point 3	50%	12.0	142.8	142.8
Point 4	75%	16.0	174.8	174.8
Point 5	100%	20.0	201.9	201.9

Comments: Changed span from 20 to 201.9. Changed to square root input from linear. Calibrated indicator.

Technician: Carl Herrigstad Date: 4/22/2015

Analog Instrument/ DPM Calibration

Work Order Number	Process Area	Loop Tag Number
110017	Boiler #1 Digester Gas I/I	25FFY021
Test Equipment Information		
Manufacturer	Model Number	Serial Number
TRANSMATION	CALMATE 1143	10656017
Calibration Certificate Number	Calibration Date	Calibration Due Date
117293	6/10/2014	6/10/2015
Manufacturer	Model Number	Serial Number
FLUKE	87-V	95840449
Calibration Certificate Number	Calibration Date	Calibration Due Date
123129	3/25/2015	3/25/2016
Calibration Gas Information		
Manufacturer	Lot Number	Gas Type
Manufacturer	Lot Number	Gas Type
Instrument Information		
Manufacturer	Model Number	Serial Number
MOORE	ECT/4-20MA/4-20MA/12-42DC	*

Instrument Type

Transmitter		Controller		Isolator	X
Transducer		Indicator		Other	

Range	4-20	Eng Units	MA	Input	MA	Output	MA

	% of Range	Simulated Value	Output As Found	Output As Left
Point 1	0%	4.0	4.0	4.0
Point 2	25%	8.0	8.0	8.0
Point 3	50%	12.0	12.0	12.0
Point 4	75%	16.0	16.0	16.0
Point 5	100%	20.0	20.0	20.0

Comments: Calibrated isolator.

Technician: Carl Herrigstad Date: 4/22/2015

Analog Instrument/ DPM Calibration

Work Order Number	Process Area	Loop Tag Number
110017	Boiler #1 Natural Gas I/l	25FFY031
Test Equipment Information		
Manufacturer	Model Number	Serial Number
TRANSMATION	CALMATE 1143	10656017
Calibration Certificate Number	Calibration Date	Calibration Due Date
117293	6/10/2014	6/10/2015
Manufacturer	Model Number	Serial Number
FLUKE	87-V	95840449
Calibration Certificate Number	Calibration Date	Calibration Due Date
123129	3/25/2015	3/25/2016
Calibration Gas Information		
Manufacturer	Lot Number	Gas Type
Manufacturer	Lot Number	Gas Type
Instrument Information		
Manufacturer	Model Number	Serial Number
MOORE	ECT/4-20MA/4-20MA/12-42DC	*

Instrument Type

Transmitter		Controller		Isolator	X
Transducer		Indicator		Other	

Range	4-20	Eng Units	MA	Input	MA	Output	MA

	% of Range	Simulated Value	Output As Found	Output As Left
Point 1	0%	4.0	4.0	4.0
Point 2	25%	8.0	8.0	8.0
Point 3	50%	12.0	12.0	12.0
Point 4	75%	16.0	16.0	16.0
Point 5	100%	20.0	20.0	20.0

Comments: Calibrated isolator.

Technician: Carl Herrigstad Date: 4/22/2015

Analog Instrument/ DPM Calibration

Work Order Number	Process Area	Loop Tag Number
110017	Boiler #2 Digester Gas I/I	25FFY071
Test Equipment Information		
Manufacturer	Model Number	Serial Number
TRANSMATION	CALMATE 1143	10656017
Calibration Certificate Number	Calibration Date	Calibration Due Date
117293	6/10/2014	6/10/2015
Manufacturer	Model Number	Serial Number
FLUKE	87-V	95840449
Calibration Certificate Number	Calibration Date	Calibration Due Date
123129	3/25/2015	3/25/2016
Calibration Gas Information		
Manufacturer	Lot Number	Gas Type
Manufacturer	Lot Number	Gas Type
Instrument Information		
Manufacturer	Model Number	Serial Number
MOORE	ECT/4-20MA/4-20MA/12-42DC	*

Instrument Type

Transmitter		Controller		Isolator	X
Transducer		Indicator		Other	

Range	4-20	Eng Units	MA	Input	MA	Output	MA

	% of Range	Simulated Value	Output As Found	Output As Left
Point 1	0%	4.0	4.0	4.0
Point 2	25%	8.0	8.0	8.0
Point 3	50%	12.0	12.0	12.0
Point 4	75%	16.0	16.0	16.0
Point 5	100%	20.0	20.0	20.0

Comments: Calibrated isolator.

Technician: Carl Herrigstad Date: 4/22/2015

Analog Instrument/ DPM Calibration

Work Order Number	Process Area	Loop Tag Number
110017	Boiler #2 Natural Gas I/I	25FFY081
Test Equipment Information		
Manufacturer	Model Number	Serial Number
TRANSMATION	CALMATE 1143	10656017
Calibration Certificate Number	Calibration Date	Calibration Due Date
117293	6/10/2014	6/10/2015
Manufacturer	Model Number	Serial Number
FLUKE	87-V	95840449
Calibration Certificate Number	Calibration Date	Calibration Due Date
123129	3/25/2015	3/25/2016
Calibration Gas Information		
Manufacturer	Lot Number	Gas Type
Manufacturer	Lot Number	Gas Type
Instrument Information		
Manufacturer	Model Number	Serial Number
PR	4116	*

Instrument Type

Transmitter		Controller		Isolator	X
Transducer		Indicator	X	Other	

Range	20-Apr	Eng Units	MA	Input	MA	Output	MA

	% of Range	Simulated Value	Output As Found	Output As Left
Point 1	0%	4.0	0.0	4.0
Point 2	25%	8.0	0.0	8.0
Point 3	50%	12.0	0.0	12.0
Point 4	75%	16.0	0.0	16.0
Point 5	100%	20.0	0.0	20.0

Comments: Replaced bad isolator. Calibrated new isolator.

Technician: Carl Herrigstad Date: 4/22/2015

NO_2 Converter Efficiency Test

Client:
CEMS I.D.:
By:
Date:

NOx Gas Value:
Cylinder #
NO_2 Gas Value: **C_0**
Cylinder #

Gas	Analyzer Mode	Analyzer	Cal. Corrected	Label
Zero	NOx			
Zero	NO			
NO	NO			
NO	NOx			
NO_2	NO			
NO_2	NOx			

	Label	Requirement
CE = $(C_2.C_1)/C_0$ * 100%:	--	**> 90%**

RM Calibration Data

Client: **Date:**
CEMS I.D.: **By:**

Thermal Oxidizer

	High Span Cylinder		Mid Span Cylinder	
	Cylinder No.	Concentration	Cylinder No.	Concentration
Zero O_2 CO_2 NO_x CO				

Parameter	Analyzer					Status
	O_2	CO_2	NO_x	CO		
Analyzer Range						
Zero Gas Concentration High Gas Concentration Mid Gas Concentration						
Initial Response, Zero Initial Response, High Initial Response, Mid						
Final Response, Zero Final Response, High Final Response, Mid						
Initial Error (% of scale), Zero Initial Error (% of scale), High Initial Error (% of scale), Mid						<2%F.S. <2%F.S. <2%F.S.
Final Error (% of scale), Zero Final Error (% of scale), High Final Error (% of scale), Mid						<2%F.S. <2%F.S. <2%F.S.
Linearity at Mid Point, Pre-test Linearity at Mid Point, Post-test						<1%F.S. <1%F.S.

Error Calculation: (Analyzer Response - Actual Span Value)/Range * 100%

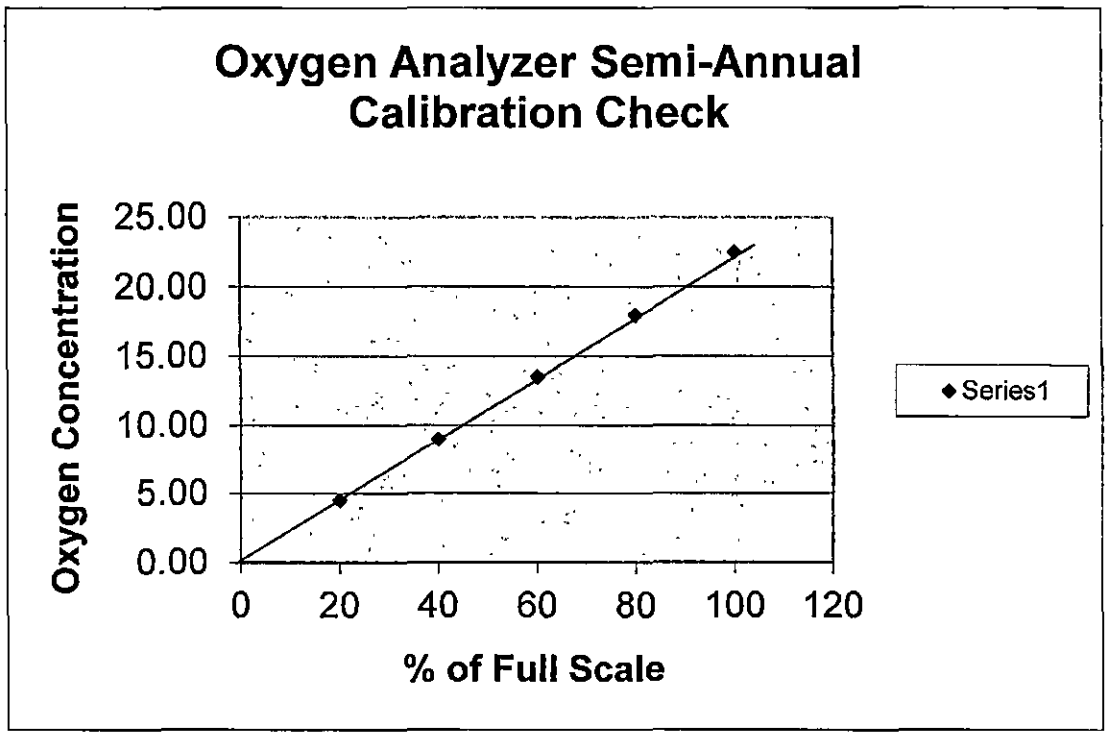
Analyzers Semi-Annual Calibration Check

Analyzer S/N: **45099259898**

Test Date: 3/14/2015

O_2 Value: 22.50

% of Full Scale	Expected Value	Actual Value	% Deviation
100	22.50	22.53	0.13
80	18.00	18.02	0.11
60	13.50	13.53	0.22
40	9.00	9.01	0.11
20	4.50	4.52	0.44



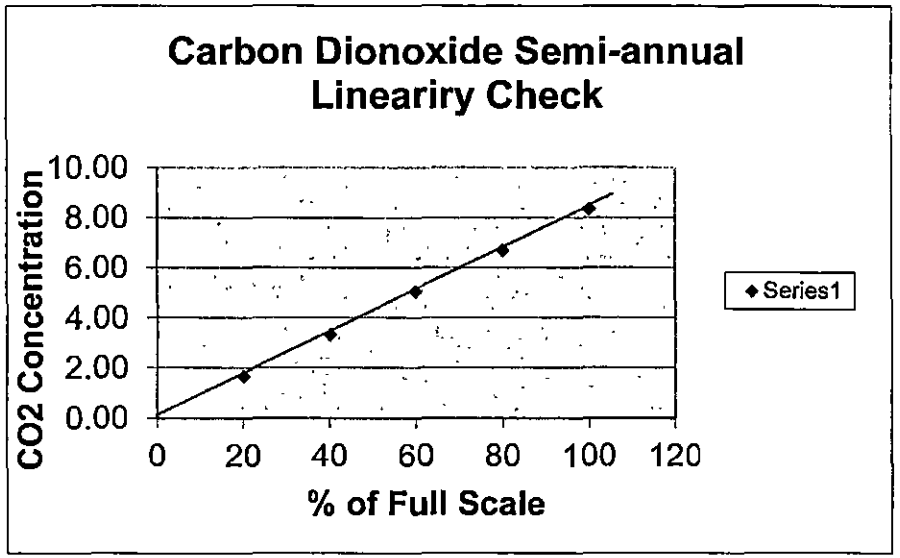
Analyzers Semi-Annual Calibration Check

Analyzer S/N: **45099259898**

Test Date: 3/14/2015

CO2 Value: 8.36

% of Full Scale	Expected Value	Actual Value	% Deviation
100	8.36	8.35	0.12
80	6.69	6.70	0.18
60	5.02	5.05	0.68
40	3.34	3.33	0.42
20	1.67	1.68	0.48



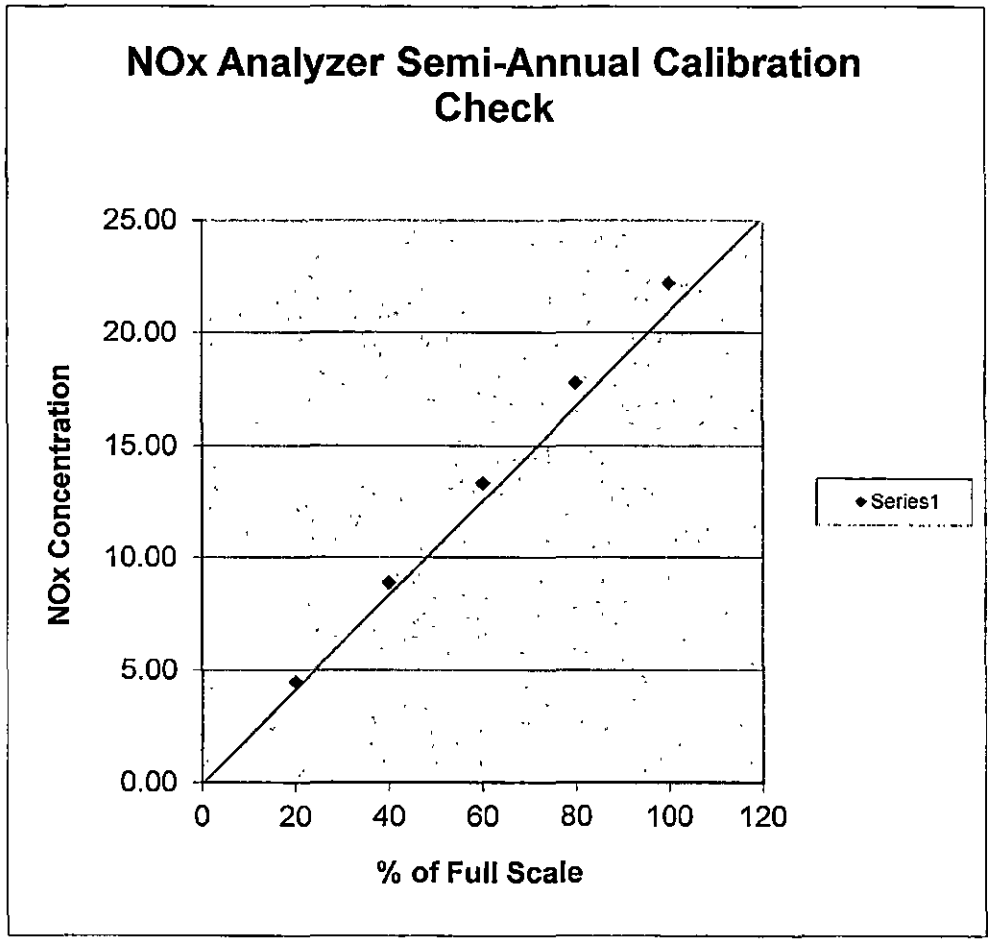
Analyzers Semi-Annual Calibration Check

Analyzer S/N: **45099259898**

Test Date: 3/14/2015

NOx Value: 22.2

% of Full Scale	Expected Value	Actual Value	% Deviation
100	22.20	22.24	0.18
80	17.76	17.80	0.23
60	13.32	13.36	0.30
40	8.88	8.90	0.23
20	4.44	4.48	0.90



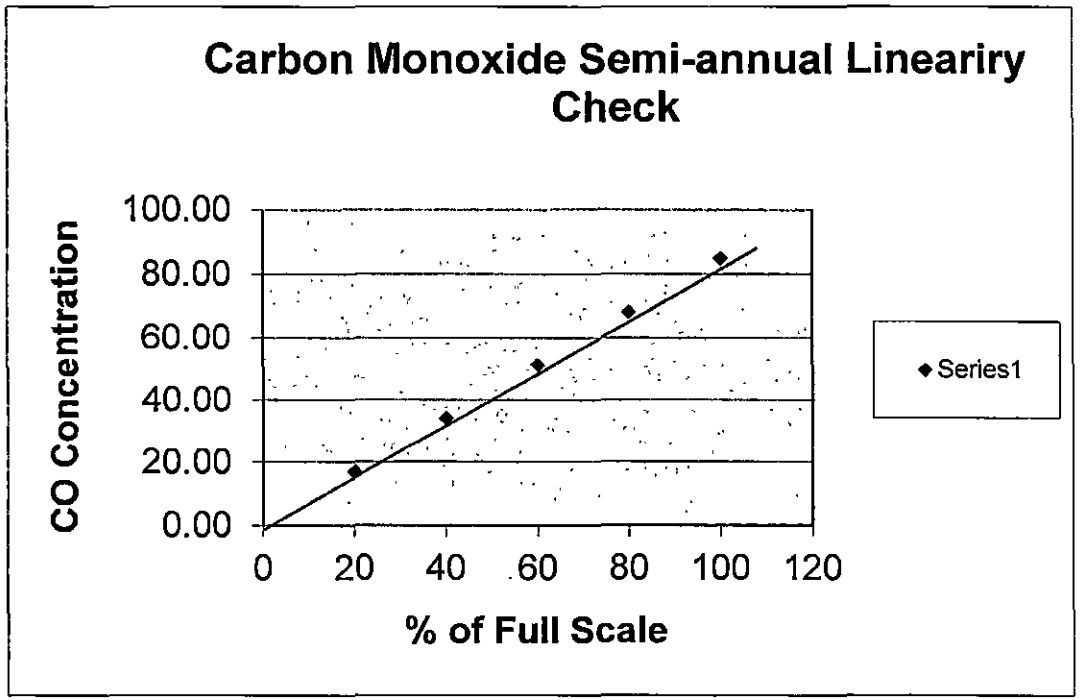
Analyzers Semi-Annual Calibration Check

Analyzer S/N: **45099259898**

Test Date: 3/14/2015

CO Value: 85

% of Full Scale	Expected Value	Actual Value	% Deviation
100	85.0	85.01	0.01
80	68.0	68.14	0.21
60	51.0	51.20	0.39
40	34.0	34.15	0.44
20	17.0	17.06	0.35



Dry Gas Meter Calibration

Standard Meter Identification (S/N).
Standard Dry Gas Meter Coefficient (Y--): 1.0033
Dry Gas Meter Identification (I.D.): Apex-4
Dry Gas Meter Identification (S/N):

Date: 5/21/15
Calib. by: Walid M
Barometric Pressure (Pbar): 29.93
Ambient Temperature (oF): 64

Semiannual x
Bimonthly
Other

Approx. CFM Project.	Total CF		dH in. H2O	Reference Dry Gas Meter Temp. Out (deg. F)	Meter Read (CF)	Time (min sec)	Field Dry Gas Meter Temp. Out 63	Meter Read (CF)	Time (min:sec)	dH@	Yfm
0 25		Start	0 27	76	17 618	0 0	80	932.361	0.0	1.953	0.9977
		End	0 26	76	23.748	22.0	82	938.577	22.0		
		Avg/Total	0 27	76	6.130	22 0	81	6.216	22.0		
0.25		Start	0.27	77	23.748	0 0	83	938.577	0 0	1.955	0.9977
		End	0.26	78	29 878	22 0	84	944.804	22 0		
		Avg/Total	0 27	78	6.130	22 0	84	6.227	22 0		
0.25		Start	0 27	77	29 878	0 0	84	944.804	0.0	1.951	0.9978
		End	0.26	78	36.008	22.0	85	951.042	22.0		
		Avg/Total	0.27	78	6.130	22.0	85	6 238	22.0		
0.5		Start	0.78	83	36.008	0.0	85	951.042	0 0	1.940	0.9975
		End	0.78	84	43 283	15.0	86	958 370	15.0		
		Avg/Total	0.78	84	7.275	15 0	86	7.327	15.0		
0.5		Start	0.78	84	43 283	0.0	87	958.3695	0 0	1.940	0.9977
		End	0.78	85	51.528	17.0	88	966.6876	17.0		
		Avg/Total	0.78	85	8.245	17.0	88	8.318	17.0		
0.5		Start	0.78	85	51.528	0.0	89	966 6876	0 0	1.942	0.9976
		End	0.78	86	59.773	17 0	89	975.0142	17.0		
		Avg/Total	0.78	86	8.245	17.0	89	8.327	17.0		
0.75		Start	1 88	87	59.773	0.0	90	975.0142	0 0	1.945	0.9975
		End	1 88	88	67.333	10.0	91	982.6222	10 0		
		Avg/Total	1.88	88	7.560	10 0	91	7 608	10.0		
0 75		Start	1 88	89	67.333	0.0	91	982 6222	0.0	1.946	0.9976
		End	1 88	90	74.913	10.0	92	990.2352	10.0		
		Avg/Total	1.88	90	7.580	10.0	92	7.613	10.0		
0.75		Start	1.88	90	74.913	0.0	92	990.2352	0.0	1.946	0.9975
		End	1 88	91	82.503	10.0	92	997 8522	10 0		
		Avg/Total	1.88	91	7.590	10.0	92	7.617	10.0		
1.00		Start	3.75	92	82.503	0.0	93	997.8522	0 0	1.944	0.9975
		End	3.75	93	90.063	7.0	94	1005.3982	7.0		
		Avg/Total	3.75	93	7.560	7.0	94	7 546	7.0		
1.00		Start	3.75	94	90 063	0 0	94	1005.3982	0.0	1.944	0.9975
		End	3.75	95	97.643	7.0	95	1012.9498	7.0		
		Avg/Total	3.75	95	7.580	7.0	95	7.552	7.0		
1.00		Start	3.75	95	97.643	0 0	95	1012.9498	0 0	1.940	0 9984
		End	3.75	96	105.238	7.0	96	1020.5098	7.0		
		Avg/Total	3.75	96	7.595	7 0	96	7 56	7.0		

Dry Gas Meter Coefficient Calculations

Approx. Flow Rate Projected (cfm)	RUN NO	Reference Dry Gas Meter Flow Rate Qrm (cfm)	Average Meter Temp. (oF)	Corr. Flow Rate Q'rm (scfm)
0 25	1	0 2786	76 0	0.2713
	2	0 2786	77 5	0.2705
	3	0 2786	77.5	0.2705
0 5	1	0.4850	83.5	0.4657
	2	0 4850	84.5	0.4649
	3	0.4850	85.5	0.4640
0.75	1	0.7560	87.5	0.7207
	2	0.7580	89.5	0.7199
	3	0 7590	90 5	0.7196
1.00	1	1.0800	92 5	1 0202
	2	1.0829	94.5	1.0192
	3	1.0850	95.5	1.0194

1. For Non Temperature Compensated Dry Gas Meter:
   Q'rm = Qrm [520/(460+T)] (Pbar/29.92)
   or
   Q'fm = Qfm [520/(460+T)] {[Pbar+(dP/13.6)]/29.92}
2. For Temperature Compensated Dry Gas Meter:
   Q'std = Qds{Pbar+(dP/13.6)]/29.92}
3. Yds = Q'rm/Q'fm
   Criteria * and ** must be satisfied before caculating Yds and Y ds

Approx. Flow Rate Projected (cfm)	RUN NO.	Field Dry Gas Meter Flow Rate Qfm (cfm)	Average Meter Temp. (oF)	dH (in. H2O)	Corr. Flow Rate Q'fm (scfm)	Coefficient Yfm< (1+0.05)*	(Yds max. - Yds min.) < 0 010 **	Average Coefficient Yds	dH@ < (dH@ + 0.15)	0.98 < (Yds/Yds) < 1.02
0.25	1	0.2825	81.0	0 27	0 2719	0.9977	0.0001	0.998	1.953	1.000
	2	0 2830	83 5	0 27	0.2712	0.9977				
	3	0.2835	84.5	0.27	0.2711	0.9978				
0.50	1	0 4885	85 5	0.78	0.4669	0.9975	0.0002	0.998	1.940	1.000
	2	0 4893	87.5	0.78	0 4659	0 9977				
	3	0.4898	89.0	0 78	0.4651	0 9976				
0.75	1	0.7608	90.5	1.88	0.7225	0.9975	0.0002	0.998	1.946	1.000
	2	0.7613	91.5	1.88	0.7216	0.9976				
	3	0 7617	92 0	1.88	0.7214	0 9975				
1.00	1	1.0780	93.5	3.75	1.0228	0.9975	0.0010	0.998	1.943	1.000
	2	1 0788	94 5	3.75	1 0217	0 9975				
	3	1.0800	95.5	3.75	1.0210	0.9984				

Average dH @ = 1.95
Yds = 0.998

S-Type Pitot Calibration, Wind Tunnel

Date: 5/21/15
Pitot ID: PT-4
Calibrated by: Wally M

Amb. Temperature: 64 degrees F
Barometric Pressure: 29.93

SIDE "A" CALIBRATION				
Run #	**Std. Pitot dP (in H_2O)**	**S-Type dP (in H_2O)**	**Cp (S)**	**Deviation Cp(S) - Cp(A)**
1a	0.024	0.034	0.840	-0.001
1b	0.024	0.034	0.840	-0.001
1c	0.024	0.034	0.840	-0.001
2a	0.051	0.072	0.842	0.000
2b	0.051	0.072	0.842	0.000
2c	0.051	0.072	0.842	0.000
3a	0.110	0.155	0.842	0.001
3b	0.110	0.155	0.842	0.001
3c	0.110	0.155	0.842	0.001

Side "A" average, Cp(A) = **0.84**
Average deviation, d = **0.001**
Is $d \leq 0.01$? **Yes**

SIDE "B" CALIBRATION				
Run #	**Std. Pitot dP (in H_2O)**	**S-Type dP (in H_2O)**	**Cp (S)**	**Deviation Cp(S) - Cp(B)**
1a	0.024	0.034	0.840	-0.002
1b	0.024	0.034	0.840	-0.002
1c	0.024	0.034	0.840	-0.002
2a	0.046	0.065	0.844	0.002
2b	0.046	0.065	0.844	0.002
2c	0.046	0.065	0.844	0.002
3a	0.060	0.085	0.840	-0.002
3b	0.060	0.084	0.845	0.003
3c	0.060	0.085	0.840	-0.002

Side "B" average, Cp(B) = **0.84**
Average deviation, d = **0.002**
Is $d \leq 0.01$? **Yes**

Actual Calculated Pitot Coefficient (Cp) = **0.84**
Difference between "A" and "B", d = |Cp(A) - Cp(B)| = **0.001**
Is $d \leq 0.01$? **Yes**

Note: Triplicate runs at 3 flow rates are required.

Thermocouple Calibration Sheet

Semi Annual

Date: 5/21/2015
I.D. Number: TC-4
Performed by: Wally M

	Hg. in Glass Thermometer, °F				Temp. Sensor °F				Difference	
	0 min	1 min	2 min	avg.	0 min	1 min	2 min	avg.	Absolute Diff	%
Ice	32.1	32.2	32.1	32.1	32.3	32.3	32.3	32.3	0.2	0.52
Ice	32.1	32.2	32.1	32.1	32.3	32.3	32.3	32.3	0.2	0.52
Ice	32.1	32.2	32.1	32.1	32.3	32.3	32.3	32.3	0.2	0.52
Boiling Water	211.3	212.3	212.3	212.0	211.6	212.1	212	211.9	0.1	0.03
Boiling Water	211.3	212.3	212.3	212.0	211.6	212.1	212	212.1	0.1	0.06
Boiling Water	212.3	212.3	212.3	212.3	212.6	212.2	212	212.3	0.0	0.02
Boiling Oil	386	387	387	386.7	386	387	387	386.7	0.0	0.00
Boiling Oil	386	387	387	386.7	386	387	387	386.7	0.0	0.00
Boiling Oil	386	387	387	386.7	386	387	387	386.7	0.0	0.00

PRAXAIR

Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Tel: (323) 585-2154 Fax:(714) 542-6689
PGVPID: F22014

DocNumber: 000071852

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

PRAXAIR WHSE SANTA ANA CA
1545 E EDINGER AVE
SANTA ANA CA 927050

Praxair Order Number: 28611425
Customer P. O. Number: 05123138
Customer Reference Number:

Fill Date: 9/20/2014
Part Number: NI CD8.5O4E-AS
Lot Number: 109426305
Cylinder Style & Outlet: AS CGA 590
Cylinder Pressure & Volume: 2000 psig 140 cu. ft.

Certified Concentration:

Expiration Date:	9/24/2022	NIST Traceable
Cylinder Number:	CC50182	Analytical Uncertainty:
8.36 %	CARBON DIOXIDE	± 0.4 %
22.5 %	OXYGEN	± 0.3 %
Balance	NITROGEN	

Certification Information: *Certification Date:* 9/24/2014 *Term:* 96 Months *Expiration Date:* 9/24/2022

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG.

O2 responses have been corrected for CO2 interference.

Analytical Data: *(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)*

1. Component: CARBON DIOXIDE

Requested Concentration: 8.5 %
Certified Concentration: 8.36 %
Instrument Used: Horiba VIA-510 S/N 2807014
Analytical Method: NDIR
Last Multipoint Calibration: 9/3/2014

First Analysis Data:						Date:	9/24/2014
Z:	0	R:	9.87	C:	8.36	Conc:	8.363
R:	9.86	Z:	0	C:	8.36	Conc:	8.353
Z:	0	C:	8.36	R:	9.87	Conc:	8.363
UOM:	%			Mean Test Assay:			8.363 %

Reference Standard Type: GMIS
Ref. Std. Cylinder # : SA17695
Ref. Std. Conc: 9.87%
Ref Std. Traceable to SRM # : 1674b
SRM Sample # : 7-H-07
SRM Cylinder # : FF10631

Second Analysis Data:						Date:	
Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0
UOM:	%			Mean Test Assay:			0 %

2. Component: OXYGEN

Requested Concentration: 22.5 %
Certified Concentration: 22.5 %
Instrument Used: OXYMAT 5E
Analytical Method: PARAMAGNETIC
Last Multipoint Calibration: 9/19/2014

First Analysis Data:						Date:	9/24/2014
Z:	0	R:	20.9	C:	22.52	Conc:	22.531
R:	20.9	Z:	0	C:	22.52	Conc:	22.531
Z:	0	C:	22.52	R:	20.9	Conc:	22.531
UOM:	%			Mean Test Assay:			22.531 %

Reference Standard Type: GMIS
Ref. Std. Cylinder # : SA18070
Ref. Std. Conc: 20.91 %
Ref. Std. Traceable to SRM # : 2659a
SRM Sample # : 71-E-19
SRM Cylinder # : FF22331

Second Analysis Data:						Date:	
Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0
UOM:	%			Mean Test Assay:			0 %

Analyzed by: Ying Yu

Certified by: Jack Su

PRAXAIR

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PGVPID: F22014

DocNumber: 000073437

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

PRAXAIR WHSE SANTA ANA CA
1545 E EDINGER AVE
SANTA ANA CA 927050

Praxair Order Number: 29103057
Customer P. O. Number: 05197636
Customer Reference Number:

Fill Date: 11/3/2014
Part Number: EV NICDOXE78-AS
Lot Number: 109430702
Cylinder Style & Outlet: AS CGA 590
Cylinder Pressure & Volume: 2000 psig 140 cu. ft.

Certified Concentration:

Expiration Date:		11/10/2022	NIST Traceable
Cylinder Number:		CC333865	Analytical Uncertainty:
5.01	%	CARBON DIOXIDE	± 0.6 %
10.01	%	OXYGEN	± 0.4 %
Balance		NITROGEN	

Certifcation Information: *Certification Date:* 11/10/2014 *Term:* 96 Months *Expiration Date:* 11/10/2022

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG.

O2 responses have been corrected for CO2 interference.

Analytical Data: *(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)*

1. Component: CARBON DIOXIDE

Requested Concentration: 5 %
Certified Concentration: 5.01 %
Instrument Used: Horiba VIA-510 S/N 2807014
Analytical Method: NDIR
Last Multipoint Calibration: 10/31/2014

Reference Standard Type: GMIS
Ref. Std. Cylinder # : SA17695
Ref. Std. Conc: 9.87%
Ref. Std. Traceable to SRM # : 1674b
SRM Sample # : 7-H-07
SRM Cylinder # : FF10631

First Analysis Data:						Date:	11/10/2014
Z:	0	R:	9.87	C:	5.01	Conc:	5.013
R:	9.86	Z:	0	C:	5.01	Conc:	5.013
Z:	0	C:	5.01	R:	9.86	Conc:	5.013
UOM:	%			Mean Test Assay:			5.013 %

Second Analysis Data:						Date:	
Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0
UOM:	%			Mean Test Assay:			0 %

2. Component: OXYGEN

Requested Concentration: 10 %
Certified Concentration: 10.01 %
Instrument Used: OXYMAT 5E
Analytical Method: PARAMAGNETIC
Last Multipoint Calibration: 10/17/2014

Reference Standard Type: GMIS
Ref. Std. Cylinder # : CC240877
Ref. Std. Conc: 5.00%
Ref. Std. Traceable to SRM # : 2658a
SRM Sample # : 72-D-28
SRM Cylinder # : CAL016862

First Analysis Data:						Date:	11/10/2014
Z:	0	R:	5	C:	10.01	Conc:	10.01
R:	5	Z:	0	C:	10.01	Conc:	10.01
Z:	0	C:	10.01	R:	5	Conc:	10.01
UOM:	%			Mean Test Assay:			10.01 %

Second Analysis Data:						Date:	
Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0
UOM:	%			Mean Test Assay:			0 %

Analyzed by: Ying Yu

Certified by: Jack Fu

PRAXAIR

Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Tel: (323) 585-2154 Fax:(714) 542-6689
PGVPID: F22014

DocNumber: 000067401

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

PRAXAIR WHSE SANTA ANA CA
1545 E EDINGER AVE
SANTA ANA CA 927050

Praxair Order Number: 27364804
Customer P. O. Number: 04935077
Customer Reference Number:

Fill Date: 3/17/2012
Part Number: NI NO8.5ME-AS
Lot Number: 109207704
Cylinder Style & Outlet: AS CGA 660
Cylinder Pressure & Volume: 1000 psig 70 cu. ft.

Certified Concentration:

Expiration Date:	5/20/2017	NIST Traceable
Cylinder Number:	CC169749	Analytical Uncertainty:
8.16 ppm	NITRIC OXIDE	± 1.1 %
Balance	NITROGEN	

NOx = 8.20 **NOx for Reference Only**

Certifcation Information: *Certification Date:* 5/20/2014 *Term:* 36 Months *Expiration Date:* 5/20/2017

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG.

Analytical Data: *(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)*

1. **Component: NITRIC OXIDE**

Requested Concentration: 8.5 ppm
Certified Concentration: 8.16 ppm
Instrument Used: Thermo Electron 42i-LS S/N 1030845077
Analytical Method: Chemiluminescence
Last Multipoint Calibration: 4/21/2014

First Analysis Data:						Date:	5/20/2014
Z:	0	R:	10.07	C:	8.16	Conc:	8.16
R:	10.07	Z:	0	C:	8.16	Conc:	8.16
Z:	0	C:	8.17	R:	10.07	Conc:	8.17
UOM:	ppm			Mean Test Assay:			8.163 ppm

Reference Standard Type: GMIS
Ref. Std. Cylinder #: CC335945
Ref. Std. Conc: 10.07 ppm
Ref. Std. Traceable to SRM #: 2629a
SRM Sample #: 50-G-109
SRM Cylinder #: FF31631

Second Analysis Data:						Date:	
Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0
UOM:	ppm			Mean Test Assay:			0 ppm

Analyzed by: Nassim Haddad

Certified by: Diego Mestanza

PRAXAIR

Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Tel: (323) 585-2154 Fax:(714) 542-6689
PGVPID: F22014

DocNumber: 000065712

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

PRAXAIR WHSE SANTA ANA CA
1545 E EDINGER AVE
SANTA ANA CA 927050

Praxair Order Number: 26792886
Customer P. O. Number: 04850910
Customer Reference Number:

Fill Date: 12/29/2011
Part Number: NI NO4ME-AS
Lot Number: 109136306
Cylinder Style & Outlet: AS CGA 660
Cylinder Pressure & Volume: 1000 psig 70 cu. ft.

Certified Concentration:

Expiration Date:	3/31/2017	NIST Traceable
Cylinder Number:	CC331147	Analytical Uncertainty:
3.98 ppm	NITRIC OXIDE	± 1.2 %
Balance	NITROGEN	

NOx = 4.02 ppm **NOx for Reference Only**

Certification Information: *Certification Date:* 3/31/2014 *Term:* 36 Months *Expiration Date:* 3/31/2017

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG.

Last certified concentration was 3.98 ppm Nitric Oxide on 01/23/2012

Analytical Data: *(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)*

1. Component: NITRIC OXIDE

Requested Concentration: ppm
Certified Concentration: 3.98 ppm
Instrument Used: Thermo Electron 42i-LS S/N 1030645077
Analytical Method: Chemiluminescence
Last Multipoint Calibration: 3/21/2014

First Analysis Data:						Date:	3/31/2014
Z:	0	R:	10.07	C:	3.98	Conc:	3.98
R:	10.07	Z:	0	C:	3.97	Conc:	3.97
Z:	0	C:	3.98	R:	10.07	Conc:	3.98
UOM:	ppm			Mean Test Assay:			3.977 ppm

Reference Standard Type: GMIS
Ref. Std. Cylinder # : CC335945
Ref. Std. Conc: 10.07 ppm
Ref. Std. Traceable to SRM # : 2629a
SRM Sample # : 50-G-109
SRM Cylinder # : FF31831

Second Analysis Data:						Date:	
Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0
UOM:	ppm			Mean Test Assay:			0 ppm

Analyzed by: Diego Mestanza

Certified by: N. Haddad
Nassim Haddad

PRAXAIR

Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Tel: (323) 585-2154 Fax:(714) 542-6689
PGVPID: F22014

DocNumber: 000071841

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

PRAXAIR WHSE SANTA ANA CA
1545 E EDINGER AVE
SANTA ANA CA 927050

Praxair Order Number: 28667509
Customer P. O. Number: 05132093
Customer Reference Number:

Fill Date: 9/18/2014
Part Number: NI NO22ME-AS
Lot Number: 109426103
Cylinder Style & Outlet: AS CGA 660
Cylinder Pressure & Volume: 2000 psig 140 cu. ft.

Certified Concentration:

Expiration Date:	10/1/2017	NIST Traceable
Cylinder Number:	CC204933	Analytical Uncertainty:
21.9 ppm	NITRIC OXIDE	± 1 %
Balance	NITROGEN	

NOx = 22.0 ppm **NOx for Reference Only**

Certifcation Information: *Certification Date:* 10/1/2014 *Term:* 36 Months *Expiration Date:* 10/1/2017

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG.

Analytical Data: *(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)*

1. Component: NITRIC OXIDE

Requested Concentration: 22 ppm
Certified Concentration: 21.9 ppm
Instrument Used: Thermo Electron 42H-LS S/N 1030645077
Analytical Method: Chemiluminescence
Last Multipoint Calibration: 9/16/2014

First Analysis Data:						Date: 9/24/2014
Z: 0	R: 19.9	C: 21.9	Conc:	21.9		
R: 19.9	Z: 0	C: 21.9	Conc:	21.9		
Z: 0	C: 21.9	R: 19.9	Conc:	21.9		
UOM: ppm		Mean Test Assay:		21.9 ppm		

Reference Standard Type: GMIS
Ref. Std. Cylinder #: CC363337
Ref. Std. Conc: 19.9 ppm
Ref. Std. Traceable to SRM #: 2629a
SRM Sample #: 50-G-109
SRM Cylinder #: FF31631

Second Analysis Data:						Date: 10/1/2014
Z: 0	R: 19.9	C: 21.9	Conc:	21.9		
R: 19.9	Z: 0	C: 21.8	Conc:	21.8		
Z: 0	C: 21.9	R: 19.9	Conc:	21.9		
UOM: ppm		Mean Test Assay:		21.867 ppm		

Analyzed by: N. Haddad
Nassim Haddad

Certified by: Diego Mestanza
Diego Mestanza

PRAXAIR

Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Tel: (323) 585-2154 Fax:(714) 542-6689
PGVPID: F22014

DocNumber: 000065736

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

PRAXAIR WHSE SANTA ANA CA
1545 E EDINGER AVE
SANTA ANA CA 927050

Praxair Order Number: 26621241
Customer P. O. Number: 04824911
Customer Reference Number:

Fill Date: 3/27/2014
Part Number: AI NX16ME-AS
Lot Number: 109408605
Cylinder Style & Outlet: AS CGA 660
Cylinder Pressure & Volume: 2000 psig 140 cu. ft.

Certified Concentration:

Expiration Date:	4/7/2017	NIST Traceable
Cylinder Number:	CC2188	Analytical Uncertainty:
16.1 ppm	NITROGEN DIOXIDE (as NOx)	± 1.8 %
Balance	AIR	

NO = 0.1 ppm **NO for Reference Only**

Certifcation Information: *Certification Date:* 4/7/2014 *Term:* 36 Months *Expiration Date:* 4/7/2017

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG.

Analytical Data: *(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)*

1. Component: NITROGEN DIOXIDE (as NOx)

Requested Concentration: 16 ppm
Certified Concentration: 16.1 ppm
Instrument Used: Thermo Env. 42i-HL
Analytical Method: Chemiluminescence
Last Multipoint Calibration: 3/21/2014

Reference Standard Type: GMIS
Ref. Std. Cylinder # : CC163565
Ref. Std. Conc: 96.2 ppm
Ref. Std. Traceable to SRM # : 2660a
SRM Sample # : 2660-C-45
SRM Cylinder # : CAL016162

First Analysis Data:						Date:	3/31/2014
Z:	0	R:	94.7	C:	15.88	Conc:	16.132
R:	94.6	Z:	0	C:	15.96	Conc:	16.213
Z:	0	C:	15.92	R:	94.8	Conc:	16.172
UOM:	ppm			Mean Test Assay:			16.172 ppm

Second Analysis Data:						Date:	4/7/2014
Z:	0	R:	94.6	C:	15.84	Conc:	16.097
R:	94.8	Z:	0	C:	15.86	Conc:	16.117
Z:	0	C:	15.83	R:	94.6	Conc:	16.086
UOM:	ppm			Mean Test Assay:			16.1 ppm

Analyzed by: Nassim Haddad — Nassim Haddad

Certified by: Diego Mestanza

PRAXAIR

Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Tel: (323) 585-2154 Fax:(714) 542-6689
PGVPID: F22014

DocNumber: 000071438

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

PRAXAIR WHSE SANTA ANA CA
1545 E EDINGER AVE
SANTA ANA CA 927050

Praxair Order Number: 28425785
Customer P. O. Number: 05094198
Customer Reference Number:

Fill Date: 9/11/2014
Part Number: NI CO42.5MZ-AS
Lot Number: 109425403
Cylinder Style & Outlet: AS CGA 350
Cylinder Pressure & Volume: 2000 psig 140 cu. ft.

Certified Concentration:

Expiration Date:	9/15/2022	NIST Traceable
Cylinder Number:	CC15365	Analytical Uncertainty:
42.1 ppm	CARBON MONOXIDE	± 0.4 %
Balance	NITROGEN	

Certification Information: *Certification Date:* 9/15/2014 *Term:* 96 Months *Expiration Date:* 9/15/2022

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG.

Analytical Data: *(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)*

1. Component: CARBON MONOXIDE

Requested Concentration: 42.5 ppm
Certified Concentration: 42.1 ppm
Instrument Used: Horiba VIA-510, S/N 577172043
Analytical Method: NDIR
Last Multipoint Calibration: 8/20/2014

Reference Standard Type: GMIS
Ref. Std. Cylinder #: CC243411
Ref. Std. Conc: 50.0 ppm
Ref. Std. Traceable to SRM #: 1678c
SRM Sample #: 04-L-41
SRM Cylinder #: FF18402

First Analysis Data:						Date:	9/15/2014
Z:	0	R:	49.9	C:	42	Conc:	42.056
R:	50	Z:	0	C:	42.1	Conc:	42.156
Z:	0	C:	42.1	R:	49.9	Conc:	42.156
UOM:	ppm			Mean Test Assay:			42.123 ppm

Second Analysis Data:						Date:	
Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0
UOM:	ppm			Mean Test Assay:			0 ppm

Analyzed by: Ying Yu

Certified by:

PRAXAIR

Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Tel: (323) 585-2154 Fax:(714) 542-6689
PGVPID: F22014

DocNumber: 000064969

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

PRAXAIR WHSE SANTA ANA CA
1545 E EDINGER AVE
SANTA ANA CA 927050

Praxair Order Number: 26525703
Customer P. O. Number: 04811777
Customer Reference Number:

Fill Date: 3/5/2014
Part Number: NI CO22ME-AS
Lot Number: 109405708
Cylinder Style & Outlet: AS CGA 350
Cylinder Pressure & Volume: 2000 psig 140 cu. ft.

Certified Concentration:

Expiration Date:	3/10/2022	NIST Traceable
Cylinder Number:	EB0025623	Analytical Uncertainty:
22.4 ppm	CARBON MONOXIDE	± 0.7 %
Balance	NITROGEN	

Certifcation Information: *Certification Date:* 3/10/2014 *Term:* 96 Months *Expiration Date:* 3/10/2022

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG.

Analytical Data: *(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)*

1. Component: CARBON MONOXIDE

Requested Concentration: 22 ppm
Certified Concentration: 22.4 ppm
Instrument Used: Horiba VIA-510, S/N 577172043
Analytical Method: NDIR
Last Multipoint Calibration: 2/20/2014

First Analysis Data:						Date: 3/10/2014
Z: 0	R: 24.7	C: 22.4	Conc: 22.461			
R: 24.6	Z: 0	C: 22.3	Conc: 22.36			
Z: 0	C: 22.3	R: 24.6	Conc: 22.36			
UOM: ppm			Mean Test Assay: 22.394 ppm			

Analyzed by: Ying Yu

Reference Standard Type: GMIS
Ref. Std. Cylinder #: CC147286
Ref. Std. Conc: 24.7 ppm
Ref. Std. Traceable to SRM #: 2635a
SRM Sample #: 58-C-32
SRM Cylinder #: CAL011907

Second Analysis Data:						Date:
Z: 0	R: 0	C: 0	Conc: 0			
R: 0	Z: 0	C: 0	Conc: 0			
Z: 0	C: 0	R: 0	Conc: 0			
UOM: ppm			Mean Test Assay: 0 ppm			

Certified by: Jacquelyne Fiera

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 545004
Granted as of 10/17/2013

Equipment Description:
MODIFICATION TO BOILER, NO. 1 WITH PERMIT TO OPERATE D94235, BY THE REMOVAL OF THE EXISTING BURNER AND THE ADDITION OF A NEW BURNER, AMERICAN COMBUSTION TECHNOLOGY OR EQUAL, MODEL SLE-05-250 OR EQUAL, 10,205,800 BTU PER HOUR MAXIMUM, DIGESTER GAS AND NATURAL GAS (AS SECONDARY FUEL), AND REHABILITATION OF ANCILLARY EQUIPMENT.

Conditions:

1. CONSTRUCTION AND OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS BOILER SHALL BE FIRED ON DIGESTER GAS AND OR NATURAL GAS ONLY. EXCEPT FOR PILOT GAS, NATURAL GAS SHALL ONLY BE USED IF DIGESTER GAS IS NOT AVAILABLE IN SUFFICIENT AMOUNT.
[RULE 204]

4. A FUEL METER SHALL BE INSTALLED AND MAINTAINED IN THE FUEL SUPPLY LINE(S) TO MEASURE, INDICATE AND RECORD THE AMOUNT OF FUEL(S) (SCFM) BURNED IN THIS EQUIPMENT.
[RULE 1146, RULE 1303 (b) (2) – OFFSET]

5. WHEN IN OPERATION, TOTAL HEAT INPUT FOR THIS EQUIPMENT SHALL NOT EXCEED 10, 205, 800 BTU/HR. A DAILY LOG SHALL BE KEPT FOR FUEL USAGE, AND INDICATING FOR DIGESTER GAS THE TOTAL HEATING VALUE (BTU/SCF) OF FUEL BURNED IN THIS EQUIPMENT BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (2) – OFFSET]

6. THIS EQUIPMENT SHALL BE EQUIPPED WITH A CONTROL SYSTEM TO AUTOMATICALLY REGULATE THE COMBUSTION AIR AND FUEL RATE AS THE BOILER LOAD VARIES. THIS AUTOMATIC CONTROL SYSTEM SHALL BE ADJUSTED AND TUNED PERIODICALLY, ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS TO ASSURE ITS ABILITY TO REPEAT THE SAME PERFORMANCE AT THE SAME BURNER FIRING RATE.
[RULE 204]

7. THE FLUE GAS RECIRCULATION SYSTEM SHALL BE IN FULL USE WHENEVER THE BOILER IS IN OPERATION.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

8. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL CONDUCT AN INITIAL PERFORMANCE SOURCE TESTS, UNLESS OTHERWISE APPROVED, UNDER THE FOLLOWING CONDITIONS:

   A. A TESTING LABORATORY CERTIFIED BY THE CALIFORNIA AIR RESOURCES BOARD AND IN COMPLIANCE WITH DISTRICT RULE 304 (NO CONFLICT OF INTEREST) SHALL CONDUCT THIS TEST.

   B. A SOURCE TEST PROTOCOL SHALL BE SUBMITTED TO AQMD WITHIN 30 DAYS OF INITIAL START UP AND SHALL BE APPROVED BY AQMD BEFORE THE TEST COMMENCES. THE PROTOCOL SHALL INCLUDE PROPOSED OPERATING CONDITIONS OF THE EQUIPMENT DURING THE TEST, AND A DESCRIPTION OF ALL SAMPLING AND ANALYTICAL PROCEDURES TO BE USED.

   C. SOURCE TESTING SHALL BE CONDUCTED WITHIN 60 CALENDAR DAYS AFTER NORMAL OPERATION OF THE EQUIPMENT HAS BEEN ESTABLISHED, BUT NO LATER THAN 180 DAYS AFTER INITIAL START UP.

   D. THE INITIAL PERFORMANCE SOURCE TESTS SHALL BE PERFORMED WHEN THE BOILER IS OPERATING AT MAXIMUM, MINIMUM AND AVERAGE LOAD FOR EACH FUEL (DIGESTER GAS AND NATURAL GAS) TO BE BURNED. THE SAMPLING TIME AT EACH LOAD SHALL BE FOR A MINIMUM OF 15 CONSECUTIVE MINUTES.

   E. TWO COPIES OF THE SOURCE TEST RESULTS SHALL BE SUBMITTED WITHIN 60 DAYS OF THE TESTS COMPLETION. THE REPORT SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

      FUEL FLOW RATE (EACH FUEL)
      FLUE GAS FLOW RATE (EACH FUEL)
      TOTAL HEAT INPUT RATE, BTU/HR (EACH FUEL)
      TOTAL NON-METHANE ORGANICS (EXHAUST) (DIGESTER GAS) VOC (DG)
      TOTAL PARTICULATES (PM10) (EXHAUST) (DIGESTER GAS)
      OXIDES OF NITROGEN (EXHAUST) (EACH FUEL) NOx
      CARBON MONOXIDE (EXHAUST) (EACH FUEL) CO
      OXYGEN (EACH FUEL)
      DIGESTER GAS BTU (HHV) AND TOTAL SULFUR CONTENT (AS H2S, PPMV) PM (DG)

      THE REPORT SHALL PRESENT THE EMISSIONS DATA IN PARTS PER MILLION (PPMV) ON A DRY BASIS, POUNDS PER HOUR, AND LBS/MMBTU.
      [RULE 217, RULE 404, RULE 1146, RULE 1303(A) (1), 1303 (B) (1), 1303(B) (2) - BACT, MODELING AND OFFSET, 1401]

9. THE SOURCE TEST PROTOCOL AND REPORT, PER CONDITION NO. 8, SHALL BE SUBMITTED TO,
   SCAQMD – ATTN. GAURANG RAWAL
   ENERGY/ PUBLIC SERVICES/WASTE MGMT. / TERMINALS - PERMITTING
   ENGINEERING AND COMPLIANCE DIVISION
   21865 COPLEY DRIVE
   DIAMOND BAR, CA 91765

10. EMISSIONS RESULTING FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	POUNDS PER DAY
CO	90.6
NOx	5.52 (3.1 WITH NATURAL GAS)
PM10	3.1

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

ROG	2.6
SOx	1.4

[RULE 1146, RULE 1303(a) (1) - BACT, 1303(b) (2) - OFFSET]

Periodic Monitoring:

11. THE OPERATOR, AT LEAST ONCE EVERY FIVE YEARS, SHALL DETERMINE COMPLIANCE WITH THE EMISSION LIMITS IN CONDITION NO. 10 OF THIS PERMIT USING AQMD-APPROVED TEST METHODS. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS. RULE 1146 COMPLIANCE TESTS MAY BE USED TO SATISFY PART OF THIS REQUIREMENT PROVIDED THAT MASS RATES ARE ALSO REPORTED. TO DEMONSTRATE COMPLIANCE WITH RULE 1146 CONCENTRATIONS LIMITS. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.
[RULE 1146, RULE 1303(a) (1) - BACT, 1303(b) (2) - OFFSET, RULE 3004 (a)(4)- PERIODIC MONITORING]

Emissions And Requirements:

12. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO:	2000 PPMV, RULE 407
CO:	400 PPMV, @ 3% O2, DRY BASIS, RULE 1146
NOx:	30 PPMV, @ 3% O2, DRY BASIS, RULE 1146 (UNTIL 1/1/2015)
NOx:	15 PPMV, @ 3% O2, DRY BASIS, ON AND AFTER JANUARY 1, 2015, DIGESTER GAS, RULE 1146
NOx:	9 PPMV, @ 3% O2, DRY BASIS, ON AND AFTER JANUARY 1, 2015, NATURAL GAS-RULE 1146
PM:	RULE 404, SEE APPENDIX B.
PM:	0.1 gr/scf, RULE 409
SO2:	500 PPMV AS SO2, ORANGE COUNTY, RULE 53
H2s:	40 PPMV TOTAL SULFUR, DIGESTER GAS

Normal limit ?

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 545005
Granted as of 10/17/2013

Equipment Description:
MODIFICATION TO BOILER, NO. 2 WITH PERMIT TO OPERATE D94232, BY THE REMOVAL OF THE EXISTING BURNER AND THE ADDITION OF A NEW BURNER, AMERICAN COMBUSTION TECHNOLOGY OR EQUAL, MODEL SLE-05-250 OR EQUAL, 10,205,800 BTU PER HOUR MAXIMUM, DIGESTER GAS AND NATURAL GAS (AS SECONDARY FUEL), AND REHABILITATION OF ANCILLARY EQUIPMENT.

Conditions:

1. CONSTRUCTION AND OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS BOILER SHALL BE FIRED ON DIGESTER GAS AND OR NATURAL GAS ONLY. EXCEPT FOR PILOT GAS, NATURAL GAS SHALL ONLY BE USED IF DIGESTER GAS IS NOT AVAILABLE IN SUFFICIENT AMOUNT.
[RULE 204]

4. A FUEL METER SHALL BE INSTALLED AND MAINTAINED IN THE FUEL SUPPLY LINE(S) TO MEASURE, INDICATE AND RECORD THE AMOUNT OF FUEL(S) (SCFM) BURNED IN THIS EQUIPMENT.
[RULE 1146, RULE 1303 (b) (2) – OFFSET]

5. WHEN IN OPERATION, TOTAL HEAT INPUT FOR THIS EQUIPMENT SHALL NOT EXCEED 10, 205, 800 BTU/HR. A DAILY LOG SHALL BE KEPT FOR FUEL USAGE, AND INDICATING FOR DIGESTER GAS THE TOTAL HEATING VALUE (BTU/SCF) OF FUEL BURNED IN THIS EQUIPMENT BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (2) – OFFSET]

6. THIS EQUIPMENT SHALL BE EQUIPPED WITH A CONTROL SYSTEM TO AUTOMATICALLY REGULATE THE COMBUSTION AIR AND FUEL RATE AS THE BOILER LOAD VARIES. THIS AUTOMATIC CONTROL SYSTEM SHALL BE ADJUSTED AND TUNED PERIODICALLY, ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS TO ASSURE ITS ABILITY TO REPEAT THE SAME PERFORMANCE AT THE SAME BURNER FIRING RATE.
[RULE 204]

7. THE FLUE GAS RECIRCULATION SYSTEM SHALL BE IN FULL USE WHENEVER THE BOILER IS IN OPERATION.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

8. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL CONDUCT AN INITIAL PERFORMANCE SOURCE TESTS, UNLESS OTHERWISE APPROVED, UNDER THE FOLLOWING CONDITIONS:

   A. A TESTING LABORATORY CERTIFIED BY THE CALIFORNIA AIR RESOURCES BOARD AND IN COMPLIANCE WITH DISTRICT RULE 304 (NO CONFLICT OF INTEREST) SHALL CONDUCT THIS TEST.

   B. A SOURCE TEST PROTOCOL SHALL BE SUBMITTED TO AQMD WITHIN 30 DAYS OF INITIAL START UP AND SHALL BE APPROVED BY AQMD BEFORE THE TEST COMMENCES. THE PROTOCOL SHALL INCLUDE PROPOSED OPERATING CONDITIONS OF THE EQUIPMENT DURING THE TEST, AND A DESCRIPTION OF ALL SAMPLING AND ANALYTICAL PROCEDURES TO BE USED.

   C. SOURCE TESTING SHALL BE CONDUCTED WITHIN 60 CALENDAR DAYS AFTER NORMAL OPERATION OF THE EQUIPMENT HAS BEEN ESTABLISHED, BUT NO LATER THAN 180 DAYS AFTER INITIAL START UP.

   D. THE INITIAL PERFORMANCE SOURCE TESTS SHALL BE PERFORMED WHEN THE BOILER IS OPERATING AT MAXIMUM, MINIMUM AND AVERAGE LOAD FOR EACH FUEL (DIGESTER GAS AND NATURAL GAS) TO BE BURNED. THE SAMPLING TIME AT EACH LOAD SHALL BE FOR A MINIMUM OF 15 CONSECUTIVE MINUTES.

   E. TWO COPIES OF THE SOURCE TEST RESULTS SHALL BE SUBMITTED WITHIN 60 DAYS OF THE TESTS COMPLETION. THE REPORT SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

      FUEL FLOW RATE (EACH FUEL)
      FLUE GAS FLOW RATE (EACH FUEL)
      TOTAL HEAT INPUT RATE, BTU/HR (EACH FUEL)
      TOTAL NON-METHANE ORGANICS (EXHAUST) (DIGESTER GAS)
      TOTAL PARTICULATES (PM10) (EXHAUST) (DIGESTER GAS)
      OXIDES OF NITROGEN (EXHAUST) (EACH FUEL)
      CARBON MONOXIDE (EXHAUST) (EACH FUEL)
      OXYGEN (EACH FUEL)
      DIGESTER GAS BTU (HHV) AND TOTAL SULFUR CONTENT (AS H2S, PPMV)

      THE REPORT SHALL PRESENT THE EMISSIONS DATA IN PARTS PER MILLION (PPMV) ON A DRY BASIS, POUNDS PER HOUR, AND LBS/MMBTU.
      [RULE 217, RULE 404, RULE 1146, RULE 1303(A) (1), 1303 (B) (1), 1303(B) (2) - BACT, MODELING AND OFFSET, 1401]

9. THE SOURCE TEST PROTOCOL AND REPORT, PER CONDITION NO. 8, SHALL BE SUBMITTED TO,
   SCAQMD – ATTN. GAURANG RAWAL
   ENERGY/ PUBLIC SERVICES/WASTE MGMT. / TERMINALS - PERMITTING
   ENGINEERING AND COMPLIANCE DIVISION
   21865 COPLEY DRIVE
   DIAMOND BAR, CA 91765

10. EMISSIONS RESULTING FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	POUNDS PER DAY
CO	90.6
NOx	5.52 (3.1 WITH NATURAL GAS)

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PM10	3.1
ROG	2.6
SOx	1.4

[RULE 1146, RULE 1303(a) (1) - BACT, 1303(b) (2) - OFFSET]

Periodic Monitoring:

11. THE OPERATOR, AT LEAST ONCE EVERY FIVE YEARS, SHALL DETERMINE COMPLIANCE WITH THE EMISSION LIMITS IN CONDITION NO. 10 OF THIS PERMIT USING AQMD-APPROVED TEST METHODS. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS. RULE 1146 COMPLIANCE TESTS MAY BE USED TO SATISFY PART OF THIS REQUIREMENT PROVIDED THAT MASS RATES ARE ALSO REPORTED. TO DEMONSTRATE COMPLIANCE WITH RULE 1146 CONCENTRATIONS LIMITS. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.
[RULE 1146, RULE 1303(a) (1) - BACT, 1303(b) (2) - OFFSET, RULE 3004 (a)(4)- PERIODIC MONITORING]

Emissions And Requirements:

12. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO:	2000 PPMV, RULE 407
CO:	400 PPMV, @ 3% O2, DRY BASIS, RULE 1146
NOx:	30 PPMV, @ 3% O2, DRY BASIS, RULE 1146
NOx:	15 PPMV, @ 3% O2, DRY BASIS, ON AND AFTER JANUARY 1, 2015, DIGESTER GAS, RULE 1146
NOx:	9 PPMV, @ 3% O2, DRY BASIS, ON AND AFTER JANUARY 1, 2015, NATURAL GAS-RULE 1146
PM:	RULE 404, SEE APPENDIX B.
PM:	0.1 gr/scf, RULE 409
SO2:	500 PPMV AS SO2, ORANGE COUNTY, RULE 53
H2s:	40 PPMV TOTAL SULFUR, DIGESTER GAS

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

M E M O R A N D U M

DATE: August 26, 2015

TO: Rudy Eden, Manager-Monitoring & Source Testing

FROM: Andrew Lee, Manager- Energy/Public Services/ Waste Mgmt/Terminals-Permitting AYL

SUBJECT: Review Request (Included are **FORMS ST-1 & ST-2**[1])

S/T ID: P15308
Received: STA RECEIVED
Assigned:
Assigned To: AUG 28 2015
Completed:
M&STE BRANCH

DOCUMENT ATTACHED FOR EVALUATION:

☐ CEMS ☒ Test Protocol ☐ Other: _____

☐ Test Report: (☐ Test Protocol already approved – memo attached ☐ Test Protocol NOT approved by M&STE)

Additional Documentation (Required as of March 2002):

Pursuant to the Public Records Act, part or all of the above document attached for evaluation may be subject to public disclosure unless the company claims that the information contained within is "proprietary", "confidential", or a "trade secret". If such a statement was included when this document was submitted to you it must be included, or affirmed by you that such a document was not included:

☐ Document containing a "Statement of Confidentiality" or similar statement, is included with this request for evaluation.

☒ No "Statement of Confidentiality" or similar document was included when this document was submitted to me by the facility or owner/operator.

SIGNED: Gaurang Rawal **TITLE:** AQ Engineer II

This attached document id submitted for your evaluation. We would appreciate it if your staff could review and provide comments or approval by the indicated date. Thank you.

REQUESTED RESPONSE DATE: September 30, 2015 ☐ **PRIORITY EVALUATION**
(explain under "COMMENTS" below)

COMPANY NAME: OCSD, Reclamation Plant No. 2 **FAC.ID:** 29110

EQUIP. ADDRESS: 22212 Brookhurst St., Huntington Beach, CA 92646

BASIC EQUIP: Boiler, Clever Brooks,American combustion Tech, Model SLE-05-250, DG fired, NG as stand by fuel, 10.2 MM Btu/hr.

EQUIP IDENT: A/N 545004 OR 545005 (☐DevID☒A/N☐P/N)

RECLAIM USE ONLY: (NOx: ☐MAJ☐LGE☐PRC SOx: ☐MAJ☐LGE)

COMMENTS[2]**:** **Testing Company: Accurate Environmental Services, Inc. (AES)**
Report Date: July 20, 2015 Date Received: August 24, 2105 Test Date: TBD
Source Test (Initial or Annual): Initial source test

This S/T protocol (ID TP 03322 OCSD, attached) is for performance and compliance determination for criteria pollutants' emissions concentrations and rates; as applicable.

PROCESSING ENGINEER: Gaurang Rawal GR **EXT.** 2543

[1] Forms ST-1 and ST-2 must be completed and attached to this request, or your submittal will be returned.
[2] Explain reason for Priority Review, time constraints, Hearing Board action, clarify testing requirements, etc.

CHECKLIST FOR REQUEST TO REVIEW: SOURCE TEST PROTOCOL, REPORT, OR SPECIAL PROJECT

This *Checklist* (***FORM ST-1***) must accompany any request to evaluate a source test protocol, report, or special project. It may be completed by the requesting AQMD Engineer or Inspector, or a representative of the Source Testing Firm/Laboratory/Contractor. Verify, by checking each item below, that all the requested information has been provided with the attached source test protocol, report, or special project. (An incomplete submittal will be returned, and will ultimately delay the evaluation process):

All Source Test Protocols and Reports Must Include:

- ☒ Completed Review Request Memorandum. (A request for a *"Priority Review"* involves Hearing Board, Abatement Order, or similar critical action, and must be authorized by a manager).
- ☒ Information Request ***FORM ST-2*** with those applicable parts filled out completely.
- ☒ Reason for test, including proposed operating test loads, reference to applicable rules/permit conditions, and key facility, test firm and AQMD personnel.
- ☒ Complete Permit to Construct or Permit to Operate, including all conditions.
- ☒ Brief process description, including maximum and normal operating temperatures, pressures, through-put, etc.
- ☒ Brief description of sampling and analytical methods for each constituent to be measured. If a standard District, EPA, or ARB method "without any deviation" will be used, reference it by method number.
- ☐ **TBD**-Process schematic diagram showing the ports and sampling locations, including the dimensions of the ducts/stacks at the sampling locations, along with upstream and downstream distances to flow disturbances, (e.g. elbows, tees, fans) from the sampling locations.
- ☒ Calibration and quality assurance (QA) procedures identified.
- ☒ Statement that source test firm/laboratory qualifies as an *"independent testing laboratory"* under Rule 304 (no conflict of interest), and is approved by AQMD or ARB, if required.
- ☒ Attached test firm AQMD-LAP or CARB approval, if required.

All Source Test Reports Must Also Include:

- ☐ Field raw data sheets and laboratory data forms, where applicable.
- ☐ Gas monitoring stripcharts and/or DAS printouts, legible and properly annotated, where applicable.
- ☐ Complete calculations for volumetric flowrates and emissions rates, where applicable.
- ☐ Complete QA supporting documentation (sampling equipment, cal gases, lab analyses, custodies).
- ☐ (*CEMS & Fuel Meters*): Full identification/documentation for CEMS components and fuel meters (analyzer/fuel meter make, model, s/n, range, calibrations, etc.).
- ☐ (*RECLAIM/Large Source*): "Certificate of No Exceptions for testing RECLAIM Large Sources" completed and signed.

Applicable Source Specific Protocols / Reports Must Also Include:

- ☐ (*VOC Efficiency*): VOC overall efficiency (capture/collection plus control efficiencies), or transfer efficiency describes all sample collection points, verifies total collection, and shows all calculations and documentation, according to specified requirements.
- ☐ (*Organics Loading*): Organic (VOC) liquid loading testing describes all sample collection/monitoring points (both liquid and vapor), verifies representative start/stop time, and shows all calculations and documentation, according to specified requirements.
- ☐ (*Particulates/sulfur*): Particulate testing of effluent gas streams with high amounts of sulfur compounds addresses additional test preparation, equipment, calculations, and documentation.

FORM ST-2 *(TO BE COMPLETED BY E&C REQUESTER)*

MONITORING & ANALYSIS DIVISION | MONITORING & SOURCE TEST ENGINEERING BRANCH

INFORMATION REQUEST FOR PROTOCOL, REPORT, OR SPECIAL PROJECT REVIEW

This *Information Request* (***FORM ST-2***) must accompany any request to evaluate a source test protocol, report, or special project, and it can *only* be completed by the requesting AQMD Engineer or Inspector. Please mark the appropriate items and provide the requested information. The sampling and analytical methods will be reviewed *only* for those constituents identified on this form, so be sure to provide as much information as possible.

Constituent(s) to be measured	Allowable Limit(s)[1].			Rule or Permit Condition(s)	Sampling Location(s) (SCR inlet, outlet, exhaust, etc.)	Other Requirements (test parameters, BACT, Rule Development, etc.)
	Concentration (specify ppm as CH_4, @ 3% O_2, etc.)		Mass Emission (specify lb/hr, etc.)			
☒ CO	Confirm ppmv, @ 3% O2.	☒ Compliance Only ☒ Mass Emissions or Factors	90.6 lbs/day (DG)	Cond. 10 & 12	Exhaust	
☐ CO_2		☐ Compliance Only ☐ Mass Emissions or Factors				
☒ O_2		☐ Compliance Only ☐ Mass Emissions or Factors			Exhaust	
☒ NOx, as NO_2	Confirm ppmv, @ 3% O2	☒ Compliance Only ☒ Mass Emissions or Factors	5.52 lbs/day (DG), 3.1 lbs/day (NG)	Cond. 10 & 12	Exhaust	
☒ SOx, as SO_2		☐ Compliance Only ☒ Mass Emissions or Factors	1.4 lbs/day	Cond. 10	Exhaust	
☐ SO_3		☐ Compliance Only ☐ Mass Emissions or Factors				
☐ H_2S		☐ Compliance Only ☐ Mass Emissions or Factors				
☒ Total Reduced Sulfur, as H2S	Confirm reported results	☒ Compliance Only ☐ Mass Emissions or Factors		Rule 431.1, Cond. 12	Inlet	
☐ NH_3 Slip		☐ Compliance Only ☐ Mass Emissions or Factors				
☐ Aldehydes		☐ Compliance Only ☐ Mass Emissions or Factors				

1. Concentration must include correction to standard point-of-reference (NOx @ 3%O_2, ROG *as* CH_4, etc.). If there is no "Mass Emission" compliance limit specified, please specify if concentration will be used only for compliance determination or whether it will also be calculated to a mass emission or factor (this will affect how we interpret the reported concentrations).

FORM ST-2 *(TO BE COMPLETED BY E&C REQUESTER)*

MONITORING & ANALYSIS DIVISION | MONITORING & SOURCE TEST ENGINEERING BRANCH

INFORMATION REQUEST FOR SOURCE TEST PROTOCOL, REPORT, OR SPECIAL PROJECT REVIEW

Constituent(s) to be measured	Allowable Limit(s)[1]. Concentration (specify ppm as CH_4, @ 3% O_2, etc.)		Allowable Limit(s)[1]. Mass Emission (specify lb/hr, etc.)	Rule or Permit Condition(s)	Sampling Location(s) (SCR inlet, outlet, exhaust, etc.)	Other Requirements (test parameters, BACT, Rule Development, etc.)
☒ TGNMO ☐ TGNMO, Efficiency *(check all that apply)*: ☐ Transfer ☐ Capture/Collect ☐ Control/Destruct ☐ Overall		☐ Compliance Only ☒ Mass Emissions or Factors	2.6 lbs/day (DG)	Cond. 10	Exhaust	
☒ Speciated Organics *(specify)*:	PPMV (DG)	☐ Compliance Only ☒ Mass Emissions or Factors			Exhaust	
☒ PM (total)	gr/scf	☐ Compliance Only ☒ Mass Emissions or Factors		Cond. 12		
☒ DG Fuel		☐ Compliance Only ☐ Mass Emissions or Factors		HHV, Cond. 8	Inlet	
☒ PM=PM_{10}		☐ Compliance Only ☒ Mass Emissions or Factors	3.1 lbs/day	Cond. 10	Exhaust	
☐ Toxics *(specify)*:		☐ Compliance Only ☐ Mass Emissions or Factors				

1. Concentration must include correction to standard point-of-reference (NOx @ *3%O_2*, ROG *as CH_4*, etc.). If there is no "Mass Emission" compliance limit specified, please specify if concentration will be used only for compliance determination or whether it will also be calculated to a mass emission or factor (this will affect how we interpret the reported concentrations).

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

MONITORING ANALYSIS DIVISION * MONITORING ENGINEERING BRANCH

PERFORMANCE TEST PLAN EVALUATION WORKSHEET

SOURCE TEST ID #:	P 15308	FACILITY ID #:	29110

COMPANY: Orange County Sanitation District

COMPANY CONTACT: Vlad Kogan

MAILING ADDRESS: 10844 Ellis Ave. ATTN: Randa Abushaban

MAILING CITY / ZIP: Fountain Valley, CA 92708-7018

BASIC EQUIPMENT: Boiler, 10.2 MMBtu/Hr, Model SLE-05-250

PROTOCOL DATE: 7/20/2015 **TEST DATE:**

EQUIPMENT ADDRESS: 22212 BROOKHURST ST

EQUIPMENT CITY: HUNTINGTON BEACH

PERFORMANCE TEST EVALUATION

TRXN TYPE	TYPE OF EVALUATION	HOURLY FEE	NO. OF HOURS	SUBTOTAL
36	MINIMUM FEE			$348.82
	PROTOCOL		7.00	
	BASIC WORK HOURS		5	
	ADDITIONAL CHARGE IN EXCESS OF THE BASIC HOURS	*(See below)	2.00	$265.44

TOTAL:	$614.26

AUTHORIZED FOR BILLING _____ **DATE** 1/13/16

*** A minimum fee of $348.82 will be charged for the evaluation of source test protocols and reports. Additional fees for time spent in the evaluation in excess of 5 hours will be assessed at the hourly rate of $132.72 per hour.**

01.14.2016 14:28

Dunavent, Andrew/SDO

From: Lisa Ramos <lramos1@aqmd.gov>
Sent: Wednesday, April 06, 2016 10:32 AM
To: Dunavent, Andrew/SDO
Cc: OB PR Support NA Docs
Subject: Public Records Request #84579,
Attachments: STE - Source Test Protocol & Report - 3/25/2016 - TestID: 14076- R - Fac ID: 94967 - Name: MESA WATER DISTRICT - Notes:.pdf; STE - Form 131 Public Request Evaluations - 3/25/2016 - 84579 - - - ANDREW DUNAVENT.doc; - PR - PR Supporting Docs - 4/6/2016 - 84579 - - - COMPLETION LETTER - ANDREW DUNAVENT.pdf; - PR - PR Review Docs - 7/24/2009 - 84579 - - 499283 APPLICATON - - - ANDREW DUNAVENT.pdf

Andrew Dunavent

I have attached the available requested information for this request.

Lisa Ramos
South Coast A.Q.M.D
Public Records Unit
909.396.3211

Information Management
Public Records Unit

Direct Dial (909) 396-3700
Fax:(909) 396-3330

COMPLETION LETTER

April 06, 2016

ANDREW DUNAVENT
CH2M HILL
402W. BROADWAY # SUITE 1450
SAN DIEGO, CA 92101

Ref.: CONTROL NO. 84579
Received 1/21/2016

Re: APPL'S, P/O'S & S/T RPTS FOR MESA WATER DISTRICT, FAC ID #94967, AT 3596 CADILLAC AVENUE, COSTA MESA, CA 92626, APPL #499283.

After a thorough search of this agency's records, the following records were found:
APPL'S, P/O'S & ST RPTS FOR MESA WATER DISTRICT, FAC ID #94967, AT 3596 CADILLAC AVENUE, COSTA MESA, CA 92626, APPL #499283.

YOUR REQUESTED RECORDS WERE PROVIDED ELECTRONICALLY ON 04/06/2016

If you have any questions, please do not hesitate to contact me, Tuesday through Friday, **8:00 a.m**. to **4:30 p.m.**

Sincerely,

LISA RAMOS x3211
For Colleen Paine
Public Records Coordinator

:lr

Restrictions Concerning the Release and Interpretation of Source Testing Emission Information (Please Read Carefully)

The South Coast Air Quality Management District • Source Test Engineering Branch

Request Concerns: Mesa Water District

84579
(AQMD Control No.)

The SCAQMD Source Test Engineering (STE) Branch has provided the following source testing reports pursuant to your Public Records Request. STE is obligated under AQMD's Guidelines for Implementing the California Public Records Request, to remove information which is regarded as proprietary, confidential, or information which contains trade secrets. Also, "data used to calculate emission data" must be removed, prior to dissemination. This includes, but is not limited to:

1. Intermediate stack information (stack dimensions, velocity/flowrate, temperature, gaseous composition other than reported contaminant emissions, etc.).
2. Intermediate emission information (emissions/losses to control devices, raw emission data, laboratory analyses, etc.).
3. Process information (process/product throughput, fuel usage, firing rates and burner/control adjustments unless rule/permit conditions specify emissions to be formatted according to this information, photos or drawings of process, etc.).
4. Quality Assurance concerning the above information (calibrations, corrections, etc.).

Most source test reports received by STE are formally evaluated for accuracy and other factors pertinent to the accuracy of reported emissions. The attached source test reports have been rated as follows:

Source Test I.D.	Document Subject/Date		Accuracy Rating*
R 14076	☐ Protocol ☒ Report ☐ other:	☐ Test Date ☒ Document Date September 20, 2013	(I) (A) (CA) (U) (NR)

**STE's Accuracy Rating Explanations:*

IN-HOUSE (I) – Source testing and report were conducted "in-house" by AQMD Source Testing staff and reported emission information is considered accurate.

ACCEPTABLE (A) – Source test document was conducted/submitted by independent source testing firm, has been evaluated by STE staff, and reported emission information is considered accurate and well documented.

CONDITIONALLY ACCEPTABLE (CA) – Source test document was conducted/submitted by independent source testing firm, has been evaluated by STE staff, and reported emission information may have limited use. For further details, contact STE at (909) 396-2265.

UNACCEPTABLE (U) – Source test document was conducted/submitted by independent source testing firm, has been evaluated by STE staff, and emission information is not considered accurate. Unacceptable source test reports will not be provided unless the requestor requests their release after being notified of their Accuracy Rating. For further details, contact STE at (909) 396-2265.

NOT RATED (NR) – Source test report has not been formally evaluated or status is unknown. STE assumes no responsibility for the accuracy of the reported emission information.

R14076

AIR GAS TESTING & CONSULTING SERVICES

AIR POLLUTION ENGINEERING, TESTING, PERMITTING, RISK ASSESSMENT, EMISSIONS REPORT

SOURCE TEST REPORT

MESA CONSOLIDATED WATER DISTRICT
RULE 1110.2 TESTING FOR NOx, CO & VOC

WELL #5 ENGINE
SCAQMD FACILITY ID: 94967
3596 CADILLAC AVENUE, COSTA MESA, CA 92628

PREPARED FOR:

MESA CONSOLIDATED WATER DISTRICT
1965 PLACENTIA AVENUE
COSTA MESA, CALIFORNIA 92627

PREPARED BY:

AIR GAS TESTING & CONSULTING SERVICES
7111 GARDEN GROVE BLVD., SUITE 118
GARDEN GROVE, CALIFORNIA 92841

TIMOTHY T. DINH
ENGINEERNING MANAGER

REPORT NO. 92013RP
TEST DATE: AUGUST 26, 2013
REPORT DATE: SEPTEMBER 20, 2013

TABLE 1.2

SUMMARY OF SOURCE TEST RESULTS – ENGINE WELL #5

Test Date: August 26, 2013
Client: Mesa Consolidated Water District

POLLUTANTS	NORMAL LOAD
Oxides of Nitrogen (NOx)	
PPM at 15% O_2:	6.85 ✓
Compliance Limit (ppm @15% O_2):	11
Pass/Fail Status:	Passed
Compliance with Permit to Operate Conditions:	7 & 9
Carbon Monoxide (CO)	
PPM at 15% O_2:	56.8 56.78
Compliance Limit (ppm @15% O_2):	70
Pass/Fail Status:	Passed
Compliance with Permit to Operate Conditions:	7 & 9
Volatile Organic Compounds (VOC)	
PPM at 15% O_2:	3.07 ✓
Compliance Limit (ppm @15% O_2):	30
Pass/Fail Status:	Passed
Compliance with Permit to Operate Conditions:	7 & 9

Note: Refer to Section 3.0 for Detailed Test Results

Dunavent, Andrew/SDO

From: Lisa Ramos <lramos1@aqmd.gov>
Sent: Wednesday, April 06, 2016 10:40 AM
To: Dunavent, Andrew/SDO
Cc: OB PR Support NA Docs
Subject: FW: Public Records Request #85112,
Attachments: STE - Source Test Protocol & Report - 3/25/2016 - TestID: 08026- R - Fac ID: 95212 - Name: FABRICA - Notes:.pdf; STE - Source Test Protocol & Report - 3/25/2016 - TestID: 08025- R - Fac ID: 95212 - Name: FABRICA - Notes:.pdf; STE - Form 131 Public Request Evaluations - 3/25/2016 - 84580 - - - ANDREW DUNAVENT.doc

This is for PRR 85112.

Lisa Ramos
South Coast A.Q.M.D
Public Records Unit
909.396.3211

From: Lisa Ramos
Sent: Wednesday, April 6, 2016 10:39 AM
To: 'Andrew.Dunavent@ch2m.com' <Andrew.Dunavent@ch2m.com>
Cc: OB PR Support NA Docs <ob_pr_support_na_docs@aqmd.gov>
Subject: Public Records Request #85113,

Andrew Dunavent

I have attached some of the documents for this request. I am still waiting for any additional documents.

Lisa Ramos
South Coast A.Q.M.D
Public Records Unit
909.396.3211

Dunavent, Andrew/SDO

From: Lisa Ramos <lramos1@aqmd.gov>
Sent: Tuesday, April 19, 2016 7:18 AM
To: Dunavent, Andrew/SDO
Cc: OB PR Support NA Docs
Subject: Public Records Request #85112,
Attachments: - PR - PR Supporting Docs - 4/19/2016 - 85112 - - - COMPLETION LETTER - ANDREW DUNAVENT.pdf; - PR - PR Review Docs - 4/19/2016 - 85112 - - - ANS 581335-337.PDF - - ANDREW DUNAVENT.pdf

Andrew Dunavent

I have attached the available requested information for this request.

Lisa Ramos
South Coast A.Q.M.D
Public Records Unit
909.396.3211

Information Management
Public Records Unit

Direct Dial (909) 396-3700
Fax:(909) 396-3330

COMPLETION LETTER

April 19, 2016

ANDREW DUNAVENT
CH2M HILL
402W. BROADWAY # SUITE 1450
SAN DIEGO, CA 92101

Ref.: CONTROL NO. 85112
Received 3/1/2016

Re: APPL'S, P/O'S & S/T RPTS FOR LA CITY, DWP HAYNES GENERATING STATION, FAC ID #800074, APPL #'S 581335, 581336 & 581337.

After a thorough search of this agency's records, the following records were found:
APPL'S (STILL UNDER REVIEW) FOR LA CITY, DWP HAYNES GENERATING STATION, FAC ID #800074, APPL #'S 581335, 581336 & 581337.

The following records were not found:
P/O'S & S/T RPTS FOR LA CITY, DWP HAYNES GENERATING STATION, FAC ID #800074, APPL #'S 581335, 581336 & 581337.

YOUR REQUESTED RECORDS WERE PROVIDED ELECTRONICALLY ON 04/19/2016

If you have any questions, please do not hesitate to contact me, Tuesday through Friday, **8:00 a.m**. to **4:30 p.m.**

Sincerely,

LISA RAMOS x3211
For Colleen Paine
Public Records Coordinator

:lr

South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

(3)

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): LA City DWP, Haynes Generating Station

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 800074

3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: (•) Fixed Location ( ) Various Location
(For equipment operated at various locations, provide address of initial site.)

6801 East 2nd Street
Street Address

Long Beach , CA 90803
City Zip

Edward Kim — Env. Coordinator
Contact Name — Title

(310) 522-7512 — Ext. — Fax #
Phone #

E-Mail: edward.kim@ladwp.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
☐ Check here if same as equipment location address

111 N. Hope Street, Room 1050
Address

Los Angeles , CA 90012
City State Zip

Dat M. Quach — Air Quality Manager
Contact Name — Title

(213) 367-4697 — Ext. — (213) 367-4710
Phone # Fax #

E-Mail: dat.quach@ladwp.com

Section D - Application Type

6. The Facility Is: ( ) Not In RECLAIM or Title V ( ) In RECLAIM ( ) In Title V (•) In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application:

( ) New Construction (Permit to Construct)
( ) Equipment On-Site But Not Constructed or Operational
( ) Equipment Operating Without A Permit *
( ) Compliance Plan
( ) Registration/Certification
( ) Streamlined Standard Permit

7b. Facility Permits:

(X) Title V Application or Amendment (Refer to Title V Matrix)
( ) RECLAIM Facility Permit Amendment

7c. Equipment or Process with an Existing/Previous Application or Permit:

( ) Administrative Change
( ) Alteration/Modification
( ) Alteration/Modification without Prior Approval *
(•) Change of Condition (D)
( ) Change of Condition without Prior Approval *
( ) Change of Location
( ) Change of Location without Prior Approval *
( ) Equipment Operating with an Expired/Inactive Permit *

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number:

* A Higher Permit Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)).

8a. Estimated Start Date of Construction (mm/dd/yyyy):
8b. Estimated End Date of Construction (mm/dd/yyyy):
8c. Estimated Start Date of Operation (mm/dd/yyyy):

9. Description of Equipment or Reason for Compliance Plan (list applicable rule):
Permit application for minor permit modification and change in condition. TS Revision

10. For Identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process): 1

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are $500,000 or less OR a not-for-profit training center) (•) No ( ) Yes

12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? (•) No ( ) Yes
If Yes, provide NOV/NC#:

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Electric Generation

14. What is your business primary NAICS Code? (North American Industrial Classification System) 221112

15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? ( ) No (•) Yes

16. Are there any schools (K-12) within 1000 feet of the facility property line? (•) No ( ) Yes

Section F - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official: Kenneth A. Silver

18. Title of Responsible Official: Dir. of Power Supply and Op.

19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) ( ) No (•) Yes

20. Print Name: Kenneth A. Silver

21. Date: 1/11/2016

22. Do you claim confidentiality of data? (If Yes, see instructions.) (•) No ( ) Yes

23. Check List: [X] Authorized Signature/Date [X] Form 400-CEQA [X] Supplemental Form(s) (ie., Form 400-E-xx) [X] Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #	CHECK #	AMOUNT RECEIVED	PAYMENT TRACKING #	VALIDATION
	581335	1001008379	25,592.54	IC	1/19/16 dt

DATE	APP REJ	DATE	APP REJ	CLASS I III	BASIC CONTROL	EQUIPMENT CATEGORY CODE	TEAM	ENGINEER	REASON/ACTION TAKEN
							E		

CM 126073

South Coast Air Quality Management District

Form 500-C1

Title V Compliance Status Report

To provide the compliance status of your facility with applicable federally enforceable requirements and identify other local-only requirements, complete this form and attach it to a completed compliance certification Form 500-A2. As appropriate, all submittals of Form 500-C2 as appropriate should also be attached to this form.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section I - Operator Information

1. **Facility Name** (Business Name of Operator That Appears On Permit): LA City DWP, Haynes Generating Station

2. **Valid AQMD Facility ID** (Available On Permit Or Invoice Issued By AQMD): 800074

PROCEDURES FOR DETERMINING COMPLIANCE STATUS

1. Equipment verification: Review the list of pending applications, and either the preliminary Title V facility permit or the list of current permits to operate that the AQMD provided you, to determine if they completely and accurately describe all equipment operating at the facility. Attach a statement to describe any discrepancies.
2. Identify applicable requirements*: Use the checklist in Section II to identify all applicable and federally-enforceable local, state, and federal rules and regulations, test methods, and monitoring, recordkeeping and reporting (MRR) requirements that apply to any equipment or process (including equipment exempt from a permit by Rule 219) at your facility.
   The potential applicable requirements, test methods and MRR requirements are identified and listed adjacent to each given equipment/process description. Check off each box adjacent to the corresponding requirement as it applies to your particular equipment/process.
   Note: Even if there is only one piece of equipment that is subject to a particular requirement, the appropriate box should be checked.
3. Identify additional applicable requirements*: Use Section III to identify any additional requirements not found in Section II. Section II is not a complete list of all applicable requirements. It does not include recently adopted NESHAP regulations by EPA or recent amendments to AQMD rules. Do not add rules listed in Section V here.
4. Identify any requirements that do not apply to a specific piece of equipment or process: Also use Section III to identify any requirements that are listed in Section II but that do not apply to a specific piece of equipment or process. Fill out Section III of this form and attach a separate sheet to explain the reason(s) why the identified rules do not apply. Note: Listing any requirement that does not apply to a specific piece of equipment will not provide the facility with a permit shield unless one is specifically requested by completing Form 500-D and is approved by AQMD.
5. Identify SIP-approved rules that are not current AQMD rules: Use Section IV to identify older versions of current AQMD rules that are the EPA-approved versions in the State Implementation Plan (SIP), and that are still applicable requirements as defined by EPA. The facility is not required to certify compliance with the items checked in Section IV provided that the non-SIP approved rule in Section II is at least as stringent as the older SIP-approved version in Section IV. **
6. Identify Local-Only Enforceable Regulatory Requirements: Use Section V to identify AQMD rules that are not SIP-approved and are not federally enforceable.
7. Determine compliance: Determine if all equipment and processes are complying with all requirements identified in Sections II and III. If each piece of equipment complies with all applicable requirements, complete and attach Form 500-A2 to certify the compliance status of the facility. If any piece of equipment is not in compliance with any of the applicable requirements, complete and attach Form 500-C2 in addition to Form 500-A2.

* The following AQMD rules and regulations are not required to be included in Section II and do not have to be added to Section III: Regulation I, List and Criteria in Regulation II, Rule 201, Rule 201.1, Rule 202, Rule 203, Rule 205, Rule 206, Rule 207, Rule 208, Rule 209, Rule 210, Rule 212, Rule 214, Rule 215, Rule 216, Rule 217, Rule 219, Rule 220, Rule 221, Regulation III, Regulation V, Regulation VIII, Regulation XII, Regulation XV, Regulation XVI, Regulation XIX, Regulation XXI, Regulation XXII, and Regulation XXX.

** Emission units adversely affected by the gap between current and SIP-approved versions of rules may initially be placed in a non-Title V portion of the permit

Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ All Air Pollution Control Equipment Using Combustion (RECLAIM & non-RECLAIM sources)	☐ Rule 480 (10/07/77)	N/A	N/A
☑ All Coating Operations (12/15/00)	☑ Rule 442	☑ Rule 442(f)	☑ Rule 442(g)
☐ All Combustion Equipment, ≥ 555 Mmbtu/Hr (except for NOx RECLAIM sources)	☐ Rule 474 (12/04/81)	☐ AQMD TM 7.1 or 100.1	
☑ All Combustion Equipment Except Internal Combustion Engines (RECLAIM & non-RECLAIM sources)	☑ Rule 407 (04/02/82) ☑ Rule 409 (08/07/81)	☑ AQMD TM 100.1 or 10.1, 307-91 ☑ AQMD TM 5.1, 5.2, or 5.3	
☑ All Combustion Equipment Using Gaseous Fuel (except SOx RECLAIM sources)	☑ Rule 431.1 (06/12/98)	☑ Rule 431.1(f)	☑ Rule 431.1(d) & (e)
☑ All Combustion Equipment Using Liquid Fuel (except SOx RECLAIM sources)	☑ Rule 431.2 (09/15/00)	☑ Rule 431.2(g)	☑ Rule 431.2(f)
☑ All Combustion Equipment Using Fossil Fuel (except SOx RECLAIM sources)	☑ Rule 431.3 (05/07/76)		
☑ All Equipment	☑ Rule 401 (11/09/01) ☑ Rule 405 (02/07/86) ☑ Rule 408 (05/07/76) ☑ Rule 430 (07/12/96) ☑ Rule 701 (06/13/97) ☑ New Source Review, BACT ☑ Rule 1703 (10/07/88) ☑ 40 CFR68 - Accidental Release Prevention	☑ California Air Resources Board Visible Emission Evaluation ☑ AQMD TM 5.1, 5.2, or 5.3 N/A See Applicable Subpart	☐ Rule 430(b) See Applicable Subpart
☐ All Equipment Processing Solid Materials	☐ Rule 403 (06/03/05)	☐ Rule 403(d)(3)	☐ Rule 403(f)
☑ All Equipment With Exhaust Stack (except cement kilns subject to Rule 1112.1)	☑ Rule 404 (02/07/86)	☑ AQMD TM 5.1, 5.2, or 5.3	
☑ All Facilities Using Solvents to Clean Various Items or Equipment	☑ Rule 109 (05/02/03) ☑ Rule 1171 (05/01/09) ☑ 40 CFR63 SUBPART T	☑ Rule 109(g) ☑ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1171(c)(6) See Applicable Subpart
☑ All RECLAIM Equipment (NOx & SOx)	☑ Reg. XX - RECLAIM	☐ Rule 2011, App. A (05/06/05) ☑ Rule 2012, App. A (05/06/05)	☐ Rule 2011, App. A (05/06/05) ☑ Rule 2012, App. A (05/06/05)
☑ Abrasive Blasting	☑ Rule 1140 (08/02/85)	☑ Rule 1140(d) & (e), AQMD Visible Emission Method	

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Aggregate and Related Operations	☐ Rule 1157 (09/08/06)	☐ Rule 1157(f)	☐ Rule 1157(e)
☐ Appliances Containing Ozone Depleting Substances (except Motor Vehicle Air Conditioners): Manufacturing, Repair, Maintenance, Service, & Disposal	☐ 40 CFR82 SUBPART F	See Applicable Subpart	See Applicable Subpart
☐ Asphalt	See Manufacturing, Asphalt Processing & Asphalt Roofing		
☐ Asphalt Concrete/Batch Plants	☐ 40 CFR60 SUBPART I	See Applicable Subpart	See Applicable Subpart
☐ Benzene Emissions, Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, & Coke By-Product Recovery Plants	☐ Rule 1173 (02/06/09) ☐ Rule 1176 (09/13/96) ☐ 40 CFR61 SUBPART L ☐ 40 CFR61 SUBPART Y ☐ 40 CFR63 SUBPART R ☐ 40 CFR63 SUBPART CC	☐ Rule 1173(j) ☐ Rule 1176(h) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 1173(i) ☐ Rule 1176(f) & (g) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
☐ Benzene Transfer Operations	☐ Rule 1142 (07/19/91) ☐ 40 CFR61 SUBPART BB ☐ 40 CFR63 SUBPART Y	☐ Rule 1142(e) See Applicable Subpart See Applicable Subpart	☐ Rule 1142(h) See Applicable Subpart See Applicable Subpart
☐ Benzene Waste Operations	☐ Rule 1176 (09/13/96) ☐ 40 CFR61 SUBPART FF ☐ 40 CFR63 SUBPART CC	☐ Rule 1176(h) See Applicable Subpart See Applicable Subpart	☐ Rule 1176(f) & (g) See Applicable Subpart See Applicable Subpart
☐ Beryllium Emissions	☐ 40 CFR61 SUBPART C	See Applicable Subpart	See Applicable Subpart
☐ Beryllium Emissions, Rocket Motor Firing	☐ 40 CFR61 SUBPART D	See Applicable Subpart	See Applicable Subpart
☐ Boiler, < 5 Mmbtu/Hr (non-RECLAIM sources)	☐ Rule 1146.1 (09/05/08) ☐ Rule 1146.2 (05/05/06) ☐ 40 CFR63 SUBPART DDDDD	☐ Rule 1146.1(d) N/A See Applicable Subpart	☐ Rule 1146.1(c)(2) & (c)(3) N/A See Applicable Subpart
☐ Boiler, < 5 Mmbtu/Hr (RECLAIM sources)	☐ Rule 1146.1 (09/05/08) - excluding NOx requirements ☐ 40 CFR63 SUBPART DDDDD	☐ Rule 1146.1(d) See Applicable Subpart	☐ Rule 1146.1(c)(2) & (c)(3) See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Boiler, ≥ 5 Mmbtu/Hr (non-RECLAIM sources)	☐ Rule 218 (05/14/99)	☐ AQMD TM 100.1	☐ Rule 218(e) & (f)
	☐ Rule 429 (12/21/90)	N/A	☐ Rule 429(d)
	☐ Rule 475 (08/07/78)	☐ AQMD TM 5.1, 5.2, or 5.3	
	☐ Rule 476 (10/08/76)	☐ AQMD TM 7.1, 100.1, 5.1, 5.2, or 5.3	
	☐ Rule 1146 (09/05/08)	☐ Rule 1146(d)	☐ Rule 1146(c)(6) & (c)(7)
	☐ 40 CFR60 SUBPART D	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART Da	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART Dc	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART DDDDD	See Applicable Subpart	See Applicable Subpart
☑ Boiler, ≥ 5 Mmbtu/Hr (RECLAIM sources)	☐ Rule 475 (08/07/78)	☐ AQMD TM 5.1, 5.2, or 5.3	
	☑ Rule 476 (10/08/76) - excluding NOx requirements	☑ AQMD TM 7.1, 100.1, 5.1, 5.2, or 5.3	
	☐ Rule 1146 (09/05/08) - excluding NOx requirements	☐ Rule 1146(d)	☐ Rule 1146(c)(6) & (c)(7)
	☐ Rule 2011 (05/06/05)	☐ Rule 2011, App. A (05/06/05)	☐ Rule 2011, App. A (05/06/05)
	☑ or Rule 2012 (05/06/05)	or ☑ Rule 2012, App. A (05/06/05)	or ☑ Rule 2012, App. A (05/06/05)
	☐ 40 CFR60 SUBPART D	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART Da	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART Dc	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART DDDDD	See Applicable Subpart	See Applicable Subpart
☐ Boiler, Petroleum Refining (non-RECLAIM sources)	☐ Rule 218 (05/14/99)	☐ AQMD TM 100.1	☐ Rule 218(e) & (f)
	☐ Rule 429 (12/21/90)	N/A	☐ Rule 429(d)
	☐ Rule 431.1 (06/12/98)	☐ Rule 431.1(f)	☐ Rule 431.1(d) & (e)
	☐ Rule 475 (08/07/78)	☐ AQMD TM 5.1, 5.2, or 5.3	
	☐ Rule 1146 (09/05/08)	☐ Rule 1146(d)	☐ Rule 1146(c)(6) & (c)(7)
	☐ 40 CFR60 SUBBPART J	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART DDDDD	See Applicable Subpart	See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Boiler, Petroleum Refining (RECLAIM sources)	☐ Rule 1146 (09/05/08) - excluding NOx requirements ☐ Rule 2011 (05/06/05) ☐ or ☐ Rule 2012 (05/06/05) ☐ 40 CFR60 SUBPART J ☐ 40 CFR63 SUBPART DDDDD	☐ Rule 1146(d) ☐ Rule 2011, App. A (05/06/05) ☐ or ☐ Rule 2012, App. A (05/06/05) See Applicable Subpart See Applicable Subpart	☐ Rule 1146(c)(6) & (c)(7) ☐ Rule 2011, App. A (05/06/05) ☐ or ☐ Rule 2012, App. A (05/06/05) See Applicable Subpart See Applicable Subpart
☐ Boilers, Electric Utility (non-RECLAIM sources)	☐ Rule 218 (05/14/99) ☐ Rule 429 (12/21/90) ☐ Rule 1135 (07/19/91) ☐ 40 CFR60 SUBPART Db ☐ 40 CFR63 SUBPART DDDDD	☐ AQMD TM 100.1 N/A ☐ Rule 1135(e) See Applicable Subpart See Applicable Subpart	☐ Rule 218(e) & (f) ☐ Rule 429(d) ☐ Rule 1135(e) See Applicable Subpart See Applicable Subpart
☑ Boilers, Electric Utility (RECLAIM sources)	☑ Rule 2012 (05/06/05) ☑ 40 CFR60 SUBPART Db ☐ 40 CFR63 SUBPART DDDDD	☑ Rule 2012, App. A (05/06/05) See Applicable Subpart See Applicable Subpart	☑ Rule 2012, App. A (05/06/05) See Applicable Subpart See Applicable Subpart
☐ Bulk Loading Of Organic Liquids	☐ Rule 462 (05/14/99) ☐ 40 CFR60 SUBPART XX ☐ 40 CFR63 SUBPART R ☐ 40 CFR63 SUBPART BBBBBB ☐ 40 CFR63 SUBPART EEEE	☐ Rule 462(f) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 462(g) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
☐ Cadmium Electroplating Operation	☐ Rule 1426 (05/02/03)		☐ Rule 1426(e)
☐ Calciner, Mineral Industries	☐ 40 CFR60 SUBPART UUU	See Applicable Subpart	See Applicable Subpart
☐ Calciner, Petroleum Coke	☐ Rule 477 (04/03/81) ☐ Rule 1119 (03/02/79) ☐ 40 CFR63 SUBPART L	☐ AQMD Visible Emissions, AQMD TM 5.1, 5.2, or 5.3 ☐ AQMD TM 6.1 or 100.1 See Applicable Subpart	See Applicable Subpart
☐ Charbroilers	☐ Rule 1174 (10/05/90) ☐ Rule 1138 (11/14/97)	☐ AQMD Test Protocol ☐ Rule 1138(g)	☐ Rule 1138(d)
☐ Chrome Plating & Chromic Acid Anodizing Operation	☐ Rule 1426 (05/02/03) ☐ Rule 1469 (12/05/08)	☐ Rule 1469(e)	☐ Rule 1426(e) ☐ Rule 1469(g), (j) & (k)

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Coating Operation, Adhesive Application Operation	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1132 (05/05/06) ☐ Rule 1168 (01/07/05) ☐ Rule 1171 (05/01/09) ☐ 40 CFR60 SUBPART RR	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1132(f) ☐ Rule 1168(f) & (e) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1132(g) ☐ Rule 1168(d) ☐ Rule 1171(c)(6) See Applicable Subpart
☐ Coating Operation, Aerospace Assembly & Component Manufacturing	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1124 (09/21/01) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART GG	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1124(e) & (f) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1124(j) & (d) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart
☐ Coating Operation, Graphic Arts (Gravure, Letter Press, Flexographic & Lithographic Printing Process, Etc.)	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1130 (10/08/99) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR60 SUBPART QQ ☐ 40 CFR60 SUBPART RR ☐ 40 CFR60 SUBPART FFF ☐ 40 CFR60 SUBPART VVV ☐ 40 CFR63 SUBPART KK ☐ 40 CFR63 SUBPART JJJJ	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1130(h) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1130(e) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
☐ Coating Operation, Magnet Wire Coating	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1126 (01/13/95) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09)	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1126(d) ☐ Rule 1132(f) ☐ Rule 1171(e)	☐ Rule 109(c) ☐ Rule 1126(c)(4) ☐ Rule 1132(g) ☐ Rule 1171(c)(6)

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Coating Operation, Marine Coating (Except for recreational equipment)	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1106 (01/13/95) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART II	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1106(e) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1106(c)(5) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart
☑ Coating Operation, Metal Coating	☑ Rule 109 (05/02/03) ☑ Rule 481 (01/11/02) ☑ Rule 1107 (01/06/06) ☐ Rule 1132 (05/05/06) ☑ Rule 1171 (05/01/09) ☐ 40 CFR60 SUBPART EE ☐ 40 CFR60 SUBPART SS ☐ 40 CFR63 SUBPART NNNN ☐ 40 CFR63 SUBPART MMMM ☐ 40 CFR63 SUBPART RRRR	☑ Rule 109(g) ☑ Rule 481(d) ☑ Rule 1107(e) ☐ Rule 1132(f) ☑ Rule 1171(e) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☑ Rule 109(c) ☑ Rule 1107(j) ☐ Rule 1132(g) ☑ Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
☐ Coating Operation, Metal Containers, Closure, & Coil Coating Operations	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1125 (03/07/08) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR60 SUBPART TT ☐ 40 CFR60 SUBPART WW ☐ 40 CFR63 SUBPART KKKK ☐ 40 CFR63 SUBPART SSSS	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1125(e) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1125(c)(6) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
☐ Coating Operation, Motor Vehicle & Mobile Equipment Non-Assembly Line Coating Operation	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1132 (05/05/06) ☐ Rule 1151 (12/02/05) ☐ Rule 1171 (05/01/09)	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1132(f) ☐ Rule 1151(h) ☐ Rule 1171(e)	☐ Rule 109© ☐ Rule 1132(g) ☐ Rule 1151(f) ☐ Rule 1171(c)(6)

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Coating Operation, Motor Vehicle Assembly Line	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1115 (05/12/95) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR60 SUBPART MM ☐ 40 CFR63 SUBPART IIII	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1115(e) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1115(g) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart
☐ Coating Operation, Paper, Fabric, & Film Coating Operations	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1128 (03/08/96) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR60 SUBPART VVV ☐ 40 CFR63 SUBPART OOOO	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1128(f) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1128(e) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart
☐ Coating Operation, Plastic, Rubber, & Glass	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1145 (12/04/09) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR60 SUBPART TTT ☐ 40 CFR63 SUBPART NNNN ☐ 40 CFR63 SUBPART PPPP	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1145(e) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1145(d) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart See Applicable Subpart
☐ Coating Operation, Pleasure Craft	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1106.1 (02/12/99) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART II	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1106.1(e) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1106.1(d) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Coating Operation, Screen Printing	☐ Rule 109 (05/02/03) ☐ Rule 1130.1 (12/13/96) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART KK	☐ Rule 109(g) ☐ Rule 1130.1(g) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1130.1(c)(5) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart
☑ Coating Operation, Use Of Architectural Coating (Stationary Structures)	☑ Rule 109 (05/02/03) ☑ Rule 481 (01/11/02) ☑ Rule 1113 (07/13/07) ☐ Rule 1132 (05/05/06) ☑ Rule 1171 (05/01/09)	☑ Rule 109(g) ☑ Rule 481(d) ☑ Rule 1113(e) ☐ Rule 1132(f) ☑ Rule 1171(e)	☑ Rule 109(c) ☐ Rule 1132(g) ☑ Rule 1171(c)(6)
☐ Coating Operation, Wood Flat Stock	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1104 (08/13/99) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART II	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1104(e) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1104(d) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart
☐ Coating Operation, Wood Products (Commercial Furniture, Cabinets, Shutters, Frames, Toys)	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1132 (05/05/06) ☐ Rule 1136 (06/14/96) ☐ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART JJ	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1132(f) ☐ Rule 1136(f) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1132(g) ☐ Rule 1136(d) & (g) ☐ Rule 1171(c)(6) See Applicable Subpart
☐ Coater	See Coating Operations		
☐ Columns	See Petroleum Refineries, Fugitive Emissions		
☐ Composting Operation	☐ Rule 1133 (01/10/03) ☐ Rule 1133.1 (01/10/03) ☐ Rule 1133.2 (01/10/03)	☐ Rule 1133.1(e) ☐ Rule 1133.2(g)	☐ Rule 1133.1(d) ☐ Rule 1133.2(h)
☐ Compressors	See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions		
☐ Concrete Batch Plants	See Nonmetallic Mineral Processing Plants		
☐ Consumer Product Manufacturing	See Manufacturing, Consumer Product		
☐ Cooling Tower, Hexavalent Chromium	☐ 40 CFR63 SUBPART Q	See Applicable Subpart	See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Copper Electroplating Operation	☐ Rule 1426 (05/02/03)		☐ Rule 1426(e)
☐ Crude Oil Production	See Oil Well Operations		
☐ Crusher	See Nonmetallic Mineral Processing Plants		
☐ Dairy Farms and Related Operations	☐ Rule 1127 (08/06/04)	☐ Rule 1127(h)	☐ Rule 1127(g)
☑ Degreasers	☑ Rule 109 (05/02/03) ☑ Rule 1122 (05/01/09) ☑ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART T	☑ Rule 109(g) ☑ Rule 1122(h) ☑ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1122(i) ☐ Rule 1171(c)(6) See Applicable Subpart
☐ Dry Cleaning, Perchloroethlyene	☐ Rule 1421 (12/06/02)	☐ Rule 1421(e) & (i)	☐ Rule 1421(g) & (h)
☐ Dry Cleaning, Petroleum Solvent	☐ Rule 109 (05/02/03) ☐ Rule 1102 (11/17/00) ☐ 40 CFR60 SUBPART JJJ	☐ Rule 109(g) ☐ Rule 1102(g) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1102(f) See Applicable Subpart
☐ Dryers, Mineral Industries	☐ 40 CFR60 SUBPART UUU	See Applicable Subpart	See Applicable Subpart
☐ Ethylene Oxide Sterilizer	See Sterilizer, Ethylene Oxide		
☐ Flanges	See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions		
☐ Fluid Catalytic Cracking Unit	☐ Rule 218 (05/14/99) ☐ Rule 1105 (09/01/84) ☐ Rule 1105.1 (11/07/03)	☐ AQMD TM 100.1 ☐ Rule 1105(c)(1) ☐ Rule 1105.1(f)	☐ Rule 218(e) & (f) ☐ Rule 1105(c)(2) ☐ Rule 1105.1(e)
☐ Foundries, Iron and Steel	☐ 40 CFR63 SUBPART EEEEE	See Applicable Subpart	See Applicable Subpart
☐ Friction Materials Manufacturing	See Manufacturing, Friction Materials		
☐ Fugitive Emissions, Benzene	☐ Rule 1173 (12/06/02) ☐ 40 CFR61 SUBPART L ☐ 40 CFR61 SUBPART V ☐ 40 CFR63 SUBPART R ☐ 40 CFR63 SUBPART CC	☐ Rule 1173(j) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 1173(i) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Fugitive Emissions, Chemical Plant	☐ Rule 466 (10/07/83)	☐ Rule 466(f)	☐ Rule 466(e)
	☐ Rule 466.1 (03/16/84)	☐ Rule 466.1(g)	☐ Rule 466.1(h)
	☐ Rule 467 (03/05/82)	☐ Rule 467(f)	☐ Rule 467(e)
	☐ Rule 1173 (02/06/09)	☐ Rule 1173(j)	☐ Rule 1173(i)
	☐ 40 CFR60 SUBPART VV	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR61 SUBPART V	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART F	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART G	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART H	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART I	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART R	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart
☐ Fugitive Emissions, Natural Gas Processing Plant	☐ Rule 466 (10/07/83)	☐ Rule 466(f)	☐ Rule 466(e)
	☐ Rule 466.1 (03/16/84)	☐ Rule 466.1(g)	☐ Rule 466.1(h)
	☐ Rule 467 (03/05/82)	☐ Rule 467(f)	☐ Rule 467(e)
	☐ Rule 1173 (02/06/09)	☐ Rule 1173(j)	☐ Rule 1173(i)
	☐ 40 CFR60 SUBPART KKK	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR61 SUBPART V	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART F	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART G	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART H	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART I	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART R	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Fugitive Emissions, Oil & Gas Production Facility	☐ Rule 466 (10/07/83)	☐ Rule 466(f)	☐ Rule 466(e)
	☐ Rule 466.1 (03/16/84)	☐ Rule 466.1(g)	☐ Rule 466.1(h)
	☐ Rule 467 (03/05/82)	☐ Rule 467(f)	☐ Rule 467(e)
	☐ Rule 1173 (02/06/09)	☐ Rule 1173(j)	☐ Rule 1173(i)
	☐ 40 CFR61 SUBPART V	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART F	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART G	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART H	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART I	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART R	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart
☐ Fugitive Emissions, Pipeline Transfer Station	☐ Rule 466 (10/07/83)	☐ Rule 466(f)	☐ Rule 466(e)
	☐ Rule 466.1 (03/16/84)	☐ Rule 466.1(g)	☐ Rule 466.1(h)
	☐ Rule 467 (03/05/82)	☐ Rule 467(f)	☐ Rule 467(e)
	☐ Rule 1173 (02/06/09)	☐ Rule 1173(j)	☐ Rule 1173(i)
	☐ 40 CFR61 SUBPART V	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART F	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART G	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART H	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART I	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART R	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart
☐ Furnace, Basic Oxygen Process	☐ 40 CFR60 SUBPART Na	See Applicable Subpart	See Applicable Subpart
☐ Furnace, Electric Arc, For Steel Plants: Constructed After August 17, 1983	☐ 40 CFR60 SUBPART AAa	See Applicable Subpart	See Applicable Subpart
☐ Furnace, Electric Arc, For Steel Plants: Constructed After Oct. 21, 1974, & On Or Before Aug. 17, 1983	☐ 40 CFR60 SUBPART AA	See Applicable Subpart	See Applicable Subpart
☐ Furnace, Glass Melting	☐ Rule 1117 (01/06/84)	☐ Rule 1117(c), AQMD TM 7.1 or 100.1	
	☐ 40 CFR60 SUBPART CC	See Applicable Subpart	See Applicable Subpart
☐ Furnace, Lead Melting, Automotive Batteries	☐ Rule 1101 (10/07/77)	☐ AQMD TM 6.1	
	☐ 40 CFR63 SUBPART X	See Applicable Subpart	See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☑ Gasoline Transfer & Dispensing Operation	☑ Rule 461 (06/03/05)	☑ Rule 461(f)	☑ Rule 461(e)(6) & (e)(7)
☐ Glass Manufacturing	See Manufacturing, Glass		
☐ Grain Elevators	☐ 40 CFR60 SUBPART DD	See Applicable Subpart	See Applicable Subpart
☐ Halon-containing Equipment, Use for Technician Training, Testing, Maintenance, Service, Repair, or Disposal	☐ 40 CFR82 SUBPART H	See Applicable Subpart	See Applicable Subpart
☐ Hazardous Waste Combustors	☐ 40 CFR63 SUBPART EEE	See Applicable Subpart	See Applicable Subpart
☐ Heater, Asphalt Pavement	☐ Rule 1120 (08/04/78)	☐ AQMD Visible Emissions, AQMD TM 6.2	☐ Rule 1120(f)
☐ Heaters, Petroleum Refinery Process	☐ Rule 429 (12/21/90) ☐ Rule 431.1 (06/12/98) ☐ Rule 1146 (09/05/08) ☐ 40 CFR60 SUBPART J ☐ 40 CFR63 SUBPART DDDDD	N/A ☐ Rule 431.1(f) ☐ Rule 1146(d) See Applicable Subpart See Applicable Subpart	☐ Rule 429(d) ☐ Rule 431.1(d) & (e) ☐ Rule 1146(c)(6) & (c)(7) See Applicable Subpart See Applicable Subpart
☐ Heaters, Process	See Boilers		
☐ Incinerators	☐ 40 CFR60 SUBPART E ☐ 40 CFR60 SUBPART CCCC	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
☐ Inorganic Arsenic Emissions, Arsenic Trioxide & Metallic Arsenic Production Facilities	☐ 40 CFR61 SUBPART P	See Applicable Subpart	See Applicable Subpart
☐ Internal Combustion Engines, Reciprocating	☐ Rule 1110.2 (07/09/10) ☐ 40 CFR60 SUBPART IIII and JJJJ ☐ 40 CFR63 SUBPART ZZZZ	Rule 1110.2(g) See Applicable Subpart See Applicable Subpart	Rule 1110.2(f) See Applicable Subpart See Applicable Subpart
☐ Kiln, Cement Plant	☐ Rule 1112 (06/06/86) ☐ Rule 1112.1 (12/04/09) ☐ 40 CFR60 SUBPART F	N/A N/A See Applicable Subpart	N/A N/A See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	**Applicable Requirement**	**Test Method**	**MRR Requirement**
☐ Landfills	☐ Rule 1150 (10/15/82) ☐ Rule 1150.1 (03/17/00) ☐ 40 CFR60 SUBPART WWW ☐ 40 CFR63 SUBPART AAAA	☐ Rule 1150.1(j) See Applicable Subpart See Applicable Subpart	☐ Rule 1150.1(e) & (f) See Applicable Subpart See Applicable Subpart
☐ Lead Acid Battery Manufacturing Plants	See Manufacturing, Lead Acid Battery		
☐ Lead Electroplating Operation	☐ Rule 1426 (05/02/03)		☐ Rule 1426(e)
☐ Manufacturing, Asphalt Processing & Asphalt Roofing	☐ Rule 470 (05/07/76) ☐ Rule 1108 (02/01/85) ☐ Rule 1108.1 (11/04/83) ☐ 40 CFR60 SUBPART UU ☐ 40 CFR63 SUBPART LLLLL	N/A ☐ Rule 1108(b) ☐ Rule 1108.1 (b) See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
☐ Manufacturing, Brick & Structural Clay Products	☐ 40 CFR63 SUBPART JJJJJ	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Cement	☐ Rule 1156 (03/06/09)	☐ Rule 1156(g)	☐ Rule 1156(f)
☐ Manufacturing, Clay Ceramics	☐ 40 CFR63 SUBPART KKKKK	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Coatings & Ink (SIC Code 2851)	☐ Rule 1141.1 (11/17/00) ☐ 40 CFR63 SUBPART HHHHH	N/A See Applicable Subpart	☐ Rule 1141.1(c) See Applicable Subpart
☐ Manufacturing, Consumer Product	☐ Title 17 CCR 94500		
☐ Manufacturing, Food Product	☐ Rule 1131 (06/06/03)	☐ Rule 1131(e)	☐ Rule 1131(d)
☐ Manufacturing, Friction Materials	☐ 40 CFR63 SUBPART QQQQQ	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Glass	☐ Rule 1117 (01/06/84) ☐ 40 CFR60 SUBPART CC ☐ 40 CFR61 SUBPART N	☐ Rule 1117(c), AQMD TM 7.1 or 100.1 See Applicable Subpart See Applicable Subpart	 See Applicable Subpart See Applicable Subpart
☐ Manufacturing, Hydrochloric Acid	☐ 40 CFR63 SUBPART NNNNN	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Lead-Acid Battery	☐ 40 CFR60 SUBPART KK	See Applicable Subpart	See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Manufacturing, Lime	☐ 40 CFR63 SUBPART AAAAA	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Magnetic Tape Industry	☐ 40 CFR60 SUBPART SSS ☐ 40 CFR63 SUBPART EE	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
☐ Manufacturing, Miscellaneous Organic Chemical	☐ 40 CFR63 SUBPART FFFF	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Nitric Acid	☐ Rule 218 (05/14/99) ☐ Rule 1159 (12/06/85) ☐ 40 CFR60 SUBPART G	☐ AQMD TM 100.1 ☐ AQMD TM 7.1 or 100.1 See Applicable Subpart	☐ Rule 218(e) & (f) See Applicable Subpart
☐ Manufacturing, Plywood & Composite Wood Products	☐ Rule 1137 (02/01/02) ☐ 40 CFR63 SUBPART DDDD	N/A See Applicable Subpart	☐ Rule 1137(e) See Applicable Subpart
☐ Manufacturing, Polymer Industry	☐ 40 CFR60 SUBPART DDD ☐ 40 CFR63 SUBPART W ☐ 40 CFR63 SUBPART J	See Applicable Subpart See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart See Applicable Subpart
☐ Manufacturing, Polymeric Cellular Foam	☐ Rule 1175 (09/07/07) ☐ 40 CFR63 SUBPART UUUU	☐ Rule 1175(f) See Applicable Subpart	☐ Rule 1175(e) See Applicable Subpart
☐ Manufacturing, Products Containing Halon Blends	☐ 40 CFR82 SUBPART H	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Products Containing Organic Solvents	☐ Rule 443.1 (12/05/86)	N/A	N/A
☐ Manufacturing, Products Containing Ozone Depleting Substances (ODS)	☐ 40 CFR82 SUBPART A ☐ 40 CFR82 SUBPART E	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
☐ Manufacturing, Reinforced Plastic Composites	☐ 40 CFR63 SUBPART WWWW	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Refractory Products	☐ 40 CFR63 SUBPART SSSSS	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Resin	☐ Rule 1141 (11/17/00) ☐ 40 CFR63 SUBPART W	☐ Rule 1141(d) See Applicable Subpart	☐ Rule 1141(c) See Applicable Subpart
☐ Manufacturing, Rubber Tire	☐ 40 CFR63 SUBPART XXXX	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Semiconductors	☐ Rule 109 (05/02/03) ☐ Rule 1164 (01/13/95) ☐ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART BBBBB	☐ Rule 109(g) ☐ Rule 1164(e) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1164(c)(5) ☐ Rule 1171(c)(6) See Applicable Subpart
☐ Manufacturing, Solvent	☐ Rule 443 (05/07/76)	N/A	N/A

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Manufacturing, Sulfuric Acid	☐ Rule 469 (02/13/81)	☐ AQMD TM 6.1 or 6.2	
	☐ 40 CFR60 SUBPART H	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART Cd	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Surfactant	☐ Rule 1141.2 (01/11/02)	☐ Rule 1141.2(e)	
		☐ AQMD TM 25.1	
☐ Manufacturing, Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes	☐ 40 CFR60 SUBPART III	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART NNN	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes	☐ 40 CFR60 SUBPART RRR	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Vinyl Chloride	☐ 40 CFR61 SUBPART F	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Water Heaters	☐ Rule 1121 (09/03/04)	N/A	N/A
☐ Manufacturing, Wool Fiberglass Insulation	☐ 40 CFR60 SUBPART PPP	See Applicable Subpart	See Applicable Subpart
☐ Manure Processing Operations	☐ Rule 1127 (08/06/04)	☐ Rule 1127(h)	☐ Rule 1127(g)
☐ Marine Tank Vessel Operations	☐ Rule 1142 (07/19/91)	☐ Rule 1142(e)	☐ Rule 1142(h)
	☐ Rule 1173 (02/06/09)	☐ Rule 1173(j)	☐ Rule 1173(i)
	☐ 40 CFR63 SUBPART Y	See Applicable Subpart	See Applicable Subpart
☐ Mercury Emissions	☐ 40 CFR61 SUBPART E	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART IIII	See Applicable Subpart	See Applicable Subpart
☐ Motor Vehicle Air Conditioners with Ozone Depleting Substances (ODS): Repair, Service, Manufacturing, Maintenance, or Disposal	☐ 40 CFR82 SUBPART B	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR82 SUBPART F	See Applicable Subpart	See Applicable Subpart
☐ Municipal Waste Combustors	☐ 40 CFR60 SUBPART Cb	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART Ea	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART Eb	See Applicable Subpart	See Applicable Subpart
✓ Negative Air Machines/HEPA, Asbestos	✓ 40 CFR61 SUBPART M	See Applicable Subpart	See Applicable Subpart
☐ Nickel Electroplating Operation	☐ Rule 1426 (05/02/03)		☐ Rule 1426(e)
☐ Nonmetallic Mineral Processing Plants	☐ Rule 404 (02/07/86)	☐ AQMD TM 5.1, 5.2, or 5.3	
	☐ Rule 405 (02/07/86)	☐ AQMD TM 5.1, 5.2, or 5.3	See Applicable Subpart
	☐ 40 CFR60 SUBPART OOO	See Applicable Subpart	
☐ Off-site Waste and Recovery Operation	☐ 40 CFR63 SUBPART DD	See Applicable Subpart	See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Oil and Gas Well Operation	☐ Rule 1148 (11/05/82) ☐ Rule 1148.1 (03/05/04)	☐ AQMD TM 25.1 ☐ Rule 1148.1 (g)	☐ Rule 1148.1 (f)
☐ Onshore Natural Gas Processing, SO2 Emissions	☐ 40 CFR60 SUBPART LLL	See Applicable Subpart	See Applicable Subpart
☐ Open Fires	☐ Rule 444 (11/07/08)		
☐ Open Storage, Petroleum Coke	☐ Rule 403 (06/03/05) ☐ Rule 403.1 (04/02/04) ☐ Rule 1158 (06/11/99)	☐ Rule 403(d)(4) ☐ Rule 1158(h)	☐ Rule 403(f) ☐ Rule 403.1(h) ☐ Rule 1158(j)
☐ Open Storage	☐ Rule 403 (06/03/05) ☐ Rule 403.1 (04/02/04)	☐ Rule 403(d)(4)	☐ Rule 403(f) ☐ Rule 403.1(h)
☐ Outer Continental Shelf Platform	☐ Rule 1183 (03/12/93) ☐ 40 CFR55	☐ 40 CFR55 See Applicable Subpart	☐ 40 CFR55 See Applicable Subpart
☐ Oven, Commercial Bakery	☐ Rule 1153 (01/13/95)	☐ Rule 1153(h)	☐ Rule 1153(g)
☐ Oven, Petroleum Coke	☐ Rule 477 (04/03/81) ☐ 40 CFR63 SUBPART L ☐ 40 CFR63 SUBPART CCCCC	☐ AQMD Visible Emissions, AQMD TM 5.1, 5.2, or 5.3 See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
☐ Ozone Depleting Substances (ODS) or Alternative ODS, Use	☐ 40 CFR82 Subpart G	See Applicable Subpart	See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	**Applicable Requirement**	**Test Method**	**MRR Requirement**
☐ Petroleum Refineries	☐ Rule 218 (05/14/99)	☐ AQMD TM 100.1	☐ Rule 218(e) & (f)
	☐ Rule 465 (08/13/99)		
	☐ Rule 468 (10/08/76)	☐ AQMD TM 6.1 or 6.2	
	☐ Rule 469 (02/13/81)	☐ AQMD TM 6.1 or 6.2	
	☐ Rule 1118 (11/04/05)	☐ Rule 1118(j)	☐ Rule 1118(f), (g), (h), & (i)
	☐ Rule 1123 (12/07/90)	N/A	☐ Rule 1123(c)
	☐ Rule 1189 (01/21/00)	☐ Rule 1189(f)	☐ Rule 1189(e)
	☐ 40 CFR60 SUBPART J	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART F	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART G	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART H	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART I	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART EEEE	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART GGGGG	See Applicable Subpart	See Applicable Subpart
	☐ Title 13 CCR 2250		
☐ Petroleum Refineries, Fugitive Emissions	☐ Rule 1173 (02/06/09)	☐ Rule 1173(j)	☐ Rule 1173(i)
	☐ Rule 466 (10/07/83)	☐ Rule 466(f)	☐ Rule 466(e)
	☐ Rule 466.1 (03/16/84)	☐ Rule 466.1(g)	☐ Rule 466.1(h)
	☐ Rule 467 (03/05/82)	☐ Rule 467(f)	☐ Rule 467(e)
	☐ 40 CFR60 SUBPART GGG	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR61 SUBPART V	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART F	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART G	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART H	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART I	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART R	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart

KEY ABBREVIATIONS: **Reg.** = AQMD Regulation; **Rule** = AQMD Rule; **App.** = Appendix; **AQMD TM** = AQMD Test Method; **CFR** = Code of Federal Regulations; **CCR** = California Code of Regulations

Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Petroleum Refineries, Storage Tanks	☐ Rule 463 (05/06/05)	☐ Rule 463(g)	☐ Rule 463(e)(5)
	☐ Rule 1178 (04/07/06)	☐ Rule 1178(i)	☐ Rule 1178(f) & (h)
	☐ 40 CFR60 SUBPART K	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART Ka	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART Kb	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART F	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART G	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART H	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART I	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART R	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART EEEE	See Applicable Subpart	See Applicable Subpart
☐ Petroleum Refineries, Wastewater Systems	☐ Rule 1176 (09/13/96)	☐ Rule 1176(h)	☐ Rule 1176(f) & (g)
	☐ Rule 464 (12/07/90)	N/A	
	☐ 40 CFR60 SUBPART QQQ	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart
☐ Pharmaceuticals & Cosmetics Manufacturing	☐ Rule 1103 (03/12/99)	☐ Rule 1103(f)	☐ Rule 1103(e)
	☐ 40 CFR63 SUBPART GGG	See Applicable Subpart	See Applicable Subpart
☐ Polyester Resin Operation	☐ Rule 109 (05/02/03)	☐ Rule 109(g)	☐ Rule 109(c)
	☐ Rule 1162 (07/08/05)	☐ Rule 1162(f)	☐ Rule 1162(e)
	☐ Rule 1171 (05/01/09)	☐ Rule 1171(e)	☐ Rule 1171(c)(6)
☐ Primary Magnesium Refining	☐ 40 CFR63 SUBPART TTTTT	See Applicable Subpart	See Applicable Subpart
☐ Printing Press	See Coating Operations		
☐ Publicly Owned Treatment Works Operations	☐ Rule 1179 (03/06/92)	☐ Rule 1179(e)	☐ Rule 1179(c) & (d)
	☐ 40 CFR60 SUBPART O	See Applicable Subpart	See Applicable Subpart
☐ Pumps	See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions		

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Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	**Applicable Requirement**	**Test Method**	**MRR Requirement**
☐ Recycling & Recovery Equipment for Ozone Depleting Substances (ODS),	☐ 40 CFR82 SUBPART F	See Applicable Subpart	See Applicable Subpart
☐ Refrigerant Reclaimers for Ozone Depleting Substances (ODS)	☐ 40 CFR82 SUBPART F	See Applicable Subpart	See Applicable Subpart
☐ Rendering Plant	☐ Rule 472 (05/07/76)	N/A	☐ Rule 472(b)
☐ Rock Crushing	See Nonmetallic Mineral Processing Plants		
☐ Secondary Aluminum Production	☐ 40 CFR63 SUBPART LL	See Applicable Subpart	See Applicable Subpart
☐ Semiconductor Manufacturing	See Manufacturing, Semiconductors		
☐ Sewage Treatment Plants	See Publicly Owned Treatment Works Operation		
☐ Site Remediation	☐ 40 CFR63 SUBPART GGGGG	See Applicable Subpart	See Applicable Subpart
☐ Smelting, Primary Copper	☐ 40 CFR63 SUBPART QQQ	See Applicable Subpart	See Applicable Subpart
☐ Smelting, Secondary Lead	☐ 40 CFR60 SUBPART L ☐ 40 CFR63 SUBPART X	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
☐ Soil Decontamination / Excavation	☐ Rule 1166 (05/11/01) ☐ 40 CFR63 SUBPART GGGGG	☐ Rule 1166(e) See Applicable Subpart	☐ Rule 1166(c)(1)(C) See Applicable Subpart
☐ Spray Booth	See Coating Operations		
☐ Sterilizer, Ethylene Oxide	☐ 40 CFR63 SUBPART O	See Applicable Subpart	See Applicable Subpart
☐ Storage Tank, Degassing Operation	☐ Rule 1149 (07/14/95) ☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☑ Storage Tank, Greater Than 19,815 Gallon Capacity	☑ Rule 463 (05/06/05)	☑ Rule 463(g)	☑ Rule 463(e)(5)
	☐ Rule 1178 (04/07/06)	☐ Rule 1178(i)	☐ Rule 1178(h)
	☐ 40 CFR63 SUBPART F	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART G	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART H	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART I	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART K	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART Ka	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART Kb	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART R	See Applicable Subpart	See Applicable Subpart
	☐ 40CFR63 SUBPART BBBBBB	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart
☐ Synthetic Fiber Production Facilities	☐ 40 CFR60 SUBPART HHH	See Applicable Subpart	See Applicable Subpart
☐ Taconite Iron Ore Processing Facilities	☐ 40 CFR63 SUBPART RRRRR	See Applicable Subpart	See Applicable Subpart
☑ Turbine, Stationary Gas-Fired	☐ Rule 1134 (08/08/97)	☐ Rule 1134(e) & (g)	☐ Rule 1134(d) & (f)
	☑ Rule 475 (08/07/78)	☑ AQMD TM 5.1, 5.2, or 5.3	
	☑ 40 CFR60 SUBPART GG	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART KKKK	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART YYYY	See Applicable Subpart	See Applicable Subpart
☐ Turbine, Stationary Oil-Fired	☐ 40 CFR63 SUBPART YYYY	See Applicable Subpart	See Applicable Subpart
☐ Valves	See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions		
☐ Vessel, Refinery Process	☐ Rule 1123 (12/07/90)	N/A	☐ Rule 1123(c)
☐ Vessels	See Petroleum Refineries, Fugitive Emissions		

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Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	**Applicable Requirement**	**Test Method**	**MRR Requirement**
☐ Wastewater, Chemical Plant	☐ Rule 464 (12/07/90) ☐ Rule 1176 (09/13/96) ☐ 40 CFR63 SUBPART F ☐ 40 CFR63 SUBPART G ☐ 40 CFR63 SUBPART H ☐ 40 CFR63 SUBPART I ☐ 40 CFR63 SUBPART CC	N/A ☐ Rule 1176(h) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 1176(f) & (g) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
☑ Wastewater Treatment, Other	☑ Rule 464 (12/07/90) ☐ Rule 1176 (09/13/96)	N/A ☐ Rule 1176(h)	☐ Rule 1176(f) & (g)
☐ Woodworking Operations	☐ Rule 1137 (02/01/02)	N/A	☐ Rule 1137(e)

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Section III - Supplemental Identification of Specific Requirements

Complete this section only if there is a specific requirement (i.e., rule reference, test method, or MRR requirement) that is:
1. Listed for a specific type of equipment or process in Section II of this form & DOES NOT pertain to a specific device at your facility*; OR,
2. Is NOT Listed for a specific type of equipment or process in Section II of this form but it IS applicable to a specific device at your facility.

NOTES:
1. For any specific requirement, test method, or MRR requirement that is identified as "Remove," attach additional sheets to explain the reasons why the specific requirement does not pertain to the device listed.
2. All boxes that are checked in Section II and any additional requirements identified in this section as "Add" will be used to determine the facility's compliance status. This information will be used to verify the certification statements made on Form 500-A2.
3. Do not use this section to identify equipment that is exempt from specific rule requirements. Your equipment is automatically considered to be in compliance with the rule that specifically exempts the equipment from those requirements.
4. Listing any requirement that does not apply to a specific piece of equipment in this section will not provide the facility with a permit shield unless one is specifically requested by completing Form 500-D and approved by the AQMD.

* If this section is completed as part of the initial Title V application & there is no device number assigned, refer to the existing permit or application number in this column.

Device No.*	Specific Requirement (Rule Number & Date)	Add (A) or Remove (R) (Check one)	Test Method	Add (A) or Remove (R) (Check one)	MRR Requirement	Add (A) or Remove (R) (Check one)
		O A O R		O A O R		O A O R
		O A O R		O A O R		O A O R
		O A O R		O A O R		O A O R
		O A O R		O A O R		O A O R
		O A O R		O A O R		O A O R
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		O A O R		O A O R		O A O R
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		O A O R		O A O R		O A O R
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		O A O R		O A O R		O A O R
		O A O R		O A O R		O A O R
		O A O R		O A O R		O A O R

Section IV - SIP-Approved Rules That Are Not The Most Current AQMD Rules					
Check off each SIP-Approved Rule as it applies to the facility. Use the blanks at the end of this form to fill-in new items.					
SIP - Approved Rule	**Adoption/ Amendment Date**	**Check (✓) If Applies**	**SIP - Approved Rule**	**Adoption/ Amendment Date**	**Check (✓) If Applies**
401	03/02/84	☑			☐
431.2	05/04/90	☐			☐
461	6/3/05	☐			☐
466.1	05/02/80	☐			☐
469	04/07/76	☐			☐
475	10/08/76	☑			☐
1112	01/06/84	☐			☐
1112.1	2/7/86	☐			☐
1113	11/08/96	☑			☐
1117	1/6/83	☐			☐
1122	07/11/97	☑			☐
1132	03/05/04	☐			☐
1140	02/01/80	☑			☐
1146	11/17/00	☐			☐
1146.1	5/13/94	☐			☐
1151	12/11/98	☐			☐
1158	6/11/99	☐			☐
1162	11/17/00	☐			☐
1166	07/14/95	☐			☐
1171	11/07/03	☑			☐
1175	05/13/94	☐			☐
1186	09/10/99	☐			☐

Los Angeles Department of Water & Power

ERIC GARCETTI
Mayor

Commission
MEL LEVINE, *President*
WILLIAM W. FUNDERBURK JR., *Vice President*
JILL BANKS BARAD
MICHAEL F. FLEMING
CHRISTINA E. NOONAN
BARBARA E. MOSCHOS, *Secretary*

MARCIE L. EDWARDS
General Manager

January 13, 2016

Mr. Li Chen
Air Quality Engineer
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765

Dear Mr. Chen:

Subject: Permit Application for Change of Condition and Minor Permit Revision
Los Angeles Department of Water and Power (LADWP)
Haynes Generating Station (Haynes)

The LADWP is submitting the enclosed permit application for Change of Condition and Minor Permit Revision for the Haynes (Facility ID 800074) Title V Permit. Since Haynes Unit 1 (Device ID D1) and Unit 2 (Device ID D4) only burn natural gas, the LADWP is requesting the removal of the following Title V permit conditions pertaining to fuel oil firing:

- D182.1
- E371.1
- E202.1
- E204.1
- E204.2
- K171.1

The following forms are enclosed:

- AQMD Form 400-A
- AQMD Form 400-A2
- AQMD Form 400-CEQA
- AQMD Form 500-C1

111 N. Hope Street, Los Angeles, California 90012-2607 *Mailing address:* Box 51111, Los Angeles, CA 90051-5700
Telephone: (213) 367-4211 www.LADWP.com

- Check No. R100837 in the amount of $25,592.54 for the Change of Condition and Minor Permit Revision fees. Please refer to Enclosure 1 for the explanation of fees.

If you have questions, please contact Ms. Leizl Lontok at (213) 367-3779.

Sincerely,

DQuach

Dat M. Quach
Manager of Air Quality

LL:rs
Enclosures
c: Ms. Leizl Lontok

Section V - AQMD Rules That Are Not SIP-Approved (Continued on Following Page)					
Check off each AQMD Rule as it applies to the facility. Use the blanks at the end of this form to fill-in new items.					
Non SIP - Approved Rule	**Adoption/ Amendment Date**	**Check (✓) If Applies**	**Non SIP - Approved Rule**	**Adoption/ Amendment Date**	**Check (✓) If Applies**
53 Los Angeles Co.	N/A	☑	1192	06/16/00	☐
53 Orange Co.	N/A	☐	1193	07/09/10	☐
53 Riverside Co.	N/A	☐	1194	10/20/00	☐
53 San Bernardino Co.	N/A	☐	1195	05/05/06	☐
53A San Bernardino Co.	N/A	☐	1196	06/06/08	☐
402	05/07/76	☐	1401	09/10/10	☑
429	12/21/90	☐	1401.1	11/04/05	☐
430	07/12/96	☐	1402	03/04/05	☐
441	05/07/76	☐	1403	10/05/07	☐
473	05/07/76	☐	1404	04/06/90	☐
477	04/03/81	☐	1405	01/04/91	☐
480	10/07/77	☐	1406	07/08/94	☐
1109	08/05/88	☐	1407	07/08/94	☐
1110.2	07/09/10	☑	1411	03/01/91	☐
1116.1	10/20/78	☐	1414	05/03/91	☐
1127	08/06/04	☐	1415	10/14/94	☐
1143	07/09/10	☐	1418	09/10/99	☐
1147	12/05/08	☑	1420	09/11/92	☐
1148.1	03/05/04	☐	1420.1	11/05/10	☐
1150	10/15/82	☐	1421	12/06/02	☐
1155	12/04/09	☐	1425	03/16/01	☐
1156	03/06/09	☐	1426	05/02/03	☐
1157	09/08/06	☐			☐
1163	06/07/85	☐			☐
1170	05/06/88	☐			☐
1183	03/12/93	☐			☐
1186.1	01/09/09	☐			☐
1191	06/16/00	☐			☐

Section V - AQMD Rules That Are Not SIP-Approved (Continued on Following Page)					
Check off each AQMD Rule as it applies to the facility. Use the blanks at the end of this form to fill-in new items.					
Non SIP - Approved Rule	**Adoption/ Amendment Date**	**Check (✓) If Applies**	**Non SIP - Approved Rule**	**Adoption/ Amendment Date**	**Check (✓) If Applies**
1469	12/05/08	☐	2009.1	05/11/01	☐
1469.1	03/04/05	☐	2501	05/09/97	☐
1470	06/01/07	☐	2506	12/10/99	☐
1472	03/07/08	☐			☐
2009	01/07/05	☑			☐
		☐			☐
		☐			☐
		☐			☐
		☐			☐
		☐			☐

South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): LA City DWP, Haynes Generating Station

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 800074

3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: (•) Fixed Location ( ) Various Location
(For equipment operated at various locations, provide address of initial site.)

6801 East 2nd Street
Street Address

Long Beach , CA 90803
City Zip

Edward Kim — Env. Coordinator
Contact Name — Title

(310) 522-7512 — Ext. — Fax #
Phone #

E-Mail: edward.kim@ladwp.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
☐ Check here if same as equipment location address

111 N. Hope Street, Room 1050
Address

Los Angeles , CA 90012
City State Zip

Dat M. Quach — Air Quality Manager
Contact Name — Title

(213) 367-4697 — Ext. — (213) 367-4710
Phone # Fax #

E-Mail: dat.quach@ladwp.com

Section D - Application Type

6. The Facility Is: ( ) Not In RECLAIM or Title V ( ) In RECLAIM ( ) In Title V (•) In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application:

( ) New Construction (Permit to Construct)
( ) Equipment On-Site But Not Constructed or Operational
( ) Equipment Operating Without A Permit *
( ) Compliance Plan
( ) Registration/Certification
( ) Streamlined Standard Permit

7b. Facility Permits:

( ) Title V Application or Amendment (Refer to Title V Matrix)
( ) RECLAIM Facility Permit Amendment

7c. Equipment or Process with an Existing/Previous Application or Permit:

( ) Administrative Change
( ) Alteration/Modification
( ) Alteration/Modification without Prior Approval *
(•) Change of Condition (b)
( ) Change of Condition without Prior Approval *
( ) Change of Location
( ) Change of Location without Prior Approval *
( ) Equipment Operating with an Expired/Inactive Permit *

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number: 410730

* A Higher Permit Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)).

8a. Estimated Start Date of Construction (mm/dd/yyyy):
8b. Estimated End Date of Construction (mm/dd/yyyy):
8c. Estimated Start Date of Operation (mm/dd/yyyy):

9. Description of Equipment or Reason for Compliance Plan (list applicable rule):
Permit application for minor permit modification and change in condition. Boiler Modification

10. For identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process): 1

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are $500,000 or less OR a not-for-profit training center) (•) No ( ) Yes

12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? (•) No ( ) Yes
If Yes, provide NOV/NC#:

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Electric Generation

14. What is your business primary NAICS Code? (North American Industrial Classification System) 221112

15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? ( ) No (•) Yes

16. Are there any schools (K-12) within 1000 feet of the facility property line? (•) No ( ) Yes

Section F - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official: Kenneth A. Silver

18. Title of Responsible Official: Dir. of Power Supply and Op.

19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) ( ) No (•) Yes

20. Print Name: Kenneth A. Silver

21. Date: 1/11/2016

22. Do you claim confidentiality of data? (If Yes, see instructions.) (•) No ( ) Yes

23. Check List: ☒ Authorized Signature/Date ☒ Form 400-CEQA ☒ Supplemental Form(s) (ie., Form 400-E-xx) ☒ Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #	CHECK #	AMOUNT RECEIVED	PAYMENT TRACKING #	VALIDATION
	581336	100100837	25,592.54		1/19/16 as

DATE	APP REJ	DATE	APP REJ	CLASS I III	BASIC CONTROL	EQUIPMENT CATEGORY CODE	TEAM	ENGINEER	REASON/ACTION TAKEN
							E		

Ck 126073

2/3

South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

South Coast AQMD

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

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1. Facility Name (Business Name of Operator to Appear on the Permit): LA City DWP, Haynes Generating Station

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 800074

3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: (•) Fixed Location ( ) Various Location
(For equipment operated at various locations, provide address of initial site.)

6801 East 2nd Street
Street Address

Long Beach, CA 90803
City, Zip

Edward Kim — Env. Coordinator
Contact Name — Title

(310) 522-7512
Phone # — Ext. — Fax #

E-Mail: edward.kim@ladwp.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
☐ Check here if same as equipment location address

111 N. Hope Street, Room 1050
Address

Los Angeles, CA 90012
City, State, Zip

Dat M. Quach — Air Quality Manager
Contact Name — Title

(213) 367-4697 — (213) 367-4710
Phone # — Ext. — Fax #

E-Mail: dat.quach@ladwp.com

Section D - Application Type

6. The Facility Is: ( ) Not In RECLAIM or Title V ( ) In RECLAIM ( ) In Title V (•) In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application:

- ( ) New Construction (Permit to Construct)
- ( ) Equipment On-Site But Not Constructed or Operational
- ( ) Equipment Operating Without A Permit *
- ( ) Compliance Plan
- ( ) Registration/Certification
- ( ) Streamlined Standard Permit

7b. Facility Permits:

- ( ) Title V Application or Amendment (Refer to Title V Matrix)
- ( ) RECLAIM Facility Permit Amendment

7c. Equipment or Process with an Existing/Previous Application or Permit:

- ( ) Administrative Change
- ( ) Alteration/Modification
- ( ) Alteration/Modification without Prior Approval *
- (•) Change of Condition (b)
- ( ) Change of Condition without Prior Approval *
- ( ) Change of Location
- ( ) Change of Location without Prior Approval *
- ( ) Equipment Operating with an Expired/Inactive Permit *

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number: 410732

* A Higher Permit Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)).

8a. Estimated Start Date of Construction (mm/dd/yyyy):
8b. Estimated End Date of Construction (mm/dd/yyyy):
8c. Estimated Start Date of Operation (mm/dd/yyyy):

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Permit application for minor permit modification and change in condition. Boiler Modification

10. For identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process) 1

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are $500,000 or less OR a not-for-profit training center) (•) No ( ) Yes

12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? (•) No ( ) Yes
If Yes, provide NOV/NC#:

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Electric Generation

14. What is your business primary NAICS Code? (North American Industrial Classification System) 221112

15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? ( ) No (•) Yes

16. Are there any schools (K-12) within 1000 feet of the facility property line? (•) No ( ) Yes

Section F - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official: [signature]

18. Title of Responsible Official: Dir. of Power Supply and Op.

19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) ( ) No (•) Yes

20. Print Name: Kenneth A. Silver

21. Date: 1/11/2016

22. Do you claim confidentiality of data? (If Yes, see instructions.) (•) No ( ) Yes

23. Check List: ☒ Authorized Signature/Date ☒ Form 400-CEQA ☒ Supplemental Form(s) (ie., Form 400-E-xx) ☒ Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #	CHECK #	AMOUNT RECEIVED	PAYMENT TRACKING #	VALIDATION
	581337	7001008??	25,592.54		1/19/16

DATE	APP REJ	DATE	APP REJ	CLASS I III	BASIC CONTROL	EQUIPMENT CATEGORY CODE	TEAM	ENGINEER	REASON/ACTION TAKEN
							E		

u 126073

3/3

South Coast Air Quality Management District

Form 400-CEQA

California Environmental Quality Act (CEQA) Applicability

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

The SCAQMD is required by state law, the California Environmental Quality Act (CEQA), to review discretionary permit project applications for potential air quality and other environmental impacts. This form is a screening tool to assist the SCAQMD in clarifying whether or not the project[1] has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].[2] Refer to the attached instructions for guidance in completing this form.[3] For each Form 400-A application, also complete and submit one Form 400-CEQA. If submitting multiple Form 400-A applications for the same project at the same time, only one 400-CEQA form is necessary for the entire project. If you need assistance completing this form, contact Permit Services at (909) 396-3385 or (909) 396-2668.

Section A - Facility Information

1. Facility Name (Business Name of Operator To Appear On The Permit): LA City DWP, Haynes Generating Station

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 800074

3. Project Description: Permit application for minor permit revision and change of conditions pertaining to fuel oil firing of Boiler Unit 1 (Device ID D1) and Boiler Unit 2 (Device ID D4)

Section B - Review For Exemption From Further CEQA Action

Check "Yes" or "No" as applicable

	Yes	No	Is this application for:
1.	○	◉	A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project? If yes, attach a copy of the signed Notice of Determination to this form.
2.	○	◉	A request for a change of permittee only (without equipment modifications)?
3.	○	◉	A functionally identical permit unit replacement with no increase in rating or emissions?
4.	○	◉	A change of daily VOC permit limit to a monthly VOC permit limit?
5.	○	◉	Equipment damaged as a result of a disaster during state of emergency?
6.	○	◉	A Title V (i.e., Regulation XXX) permit renewal (without equipment modifications)?
7.	○	◉	A Title V administrative permit revision?
8.	○	◉	The conversion of an existing permit into an initial Title V permit?

If "Yes" is checked for any question in Section B, your application does not require additional evaluation for CEQA applicability. Skip to Section D - Signatures on page 2 and sign and date this form.

Section C - Review of Impacts Which May Trigger CEQA

Complete Parts I-VI by checking "Yes" or "No" as applicable. To avoid delays in processing your application(s), explain all "Yes" responses on a separate sheet and attach it to this form.

	Yes	No	Part I - General
1.	○	◉	Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project? Controversy may be construed as concerns raised by local groups at public meetings; adverse media attention such as negative articles in newspapers or other periodical publications, local news programs, environmental justice issues, etc.
2.	○	◉	Is this project part of a larger project? If yes, attach a separate sheet to briefly describe the larger project.
			Part II - Air Quality
3.	○	◉	Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?
4.	○	◉	Does this project include the open outdoor storage of dry bulk solid materials that could generate dust? If Yes, include a plot plan with the application package.

[1] A "project" means the whole of an action which has a potential for resulting in physical change to the environment, including construction activities, clearing or grading of land, improvements to existing structures, and activities or equipment involving the issuance of a permit. For example, a project might include installation of a new, or modification of an existing internal combustion engine, dry-cleaning facility, boiler, gas turbine, spray coating booth, solvent cleaning tank, etc.

[2] To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

[3] To download this form and the instructions, visit http://www.aqmd.gov/ceqa or http://www.aqmd.gov/permit

Section C - Review of Impacts Which May Trigger CEQA (cont.)			
	Yes	No	**Part II - Air Quality (cont.)**
5.	○	◉	Would this project result in noticeable off-site odors from activities that may not be subject to SCAQMD permit requirements? For example, compost materials or other types of greenwaste (i.e., lawn clippings, tree trimmings, etc.) have the potential to generate odor complaints subject to Rule 402 – Nuisance.
6.	○	◉	Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?
7.	○	◉	Will the proposed project increase the QUANTITY of hazardous materials stored aboveground onsite or transported by mobile vehicle to or from the site by greater than or equal to the amounts associated with each compound on the attached Table 1?[4]
			Part III – Water Resources
8.	○	◉	Will the project increase demand for water at the facility by more than 5,000,000 gallons per day? The following examples identify some, but not all, types of projects that may result in a "yes" answer to this question: 1) projects that generate steam; 2) projects that use water as part of the air pollution control equipment; 3) projects that require water as part of the production process; 4) projects that require new or expansion of existing sewage treatment facilities; 5) projects where water demand exceeds the capacity of the local water purveyor to supply sufficient water for the project; and 6) projects that require new or expansion of existing water supply facilities.
9.	○	◉	Will the project require construction of new water conveyance infrastructure? Examples of such projects are when water demands exceed the capacity of the local water purveyor to supply sufficient water for the project, or require new or modified sewage treatment facilities such that the project requires new water lines, sewage lines, sewage hook-ups, etc.
			Part IV – Transportation/Circulation
10.			Will the project result in (Check all that apply):
	○	◉	a. the need for more than 350 new employees?
	○	◉	b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?
	○	◉	c. increase customer traffic by more than 700 visits per day?
			Part V – Noise
11.	○	◉	Will the project include equipment that will generate noise GREATER THAN 90 decibels (dB) at the property line?
			Part VI – Public Services
12.			Will the project create a permanent need for new or additional public services in any of the following areas (Check all that apply):
	○	◉	a. Solid waste disposal? Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	○	◉	b. Hazardous waste disposal? Check "No" if the projected potential amount of hazardous wastes generated by the project is less than 42 cubic yards per day (or equivalent in pounds).

REMINDER: *For each "Yes" response in Section C, attach all pertinent information including but not limited to estimated quantities, volumes, weights, etc.*

Section D - Signatures

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT THIS FORM IS A SCREENING TOOL AND THAT THE SCAQMD RESERVES THE RIGHT TO CONSIDER OTHER PERTINENT INFORMATION IN DETERMINING CEQA APPLICABILITY.

1. Signature of Responsible Official of Firm:	2. Title of Responsible Official of Firm: Director of Power Supply and Operations
3. Print Name of Responsible Official of Firm: Kenneth A. Silver	4. Date Signed: 1/14/2016
5. Phone # of Responsible Official of Firm: (213) 067-4374 / 6. Fax # of Responsible Official of Firm: (213) 367-0210	7. Email of Responsible Official of Firm: kenneth.silver@ladwp.com
8. Signature of Preparer, (If prepared by person other than responsible official of firm):	9. Title of Preparer: Environmental Specialist
10. Print Name of Preparer: Leizl Lontok	11. Date Signed: 1/5/16
12. Phone # of Preparer: (213) 267-3779 / 13. Fax # of Preparer: (213) 367-4710	14. Email of Preparer: leizl.lontok@ladwp.com

THIS CONCLUDES FORM 400-CEQA. INCLUDE THIS FORM AND ANY ATTACHMENTS WITH FORM 400-A.

[4] Table 1 – Regulated Substances List and Threshold Quantities for Accidental Release Prevention can be found in the Instructions for Form 400-CEQA.

Restrictions Concerning the Release and Interpretation of Source Testing Emission Information (Please Read Carefully)

The South Coast Air Quality Management District • Source Test Engineering Branch

Request Concerns: Chroma Systems

84580
(AQMD Control No.)

The SCAQMD Source Test Engineering (STE) Branch has provided the following source testing reports pursuant to your Public Records Request. STE is obligated under AQMD's Guidelines for Implementing the California Public Records Request, to remove information which is regarded as proprietary, confidential, or information which contains trade secrets. Also, "data used to calculate emission data" must be removed, prior to dissemination. This includes, but is not limited to:

1. Intermediate stack information (stack dimensions, velocity/flowrate, temperature, gaseous composition other than reported contaminant emissions, etc.).
2. Intermediate emission information (emissions/losses to control devices, raw emission data, laboratory analyses, etc.).
3. Process information (process/product throughput, fuel usage, firing rates and burner/control adjustments unless rule/permit conditions specify emissions to be formatted according to this information, photos or drawings of process, etc.).
4. Quality Assurance concerning the above information (calibrations, corrections, etc.).

Most source test reports received by STE are formally evaluated for accuracy and other factors pertinent to the accuracy of reported emissions. The attached source test reports have been rated as follows:

Source Test I.D.	Document Subject/Date		Accuracy Rating*
R 08025	☐ Protocol ☒ Report ☐ other:	☐ Test Date ☒ Document Date May 8, 2006	(I) (A) (CA) (U) (NR)
R 08026	☐ Protocol ☒ Report ☐ other:	☐ Test Date ☒ Document Date May 8, 2006	(I) (A) (CA) (U) (NR)

**STE's Accuracy Rating Explanations:*

IN-HOUSE (I) – Source testing and report were conducted "in-house" by AQMD Source Testing staff and reported emission information is considered accurate.

ACCEPTABLE (A) – Source test document was conducted/submitted by independent source testing firm, has been evaluated by STE staff, and reported emission information is considered accurate and well documented.

CONDITIONALLY ACCEPTABLE (CA) – Source test document was conducted/submitted by independent source testing firm, has been evaluated by STE staff, and reported emission information may have limited use. For further details, contact STE at (909) 396-2265.

UNACCEPTABLE (U) – Source test document was conducted/submitted by independent source testing firm, has been evaluated by STE staff, and emission information is not considered accurate. Unacceptable source test reports will not be provided unless the requestor requests their release after being notified of their Accuracy Rating. For further details, contact STE at (909) 396-2265.

NOT RATED (NR) – Source test report has not been formally evaluated or status is unknown. STE assumes no responsibility for the accuracy of the reported emission information.

R080025

RECLAIM LARGE SOURCE TEST REPORT

PREPARED FOR:
Chroma Systems
3201 South Susan Street
Santa Ana, CA 92704

EQUIPMENT LOCATION:
Chroma Systems
3201 South Susan Street
Santa Ana, CA 92704
(SCAQMD Facility I.D. #095212)

EQUIPMENT I.D:
Boiler
(SCAQMD Device ID #: D8)

TEST DATES:
March 30, 2006

ISSUE DATE:
May 8, 2006

PARAMETERS MEASURED:
NO_x and O_2 Emissions

TESTED BY:
World Environmental
20321 Lake Forest Drive, Suite D6
Lake Forest, CA 92630

World Environmental Report No: WER1723
Revision: 0

Prepared By: _____
Mr. Thomas Cheng,
Project Manager

Reviewed By: _____
Mr. Keith Shannon,
President of World Environmental

2.0 SUMMARY OF RESULTS

Facility: **Chroma Systems**
Date Tested: March 30, 2006
Unit: Boiler (D8)
Project #: WER1723

A. Boiler (Device ID: D8)

Emissions	Test Run	**Emission Limit**	Applicable Rule
Fuel Type:	Natural Gas		RECLAIM Large Source
DSCFM:	[redacted]		
O_2 %:			
NO_x ppm (drift corr) **ppm @ 3% O_2** lb/hr	[redacted] **15.84** 0.48	**20 ppm @ 3% O_2**	
CO ppm (drift corr) **ppm @ 3% O_2** lb/hr	[redacted] **85.10** 1.57	**400 ppm @ 3% O_2**	

R080026

RECLAIM LARGE SOURCE TEST REPORT

PREPARED FOR:
Chroma Systems
3201 South Susan Street
Santa Ana, CA 92704

EQUIPMENT LOCATION:
Chroma Systems
3201 South Susan Street
Santa Ana, CA 92704
(SCAQMD Facility I.D. #095212)

EQUIPMENT I.D:
Boiler
(SCAQMD Device ID #: D9)

TEST DATES:
March 14, 2006

ISSUE DATE:
May 8, 2006

PARAMETERS MEASURED:
NO_x and O_2 Emissions

TESTED BY:
World Environmental
20321 Lake Forest Drive, Suite D6
Lake Forest, CA 92630

World Environmental Report No: WER1723
Revision: 0

Prepared By: _____
Mr. Thomas Cheng,
Project Manager

Reviewed By: _____
Mr. Keith Shannon,
President of World Environmental

2.0 SUMMARY OF RESULTS

Facility: **Chroma Systems**
Date Tested: March 14, 2006
Unit: Boiler (D9)
Project #: WER1723

A. Boiler (Device ID: D9)

Emissions	Test Run	**Emission Limit**	Applicable Rule
Fuel Type:	Natural Gas		
DSCFM:	[redacted]		
O_2 %:			
NO_X ppm (drift corr) **ppm @ 3% O_2** lb/hr	[redacted] **10.42** 0.31	**15 ppm @ 3% O_2**	RECLAIM Large Source
CO ppm (drift corr) **ppm @ 3% O_2** lb/hr	[redacted] **<20.71** <0.37	**400 ppm @ 3% O_2**	

* CO concentration was less than the quantifiable limit, 20% of full scale was used as the concentration measured. Testing for CO was performed at 0-100 ppm range, therefore 20 ppm was used as the default value.

Dunavent, Andrew/SDO

From: Lisa Ramos <lramos1@aqmd.gov>
Sent: Thursday, March 17, 2016 8:00 AM
To: Dunavent, Andrew/SDO
Cc: OB PR Support NA Docs
Subject: Public Reords Request #84582,
Attachments: - PR - PR Supporting Docs - 3/17/2016 - 84582 - - - COMPLETION LETTER - ANDREW DUNAVENT.pdf

Andrew Dunavent

No other documents were available for this request. I have attached the completion letter.

Lisa Ramos
South Coast A.Q.M.D
Public Records Unit
909.396.3211

Information Management
Public Records Unit

Direct Dial (909) 396-3700
Fax:(909) 396-3330

COMPLETION LETTER

March 17, 2016

ANDREW DUNAVENT
CH2M HILL
402W. BROADWAY # SUITE 1450
SAN DIEGO, CA 92101

Ref.: CONTROL NO. 84582
Received 1/21/2016

Re: APPL'S, P/O'S & S/T RPTS FOR BETA OFFSHORE, FAC ID #166073, AT OCS LEASE PARCELS P300/P301, HUNTINGTON BEACH, CA 92648, APPL #'S 533629, 533630, 533631, 533632, 533634, 533635 & 533636.

After a thorough search of this agency's records, the following records were found:
APPL'S & P/O'S FOR BETA OFFSHORE, FAC ID #166073, AT OCS LEASE PARCELS P300/P301, HUNTINGTON BEACH, CA 92648, APPL #'S 533629, 533630, 533631, 533632, 533634, 533635 & 533636.

The following records were not found:
S/T RPTS FOR BETA OFFSHORE, FAC ID #166073, AT OCS LEASE PARCELS P300/P301, HUNTINGTON BEACH, CA 92648, APPL #'S 533629, 533630, 533631, 533632, 533634, 533635 & 533636.

YOUR REQUESTED RECORDS WERE PROVIDED ELECTRONICALLY ON 03/17/2016

If you have any questions, please do not hesitate to contact me, Tuesday through Friday, **8:00 a.m**. to **4:30 p.m.**

Sincerely,

LISA RAMOS x3211
For Colleen Paine
Public Records Coordinator

Dunavent, Andrew/SDO

From: Jacob Allen <jallen2@aqmd.gov>
Sent: Friday, April 22, 2016 3:41 PM
To: Dunavent, Andrew/SDO
Cc: OB PR Support NA Docs
Subject: Public Records Request #84573, partial
Attachments: ENG - Application Folder - 7/2/2014 - Fac ID: 169754 - Appl# 555370 - Permit# G31830 - Name: OXY USA INC -.pdf; - PR - PR Review Docs - 1/22/2016 - 84573 - EQL - 4FD40F621BD37B438F14E5A944066C9D.TIF - - ANDREW DUNAVENT.pdf

Attached is a partial delivery of your requested records. This is everything that is currently available. Your request is still routed out for Complete Engrg Appl File 572641, the Facility Permit and Source Testsrelated to your requested Applications. I have sent these departments a reminder and let them know that you are asking for your requested records

Jacob Allen
Public Records, SCAQMD
(909) 396-2282

SCAQMD Facility Equipment List Report

Facility: 169754 SO CAL HOLDING, LLC
Status: Active
MR: 0103 SIC: 1311 Team: I
Last Inspection: 05/12/2015 On Hold: N
Suspended: N
TS: TS-01 Cycle I RECLAIM/Title V Facility
Quarter: 0010 - inspect in 3rd quarter, every year
Contact: DIANA LANG (562) 6243314
RECLAIM: Y TITLE V: Y AIRS ID: 0605900025
Assignment: 1324313
Location Address: 20101 GOLDENWEST ST, HUNTINGTON BEACH 92648-2628 Sector:OH
Inspector: VJ01 VICTOR JUAN JR
Mailing Address: 111 W OCEAN BLVD, LONG BEACH 90802 Sector:LB
Inspection Date: 08/01/2012
Instruction:
Disposition: Notice To Comply

Application No.	Permit No.	Permit Issue Date	Permit Status	Equipment Category		BCAT/CCAT Description	Application Date	Application Status
529221				555010	BCAT	FACILITY PERMIT AMEND- RECLAIM ONLY	11/08/2011	BANKING/ PLAN GRANTED, NON BILLABLE
529222	G16868	02/17/2012	ACTIVE	288900	BCAT	STORAGE TANK OTHER SOLVENTS N.E.C.	11/08/2011	PERMIT TO OPERATE GRANTED
529223	G16837	02/16/2012	ACTIVE	043901	BCAT	I C E (50-500 HP) EM ELEC GEN-DIESEL	11/08/2011	PERMIT TO OPERATE GRANTED
529224	G16840	02/16/2012	ACTIVE	044901	BCAT	I C E (50-500 HP) EM FIRE FGHT-DIESEL	11/08/2011	PERMIT TO OPERATE GRANTED
529225	G16839	02/16/2012	ACTIVE	044901	BCAT	I C E (50-500 HP) EM FIRE FGHT-DIESEL	11/08/2011	PERMIT TO OPERATE GRANTED
529226	G16845	02/16/2012	ACTIVE	048901	BCAT	I C E (50-500 HP) EMERG OTHER, DIESEL	11/08/2011	PERMIT TO OPERATE GRANTED
529227	G16870	02/17/2012	ACTIVE	231809	BCAT	Crude Oil/Gas/Water Separation >=400 BPD	11/08/2011	PERMIT TO OPERATE GRANTED
529228	G16869	02/17/2012	ACTIVE	294957	BCAT	WASTE WATER TREATING (>50000 GAL/DAY)	11/08/2011	PERMIT TO OPERATE GRANTED
529229	G16853	02/16/2012	ACTIVE	320349	BCAT	NATURAL GAS DRYING	11/08/2011	PERMIT TO OPERATE GRANTED
529230	G16850	02/16/2012	ACTIVE	42	CCAT	SCRUBBER CHEMICAL M.S.	11/08/2011	PERMIT TO OPERATE GRANTED
529231	G16843	02/16/2012	ACTIVE	320709	BCAT	NATURAL GAS STABILIZATION UNIT	11/08/2011	PERMIT TO OPERATE GRANTED
529232	G16849	02/16/2012	ACTIVE	320349	BCAT	NATURAL GAS DRYING	11/08/2011	PERMIT TO OPERATE GRANTED
529233	G16848	02/16/2012	ACTIVE	000533	BCAT	GAS PLANT	11/08/2011	PERMIT TO OPERATE GRANTED
529234	G16847	02/16/2012	INACTIVE	019001	BCAT	HEATER/FURNACE (<5 MMBTU/HR) NAT GAS	11/08/2011	PERMIT TO OPERATE GRANTED
529235	G16846	02/16/2012	ACTIVE	96	CCAT	TAIL GAS INCINERATOR	11/08/2011	PERMIT TO OPERATE GRANTED
529236	G16836	02/16/2012	ACTIVE	08	CCAT	FLARE, OTHER	11/08/2011	PERMIT TO OPERATE GRANTED
529237	G16873	02/17/2012	ACTIVE	19	CCAT	Activated Carbon Adsorber Drum Vent s.s.	11/08/2011	PERMIT TO OPERATE GRANTED
529238	G16874	02/17/2012	ACTIVE	19	CCAT	Activated Carbon Adsorber Drum Vent s.s.	11/08/2011	PERMIT TO OPERATE GRANTED
529239	G16871	02/17/2012	INACTIVE	231106	BCAT	BULK LOAD TERMINAL REC PIPELINE CRUDE	11/08/2011	PERMIT TO OPERATE GRANTED
529240	G16838	02/16/2012	ACTIVE	040901	BCAT	I C E (50-500 HP) N-EM STAT DIESEL	11/08/2011	PERMIT TO OPERATE GRANTED
529242				000992	BCAT	ERC - CHANGE OF TITLE	11/08/2011	BANKING/ PLAN GRANTED, NON BILLABLE
529243				000992	BCAT	ERC - CHANGE OF TITLE	11/08/2011	BANKING/ PLAN GRANTED, NON BILLABLE
529244				000992	BCAT	ERC - CHANGE OF TITLE	11/08/2011	BANKING/ PLAN GRANTED, NON BILLABLE
529245				000992	BCAT	ERC - CHANGE OF TITLE	11/08/2011	BANKING/ PLAN GRANTED, NON BILLABLE
529246				000992	BCAT	ERC - CHANGE OF TITLE	11/08/2011	BANKING/ PLAN GRANTED, NON BILLABLE
529247				000992	BCAT	ERC - CHANGE OF TITLE	11/08/2011	BANKING/ PLAN GRANTED, NON BILLABLE
532242				555010	BCAT	FACILITY PERMIT AMEND- RECLAIM ONLY	01/20/2012	ASSIGNED TO ENGINEER - CLASS III
532245				666049	BCAT	PLAN RULE 1110.2- Inspection & Monitoring Plan	01/20/2012	BANKING/ PLAN GRANTED, NON BILLABLE
533145				555010	BCAT	FACILITY PERMIT AMEND- RECLAIM ONLY	03/06/2012	BANKING/ PLAN GRANTED, NON BILLABLE
533146				011003	BCAT	BOILER (5-20 MMBTU/HR) NAT GAS ONLY	03/06/2012	APPLICATION CHANGED FROM CLASS I - III
534354	G21271	11/01/2012	ACTIVE	013608	BCAT	TURBINE ENGINE (<=50 MW) PROCESS GAS	03/27/2012	PERMIT TO OPERATE GRANTED
534355				555010	BCAT	FACILITY PERMIT AMEND- RECLAIM ONLY	03/27/2012	BANKING/ PLAN GRANTED, NON BILLABLE
538851	G22427	01/15/2013	ACTIVE	019001	BCAT	HEATER/FURNACE (<5 MMBTU/HR) NAT GAS	06/19/2012	PERMIT TO OPERATE GRANTED
538852				555010	BCAT	FACILITY PERMIT AMEND- RECLAIM ONLY	06/19/2012	BANKING/ PLAN GRANTED, NON BILLABLE
555370	G31830	07/02/2014	ACTIVE	043902	BCAT	I C E (>500 HP) EM ELEC GEN DIESEL	08/20/2013	PERMIT TO OPERATE GRANTED

Inspector: _____ Date: _____ Reviewed By: _____ Date: _____

SCAQMD Facility Equipment List Report

Facility: 169754 SO CAL HOLDING, LLC
Status: Active
MR: 0103 SIC: 1311 Team: I
Last Inspection: 05/12/2015 On Hold: N Suspended: N TS: TS-01 Cycle I RECLAIM/Title V Facility
Quarter: 0010 - inspect in 3rd quarter, every year
Contact: DIANA LANG (562) 6243314 RECLAIM: Y TITLE V: Y AIRS ID: 0605900025
Assignment: 1324313
Location Address: 20101 GOLDENWEST ST, HUNTINGTON BEACH 92648-2628 Sector:OH
Inspector: VJ01 VICTOR JUAN JR
Mailing Address: 111 W OCEAN BLVD, LONG BEACH 90802 Sector:LB
Inspection Date: 08/01/2012
Instruction:
Disposition: Notice To Comply

Application No.	Permit No.	Permit Issue Date	Permit Status	Equipment Category		BCAT/CCAT Description	Application Date	Application Status
555402				555010	BCAT	FACILITY PERMIT AMEND- RECLAIM ONLY	08/20/2013	BANKING/ PLAN GRANTED, NON BILLABLE
556388				666116	BCAT	PLAN RULE 1166 (CONTAMINATED SOIL HAND.)	09/20/2013	BANKING/ PLAN GRANTED, NON BILLABLE
557681				666415	BCAT	RULE 1415 PLAN NOTIFICATIONS	10/29/2013	BANKING/ PLAN GRANTED, NON BILLABLE
560466				051504	BCAT	BOILER (>20=50 MMBTU/HR) NG/PG & LPG	02/04/2014	APPLICATION CANCELLED, KEEP ALL FEES
560467				555010	BCAT	FACILITY PERMIT AMEND- RECLAIM ONLY	02/04/2014	APPLICATION CANCELLED, KEEP FILING FEES
567796				320709	BCAT	NATURAL GAS STABILIZATION UNIT	08/26/2014	APPLICATION CANCELLED, KEEP FILING FEES
567798				555010	BCAT	FACILITY PERMIT AMEND- RECLAIM ONLY	08/26/2014	APPLICATION CANCELLED, KEEP FILING FEES
567799				666416	BCAT	RULE 1415.1 PLAN NOTIFICATIONS	08/26/2014	BANKING/ PLAN GRANTED, NON BILLABLE
569440	G34501	02/11/2015	ACTIVE	231106	BCAT	BULK LOAD TERMINAL REC PIPELINE CRUDE	10/23/2014	PERMIT TO OPERATE GRANTED
570166				320709	BCAT	NATURAL GAS STABILIZATION UNIT	12/02/2014	APPLICATION CHANGED FROM CLASS I - III
570167				555010	BCAT	FACILITY PERMIT AMEND- RECLAIM ONLY	12/02/2014	BANKING/ PLAN GRANTED, NON BILLABLE
572641				555003	BCAT	TIERED (1-20 DEVICES) INITIAL TITLE V PERMIT APPL	02/24/2015	ASSIGNED TO ENGINEER - CLASS III

Inspector: _____ Date: _____ Reviewed By: _____ Date: _____

SCAQMD Facility Equipment List Report

Facility: 169754 SO CAL HOLDING, LLC
Status: Active
MR: 0103 SIC: 1311 Team: I
Last Inspection: 05/12/2015 On Hold: N Suspended: N TS: TS-01 Cycle I RECLAIM/Title V Facility
Quarter: 0010 - inspect in 3rd quarter, every year
Contact: DIANA LANG (562) 6243314 RECLAIM: Y TITLE V: Y AIRS ID: 0605900025
Assignment: 1324313
Location Address: 20101 GOLDENWEST ST, HUNTINGTON BEACH 92648-2628 Sector:OH
Inspector: VJ01 VICTOR JUAN JR
Mailing Address: 111 W OCEAN BLVD, LONG BEACH 90802 Sector:LB
Inspection Date: 08/01/2012
Instruction:
Disposition: Notice To Comply

Application No.	Permit No.	Permit Issue Date	Permit Status	Equipment Category	BCAT/CCAT Description	Application Date	Application Status

Inspector: _____ Date: _____ Reviewed By: _____ Date: _____

SCAQMD Facility Equipment List Report

Facility: 169754 SO CAL HOLDING, LLC
Status: Active
MR: 0103 SIC: 1311 Team: I
Last Inspection: 05/12/2015 On Hold: N Suspended: N TS: TS-01 Cycle I RECLAIM/Title V Facility
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Inspector: VJ01 VICTOR JUAN JR
Mailing Address: 111 W OCEAN BLVD, LONG BEACH 90802 Sector:LB
Inspection Date: 08/01/2012
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Disposition: Notice To Comply

Application No.	Permit No.	Permit Issue Date	Permit Status	Equipment Category	BCAT/CCAT Description	Application Date	Application Status

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Facility: 169754 SO CAL HOLDING, LLC
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MR: 0103 SIC: 1311 Team: I
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Quarter: 0010 - inspect in 3rd quarter, every year
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Instruction:
Disposition: Notice To Comply

Application No.	Permit No.	Permit Issue Date	Permit Status	Equipment Category	BCAT/CCAT Description	Application Date	Application Status

Inspector: _____ Date: _____ Reviewed By: _____ Date: _____

ROUTING RECORD

DATE	FROM	TO	ACTION
AUG 2 1 2013	[illegible]	HSD	I - XFC
6/25/2014	HSD		P/O RECOMMENDED
7-1-14	[illegible]	PS	ISS-L P/O

REFERENCE TO OTHER APCD RECORDS INCLUDING VARIANCES

8/3/13 - PRESCREENED IS

APPL # 555370
I.D. # 169754

OXY USA INC
20101 GOLDENWEST ST
HUNTINGTON BEACH
EMERGENCY I C E

Date: 08/20/13

XPP

South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): OXY USA Inc.

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 169754

3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: (●) Fixed Location ( ) Various Location
(For equipment operated at various locations, provide address of initial site.)

20101 Goldenwest St.
Street Address
Huntington Beach, CA 92648
City Zip
Diana Lang — Contact Name
Env. Coordinator — Title
(562) 624-3314 — Phone # — Ext.
(562) 624-3224 — Fax #
E-Mail: diana_lang@oxy.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
☐ Check here if same as equipment location address

111 W. Ocean Blvd. #800
Address
Long Beach, CA 90802
City State Zip
Diana Lang — Contact Name
Env. Coordinator — Title
(562) 624-3314 — Phone # — Ext.
(562) 624-3224 — Fax #
E-Mail: diana_lang@oxy.com

Section D - Application Type

6. The Facility Is: ( ) Not In RECLAIM or Title V (●) In RECLAIM ( ) In Title V ( ) In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application
(●) New Construction (Permit to Construct) (10)
( ) Equipment On-Site But Not Constructed or Operational
( ) Equipment Operating Without A Permit *
( ) Compliance Plan
( ) Registration/Certification
( ) Streamlined Standard Permit

7b. Facility Permits:
( ) Title V Application or Amendment (Also submit Form 500-A1)
( ) RECLAIM Facility Permit Amendment

7c. Equipment or Process with an Existing/Previous Application or Permit:
( ) Administrative Change
( ) Alteration/Modification
( ) Alteration/Modification without Prior Approval *
( ) Change of Condition
( ) Change of Condition without Prior Approval *
( ) Change of Location
( ) Change of Location without Prior Approval *
( ) Equipment Operating with an Expired/Inactive Permit *

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number:

* A Higher Permit Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)).

8a. Estimated Start Date of Construction (mm/dd/yyyy):
8b. Estimated End Date of Construction (mm/dd/yyyy):
8c. Estimated Start Date of Operation (mm/dd/yyyy):

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Emergency IC Engine

10. For identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process): 0

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are $500,000 or less OR a not-for-profit training center) (●) No ( ) Yes

12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? (●) No ( ) Yes
If Yes, provide NOV/NC#:

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Oil and Gas Production

14. What is your business primary NAICS Code? (North American Industrial Classification System) 211111

15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? ( ) No (●) Yes

16. Are there any schools (K-12) within 1000 feet of the facility property line? (●) No ( ) Yes

Section F - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official: Mark S. Kapelke

18. Title of Responsible Official: VP - Eng and Ops

19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) ( ) No (●) Yes

20. Print Name: Mark Kapelke

21. Date: 8/13/2013

22. Do you claim confidentiality of data? (If Yes, see instructions.) (●) No ( ) Yes

23. Check List: ☒ Authorized Signature/Date ☒ Form 400-CEQA ☒ Supplemental Form(s) (Ie., Form 400-E-xx) ☒ Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #	CHECK #	AMOUNT RECEIVED	PAYMENT TRACKING #	VALIDATION
	555370	10004103	$ 5130.63		8/20/13

DATE	APP / REJ	DATE	APP / REJ	CLASS I / III	BASIC CONTROL	EQUIPMENT CATEGORY CODE	TEAM	ENGINEER	REASON/ACTION TAKEN
8/28/13	APP			I		043902	0	HSQ	

(111038) $2218.39 1/2

SC[illegible]MD PERMIT PROCESSING SYSTEM (PPS)

FEE DATA - SUMMARY SHEET

Application No	: 555370	IRS/SS No:	
Previous Application No:		Previous Permit No:	

Company Name	: OXY USA INC			Facility ID:	169754
Equipment Street:	20101 GOLDENWEST ST , HUNTINGTON BEACH CA 92648				
Equipment Desc	: I C E (>500 HP) EM ELEC GEN DIESEL				
Equipment Type	: BASIC			Fee Charged by:	B-CAT
B-CAT NO.	: 043902	C-CAT NO:	08	Fee Schedule:	B
Facility Zone	: 18	Deemed Compl. Date:	8/28/2013	Public Notice:	NO

Evaluation Type	: PERMIT TO OPERATE (PO NO PC)
Disposition	: Approve PO, Recommended by Engineer
Lead Appl. No	:

Small Business: ☐
Higher Fees for Failing to Obtain a Permit: ☐
Identical Permit Unit: ☐

Air quality Analysis			$0.00	Filing Fee Paid:	$0.00
E.I.R			$0.00	Permit Processing Fee Paid:	$2,218.39
Health Risk Assessment			$0.00	Permit Processing Fee Calculated*:	$2,218.39
Public Notice Preparation Fee			$0.00	Permit Processing Fee Adjustment:	$0.00
Public Notice Publication Fee			$0.00		
Expedited Processing	Hours:	0.00	$0.00		
Source Test Review	Hours:	0.00	$0.00		
Time & Material	Hours:	0.00	$0.00		
				Total Additional Fee:	$0.00
				Additional Charge:	$0.00

COMMENTS:

RECOMMENDED BY:. HAMILTON A STODDARD DATE: 06/21/2014

REVIEWED BY: MKH DATE: 7/1/14

* ADJUSTED FOR SMALL BUSINESS, IDENTICAL EQUIPMENT AND P/O NO P/C PENALTY

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

June 27, 2014

Mark Kapelpke
Vice President, Engineering and Operations
OXY USA, Inc
111 West Ocean Blvd. #800
Long Beach, CA 90802

Dear Mr. Kapelpke,

Attached is your revised RECLAIM Facility Permit for the facility that is located at 20101 Goldenwest Street, Huntington Beach, CA. The Facility Permit reflects your request to add an emergeny ice/generator to the Platform Emmy site.

The following applications are approved for permit to operate and are summarized in the table below.

Application number	Equipment Description	Device number	Process number	System	Section
555370	Emergency ICE/Generator	D228	2	2	D
555402	RECLAIM Amendment				

Please review the attached Section D of the Facility Permit carefully. Any questions pertaining to items in your Facility Permit should be directed to Mr. Hamilton Stoddard at (909) 396-2482 .

Sincerely,

William C. Thompson, P.E.
Senior Enforcement Manager
Engineering and Compliance

WT:MH:hs

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

Title Page	
Facility ID	169754
Revision #:	6
Date:	June 27, 2014

FACILITY PERMIT TO OPERATE

OXY USA INC
20101 GOLDENWEST ST
HUNTINGTON BEACH, CA 92648

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR A COPY THEREOF MUST BE KEPT AT THE LOCATION FOR WHICH IT IS ISSUED.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT SHALL NOT BE CONSTRUED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF ANY OTHER FEDERAL, STATE OR LOCAL GOVERNMENTAL AGENCIES.

Barry R. Wallerstein, D. Env.
EXECUTIVE OFFICER

By _____ for
Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering & Compliance

FACILITY PERMIT TO OPERATE
OXY USA INC

TABLE OF CONTENTS

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 1: CRUDE OIL/GAS PRODUCTION					
System 1: CRUDE OIL/GAS/WATER SEPARATION					
VESSEL, V-104, FREE WATER KOCK OUT, LENGTH: 40 FT ; DIAMETER: 10 FT A/N: 529227	D1				
VESSEL, V-107, FREE WATER KNOCK OUT, LENGTH: 60 FT ; DIAMETER: 12 FT A/N: 529227	D2				
VESSEL, V-108, FREE WATER KNOCK OUT, LENGTH: 60 FT ; DIAMETER: 12 FT A/N: 529227	D3				
VESSEL, V-109, FREE WATER KNOCK OUT, LENGTH: 60 FT ; DIAMETER: 12 FT A/N: 529227	D4				
VESSEL, V-110, FREE WATER KOCK OUT, LENGTH. 60 FT ; DIAMETER: 12 FT A/N: 529227	D5				
VESSEL, V-111, FREE WATER KNOCK OUT, LENGTH: 60 FT ; DIAMETER: 12 FT A/N: 529227	D6				
VESSEL, V-114, FREEWATER KNOCKOUT, LENGTH: 60 FT ; DIAMETER: 12 FT A/N: 529227	D7				
VESSEL, V-115, FREE WATER KNOCK OUT, LENGTH: 60 FT ; DIAMETER: 12 FT A/N: 529227	D8				

* (1) (1A) (1B) Denotes RECLAIM emission factor
(2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See section J for NESHAP/MACT requirements

** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

FACILITY PERMIT TO OPERATE
OXY USA INC

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The operator shall comply with the terms and conditions set forth below:

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Process 1: CRUDE OIL/GAS PRODUCTION					
TANK, HOLDING, T-101, CRUDE OIL, VENTED TO VAPOR RECOVERY COMPRESSOR, 2000 BBL; DIAMETER: 29 FT 9 IN; HEIGHT: 16 FT A/N: 529227	D10				E57.1, E127.1, H23.5
TANK, HOLDING, T-102, CRUDE OIL, VENTED TO VAPOR RECOVERY COMPRESSOR, 2000 BBL; DIAMETER: 29 FT 9 IN; HEIGHT: 16 FT A/N: 529227	D11				E57.1, E127.1, H23.5
TANK, HOLDING, T-103, WET OIL DIVERT, VENTED TO VAPOR RECOVERY COMPRESSOR, 2000	D12				E57.1, E127.1, H23.5
BBL; DIAMETER: 29 FT 9 IN; HEIGHT: 16 FT A/N: 529227					
TANK, HOLDING, T-104, WET OIL DIVERT, VENTED TO VAPOR RECOVERY COMPRESSOR, 2000 BBL; DIAMETER: 29 FT 9 IN; HEIGHT: 16 FT A/N: 529227	D13				E57.1, E127.1, H23.5
TANK, HOLDING, T-318, SKIM OIL, VENTED TO VAPOR RECOVERY COMPRESSOR, 5000 BBL; DIAMETER: 38 FT 8 IN; HEIGHT: 24 FT A/N: 529227	D15				E57.1, E127.1, H23.5
VESSEL, SEPARATOR, V-150, RELIEF KNOCKOUT DRUM, LENGTH: 15 FT ; DIAMETER: 8 FT A/N: 529227	D41				H23.3

* (1) (1A) (1B) Denotes RECLAIM emission factor
(2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and control emission limit
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FACILITY PERMIT TO OPERATE
OXY USA INC

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Process 1: CRUDE OIL/GAS PRODUCTION					
TANK, T-317, SURGE/SKIM OIL TANK, SKIM OIL/WASTEWATER, VENTED TO VAPOR RECOVERY COMPRESSOR, 5000 BBL; DIAMETER: 38 FT 8 IN; HEIGHT: 24 FT A/N: 529227	D14				E57.1, E127.1, H23.5
System 2: WASTE WATER TREATMENT					
FLOATATION UNIT, WEMCO, T-337, VENTED TO VAPOR RECOVERY COMPRESSOR, 550 BBL A/N: 529228	D23				E127.1, H23.4
FLOATATION UNIT, WEMCO, T-338, VENTED TO VAPOR RECOVERY COMPRESSOR, 550 BBL A/N: 529228	D24				E127.1, H23.4
TANK, SURGE, T-350, INJECTION WATER, VENTED TO VAPOR RECOVERY COMPRESSOR, 5000 BBL; DIAMETER: 38 FT 8 IN; HEIGHT: 24 FT A/N: 529228	D215				E57.1, E127.1, H23.5
TANK, SURGE, T-360, RAINWATER, 2000 BBL; DIAMETER: 29 FT 9 IN; HEIGHT: 16 FT A/N: 529228	D34				
OIL WATER SEPARATOR, T-339, 1000 BBL CAPACITY,, VENTED TO THE VAPOR RECOVERY COMPRESSOR, LENGTH: 60 FT ; DIAMETER: 12 FT A/N: 529228	D36				E57.1, E127.1, H23.7

* (1) (1A) (1B) Denotes RECLAIM emission factor
(2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and control emission limit
(6) Denotes air toxic control rule limit
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FACILITY PERMIT TO OPERATE
OXY USA INC

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 1: CRUDE OIL/GAS PRODUCTION					
PIT, NO. 3, COVERED, SKIM OIL, VENTED TO THE VAPOR RECOVERY COMPRESSOR A/N: 529228	D40				E57.1, H23.4
TANK, HOLDING, T-340, OILY WATER, VACUUM TRUCK OFFLOADING, VENTED TO VAPOR RECOVERY COMPRESSOR, 180 BBL; DIAMETER: 12 FT ; HEIGHT: 15 FT 1 IN A/N: 529228	D216				E57.1, E127.1, H23.3
TANK, HOLDING, T-341, OILY WATER, VACUUM TRUCK OFFLOADING, VENTED TO VAPOR RECOVERY COMPRESSOR, 180 BBL;	D217				E57.1, E127.1, H23.3
DIAMETER: 12 FT ; HEIGHT: 15 FT 1 IN A/N: 529228					
TANK, HOLDING, T-342, OILY WATER, VENTED TO VAPOR RECOVERY COMPRESSOR, 1000 BBL; DIAMETER: 29 FT 9 IN; HEIGHT: 8 FT A/N: 529228	D218				E57.1, E127.1, H23.5
TANK, HOLDING, T-343, OILY WATER, VENTED TO VAPOR RECOVERY COMPRESSOR, 1000 BBL; DIAMETER: 29 FT 9 IN; HEIGHT: 8 FT A/N: 529228	D219				E57.1, E127.1, H23.5

* (1) (1A) (1B) Denotes RECLAIM emission factor
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FACILITY PERMIT TO OPERATE
OXY USA INC

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Process 1: CRUDE OIL/GAS PRODUCTION					
TANK, HOLDING, T-345, PROCESS DRAIN/RAIN WATER, SUMP RAIN, VENTED TO VAPOR RECOVERY COMPRESSOR, 53 BBL; WIDTH: 5 FT ; HEIGHT: 5 FT ; LENGTH: 12 FT A/N: 529228	D220				E57.1, E127.1
System 3: GAS GATHERING					
SCRUBBER, WET GAS, V-323, LENGTH: 10 FT ; DIAMETER: 4 FT 2 IN A/N: 529229	D120				
GAS SEPARATOR, V-100, (NORTH BOLSA), VENTING TO THE HUNTINGTON BEACH GAS PLANT., HEIGHT: 10 FT ; DIAMETER: 4 FT A/N: 529229	D19				
SCRUBBER, SOUTH BOLSA, HEIGHT: 8 FT ; DIAMETER: 3 FT A/N: 529229	D145				
SCRUBBER, LEASE 425 A/N: 529229	D147				
SCRUBBER, LEASE 426 A/N: 529229	D148				
SCRUBBER, HIGH PRESSURE, HEIGHT: 8 FT ; DIAMETER: 4 FT A/N: 529229	D128				
SCRUBBER, LOW PRESSURE, HEIGHT: 12 FT ; DIAMETER: 5 FT A/N: 529229	D130				

* (1) (1A) (1B) Denotes RECLAIM emission factor
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FACILITY PERMIT TO OPERATE
OXY USA INC

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 1: CRUDE OIL/GAS PRODUCTION					
SCRUBBER, SUCTION, EMMY HIGH PRESSURE GAS, HEIGHT: 6 FT ; DIAMETER: 2 FT 6 IN A/N: 529229	D170				
SCRUBBER, DISCHARGE, EMMY HIGH PRESSURE GAS, HEIGHT: 6 FT ; DIAMETER: 1 FT 4 IN A/N: 529229	D171				
SCRUBBER, EMMY LOW PRESSURE CASING GAS, HEIGHT: 12 FT ; DIAMETER: 5 FT A/N: 529229	D221				
System 4: GAS DESULFURIZATION (STRETFORD UNIT)					
SCRUBBER, V-1, WET GAS, HEIGHT: 13 FT 7 IN; DIAMETER: 6 FT A/N: 529230	D42				
ABSORBER, V-2 (STRETFORD UNIT FOR H2S ABSORPTION), HEIGHT: 25 FT ; DIAMETER: 3 FT 6 IN A/N: 529230	D20				
ABSORBER, V-3 (STRETFORD UNIT FOR H2S ABSORPTION), HEIGHT: 25 FT ; DIAMETER: 3 FT 6 IN A/N: 529230	D43				
ABSORBER, V-5 (STRETFORD UNIT FOR H2S ABSORPTION), (STANDBY), HEIGHT: 25 FT ; DIAMETER: 3 FT 6 IN A/N: 529230	D45				
SCRUBBER, V-4, HEIGHT: 13 FT 7 IN; DIAMETER: 6 FT A/N: 529230	D46				

* (1) (1A) (1B) Denotes RECLAIM emission factor
(2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
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FACILITY PERMIT TO OPERATE
OXY USA INC

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The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 1: CRUDE OIL/GAS PRODUCTION					
PROCESS TANK, T-2, REACTION TANK, HEIGHT: 9 FT 6 IN; DIAMETER: 12 FT A/N: 529230	D47				
PROCESS TANK, UNHEATED, BACKUP, SULFUR SLURRY, OPEN TOP, 470 BBL; WIDTH: 8 FT ; HEIGHT: 11 FT ; LENGTH: 30 FT A/N: 529230	D172				
PROCESS TANK, T-3, OXIDIZER TANK, HEIGHT: 20 FT 9 IN; DIAMETER: 12 FT A/N: 529230	D48				
PROCESS TANK, UNHEATED, T-1, SULFUR SLURRY HOLDING TANK, HEIGHT: 8 FT ; DIAMETER: 8 FT A/N: 529230	D83				
PROCESS TANK, MIXING TANK, HEIGHT: 4 FT ; DIAMETER: 4 FT A/N: 529230	D85				
STORAGE TANK, STRETFORD SOLUTION, HEIGHT: 10 FT ; DIAMETER: 10 FT A/N: 529230	D86				
System 6: NATURAL GAS STABILIZATION					S13.1, S13.2
KNOCK OUT POT, V-601, COMPRESSOR SUCTION A/N: 529231	D64				
KNOCK OUT POT, V-602, COMPRESSOR 1ST STAGE DISCHARGE A/N: 529231	D65				

* (1) (1A) (1B) Denotes RECLAIM emission factor
(2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See section J for NESHAP/MACT requirements

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FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 1: CRUDE OIL/GAS PRODUCTION					
KNOCK OUT POT, V-606, COMPRESSOR 2ND STAGE DISCHARGE A/N: 529231	D133				
VESSEL, V-604, H2S REMOVAL TOWER (PACKED WITH SULFATREAT OR EQUIVALENT MATERIAL), HEIGHT: 20 FT ; DIAMETER: 6 FT A/N: 529231	D80				
VESSEL, V-605, H2S REMOVAL TOWER (PACKED WITH SULFATREAT OR EQUIVALENT MATERIAL), HEIGHT: 20 FT ; DIAMETER: 6 FT A/N: 529231	D101				
VESSEL, SEPARATOR, V-603, GLYCOL, LENGTH: 8 FT ; DIAMETER: 3 FT A/N: 529231	D79				
KNOCK OUT POT, V-607, LIQUID KNOCKOUT A/N: 529231	D134				
VESSEL, V-701, GLYCOL FLASH DRUM A/N: 529231	D136				
VESSEL, V-801, REFRIGERANT COMPRESSOR SUCTION DRUM A/N: 529231	D137				
VESSEL, V-802, REFRIGERANT SURGE DRUM A/N: 529231	D138				

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 1: CRUDE OIL/GAS PRODUCTION					
VESSEL, V-803, GAS/LUBE OIL SEPARATOR A/N: 529231	D139				
STORAGE TANK, T-703, GLYCOL STORAGE A/N: 529231	D141				
SUMP, T-704, GLYCOL COLLECTION A/N: 529231	D142				
SUMP, T-705, OPEN DRAIN A/N: 529231	D143				
COLUMN, GLYCOL STILL, HEIGHT: 8 FT ; DIAMETER: 1 FT A/N: 529231	D173				
HEAT EXCHANGER, COMPRESSOR 1ST STAGE DISCHARGE COOLER, E-601 A/N: 529231	D174				
HEAT EXCHANGER, COMPRESSOR 2ND STAGE DISCHARGE COOLER, E-602, AIR COOLED A/N: 529231	D175				
HEAT EXCHANGER, GAS TO GAS, E-603 A/N: 529231	D176				
HEAT EXCHANGER, GAS CHILLER, E-604 A/N: 529231	D177				
HEAT EXCHANGER, RICH-LEAN GLYCOL, E-701 A/N: 529231	D178				

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: CRUDE OIL/GAS PRODUCTION					
REGENERATOR, GLYCOL REGENERATOR, E-702, ELECTRICAL, 142 KW A/N: 529231	D179				
HEAT EXCHANGER, GLYCOL REGENERATOR OFF-GAS COOLER, E-703, AIR COOLED A/N: 529231	D180				
HEAT EXCHANGER, REFRIGERANT CONDENSER, E-801, AIR COOLED A/N: 529231	D181				
HEAT EXCHANGER, LUBE OIL COOLER, E-802, AIR COOLED A/N: 529231	D182				
FILTER, F-901, INLET GAS	D183				
COALESCING FILTER, HEIGHT: 4 FT ; DIAMETER: 2 FT A/N: 529231					
TOWER, T-901, GLYCOL CONTACT, PACKED COLUMN WITH INTEGRAL BOTTOM SCRUBBER/WIRE MESH SCREEN, HEIGHT: 29 FT ; DIAMETER: 1 FT 2 IN A/N: 529231	D184				
COLUMN, T-902, GLYCOL REGENERATION A/N: 529231	D185				
DRUM, V-900, RICH GLYCOL A/N: 529231	D186				

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 1: CRUDE OIL/GAS PRODUCTION					
FILTER, F-902, RICH GLYCOL PARTICULATE FILTER, HEIGHT: 4 FT ; DIAMETER: 2 FT A/N: 529231	D187				
FILTER, F-903, RICH GLYCOL CARBON FILTER, HEIGHT: 4 FT ; DIAMETER: 2 FT A/N: 529231	D188				
HEAT EXCHANGER, LEAN-RICH GLYCOL EXCHANGER, E-901 A/N: 529231	D189				
REGENERATOR, GLYCOL RE-BOILER, V-901, ELECTRICAL, 40 KW A/N: 529231	D190				
COLUMN, T-903, GLYCOL STRIPING, HEIGHT: 8 FT ; DIAMETER: 1 FT A/N: 529231	D191				
UM, V-902, GLYCOLSURGE A/N: 529231	D192				
HEAT EXCHANGER, LEAN GLYCOL FIN-FAN COOLER, E-900, AIR COOLED A/N: 529231	D193				
DRUM, V-904, VAPOR RECOVERY KNOCKOUT, VENTED TO VAPOR RECOVERY SYSTEM A/N: 529231	D194				E57.1
System 7: NATURAL GAS DEHYDRATION UNIT (Platform Emmy Gas)					S13.1, S13.2
FILTER, F-900, INLET GAS COALESCING FILTER, HEIGHT: 4 FT ; DIAMETER: 2 FT A/N: 529232	D195				

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: CRUDE OIL/GAS PRODUCTION					
TOWER, T-900, GLYCOL CONTACT, PACKED COLUMN WITH AN INTEGRAL BOTTOM SCRUBBER AND WIRE MESH SCREEN, HEIGHT: 29 FT ; DIAMETER: 1 FT 2 IN A/N: 529232	D196				
FILTER, F-904, EMMY GAS COALESCING FILTER, HEIGHT: 8 FT ; DIAMETER: 2 FT A/N: 529232	D197				
System 8: FUGITIVE EMISSION DEVICES					
FUGITIVE EMISSIONS, PUMPS A/N: 529227	D76				H23.1
FUGITIVE EMISSIONS, COMPRESSORS A/N: 529229	D77				H23.1
FUGITIVE EMISSIONS, VALVES A/N: 529227	D78				H23.1
FUGITIVE EMISSIONS, FLANGES A/N: 529227	D108				H23.1
FUGITIVE EMISSIONS, DRAINS A/N: 529228	D112				H23.3
FUGITIVE EMISSIONS, PRV A/N: 529227	D113				H23.1
System 9: Di-Ethanol Amine Unit (CO2 Removal)					
FILTER, F-1001, INLET GAS COALESCING FILTER, WITH PRV SET AT 350 PSIG, VENTING TO APC SYSTEM, HEIGHT: 6 FT 9 IN; DIAMETER: 9 IN A/N: 529233	D199	D131			

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FACILITY PERMIT TO OPERATE
OXY USA INC

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 1: CRUDE OIL/GAS PRODUCTION					
TOWER, T-1006, AMINE CONTACTOR, PACKED COLUMN, WITH PRV SET AT 350 PSIG, VENTING TO APC SYSTEM, HEIGHT: 20 FT ; DIAMETER: 2 FT A/N: 529233	D201	D131			D12.2, D90.1
VESSEL, V-1003, AMINE FLASH TANK, WITH PRV SET AT 100 PSIG, VENTING TO APC SYSTEM, HEIGHT: 10 FT ; DIAMETER: 3 FT 6 IN A/N: 529233	D204				D12.8, D90.2
FILTER, F-1003, PARTICULATE FILTER, WITH PRV SET AT 100 PSIG, VENTING TO CLOSED DRAIN HEADER, HEIGHT: 4 FT ; DIAMETER: 3 FT A/N: 529233	D205				
FILTER, F-1004, CHARCOAL FILTER (1,030 LBS CHARCOAL), WITH PRV SET AT 250 PSIG, VENTING TO CLOSED DRAIN HEADER, HEIGHT: 8 FT ; DIAMETER: 2 FT 6 IN A/N: 529233	D206				
HEAT EXCHANGER, E-1002, LEAN/RICH AMINE EXCHANGER, SHELL AND TUBE TYPE, 0.74 MMBTU/HR A/N: 529233	D207				
TOWER, T-1007, AMINE REGENERATOR, WITH PRV SET AT 50 PSIG, VENTING TO ATMOSPHERE, HEIGHT: 28 FT ; DIAMETER: 2 FT A/N: 529233	D208				

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FACILITY PERMIT TO OPERATE
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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: CRUDE OIL/GAS PRODUCTION					
HEATER, V-1007, AMINE RE-BOILER, NATURAL GAS, MAXON, MODEL XPO3PB41B3NNY, 2.7 MMBTU/HR A/N: 538851	D227		NOX: PROCESS UNIT**	**CO**: 50 PPMV NATURAL GAS (4) ; **NOX**: 12 PPMV NATURAL GAS (4) ; **NOX**: 38.46 LBS/MMSCF NATURAL GAS (1)	A195.8, A195.9, E448.4, I297.2
HEAT EXCHANGER, E-1003, AMINE REGENERATOR OVERHEAD CONDENSER, AIR COOLED, 0.68 MMBTU/HR, VENTING ACID GAS TO V-1005 A/N: 529233	D210	D211			
VESSEL, V-1005, REGENERATOR OVERHEAD REFLUX ACCUMULATOR, HEIGHT: 7 FT ; DIAMETER: 1 FT 1 IN A/N: 529233	D211	D210			D12.4
HEAT EXCHANGER, E-1001, LEAN AMINE COOLER, AIR COOLED, 0.95 MMBTU/HR A/N: 529233	D212				
OXIDIZER, THERMAL, HT-1000, NATURAL GAS, F. I. COMBUSTION SYSTEMS, MODEL NO. FIRECAT #2.2.1, 2 MMBTU/HR A/N: 529233	C213		NOX: PROCESS UNIT**	**NOX**: 130 LBS/MMSCF NATURAL GAS (1)	A195.3, C6.3, C8.4, I297.3
TANK, T-1000, AMINE MAKE-UP SOLUTION, AMINE, CAPACITY 1000 GALLONS, WITH PRV VENTING TO ATMOSPHERE A/N: 529233	D214				
Process 2: INTERNAL COMBUSTION					
System 1: EMERGENCY ENGINES					

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 2: INTERNAL COMBUSTION					
INTERNAL COMBUSTION ENGINE, EMERGENCY FIRE, DIESEL FUEL, CLARKE DETROIT DIESEL, MODEL JDFP-4AT, WITH TURBOCHARGER, 235 BHP WITH A/N: 529224 PUMP, FIRE WATER	D149		NOX: PROCESS UNIT**	**NOX**: 469 LBS/1000 GAL DIESEL (1)	C1.2, D12.1, D135.1
System 2: PLATFORM EMMY- ENGINES					
INTERNAL COMBUSTION ENGINE, EMERGENCY FIRE, DIESEL FUEL, DETROIT DIESEL, MODEL 671RC, 241 HP WITH A/N: 529225 PUMP, FIRE WATER	D44		NOX: PROCESS UNIT**	**NOX**: 469 LBS/1000 GAL DIESEL (1)	C1.2, D12.1, D135.1
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, DIESEL FUEL, AUKESHA, MODEL F674DS, 300 HP WITH A/N: 529223 GENERATOR	D103		NOX: PROCESS UNIT**	**NOX**: 469 LBS/1000 GAL DIESEL (1)	D12.1, D135.1, E116.1, E162.1
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, DIESEL FUEL, CUMMINS, MODEL QST30-G5-NR2, 1490 BHP WITH A/N: GENERATOR	D228		NOX: PROCESS UNIT**	**CO**: 2.6 GRAM/BHP-HR DIESEL (4) ; **NOX**: 469 LBS/1000 GAL DIESEL (1) ; **NOX + ROG**: 4.8 GRAM/BHP-HR DIESEL (4) ; **PM**: 0.15 GRAM/BHP-HR DIESEL (4)	C1.6, D12.9, E116.1, H23.11, K67.1

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Process 2: INTERNAL COMBUSTION					
INTERNAL COMBUSTION ENGINE, DIESEL FUEL, DEUTZ, MODEL TCD2012L042V, DRIVING A CRANE, 131 HP A/N: 529240	D223		NOX: PROCESS UNIT**	**CO**: 3.73 GRAM/BHP-HR DIESEL (4) ; **CO**: 2000 PPMV (5) ; **NOX**: 116.3 LBS/1000 GAL DIESEL (1) ; **NOX + ROG**: 2.98 GRAM/BHP-HR DIESEL (4) ; **PM**: 0.22 GRAM/BHP-HR DIESEL (4) ; **ROG**: 250 PPMV (5)	C1.1, D12.1, H23.10
System 3: EMERGENCY INSTRUMENT AIR COMPRESSOR					
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, DIESEL FUEL, CUMMINS, MODEL 6BTA5.9, INSTRUMENT AIR COMPRESSOR DRIVER, WITH AFTERCOOLER, TURBOCHARGER, 174 HP WITH	D168		NOX: PROCESS UNIT**	**CO**: 8.5 GRAM/BHP-HR DIESEL (4) ; **NOX**: 6.9 GRAM/BHP-HR DIESEL (4) ; **NOX**: 469 LBS/1000 GAL DIESEL (1) ; **PM10**: 0.38 GRAM/BHP-HR DIESEL (4) ;	C1.6, D12.1, D135.1, E116.1, E162.1
A/N: 529226 COMPRESSOR, INSTRUMENT AIR				**VOC**: 1 GRAM/BHP-HR DIESEL (4)	
System 4: POWER GENERATION					
GAS TURBINE, 1.0 MW (FIVE-200 KW MICROTURBINES POWER MODULES) NATURAL GAS, CAPSTONE TURBINE COMPANY, MODEL C1000, 11.4 MMBTU/HR A/N: 534354	D225		NOX: LARGE SOURCE**	**CO**: 10 PPMV NATURAL GAS (4) ; **NOX**: 9 PPMV NATURAL GAS (3) ; **NOX**: 9 PPMV NATURAL GAS (4)	A195.5, D12.6, D29.1, D29.2, E448.1, I297.1
Process 3: PETROLEUM STORAGE/DISPENSING					
STORAGE TANK, UNDERGROUND, JET FUEL (JPA), 4000 GALS; DIAMETER: 6 FT 3 IN; HEIGHT: 19 FT 11.5 IN A/N: 529222	D68				

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 3: PETROLEUM STORAGE/DISPENSING					
FUEL DISPENSING NOZZLE, JET FUEL (JPA) A/N: 529222	D63				
Process 5: FLARE					
KNOCK OUT POT, V-1, FLARE KNOCKOUT DRUM (PRESSURE VESSEL) A/N: 529236	D131	D199 D201			
VESSEL, V-2, WATER SEAL DRUM A/N: 529236	D132	C81			
FLARE, GROUND FLARE, H-1, PROCESS GAS, HEIGHT: 40 FT ; DIAMETER: 20 FT 10 IN A/N: 529236	C81	D132		CO: 2000 PPMV (5) ; PM: 0.1 GRAINS/SCF (5)	D12.5
Process 7: Platform Emmy Vent Scrubber					
CARBON FILTER, T-210A, CAMERON ENVIRONMENTAL, KOH IMPREGNATED ACIVATED CARBON, MODEL 1500R, VENTING TO ATMOSPHERIC VENT POLE, HEIGHT: 7 FT 7 IN; DIAMETER: 4 FT A/N: 529237	C164				E224.1
CARBON FILTER, T-210B, CAMERON ENVIRONMENTAL, KOH IMPREGNATED ACIVATED CARBON, MODEL 1500R, VENTING TO ATMOSPHERIC VENT POLE, HEIGHT: 7 FT 7 IN; DIAMETER: 4 FT A/N: 529238	C165				E224.1
Process 8: Petroleum Marketing (Tank Truck Loading)					

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Process 8: Petroleum Marketing (Tank Truck Loading)					
LOADING ARM, BOTTOM, CRUDE OIL, WITH 2 HOSES, EACH. 3" DIA. AND WITH 3" DRIP-DRY SHUT-OFF VALVE A/N: 529239	D166			**ROG**: 0.08 LBS/1000 GAL (5)	C1.3, C1.4, E71.1, E147.1, H23.9
VAPOR RETURN LINE, TWO 3" HOSES WITH QUICK DISCONNECT, VENTING TO VAPOR RECOVERY SYSTEM A/N: 529239	D167				C6.4, E57.2

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FACILITY PERMIT TO OPERATE
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SECTION D: DEVICE ID INDEX

The following sub-section provides an index to the devices that make up the facility description sorted by device ID.

FACILITY PERMIT TO OPERATE
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SECTION D: DEVICE ID INDEX

Device Index For Section D			
Device ID	**Section D Page No.**	**Process**	**System**
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D2	1	1	1
D3	1	1	1
D4	1	1	1
D5	1	1	1
D6	1	1	1
D7	1	1	1
D8	1	1	1
D10	2	1	1
D11	2	1	1
D12	2	1	1
D13	2	1	1
D14	3	1	1
D15	2	1	1
D19	5	1	3
D20	6	1	4
D23	3	1	2
D24	3	1	2
D34	3	1	2
D36	3	1	2
D40	4	1	2
D41	2	1	1
D42	6	1	4
D43	6	1	4
D44	15	2	2
D45	6	1	4
D46	6	1	4
D47	7	1	4
D48	7	1	4
D63	17	3	0
D64	7	1	6
D65	7	1	6
D68	16	3	0
D76	12	1	8
D77	12	1	8

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: DEVICE ID INDEX

Device Index For Section D			
Device ID	**Section D Page No.**	**Process**	**System**
D78	12	1	8
D79	8	1	6
D80	8	1	6
C81	17	5	0
D83	7	1	4
D85	7	1	4
D86	7	1	4
D101	8	1	6
D103	15	2	2
D108	12	1	8
D112	12	1	8
D113	12	1	8
D120	5	1	3
D128	5	1	3
D130	5	1	3
D131	17	5	0
D132	17	5	0
D133	8	1	6
D134	8	1	6
D136	8	1	6
D137	8	1	6
D138	8	1	6
D139	9	1	6
D141	9	1	6
D142	9	1	6
D143	9	1	6
D145	5	1	3
D147	5	1	3
D148	5	1	3
D149	15	2	1
C164	17	7	0
C165	17	7	0
D166	18	8	0
D167	18	8	0
D168	16	2	3

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: DEVICE ID INDEX

Device Index For Section D			
Device ID	**Section D Page No.**	**Process**	**System**
D170	6	1	3
D171	6	1	3
D172	7	1	4
D173	9	1	6
D174	9	1	6
D175	9	1	6
D176	9	1	6
D177	9	1	6
D178	9	1	6
D179	10	1	6
D180	10	1	6
D181	10	1	6
D182	10	1	6
D183	10	1	6
D184	10	1	6
D185	10	1	6
D186	10	1	6
D187	11	1	6
D188	11	1	6
D189	11	1	6
D190	11	1	6
D191	11	1	6
D192	11	1	6
D193	11	1	6
D194	11	1	6
D195	11	1	7
D196	12	1	7
D197	12	1	7
D199	12	1	9
D201	13	1	9
D204	13	1	9
D205	13	1	9
D206	13	1	9
D207	13	1	9
D208	13	1	9

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: DEVICE ID INDEX

Device Index For Section D			
Device ID	**Section D Page No.**	**Process**	**System**
D210	14	1	9
D211	14	1	9
D212	14	1	9
C213	14	1	9
D214	14	1	9
D215	3	1	2
D216	4	1	2
D217	4	1	2
D218	4	1	2
D219	4	1	2
D220	5	1	2
D221	6	1	3
D223	16	2	2
D225	16	2	4
D227	14	1	9
D228	15	2	2

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

FACILITY CONDITIONS

F14.1 The operator shall not use fuel oil containing sulfur compounds in excess of 0.05 percent by weight.

F14.2 The operator shall not purchase diesel fuel containing sulfur compounds in excess of 15 ppm by weight as supplied by the supplier.

F30.1 For the purpose of exemption from Title V requirements, the total emissions from this facility shall not equal or exceed the following specified amounts:

Pollutant	Emission Limit (Tons in any 12 consecutive calendar-month period)
NOx	10
VOC	10

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

a). If the total facility emissions for any of the specified pollutant amounts are in exceedance in any 12 consecutive calendar-month period, or if the facility operator fails to comply with the following requirements, the Facility Permit holder shall submit a Title V Permit application package and obtain a Title V permit pursuant to the requirements specified in Rule 3003. To ensure compliance with the emission limit(s) of this condition, the facility operator shall:

i). determine emissions according to the requirements of Rule 2011 for SOx emissions and Rule 2012 for NOx emissions, as applicable;

ii). in addition to complying with all applicable monitoring, recordkeeping and reporting requirements of Regulation XX, monitor and record on a monthly basis the total facility emissions, excluding emissions identified in Rule 3000(b)(28)(D) and (E), for each 12 consecutive month period, and

iii). for any 12 consecutive month period in which emissions do not comply with an emission limit in this condition, submit to AQMD within 15 days a report of noncompliance and the total subject emissions from the facility for the preceding 12 consecutive calendar-month period.

b). For the purpose of determining compliance with the emission limit(s), the total emissions from this facility shall be equal to the emissions recorded each month by the facility, including any corrections as allowed by Rule 2004, and including any corrections resulting from an AQMD audit of this facility.

c). The provisions of this condition are the sole method of determining compliance with the facility emission limit(s) of this condition.

F52.1 This facility is subject to the applicable requirements of the following rules or regulation(s):

SYSTEM CONDITIONS

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

S13.1 All devices under this system are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	40CFR60, SUBPART	KKK

[Systems subject to this condition : Process 1, System 6 , 7]

S13.2 All devices under this system are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
Sulfur compounds	District Rule	431.1

[Systems subject to this condition : Process 1, System 6 , 7]

DEVICE CONDITIONS

A. Emission Limits

A195.3 The 30 PPMV NOX emission limit(s) is averaged over 60 minutes at 3 percent oxygen, dry.

[Devices subject to this condition : C213]

A195.5 The 10 PPMV CO emission limit(s) is averaged over 60 minutes at 15% oxygen, dry.

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

[Devices subject to this condition : D225]

A195.8 The 50 PPMV CO emission limit(s) is averaged over 60 minutes at 3 percent oxygen, dry.

[Devices subject to this condition : D227]

A195.9 The 12 PPMV NOX emission limit(s) is averaged over 60 minutes at 3 percent oxygen, dry.

[Devices subject to this condition : D227]

C. Throughput or Operating Parameter Limits

C1.1 The operator shall limit the operating time to no more than 2190 hour(s) in any one year.

The purpose(s) of this condition is to ensure that this equipment qualifies as a process unit.

[Devices subject to this condition : D223]

C1.2 The operator shall limit the operating time to no more than 200 hour(s) in any one year.

Which includes no more than 34 hours hours in any one year for maintenance and testing.

[Devices subject to this condition : D44, D149]

C1.3 The operator shall limit the loading rate to no more than 9000 barrel(s) in any one day.

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

The operator shall use the existing LACT unit to monitor the daily tank truck loading volume and keep records of the daily loading during tank truck loading operation.

[Devices subject to this condition : D166]

C1.4 The operator shall limit the loading rate to no more than 270.000 barrel(s) in any one month.

[Devices subject to this condition : D166]

C1.6 The operator shall limit the operating time to no more than 200 hour(s) in any one year.

Which includes no more than 50 hours in any one year for maintenance and testing purposes.

The operation of the engine beyond the 50 hours per year allotted for engine maintenance and testing shall be allowed only in the event of a loss of grid power or up to 30 minutes prior to a rotating outage, provided that the electrical grid operator or electric utility has ordered rotating outages in the control area where the engine is located or has indicated that it expects to issue such an order at a certain time, and the engine is located in a utility service block that is subject to the rotating outage. Engine operation shall be terminated immediately after the utility distribution company advises that a rotating outage is no longer imminent or in effect.

[Devices subject to this condition : D168, D228]

C6.3 The operator shall use this equipment in such a manner that the flow being monitored, as indicated below, does not exceed 570 CFM.

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

To comply with this condition, the operator shall install and maintain a(n) flow meter to accurately indicate the flow rate at the inlet of the thermal oxidizer.

The measuring device or gauge shall be accurate to within +/- 5 percent. The accuracy of the device shall be verified once every 6 months.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

[Devices subject to this condition : C213]

C6.4 The operator shall use this equipment in such a manner that the backpressure being monitored, as indicated below, does not exceed 18 inches water column.

To comply with this condition, the operator shall install and maintain a(n) differential pressure gauge to accurately indicate the differential pressure in the vapor return line.

[Devices subject to this condition : D167]

C8.4 The operator shall use this equipment in such a manner that the temperature being monitored, as indicated below, is not less than 1400 Deg F.

To comply with this condition, the operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature at the point at least 8 feet down stream of the combustion box..

The measuring device or gauge shall be accurate to within +/- 30 degrees Fahrenheit. It shall be calibrated once every 12 months.

The operator shall install and maintain a device to continuously record the parameter being monitored.

[Devices subject to this condition : C213]

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

D. Monitoring/Testing Requirements

D12.1 The operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.

[Devices subject to this condition : D44, D103, D149, D168, D223]

D12.2 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the 1) inlet gas stream to the amine contact tower and 2) inlet amine stream to the amine contact tower.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. The accuracy of the device shall be verified once a month.

The operator shall also install and maintain an automatic temperature controller to monitor the DEA absorber approach temperature. This monitoring device shall be in operation at all times while the amine gas treating unit is in operation

The operator shall monitor and record daily, the inlet gas and amine stream temperatures. if the absorber approach temperature is below 10 degrees Fahrenheit, the operator shall make necessary corrective actions to bring the absorber approach temperature within the specified range within 4 hours of the exceedance

The absorber approach temperature is defined as the temperature differential between the amine solution (higher temperature) and the inlet gas (lower temperature)

[Devices subject to this condition : D201]

D12.4 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the amine inlet line to reflux accumulator, V1003.

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

This monitoring device shall be in operation at all times while the amine gas traeting unit is in operation.

The operator shall monitor and record daily, the temperature of the reflux accumulator, V-1005.

The operator shall maintain a temperature in Vessel V-1005 of 120 degrees Fahrenheit or lower.

If the temperature in Vessel V-1005 is outside the range specified above, the operator shall make necessary corrective actions to bring the temperature within 4 hours of the exceedance.

[Devices subject to this condition : D211]

D12.5 The operator shall install and maintain a(n) thermocouple or any other equivalent device to accurately indicate the presence of a flame at the pilot.

The operator shall also install and maintain a device to continuously record the parameter being measured.

[Devices subject to this condition : C81]

D12.6 The operator shall install and maintain a(n) non-resettable totalizing fuel meter to accurately indicate the flow rate in the fuel supply line.

[Devices subject to this condition : D225]

D12.8 The operator shall install and maintain a(n) pressure gauge to accurately indicate the pressure of the amine flash tank, V-1003.

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months.

The pressure gauge shall be in good operating condition at all times to indicate the back pressure of the flash tank in psig while the amine treating unit is in operation.

The operator shall monitor and record daily for the first 30 days of operation and weekly thereafter, the operating back pressure of vessel V-1003.

[Devices subject to this condition : D204]

D12.9 The operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.

The operator shall keep a log of the engine's operation, documenting the total time the engine is operated each month and specify the reasons for operation, such as:

A. Emergency use

B. Maintenance and testing

C. Other(Describe reason for operating)

In addition, each time the engine is manually started, the log shall include the date of operation and shall include the total total hour meter reading (in hours and tenths of hours) at the beginning and end of the operation.

[Devices subject to this condition : D228]

D29.1 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Averaging Time	Test Location

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

NOX emissions	District method 100.1	1 hour	Outlet
CO emissions	District method 100.1	1 hour	Outlet
VOC emissions	District Method 25.3	1 hour	Outlet
PM10 emissions	District method 5.2	1 hour	Outlet
SOX emissions	AQMD Laboratory Method 307-91	Not Applicable	Outlet

The test(s) shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up.

The test shall be conducted to measure the Nitrous Oxide (NOx), Carbon Monoxide (CO), the total Non-Methane Hydrocarbons, Total Particulate Matter, Total reduced Sulfur as H2S, percent oxygen of the exhaust, moisture content, temperature of the exhaust, exhaust flow rate, and the toxic air contaminants in accordance with EPA Method TO-15.

The test shall be conducted in accordance with a District approved source test protocol. The protocol shall be submitted to the District engineer no later than 45 days prior to the proposed test date and shall be approved by the District before the test comences.

The test protocol shall include the proposed operating conditions of the microturbine during the test , the identity of the testing lab, a statement from the testing lab certifying that it meets the criteria of Rule 304, and a description of all sampling and analytical procedures.

The report shall present the emissions data in units of pounds per hour (lbs/hr), pounds per million Btu (lbs/MMBtu), and parts per million (ppmv) on a dry basis at 15% Oxygen.

The District shall be notified of the date and time of the test at least 10 days prior to the test.

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Once per operating day for the first month of operation and weekly thereafter

A sample of circulating amine solution shall be obtained from V-1003 using a clean, dry, standard sample container

Using a timer, the sample shall be allowed to cool to room conditions for a period of 30 minutes

Using a standardized, clean, dry, laminated, cloud point test strip, the operator shall visually check sample cloudiness and/or turbidity by placing the test strip behind the sample container and record the relative sample visibility

In addition, the amine solution shall be sampled and analytically tested by an independent laboratory to determine VOC and benzene levels at least once every 60 operating days for the first year and yearly thereafter

[Devices subject to this condition : D204]

D135.1 The operator shall inspect, adjust, and certify the ignition or fuel injection timing of this engine a minimum of once every 1 years of operation. Inspections, adjustments, and certifications shall be performed by a qualified mechanic and performed in accordance with the engine manufacturer's specifications and procedures.

[Devices subject to this condition : D44, D103, D149, D168]

E. Equipment Operation/Construction Requirements

E57.1 The operator shall vent this equipment to vapor recovery compressor whenever this equipment is operating.

[Devices subject to this condition : D10, D11, D12, D13, D14, D15, D36, D40, D194, D215, D216, D217, D218, D219, D220]

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

E57.2 The operator shall vent this equipment to the plant vapor recovery system which is in full use and which has been permitted by the Executive officer whenever the tank truck loading is in operation.

[Devices subject to this condition : D167]

E71.1 The operator shall not use this equipment if there are overfills, fugitive liquid/vapor leaks or organic liquid leak during disconnect.

[Devices subject to this condition : D166]

E116.1 This engine shall not be used as part of a demand response program using interruptible service contract in which a facility receives a payment or reduced rates in return for reducing its electric load on the grid when requested to do so by the utility or the grid operator.

[Devices subject to this condition : D103, D168, D228]

E127.1 The operator shall keep gauge/sample hatches closed except during actual gauging/sampling operations.

[Devices subject to this condition : D10, D11, D12, D13, D14, D15, D23, D24, D36, D215, D216, D217, D218, D219, D220]

E147.1 The operator shall only conduct crude oil loading in this equipment.

[Devices subject to this condition : D166]

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

E162.1 The operator shall use this equipment only during utility failure periods, except for maintenance purposes.

[Devices subject to this condition : D103, D168]

E224.1 The operator shall replace the operating carbon canister by the spare carbon canister when H2S is detected in the effluent gas by the H2S monitor.

[Devices subject to this condition : C164, C165]

E448.1 The operator shall comply with the following requirements:

The microturbine shall only be operated with natural gas or process gas that has been treated to pipeline quality gas specifications.

[Devices subject to this condition : D225]

E448.4 The operator shall comply with the following requirements:

The Amine Re-Boiler shall only be operated with natural gas.

[Devices subject to this condition : D227]

H. Applicable Rules

H23.1 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

VOC	District Rule	1173

[Devices subject to this condition : D76, D77, D78, D108, D113]

H23.3 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1176

[Devices subject to this condition : D41, D112, D216, D217]

H23.4 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1176
VOC	District Rule	1149

[Devices subject to this condition : D23, D24, D40]

H23.5 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	463
VOC	District Rule	1149

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

[Devices subject to this condition : D10, D11, D12, D13, D14, D15, D215, D218, D219]

H23.7 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	464
VOC	District Rule	1176

[Devices subject to this condition : D36]

H23.9 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	462

[Devices subject to this condition : D166]

H23.10 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
CO	District Rule	1110.2
NOX	District Rule	1110.2
VOC	District Rule	1110.2

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

[Devices subject to this condition : D223]

H23.11 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
PM10	District Rule	1470
H2S	District Rule	431.2

[Devices subject to this condition : D228]

I. Administrative

I297.1 This equipment shall not be operated unless the facility holds 3366 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. RTCs held to satisfy this condition may be transferred only after one year from the initial start of operation. If the hold amount is partially satisfied by holding RTCs that expire midway through the hold period, those RTCs may be transferred upon their respective expiration dates. This hold amount is in addition to any other amount of RTCs required to be held under other condition(s) stated in this permit.

[Devices subject to this condition : D225]

I297.2 This equipment shall not be operated unless the facility holds 350 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. RTCs held to satisfy this condition may be transferred only after one year from the initial start of operation. If the hold amount is partially satisfied by holding RTCs that expire midway through the hold period, those RTCs may be transferred upon their respective expiration dates. This hold amount is in addition to any other amount of RTCs required to be held under other condition(s) stated in this permit.

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

[Devices subject to this condition : D227]

I297.3 This equipment shall not be operated unless the facility holds 613 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. RTCs held to satisfy this condition may be transferred only after one year from the initial start of operation. If the hold amount is partially satisfied by holding RTCs that expire midway through the hold period, those RTCs may be transferred upon their respective expiration dates. This hold amount is in addition to any other amount of RTCs required to be held under other condition(s) stated in this permit.

[Devices subject to this condition : C213]

K. Record Keeping/Reporting

K67.1 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

On or before January 15 th of each year, the operator shall record in the engine's operating log, the following:

A. The total hours of operation for the previous calendar year, and

B. The total hours of the engine operation for maintenance and testing for the previous calendar year.

The engine operating log shall be retained on site for a minimum of five calendar years and shall be made available to the executive officer or representative upon request.

[Devices subject to this condition : D228]

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 2: INTERNAL COMBUSTION					
System 1: EMERGENCY ENGINES					
INTERNAL COMBUSTION ENGINE, EMERGENCY FIRE, DIESEL FUEL, CLARKE DETROIT DIESEL, MODEL DDFP-4AT, WITH TURBOCHARGER, 235 BHP WITH A/N: 529224 PUMP, FIRE WATER	D149		NOX: PROCESS UNIT**	**NOX**: 469 LBS/1000 GAL DIESEL (1)	C1.2, D12.1, D135.1
System 2: PLATFORM EMMY- ENGINES					
INTERNAL COMBUSTION ENGINE, EMERGENCY FIRE, DIESEL FUEL, DETROIT DIESEL, MODEL 671RC, 241 HP WITH A/N: 529225 PUMP, FIRE WATER	D44		NOX: PROCESS UNIT**	**NOX**: 469 LBS/1000 GAL DIESEL (1)	C1.2, D12.1, D135.1
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, DIESEL FUEL, WAUKESHA, MODEL F674DS, 300 HP WITH A/N: 529223 GENERATOR	D103		NOX: PROCESS UNIT**	**NOX**: 469 LBS/1000 GAL DIESEL (1)	D12.1, D135.1, E116.1, E162.1
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, DIESEL FUEL, CUMMINS, MODEL QST30-G5-NR2, 1490 BHP WITH A/N: GENERATOR	D228	TO BE ASSIGNED BY THE SCMD ENGR.	NO_X: PROCESS UNIT	**CO**: 2.6 GRAM/BHP-HR DIESEL (4) ; **NOX**: 469 LBS/1000 GAL DIESEL (1) ; **NOX + ROG**: 4.8 GRAM/BHP-HR DIESEL (4) ; **PM**: 0.15 GRAM/BHP-HR DIESEL (4)	C1.6, D12.9, E116.1, H23.11, K67.1

* (1) (1A) (1B) Denotes RECLAIM emission factor
(2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See section J for NESHAP/MACT requirements

** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 2: INTERNAL COMBUSTION					
INTERNAL COMBUSTION ENGINE, DIESEL FUEL, DEUTZ, MODEL TCD2012L042V, DRIVING A CRANE, 131 HP A/N: 529240	D223		NOX: PROCESS UNIT**	**CO**: 3.73 GRAM/BHP-HR DIESEL (4) ; **CO**: 2000 PPMV (5) ; **NOX**: 116.3 LBS/1000 GAL DIESEL (1) ; **NOX + ROG**: 2.98 GRAM/BHP-HR DIESEL (4) ; **PM**: 0.22 GRAM/BHP-HR DIESEL (4) ; **ROG**: 250 PPMV (5)	C1.1, D12.1, H23.10
System 3: EMERGENCY INSTRUMENT AIR COMPRESSOR					
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, DIESEL FUEL, CUMMINS, MODEL 6BTA5.9, INSTRUMENT AIR COMPRESSOR DRIVER, WITH AFTERCOOLER, TURBOCHARGER, 174 HP WITH A/N: 529226	D168		NOX: PROCESS UNIT**	**CO**: 8.5 GRAM/BHP-HR DIESEL (4) ; **NOX**: 6.9 GRAM/BHP-HR DIESEL (4) ; **NOX**: 469 LBS/1000 GAL DIESEL (1) ; **PM10**: 0.38 GRAM/BHP-HR DIESEL (4) ; **VOC**: 1 GRAM/BHP-HR DIESEL (4)	C1.6, D12.1, D135.1, E116.1, E162.1
COMPRESSOR, INSTRUMENT AIR					
System 4: POWER GENERATION					
GAS TURBINE, 1.0 MW (FIVE-200 KW MICROTURBINES POWER MODULES) NATURAL GAS, CAPSTONE TURBINE COMPANY, MODEL C1000, 11.4 MMBTU/HR A/N: 534354	D225		NOX: LARGE SOURCE**	**CO**: 10 PPMV NATURAL GAS (4) ; **NOX**: 9 PPMV NATURAL GAS (3) ; **NOX**: 9 PPMV NATURAL GAS (4)	A195.5, D12.6, D29.1, D29.2, E448.1, I297.1

* (1) (1A) (1B) Denotes RECLAIM emission factor
(2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See section J for NESHAP/MACT requirements

** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: DEVICE ID INDEX

The following sub-section provides an index to the devices that make up the facility description sorted by device ID.

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: DEVICE ID INDEX

Device Index For Section D			
Device ID	**Section D Page No.**	**Process**	**System**
D44	1	2	2
D103	1	2	2
D149	1	2	1
D168	2	2	3
D223	2	2	2
D225	2	2	4
D228	1	2	2

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

FACILITY CONDITIONS

F14.1 The operator shall not use fuel oil containing sulfur compounds in excess of 0.05 percent by weight.

F14.2 The operator shall not purchase diesel fuel containing sulfur compounds in excess of 15 ppm by weight as supplied by the supplier.

F30.1 For the purpose of exemption from Title V requirements, the total emissions from this facility shall not equal or exceed the following specified amounts:

Pollutant	Emission Limit (Tons in any 12 consecutive calendar-month period)
NOx	10
VOC	10

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

a). If the total facility emissions for any of the specified pollutant amounts are in exceedance in any 12 consecutive calendar-month period, or if the facility operator fails to comply with the following requirements, the Facility Permit holder shall submit a Title V Permit application package and obtain a Title V permit pursuant to the requirements specified in Rule 3003. To ensure compliance with the emission limit(s) of this condition, the facility operator shall:

i). determine emissions according to the requirements of Rule 2011 for SOx emissions and Rule 2012 for NOx emissions, as applicable;

ii). in addition to complying with all applicable monitoring, recordkeeping and reporting requirements of Regulation XX, monitor and record on a monthly basis the total facility emissions, excluding emissions identified in Rule 3000(b)(28)(D) and (E), for each 12 consecutive month period, and

iii). for any 12 consecutive month period in which emissions do not comply with an emission limit in this condition, submit to AQMD within 15 days a report of noncompliance and the total subject emissions from the facility for the preceding 12 consecutive calendar-month period.

b). For the purpose of determining compliance with the emission limit(s), the total emissions from this facility shall be equal to the emissions recorded each month by the facility, including any corrections as allowed by Rule 2004, and including any corrections resulting from an AQMD audit of this facility.

c). The provisions of this condition are the sole method of determining compliance with the facility emission limit(s) of this condition.

F52.1 This facility is subject to the applicable requirements of the following rules or regulation(s):

SYSTEM CONDITIONS

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

S13.1 All devices under this system are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	40CFR60, SUBPART	KKK

[Systems subject to this condition : Process 1, System 6 , 7]

S13.2 All devices under this system are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
Sulfur compounds	District Rule	431.1

[Systems subject to this condition : Process 1, System 6 , 7]

DEVICE CONDITIONS

A. Emission Limits

A195.3 The 30 PPMV NOX emission limit(s) is averaged over 60 minutes at 3 percent oxygen, dry.

[Devices subject to this condition : C213]

A195.5 The 10 PPMV CO emission limit(s) is averaged over 60 minutes at 15% oxygen, dry.

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

[Devices subject to this condition : D225]

A195.8 The 50 PPMV CO emission limit(s) is averaged over 60 minutes at 3 percent oxygen, dry.

[Devices subject to this condition : D227]

A195.9 The 12 PPMV NOX emission limit(s) is averaged over 60 minutes at 3 percent oxygen, dry.

[Devices subject to this condition : D227]

C. Throughput or Operating Parameter Limits

C1.1 The operator shall limit the operating time to no more than 2190 hour(s) in any one year.

The purpose(s) of this condition is to ensure that this equipment qualifies as a process unit.

[Devices subject to this condition : D223]

C1.2 The operator shall limit the operating time to no more than 200 hour(s) in any one year.

Which includes no more than 34 hours hours in any one year for maintenance and testing.

[Devices subject to this condition : D44, D149]

C1.3 The operator shall limit the loading rate to no more than 9000 barrel(s) in any one day.

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

The operator shall use the existing LACT unit to monitor the daily tank truck loading volume and keep records of the daily loading during tank truck loading operation.

[Devices subject to this condition : D166]

C1.4 The operator shall limit the loading rate to no more than 270.000 barrel(s) in any one month.

[Devices subject to this condition : D166]

[redacted] The operator shall limit the operating time to no more than 200 hour(s) in any one year.

Which includes no more than 50 hours in any one year for maintenance and testing purposes.

The operation of the engine beyond the 50 hours per year allotted for engine maintenance and testing shall be allowed only in the event of a loss of grid power or up to 30 minutes prior to a rotating outage, provided that the electrical grid operator or electric utility has ordered rotating outages in the control area where the engine is located or has indicated that it expects to issue such an order at a certain time, and the engine is located in a utility service block that is subject to the rotating outage. Engine operation shall be terminated immediately after the utility distribution company advises that a rotating outage is no longer imminent or in effect.

[Devices subject to this condition : D168, [redacted]]

C6.3 The operator shall use this equipment in such a manner that the flow being monitored, as indicated below, does not exceed 570 CFM.

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

To comply with this condition, the operator shall install and maintain a(n) flow meter to accurately indicate the flow rate at the inlet of the thermal oxidizer.

The measuring device or gauge shall be accurate to within +/- 5 percent. The accuracy of the device shall be verified once every 6 months.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

[Devices subject to this condition : C213]

C6.4 The operator shall use this equipment in such a manner that the backpressure being monitored, as indicated below, does not exceed 18 inches water column.

To comply with this condition, the operator shall install and maintain a(n) differential pressure gauge to accurately indicate the differential pressure in the vapor return line.

[Devices subject to this condition : D167]

C8.4 The operator shall use this equipment in such a manner that the temperature being monitored, as indicated below, is not less than 1400 Deg F.

To comply with this condition, the operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature at the point at least 8 feet down stream of the combustion box..

The measuring device or gauge shall be accurate to within +/- 30 degrees Fahrenheit. It shall be calibrated once every 12 months.

The operator shall install and maintain a device to continuously record the parameter being monitored.

[Devices subject to this condition : C213]

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

D. Monitoring/Testing Requirements

D12.1 The operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.

[Devices subject to this condition : D44, D103, D149, D168, D223]

D12.2 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the 1) inlet gas stream to the amine contact tower and 2) inlet amine stream to the amine contact tower.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. The accuracy of the device shall be verified once a month.

The operator shall also install and maintain an automatic temperature controller to monitor the DEA absorber approach temperature. This monitoring device shall be in operation at all times while the amine gas treating unit is in operation.

The operator shall monitor and record daily, the inlet gas and amine stream temperatures. if the absorber approach temperature is below 10 degrees Fahrenheit, the operator shall make necessary corrective actions to bring the absorber approach temperature within the specified range within 4 hours of the exceedance.

The absorber approach temperature is defined as the temperature differential between the amine solution (higher temperature) and the inlet gas (lower temperature)

[Devices subject to this condition : D201]

D12.4 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the amine inlet line to reflux accumulator, V1003.

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

This monitoring device shall be in operation at all times while the amine gas treating unit is in operation.

The operator shall monitor and record daily, the temperature of the reflux accumulator, V-1005.

The operator shall maintain a temperature in Vessel V-1005 of 120 degrees Fahrenheit or lower.

If the temperature in Vessel V-1005 is outside the range specified above, the operator shall make necessary corrective actions to bring the temperature within 4 hours of the exceedance.

[Devices subject to this condition : D211]

D12.5 The operator shall install and maintain a(n) thermocouple or any other equivalent device to accurately indicate the presence of a flame at the pilot.

The operator shall also install and maintain a device to continuously record the parameter being measured.

[Devices subject to this condition : C81]

D12.6 The operator shall install and maintain a(n) non-resettable totalizing fuel meter to accurately indicate the flow rate in the fuel supply line.

[Devices subject to this condition : D225]

D12.8 The operator shall install and maintain a(n) pressure gauge to accurately indicate the pressure of the amine flash tank, V-1003.

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months.

The pressure gauge shall be in good operating condition at all times to indicate the back pressure of the flash tank in psig while the amine treating unit is in operation.

The operator shall monitor and record daily for the first 30 days of operation and weekly thereafter, the operating back pressure of vessel V-1003.

[Devices subject to this condition : D204]

D129 The operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.

The operator shall keep a log of the engine's operation, documenting the total time the engine is operated each month and specify the reasons for operation, such as:

A. Emergency use

B. Maintenance and testing

C. Other(Describe reason for operating)

In addition, each time the engine is manually started, the log shall include the date of operation and shall include the total total hour meter reading (in hours and tenths of hours) at the beginning and end of the operation.

[Devices subject to this condition : D228]

D29.1 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Averaging Time	Test Location

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

NOX emissions	District method 100.1	1 hour	Outlet
CO emissions	District method 100.1	1 hour	Outlet
VOC emissions	District Method 25.3	1 hour	Outlet
PM10 emissions	District method 5.2	1 hour	Outlet
SOX emissions	AQMD Laboratory Method 307-91	Not Applicable	Outlet

The test(s) shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up.

The test shall be conducted to measure the Nitrous Oxide (NOx), Carbon Monoxide (CO), the total Non-Methane Hydrocarbons, Total Particulate Matter, Total reduced Sulfur as H2S, percent oxygen of the exhaust, moisture content, temperature of the exhaust, exhaust flow rate, and the toxic air contaminants in accordance with EPA Method TO-15.

The test shall be conducted in accordance with a District approved source test protocol. The protocol shall be submitted to the District engineer no later than 45 days prior to the proposed test date and shall be approved by the District before the test comences.

The test protocol shall include the proposed operating conditions of the microturbine during the test , the identity of the testing lab, a statement from the testing lab certifying that it meets the criteria of Rule 304, and a description of all sampling and analytical procedures.

The report shall present the emissions data in units of pounds per hour (lbs/hr), pounds per million Btu (lbs/MMBtu), and parts per million (ppmv) on a dry basis at 15% Oxygen.

The District shall be notified of the date and time of the test at least 10 days prior to the test.

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

[Devices subject to this condition : D225]

D29.2 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Averaging Time	Test Location
NOX emissions	District method 100.1	1 hour	Outlet
CO emissions	District method 100.1	1 hour	Outlet

The test shall be conducted once every three years as per Rule 2012, Chapter 5, Section (B)(2)(a) and for compliance with BACT.

The test shall be conducted to measure Nitrous Oxide (NOx) and Carbon Monoxide (CO) at 15% Oxygen..

[Devices subject to this condition : D225]

D90.1 The operator shall monitor and record the amount of the process gas treated in the amine conatct tower, T-1006, according to the following specifications:

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

The volume of gas processed by this unit shall not exceed monthly average of 4.0 mmscfd

The volume of gas recorded by the gas sales meter can be used to determine compliance with this requirement

If the volume of gas measured by the gas sales meter, which includes the gas treated in the amine treating unit plus additional gas that bypasses the amine treating unit, is 4.0 mmscfd or higher, the applicant shall install a dedicated gas meter at the inlet of the amine gas treating system to indicate in scf per day, the inlet flow rate of process gas to the amine system. The operator shall install the gas meter within 90 days of exceeding the specified limit above

The operator shall notify the AQMD in writing within 7 days of exceeding 4.0 mmscfd level

[Devices subject to this condition : D201]

D90.2 The operator shall monitor and record the level of cloudiness and/or turbidity of the amine solution in the amine flash tank, V-1003, according to the following specifications:

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Once per operating day for the first month of operation and weekly thereafter

A sample of circulating amine solution shall be obtained from V-1003 using a clean, dry, standard sample container

Using a timer, the sample shall be allowed to cool to room conditions for a period of 30 minutes

Using a standardized, clean, dry, laminated, cloud point test strip, the operator shall visually check sample cloudiness and/or turbidity by placing the test strip behind the sample container and record the relative sample visibility

In addition, the amine solution shall be sampled and analytically tested by an independent laboratory to determine VOC and benzene levels at least once every 60 operating days for the first year and yearly thereafter

[Devices subject to this condition : D204]

D135.1 The operator shall inspect, adjust, and certify the ignition or fuel injection timing of this engine a minimum of once every 1 years of operation. Inspections, adjustments, and certifications shall be performed by a qualified mechanic and performed in accordance with the engine manufacturer's specifications and procedures.

[Devices subject to this condition : D44, D103, D149, D168]

E. Equipment Operation/Construction Requirements

E57.1 The operator shall vent this equipment to vapor recovery compressor whenever this equipment is operating.

[Devices subject to this condition : D10, D11, D12, D13, D14, D15, D36, D40, D194, D215, D216, D217, D218, D219, D220]

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

E57.2 The operator shall vent this equipment to the plant vapor recovery system which is in full use and which has been permitted by the Executive officer whenever the tank truck loading is in operation.

[Devices subject to this condition : D167]

E71.1 The operator shall not use this equipment if there are overfills, fugitive liquid/vapor leaks or organic liquid leak during disconnect.

[Devices subject to this condition : D166]

E116.1 This engine shall not be used as part of a demand response program using interruptible service contract in which a facility receives a payment or reduced rates in return for reducing its electric load on the grid when requested to do so by the utility or the grid operator.

[Devices subject to this condition : D103, D168, D228]

E127.1 The operator shall keep gauge/sample hatches closed except during actual gauging/sampling operations.

[Devices subject to this condition : D10, D11, D12, D13, D14, D15, D23, D24, D36, D215, D216, D217, D218, D219, D220]

E147.1 The operator shall only conduct crude oil loading in this equipment.

[Devices subject to this condition : D166]

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

E162.1 The operator shall use this equipment only during utility failure periods, except for maintenance purposes.

[Devices subject to this condition : D103, D168]

E224.1 The operator shall replace the operating carbon canister by the spare carbon canister when H2S is detected in the effluent gas by the H2S monitor.

[Devices subject to this condition : C164, C165]

E448.1 The operator shall comply with the following requirements:

The microturbine shall only be operated with natural gas or process gas that has been treated to pipeline quality gas specifications.

[Devices subject to this condition : D225]

E448.4 The operator shall comply with the following requirements:

The Amine Re-Boiler shall only be operated with natural gas.

[Devices subject to this condition : D227]

H. Applicable Rules

H23.1 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

VOC	District Rule	1173

[Devices subject to this condition : D76, D77, D78, D108, D113]

H23.3 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1176

[Devices subject to this condition : D41, D112, D216, D217]

H23.4 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1176
VOC	District Rule	1149

[Devices subject to this condition : D23, D24, D40]

H23.5 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	463
VOC	District Rule	1149

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

[Devices subject to this condition : D10, D11, D12, D13, D14, D15, D215, D218, D219]

H23.7 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	464
VOC	District Rule	1176

[Devices subject to this condition : D36]

H23.9 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	462

[Devices subject to this condition : D166]

H23.10 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
CO	District Rule	1110.2
NOX	District Rule	1110.2
VOC	District Rule	1110.2

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

[Devices subject to this condition : D223]

H23.1 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
PM10	District Rule	1470
H2S	District Rule	431.2

[Devices subject to this condition : D228]

I. Administrative

I297.1 This equipment shall not be operated unless the facility holds 3366 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. RTCs held to satisfy this condition may be transferred only after one year from the initial start of operation. If the hold amount is partially satisfied by holding RTCs that expire midway through the hold period, those RTCs may be transferred upon their respective expiration dates. This hold amount is in addition to any other amount of RTCs required to be held under other condition(s) stated in this permit.

[Devices subject to this condition : D225]

I297.2 This equipment shall not be operated unless the facility holds 350 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. RTCs held to satisfy this condition may be transferred only after one year from the initial start of operation. If the hold amount is partially satisfied by holding RTCs that expire midway through the hold period, those RTCs may be transferred upon their respective expiration dates. This hold amount is in addition to any other amount of RTCs required to be held under other condition(s) stated in this permit.

FACILITY PERMIT TO OPERATE
OXY USA INC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

[Devices subject to this condition : D227]

I297.3 This equipment shall not be operated unless the facility holds 613 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. RTCs held to satisfy this condition may be transferred only after one year from the initial start of operation. If the hold amount is partially satisfied by holding RTCs that expire midway through the hold period, those RTCs may be transferred upon their respective expiration dates. This hold amount is in addition to any other amount of RTCs required to be held under other condition(s) stated in this permit.

[Devices subject to this condition : C213]

K. Record Keeping/Reporting

K67.1 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

On or before January 15 th of each year, the operator shall record in the engine's operating log, the following:

A. The total hours of operation for the previous calendar year, and

B. The total hours of the engine operation for maintenance and testing for the previous calendar year.

The engine operating log shall be retained on site for a minimum of five calendar years and shall be made available to the executive officer or representative upon request.

[Devices subject to this condition : D228]

NSR DATA SUMMARY SHEET

Application No	555370
Application Type	10
Application status	PENDAPPRV
Previous Apps, Dev	,

Company Name	OXY USA INC
Company ID	169754
Address	20101 GOLDENWEST ST, HUNTINGTON BEACH, CA 92648-2628
Reclaim	NOX
Reclaim Zone	01
Air Basin	SC
Zone	18
Title V	NO

Device ID	0 -
Estimated Completion Date	02-28-2014
Heat Input Capacity	0 Millions BTU/Hr
Priority Reserve	NONE - No Priority Access Requested
Recommended Disposition	31 - PERMIT TO OPERATE GRANTED
PR Expiration	12-31-9999
School within 1,000 feet	NO
Operating Weeks per year	50
Operating Days per week	1
Operating Hours	
Monday	08:00 to 09:00
Tuesday	00:00 to 00:00
Wednesday	00:00 to 00:00
Thursday	00:00 to 00:00
Friday	00:00 to 00:00
Saturday	00:00 to 00:00
Sunday	00:00 to 00:00

Emittant	CO	
BACT		
Cost effectiveness	NO	
Source Type	MINOR	
Emis Increase	0.3	
Modelling	N/A	
Public Notice	N	
Controlled Emission		
Max Hourly	2.16	Lbs/Hr
Max Daily	2.16	Lbs/day
Uncontrolled Emission		
Max Hourly	2.16	Lbs/Hr
Max Daily	2.16	Lbs/day
Current Emission		
BACT 30 Day Avg	0.30	Lbs/day
Annual Emission	108.00	Lbs/year
District Emission	1304(a)(4) - 10-12-1995	

Emittant	CO2	
BACT		
Cost effectiveness	NO	
Source Type	MINOR	
Emis Increase	80614.63	
Modelling	N/A	
Public Notice	N	
Controlled Emission		
Max Hourly	1,612.29	Lbs/Hr
Max Daily	1,612.29	Lbs/day
Uncontrolled Emission		
Max Hourly	1,612.29	Lbs/Hr
Max Daily	1,612.29	Lbs/day
Current Emission		
BACT 30 Day Avg		Lbs/day
Annual Emission	80,614.63	Lbs/year
District Emission		

Emittant	CO2e	
BACT		
Cost effectiveness	NO	
Source Type	MINOR	
Emis Increase	80890.002999999	
Modelling	N/A	
Public Notice	N	
Controlled Emission		
Max Hourly		Lbs/Hr
Max Daily		Lbs/day
Uncontrolled Emission		
Max Hourly		Lbs/Hr
Max Daily		Lbs/day
Current Emission		
BACT 30 Day Avg		Lbs/day
Annual Emission	80,890.00	Lbs/year
District Emission		

Emittant	GHG	
BACT		
Cost effectiveness	NO	
Source Type	MINOR	
Emis Increase	80618.607	
Modelling	N/A	
Public Notice	N	
Controlled Emission		
Max Hourly		Lbs/Hr
Max Daily		Lbs/day
Uncontrolled Emission		
Max Hourly		Lbs/Hr
Max Daily		Lbs/day
Current Emission		
BACT 30 Day Avg		Lbs/day
Annual Emission	80,618.61	Lbs/year
District Emission		

Emittant	METHANE	
BACT		
Cost effectiveness	NO	
Source Type	MINOR	
Emis Increase	3.31	
Modelling	N/A	
Public Notice	N	
Controlled Emission		
Max Hourly	0.07	Lbs/Hr
Max Daily	0.07	Lbs/day
Uncontrolled Emission		
Max Hourly	0.07	Lbs/Hr
Max Daily	0.07	Lbs/day
Current Emission		
BACT 30 Day Avg		Lbs/day
Annual Emission	3.31	Lbs/year
District Emission		

Emittant	N2O	
BACT		
Cost effectiveness	NO	
Source Type	MINOR	
Emis Increase	0.66	
Modelling	N/A	
Public Notice	N	
Controlled Emission		
Max Hourly	0.01	Lbs/Hr
Max Daily	0.01	Lbs/day
Uncontrolled Emission		
Max Hourly	0.01	Lbs/Hr
Max Daily	0.01	Lbs/day
Current Emission		
BACT 30 Day Avg		Lbs/day
Annual Emission	0.66	Lbs/year
District Emission		

Emittant	NOX	
BACT		
Cost effectiveness	NO	
Source Type	MAJOR	
Emis Increase	1.8	
Modelling	N/A	
Public Notice	N	
Controlled Emission		
Max Hourly	12.98	Lbs/Hr
Max Daily	12.98	Lbs/day
Uncontrolled Emission		
Max Hourly	12.98	Lbs/Hr
Max Daily	12.98	Lbs/day
Current Emission		
BACT 30 Day Avg	1.80	Lbs/day
Annual Emission	648.80	Lbs/year
District Emission	1304(a)(4) - 10-12-1995	

Emittant	PM10	
BACT		
Cost effectiveness	NO	
Source Type	MINOR	
Emis Increase	0.05	
Modelling	N/A	
Public Notice	N	
Controlled Emission		
Max Hourly	0.36	Lbs/Hr
Max Daily	0.36	Lbs/day
Uncontrolled Emission		
Max Hourly	0.36	Lbs/Hr
Max Daily	0.36	Lbs/day
Current Emission		
BACT 30 Day Avg	0.05	Lbs/day
Annual Emission	18.10	Lbs/year
District Emission	1304(a)(4) - 10-12-1995	

Emittant	ROG	
BACT		
Cost effectiveness	NO	
Source Type	MINOR	
Emis Increase	0.32	
Modelling	N/A	
Public Notice	N	
Controlled Emission		
Max Hourly	0.23	Lbs/Hr
Max Daily	0.23	Lbs/day
Uncontrolled Emission		
Max Hourly	0.23	Lbs/Hr
Max Daily	0.23	Lbs/day
Current Emission		
BACT 30 Day Avg	0.32	Lbs/day
Annual Emission	11.50	Lbs/year
District Emission	1304(a)(4) - 10-12-1995	

Emittant	SOX	
BACT		
Cost effectiveness	NO	
Source Type	MINOR	
Emis Increase	0	
Modelling	N/A	
Public Notice	N	
Controlled Emission		
Max Hourly	0.02	Lbs/Hr
Max Daily	0.02	Lbs/day
Uncontrolled Emission		
Max Hourly	0.02	Lbs/Hr
Max Daily	0.02	Lbs/day
Current Emission		
BACT 30 Day Avg	0.00	Lbs/day
Annual Emission	0.80	Lbs/year
District Emission	1304(a)(4) - 10-12-1995	

Supervisor's Approval NVH Supervisor's Review Date 7/1/14

SCAQMD PERMIT PROCESSING SYSTEM (PPS)

AEIS DATA SHEET

Company Name : OXY USA INC

Facility ID : 169754

Equipment Address : 20101 GOLDENWEST ST
HUNTINGTON BEACH CA 92648

Application Number : 555370

Equipment B-Cat : 043902

Estimated Completion Date : 06/25/14

Equipment C-Cat :

Equipment Type : Basic

Equipment Description : I C E (>500 HP) EM ELEC GEN DIESEL

	Emissions	
Emittants	R1 LB/HR	R2 LB/HR
CO	2.16	2.16
NOX	12.98	12.98
PM10	0.36	0.36
ROG	0.23	0.23
SOX	0.02	0.02

Applicable Rules

1401	09/10/2010	New Source Review of Toxic Air Contaminants
1470	05/04/2012	Requirements for Stationary Diesel-Fueled Internal Combustion and Other
1472	03/07/2008	Requirements for Facilities with Multiple Stationary Emergency Standby Diesel-Fu
2000	05/06/2005	General (RECLAIM)
3000	11/05/2010	General (Title V)
401	11/09/2001	Visible Emissions
402	05/07/1976	Nuisance
404	02/07/1986	Particulate Matter - Concentration
407	04/02/1982	Liquid and Gaseous Air Contaminants
431.2	09/15/2000	Sulfur Content of Liquid Fuels

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Daily Start Times :	08:00	00:00	00:00	00:00	00:00	00:00	00:00
Daily Stop Times :	09:00	00:00	00:00	00:00	00:00	00:00	00:00

User's Initials : HS01 Date: 06/25/14 Supervisor's Name : MKV Review Date : 7/11/14

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	PAGES 9	PAGE 1
STATIONARY SOURCE COMPLIANCE	APPL. NO. 555370	DATE 5/18/2014
APPLICATION PROCESSING AND CALCULATIONS	PROCESSED BY HS	CHECKED BY

PERMIT TO CONSTRUCT/OPERATE

COMPANY NAME AND ADDRESS:

OXY USA, INC

MAILING ADDRESS:
11 West Ocean Blvd. #800
Long Beach, CA 90802

ID: 169754

EQUIPMENT LOCATION:

20101 Goldenwest Street
Huntington Beach, CA 92648

EQUIPMENT DESCRIPTION:

INTERNAL COMBUSTION ENGINE, CUMMINS, 12 CYLINDERS, TURBOCHARGED, AFTERCOOLED, LEAN BURN, MODEL NO. QST30-G5NR2, SERIAL NO. 37254511, 1490 BHP, DIESEL-FUELED, DRIVING AN EMERGENCY ENGINE.

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
Process 2: INTERNAL COMBUSTION					
System 2: PLATFORM EMMY ENGINES					
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, DIESEL FUEL, CUMMINS, MODEL QST30-G5-NR2, 1490 BHP A/N:55370 GENERATOR	D228		INOX; PROCESS UNIT	CO:2.6 GM/BHP-HR, DIESEL(4) ; NOX: 469 LBS//1000 GAL DIESEL (1) ; NOX+ROG: 4.8 GM/BHP-HR DIESEL, (4); PM: 0.15 GM/BHP-HR DIESEL (4)	B61.1, C1.6, D12.9, E116.1, H23.11

BACKGROUND:

This application A/N **555370** was submitted on 08/20/2013 as a Class I equipment. The applicant indicated that the engine was manufactured on 5/10/2012. The application will be processed and the emissions of the engine will be compared with AQMD BACT emissions limit. The engine will be classified as a Tier 2 diesel engine, since the horsepower is greater than 750 horsepower.

This is a RECLAIM facility (ID 169754), located at 20101 Goldenwest Street, Huntington Beach, Ca. It is a typical Crude Oil/Gas/Water Separation facility. The emergency engine is not located within 1000 feet of a K-12 school (see map attached).

PROCESS DESCRIPTION:

The internal combustion engine is diesel-fueled and drives a generator to produce electricity when there is an emergency. The engine will be allowed to operate at a maximum of 200 hours/year which includes 50 hours/yr for testing and maintenance.

The proposed engine will be located at its offshore operation referred to as Platform Emmy. It will provide emergency back-up power for upcoming drilling operation in the event that the drilling rig loses power.

EMISSIONS:

The emissions calculations will be based on 1 hr/day, 1 day/week and 50 weeks/yr.

The table shows the comparison emission factors for the same engine and AQMD BACT values:

Table – 1 BACT Requirements

	NOx+ROG gm/bhp-hr	CO gm/bhp-hr	PM10 gm/bhp-hr	SOx gm/bhp-hr
Cummins 1490 hp HP ICE (given)	4.02 NOx=3.95 ROG=0.07	0.66	0.11	0.0049
AQMD BACT Emissions Tier 2.	4.8	2.6	0.15	0.0049 Diesel fuel, sulfur content 0.0015 % by weight
Compliance?	Yes	Yes	Yes	Yes

NOx emissions (ex. cal.) = 3.95 gm/Bhp-hr x 1490 Bhp x 1 lb/453.593 gm = 12.98 lbs/hr
12.98 lbs/hr x 50 hrs/hr = 648.8 lbs/yr
12.98 lbs/hr x 1 hr/day = 12.98 lbs/day
30 day Av. = (12.98 lbs/hr x 1 hr/week x 50 weeks/yr/12 months/yr)/(30 days/month)
= 1.8→ **2**

Table – 2 Criteria Emissions

Source	lbs/hr	Lbs/day	lbs/yr	30-Day Av.
NOx	12.98	12.98	648.8	**2 (1.80)**
ROG	0.230	0.230	11.5	**0 (0.32)**
CO	2.16	2.16	108	**0 (0.30)**
PM10	0.36	0.36	18.1	**0 (0.05)**
SOx	0.020	0.020	0.80	**0 (0.002)**

b) Greenhouse Gases (GHG)

E = FC x HC x EF [Greenhouse gas equation]

Where:

E = Emission of the given CHG for that type of fuel (grams)
FC = Amount of fuel combusted (gallons/hr)
HC = Heat content of the fuel type (BTU/gallon)
EF = Emission factor of given CHG by type of fuel (grams CHG/BTU)

FC = 20 gall/hr (estimated: 0.05 gal/hp-hr x 399 hp)
HC = 138690 BTU/gallon (diesel)
EF-CH_4 = 0.000003 gm GHG/BTU
EF-CO_2 = 0.0731 gm GHG/BTU
EF-N_2O = 0.0000006 gm GHG/BTU

E(CH_4) = (72.2 gal/hr x 138690 BTU x 0.000003 gm GHG/BTU)x lb/453.593 gm
= 0.066 lbs/hr
0.066 lbs/hr x 1 hr/day = 0.066 lbs/day
0.066 lbs hr x 50 hrs/yr = 3.311 lbs/yr
30 day ave. = (0.066 lbs/hr x 50 hrs/12 months)/30 days/month = 0.009

Table 3 - GHG

GHG	lbs/hr	lbs/day	lbs/yr	30-day ave.
CH_4	0.066	0.066	3.311	0.009
CO_2	1612.29	1612.29	80614.632	223.93
N_2O	0.013	0.013	0.662	0.0018

Toxic Analysis

Emergency Ice's are exempt from toxic analysis as per Rule 1401(g)(1)(F

RULES EVALUATION:

RULE 212: STANDARDS FOR APPROVING PERMITS
There are no K-12 schools within 1000 feet of the facility. A 30 day public notice is not required. (see map).

RULE 401: VISIBLE EMISSIONS
Based on experience with similar equipment, this engine is expected to comply with the visible emission limits.

RULE 402: NUISANCE
Based on experience with similar equipment, nuisance complaints are not expected.

RULE 404: PARTICULATE MATTER - CONCENTRATION
Based on experience with similar equipment, compliance with this rule is expected.

RULE 407: LIQUID AND GASEOUS AIR CONTAMINANTS
This engine is exempt from this rule as per (b)(1).

RULE 431.2: SULFUR CONTENT OF LIQUID FUELS
Compliance with the 15 PPM or less sulfur limit of the diesel fuel is expected.

RULE 1110.2: EMISSIONS FROM GASEOUS-AND LIQUID-FUELED ENGINES
This engine is exempt from this rule as per (i)(2).

REGULATION XIII: NEW SOURCE REVIEW
BACT:
As per 1303(a)(1), the engine must meet BACT. This engine has to meet the BACT requirements for the engine that was manufactured 1n 2012, Tier 2 (> 750 hp).

According to the "BACT Guidelines for Non-Major Polluting Facilities", the engine is in compliance with all criteria pollutants.
Modeling:
As per 1304(a)(4), this emergency engine is exempt.
Offsets:
Only the NOx criteria emission is greater than 1(lb/day). Regardless, offsets are not required as per Rule 1304(a)(4).

RULE 1401: NEW SOURCE REVIEW OF TOXIC AIR CONTAMINANTS
This emergency engine is exempt from this rule as per (g)(1)(F

RULE 1470: REQUIREMENTS FOR STATIONARY DIESEL-FUELED INTERNAL COMBUSTION AND OTHER COMPRESSION IGNITION ENGINES
As an in-use engine, the engine will be allowed to operate 50 hrs/yr for maintenance and testing and 150 hrs/yr for emergency purposes.

RULE 1472: REQUIREMENTS FOR FACILITIES WITH MULTIPLE STATIONARY EMERGENCY STANDBY DIESEL-FUELED INTERNAL COMBUSTION ENGINES
This engine (A/N 555370) is the only stationary emergency diesel-fueled engine at the facility. Based on the above, this rule is not applicable.

REG.XX: REGIONAL CLEAN AIR INCENTIVES MARKET -RECLAIM
This is a RECLAIM facility.

REG.XXX: TITLE V PERMITS
This is not a Title V facility.

RECOMMENDATION:

This equipment is expected to comply with all applicable Rules and Regulations of the District. A Permit to Operate, subject to the following conditions, is recommended:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

H23.11
This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
PM10	District Rule	1470
H2S	District Rule	431.2

See Facility Permit, Emissions and Requirements section:

NMHC + NOX:	4.80 gm/bhp-hr
CO :	2.6 gm/bhp-hr
PM :	0.15 gm/bhp-hr

C1.6
The operator shall limit the operating time to no more than 200 hour(s) in any one year.

Which includes no more than 50 hours in any one year for maintenance and testing purposes.

The operation of the engine beyond the 50 hours per year allotted for engine

maintenance and testing shall be allowed only in the event of a loss of grid power or up to 30 minutes prior to a rotating outage, provided that the electrical grid operator or electric utility has ordered rotating outages in the control area where the engine is located or has indicated that it expects to issue such an order at a certain time, and the engine is located in a utility service block that is subject to the rotating outage. Engine operation shall be terminated immediately after the utility distribution company advises that a rotating outage is no longer imminent or in effect.

E116.1
This engine shall not be used as part of a demand response program using interruptible service contract in which a facility receives a payment or reduced rates in return for reducing its electric load on the grid when requested to do so by the utility or the grid operator.

D12.9
The operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine

The operator shall keep a log of the engine's operation, documenting the total time the engine is operated each month and specific the reasons for operation, such as:

A. Emergency use
B. Maintenance and testing
C. Other (Describe reason for operating)

In addition, each time the engine is manually started, the log shall include the date of operation, the specific reason for operation, and the totalizing hour meter reading (in hours and tenths of hours) at the beginning and end of operation.

K67.1
The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

On or before January 15 th of each year, the operator shall record in the engine's operating log, the following:

A. The total hours of operation for the previous calendar year, and

B. The total hours of engine operation for maintenance and testing for the previous calendar year.

The engine operating log shall be retained on site for a minimum of five calendar years and shall be made available to the executive officer or representative upon request.

OXY USA, INC
ID 169754
A/N 555370

E = FC * HC * EF

Where:
E = Emission of the given GHG for the type of fuel (grams of GHG)
FC = Amount of Fuel combusted (gallons/hr)
HC = Heat content of the fuel type (BTU/gallon)
EF = Emission Factor of the given GHG by type of fuel (grams GHG/BTU)

FC =	72.2	100%	**Operating Schedule**
HC =	138690	1	hr/day
EF -CH4 =	0.000003	1	day/week
EF -CO2 =	0.0731	50	week/yr
EF -N2O =	0.0000006		

E	CH4	CO2	N2O
lb/hr	0.066	1612.29	0.013
lb/day	0.066	1612.29	0.013
30 day ave	0.009	223.93	0.0018
lb/yr	3.311	80614.632	0.662

GHG NSR CALCULATOR

A/N:	555370
FAC. ID.:	169754
EQUIPMENT TYPE:	Emergency Engine
Max Heat Input:	MMBTU/HR
Fuel Type:	Diesel
Engine HP:	1490

General Combustion

GHG Emissions:			
	CO_2	0.0	lb/hr
	CH_4	0.00	lb/hr
	N_2O	0.00	lb/hr

Natural Gas Engine

GHG Emissions:			
	CO_2	0.0	lb/hr
	CH_4	0.00	lb/hr
	N_2O	0.00	lb/hr

Diesel Engine

GHG Emissions:			
	CO_2	1,682.0	lb/hr
	CH_4	0.03	lb/hr
	N_2O	0.02	lb/hr

		GHG Emission Factors				
		GENERAL COMBUSTION		INTERNAL COMBUSTION ENGINE		
Fuel Type	GHG	kg/MMBtu	lb/MMBtu	kg/MMBtu	lb/MMBtu	lb/HP-hr*
Natural Gas	CO_2	53.02	116.89	53.02	116.89	0.818215
	CH_4	0.0009	0.0020	0.0059	0.0130	0.000091
	N_2O	0.0001	0.0002	0.001	0.0022	0.000015
LPG	CO_2	62.98	138.85			
	CH_4	0.001	0.0022			
	N_2O	0.0001	0.0002			
Diesel	CO_2	73.1	161.16	73.15	161.27	1.12886543
	CH_4	0.003	0.0066	0.0014	0.0031	0.000022
	N_2O	0.0006	0.0013	0.001	0.0022	0.000015
Landfill Gas	CO_2	52.03	114.71			
	CH_4	0.0009	0.0020			
	N_2O	0.0001	0.0002			

* Average brake specific consumption of 7,000 Btu/hp-hr to convert from lb/MMBtu to lb/hp-hr
(Source: Table 3.3-1 Emission Factors for Uncontrolled Gasoline & Diesel Industrial Engines, EPA)

161.16 lb/MMBtu x 7000 Btu/hp-hr

	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT										
	Certified ICE-EMERGENCY GENERATORS (Updated July 3, 2012)						HC	NO_x		CO	PM
	DIESEL FUEL EXCEPT AS SPECIFIED										
Cummins	QST30-G5	1490 BHP	1000 KW	455112	12/31/2012	EPA-TIER 2	0.22	4.4		0.52	0.08
							0.107	3.95		.66	.11
BACT							.30	2.6		2.6	0.075
							OK			OK	OK

1 **Huntington Beach High School** 0.46 mi
1 reviews on Yelp
www.hboilers.com
1905 Main St, Huntington Beach, CA
Between Utica Ave and Yorktown Ave
(714) 536-2514
Directions Find Nearby Zoom Here Share

2 **Ethel Dwyer Middle School** 0.50 mi
1 reviews on Yelp
www.dwyermiddleschool.com
1502 Palm Ave, Huntington Beach, CA
Between 15th St and 16th St
(714) 536-7507
Directions Find Nearby Zoom Here Share

3 **Huntington Beach Union High** 0.94 mi
www.hboilers.com
525 Yorktown Ave, Huntington Beach, CA
(714) 536-7521
Directions Find Nearby Zoom Here Share

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A 20101 Goldenwest St, Huntington Beach,
B
Add Location
Get Directions
Clear All
Huntington Central Park
Talbert Ave
Goldenwest St
Edwards St
Beach Blvd
Ellis Ave
Garfield Ave
Main St
Florida St
Clay Ave
Seapoint St
Seacliff Country Club
Huntington Beach
Pacific Coast Hwy
Yorktown Ave
Utica Ave
Springfield Ave
Adams Ave
YORKTOWN
Magnolia St
Brookhurst St
Indianapolis Ave
Malloy Dr
DOWNTOWN HUNTINGTON BEACH
Terms Privacy Feedback

OXY USA INC.

P.O. BOX 2900
111 W. OCEAN BOULEVARD, 8TH FLOOR
LONG BEACH, CALIFORNIA 90801-2900
TELEPHONE (562) 624-3400
FACSIMILE (562) 624-3299

August 13, 2013

Permit Services
South Coast Air Quality Management District
21685 Copley Drive
Diamond Bar, CA 91765

Subject: Application for Permit to Construct/Operate an Emergency IC Engine
OXY USA Inc. / SCAQMD Facility ID 169754

Dear Sirs:

Please find enclosed an application package prepared by our consultant Yorke Engineering, LLC for an emergency internal combustion engine for OXY USA Inc.'s offshore facility (Platform Emmy) in Huntington Beach, CA.

If you have any questions, please feel free to contact me at the number below.

Sincerely,

Diana Lang

Diana Lang
Regulatory/Environmental Coordinator
(562) 624-3314
Diana_Lang@oxy.com

Enclosures

Yorke
ENGINEERING, LLC
www.YorkeEngr.com

August 9, 2013

South Coast Air Quality Management District
Attention: Permit Services
21865 Copley Drive
Diamond Bar, CA 91765

Subject: Application for Permit to Construct -
One (1) Emergency Internal Combustion Engine
OXY USA INC. – FACILITY ID 169754

To Whom It May Concern:

Attached is an application for Permit to Construct for one (1) emergency internal combustion engine. The application processing fee is shown in the table below.

Table 1: Application Processing Fee

Equipment/Item	Rule 301 Table IA/IB Description	Schedule	Proposed Change	Base Fee
Emergency Internal Combustion Engine	IC Engine, Emergency	B	Permit Processing	$2,218.39
			Subtotals	**$2,218.39**
RECLAIM Facility Permit Amendment				**$912.44**
			Grand Total	**$3,130.83**

The application forms, shown in the table below, can be found in Appendix A of the application.

Table 2: Application Forms

Device / Equipment	Form	Title
Emergency IC Engine	400-A	Application for Permit or Plan Approval
	400-E-13a	Emergency Internal Combustion Engine
	400-PS	Plot Plan and Stack Information Form
RECLAIM Permit	400-A	Application for Permit or Plan Approval
Project	400-CEQA	California Environmental Quality Act (CEQA) Applicability

Should you have any questions or concerns, please contact James Adams at (949) 248-8490 x231, or Ms. Diana Lang at (562) 331-0378.

Sincerely,

James Adams
Yorke Engineering, LLC
(949) 248-8490 x231

cc: Diana Lang, OXY USA Inc.
Russ Kingsley, Yorke Engineering, LLC

Enclosures:

1. One (1) Check for $3,130.83
2. One (1) Application for Permit to Construct for one (1) emergency internal combustion engine

Application for Permit to Construct/Operate an Emergency IC Engine

OXY USA Inc.
20101 Goldenwest St.
Huntington Beach, CA
92648

SCAQMD Facility ID:
169754

August 2013

Prepared by:

Yorke
ENGINEERING, LLC
www.YorkeEngr.com

Office Locations:
Los Angeles, Orange County, Riverside,
Ventura, Fresno, Oakland, Bakersfield

Tel: (949) 248-8490
Fax: (949) 248-8499

Application for Permit to Construct/ Operate an Emergency IC Engine

Prepared for:

OXY USA Inc.
20101 Goldenwest St.
Huntington Beach, CA 92648

SCAQMD Facility ID: 169754

August 2013

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Appendices

Application for Permit to Construct/Operate an Emergency IC Engine

1.0 INTRODUCTION

OXY USA Inc. (OXY) is proposing to install an emergency IC engine at its Huntington Beach facility. This unit will be located on Platform Emmy and will provide emergency backup power for upcoming drilling operations in the event that the drilling rig loses power. This document contains a complete engineering evaluation for the emergency IC engine.

1.1 Facility Information

Facility contact information is provided in Table 1-1.

Table 1-1: Facility Information

Applicant's Name:	OXY USA Inc.
Facility ID:	169754
Mailing Address:	111 W. Ocean Blvd. Suite 800 Long Beach, CA 90802
Equipment Location[1]:	20101 Goldenwest St. Huntington Beach, CA 92648

OXY's Huntington Beach facility is an oil and gas production facility. This facility also includes an off-shore operation, Platform Emmy. The emergency IC engine will be located on Platform Emmy. Figure 1 is a map showing the facility and the surrounding area. Platform Emmy is approximately 1 mile offshore.

[1] This is the address of the onshore production facility. Approximate geographic coordinates of Platform Emmy are: Lat: 33.3944° N Long: -118.0237 W

Figure 1: OXY USA Inc. Huntington Beach Facility and Surrounding Area

1.2 Application Preparation

This permit application was prepared by Carla Prasetyo Jo and James Adams of Yorke Engineering, LLC. If there are technical questions regarding this application, please contact:

Table 1-2: Application Preparers

Carla Prasetyo Jo, PE	
Yorke Engineering, LLC	
Phone:	(559) 908-6979
Fax:	(949) 248-8499
Cellular:	(559) 908-6979
Email:	cjo@YorkeEngr.com
James Adams, CPP #M6901	
Yorke Engineering, LLC	
Phone:	(949) 248-8490 x231
Fax:	(949) 248-8499
Cellular:	(949) 573-7924
Email:	jadams@YorkeEngr.com

1.3 Proposed Permit Actions

OXY is proposing to construct and operate an emergency IC engine on Platform Emmy. The proposed IC engine installation also requires a modification to the facility RECLAIM permit. A list of the application forms provided with this application is provided as Table 1-3. The application forms are included in Appendix A.

Table 1-3: SCAQMD Forms Accompanying This Application

Form	Title	Device/Equipment
400-A	Application Form for Permit or Plan Approval	Emergency IC Engine
400-E-13a	Emergency Internal Combustion Engine	Emergency IC Engine
400-PS	Plot Plan and Stack Information Form	Emergency IC Engine
400-A	Application Form for Permit or Plan Approval	RECLAIM Permit
400-CEQA	California Environmental Quality Act (CEQA) Applicability	Project
400-XPP	Expedited Permit Processing	Project

2.0 EQUIPMENT AND PROCESS DESCRIPTION

The emergency IC engine will be used to provide emergency backup power to upcoming drilling operations on Platform Emmy in the event that the drill rig loses power. In addition, the emergency IC engine will be operated for maintenance and testing purposes. Engine specifications are listed in Table 2-1. Pictures of the engine nameplate are included in Appendix B. Appendix B also contains some general engine documentation.

Table 2-1: Engine Specifications

Parameter	Value
Manufacturer	Cummins
Model	QST30-G5 NR2
Serial No.	37254511
Engine Family Number	ACEXL060.AAD
Engine Output	1490 HP
Tier	2

OXY proposes to limit the maximum annual maintenance and testing operation to no more than 50 hours per calendar year per Rule 1470(c)(2)(C)(i) and no more than 2.7 hours per day in order for the MDC NOx emissions to remain below the Rule 212(g) threshold of 40 lb/day. In addition, OXY is proposing to limit the total hours of operation to no more than 200 hours per calendar year. These operating limits are reflected in the proposed permit conditions that are shown in Section 5.0.

3.0 EMISSIONS

3.1 Emission Factors

The emergency IC engine will combust diesel fuel, and will result in the emissions of VOC, NOx, CO, PM10, and SOx. The emergency IC engine is a certified tier 2 engine, rated at 1490 HP. The VOC, NOx, and CO, and PM10 emission factors for this unit will be based on the tier 2 standards for an engine greater than 750 HP. The SOx emissions were calculated based on 0.0015 percent sulfur by weight in the fuel. The criteria pollutant emission factors are shown in Table 3-1.

Table 3-1: Criteria Pollutant Emission Factors

Pollutant	Emission Factor (g/hp-hr)
Nitrogen Oxides (NOx) + Volatile Organic Compound (VOC)	4.8
Nitrogen Oxides (NOx)	4.5[1]
Volatile Organic Compound (VOC)	0.30[1]
Sulfur Oxides (SOx)	0.005[2]
Carbon Monoxide (CO)	2.6
Particulate Matter (PM10)	0.15

1. Per the Carl Moyer program guidance, NOx is assumed to be 95% of the NOx + VOC emission factor, and VOC is assumed to be 5%.
2. The calculation from weight percent sulfur in the fuel to g/hp-hr is provided in Appendix C.

The emergency IC engine will combust diesel fuel, and result in the emissions of toxic air contaminants (TAC). However, since subparagraph (g)(1)(F) of Rule 1401 exempts emergency internal combustion engines from new source review for TAC, TAC emission calculations are not provided with this application.

3.2 Emission Calculations

The emergency IC engine will combust diesel fuel, and result in the emissions of VOC, NOx, CO, PM10, and SOx. Pursuant to the SCAQMD's Policy and Procedures EC-02-09 ("Emergency Standby Diesel IC Engine Maintenance & Testing Hours", dated February 24, 2009), in determining an emergency engine's potential to emit under Regulation XIII, emissions are to be based on the annual testing and maintenance hours, in this case, 50 hours per year. Calculation details are included in Appendix C. A summary of emissions is shown in Table 3-2.

Table 3-2: Criteria Pollutant Emissions

Criteria Pollutant	AHU (lb/hr)	AHC (lb/hr)	MHU (lb/hr)	MHC (lb/hr)	MDU (lb/day)	MDC (lb/day)	AA (lb/yr)	30DA (lb/day)
NOx	14.769	14.769	14.769	14.769	39.88	39.88	738.5	2.05
VOC	0.985	0.985	0.985	0.985	2.66	2.66	49.3	0.14
SOx	0.016	0.016	0.016	0.016	0.04	0.04	0.8	0.00
CO	8.533	8.533	8.533	8.533	23.04	23.04	426.7	1.19
PM10	0.492	0.492	0.492	0.492	1.33	1.33	24.6	0.07

4.0 RULE COMPLIANCE EVALUATION

4.1 Regulation II – Permits

4.1.1 Rule 212 – Standards for Approving Permits and Issuing Public Notice

Rule 212 requires public notification for all new or modified permit units that may emit air contaminants located within 1,000 feet from the outer boundary of a school, all new or modified permit units that may emit air contaminants in excess of the limits shown in subdivision (g) of the rule or 3 pounds per day of lead, and all new or modified permit units that may emit TAC listed in Rule 1401 with an individual lifetime cancer risk greater than one in one million or greater than ten in one million with TBACT.

Table 4-1 compares the emission increases associated with the proposed unit to the thresholds from subdivision (g) of Rule 212. As shown, the emission increases associated with this project are less than the notification thresholds.

Table 4-1: Rule 212(g) Notification Thresholds

Permit Unit	Pollutant	Emissions (MDC) (lb/day)	Rule 212 Notification Threshold (lb/day)	Public Notice Required? (Yes/No)
Emergency IC Engine	NOx	39.88	40	No
	SOx	0.04	60	No
	CO	23.04	220	No
	VOC	2.66	30	No
	PM10	1.33	30	No

Although the engine is exempt from Rule 1401 per subparagraph (g)(1)(F) of that rule, a tier 2 screening health risk assessment (HRA) was performed for the project using the SCAQMD risk calculator spreadsheet. Diesel particulate matter (DPM) emissions were assumed to be equal to PM10 emissions from the engine. The HRA demonstrates that the health risk from engine emissions will not exceed Rule 212 thresholds for notification. The HRA worksheets are provided in Appendix D. The engine will not be installed within 1000 feet of a school. Based on these factors, public notice is not required for this application.

4.2 Regulation III – Fees

4.2.1 Rule 301 – Permitting and Associated Fees

The processing fees were determined using Rule 301; fees are summarized in Table 4-2.

Table 4-2: Permit Processing Fees

Equipment/Item	Rule 301 Table IA/IB Description	Schedule	Permit Action	Base Fee
Emergency IC Engine	IC Engine, Emergency	B	Permit Processing	$2,218.39
			Subtotal	**$2,218.39**
RECLAIM Facility Permit Amendment				$912.44
			Total	**$3,130.83**

4.3 Regulation IV – Prohibitions

4.3.1 Rule 401 – Visible Emissions

No visible air contaminant with 20 percent opacity or greater is expected to be released to the atmosphere for a period or periods aggregating more than three minutes in any one hour from the operation of the emergency IC engine; therefore, compliance with this rule is expected.

4.3.2 Rule 402 – Nuisance

The proposed emergency IC engine is not expected to result in a nuisance, as defined in Rule 402, to the public; therefore, compliance with this rule is expected.

4.3.3 Rule 404 – Particulate Matter-Concentration

The operation of the emergency IC engine is expected to comply with this rule.

4.3.4 Rule 431.2 – Sulfur Content of Liquid Fuels

The emergency IC engine will be fueled with CARB diesel. Therefore, compliance with this rule is expected.

4.4 Regulation XI – Source Specific Standards

4.4.1 Rule 1110.2 - Emissions from Gaseous - and Liquid-Fueled Engines

This unit will be exempt from subdivision (d) of the rule per paragraph (i)(2). This provides an indirect exemption from the other requirements of the rule.

4.5 Regulation XIII – New Source Review

4.5.1 Best Available Control Technology (BACT)

BACT must be applied to all new and modified permit units when the net increase in emissions of any nonattainment air contaminant, ozone depleting compound or ammonia is equal to 1.0 pounds per day or higher.

The maximum daily emissions of VOC, PM10, CO and SO_X from the emergency IC engine are estimated to be greater than 1.0 pounds/day per pollutant, thus BACT is required. BACT for stationary emergency IC engine rated at greater than 750 HP is tier 2[2]. Since the emergency IC engine proposed is a certified tier 2 IC engine, compliance with BACT is demonstrated. [Note: Since Oxy is a RECLAIM facility, NOx BACT is discussed in Section 4.7 of this application.

[2] SCAQMD Best Available Control Technology (BACT) Guidelines for Non-Major Polluting Facilities, Part D, I.C. Engine, Stationary, Emergency, 10-3-2008, Rev. 4, page 69.

4.5.2 Modeling

The Executive Officer or designee shall, except as Rule 1304 applies, deny the permit to construct for any new or modified source which results in a net emission increase of any nonattainment air contaminant at a facility, unless the applicant substantiates with modeling that the modification will not cause a violation, or make significantly worse an existing violation according to Appendix A or other analysis approved by the Executive Officer or designee, of any state or national ambient air quality standards at any receptor location in the District.

Pursuant to Rule 1304(a)(4), an emergency IC engine is exempt from the modeling and offsets requirements. Since the unit is exclusively used as emergency standby equipment, and limited to no more than 200 hours per year for emergency, maintenance, and testing operations, this emergency IC engine is exempt from modeling.

4.5.3 Offsets

The Executive Officer or designee shall, except as Rule 1304 applies, deny the permit to construct for any new or modified source which results in a net emission increase of any nonattainment air contaminant at a facility, unless the applicant offsets the emission increases by either Emission Reduction Credits (ERCs) approved pursuant to Rule 1309, or by allocations from the Priority Reserve in accordance with provisions of Rule 1309.1 or allocations from the Offset Budget in accordance with the provisions of Rule 1309.2.

Pursuant to Rule 1304(a)(4), an emergency IC engine is exempt from the modeling and offsets requirements. Since the unit is exclusively used as emergency standby equipment, and limited to no more than 200 hours per year for emergency, maintenance, and testing operations, this emergency IC engine is exempt from offsets.

4.6 Regulation XIV – Toxics and Other Non-Criteria Pollutants

4.6.1 Rule 1401 – New Source Review for Air Toxics

Rule 1401 applies to new, relocated, and modified permit units. However, pursuant to subparagraph (g)(1)(F) of Rule 1401, emergency IC engines are exempt from new source review of toxic air contaminants. Therefore, no further assessment for Rule 1401 is included.

4.6.2 Rule 1470 – Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engine

Rule 1470 is applicable to any person who owns or operates a stationary compression ignition (CI) engine in the SCAQMD with a rated brake horsepower greater than 50. Pursuant to the definition of new and in-use IC engine, as stated in Paragraph (b)(37) and (b)(47) of this rule, the proposed emergency IC engine falls under the category of new engine. Subparagraph (c)(3)(C) of this rule limits the hours of operation for maintenance and testing purposes for new stationary emergency standby diesel-fueled CI engine (>50 bhp) to 50 hours/year.

OXY proposes to limit the maintenance and testing operation to no more than 50 hours/year. The emergency IC engine is a certified tier 2 engine rated at 1490 HP. This engine is expected to meet the requirements of this rule.

4.6.3 Rule 1472 – Requirements for Facilities with Multiple Stationary Emergency Standby Diesel-Fueled Internal Combustion Engines

There is currently one emergency generator on Platform Emmy. With one additional generator, Emmy will contain one less emergency generator than the minimum required to form an engine group. The proposed unit will not cause the facility to become subject to the requirements of Rule 1472.

4.7 Regulation XX – Regional Clean Air Incentives Market (RECLAIM)

OXY is a NOX RECLAIM facility. The proposed new emergency IC engine is considered emergency standby equipment. Therefore, it will be classified as a NOX process unit. This engine will be equipped with an hour meter to comply with the requirements of Rule 2012.

Pursuant to paragraph (k)(5) of Rule 2005, the requirements under subparagraphs (b)(1)(B) and (c)(1)(B), and clause (c)(4)(A)(ii) do not apply to equipment used exclusively on a standby basis for non-utility electrical power generation or any other equipment used on a standby basis in case of emergency, provided the source does not operate more than 200 hours per year as evidenced by an engine-hour meter or equivalent method and is listed as emergency equipment in the Facility Permit. The proposed emergency IC engine meets the requirements for exemption under paragraph (k)(5), and is exempt from modeling requirements under Rule 2005.

The maximum daily emissions of NOx from the emergency IC engine is estimated to be greater than 1.0 pounds/day, thus BACT is required. BACT for stationary emergency IC engine rated at greater than 750 HP is tier 2[3]. Since the emergency IC engine proposed is a certified tier 2 IC engine, compliance with BACT is demonstrated.

The expected NOx emission increase associated with the engine is 738 lb/year (maintenance and testing only). The facility holds sufficient RTCs to offset the emission increase for the first year of operation.

4.8 Regulation XXX – Title V Permits

OXY maintains exemption from the requirements of the Title V program by complying with Facility Condition F30.1, which limits the emissions of NOx and VOC from the relevant sources to no more than 10 tons in any rolling 12 calendar-month period. OXY proposes to maintain compliance with the NOx and VOC limits as required under Facility Condition F30.1. Therefore, OXY is expected to continue to be exempt from the requirements of the Title V program.

4.9 Federal Rules and Regulations

4.9.1 40 CFR Part 60, Subpart IIII – Standard of Performance for Stationary Compression Ignition Internal Combustion Engines

This Code of Federal Regulation (CFR) is applicable to owners and operators of stationary CI engine that commence construction after July 11, 2005. Since the proposed emergency IC engine was constructed in 2012, this rule applies to this emergency IC engine.

Pursuant to §60.4205 (b), owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new non-road CI engines in §60.4202, for

[3] SCAQMD Best Available Control Technology (BACT) Guidelines for Non-Major Polluting Facilities, Part D, I.C. Engine, Stationary, Emergency, 10-3-2008 Rev. 4, page 69.

all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI IC engine. The proposed emergency IC engine is a certified tier 2 IC engine. Therefore, the emergency IC engine complies with the emission standards for new non-road CI engines in §60.4202.

Pursuant to § 60.4207 (b), beginning October 1, 2010, owners and operators of stationary CI IC engine subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for non-road diesel fuel. The proposed emergency IC engine will be fueled with CARB diesel fuel, which meets the requirements of 40 CFR 80.510(b) for non-road diesel fuel.

Pursuant to §60.4209 (b), emergency stationary CI IC engines is required to be equipped with a non-resettable hour meter prior to startup of the engine. The proposed emergency IC engine will be equipped with a non-resettable hour meter. Therefore, the proposed emergency IC engine is expected to be in compliance with this subpart.

4.9.2 Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

An engine is subject to this subpart if it is a stationary reciprocating IC engine (RICE) at a major or area source of HAP emissions. Oxy Huntington Beach and Platform Emmy is an area source of HAP.

Pursuant to § 63.6590(c), a new or reconstructed stationary RICE located at an area source must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR part 60 subpart IIII. No further requirements apply for such engines under this part.

As shown in Section 4.9.1 of this application, the proposed emergency engine complies with Subpart IIII, thus compliance with Subpart ZZZZ is demonstrated.

4.10 California State Rules and Regulations

4.10.1 Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition (CI) Engines

This ATCM is a California regulation established by the California Air Resources Board (ARB) to reduce diesel PM and criteria pollutant emissions from stationary diesel-fueled CI engine and applies to any person who owns or operates a stationary CI engine in California with a brake horsepower (bhp) rating greater than 50. Since the proposed IC engine is rated at 1490 HP, the IC engine is subject to this ATCM.

The proposed IC engine is a tier 2 certified IC engine, which meets the ATCM standards. The emergency IC engine will be fueled with CARB diesel, which meets the fuel requirements of the ATCM. OXY proposes to limit the maintenance and testing operation to 50 hours annually to meet the ATCM requirements.

4.10.2 California Environmental Quality Act (CEQA)

The requested permit actions are ministerial in nature and, therefore, are not subject to additional review under CEQA. A completed form 400-CEQA is included in Appendix A.

5.0 PROPOSED PERMIT TERMS AND CONDITIONS

5.1 Equipment

We request that a permit to construct/ operate be issued with the following proposed wording.

Equipment	ID No.	Connected To	RECLAIM Source Type/Monitoring Unit	Emissions and Requirements	Conditions
EMERGENCY INTERNAL COMBUSTION ENGINE, CUMMINS, MODEL QST30-G5 NR2, SERIAL NO.: 37254511, DIESEL FUELED, 1490 HP, DRIVING AN EMERGENCY ELECTRICAL GENERATOR	Dxx		NOX: PROCESS UNIT	NOX: 14.77 LBS/HR[4] (1)	(1), (2), (3), (4) (as shown below)

5.2 Proposed Conditions

1. THIS ENGINE SHALL NOT OPERATE MORE THAN 200 HOURS IN ANY ONE YEAR.
2. THIS ENGINE SHALL NOT OPERATE MORE THAN 50 HOURS IN ANY ONE YEAR AND 2.7 HOURS IN ANY ONE DAY FOR MAINTENANCE AND TESTING PURPOSES.
3. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
4. AN ENGINE OPERATING LOG LISTING THE DATE OF OPERATION, THE ELAPSED TIME, IN HOURS, AND THE REASON FOR OPERATION SHALL BE KEPT AND MAINTAINED ON FILE FOR A MINIMUM OF TWO YEARS AND BE MADE AVAILABLE TO THE SCAQMD. PERSONNEL UPON REQUEST.

[4] (4.5 g/bhp-hr) / (454 g/lb) x (1,490 bhp)

APPENDIX A – APPLICATION FORMS

Appendix A – Schedule of Forms

Device/Equipment	Form	
Emergency IC Engine	400-A	Application Form for Permit or Plan Approval
	400-E-13a	Emergency Internal Combustion Engine
	400-PS	Plot Plan and Stack Information Form
RECLAIM Permit	400-A	Application Form for Permit or Plan Approval
Project	400-CEQA	California Environmental Quality Act (CEQA) Applicability

CONDITIONS

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
3. THIS ENGINE SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULE 431.2 AND RULE 1470.
4. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR, WHICH INCLUDES NO MORE THAN 50 HOURS IN ANY ONE YEAR FOR MAINTENANCE AND TESTING AND NO MORE THAN 4.2 HOURS IN ANY ONE MONTH FOR MAINTENANCE AND TESTING.
5. OPERATING BEYOND THE 50 HOURS PER YEAR ALLOTED FOR MAINTENANCE AND TESTING PURPOSES SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR TO A ROTATING OUTAGE, PROVIDED THAT THE UTILITY DISTRIBUTION COMPANY HAS ORDERED ROTATING OUTAGES IN THE CONTROL AREA WHERE THE ENGINE IS LOCATED OR HAS INDICATED THAT IT EXPECTS TO ISSUE SUCH AN ORDER AT A CERTAIN TIME, AND THE ENGINE IS LOCATED IN A UTILITY SERVICE BLOCK THAT IS SUBJECT TO THE ROTATING OUTAGE. ENGINE OPERATION SHALL BE TERMINATED IMMEDIATELY AFTER THE UTILITY DISTRIBUTION COMPANY ADVISES THAT A ROTATING OUTAGE IS NO LONGER IMMINENT OR IN EFFECT.
6. AN OPERATIONAL NON-RESETTABLE ELAPSED TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
7. AN ENGINE OPERATING LOG SHALL BE KEPT AND MAINTAINED, DOCUMENTING THE TOTAL TIME THE ENGINE IS OPERATED EACH MONTH AND SPECIFIC REASON FOR OPERATION AS:
   A. EMERGENCY USE.
   B. MAINTENANCE AND TESTING.
   C. OTHER (DESCRIBE THE REASON FOR OPERATING).

   IN ADDITION, EACH TIME THE ENGINE IS MANUALLY STARTED, THE LOG SHALL INCLUDE THE DATE OF OPERATION, THE SPECIFIC REASON FOR OPERATION, AND THE TOTALIZING HOUR METER READING (IN HOURS AND TENTHS OF HOURS) AT THE BEGINNING AND END OF OPERATION.

8. ON OR BEFORE JANUARY 15TH OF EACH YEAR, THE OPERATOR SHALL RECORD IN THE ENGINE OPERATING LOG THE FOLLOWING:
   A. THE TOTAL HOURS OF OPERATION FOR THE PREVIOUS CALENDAR YEAR, AND
   B. THE TOTAL HOURS OF ENGINE OPERATION FOR MAINTENANCE AND TESTING FOR THE PREVIOUS CALENDAR YEAR.

   THE ENGINE OPERATING LOG SHALL BE RETAINED ON SITE FOR A MINIMUM OF THREE CALENDAR YEARS AND SHALL BE MADE AVAILABLE TO THE EXECUTIVE OFFICER OR REPRESENTATIVE UPON REQUEST.

South Coast Air Quality Management District

Form 400-PS

Plot Plan And Stack Information Form

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Form 400A and Form 400-CEQA.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator To Appears On The Permit): Oxy USA Inc.

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 169754

Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): Platform Emmy (offshore, Huntington Beach)

(●) Fixed Location ( ) Various Locations

Section B - Location Data

Plot Plan

Please attach a site map for the project with distances and scales. Identify and locate the proposed equipment on the map. A copy of the appropriate Thomas Brothers page, a web-based map, or a sketch that shows the major streets and location of the equipment is acceptable.

Location of Schools Nearby

Is the facility located within a 1/4 mile radius (1,320 feet) of the outer boundary of a school? ( ) Yes (●) No

If yes, please provide name(s) of school(s) below:

School Name: _____ **School Name:** _____

School Address: _____ **School Address:** _____

Distance from stack or equipment vent to the outer boundary of the school: _____ feet

Distance from stack or equipment vent to the outer boundary of the school: _____ feet

CA Health & Safety Code 42301.9: "School" means any public or private school used for purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in private homes.

Population Density

( ) Urban (●) Rural (<50% of land within 3 km radius accounted for by urban land use categories, i.e., multi-family dwelling or industrial.)

Zoning Classification

( ) Mixed Use Residential Commercial Zone (M-U) ( ) Service and Professional Zone (C-S) ( ) Medium Commercial (C-3)

( ) Heavy Commercial (C-4) (●) Commercial Manufacturing (C-M)

Section C - Emission Release Parameters - Stacks, Vents

Stack Data

Stack Height: 75.00 feet (above ground level) **What is the height of the closest building nearest the stack?** 20 feet

Stack Inside Diameter: _____ inches **Stack Flow:** 325,577 acfm **Stack Temperature:** 850 °F

Rain Cap Present: ( ) Yes (●) No **Stack Orientation:** (●) Vertical ( ) Horizontal

If the stack height is less than 2.5 times the closest building height (H), please provide information on any building within 5xH distance from the stack (attach additional sheet if necessary):

Building #/Name: _____ **Building #/Name:** _____

Building Height: _____ feet (above ground level) **Building Height:** _____ feet (above ground level)

Building Width: _____ feet **Building Width:** _____ feet

Building Length: _____ feet **Building Length:** _____ feet

Receptor Distance From Equipment Stack or Roof Vents/Openings

Distance to nearest residence: 7,700 feet **Distance to nearest business:** 7,700 feet

Building Information

Are the emissions released from vents and/or openings from a building? ( ) Yes (●) No

If yes, please provide:

Building #/Name: _____ **Building Width:** _____ feet

Building Height: _____ feet (above ground level) **Building Length:** _____ feet

South Coast Air Quality Management District

Form 400-PS

Plot Plan And Stack Information Form

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Form 400A and Form 400-CEQA.

Section D - Authorization/Signature			
I hereby certify that all information contained herein and information submitted with this application is true and correct.			
Signature of Preparer: Russ Kingsley (Digitally signed by Russ Kingsley DN: cn=Russ Kingsley, o=Yorke, ou=Yorke, email=rkingsley@yorkeengr.com, c=US Date: 2013.07.22 14:24:18 -07'00')	Title of Preparer: Principal Engineer	Preparer's Phone #: (805) 376-0088 Preparer's Email: RKingsley@YorkeEngr.com	
Contact Person: Diana Lang Contact's Email: diana_lang@oxy.com	Contact's Phone#: (562) 624-3314 Contact's Fax#: (562) 624-3224		Date Signed: 07/20/2013

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

South Coast Air Quality Management District

Form 400 - XPP

Express Permit Processing Request

Form 400-A, Form 400-CEQA and one or more 400-E-xx form(s) must accompany all submittals.

Mail To:
SCAQMD
P.O Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. **Facility Name** (Business Name of Operator To Appear On The Permit): Oxy USA Inc.

2. **Valid AQMD Facility ID** (Available On Permit Or Invoice Issued By AQMD): 169754

Section B - Equipment Location Address

3. (●) **Fixed Location** ( ) **Various Location**
(For equipment operated at various locations, provide address of initial site.)

20101 Goldenwest St.
Street Address

Huntington Beach, CA 92648
City State Zip

Diana Lang — Env. Coordinatir
Contact Name — Title

(562) 624-3314 — Ext. — (562) 624-3224
Phone # — Ext. — Fax #

diana_lang@oxy.com
E-Mail

Section C - Permit Mailing Address

4. **Permit and Correspondence Information:**
☐ Check here if same as equipment location address

111 W. Ocean Blvd. #800
Address

Long Beach, CA 90802
City State Zip

Diana Lang — Env. Coordinatir
Contact Name — Title

(562) 624-3314 — Ext. — (562) 624-3224
Phone # — Ext. — Fax #

diana_lang@oxy.com
E-Mail

Section D - Authorization/Signature

I understand that the Expedited Permit Processing fees must be submitted at the time of application submittal, and that the application may be subject to additional fees per Rule 301. I understand that requests for Express Permit Processing neither guarantees action by any specific date nor does it guarantee permit approval; that Express Permit Processing is subject to availability of qualified staff; and that once Express Permit Processing has commenced, the expedited fees will not be refunded. I hereby certify that all information contained herein and information submitted with the application are true and correct.

5. **Signature of Responsible Official:** Mark S. Kapelke

6. **Title of Responsible Official:** VP - Eng and Ops

7. **Print Name of Responsible Official:** Mark Kapelke

8. **Date:** 8/13/2013

9. **Phone #:** (562) 495-9348

10. **Fax #:** (562) 495-1950

AQMD USE ONLY	APPLICATION TRACKING #		TYPE B C	EQUIPMENT CATEGORY CODE:	FEE SCHEDULE: $		VALIDATION
ENG. DATE A R	ENG. DATE A R		CLASS I III	ASSIGNMENT Unit Engineer	CHECK/MONEY ORDER #	AMOUNT $	TRACKING #

South Coast Air Quality Management District

Form 400-CEQA

California Environmental Quality Act (CEQA) Applicability

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

The SCAQMD is required by state law, the California Environmental Quality Act (CEQA), to review discretionary permit project applications for potential air quality and other environmental impacts. This form is a screening tool to assist the SCAQMD in clarifying whether or not the project[1] has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].[2] Refer to the attached instructions for guidance in completing this form.[3] For each Form 400-A application, also complete and submit one Form 400-CEQA. If submitting multiple Form 400-A applications for the same project at the same time, only one 400-CEQA form is necessary for the entire project. If you need assistance completing this form, contact Permit Services at (909) 396-3385 or (909) 396-2668.

Section A - Facility Information

1. Facility Name (Business Name of Operator To Appear On The Permit): OXY USA Inc.

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 169754

3. Project Description:
Installation of a new emergency IC engine.

Section B - Review For Exemption From Further CEQA Action

Check "Yes" or "No" as applicable

	Yes	No	Is this application for:
1.	○	◉	**A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project?** If yes, attach a copy of the signed Notice of Determination to this form.
2.	○	◉	**A request for a change of permittee only (without equipment modifications)?**
3.	○	◉	**A functionally identical permit unit replacement with no increase in rating or emissions?**
4.	○	◉	**A change of daily VOC permit limit to a monthly VOC permit limit?**
5.	○	◉	**Equipment damaged as a result of a disaster during state of emergency?**
6.	○	◉	**A Title V (i.e., Regulation XXX) permit renewal (without equipment modifications)?**
7.	○	◉	**A Title V administrative permit revision?**
8.	○	◉	**The conversion of an existing permit into an initial Title V permit?**

If "Yes" is checked for any question in Section B, your application does not require additional evaluation for CEQA applicability. Skip to Section D - Signatures on page 2 and sign and date this form.

Section C - Review of Impacts Which May Trigger CEQA

Complete Parts I-VI by checking "Yes" or "No" as applicable. To avoid delays in processing your application(s), explain all "Yes" responses on a separate sheet and attach it to this form.

	Yes	No	Part I - General
1.	○	◉	**Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project?** Controversy may be construed as concerns raised by local groups at public meetings; adverse media attention such as negative articles in newspapers or other periodical publications, local news programs, environmental justice issues, etc.
2.	○	◉	**Is this project part of a larger project?** If yes, attach a separate sheet to briefly describe the larger project.
			Part II - Air Quality
3.	○	◉	**Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?**
4.	○	◉	**Does this project include the open outdoor storage of dry bulk solid materials that could generate dust?** If Yes, include a plot plan with the application package.

[1] A "project" means the whole of an action which has a potential for resulting in physical change to the environment, including construction activities, clearing or grading of land, improvements to existing structures, and activities or equipment involving the issuance of a permit. For example, a project might include installation of a new, or modification of an existing internal combustion engine, dry-cleaning facility, boiler, gas turbine, spray coating booth, solvent cleaning tank, etc.

[2] To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

[3] To download this form and the instructions, visit http://www.aqmd.gov/ceqa or http://www.aqmd.gov/permit

Section C - Review of Impacts Which May Trigger CEQA (cont.)			
	Yes	No	Part II - Air Quality (cont.)
5.	○	◉	**Would this project result in noticeable off-site odors from activities that may not be subject to SCAQMD permit requirements?** For example, compost materials or other types of greenwaste (i.e., lawn clippings, tree trimmings, etc.) have the potential to generate odor complaints subject to Rule 402 – Nuisance.
6.	○	◉	**Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?**
7.	○	◉	**Will the proposed project increase the QUANTITY of hazardous materials stored aboveground onsite or transported by mobile vehicle to or from the site by greater than or equal to the amounts associated with each compound on the attached Table 1?[4]**
			Part III – Water Resources
8.	○	◉	**Will the project increase demand for water at the facility by more than 5,000,000 gallons per day?** The following examples identify some, but not all, types of projects that may result in a "yes" answer to this question: 1) projects that generate steam; 2) projects that use water as part of the air pollution control equipment; 3) projects that require water as part of the production process; 4) projects that require new or expansion of existing sewage treatment facilities; 5) projects where water demand exceeds the capacity of the local water purveyor to supply sufficient water for the project; and 6) projects that require new or expansion of existing water supply facilities.
9.	○	◉	**Will the project require construction of new water conveyance infrastructure?** Examples of such projects are when water demands exceed the capacity of the local water purveyor to supply sufficient water for the project, or require new or modified sewage treatment facilities such that the project requires new water lines, sewage lines, sewage hook-ups, etc.
			Part IV – Transportation/Circulation
10.			**Will the project result in** (Check all that apply):
	○	◉	**a. the need for more than 350 new employees?**
	○	◉	**b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?**
	○	◉	**c. increase customer traffic by more than 700 visits per day?**
			Part V – Noise
11.	○	◉	**Will the project include equipment that will generate noise GREATER THAN 90 decibels (dB) at the property line?**
			Part VI – Public Services
12.			**Will the project create a permanent need for new or additional public services in any of the following areas** (Check all that apply):
	○	◉	**a. Solid waste disposal?** Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	○	◉	**b. Hazardous waste disposal?** Check "No" if the projected potential amount of hazardous wastes generated by the project is less than 42 cubic yards per day (or equivalent in pounds).

"REMINDER: *For each "Yes" response in Section C, attach all pertinent information including but not limited to estimated quantities, volumes, weights, etc."*

Section D - Signatures

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT THIS FORM IS A SCREENING TOOL AND THAT THE SCAQMD RESERVES THE RIGHT TO CONSIDER OTHER PERTINENT INFORMATION IN DETERMINING CEQA APPLICABILITY.

1. Signature of Responsible Official of Firm:		2. Title of Responsible Official of Firm:
Mark S. Kapelke		VP - Eng and Ops
3. Print Name of Responsible Official of Firm:		**4. Date Signed:**
Mark Kapelke		8/13/2013
5. Phone # of Responsible Official of Firm:	**6. Fax # of Responsible Official of Firm:**	**7. Email of Responsible Official of Firm:**
(562) 495-9348	(562) 624-3224	mark_kapelke@oxy.com
8. Signature of Preparer, (If prepared by person other than responsible official of firm):		**9. Title of Preparer:**
Carla Prasetyo Jo		Senior Engineer
10. Print Name of Preparer:		**11. Date Signed:**
Carla Prasetyo Jo		03/28/2013
12. Phone # of Preparer:	**13. Fax # of Preparer:**	**14. Email of Preparer:**
(559) 908-6979	(949) 248-8499	CJo@YorkeEngr.com

THIS CONCLUDES FORM 400-CEQA. INCLUDE THIS FORM AND ANY ATTACHMENTS WITH FORM 400-A.

[4] Table 1 – Regulated Substances List and Threshold Quantities for Accidental Release Prevention can be found in the Instructions for Form 400-CEQA.

South Coast Air Quality Management District

FORM 400-E-13a

Emergency Internal Combustion Engine

Mail Application To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765
Tel: (909) 396-3385
www.aqmd.gov

This form must be accompanied by a completed Application for a Permit to Construct/Operate -Form 400A

Permit to be issued to (Business name of operator to appear on permit):
OXY USA Inc.

Street location where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): 20101 Goldenwest Street, Huntington Beach, CA 92648 ◉ Fixed ○ Various

Section A: EQUIPMENT INFORMATION

Internal Combustion Engine

Manufacturer: CUMMINS
Model No.: QST30 - G5 NR2
Serial No.: 37254511
Date of Manufacture: 05/01/2012 (mm/dd/yyyy)
Manufacturer Maximum Rating: 1490 BHP @ 1800 RPM
Date of Installation: _____ (mm/dd/yyyy)

ICE Emergency Function
◉ Electrical Generator ○ Fire Pump ○ Flood Control ○ Pump Driver ○ Compressor

Type
◉ Fixed site ○ Portable
How Is This Type of Equipment Used? (Check All That Apply)
☒ Within Facility ☐ Off- Site ☐ Rental

Fuel
◉ Diesel Oil No. 2 ○ LPG ○ Natural Gas ○ Other: _____

Cycle Type
○ Two Cycle ◉ Four Cycle

Combustion Type
◉ Lean Burn ○ Rich Burn

No. of Cylinders
○ Four ○ Six ○ Eight ○ Ten ◉ Twelve ○ Sixteen ○ Other _____

Aspiration Type
○ Turbocharged ◉ Turbocharged/Aftercooled ☐ Timing Retarded ≥ 4° (relative to standard timing)
○ Naturally Aspirated

Air Pollution Control (if applicable)
○ Selective Catalytic Reduction (SCR)* ○ No Controls
○ Selective Non-catalytic Reduction (SNCR)* ○ Air Fuel Ratio Controller
○ Non-selective Catalytic Reduction (NSCR) ○ Other (specify) _____
* Separate application is required.
Manufacturer: _____ Model No.: _____
If already permitted, Indicate Permit No. _____ Device No. _____

Section B: OPERATION INFORMATION

Fuel Consumption
Maximum Rated load: 72.200 gal./hr. OR _____ cu. ft./hr Average Load: 63.900 gal./hr. OR _____ cu. ft./hr.

Operating Schedule
Normal: _____ hours/day _____ days/week _____ weeks/yr.
Maximum: _____ hours/day _____ days/week _____ weeks/yr.
Testing & Maintenance (Emergency ICE only): 50 hours/year

CONFIDENTIAL INFORMATION

Under the California Public Records Act, all information in your permit application will be considered a matter of public record and may be disclosed to a third party. If you wish to keep certain items as confidential, please complete the following steps:
(a) Make a copy of any page containing confidential information blanked out. Label this page "public copy."
(b) Label the original page "confidential." Circle all confidential items on the page.
(c) Prepare a written justification for the confidentiality of each confidential item. Append this to the confidential copy.

Engine Data	(1) Select year of manufacture and rated horsepower. (2) Provide actual emission figures from manufacturing specifications (if available) for the Rated Power selected. If engine fuel is LPG or Natural Gas, select Spark Ignition. (3) The compression ignited internal combustion engine must meet the State of California or EPA's Non-Road Emission Standards as listed below (please provide manufacturer's specification and guarantee).

	Rated Power	Year	Figures	Carbon Monoxide (grams/bhp-hr)	Hydrocarbons (grams/bhp-hr)	Oxides of Nitrogen (grams/bhp-hr)	Particulate Matter (grams/bhp-hr)
Compressor Ignition							
	50 - < 750 H.P.						
	○	50 -< 100 H.P.	Default	3.7	0.35 (0.56)*	3.15 (5.04)*	0.30
			Actual				
	○	100 -< 175 H.P.	Default	3.7	0.3	2.7	0.22
			Actual				
	○	175 -< 750 H.P.	Default	2.6	0.3	2.7	0.15
			Actual				
	750 and greater H.P						
	◉	≥750	Default	2.6	0.48	4.32	0.15
			Actual	2.600	0.480	4.320	0.110

		Figures	VOC	NOx	CO
Spark Ignition		For natural gas fired or LPG. The ICE must meet the requirements for BACT as listed below.			
	○	Default	1.5 grams/bhp - hr	1.5 grams/bhp-hr	2.0 grams/bhp-hr
		Actual			

Section C: Applicant Certification Statement I hereby certify that all information contained herein and information submitted with this application is true and correct		
SIGNATURE OF PREPARER:	TITLE OF PREPARER: Senior Engineer	
CONTACT PERSON FOR INFORMATION ON THIS EQUIPMENT: Carla Prasetyo Jo	CONTACT PERSON'S TELEPHONE NUMBER (559) 908-6979	DATE SIGNED:

South Coast Air Quality Management District

FORM 400-E-13A

Emergency ICE Attachment A

Official Use Only

Engr. Ini.	
A/N	
Appln Date:	
Class	

Data Input

Applicant	OXY USA Inc.	ID	
Mailing Address			
Equipment Location	20101 Goldenwest Street, Huntington Beach, CA 9264	Equipment Type	Fixed site

Equipment Description		
	Manufacturer:	CUMMINS
	Model No:	QST30 - G5 NR2
	Serial No.:	37254511
	Manufacturer Date:	05/2012
	Installation Date:	
	Cylinders:	Twelve
	HP Rating:	1490

Aspiration Type	Turbocharged	Turbocharged/Aftercooled	Naturally Aspirated	
	0	X	0	
	Turbocharged/Aftercooled			

Driving (ICE Emergency Function)	Generator	Compressor	Pump	
	X	0	0	
	Electrical Generator			

Emission Factors, g/HP-hr	VOC	NOx	CO	PM	
	0.480	4.320	2.600	0.110	
	(Note: Emission factors taken from engine manufacturer specs included with application				

Retard Timing	Yes	No	

Operating Schedule				
	Hrs/Day Max.		Hrs/Month Max	
	Hrs/Day Ave.		Wks/Yr	
	Days/Wk.			
	Days/Mo			

South Coast Air Quality Management District

FORM 400-E-13A

Emergency ICE Attachment A

Official Use Only

A/N:	

Given

HP	1490						
G to lb conversion factor	0.0022046						
Operating Schedule	Hrs/Day Max.						
	Hrs/Day Avg.						
	Days/Wk.						
	Days.Mo.						
	Hrs/Month Max.						
	Wks/Yr.						
Emission Factors (grams/bhp -hr)	VOC	NOx	SOx	CO	PM	PM10	
	0.480	4.320	0.0049	2.600	0.110	0.106	
Retard Timing	Yes	No					
Emission Correction Factor	VOC	NOx	SOx	CO	PM	PM10	
	1.000		1.000		1.000	1.000	

Computations

	VOC	NOx	SOx	CO	PM	PM10
Emission factor, g/HP-hr	0.480		0.0049		0.110	0.106
lb/hr.	1.577		0.016		0.361	0.348
lb/day Max.						
lb/day Avg.						
lb/yr.						

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE APPLICATION PROCESSING AND CALCULATIONS	PAGE	1 of 3	For Official Use Only
	CHECKED BY:		
	A/N:		
	PROCESSED BY:		
	DATE:		

Applicant's Name: OXY USA Inc. ID:

Equipment Location: 20101 Goldenwest Street, Huntington Beach, CA 9264

Equipment Description:

EQUIPMENT	INTERNAL COMBUSTION ENGINE
MANUFACTURER:	CUMMINS
MODEL NO.:	QST30 - G5 NR2
FUELED WITH:	Diesel Oil No. 2
DRIVING:	Electrical Generator
SERIAL NO.:	37254511
No. of CYLINDERS:	Twelve
ASPIRATION:	Turbocharged/Aftercooled
HP RATING:	1490

Permit Description:

INTERNAL COMBUSTION ENGINE, Fixed site, CUMMINS, MODEL NO. QST30 - G5 NR2 , SERIAL NO. 37254511 , Diesel Oil No. 2 FUELED, Four CYCLES, Twelve CYLINDERS, Turbocharged/Aftercooled, RATED AT 1490 B.H.P., DRIVING AN EMERGENCY Electrical Generator.

CALCULATIONS
See ATTACHMENT A

EVALUATION:

Rule 212: (Not Applicable if more than 1,000 feet from a school.)

This is a not significant project as defined by this rule. Hence, public notice is not required.

Rule 401:

Based on experience with similar equipment, the engine is expected to comply with the visible emission limits.

Rule 402:

Based on experience with similar equipment, nuisance complaints are not expected.

Rule 404:

Based on experience with similar equipment, compliance with this rule is expected.

Rule 431.2:

Diesel fuel supplied to this equipment must contain 0.0015% or less sulfur by weight. Compliance is expected.

Rule 1110.2:

Exempt per Rule 110.2 (h)(2).

REGULATION XIII:

Rule 1303(a) meets BACT emission limits.

Rule 1303(b)(1) and (b)(2) - Exempt per Rule 1304(a)(4)

REGULATION XIV:

Exempt per Rule 1401(g)(1)(F).

APPENDIX B – ENGINE DATA

Power Generation

Exhaust Emission Data Sheet
1000DQFAD
60 Hz Diesel Generator Set

Engine Information:

Model:	Cummins Inc. QST30-G5 NR2	Bore:	5.51 in. (139 mm)
Type:	4 Cycle, 50°V, 12 Cylinder Diesel	Stroke:	6.5 in. (165 mm)
Aspiration:	Turbocharged and Low Temperature aftercooled	Displacement:	1860 cu. in. (30.4 liters)
Compression Ratio:	14.7:1		
Emission Control Device:	Aftercooled (Air-to-Air)		

	1/4 Standby	1/2 Standby	3/4 Standby	(Full) (Standby)	Full Prime	
PERFORMANCE DATA						
BHP @ 1800 RPM (60 Hz)	371	741	1112	1482	1322	
Fuel Consumption (gal/Hr)	19.1	35.8	54.1	(72.2)	63.9	
Exhaust Gas Flow (CFM)	2780	4500	6370	7540	6950	
Exhaust Gas Temperature (°F)	620	760	814	890	873	
EXHAUST EMISSION DATA						
HC (Total Unburned Hydrocarbons)	0.12	0.10	0.08	0.07	0.08	
NOx (Oxides of Nitrogen as NO2)	4.17	5.20	3.87	3.95	4.00	
CO (carbon Monoxide)	0.66	0.36	0.48	0.66	0.58	
PM (Particular Matter)	0.19	0.15	0.12	0.11	0.11	
SO2 (Sulfur Dioxide)	0.11	0.10	0.10	0.11	0.10	
Smoke (Bosch)	0.88	0.80	0.79	0.73	0.75	

All Values are Grams/HP-Hour, Smoke is Bosch #

TEST CONDITIONS

Data was recorded during steady-state rated engine speed (± 25 RPM) with full load (±2%). Pressures, temperatures, and emission rates were stabilized.

Fuel Specification:	46.5 Cetane Number, 0.035 Wt.% Sulfur; Reference ISO8178-5, 40CFR86.1313-98 Type 2-D and ASTM D975 No. 2-D.
Fuel Temperature:	99 ± 9 °F (at fuel pump inlet)
Intake Air Temperature:	77 ± 9 °F
Barometric Pressure:	29.6 ± 1 in. Hg
Humidity:	NOx measurement corrected to 75 grains H2O/lb dry air
Reference Standard:	ISO 8178

The NOx, HC, CO and PM emission data tabulated here were taken from a single engine under the test conditions shown above. Data for the other components are estimated. These data are subjected to instrumentation and engine-to-engine variability. Field emission test data are not guaranteed to these levels. Actual field test results may vary due to test site conditions, installation, fuel specification, test procedures and instrumentation. Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may results in elevated emission levels.

Diesel Internal Combustion Engine (DICE) Engine
Emission Factors

To determine an engine's emissions, an owner/operator may use:

1. Default SBCAPCD Diesel Engine Emission Factors - For use with older engines (see the first table presented below), or
2. USEPA emission standards for Tier 1 - 3 engines (see the second table presented below)

Default SBCAPCD Diesel Engine Emission Factors

Pollutant	Emission Factor	Units	Ref
PM	1.0	g/bhp-hr	1
NOx (as NO2)	14.1	g/bhp-hr	1
NMHC	1.12	g/bhp-hr	1
NMHC+NOx	15.22	g/bhp-hr	1
CO	3.0	g/bhp-hr	1
SOx (as SO2)	3.67 * wt %S	g/bhp-hr	2

basis: (1) USEPA AP-42, Table 3.3-1, (2) USEPA AP-42, Table 3.3-2, where S = wt. % of sulfur (eg. for S = 0.05 wt %, SOx = (3.67)*(0.05) = 0.183 g/bhp-hr. Assume NMHC = ROC

USEPA Emission Standards for Tier 1 - 3 engines

Engine Power (hp)	Model Years	Regulation	Emission Standards (g/hp-hr)						Year the Std Takes Effect
			HC [a, d]	VHC [b]	NOx [a, d]	NMHC+NOx [a]	CO [a]	PM [a]	
50 to <75	1998-2003	Tier 1			6.90				1998
	2004-2007	Tier 2	0.40	0.3996	5.20	5.60	3.70	0.30	2004
	2008-2012	Tier 3	0.20	0.1998	3.3	3.50	3.70	c	2008
>75 to <100	1998-2003	Tier 1			6.90				1997
	2004-2007	Tier 2	0.40	0.3996	5.20	5.60	3.70	0.30	2004
	2008-2011	Tier 3	0.20	0.1998	3.3	3.50	3.70	c	2007
>100 to <175	1997-2002	Tier 1			6.90				1997
	2003-2006	Tier 2	0.40	0.3996	4.5	4.90	3.70	0.22	2003
	2007-2011	Tier 3	0.20	0.1998	2.8	3.00	3.70	c	2007
>175 to <300	1996-2002	Tier 1	1.00	0.9990	6.90		8.50	0.40	1996
	2003-2005	Tier 2	0.40	0.3996	4.5	4.90	2.60	0.15	2003
	2006-2010	Tier 3	0.20	0.1998	2.8	3.00	2.60	c	2006
>300 to <600	1996-2000	Tier 1	1.00	0.9990	6.90		8.50	0.40	1996
	2001-2005	Tier 2	0.30	0.2997	4.5	4.80	2.60	0.15	2001
	2006-2010	Tier 3	0.20	0.1998	2.8	3.00	2.60	c	2006
>600 to <750	1996-2001	Tier 1	1.00	0.9990	6.90		8.50	0.40	1996
	2002-2005	Tier 2	0.30	0.2997	4.5	4.80	2.60	0.15	2002
	2006-2010	Tier 3	0.20	0.1998	2.8	3.00	2.60	c	2006
>750 except generator sets	2000-2005	Tier 1	1.00	0.9990	6.90		8.50	0.40	2000
	2006-2010	Tier 2	0.30	0.2997	4.5	4.80	2.60	0.15	2006
Generator sets >750 to <1200	2000-2005	Tier 1	1.00	0.9990	6.90		8.50	0.40	2000
	2006-2010	Tier 2	0.30	0.2997	4.5	4.80	2.60	0.15	2006
Generator sets >1200	2000-2005	Tier 1	1.00	0.9990	6.90		8.50	0.40	2000
	2006-2010	Tier 2	0.30	0.2997	4.5	4.80	2.60	0.15	2006

Notes:

[a] Nonroad CI Engine Emission Standards from Title 13, California Code of Regulations, Section 2423 (ARB Executive Order "Std").

[b] VHC = Total Hydrocarbons (THC) minus methane and ethane fractions. Equivalent APCD standard. (Highlighted in Orange) See Conversion Factors to Hydrocarbon Emission Components, Report No. NR-002a, US EPA, 5/2003. (VHC = ROC)

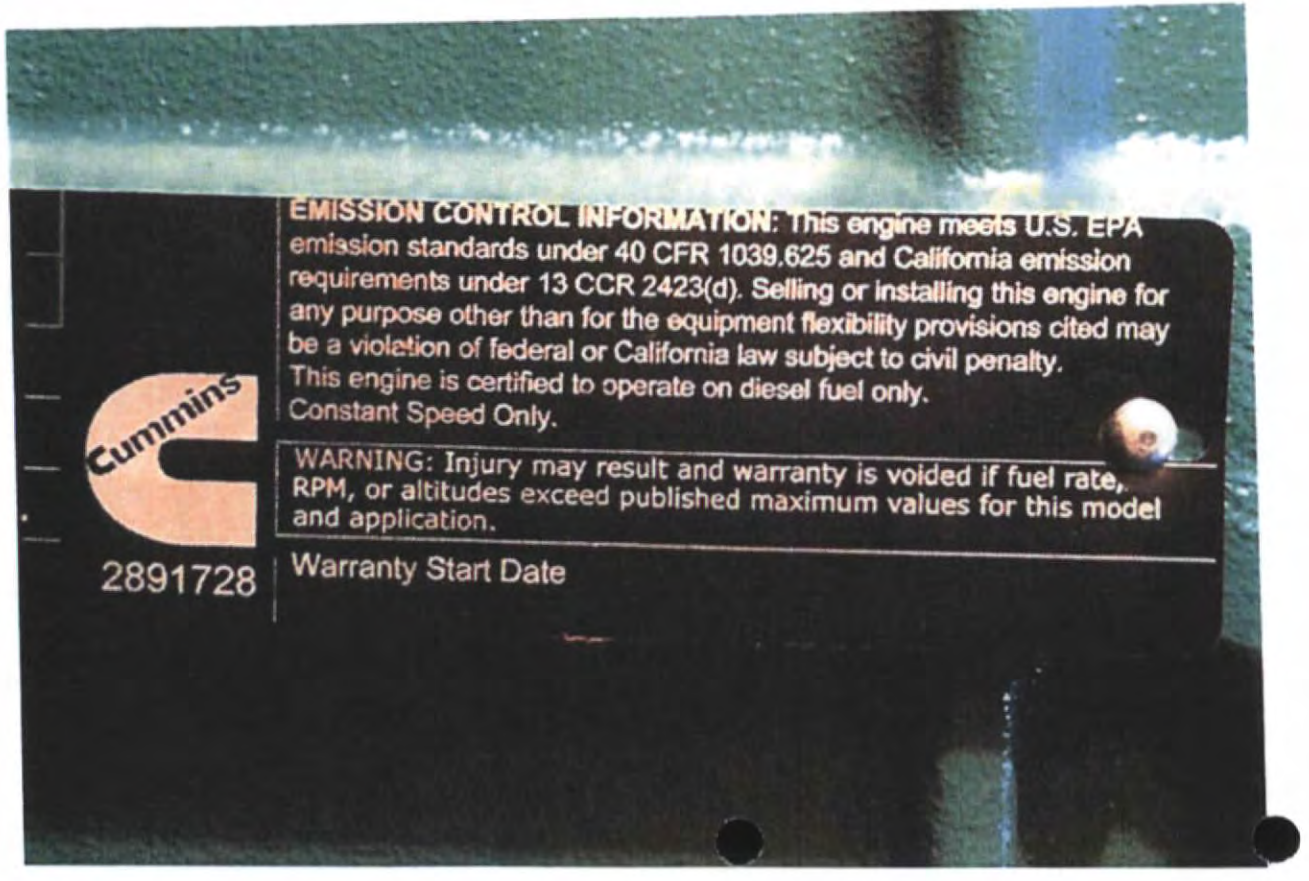
[c] Tier 3 PM standards have not yet been adopted. Tier 3 engines must meet the Tier 2 PM standard until the Tier 3 PM standard has been adopted.

[d] Tier 2 and Tier 3 HC and NOx equivalent standards used to determine the NMHC + NOx standard. (Highlighted in blue)

For more information or assistance, call or email Mike Goldman at (805) 961-8821 or Kaitlin McNally at (805) 961-8855 (Engineering and Compliance Division).

Return to DICE ATCM

SUNBELT UNIT 486714



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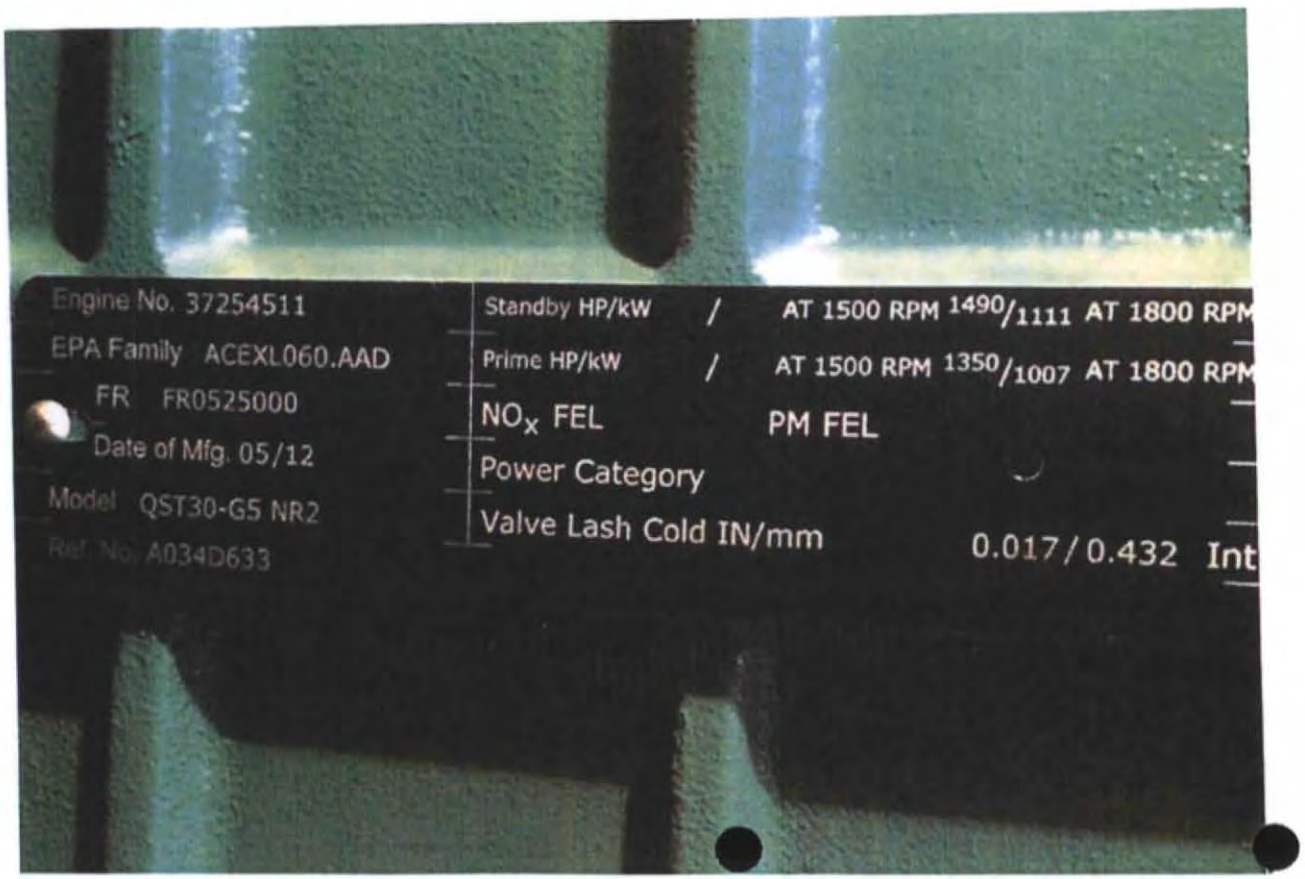

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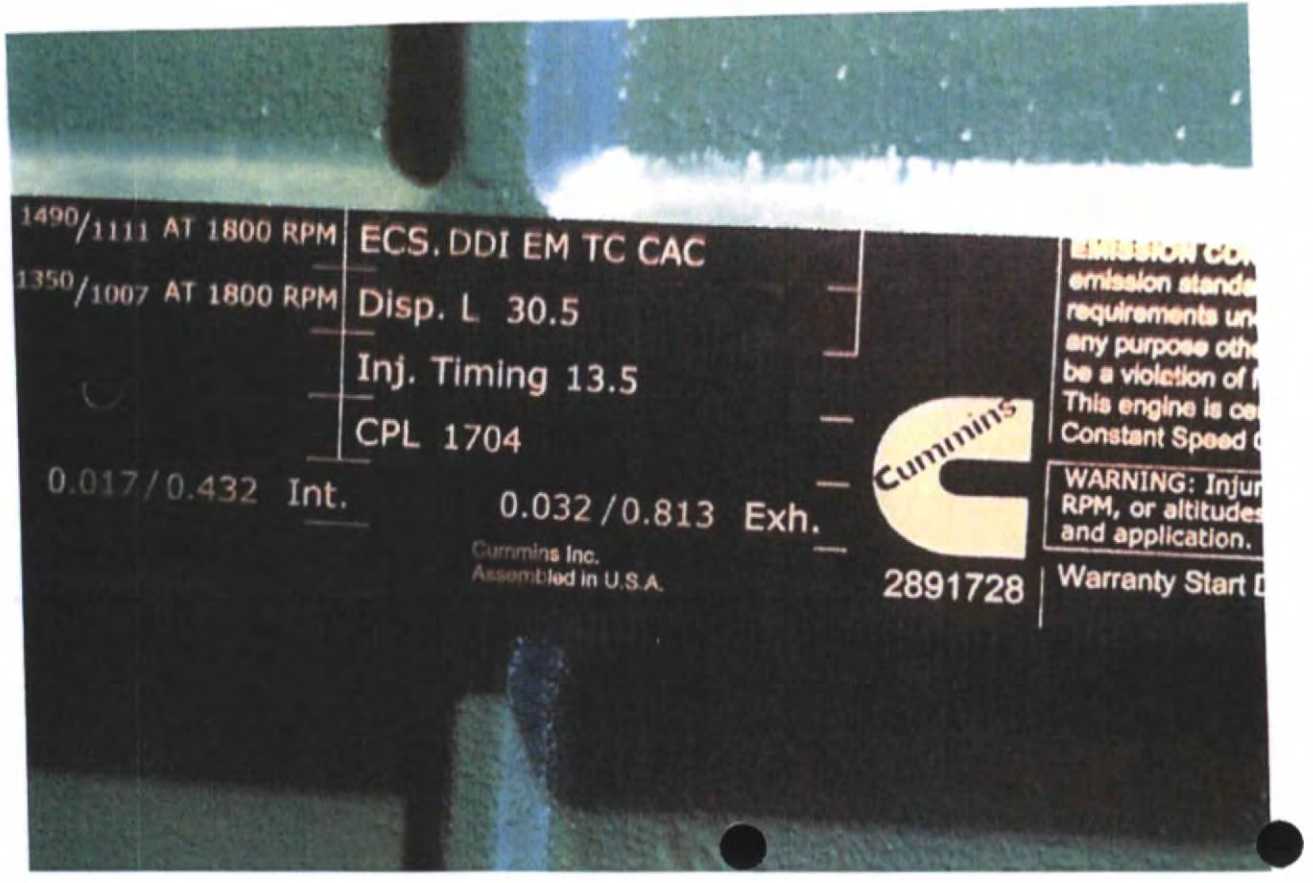

APPENDIX C – EMISSION CALCULATIONS

OXY USA Inc.
Facility ID 169754

Emergency IC Engine (Generator) Emission Calculations

Engine Data

Fuel Use Rate (gal/hr, Full Standby)	72.2
bhp Rating	1,490
Tier	2

Diesel Data

Approximate Density (lb/gal)	6.943	
Sulfur Content (wt.%)	0.0015%	<-- Calculated based on 15 ppmw

Criteria Pollutant Emission Factors http://www.sbcapcd.org/eng/atcm/dice/dice_efs.htm#USEPA_Emission_Standards_for_Tier_1_-_3_engines

Pollutant	EF (g/bhp-hr)	
NOx	4.5	
VOC	0.3	
NOx + VOC	4.8	<-- Calculated
SOx*	0.005	<-- Linked to calculation below
CO	2.6	
PM10	0.15	

* SOx EF (g/bhp-hr) = Fuel Use Rate (gal/hr) x Approximate Density (lb/gal) x Sulfur Content (wt.%) x (64/32) (lb SOx/lb S) x 454 (g/lb) / bhp Rating
= 0.005

Operating Schedule

Hours per Year: 50 Hours per Day: 2.7 <-- Maximum daily hours of operation to stay under Rule 212(g) limit for NOx.

Criteria Pollutant Emission Calculations

Pollutant	AHU (lb/hr)	AHC (lb/hr)	MHU (lb/hr)	MHC (lb/hr)	MDU (lb/day)	MDC (lb/day)	AA (lb/yr)	30DA (lb/day)
NOx	14.769	14.769	14.769	14.769	39.876	39.876	738.45	2.05
VOC	0.985	0.985	0.985	0.985	2.66	2.66	49.25	0.14
SOx	0.016	0.016	0.016	0.016	0.043	0.043	0.8	0.00
CO	8.533	8.533	8.533	8.533	23.039	23.039	426.65	1.19
PM10	0.492	0.492	0.492	0.492	1.328	1.328	24.6	0.07

AHU = AHC = MHU = MHC = EF (g/bhp-hr) x bhp Rating /454
MDU = MHU x 2.7 hours per day
MDC = MHC x 2.7 hours per day
AA = MHC x 50 hours per year
30DA = MHC x 50 hours per year / 12 months per year / 30 days per month

APPENDIX D – HEALTH RISK ASSESSMENT

TIER 1 / TIER 2 SCREENING RISK ASSESSMENT DATA INPUT

Application deemed complete date:	07/22/13
A/N:	
Fac:	

Stack Data

		Units
Hour/Day	2.7	hr/day
Day/Week	1	day/wk
Week/Year	52	wk/yr
Emission Units	lb/hr	
		0
Control Efficiency	0.00	fraction range 0-1
Does source have TBACT?	NO	
Point or Volume Source ?	P	P or V
Stack Height or Building Height	75	feet
Area (For Volume Source Only)	900	ft^2
Distance-Residential	1609	meters
Distance-Commercial	1609	meters
Meteorological Station	Costa Mesa	

Source Type:	O - Other
Screening Mode (NO = Tier 1 or Tier 2; YES = Tier 3)	NO

Emission Units	lb/hr	
Source output capacity	n/a	n/a

FOR USER-DEFINED CHEMICALS AND EMISSIONS, FILL IN THE TABLE BELOW

USER DEFINED CHEMICALS AND EMISSIONS				R1 - Uncontrolled	Efficiency Factor	R2 - Controlled
Cmpound Code	Compound	lb/hr	Molecular Weight	lbs/hr	Fraction range 0-1	lbs/hr
D14	Diesel PM from diesel-fueled internal combustion engine	4.92E-01	no data	0.492	0.00000	0.492
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TIER 2 SCREENING RISK ASSESSMENT REPORT

A/N:
Fac:

Application deemed complete date: 07/22/13

2. Tier 2 Data

MET Factor	0.69
4 hr	0.87
6 or 7 hrs	0.88

Dispersion Factors table:

2	For Chronic X/Q
6	For Acute X/Q

Dilution Factors (ug/m3)/(tons/yr)

Receptor	X/Q	X/Qmax
Residential	0.04	7.2
Commercial	0.04	7.2

Adjustment and Intake Factors

	AFann	DBR	EVF
Residential	1	302	0.96
Worker	4.2	149	0.38

3. Rule 1401 Compound Data

Compound	R1 - *uncontrolled* (lbs/hr)	R2 - *controlled* (lbs/hr)	CP	MP MICR Resident	MP MICR Worker	MP Chronic Resident	MP Chronic Worker	REL *Chronic*	REL *Acute*
Diesel PM from diesel-fueled internal combustion eng	4.92E-01	4.92E-01	1.10E+00	1.0000	1.0000	1.0000	1.0000	5	

4. Emission Calculations

Compound	uncontrolled R1 (lb/hr)	controlled R2 (lb/hr)	R2 (lb/yr)	R2 (ton/yr)
Diesel PM from diesel-fueled internal combustion eng	4.92E-01	4.92E-01	69.0768	0.0345384
Total	4.92E-01	4.92E-01	6.91E+01	3.45E-02

A/N: | Application deemed complete date: 07/22/13

TIER 2 RESULTS

5a. MICR

MICR = CP (mg/(kg-day))^-1 * Q (ton/yr) * (X/Q) * AFann * MET * DBR * EVF * 1E-6* MP

Compound	Residential	Commercial
Diesel PM from diesel-fueled internal combustion eng	3.04E-07	2.49E-07
Total	**3.04E-07**	**2.49E-07**
	PASS	**PASS**

No Cancer Burden, MICR<1.0E-6

5b. Cancer Burden	**NO**
X/Q for one-in-a-million:	
Distance (meter)	#VALUE!
Area (km2):	#VALUE!
Population:	#VALUE!
Cancer Burden:	**#VALUE!**

6. Hazard Index

HIA = [Q(lb/hr) * (X/Q)max] * AF / Acute REL

HIC = [Q(ton/yr) * (X/Q) * MET * MP] / Chronic REL

Target Organs	Acute	Chronic	Acute Pass/Fail	Chronic Pass/Fail
Alimentary system (liver) - AL			Pass	Pass
Bones and teeth - BN			Pass	Pass
Cardiovascular system - CV			Pass	Pass
Developmental - DEV			Pass	Pass
Endocrine system - END			Pass	Pass
Eye			Pass	Pass
Hematopoietic system - HEM			Pass	Pass
Immune system - IMM			Pass	Pass
Kidney - KID			Pass	Pass
Nervous system - NS			Pass	Pass
Reproductive system - REP			Pass	Pass
Respiratory system - RES		1.91E-04	Pass	Pass
Skin			Pass	Pass

A/N: Application deemed complete date: 07/22/13

6a. Hazard Index Acute HIA = [Q(lb/hr) * (X/Q)max] *AF/ Acute REL

	HIA - Residential									
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Diesel PM from diesel-fueled internal combustion eng										
Total										

	HIA - Commercial									
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Diesel PM from diesel-fueled internal combustion eng										
Total										

6b. Hazard Index Chronic

HIC = [Q(ton/yr) * (X/Q) * MET * MP] / Chronic REL

	HIC - Residential												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Diesel PM from diesel-fueled internal combustion eng												1.91E-04	
Total												1.91E-04	

A/N: Application deemed complete date: 07/22/13

6b. Hazard Index Chronic (cont.)

	HIC - Commercial											
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Diesel PM from diesel-fueled internal combustion eng												1.91E-04	
Total												1.91E-04	

Oxy USA Inc
P O Box 809050
Dallas, TX 75380

PAYMENT DOCUMENT

SOUTH COAST AIR QUALITY
MGMT DISTRICT
21865 E COPLEY DR
DIAMOND BAR, CA 91765

DATE	CHECK NO.
16-Aug-13	10004103

30079

DATE	INVOICE CREDIT MEMO	DESCRIPTION	PO NUMBER	COMPANY CODE	DISCOUNT	NET
13-Aug-13	081313			008577		3,130.83
169754 PERMT APPL FEE		PLATFORM EMMY EMERGENCY GENERATOR PERMIT APPLICATION CMA				
THE ATTACHED CHECK IS IN PAYMENT FOR ITEMS DESCRIBED ABOVE			TOTAL >			$3,130.83

TIER 1 SCREENING RISK ASSESSMENT REPORT

Receptor Distance (actual) (m)	1609
Receptor Distance (for X/Q LOOKUP) (m)	100

Tier 1 Results	
Cancer/Chronic ASI	**Acute ASI**
4.97E+01	
FAILED	PASSED

APPLICATION SCREENING INDEX CALCULATION

Compound	Average Annual Emission Rate (lbs/yr)	Max Hourly Emission Rate (lbs/hr)	Cancer / Chronic Pollutant Screening Level (lbs/yr)	Acute Pollutant Screening Level (lbs/hr)	Cancer / Chronic Pollutant Screening Index (PSI)	Acute Pollutant Screening Index (PSI)
Diesel PM from diesel-fueled internal combustion engine	6.91E+01	4.92E-01	1.39E+00		4.97E+01	
TOTAL (APPLICATION SCREENING INDEX)					**4.97E+01**	

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS. FOLD AT DOTTED LINE

CERTIFIED MAIL™

7012 0470 0001 5861 9801

OXY USA Inc.
111 W. Ocean Blvd. #800
Long Beach, CA 90802

SCAQMD
21865 E. COPLEY DRIVE
DIAMOND BAR, CA 91765

Attn: Permit Services