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Annual Compliance Report

City of Anaheim
Canyon Power Plant

Anaheim, California

SCAQMD
Facility ID: 153992

CEC Permit Number:
800-2010-001-CMF

Docket Number:
07-AFC-9C

2022
Period Range
January 1, 2022 through December 31, 2022

Review and Certification

I have reviewed both technically and editorially all details, calculations, results conclusions and other appropriate written material contained herein and hereby certify that to the best of my knowledge the material presented is true, accurate and complete.

I certify that the information contained in this report is true, accurate, and complete.

Ronald Hoffard	Generation Plant Manager
Name	Title
	1/30/2023
Signature	Date

Canyon Power Plant

Annual Compliance Report

Table of Contents

List of Attachments

Acronyms and Abbreviations

BHP	Break horse power
Btu	British thermal unit
BACT	Best available control technology
CARB	California Air Resources Board
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO_2	Carbon Dioxide
COA	City of Anaheim
CFR	Code of Federal Regulations
CPP	Canyon Power Plant
CT	Combustion turbine
DAHS	Data acquisition and handling
TDS	Total dissolved solids
DPF	Diesel particulate filter
EPA	Environmental Protection Agency
F.	Fahrenheit
ICE	Internal combustion engine
lbs/hr	pounds per hour
lb/lb-mol	pound per pound mol
MW	mega watts
MMBtu	million British thermal units
mmcf	million cubic feet
NH_3	ammonia
NO	Nitrogen Oxide
NO_x	Oxides of Nitrogen
NO_2	Nitrogen Dioxide
O_2	Oxygen
ppm	parts per million
ppmc	parts per million corrected to 15% O_2
RATA	relative accuracy test audit
ROG	Reactive Organic Compounds
RTU	remote terminal unit
scf	standard cubic feet (standard temperature = 68 degrees F)
SCR	selective catalytic reactor
SCAQMD	South Coast Air Quality Management District
unit	The term unit refers to the boiler/steam turbine
VOC	Volatile Organic Compounds

1.0 Facility Description:

The City of Anaheim's (COA) Canyon Power Plant (CPP) facility is located at 3071 Miraloma Avenue in Anaheim California.

The facility consists of four natural gas fired General Electric, Model LM6000PC Sprint, simple cycle combustion turbine with water injection. The gas turbine was designed with a maximum heat input of 479 MMBtu per hour with a 46 degree Fahrenheit (F.) inlet air temperature. The units are equipped with an inlet air chiller designed to maintain the gas turbine inlet temperature at 46 degrees F. at full load.

Each unit is capable of generating 50.95 megawatts.

Carbon Monoxide (CO) emission from the gas turbine are controlled by utilizing a CO oxidation catalyst located between the gas turbine and the selective catalytic reactor (SCR). The CO oxidation catalyst controls the unit's CO and volatile organic compounds (VOC) emissions. The catalyst is guaranteed to reduce the unit's CO emission rate to a maximum of 4 ppm corrected to 15% O_2 (ppmc) and the VOC to 2 ppmc, both emission rates are based on a one (1) hour averages, dry basis at 15% O_2. The CO catalyst system was designed and supplied by Englehard/BASF.

The NO_x emissions from the gas turbine are controlled by the utilizing two (2) independent systems or techniques in series. The first system utilized on this unit is the water injection system.

Water is injected into the combustor suppressing the flame temperature and reducing the 1-hour average NO_x concentration to approximately 25 ppmc at 15% oxygen prior to entry into the SCR.

The second NO_x control system utilized by the unit is the NH_3/SCR system. After passing through the CO catalyst, the exhaust gases pass through an ammonia injection grid on its way to the SCR. The ammonia (NH_3) used at this facility is in the form a 19% by weight solution of ammonium hydroxide.

The SCR catalyst utilized by the unit for NO_x control was provided by Cormetech. The reaction between the NH_3 and the SCR catalyst reduces the existing NO_x to elemental nitrogen and water, resulting in NO_x concentrations in the exhaust gas at no greater than 2.5 ppmv at 15% O2 on a 1-hour average. The ammonia slip must be maintained below 5 ppm at 15% O2. Each SCR is vented through a dedicated stack, which is 11.8 ft. diameter and 86 ft. high.

The facility is also equipped with an 1141 BHP diesel emergency internal combustion engine (ICE) (black start engine) will be used to start up the plant in the event of a loss of grid power.

The ICE, is a Caterpillar, Model C-27, rated at 1141 BHP and fired on ultra low sulfur diesel fuel. The ICE, will serve to provide power to the plant during blackout conditions. The engine is certified by the SCAQMD as an EPA Tier 2 engine on 12/31/2010. The engine is required to be permitted, rather than registered, because CPP is a RECLAIM/Title V facility.

The black start engine will be used only in emergency situations where grid power from the COA's 69 kV system is unavailable to start the CTs. The black start engine will provide power to the turbine starter motors and various other necessary pieces of support equipment to get one of the gas turbines started. Once one of the turbines has been started and providing power to the

grid, the black start engine will be shut down.

The SCAQMD's rules limit operation of an emergency ICE to 50 hours per year.

The black start engine incorporates a diesel particulate filter (DPF), which is required by LAER. The Caterpillar DPF is designed to control the particulate emissions from diesel engines. The DPF consists of 2 filters, each 15-inches diameter by 15-inches long. The DPF system has been verified by CARB under Executive Order DE-14-006-01 to reduce emissions of diesel particulate matter consistent with a Level 3 device (greater than or equal to 85 percent reduction), when used with ultra low sulfur diesel with 15 ppm or lower sulfur content. As the DPF is CARB verified, a source test is not required. With the DPF, the particulate matter emissions from the engine is reduced from 0.15 g/bhp-hr to 0.0225 g/bhp-hr.

The DPF consists of a catalyzed cordierite ceramic honeycomb with hundreds of parallel channels, is designed to reduce emissions of particulate, carbon monoxide and hydrocarbons. The catalyst on the ceramic walls oxidizes carbon monoxide into carbon dioxide, and hydrocarbons into water and carbon dioxide. The arrangement of the channels is such that the exhaust gases carrying the carbon particles are forced through the fine pores of the walls, which filter out the particles. As the carbon particles are collected on the ceramic walls, the backpressure on the engine will increase. When the temperature of the exhaust is equal to or greater than 300 ºC (572 ºF) for at least 30% of the duty cycle, the catalyst interacts with the collected particulates to burn the particulates into carbon dioxide and water vapor, which will pass through the DPF.

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 1

COMPLIANCE MATRIX

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2022 SCAQMD COMPLIANCE

AQMD Requirement	Limit	Limit	Period	Unit 1 Done	Unit 1 Due	Unit 2 Done	Unit 2 Due	Unit 3 Done	Unit 3 Due	Unit 4 Done	Unit 4 Due	Canyon Site Done	Canyon Site Due
CEMS Calibration Stack and Turbine	each 24 hours	Daily prior to fires lit	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily		
NOx pounds		RECLAIM RTC Holdings per AQMD records 60 days after the end of each quarter	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily		
NOx pounds monthly Electronic			15 days at the end of the month									12/7/22	1/15/23
NOx pounds quarterly Electronic			30 days at the end of the Quarter									10/5/22	1/30/23
QCER			30 days at the end of the first 3 calendar Quarters									10/18/22	1/30/23
NOx pounds Annual Permit Emissions Program report (APEP)			60 days after the end of the calendar year									1/27/22	1/30/23
RATA - RECLAIM/Acid Rain		Relative accuracy test of CEMS equipment	Every Six months or annually if incentive is met	8/22/22	9/30/23	8/23/22	9/30/23	11/14/22	12/31/23	11/15/22	12/31/23		
RATA - CO Spiking 218			Annually	8/22/22	9/30/23	8/23/22	9/30/23	11/14/22	12/31/23	11/15/22	12/31/23		
Ammonia slip		5 PPM	Every quarter 1st year then annually	8/22/22	9/30/23	8/23/22	9/30/23	11/14/22	12/31/23	5/31/22	12/31/23		
Triennial Source Test (SOx, VOC, PM)		1.67 lb/hr; 2.0 ppm; .06 lb/MMbtu per unit	Every 3 years	7/21-22/20	9/30/23	7/23-24/20	9/30/23	10/13-14/20	12/31/23	11/4-5/2020	12/31/23		
Particulate PM (per Permit met the 3-year cycle on 2017)		1.67 lb/hr	Every 18 months in a 3 year period	2/8/16	not required	2/9/16	not required	11/4/15	not required	5/31/22	12/31/23		
Fuel Flow, Pressure, & Temperature calibration	pass or fail	2% accuracy	Annually	2/22/22	2/22/23	2/23/22	2/23/23	2/23/22	2/23/23	2/23/22	2/23/23		
SCR Inlet temperature probe calibration (TE-403A-D)			Annually	1/18/22	1/18/23	1/6/22	1/6/23	1/8/22	1/8/23	1/18/22	1/18/23		
SCR differential pressure calibration (PDIT 403)	pass or fail	2% accuracy	Annually	1/6/22	1/6/23	1/6/22	1/6/23	1/6/22	1/6/23	1/6/22	1/6/23		
Ammonia flow meter (PT-6227)	pass or fail	2% accuracy	Annually	5/5/22	5/5/23	5/10/22	5/10/23	5/17/22	5/17/23	5/24/22	5/24/23		
CEMS enclosure Temperature element calibration	pass or fail	2% accuracy	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily		
Regenerate Diesel Particulate Filter	Every 24 Cold starts or Back Pressure (Yellow light) greater then 36 INCH/H2O									Cummulative # 18		2/25/20	24 starts
Diesel NOx pounds quarterly electronic		RECLAIM RTC Holdings	15 days after the end of the quarter									10/5/22	1/30/23
Power Washer NOx Pounds Qtrly Electronic												10/5/22	1/30/23
~~Diesel tune up (Annual)~~	~~Manufactures specifications~~	~~4 degrees retarded~~	~~Annually~~									~~July 20~~	~~7/30/21~~
Metal Coating Log - Rule 1107 (VOC)		Log coatings used on site	Annually									12/31/22	12/31/22
Natural Gas Sample analysis	Manufactures specifications	0.25 grains H2S/100 scf	Monthly									12/6/22	1/15/23
218 report (non-RECLAIM elements)		PPM & Emission Rates	Semi-annual									7/21/22	1/30/23
Title V Permit Renewal		Compliance Report	Every 5 years; Apply 180 days prior to expiration;									8/20/21	8/18/26
Title V 500 SAM Report		Compliance Report	Semi-annual									7/21/22	1/23/23
Title V 500 ACC Report		Compliance Report	Annually									1/27/22	3/1/23
Annual Emissions Report (AER)		Compliance Report	75 days at the end of calendar year									3/14/22	5/1/23
RECLAIM equipment breakdown	Upon Discovery	Upon Discovery	Verbal report to AQMD within 1 hour of discovery										
Non-RECLAIM equipment breakdown	Upon Discovery	Upon Discovery	Verbal report to AQMD within 24 hours of discovery										
Stack NOx Limit	2.5 parts per million	2.5 PPM	60 minute average										
Ammonia Slip Limit	5 parts per million	5 PPM	60 minute average										
Start-up NOx Limit	14.27 pounds	14.27 lbs per 60 min	60 minute average										
Shut-down NOx Limit	4.07 pounds	4.07 lbs per 60 min	10 minutes average										
**Maintenance Operations NOx Limit	44.0 pounds	44.0 lbs in any hour	60 minute average										
CO Limit	4.0 parts per million	4 PPM	60 minute average										
Start-up CO Limit	11.6 pounds	11.6 lbs per 60 min	60 minute average										
Shut-down CO Limit	4.15 pounds	4.15 lbs per 60 min	10 minute average										
**Maintenance Operations CO Limit	19.5 pounds	19.4 lbs in any hour	60 minute average										
ROG Limit	2.0 parts per million	2 PPM	60 minute average										
Start-up ROG Limit	1.29 pounds	1.29 lbs per 60 min	60 minute average										
Shut-down ROG Limit	1.27 pounds	1.27 lbs per 60 min	10 minutes average										
VOC Limit	412 pounds	412 lb/mo per unit	Monthly										
PM-10 Limit	540 pounds	540 lb/mo per unit	Monthly										
SOX Limit	108 pounds	108 lb/mo per unit	Monthly										
VOC Limit	3608 pounds	3608 lbs/yr per unit	Annual										
PM-10 Limit	4822 pounds	4822 lbs/yer per unit	Annual										
SOX Limit	971 pounds	971 lbs/year per unit	Annual										
Start-ups Limit	240 pounds	540 starts per unit	Year										

*** Met Incentive**

****Maintenance**- optimizing and re-balancing fo the NH3 grid or catalyst modules, and the retuning and testing of the turbine control system.

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2022 SCAQMD 500-N REPORTS

No.	Unit No.	Description	AQMD Permit Limit	Actual Emissions	Duration	Date of Episode	Reported to AQMD	500N sent to AQMD	Inspector Site Visit	Notice of Violation	Responsible	Resolution/Comments
61	Unit 1	NOx lbs shutdown exceedance	NOx lbs > 4.07 lbs	4.32 lbs/hr	6 min	2/12/22	2/12/22	2/17/22	No	No	Hoffard/Hernandez	The failed turbine speed pickup probe replaced
62	Unit 1	CO lbs/hr Shutdown exceedance	CO lbs > 11.6 lbs	27.02 lbs/r	60 min	5/7/22	5/7/22	5/18/22	No	Yes	Hoffard/Hernandez	
63	Unit 2	CO lbs/hr Tuning Mode exxceedance	CO lbs > 19.4 lbs	38.93 lbs/hr	60 min	5/13/22	May-22	5/25/22	No	Yes	Hoffard/Hernandez	
64	Unit 4	NOx lbs Startup exceedance	NOx lbs > 14.27 lbs	38.72 lbs/hr	26 min	7/24/22	7/24/22	7/26/22	No	Yes	Hoffard/Hernandez	Operator retrained in the operation of the DAHS
65	D25	Exceed condition C1.1 due to Governor's Proclamation	exceed 38 min in an hour		2.6 hrs	9/6/22	9/8/22	10/7/22	No	Yes	Hoffard/Hernandez	To not operate ICE in future Governor's Proclamation

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2022 ENFORCEMENT ACTION NOTICES

No Notices of Violation or Notices to Comply were issued in 2022

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2022 CEC REPORTING

CEC Requirement	Period	Last Done	Next Due	Responsibility	Comments
CEC 1304	varies one to two months after the quarter	10/17/22	1/30/23	Hoffard/Hernandez	
CEC 1304b	Semi-Annual	8/2/22	1/30/23	Reif/Hoffard	
CEC Annual Report	30 days at end of calender year	1/31/22	1/31/23	Hoffard/Hernandez	
CEC Quarterly Operations Report	30 days at end of each quarter	10/27/22	1/30/23	Hoffard/Hernandez	
Building and structure inspection	Semi-annually	06/30/23	12/31/22	Hernandez	
Legionella/TDS - PM10 calculation	Quarterly	12/12/22	3/30/23	Hoffard/Truesdail	

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2022 CAISO REPORTING

CAISO Requirement	Period	Canyon Site Done	Canyon Site Due	Canyon Site Done	Canyon Site Due	Responsibility	Comments
		Spring		Fall			
Planned Outage Schedule	Annual Spring & Fall Outages	5/2/21	5/30/23	1/4/23	1/15/23	Hoffard	
DPG recertification	Triannually	3/30/20	3/30/23		NA	Hoffard/Trimark	Changed to 3 yrs per Trimark
CAISO MOD 027 / 026 / 027	5 Years			12/31/20	12/31/25	Hoffard	Replaces WECC testing

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2022 CAL ARP

California Accidental Release Prevention Program	Period	Last Done	Next Due	Responsibility
Hazard Review - 19% Aqua Ammonia System	Every 5 years	03/15/20	3/14/25	Hoffard/AFD
Compliance Audit	Every three years	2/19/20	2/19/23	Ralph McCaffrey
Ammonia Refresher Training (INACTIVE)	Every three years	N/A	N/A	Hoffard/McCaffrey
Ammonia Sensor Testing	Semi Annual	8/3/22	2/28/23	Hoffard/McCaffrey
Ammonia Emergency Stop (E-Stop) Test	Annual	12/19/22	12/31/23	Hoffard/McCaffrey

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2022 CAL RMP REPORTING

Cal. Refrigerant Management Program (RMP) Requirements (> 2000 lbs.)	Limit	Period	Last Done	Next Due	Responsible
Annual Report and Fee Payment	Not Applicable	Due Annually (March 1 Each Year)	2/10/22	3/1/23	Hernandez/Hoffard
Leak Detection System Audit and Cals.	Not Applicable	Due Annually	8/9/22	8/30/23	Hernandez/Hoffard

California Air Resources Board
Stationary Equipment Refrigerant Management Program (RMP)
Canyon Power Plant (CPP) Compliance Guidance

Compliance Year: **2022**
Facility Size Classification: Large (at least 1 unit w/≥ 2000 lbs high GWP-refrigerant capacity)
Annual Fee: **$370.00** (Fees must be paid annually by the reporting deadline)

No. of Refrigeration Systems: 2 (CH-100, CH-200)
Location(s): Both chillers are located in the Northeast portion of facility footprint, just South of two water storage tanks.

Refrigeration System Specifications

CH-100: Centrifugal Chiller w/5200 lbs R-123 (full charge), Trane, Model No. CDHF3000, Serial No. L10B00350;
> ALDS ID: **301-IRF A**: Vulcain/Honeywell, Model No. 301-EM, Concentration Monitor (Direct System), 2 Infared Sensors

			Done		
Last System Audit:	**Next audit target:**	6/30/2023	8/3/22	**Deadline:**	12/31/2023
Last Calibration:	**Next calibration target:**	6/30/2023	8/3/22	**Deadline:**	12/31/2023

CH-200: Centrifugal Chiller w/5200 lbs R-123 (full charge), Trane, Model No. CDHF3000, Serial No. L10A00882;
>ALDS ID: **301-IRF B**: Vulcain/Honeywell, Model No. 301-EM, Concentration Monitor (Direct System), 2 Infared Sensors

Last System Audit:	**Next audit target:**	6/30/2023	8/3/22	**Deadline:**	12/31/2023
Last Calibration:	**Next calibration target:**	6/30/2023	8/3/22	**Deadline:**	12/31/2023

CARB Reporting (due by 3/1 each year)

Last CARB Report: 2/14/2022 for 2021 **Next reporting deadline:** 3/1/2023 for 2022 (Fee payment due on or before this date)

Automatic Leak Detection System Requirements

●Each system must be audited and calibrated using manufacturer's recommended procedures to ensure that the system:

1.) accurately detects a concentration level of 10 parts per million of vapor of the specific refrigerant used in the system; and
2.) alerts the operator when a refrigerant concentration of 100 parts per million of vapor of the specific refrigerant is reached.

●The audit and calibration must be completed on each leak detection system at least once per calendar year.

●If an automatic leak detection system alerts plant operators, a leak inspection must be conducted within 24 hours after the system alert.
●This leak inspection must be completed using a calibrated refrigerant leak detection device or a bubble test to aonfirm a refrigerant leak and to determine the leak location(s).
●If during a required leak inspection or at any time oil residue is observed indicating a refrigerant leak, a leak inspection must be conducted using a calibrated refrigerant leak detection device or a bubble test to confrim the leak.
●A leak inspection must be conducted using a calibrated refrigerant leak detection device, a bubble test, or observation of oil residue, each time an additional refrigerant charge equal to or greater than 5 pounds, or one percent of the refrigeration system full charge (whichever is greater), is added to the system.

Leak Repairs and Subsequent Leak Inspection Requirements

●A refrigerant leak must be repaired by an EPA-certified technician holding a current and active C38 - Refrigerantion Contractor's license, or by an employee of a contractor with these qualifications.
> A contractor's license is not required if:
1.) a City employee services or repairs the system and wages are sole compensation; or
2.) the City performs the service or repair through one undertaking, or by one or more contracts, and the aggregate contract price for labor, materials, and all other items is less than $500; or
3.) the service or repair is performed pursuant to a contract entered into before 1/1/2011, by the City.

●Leaks must be repaired within 14 days of detection, unless a longer time period is allowed (*)

*45-day allowance if ANY of the following criteria is met:
1.) A certified technician is not available to complete the repair or replace the component(s). This must be documented in writing per recordkeeping requirements;
2.) The parts necessary to repair a refrigerant leak are unavailable, and the operator obtains a written statement from the refrigeration system or component manufacturer or distributor stating that the parts are unavailable. This must be documented in writing per recordkeeping requirements; or
3.) The re refrigerant leak repair requires an inductrial process shutdown that results in a process temporarily ceasing to manufacture the intermediate or final product that is produced when the industrial process refrigeration appliance is in operation.

*120-day allowance if ALL of the following criteria is met:

1.) The facility is an entity subject to Mandetory Greenhouse Gas Emissions Reporting requirements;
2.) The refrigeration system is an inductrial process refrigeration applicance;
3.) The refrigerant leak repair requires an industrial process shutdown that results in a process temporarily ceasing to manufacture the intermediate or final product that is produced when the industrial process refrigeration appliance is in operation; and
4.) Written records are maintained to document that all of the conditions are met.

●An initial verification test must be performed upon completion of refrigerant leak repairs.

●A follow-up verification test must be conducted on the complete refrigeration system after the initial verification test.

> If the system was evacuated during the refrigerant leak repair, then this test should be conducted when the system is operating at normal operating characteristics and conditions.
> If the system was not evacuated during the refrigerant leak repair, then the follow-up verification test requirement is satisfied once the required changes are made to return the refrigeration system to normal operating characteristics and conditions.

●If either the initial or follow-up verification tests indicate that a refrigerant leak is still occuring, the leak must be repaired within 14 days (unless a longer time period is allowed*).

> A retrofit or retirement plan may also be prepared in lieu of this repair.

●If a follow-up verification test indicates that a refrigerant leak has not been successfully repaired within the 14 days allowed, and no exemption has been received, then:

> successfully repair the leak within 45 days of the initial leak detection; or
> prepare a retrofit or retirement plan within 60 days of the initial leak detection.

●If a follow-up verification test indicates that a refrigerant leak has not been successfully repaired within the 45 days allowed(*), and no exemption has been received, then:

> prepare a retrofit or retirement plan within 60 days of the initial leak detection.

●If a follow-up verification test indicates that a refrigerant leak has not been successfully repaired within the 120 days allowed(*), and no exemption has been received, then:

> prepare a retrofit or retirement plan within 135 days of the initial leak detection.

Retrofit or Retirement Plan Requirements

●If required to prepare a retirement or retrofit plan, the plan must establish a schedule to retrofit or retire the leaking system no later than six months after the intial leak detection, and all work must be completed during the 6-month period.
●The plan must be kept on-site where the leaking system is located.
●If a refrigeration system is to be retired and replaced, the plan must include information specific to the new refrigeration system to be constructed or installed. (**)
●If a refrigeration system is to be retrofitted, the plan must include information specific to the refrigeration system after the retrofit has been completed. (**)

** A retrofit or retirement plan must include the following information:

1.) The system identification number of the refrigeration system being retired or retrofitted;
2.) equipment type;
3.) equipment manufacturer;
4.) equipment model or description;
5.) intended physical location of the refrigeration system through schematic or floor plan with locations clearly noted;
6.) temperature classification (i.e., low, medium, other);
7.) full charge of refrigeration system;
8.) type of refrigerant used;
9.) if the refrigeration system is to be retired and replaced, a plan to dispose of the retired system;
10.) a timetable which includes, at a minimum:
    > the date installation, construction, or retrofit of the refrigeration system is expected to begin, and
    > the expected completion date of the installation, construction, or retrofit of the refrigeration system; and
11.) A signature by a representative of the facility, including the date.

●If the system is being mothballed, these requirements do not apply until the day that the refrigeration system resumes operation at a facility.
●If an exemption has been received, then the preparation and implementation of a retrofit or retirement plan is not required during the exemption time period. If an exemption request has been submitted, then the plan preparation or implementation is not required until a final exemption determination is made.

Recordkeeping Requirements

●Maintain the following records for a minimum of 5 years:

1.) All registration information required by the rule;
2.) documentation of all leak detection systems, leak inspections, and automatic leak detection system annual audit and calibrations;
3.) records of refrigeration system service and refrigerant leak repairs, and any documentation of conditions allowing repair to be

conducted more than 14 days after leak detection;

4.) retrofit or retirement plans;
5.) all CARB reports;
6.) any application for exemption, and any notification of an exemption approved, denied, revoked, or modified;
7.) invoices for all refrigerant purchases;
8.) records of all shipments of refrigerants for reclamation or destruction, to include:
    - > Name and address of the person the refrigerant was shipped to;
    - > Weight in pounds of refrigerant shipped;
    - > type of refrigerant shipped;
    - > date of shipment;
    - > purpose of shipment (i.e., reclamation, destruction, etc.);
9.) records of all refrigeration systems component data, measurements, calculations and assumptions used to determine the full charge.

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2022 CITY REPORTING

Anaheim Requirement	Period	Last Done	Next Due	Responsibility
Certified (Facility) Fire Protection Systems Inspection	Semi-Annual	1/10/23	5/31/23	Hoffard
Electric protection relays	5-years	11/14/18	11/13/23	Hoffard
8-Hour refresher HAZWOPER	Annual	7/5/22	7/5/23	Hoffard/Ralph McCaffrey
Oil Spill Prevention, Control and Countermeasure Plan	5-years	12/21/21	12/21/26	McCaffrey/Hoffard
Hazardous Materials Business Plans (CERS)	Annual	1/31/22	1/30/23	McCaffrey/Hernandez

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2022 EIA REPORTING

EIA Requirement	Period	Last Done	Next Due	Responsibility	Comments
EIA 860-A	Annual	2/10/22	3/1/23	Hoffard/Hernandez	
EIA-923-M	Monthly	1/9/23	2/28/23	Hoffard/Hernandez	

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2022 OSHA REPORTING

OSHA Requirement	Period	Unit 1 Done	Unit 1 Due	Unit 2 Done	Unit 2 Due	Unit 3 Done	Unit 3 Due	Unit 4 Done	Unit 4 Due	Canyon Site Done	Canyon Site Due	Responsible
LM6000 Overhead Crane inspection	Annually	1/3/23	1/4/24	1/3/23	1/4/24	1/3/23	1/4/24	1/3/23	1/4/24			Hoffard
Warehouse Crane inspection	Annually									1/3/23	1/4/24	Hoffard
LM6000 Overhead Crane load test	Every 4 years	12/9/20	12/9/24	12/11/20	12/11/24	5/10/21	5/9/25	12/12/21	12/12/25			Hoffard
Warehouse Crane load test	Every 4 years									12/16/20	12/16/24	Hoffard
Fuel Gas system safeties - CTG	Tri-Annual									5/16/22	5/16/25	Hoffard
Fuel Gas system safeties - Gas Yard	Tri-Annual									5/16/22	5/16/25	Hoffard
Instrument Air system safeties	Every 5 years									10/30/21	10/30/26	Hoffard
Ammonia tank system safeties	Updated Every 4 years									6/21/21	6/20/25	Hoffard
Air Pressure tank inspection / permit renewal	Every 5 years									11/1/21	11/1/26	Hoffard/HSB insurance

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2022 EPA REPORTING

EPA Requirement	Period	Unit 1 Done	Unit 1 Due	Unit 2 Done	Unit 2 Due	Unit 3 Done	Unit 3 Due	Unit 4 Done	Unit 4 Due	Responsible
Linearity Test	anytime within the quarter	10/10/22	3/30/23	10/11/22	3/30/23	10/13/22	3/30/23	11/4/22	3/30/23	Montrose/Hoffard/Hernandez
Electronic Data Report (EDR) EPA	30 days at the end of the Quarter	1/17/23	4/30/23	1/17/23	4/30/23	1/17/23	4/30/23	1/17/23	4/30/23	B&W/Hernandez/Hoffard
Greenhouse gas monitoring report	Annually	3/14/22	3/30/23	3/14/22	3/30/23	3/14/22	3/30/23	3/14/22	3/30/23	Hernandez/Hoffard
EPA Form 500 ACC	Annually	1/27/22	3/1/23	1/27/22	3/1/23	1/27/22	3/1/23	1/27/22	3/1/23	Hernandez/Hoffard

Spill Prevention, Control and Countermeasures Plan	Period	Last Done	Next Due	Responsibility	Comments
SPCC Facility Inspection	Monthly	1/5/23	2/28/23	Hernandez	

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2022 FIRE CODE REPORTING

Fire Code Requirement	Period	Last Done	Next Due	Responsibility
Fire detection system certification	Annual	5/16/22	5/17/23	Hoffard/Fire Protection Systems
Fire detection system inspection	Semi-annual	5/17/22	11/17/23	Hoffard/Fire Protection Systems
CO 2 cylinder (weight)	Annual	5/18/22	5/18/23	Hoffard/Fire Protection Systems

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2022 OCSD REPORTING

OCSD Requirement	Period	Last Done	Next Due	Responsibility
Permit # 1-600296				
Effluent Meter reading Report	Monthly	12/1/22	1/20/23	Operator/Hoffard/Hernandez
Effluent Sample collection (BOD/TSS)	semi-annual	10/24/22	4/30/23	Sanks/Hernandez/Hoffard
Effluent Meter Certification/Cal	Annual	1/9/23	1/10/24	Sanks/Hernandez/Hoffard
Class I Permit Renewal	every 2 years	3/31/21	3/31/23	Sanks/Hernandez/Hoffard
Backflow Inspection	Annual	2/1/22	2/28/23	Hernandez/Hoffard
Reclaim Water Testing (City of Anaheim)	Every 3 years	12/16/20	12/30/23	Hoffard/Hernandez

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2022 WQMP REPORTING

Storm Drain Systems	Period	Last Done	Next Due	Responsibility
Catch Basins (25) inspection	Semi-Annual (in-house)	3/17/22	6/30/23	Hernandez/Hoffard
Infiltration Vault	Annual Inspection	3/17/22	6/30/23	Hernandez/Hoffard
Contech Storm Filters	Annual Inspection	3/17/22	6/30/23	Hernandez/Hoffard

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 2

FACILITY OPERATIONAL STATUS REPORT

Overall Project Status

Canyon Power Plant construction was completed in August 2011. Units 3 and 4 were ready for commercial operation on July 27, 2011. Units 1 and 2 were ready for commercial operation on September 15, 2011.

All four gas turbines were in commercial operation for the entire compliance year 2021.

No changes to the operational status of the facility implemented or planned in CY 2022.

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 3

CEC APPROVED POST CERTIFICATION CHANGES

No California Energy Commission (CEC) approved post certification changes

On August 19, 2021 South Coast AQMD issued the final Title V Facility Permit Renewal and no revisions or changes in CY 2022.

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 4

MISSED SUBMITTAL DEADLINES

Canyon Power Plant submitted all required compliance reports on the due dates and no missed submittal deadlines for CY 2022.

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 5

PERMIT FILINGS AND PERMITS ISSUED

DURING THE PERIOD

Canyon Power Plant submitted a Title V Renewal application and SCAQMD issue the final Title V Facility Permit to Canyon Power Plant on August 19, 2021 and expires August 18, 2026.

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 6

PROJECTED COMPLIANCE TESTING

FOR CY 2023

Projected Environmental Compliance Testing schedule in CY 2023:

Compliance Test	Frequency	Scheduled Quarter
NH3 Slip Test	Annual	3Q; 4Q
RATA Test	Annual or Semi-Annual	3Q; 4Q
Cooling Tower TDS/PM10	Quarterly	All four Quarters
Cooling Tower Legionella	Quarterly	All four Quarters
Fuel H_2S Test	Monthly	January through December
Fuel Flow Accuracy	Annual	2Q
SCR Differential Pressure	Annual	2Q
SCR Inlet Temperature	Annual	2Q
NH3 Flow Meter Calibration	Annual	2Q
Linearity/CGA Test	Quarterly	All four Quarters
PM10/SO_2/VOC	Triennial	3Q; 4Q
PM10	Every 18 months for 3 years	4Q

CANYON POWER PLANT

VARIOUS COMPLIANCE REPORTS

ATTACHMENT 7

ADDITIONS TO ON-SITE COMPLIANCE FILE

PLANT COMPLIANCE REPORTS

California Energy Commission (CEC)

- Quarterly reports
- Quarterly 1304 Report
- Annual report
- Potable water use records
- Cooling Tower Legionella test report
- Cooling Tower TDS test reports
- Monthly Natural gas burn records
- Monthly Reclaim water use reports
- Monthly Potable water use reports

California Independent System Operator (CAISO)

- Certificate of Compliance

California Air Resource Board (CARB)

- Greenhouse gas records
- Annual refrigerant report
- Annual SF6 use report
- Refrigerant monitor calibration report

Diesel Engine

- Maintenance Reports
- Fuel purchase records
- Engine run-time records
- Hi-Back calibration report
- Engine tune up report

U.S. Energy Information Administration (EIA)

- Annual/Monthly EIA 923 report
- Annual EIA 860 report

Environmental Protection Agency (EPA)

- Part 98 Greenhouse Gas reports
- Certificate of Representation forms
- Quarterly Acid Rain report
- Quarterly Acid Rain report & feedback report
- Annual Form 500-ACC

Regional Clean Air Market (RECLAIM)

- Daily submittals
- Monthly submittals
- Quarterly submittals
- SCAQMD QCER Forms

- SCAQMD 500-N Forms
- SCAQMD 500-SAM Forms
- SCAQMD 500-ACC Form
- SCAQMD APEP Form
- SCAQMD AER Report
- SCAQMD Rule 218 Semi-annual reports
- RECLAIM RTC holdings records

South Coast Air Quality Management District (SCAQMD)

- NOV & NTCs issued by the SCAQMD
- SCAQMD responses to 500-N forms
- Monthly Natural H_2S gas test reports

Orange County Sanitation District (OCSAN)

- Monthly Effluent Water reports
- Semi-annual

Calibration Records

- Fuel flow meter calibration report
- Water flow meter calibration report
- NH3 flow meter calibration report
- SCR DP transducer calibration report
- SCR inlet temperature transducer Cal report
- SCR outlet temperature transducer Cal report

Calibration gas logs

- Linearity test reports
- Part 75 RATA test reports
- RECLAIM RATA test reports
- Rule 218 (CO) RATA test reports
- NH3 slip test reports

Triennial compliance testing

- VOC, PM10 and ROG emissions

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 8

UN-PLANNED FACILITY CLOSURE PLAN REVIEW

An "Un-Planned Facility Closure Plan" was drafted and submitted to the California Energy Commission (CEC) in the First Quarter of 2014. At this time, no revisions or changes are required.

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 9

Notice of Violation Notice to Comply Issued in CY 2022

No Notice of Violation
Issued by a Regulatory Agency in the CY 2022

No Notices to Comply
Issued by a Regulatory Agency in the CY 2022

SCAQMD FORM 500-N
Title V – Deviations, Emergencies & Breakdowns
Submitted by Canyon Power Plant

South Coast Air Quality Management District

Form 500-N

Title V - Deviations, Emergencies & Breakdowns

*This written report is in addition to requirements to verbally report certain types of incidents. Verbal reports may be made by calling AQMD at 1-800-288-7664 (1-800-CUT-SMOG) or AQMD enforcement personnel.

Mail To:
SCAQMD
P.O. Box 4941
Diamond Bar, CA 91765-0941

Tel: (909) 396-3385
www.aqmd.gov

Section I - Operator Information

1. **Facility Name** (Business Name of Operator That Appears On Permit): CANYON POWER PLANT Unit 1 (D1)

2. **Valid AQMD Facility ID** (Available On Permit Or Invoice Issued By AQMD): 153992

3. **Address:** (where incident occurred) 3071 E. Miraloma Avenue (Street Address)
   Anaheim (City) CA (State) 92806 (Zip)

4. **Mailing Address:** (if different from Item 3) _____ (Street Address)
   _____ (City) _____ (State) _____ (Zip)

5. **Provide the name, title, and phone number of the person to contact for further information:**

Ronald Hoffard	Generation Plant Manager	(714) 765-4536
Name	Title	Phone #

Section II - Reporting of Breakdowns, Deviations, and Emergencies

1. **This written notification is to report a(n):**

Type of Incident	Verbal Report Due*	Written Report Due
a. ☐ Emergency under Rule 3002(g)	Within 1 hour of discovery	Within 2 working days from when the emission limit was exceeded.
b. ☒ Breakdown under:		
☐ Rule 430 (Non-RECLAIM)	For Rules 430 & 2004 - Within 1 hour of discovery.	For Rules 430 & 2004 - Within 7 calendar days after breakdown is corrected, but no later than 30 days from start of the breakdown, unless a written extension is granted.
☒ Rule 2004 (RECLAIM)		
☐ Rule 218 (Non-RECLAIM) [See Rule 218(f)(3)]	For Rule 218 – Within 24 hours or next business day for failure/shutdown exceeding 24 hours	For Rule 218 - With required semi-annual reports.
c. ☐ Deviation with excess emissions [See Title V Permit, Section K, Condition No. 22B]	Within 72 hours of discovery of the deviation or shorter reporting period if required by an applicable State or Federal Regulation.	Within 14 days of discovery of the deviation.
d. ☐ Other Deviation [See Title V Permit, Section K, Condition Nos. 22D & 23]	None	With required semi-annual monitoring reports.

2. **The incident was first discovered by:** Ted Nguyen (Name) on 02/12/2022 (Date) 07:05 (Time) ○ AM ◉ PM

3. **The incident was first reported by:** Voicemail left at 1800-CUT-SMOG (Name of AQMD Staff Person) on 02/12/2022 (Date) 07:20 (Time) ○ AM ◉ PM

   a. ◉ Via Phone

   b. ○ In Person **Notification Number (Required):** _____

4. **When did the incident actually occur?** 02/12/2022 (Date) 06:08 (Time) ○ AM ◉ PM

AQMD USE ONLY				
Received By:		Assigned By:	Inspector:	
Date/Time Received:		Date/Time Assigned:	Date/Time Received Assignment:	
Date Delivered To Team:		Date Reviewed Inspector Report:	Date Inspected Facility:	
Team:	Sector:	Breakdown/Deviation Notification No.	Date Completed Report:	
Recommended Action:	Cancel Notification	Grant Relief	Issue NOV No. _____	Other: _____
Final Action:	Cancel Notification	Grant Relief	Issue NOV No. _____	Other: _____

5. Has the incident stopped? a. ◉ Yes, on: 02/12/2022 (Date) 06:17 (Time) ○ AM ◉ PM b. ○ No

6. What was the total duration of the incident? _____ (Days) 10 (Hours) Min

7. For equipment with an operating cycle, as defined in Rule 430 (b)(3)(A), when was the end of the operating cycle during which the incident occurred? _____ (Date) _____ (Time) ○ AM ○ PM

8. Describe the incident and identify each piece of equipment (by permit, application, or device number) affected. Attach photos (when available) of the affected equipment and attach additional pages as necessary.

See attachment 500N summary attachment.

9. The incident may have resulted in a:

a. ☒ Violation of Permit Condition(s): A99.1 NOx Shutdown > 4.07 lbs

b. ☐ Violation of AQMD Rule(s): _____

10. What was the probable cause of the incident? Attach additional pages as necessary.

See attachment 500N summary attachment.

11. Did the incident result in excess emissions? ○ No ◉ Yes (Complete the following and attach calculations.)

☐ VOC _____ lbs ☒ NOx 4.320 lbs ☐ SOx _____ lbs ☐ H2S _____ lbs

☐ CO _____ lbs ☐ PM _____ lbs ☐ Other: _____ lbs _____ pollutant

12. *For RECLAIM facilities Subject to Rule 2004 (i)(3) ONLY:* If excess emissions of NOx and/or SOx were reported in Item 11, do you want these emissions to be counted when determining compliance with your annual allocations?

a. ◉ Yes, for: ☐ NOx ☐ SOx b. ○ No, for: ☐ NOx ☐ SOx

If box 12(b) above is checked, include all information specified in Rule 2004(i)(3)(B) and (C), as applicable.

13. Describe the steps taken to correct the problem (i.e., steps taken to mitigate excess emissions, equipment repairs, etc.) and the preventative measures employed to avoid future incidents. Include photos of the failed equipment if available and attach additional pages as necessary.

See attachment 500N summary attachment.

14. Was the facility operating properly prior to the incident?

a. ◉ Yes b. ○ No, because: _____

15. Did the incident result from operator error, neglect or improper operation or maintenance procedures?

a. ○ Yes b. ◉ No, because: _____

16. Has the facility returned to compliance?

a. ○ No, because: _____

b. ◉ Yes (Attach evidence such as emissions calculations, contemporaneous operating logs or other credible evidence.)

Section III - Certification Statement

I certify under penalty of law that based on information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments and other materials are true, accurate, and complete.

For Title V Facilities ONLY: ☒ **I also certify under penalty of law that that I am the responsible official for this facility as defined in AQMD Regulation XXX.**

1. Signature of Responsible Official:	2. Title of Responsible Official:
R Hoffard	GENERATION PLANT MANAGER
3. Print Name:	**4. Date:**
RONALD HOFFARD	2/16/2022
5. Phone #:	**6. Fax #:**
(714) 765-4536	

7. Address of Responsible Official:

3071 E. MIRALOMA AVE.	Anaheim	CA	92806
Street #	City	State	Zip

AQMD 500N Episode Date: 2/12/2022
Identify Issue: LPT Speed Sensor
Canyon Power Plant: Unit 1/(D1) ID# 153992
Notification: 687926

Question 8 - ***Describe the incident and identify each piece of equipment:***

The Unit 1 turbine started at 1655 hours and an Online Calibration performed at 1711 hours without issue. At 1758 hours, the operator/technician acknowledged a turbine alarm "SEQ LOAD REJECTION LOGIC ACTIVE" which notified the operator the turbine controller logic was rejecting the turbine/generator load. The operator verified no issues on the electrical system. However, at 1807 hours to 1808 hours the operator/technician noticed the NOx ppm had increased from 1.91 to 37.23. The operator/technician immediately checked the NH3 flow window and noticed it was decreasing and quickly placed it in manual and began to increase NH3 flow. Consequently, the INLET NOx water flow was automatically shut-off due to the SEQ LOAD REJECTION LOGIC ACTIVE alarm. The operator/technician quickly initiated the shutdown command in minute 1809 (**Attachment #1**).

Unfortunately, due to the SEQ LOAD REJECTION LOGIC ACTIVE alarm Unit 1 controller logic caused the generator breaker to open shutting off the generation load. The turbine continues to operate at idle speed until a shutdown command is initiated. NOx ppm spiked during the shutdown period, which resulted in a NOx lbs exceedance of 4.32 lbs over the permit limit of 4.07 lbs.

The breakdown was promptly reported to SCAQMD.

Question 10 – ***What was the probable cause of the incident?***

The root cause of the incident was determined to be a failed turbine speed pickup probe. Loss of turbine speed signal triggers the "SEQ LOAD REJECTION LOGIC ACTIVE" alarm.

Question 13 – ***Describe the steps taken to correct the problem:***

The Unit 1 turbine speed pickup probe was replaced with a new one (**Attachment #2**). Unit 1 was successfully test operated for two hours with without issue. CEMS minute data to test Unit 1 is included in the report (**Attachment #3**).

Question 16 – ***Facility retuned to compliance?***

U1 came into compliance February 15, 2022 at 1207 hours.

Unit 1	Date/Time	1_GasFlow		1_NOXPPM		1_NOX_CORR		1_LOAD		1_H2O_FLOW		1_NH3_Flow		1_NOxlb_SU	1_NOxlbSUH		1_NOxlb_SD	1_NOxlbSDH		1_Shutdown	
		kscfh	status	ppm	status	ppm	status	MW	status	k#/hr	status	#/hr	status	#/hr	status	pounds	status	#/hr	status	pounds	status	1=ON	status
	02/12/2022 16:30	0.4	P	-0.03	P	0	P	0	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:31	0.3	P	-0.03	P	0	P	-0.01	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:32	0.3	P	-0.03	P	0	P	-0.01	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:33	0.3	P	-0.04	P	0	P	-0.01	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:34	0.3	P	-0.04	P	0	P	0	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:35	0.3	P	-0.03	P	0	P	0	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:36	0.3	P	-0.03	P	0	P	-0.01	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:37	0.3	P	-0.03	P	0	P	-0.01	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:38	0.3	P	-0.03	P	0	P	-0.01	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:39	0.3	P	-0.03	P	0	P	-0.01	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:40	0.3	P	-0.03	P	0	P	0	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:41	0.3	P	-0.03	P	0	P	-0.02	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:42	0.3	P	-0.03	P	0	P	0	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:43	0.3	P	-0.04	P	0	P	-0.01	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:44	0.3	P	-0.03	P	0	P	-0.01	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:45	0.3	P	-0.04	P	0	P	-0.01	P	0	P	-0.06	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:46	0.3	P	-0.03	P	0	P	-0.01	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:47	0.3	P	-0.04	P	0	P	-0.01	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:48	0.3	P	-0.03	P	0	P	-0.01	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:49	0.3	P	-0.03	P	0	P	0	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:50	0.3	P	-0.04	P	0	P	0	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:51	0.3	P	-0.04	P	0	P	0	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:52	0.3	P	-0.03	P	0	P	-0.01	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:53	0.3	P	-0.03	P	0	P	-0.01	P	0	P	-0.06	P	0	P	-99.99	P	0	P	0	P	0	P
	02/12/2022 16:54	0.3	P	-0.03	P	0	P	-0.01	P	0	P	-0.05	P	0	P	-99.99	P	0	P	0	P	0	P
Start up	**02/12/2022 16:55**	**50.2**		**0**		**0**		-0.02		0		-0.05		**0**		**0**		**0**	**P**	**0**	**P**	0	
	02/12/2022 16:56	95.5		1.71		4.61		-0.01		0		-0.05		1.71		0.03		0	P	0	P	0	
	02/12/2022 16:57	100.8		11.34		27.65		1.54		0		-0.05		10.79		0.21		0	P	0	P	0	
	02/12/2022 16:58	124		16.24		36.02		5.09		1.1		-0.05		17.32		0.5		0	P	0	P	0	
	02/12/2022 16:59	191.6		14.64		26.41		14.76		4.1		-0.05		19.52		0.82		0	P	0	P	0	
	02/12/2022 17:00	262.6		10.1		14.12		24.54		8.3		-0.05		14.34		1.06		0	P	0	P	0	
	02/12/2022 17:01	329.4		10.97		13.21		32.51		12.4		1.74		16.95		1.34		0	P	0	P	0	
	02/12/2022 17:02	334.3		18.21		20.98		32.85		12.7		51.08		27.03		1.79		0	P	0	P	0	
	02/12/2022 17:03	334.7		17.8		20.43		32.92		12.7		70		26.36		2.23		0	P	0	P	0	
	02/12/2022 17:04	334.1		8.74		9.99		32.9		12.5		74.07		12.98		2.45		0	P	0	P	0	
	02/12/2022 17:05	334.1		5.44		6.18		32.96		12.3		82.35		8.07		2.58		0	P	0	P	0	
	02/12/2022 17:06	332.9		4.14		4.72		32.92		12.1		87.3		5.94		2.68		0	P	0	P	0	
	02/12/2022 17:07	333.7		3.36		3.83		33		12.6		87.22		4.91		2.77		0	P	0	P	0	
	02/12/2022 17:08	334.7		2.84		3.23		33.05		13		86.94		4.22		2.84		0	P	0	P	0	
	02/12/2022 17:09	334.5		2.08		2.36		33		13.1		86.76		3.16		2.89		0	P	0	P	0	
	02/12/2022 17:10	332.9		1.93		2.2		32.87		13.1		86.51		2.8		2.94		0	P	0	P	0	

Unit 1	Date/Time	1_GasFlow		1_NOXPPM		1_NOX_CORR		1_LOAD		1_H2O_FLOW		1_NH3_Flow		1_NOxlb_SU		1_NOxlbSUH		1_NOxlb_SD		1_NOxlbSDH		1_Shutdown	
		kscfh	status	ppm	status	ppm	status	MW	status	k#/hr	status	#/hr	status	#/hr	status	pounds	status	#/hr	status	pounds	status	1=ON	status
Online Cal	02/12/2022 17:11	335		1.78	C	0	C	33.06		13.5		86.12		0	C	2.94		0	PC	0	P	0	
	02/12/2022 17:12	334.2		3.47	C	0	C	32.93		13.4		85.99		0	C	2.94		0	PC	0	P	0	
	02/12/2022 17:13	333.8		3.32	C	0	C	32.9		13.4		85.9		0	C	2.94		0	PC	0	P	0	
	02/12/2022 17:14	334.2		0.01	C	0	C	32.96		13.4		85.73		0	C	2.94		0	PC	0	P	0	
	02/12/2022 17:15	333.4		0	C	0	C	32.91		13.4		85.63		0	C	2.94		0	PC	0	P	0	
	02/12/2022 17:16	334.2		0	CZ	0	CZ	32.96		13.4		85.69		0	CZ	2.94		0	PCZ	0	P	0	
	02/12/2022 17:17	334.2		0	CZ	0	CZ	33.01		13.4		85.68		0	CZ	2.94		0	PCZ	0	P	0	
	02/12/2022 17:18	333.9		8.92	C	0	C	32.96		13.4		85.75		0	C	2.94		0	C	0		0	
	02/12/2022 17:19	334.1		9.01	CS	0	CS	33		13.4		85.65		0	CS	2.94		0	CS	8.39		0	
	02/12/2022 17:20	334.4		9.01	CS	0	CS	33		13.4		85.65		0	CS	2.94		0	CS	8.39		0	
	02/12/2022 17:21	334		170.46	C	0	C	33.01		13.4		85.8		0	C	2.94		0	C	8.39		0	
	02/12/2022 17:22	334.1		176.69	C	0	C	33.03		13.5		85.66		0	C	2.94		0	C	8.39		0	
	02/12/2022 17:23	333.1		176.91	CS	0	CS	32.93		13.4		85.66		0	CS	2.94		0	CS	8.39		0	
	02/12/2022 17:24	333.5		176.91	CS	0	CS	32.98		13.4		85.73		0	CS	2.94		0	CS	8.39		0	
	02/12/2022 17:25	333.8		4.96	C	0	C	33.02		13.4		85.66		0	C	2.94		0	C	8.39		0	
	02/12/2022 17:26	334.3		1.99	C	0	C	33.07		13.5		86.62		0	C	2.94		0	C	8.39		0	
	02/12/2022 17:27	333.9		1.84	C	0	C	33.03		13.4		88.06		0	C	2.94		0	C	8.39		0	
	02/12/2022 17:28	333.7		1.74	C	0	C	33		13.4		87.99		0	C	2.94		0	C	8.39		0	
	02/12/2022 17:29	332.8		1.65	C	0	C	32.92		13.4		88.01		0	C	2.94		0	C	8.39		0	
	02/12/2022 17:30	333.2		1.54		1.75		32.96		13.4		87.95		2.1		2.97		2.1		8.39		0	
	02/12/2022 17:31	333.7		1.51		1.72		33.06		13.4		87.62		2.1		3.01		2.1		8.39		0	
	02/12/2022 17:32	332.3		1.49		1.69		32.84		13.4		87.35		2.09		3.04		2.09		8.39		0	
	02/12/2022 17:33	333.2		1.47		1.67		32.96		13.4		86.88		2.1		3.07		2.1		8.39		0	
	02/12/2022 17:34	333.5		1.46		1.66		32.98		13.4		86.47		2.1		3.11		2.1		8.39		0	
	02/12/2022 17:35	333.9		1.47		1.67		33.03		13.4		86.09		2.1		3.14		2.1		8.39		0	
	02/12/2022 17:36	332.4		1.47		1.68		32.86		13.4		85.66		2.09		3.18		2.09		8.39		0	
	02/12/2022 17:37	332.5		1.48		1.69		32.85		13.3		85.25		2.09		3.21		2.09		8.39		0	
	02/12/2022 17:38	332.9		1.49		1.7		32.91		13.4		85.01		2.1		3.25		2.1		8.39		0	
	02/12/2022 17:39	333.2		1.5		1.71		32.94		13.3		84.54		2.1		3.28		2.1		8.39		0	
	02/12/2022 17:40	333.3		1.5		1.71		32.96		13.4		84.27		2.1		3.32		2.1		8.39		0	
	02/12/2022 17:41	333.7		1.52		1.73		32.98		13.4		83.97		2.1		3.35		2.1		8.39		0	
	02/12/2022 17:42	333.7		1.54		1.75		33.01		13.4		83.61		2.1		3.39		2.1		8.39		0	
	02/12/2022 17:43	334.1		1.56		1.77		33.1		13.5		83.39		2.46		3.43		2.46		8.39		0	
	02/12/2022 17:44	334		1.57		1.79		33.06		13.5		83.19		2.45		3.47		2.45		8.39		0	
	02/12/2022 17:45	334.1		1.58		1.8		33.09		13.5		82.95		2.46		3.51		2.46		8.39		0	
	02/12/2022 17:46	333.4		1.59		1.81		32.94		13.4		82.74		2.45		3.55		2.45		8.39		0	
	02/12/2022 17:47	333.4		1.6		1.83		32.98		13.4		82.63		2.45		3.59		2.45		8.39		0	
	02/12/2022 17:48	334		1.6		1.83		33.05		13.5		82.4		2.45		3.63		2.45		8.39		0	
	02/12/2022 17:49	333.8		1.61		1.84		33.02		13.4		82.38		2.45		3.68		2.45		8.39		0	
	02/12/2022 17:50	333.8		1.62		1.85		32.98		13.4		82.2		2.45		3.72		2.45		8.39		0	
	02/12/2022 17:51	334		1.63		1.86		33.04		13.5		82.2		2.45		3.76		2.45		8.39		0	

Unit 1	Date/Time	1_GasFlow		1_NOXPPM		1_NOX_CORR		1_LOAD		1_H2O_FLOW		1_NH3_Flow		1_NOxlb_SU		1_NOxlbSUH		1_NOxlb_SD		1_NOxlbSDH		1_Shutdown	
		kscfh	status	ppm	status	ppm	status	MW	status	k#/hr	status	#/hr	status	#/hr	status	pounds	status	#/hr	status	pounds	status	1=ON	status
	02/12/2022 17:52	333.4		1.64		1.87		32.97		13.4		82.17		2.45		3.8		2.45		8.39		0	
	02/12/2022 17:53	334.1		1.65		1.88		33.09		13.5		82.02		2.46		3.84		2.46		8.39		0	
	02/12/2022 17:54	333.1		1.64		1.87		32.92		13.4		82.01		0	P	3.84		2.45		8.39		0	
	02/12/2022 17:55	332.9		1.63		1.86		32.91		13.4		81.91		0	P	3.84		2.45		8.39		0	
	02/12/2022 17:56	333		1.63		1.85		32.9		13.4		81.94		0	P	3.81		2.45		8.39		0	
	02/12/2022 17:57	333.1		1.64		1.86		32.94		13.4		81.92		0	P	3.63		2.45		8.39		0	
	02/12/2022 17:58	333		1.65		1.88		32.94		13.4		81.75		0	P	3.34		2.45		8.39		0	
	02/12/2022 17:59	333.5		1.65		1.88		33.02		13.4		81.8		0	P	3.02		2.45		8.39		0	
	02/12/2022 18:00	333.3		1.67		1.91		33		13.4		81.67		0	P	2.78		2.45		8.39		0	
	02/12/2022 18:01	333.7		1.69		1.92		33.02		13.4		81.73		0	P	2.5		2.45		8.39		0	
	02/12/2022 18:02	333.1		1.7		1.94		32.9		13.4		81.69		0	P	2.04		2.45		8.39		0	
	02/12/2022 18:03	332.6		1.7		1.94		32.88		13.4		81.84		0	P	1.61		2.44		8.39		0	
	02/12/2022 18:04	333.4		1.7		1.94		32.97		13.4		81.88		0	P	1.39		2.45		8.39		0	
	02/12/2022 18:05	333.8		1.69		1.93		33.04		13.5		81.83		0	P	1.25		2.45		8.39		0	
	02/12/2022 18:06	334		1.68		1.91		33.05		13.5		82.06		0	P	1.16		2.45		8.39		0	
	02/12/2022 18:07	328.4		1.67		1.91		32.98		6.7		80.19		0	P	1.07		2.41		8.39		0	
	02/12/2022 18:08	320.7		**31.3**		37.23		32.96		**0**		**79.96**		0	P	1		46.13		8.39		0	
Initiated Stop	02/12/2022 18:09	305.4		**101.33**		120.53		30.26		**0**		**112.79**		0	P	0.95		142.4		8.39		1	
	02/12/2022 18:10	237.2		**87.35**		108.96		20.54		**0**		**111.29**		0	P	0.9		99.89		8.39		1	
	02/12/2022 18:11	163		**54.58**		80.71		10.04		**0**		**50.35**		0	P	0.9		50.85		8.39		1	
	02/12/2022 18:12	102.7		**25.27**		47.18		1.49		**0**		**34.04**		0	P	0.9		18.76		8.39		1	
	02/12/2022 18:13	90.8		**20.7**		47.34		-0.01		**0**		**34.2**		0	P	0.9		16.58		8.39		1	
	02/12/2022 18:14	91		**15.4**		35.22		-0.02		**0**		**34.56**		0	P	0.9		12.43		8.39		1	
	02/12/2022 18:15	91.2		**14.26**		32.61		-0.01		**0**		**35.28**		0	P	0.9		11.5		8.39		1	
	02/12/2022 18:16	91.1		**13.94**		31.88		-0.01		**0**		**35.69**		0	P	0.9		11.2		8.39		1	
Shutdown	**02/12/2022 18:17**	**45.5**		**13.47**		**30.8**		-0.02		**0**		**17.2**		**0**	**P**	**0.9**		**5.4**		**8.39**		1	

8.39 lbs
4.07 lbs Limit
4.32 lbs Exceedance

Attachment #2
Canyon Power Plant ID#153992

U1-LPT Speed Sensor

Attachement #3
CPP ID#153992

Unit 1	Date/Time	1_NOX_CORR		1_NOXPPM		1_GasFlow		1_LOAD		1_H2O_FLOW		1_NH3_Flow		1_NOxlb_SU		1_NOxlbSUH		1_NOxlb_SD		1_NOxlbSDH		1_Shutdown	
		ppm	status	ppm	status	kscfh	status	MW	status	k#/hr	status	#/hr	status	#/hr	status	pounds	status	#/hr	status	pounds	status	1=ON	status
	02/15/2022 10:30	0	P	-0.04	P	0.3	P	-0.02	P	0	P	-0.09	P	0	P	-99.99	P	0	P	0	P	0	P
	02/15/2022 10:31	0	P	-0.04	P	0.3	P	-0.01	P	0	P	-0.09	P	0	P	-99.99	P	0	P	0	P	0	P
	02/15/2022 10:32	0	P	-0.04	P	0.3	P	-0.01	P	0	P	-0.09	P	0	P	-99.99	P	0	P	0	P	0	P
	02/15/2022 10:33	0	P	-0.04	P	0.3	P	-0.02	P	0	P	-0.09	P	0	P	-99.99	P	0	P	0	P	0	P
	02/15/2022 10:34	0	P	-0.04	P	0.3	P	-0.02	P	0	P	-0.09	P	0	P	-99.99	P	0	P	0	P	0	P
	02/15/2022 10:35	0	P	-0.04	P	0.3	P	-0.02	P	0	P	-0.09	P	0	P	-99.99	P	0	P	0	P	0	P
	02/15/2022 10:36	0	P	-0.04	P	0.3	P	-0.01	P	0	P	-0.09	P	0	P	-99.99	P	0	P	0	P	0	P
	02/15/2022 10:37	0	P	-0.03	P	0.3	P	-0.02	P	0	P	-0.09	P	0	P	-99.99	P	0	P	0	P	0	P
Startup	**02/15/2022 10:38**	**0**		**0**		**54.3**		**-0.02**		**0**		**-0.09**		**0**		**0**		**0**	**P**	**0**	**P**	**0**	
	02/15/2022 10:39	2.41		0.9		92.1		-0.01		0		-0.09		0.87		0.01		0	P	0	P	0	
	02/15/2022 10:40	31.54		13.79		101.6		1.77		0		-0.09		12.38		0.22		0	P	0	P	0	
	02/15/2022 10:41	47.2		22.56		118.6		4.43		0.8		-0.09		21.66		0.58		0	P	0	P	0	
	02/15/2022 10:42	44.51		25.12		183.8		13.79		3.9		-0.09		31.65		1.11		0	P	0	P	0	
	02/15/2022 10:43	27.55		20.08		258.8		23.76		8.2		-0.09		27.71		1.57		0	P	0	P	0	
	02/15/2022 10:44	24.87		21.03		323.6		31.98		12.6		-0.09		31.26		2.09		0	P	0	P	0	
	02/15/2022 10:45	25.32		22.57		334		32.92		12.9		20.15		32.62		2.64		0	P	0	P	0	
	02/15/2022 10:46	25.42		22.66		332.8		32.84		12.7		65.21		32.84		3.18		0	P	0	P	0	
	02/15/2022 10:47	13.01		11.64		333.5		33.02		12.6		68.73		16.81		3.46		0	P	0	P	0	
	02/15/2022 10:48	6.12		5.5		333.9		32.99		12.4		69		8.06		3.6		0	P	0	P	0	
	02/15/2022 10:49	4.52		4.06		334.3		33.07		12.3		68.92		5.97		3.7		0	P	0	P	0	
	02/15/2022 10:50	4.24		3.81		334		32.97		12.1		68.97		5.61		3.79		0	P	0	P	0	
	02/15/2022 10:51	4.26		3.82		333.9		32.95		12.3		69.15		5.61		3.88		0	P	0	P	0	
	02/15/2022 10:52	4.33		3.88		333.9		32.95		12.3		82.07		5.61		3.98		0	P	0	P	0	
	02/15/2022 10:53	3.52		3.16		333.8		32.91		12.3		88.1		4.56		4.05		0	P	0	P	0	
	02/15/2022 10:54	2.23		2		334.9		33.05		12.4		88.06		2.81		4.1		0	P	0	P	0	
Online Cal	**02/15/2022 10:55**	**0**	**C**	**1.71**	**C**	**334.5**		**33.03**		**12.3**		**88.51**		**0**	**C**	**4.1**		**0**	**PC**	**0**	**P**	**0**	
	02/15/2022 10:56	0	C	2.41	C	333.7		32.92		12.2		88.48		0	C	4.1		0	PC	0	P	0	
	02/15/2022 10:57	0	C	0.09	C	334.6		33.01		12.3		88.42		0	C	4.1		0	PC	0	P	0	
	02/15/2022 10:58	0	C	0.03	C	334.3		32.99		12.3		88.54		0	C	4.1		0	PC	0	P	0	
	02/15/2022 10:59	0	CZ	0.01	CZ	333.5		32.84		12.1		88.56		0	CZ	4.1		0	PCZ	0	P	0	
	02/15/2022 11:00	0	CZ	0.01	CZ	334.5		33.01		12.3		88.55		0	CZ	4.1		0	PCZ	0	P	0	
	02/15/2022 11:01	0	C	7.84	C	333.3		32.85		12.2		88.56		0	C	4.1		0	PC	0	P	0	
	02/15/2022 11:02	0	C	8.95	C	333.9		32.96		12.2		88.51		0	C	4.1		0	PC	0	P	0	
	02/15/2022 11:03	0	CS	8.95	CS	333.5		32.95		12.2		88.53		0	CS	4.1		0	PCS	0	P	0	
	02/15/2022 11:04	0	CS	8.95	CS	334.4		33.07		12.3		88.56		0	CS	4.1		0	PCS	0	P	0	
	02/15/2022 11:05	0	C	176.14	C	333.3		32.88		12.2		88.52		0	C	4.1		0	PC	0	P	0	
	02/15/2022 11:06	0	C	177.05	C	333.1		32.83		12.2		88.51		0	C	4.1		0	PC	0	P	0	
	02/15/2022 11:07	0	CS	177	CS	334.1		33.03		12.3		88.55		0	CS	4.1		0	PCS	0	P	0	
	02/15/2022 11:08	0	C	37.87	C	333.2		32.88		12.2		88.52		0	C	4.1		0	C	0		0	
	02/15/2022 11:09	0	C	2.34	C	333.2		32.88		12.2		88.53		0	C	4.1		0	C	1.85		0	
	02/15/2022 11:10	0	C	1.86	C	333.8		32.94		12.2		88.51		0	C	4.1		0	C	1.85		0	
	02/15/2022 11:11	0	C	1.78	C	333.7		32.93		12.2		88.57		0	C	4.1		0	C	1.85		0	
End Cal	**02/15/2022 11:12**	**0**	**C**	**1.68**	**C**	**333**		**32.87**		**12.2**		**88.53**		**0**	**C**	**4.1**		**0**	**C**	**1.85**		**0**	

Attachement #3
CPP ID#153992

Unit 1	Date/Time	1_NOX_CORR		1_NOXPPM		1_GasFlow		1_LOAD		1_H2O_FLOW		1_NH3_Flow		1_NOxlb_SU		1_NOxlbSUH		1_NOxlb_SD		1_NOxlbSDH		1_Shutdown	
		ppm	status	ppm	status	kscfh	status	MW	status	k#/hr	status	#/hr	status	#/hr	status	pounds	status	#/hr	status	pounds	status	1=ON	status
	02/15/2022 11:13	1.8		1.61		333.3		32.9		12.1		88.56		2.45		4.14		2.45		1.85		0	
	02/15/2022 11:14	1.74		1.56		332.4		32.84		11.9		88.41		2.09		4.18		2.09		1.85		0	
	02/15/2022 11:15	1.72		1.54		332.7		32.92		11.7		88.17		2.1		4.21		2.1		1.85		0	
	02/15/2022 11:16	1.78		1.59		333.9		33.07		11.6		87.85		2.45		4.25		2.45		1.85		0	
	02/15/2022 11:17	1.89		1.69		332.5		32.93		11.4		87.81		2.44		4.29		2.44		1.85		0	
	02/15/2022 11:18	2.03		1.81		332.2		32.88		11.2		87.4		2.44		4.33		2.44		1.85		0	
	02/15/2022 11:19	2.2		1.96		331.8		32.91		11		87.84		2.79		4.38		2.79		1.85		0	
	02/15/2022 11:20	2.36		2.1		332.8		33.07		10.9		88.37		3.14		4.43		3.14		1.85		0	
	02/15/2022 11:21	2.59		2.31		332.3		33		10.8		101.35		3.49		4.49		3.49		1.85		0	
	02/15/2022 11:22	2.64		2.35		332.6		32.98		11.1		126.12		3.49		4.55		3.49		1.85		0	
	02/15/2022 11:23	1.59		1.42		333.2		33		11.8		123.73		2.1		4.58		2.1		1.85		0	
	02/15/2022 11:24	1.19		1.07		333.2		32.98		11.8		116.7		1.4		4.61		1.4		1.85		0	
	02/15/2022 11:25	1.16		1.04		332.8		32.96		11.6		113.52		1.4		4.63		1.4		1.85		0	
	02/15/2022 11:26	1.15		1.03		331.6		32.83		11.4		113.58		1.39		4.65		1.39		1.85		0	
	02/15/2022 11:27	1.2		1.07		332.6		33.01		11.3		107.41		1.4		4.68		1.4		1.85		0	
	02/15/2022 11:28	1.27		1.13		331.7		32.93		11.1		103.53		1.74		4.71		1.74		1.85		0	
	02/15/2022 11:29	1.35		1.21		331.9		32.9		10.9		100.57		1.74		4.73		1.74		1.85		0	
	02/15/2022 11:30	1.54		1.37		331.7		33		10.8		98.08		2.09		4.77		2.09		1.85		0	
	02/15/2022 11:31	1.67		1.49		331.4		32.86		10.8		93.5		2.09		4.8		2.09		1.85		0	
	02/15/2022 11:32	1.87		1.67		331.3		32.88		10.9		93.47		2.44		4.85		2.44		1.85		0	
	02/15/2022 11:33	2.03		1.81		331.7		32.92		11.1		97.06		2.44		4.89		2.44		1.85		0	
	02/15/2022 11:34	2.1		1.87		332.5		33.06		11.3		100.62		2.79		4.93		2.79		1.85		0	
	02/15/2022 11:35	1.99		1.77		332.5		33.02		11.3		100.55		2.44		4.97		2.44		1.85		0	
	02/15/2022 11:36	1.82		1.62		332.8		33.09		11.2		100.54		2.45		5.01		2.45		1.85		0	
	02/15/2022 11:37	1.72		1.53		332.1		33.01		11		100.59		0	P	5.01		2.09		1.85		0	
	02/15/2022 11:38	1.74		1.55		332.3		33.08		10.9		100.53		0	P	5.01		2.09		1.85		0	
	02/15/2022 11:39	1.82		1.62		331.2		32.88		10.8		100.59		0	P	5		2.43		1.85		0	
	02/15/2022 11:40	1.88		1.68		332.1		33.02		11		100.57		0	P	4.79		2.44		1.85		0	
	02/15/2022 11:41	1.9		1.69		331.4		32.89		11.1		100.56		0	P	4.43		2.44		1.85		0	
	02/15/2022 11:42	1.84		1.64		332.3		33		11.2		100.58		0	P	3.9		2.44		1.85		0	
	02/15/2022 11:43	1.75		1.56		331.8		33		11.2		100.58		0	P	3.44		2.09		1.85		0	
	02/15/2022 11:44	1.69		1.51		331.4		32.94		11		100.58		0	P	2.92		2.09		1.85		0	
	02/15/2022 11:45	1.72		1.53		331.8		33.04		11		100.55		0	P	2.38		2.09		1.85		0	
	02/15/2022 11:46	1.76		1.57		331.2		32.91		10.9		100.58		0	P	1.83		2.09		1.85		0	
	02/15/2022 11:47	1.81		1.61		330.7		32.87		10.9		100.56		0	P	1.55		2.43		1.85		0	
	02/15/2022 11:48	1.83		1.63		331.9		33.01		11		100.57		0	P	1.42		2.44		1.85		0	
	02/15/2022 11:49	1.83		1.63		331.4		33		10.9		100.56		0	P	1.32		2.44		1.85		0	
	02/15/2022 11:50	1.84		1.64		330.9		32.89		10.9		100.51		0	P	1.22		2.43		1.85		0	
	02/15/2022 11:51	1.84		1.64		331.1		32.88		11.4		100.54		0	P	1.13		2.43		1.85		0	
	02/15/2022 11:52	1.79		1.6		332.9		33		12.5		100.51		0	P	1.04		2.45		1.85		0	
	02/15/2022 11:53	1.59		1.42		331.9		32.85		12.4		100.48		0	P	0.96		2.09		1.85		0	
	02/15/2022 11:54	1.3		1.17		332.7		32.94		12.5		100.48		0	P	0.91		1.75		1.85		0	
	02/15/2022 11:55	1.18		1.06		332		32.88		12.4		100.49		0	P	0.91		1.39		1.85		0	

Attachement #3
CPP ID#153992

Unit 1	Date/Time	1_NOX_CORR		1_NOXPPM		1_GasFlow		1_LOAD		1_H2O_FLOW		1_NH3_Flow		1_NOxlb_SU		1_NOxlbSUH		1_NOxlb_SD		1_NOxlbSDH		1_Shutdown	
		ppm	status	ppm	status	kscfh	status	MW	status	k#/hr	status	#/hr	status	#/hr	status	pounds	status	#/hr	status	pounds	status	1=ON	status
	02/15/2022 11:56	1.16		1.04		332.4		32.95		12.4		100.47		0	P	0.91		1.4		1.85		0	
	02/15/2022 11:57	1.15		1.03		332.7		32.99		12.5		100.47		0	P	0.91		1.4		1.85		0	
	02/15/2022 11:58	1.15		1.03		332.8		32.99		12.4		100.55		0	P	0.91		1.4		1.85		0	
	02/15/2022 11:59	1.14		1.02		331.7		32.77		12.4		100.56		0	P	0.91		1.39		1.85		0	
Initiated Stop	**02/15/2022 12:00**	**1.15**		**1.02**		**294.9**		**27.37**		**9.5**		**89.67**		**0**	**P**	**0.91**		**1.24**		**1.85**		**1**	
	02/15/2022 12:01	1.24		1.01		214.6		16.66		4.5		74.03		0	P	0.91		1.13		1.85		1	
	02/15/2022 12:02	1.53		1.02		142.9		6.91		1.6		62.61		0	P	0.91		0.9		1.85		1	
	02/15/2022 12:03	2.26		1.17		93.6		0.32		0.5		59.39		0	P	0.91		0.79		1.85		1	
	02/15/2022 12:04	2.91		1.36		90.8		-0.02		0.6		63.01		0	P	0.91		1.05		1.85		1	
	02/15/2022 12:05	3.06		1.43		90.7		-0.02		0.6		64.95		0	P	0.91		1.05		1.85		1	
	02/15/2022 12:06	2.97		1.39		90.7		-0.02		0.4		67.07		0	P	0.91		1.05		1.85		1	
End Shutdown	**02/15/2022 12:07**	**2.91**		**1.36**		**90.7**		**-0.02**		**0.3**		**68.97**		**0**	**P**	**0.91**		**1.05**		**1.85**		**1**	
	02/15/2022 12:08	0	P	1.34	P	15.4	P	-0.01	P	0	P	23.29	P	0	P	0.91		0	P	0	P	1	P
	02/15/2022 12:09	0	P	0.96	P	0.3	P	-0.02	P	0	P	-0.09	P	0	P	0.91		0	P	0	P	0	P
	02/15/2022 12:10	0	P	0.04	P	0.3	P	-0.01	P	0	P	-0.09	P	0	P	0.91		0	P	0	P	0	P
	02/15/2022 12:11	0	P	0	P	0.3	P	-0.01	P	0	P	-0.08	P	0	P	0.91		0	P	0	P	0	P
	02/15/2022 12:12	0	P	0	P	0.3	P	-0.02	P	0	P	-0.08	P	0	P	0.91		0	P	0	P	0	P
	02/15/2022 12:13	0	P	-0.01	P	0.3	P	-0.02	P	0	P	-0.08	P	0	P	0.87		0	P	0	P	0	P
	02/15/2022 12:14	0	P	-0.01	P	0.3	P	-0.02	P	0	P	-0.09	P	0	P	0.84		0	P	0	P	0	P
	02/15/2022 12:15	0	P	-0.02	P	0.3	P	-0.02	P	0	P	-0.09	P	0	P	0.8		0	P	0	P	0	P
	02/15/2022 12:16	0	P	-0.02	P	0.3	P	-0.01	P	0	P	-0.08	P	0	P	0.76		0	P	0	P	0	P
	02/15/2022 12:17	0	P	-0.02	P	0.3	P	-0.01	P	0	P	-0.08	P	0	P	0.72		0	P	0	P	0	P
	02/15/2022 12:18	0	P	-0.02	P	0.3	P	-0.01	P	0	P	-0.08	P	0	P	0.68		0	P	0	P	0	P
	02/15/2022 12:19	0	P	-0.02	P	0.3	P	-0.02	P	0	P	-0.09	P	0	P	0.63		0	P	0	P	0	P
	02/15/2022 12:20	0	P	-0.02	P	0.3	P	-0.01	P	0	P	-0.09	P	0	P	0.58		0	P	0	P	0	P
	02/15/2022 12:21	0	P	-0.02	P	0.3	P	-0.01	P	0	P	-0.09	P	0	P	0.52		0	P	0	P	0	P
	02/15/2022 12:22	0	P	-0.02	P	0.3	P	-0.02	P	0	P	-0.08	P	0	P	0.47		0	P	0	P	0	P
	02/15/2022 12:23	0	P	-0.02	P	0.3	P	-0.02	P	0	P	-0.09	P	0	P	0.43		0	P	0	P	0	P
	02/15/2022 12:24	0	P	-0.02	P	0.3	P	-0.02	P	0	P	-0.09	P	0	P	0.41		0	P	0	P	0	P
	02/15/2022 12:25	0	U	-99.99	U	-999.9	U	-100	U	-999.9	U	-99.99	U	0	U	0.38		0	U	0	P	0	P
	02/15/2022 12:26	0	U	-99.99	U	-999.9	U	-100	U	-999.9	U	-99.99	U	0	U	0.36		0	U	0	P	####	U
	02/15/2022 12:27	0	U	-99.99	U	-999.9	U	-100	U	-999.9	U	-99.99	U	0	U	0.34		0	U	0	P	####	U
	02/15/2022 12:28	0	U	-99.99	U	-999.9	U	-100	U	-999.9	U	-99.99	U	0	U	0.31		0	U	0	P	####	U
	02/15/2022 12:29	0	U	-99.99	U	-999.9	U	-100	U	-999.9	U	-99.99	U	0	U	0.28		0	U	0	P	####	U
	02/15/2022 12:30	0	U	-99.99	U	-999.9	U	-100	U	-999.9	U	-99.99	U	0	U	0.24		0	U	-99.99	E	####	U
	02/15/2022 12:31	0	U	-99.99	U	-999.9	U	-100	U	-999.9	U	-99.99	U	0	U	0.21		0	U	-99.99	E	####	U
	02/15/2022 12:32	0	U	-99.99	U	-999.9	U	-100	U	-999.9	U	-99.99	U	0	U	0.17		0	U	-99.99	E	####	U
	02/15/2022 12:33	0	U	-99.99	U	-999.9	U	-100	U	-999.9	U	-99.99	U	0	U	0.13		0	U	-99.99	E	####	U
	02/15/2022 12:34	0	U	-99.99	U	-999.9	U	-100	U	-999.9	U	-99.99	U	0	U	0.08		0	U	-99.99	E	####	U
	02/15/2022 12:35	0	U	-99.99	U	-999.9	U	-100	U	-999.9	U	-99.99	U	0	U	0.04		0	U	-99.99	E	####	U

South Coast Air Quality Management District

Form 500-N

Title V - Deviations, Emergencies & Breakdowns

*This written report is in addition to requirements to verbally report certain types of incidents. Verbal reports may be made by calling AQMD at 1-800-288-7664 (1-800-CUT-SMOG) or AQMD enforcement personnel.

Mail To:
SCAQMD
P.O. Box 4941
Diamond Bar, CA 91765-0941

Tel: (909) 396-3385
www.aqmd.gov

Section I - Operator Information

1. **Facility Name** (Business Name of Operator That Appears On Permit): CANYON POWER PLANT Unit 1 (D1)

2. **Valid AQMD Facility ID** (Available On Permit Or Invoice Issued By AQMD): 153992

3. **Address:** (where incident occurred) 3071 E. Miraloma Avenue (Street Address)
Anaheim (City) CA (State) 92806 (Zip)

4. **Mailing Address:** (if different from Item 3) (Street Address)
(City) (State) (Zip)

5. **Provide the name, title, and phone number of the person to contact for further information:**

Ronald Hoffard	Generation Plant Manager	(714) 765-4536
Name	Title	Phone #

Section II - Reporting of Breakdowns, Deviations, and Emergencies

1. **This written notification is to report a(n):**

Type of Incident	Verbal Report Due*	Written Report Due
a. ☐ Emergency under Rule 3002(g)	Within 1 hour of discovery	Within 2 working days from when the emission limit was exceeded.
b. ☐ Breakdown under:		
☐ Rule 430 (Non-RECLAIM)	For Rules 430 & 2004 - Within 1 hour of discovery.	For Rules 430 & 2004 - Within 7 calendar days after breakdown is corrected, but no later than 30 days from start of the breakdown, unless a written extension is granted.
☐ Rule 2004 (RECLAIM)		
☐ Rule 218 (Non-RECLAIM) [See Rule 218(f)(3)]	For Rule 218 – Within 24 hours or next business day for failure/shutdown exceeding 24 hours	For Rule 218 - With required semi-annual reports.
c. ☒ Deviation with excess emissions [See Title V Permit, Section K, Condition No. 22B]	Within 72 hours of discovery of the deviation or shorter reporting period if required by an applicable State or Federal Regulation.	Within 14 days of discovery of the deviation.
d. ☐ Other Deviation [See Title V Permit, Section K, Condition Nos. 22D & 23]	None	With required semi-annual monitoring reports.

2. **The incident was first discovered by:** Greg Strong (Name) on 05/07/2022 (Date) 08:10 (Time) ○ AM ◉ PM

3. **The incident was first reported by:** Voicemail left at 1800-CUT-SMOG (Name of AQMD Staff Person) on 05/07/2022 (Date) 08:15 (Time) ○ AM ◉ PM

a. ◉ Via Phone

b. ○ In Person

Notification Number (Required): 698976

4. **When did the incident actually occur?** 05/07/2022 (Date) 07:16 (Time) ○ AM ◉ PM

AQMD USE ONLY				
Received By:		Assigned By:	Inspector:	
Date/Time Received:		Date/Time Assigned:	Date/Time Received Assignment:	
Date Delivered To Team:		Date Reviewed Inspector Report:	Date Inspected Facility:	
Team:	Sector:	Breakdown/Deviation Notification No.	Date Completed Report:	
Recommended Action:	Cancel Notification	Grant Relief	Issue NOV No.	Other:
Final Action:	Cancel Notification	Grant Relief	Issue NOV No.	Other:

5. Has the incident stopped? a. ◉ Yes, on: 05/07/2022 (Date) 08:15 (Time) ○ AM ◉ PM b. ○ No

6. What was the total duration of the incident? _____ (Days) 01 (Hours)

7. For equipment with an operating cycle, as defined in Rule 430 (b)(3)(A), when was the end of the operating cycle during which the incident occurred? _____ (Date) _____ (Time) ○ AM ○ PM

8. Describe the incident and identify each piece of equipment (by permit, application, or device number) affected. Attach photos (when available) of the affected equipment and attach additional pages as necessary.

See Attached

9. The incident may have resulted in a:

a. ☒ Violation of Permit Condition(s): A99.2 CO lbs/hr > 11.6 lbs shutdown

b. ☐ Violation of AQMD Rule(s):

10. What was the probable cause of the incident? Attach additional pages as necessary.

See Attached

11. Did the incident result in excess emissions? ○ No ◉ Yes (Complete the following and attach calculations.)

☐ VOC _____ lbs ☐ NOx _____ lbs ☐ SOx _____ lbs ☐ H2S _____ lbs

☒ CO 15.420 lbs ☐ PM _____ lbs ☐ Other: _____ lbs _____ pollutant

12. *For RECLAIM facilities Subject to Rule 2004 (i)(3) ONLY:* If excess emissions of NOx and/or SOx were reported in item 11, do you want these emissions to be counted when determining compliance with your annual allocations?

a. ◉ Yes, for: ☐ NOx ☐ SOx b. ○ No, for: ☐ NOx ☐ SOx

If box 12(b) above is checked, include all information specified in Rule 2004(i)(3)(B) and (C), as applicable.

13. Describe the steps taken to correct the problem (i.e., steps taken to mitigate excess emissions, equipment repairs, etc.) and the preventative measures employed to avoid future incidents. Include photos of the failed equipment if available and attach additional pages as necessary.

See Attached

14. Was the facility operating properly prior to the incident?

a. ◉ Yes b. ○ No, because:

15. Did the incident result from operator error, neglect or improper operation or maintenance procedures?

a. ○ Yes b. ◉ No, because: the operator followed operating procedures

16. Has the facility returned to compliance?

a. ○ No, because:

b. ◉ Yes (Attach evidence such as emissions calculations, contemporaneous operating logs or other credible evidence.)

Section III - Certification Statement

I certify under penalty of law that based on information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments and other materials are true, accurate, and complete.

For Title V Facilities ONLY: ☒ I also certify under penalty of law that that I am the responsible official for this facility as defined in AQMD Regulation XXX.

1. Signature of Responsible Official:	2. Title of Responsible Official: GENERATION PLANT MANAGER
3. Print Name: RONALD HOFFARD	4. Date: 05/18/2022
5. Phone #: (714) 765-4536	6. Fax #:

7. Address of Responsible Official:

3071 E. MIRALOMA (Street #) Anaheim (City) CA (State) 92806 (Zip)

AQMD 500N Episode Date: 5/07/2022
Identify issue: Shutdown Episode
Canyon Power Plant: Unit 1/ID# 153992
Notification:

Question 8 - Describe the incident and identify each piece of equipment:

Unit 1 consists of a natural gas fired General Electric, model LM6000PC Sprint, Simple Cycle combustion turbine generator with a SCR and CO oxidation catalyst utilized for control of NOx and CO/VOC emissions. The NOx emissions from the gas turbine are controlled by utilizing two independent systems in series. The first system utilized by the unit is the water injection system monitored by the inlet NOx analyzer. The water is injected into the combustor to suppress the flame temperature reducing the NOx to 25ppm at 15% O2 prior to entry into the SCR. The second NOx control is ammonia injection into the SCR grid to further reduce the NOx emissions to less than 2.5ppm.

Unit 1 had a planned general spring maintenance outage scheduled May 2 through May 8, 2022 which included major repair work to internal engine components and alignment, cleaning, SCR media repairs, re-packing and sealing of both the CO and SCR Catalyst (**see attachment 1**). Prior to releasing Unit 1 from the outage the Unit went through a visual performance evaluation to ensure the turbine was ready for operation. GE recommended to run the unit for 20 minutes to adjust the Thrust Balance on the engine. Staff was informed by SISU (catalyst contractor) that a CO spike will be observed due to burn in of new carbon steel alignment and gasket retention brackets, new gaskets with sealant adhesives, and lubricants used on installation of new carbon steel hardware.

Unit 1 operated on May 7, 2022 at 1916 hours and staff observe several CO ppm spikes in the first ten minutes of operation (**see attachment 2**). Staff was aware of the potential CO spikes but had no knowledge how high and for how long those spikes were going to occur. In the first 6 minutes of operation the water injection auto-initiated followed by the ammonia flow injection at 1924 hours when exhaust temperature reached above 540°F. Staff also observed that the NOx ppm emissions were higher than normal, however, the NOx ppm emissions were in compliance by minute 1928. Once the NOx ppm was in compliance, staff believed CO ppm would quickly drop and stabilize to compliance. However, the CO ppm slowly stabilized longer than normal and did not come into compliance as anticipated from previous experience and runs. When the CO ppm took longer than expected, it was decided to shut down the unit to mitigate further non-compliant emissions. The unit was shut down at 1943 hours however, the CO lbs per hour had been exceeded.

Question 10 – What was the probable cause of the incident?

1. The CO lbs permit limit is 11.6 lbs/hr and the hourly average was 27.47 lbs resulting in an exceedance of 15.87 lbs over permit limits. The cause of the CO lbs/hr shutdown exceedance was due to a delayed shutdown. The Canyon Power Plant startup procedure for CO lbs/hr is: At 5 minutes into startup and CO lbs/hr is less than 7 lbs/hr, continue with startup. The startup CO lbs/hr at 5 minutes was 5.13. At minute 6, the CO lbs/hr spiked up to an average of 180 lbs/hr for 4 minutes. At 10 minutes into startup, it was too late to shutdown to avoid an exceedance.
2. The operating staff was not aware of or informed that this degree and duration of CO lbs/hr would occur as a result of the SCR catalyst materials used for refurbishment and repair. The operating staff does not have the capability or means to see at what point in 60 minutes operation should be terminated due to a spike in CO lbs/hr after having achieved compliance earlier.

Question 13 – Describe the steps taken to correct the problem:

On 5/7/22 Unit 1 was shut down at 1943 hours. On May 8, 2022 Unit 1 was started and maintained compliance for the entire run (**see attachment 3**). Testing and tuning was performed for CO and NOx emission controls prior to releasing the unit for normal operation per CAISO requirements.

Question 16 – Facility returned to compliance?

Yes, the facility returned in compliance on May 8, 2022. The unit was placed in maintenance mode to retune and test the turbine control systems. The unit was released from outage.

ATTACHMENT 1

CO Oxidation Catalyst

Before re-packing

During re-packing

After re-packing

Canyon Power Plant ID#153992

ATTACHMENT 2

Excedance 5-7-2022

Time	1_CO_CORR ppm	1_CO_LBHR #/hr	1_H2O_FLOW k#/hr	1_NH3_Flow #/hr	1_GasFlow kscfh	1_LOAD MW	1_NOX_CORR ppm	1_ShutDnDI 1=ON
19:15	0	0	0	-0.08	21.9	-0.02	0	0
19:16	508.78	109.1	0	-0.08	91	-0.02	8.32	0
19:17	103.75	22.06	0	-0.08	90.3	-0.02	36.81	0
19:18	39.62	8.42	0	-0.08	90.2	-0.02	38.36	0
19:19	53.92	11.43	0	-0.08	90	-0.02	37.16	0
19:20	80.81	17.13	0	-0.08	90	-0.01	34.29	0
19:21	103.65	23.74	0.3	-0.08	97.2	1.36	32.69	0
19:22	110.03	42.13	3.1	-0.08	162.6	10.67	29.38	0
19:23	73.81	41.76	7.5	-0.08	240.2	21.24	21.76	0
19:24	86.39	63.61	12.9	16.24	312.6	30.59	19.63	0
19:25	167.57	156.75	20.1	87.1	397.1	41.21	21.03	0
19:26	196.28	211.87	23.3	108.38	458.3	47.84	11.06	0
19:27	185.89	204.2	22.6	98.27	466.4	48.59	3.7	0
19:28	134.51	147.65	22.2	97.64	466.1	48.52	1.85	0
19:29	87.5	95.93	21.9	97.63	465.4	48.47	1.6	0
19:30	64.94	71.16	21.6	97.58	465.1	48.43	1.5	0
19:31	49.26	53.88	21.3	96.67	464.4	48.41	1.44	0
19:32	39.21	42.61	19.7	95.37	461.1	48.19	1.55	0
19:33	35.89	38.89	19.5	94.81	460.1	48.16	2.5	0
19:34	31.96	34.65	19.5	124.52	460.3	48.16	3.39	0
19:35	31.12	33.8	19.8	140.8	461.1	48.23	3.15	0
19:36	30.7	33.44	20.2	140.51	462.2	48.31	1.03	0
19:37	30.33	33.01	20.2	139.31	462.3	48.31	0.89	0
19:38	29.92	32.54	20.2	137.45	461.9	48.31	0.89	0
19:39	30.22	30.27	18.7	119.96	425.1	43.53	0.91	1
19:40	33.11	27.13	13.3	100.44	347.8	33.94	0.96	1
19:41	36.37	23.22	8.3	89.58	271	24.21	0.99	1
19:42	44.27	19.59	3.6	72.98	187.9	13.25	1.16	1
19:43	65.97	18.51	1.2	63.89	119.1	3.77	1.39	1
19:44	0	0	0.1	-0.09	0.4	-0.01	0	1
19:45	0	0	0	-0.09	0.3	-0.01	0	1
19:46	0	0	0	-0.09	0.3	-0.01	0	1
19:47	0	0	0	-0.09	0.3	-0.02	0	1
19:48	0	0	0	-0.09	0.3	-0.01	0	0
19:49	0	0	0	-0.08	0.3	-0.02	0	0
19:50	0	0	0	-0.08	0.4	-0.01	0	0
19:51	0	0	0	-0.09	0.3	-0.02	0	0
19:52	0	0	0	-0.09	0.3	-0.01	0	0
19:53	0	0	0	-0.08	0.3	-0.02	0	0
19:54	0	0	0	-0.09	0.3	-0.02	0	0
19:55	0	0	0	-0.09	0.3	-0.01	0	0
19:56	0	0	0	-0.09	0.3	-0.02	0	0
19:57	0	0	0	-0.09	0.3	-0.02	0	0
19:58	0	0	0	-0.09	0.3	-0.02	0	0
19:59	0	0	0	-0.09	0.3	-0.02	0	0
20:00	0	0	0	-0.08	0.3	-0.01	0	0
20:01	0	0	0	-0.08	0.3	-0.02	0	0
20:02	0	0	0	-0.08	0.3	-0.01	0	0
20:03	0	0	0	-0.06	0.3	-0.01	0	0
20:04	0	0	0	-0.08	0.3	-0.01	0	0
20:05	0	0	0	-0.07	0.3	-0.02	0	0
20:06	0	0	0	-0.09	0.3	-0.02	0	0
20:07	0	0	0	-0.09	0.3	-0.01	0	0
20:08	0	0	0	-0.08	0.3	-0.02	0	0
20:09	0	0	0	-0.08	0.3	-0.01	0	0
20:10	0	0	0	-0.09	0.3	-0.02	0	0
20:11	0	0	0	-0.09	0.3	-0.02	0	0
20:12	0	0	0	-0.08	0.3	-0.01	0	0
20:13	0	0	0	-0.09	0.3	-0.01	0	0
20:14	0	0	0	-0.09	0.3	-0.02	0	0
20:15	0	0	0	-0.08	0.3	-0.02	0	0

Exceedance	27.02
Limit	11.60
Over Limit	**15.42 CO lbs**

Canyon Power Plant ID#153992

ATTACHMENT 3

Compliance Run 5-8-2022

Time	1_CO_CORR ppm	1_CO_LBHR #/hr	1_H2O_FLOW k#/hr	1_NH3_Flow #/hr	1_GasFlow kscfh	1_LOAD MW	1_NOX_CORR ppm	1_ShutDnDI 1=ON
8:05	0	0	0	-0.09	0.3	-0.01	0	0
8:06	149.3	8.24	0	-0.09	23.4	-0.02	0	0
8:07	531.57	114.59	0	-0.09	91.5	-0.02	3.44	0
8:08	84.69	18.6	0	-0.09	93.2	0.48	25.88	0
8:09	9.91	2.68	0.8	-0.09	114.8	3.82	42.15	0
8:10	6.26	2.65	3.5	-0.09	180	13.13	35.36	0
8:11	4.34	2.6	7.7	-0.09	255.4	23.32	23.04	0
8:12	3.07	2.36	12.6	-0.09	326.4	32.71	24.87	0
8:13	2.29	2.2	19.4	21.13	410	43.02	26.56	0
8:14	2.1	2.16	21.9	89.27	438.3	45.63	23.93	0
8:15	2.44	2.56	22.5	94.53	443.2	46.18	10.35	0
8:16	2.84	3.1	22.3	96.4	461.5	48.48	3.01	0
8:17	3.23	3.55	21.8	99.28	469.4	49.08	1.62	0
8:18	3.66	4.05	21.5	99.96	470.4	49.08	1.54	0
8:19	3.97	4.4	21.2	99.15	470.4	49.04	1.51	0
8:20	4.02	4.44	20.9	99.17	470	49.01	1.55	0
8:21	3.96	4.39	20.5	98.41	469.2	48.9	1.72	0
8:22	3.88	4.28	20.2	96.87	468.6	48.87	2.15	0
8:23	3.78	4.18	20.2	98.02	468.6	48.84	2.8	0
8:24	3.72	4.14	20.5	99.59	469.4	48.92	2.96	0
8:25	3.74	4.15	20.8	102.61	470.1	49	2.86	0
8:26	3.86	4.3	20.9	103.42	470.5	49	2.14	0
8:27	4	4.44	20.5	104.31	469.9	48.93	1.88	0
8:28	4.08	4.53	20.2	103.49	468.6	48.89	1.88	0
8:29	4.06	4.47	20.1	103.36	468.3	48.87	2.02	0
8:30	4.01	4.43	20.1	103.98	468.5	48.86	2.26	0
8:31	4.01	4.42	20.1	104.17	468.1	48.82	2.41	0
8:32	4.05	4.47	20.1	105.51	467.7	48.83	2.42	0
8:33	4.09	4.52	20.1	105.92	467.9	48.85	2.38	0
8:34	4.12	4.52	20.1	106.62	467.9	48.86	2.33	0
8:35	4.13	4.57	20.1	107.88	468	48.84	2.25	0
8:36	4.15	4.57	20.1	108.22	467.5	48.84	2.2	0
8:37	4.14	4.57	20.1	108.94	467.5	48.84	2.15	0
8:38	4.13	4.57	20.1	108.84	467.6	48.84	2.13	0
8:39	4.11	4.52	20.1	110.53	467.5	48.85	2.1	0
8:40	4.09	4.51	20	111.14	467.3	48.84	2.07	0
8:41	4.05	4.47	20	109.96	467.4	48.79	2.06	0
8:42	3.99	4.37	20	110.25	467.2	48.82	2.03	0
8:43	3.92	4.31	20	110.77	466.9	48.76	2.02	0
8:44	3.85	4.22	20	110.16	467	48.81	2.02	0
8:45	3.77	4.17	20.1	110.56	466.9	48.81	2	0
8:46	3.7	4.07	20.4	110.68	467.5	48.88	1.97	0
8:47	3.68	4.03	20.5	111.42	467.6	48.92	1.89	0
8:48	3.68	4.03	20.5	111.12	467.8	48.88	1.75	0
8:49	3.65	4.02	20.4	110.73	467.4	48.85	1.69	0
8:50	3.6	3.98	20.4	110.87	467.4	48.86	1.68	0
8:51	3.54	3.87	20.4	111.69	467.1	48.85	1.7	0
8:52	3.47	3.82	20.1	109.73	466.9	48.81	1.75	0
8:53	3.38	3.72	20.2	109.69	466.7	48.85	1.85	0
8:54	3.31	3.63	20.1	108.58	466.6	48.83	1.93	0
8:55	3.25	3.58	20.1	109.46	466.6	48.8	1.98	0
8:56	3.22	3.52	20.1	108.56	466.2	48.81	2.01	0
8:57	3.19	3.52	20.1	109.31	466.1	48.8	2.02	0
8:58	3.16	3.47	20.1	108.73	466.1	48.78	2.02	0
8:59	3.12	3.43	20.1	109.3	466.1	48.77	2	0
9:00	3.09	3.38	20.1	110.09	466	48.8	1.99	0
9:01	3.01	3.33	20	110.13	465.8	48.77	1.98	0
9:02	2.98	3.28	20	110.68	465.9	48.76	1.99	0
9:03	2.96	3.23	20.1	109.38	465.7	48.76	1.97	0
9:04	0	0	20	111.06	465.8	48.77	0	0

Time	1_CO_CORR ppm	1_CO_LBHR #/hr	1_H2O_FLOW k#/hr	1_NH3_Flow #/hr	1_GasFlow kscfh	1_LOAD MW	1_NOX_CORR ppm	1_ShutDnDI 1=ON
9:05	0	0	20	107.25	465.9	48.79	0	0
9:06	0	0	20.1	107.95	466.3	48.79	0	0
9:07	0	0	20.1	107.68	466.5	48.76	0	0
9:08	0	0	20	107.09	466.2	48.76	0	0
9:09	0	0	20.1	107.49	466.3	48.75	0	0
9:10	0	0	20	107.05	465.9	48.72	0	0
9:11	0	0	19.9	107.35	465.9	48.72	0	0
9:12	0	0	20	107.26	466.2	48.71	0	0
9:13	0	0	20	107.52	465.9	48.7	0	0
9:14	0	0	20	107.49	466.6	48.75	0	0
9:15	0	0	20.1	107.54	466.6	48.79	0	0
9:16	0	0	20	107.69	466.3	48.7	0	0
9:17	0	0	20	107.26	465.6	48.65	0	0
9:18	0	0	20	107.19	465.9	48.66	0	0
9:19	0	0	20	107.04	465.5	48.65	0	0
9:20	0	0	20	107.33	465.7	48.63	0	0
9:21	0	0	20	107.14	465.3	48.65	0	0
9:22	0	0	19.9	107.07	465.8	48.64	0	0
9:23	2.39	2.64	19.9	108.11	465.2	48.65	2.33	0
9:24	2.37	2.6	20	108.39	466.7	48.77	2.32	0

60 min Aveg 5.99 CO lbs/hr - Compliance

Limit 11.6 CO lbs/hr

South Coast Air Quality Management District

Form 500-N

Title V - Deviations, Emergencies & Breakdowns

*This written report is in addition to requirements to verbally report certain types of incidents. Verbal reports may be made by calling AQMD at 1-800-288-7664 (1-800-CUT-SMOG) or AQMD enforcement personnel.

Mail To:
SCAQMD
P.O. Box 4941
Diamond Bar, CA 91765-0941

Tel: (909) 396-3385
www.aqmd.gov

Section I - Operator Information

1. **Facility Name** (Business Name of Operator That Appears On Permit): CANYON POWER PLANT Unit 2 (D7)

2. **Valid AQMD Facility ID** (Available On Permit Or Invoice Issued By AQMD): 153992

3. **Address:** (where incident occurred) 3071 E. Miraloma Avenue (Street Address)
Anaheim (City) CA (State) 92806 (Zip)

4. **Mailing Address:** (if different from Item 3) _____ (Street Address)
_____ (City) _____ (State) _____ (Zip)

5. **Provide the name, title, and phone number of the person to contact for further information:**

Ronald Hoffard	Generation Plant Manager	(714) 765-4536
Name	Title	Phone #

Section II - Reporting of Breakdowns, Deviations, and Emergencies

1. **This written notification is to report a(n):**

Type of Incident	Verbal Report Due*	Written Report Due
a. ☐ Emergency under Rule 3002(g)	Within 1 hour of discovery	Within 2 working days from when the emission limit was exceeded.
b. ☐ Breakdown under: ☐ Rule 430 (Non-RECLAIM) ☐ Rule 2004 (RECLAIM)	For Rules 430 & 2004 - Within 1 hour of discovery.	For Rules 430 & 2004 - Within 7 calendar days after breakdown is corrected, but no later than 30 days from start of the breakdown, unless a written extension is granted.
☐ Rule 218 (Non-RECLAIM) [See Rule 218(f)(3)]	For Rule 218 – Within 24 hours or next business day for failure/shutdown exceeding 24 hours	For Rule 218 - With required semi-annual reports.
c. ☒ Deviation with excess emissions [See Title V Permit, Section K, Condition No. 22B]	Within 72 hours of discovery of the deviation or shorter reporting period if required by an applicable State or Federal Regulation.	Within 14 days of discovery of the deviation.
d. ☐ Other Deviation [See Title V Permit, Section K, Condition Nos. 22D & 23]	None	With required semi-annual monitoring reports.

2. **The incident was first discovered by:** Charlie Vo (Name) on 05/13/2022 (Date) 09:30 (Time) ◉ AM ○ PM

3. **The incident was first reported by:** Voicemail left at 1800-CUT-SMOG (Name of AQMD Staff Person) on 05/16/2022 (Date) 06:21 (Time) ◉ AM ○ PM

a. ◉ Via Phone

b. ○ In Person

Notification Number (Required): 699925

4. **When did the incident actually occur?** 05/13/2022 (Date) 08:06 (Time) ◉ AM ○ PM

AQMD USE ONLY				
Received By:		Assigned By:	Inspector:	
Date/Time Received:		Date/Time Assigned:	Date/Time Received Assignment:	
Date Delivered To Team:		Date Reviewed Inspector Report:	Date Inspected Facility:	
Team:	Sector:	Breakdown/Deviation Notification No.	Date Completed Report:	
Recommended Action:	Cancel Notification	Grant Relief	Issue NOV No. _____	Other: _____
Final Action.	Cancel Notification	Grant Relief	Issue NOV No. _____	Other: _____

5. Has the incident stopped? a. ◉ Yes, on: 05/13/2022 (Date) 09:05 (Time) ○ AM ◉ PM b. ○ No

6. What was the total duration of the incident? _____ (Days) 01 (Hours)

7. For equipment with an operating cycle, as defined in Rule 430 (b)(3)(A), when was the end of the operating cycle during which the incident occurred? _____ (Date) _____ (Time) ○ AM ○ PM

8. Describe the incident and identify each piece of equipment (by permit, application, or device number) effected. Attach photos (when available) of the affected equipment and attach additional pages as necessary.

See Attached

9. The incident may have resulted in a:

a. ☒ Violation of Permit Condition(s): A99.2 CO lbs/hr > 19.4 lbs Tuning Mode

b. ☐ Violation of AQMD Rule(s):

10. What was the probable cause of the incident? Attach additional pages as necessary.

See Attached

11. Did the incident result in excess emissions? ○ No ◉ Yes (Complete the following and attach calculations.)

☐ VOC _____ lbs ☐ NOx _____ lbs ☐ SOx _____ lbs ☐ H2S _____ lbs

☒ CO 19.530 lbs ☐ PM _____ lbs ☐ Other: _____ lbs _____ pollutant

12. *For RECLAIM facilities Subject to Rule 2004 (i)(3) ONLY:* If excess emissions of NOx and/or SOx were reported in Item 11, do you want these emissions to be counted when determining compliance with your annual allocations?

a. ◉ Yes, for: ☐ NOx ☐ SOx b. ○ No, for: ☐ NOx ☐ SOx

If box 12(b) above is checked, include all information specified in Rule 2004(i)(3)(B) and (C), as applicable.

13. Describe the steps taken to correct the problem (i.e., steps taken to mitigate excess emissions, equipment repairs, etc.) and the preventative measures employed to avoid future incidents. Include photos of the failed equipment if available and attach additional pages as necessary.

See Attached

14. Was the facility operating properly prior to the incident?

a. ◉ Yes b. ○ No, because:

15. Did the incident result from operator error, neglect or improper operation or maintenance procedures?

a. ○ Yes b. ◉ No, because: the operator followed operating procedures

16. Has the facility returned to compliance?

a. ○ No, because:

b. ◉ Yes (Attach evidence such as emissions calculations, contemporaneous operating logs or other credible evidence.)

Section III - Certification Statement

I certify under penalty of law that based on information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments and other materials are true, accurate, and complete.

For Title V Facilities ONLY: ☒ I also certify under penalty of law that that I am the responsible official for this facility as defined in AQMD Regulation XXX.

1. Signature of Responsible Official:	2. Title of Responsible Official: GENERATION PLANT MANAGER
3. Print Name: RONALD HOFFARD	4. Date: 05/25/2022
5. Phone #: (714) 765-4536	6. Fax #:

7. Address of Responsible Official:

3071 E. MIRALOMA	Anaheim	CA	92806
Street #	City	State	Zip

AQMD 500N Episode Date: 5/13/2022
Identify issue: Shutdown Episode
Canyon Power Plant: Unit 2/ID# 153992
Notification: 699925

Question 8 - Describe the incident and identify each piece of equipment:

Unit 2 consists of a natural gas fired General Electric, model LM6000PC Sprint, Simple Cycle combustion turbine generator with a SCR and CO oxidation catalyst utilized for control of NOx and CO/VOC emissions. The NOx emissions from the gas turbine are controlled by utilizing two independent systems in series. The first system utilized by the unit is the water injection system monitored by the inlet NOx analyzer. The water is injected into the combustor to suppress the flame temperature reducing the NOx to 25ppm at 15% O2 prior to entry into the SCR. The second NOx control is ammonia injection into the SCR grid to further reduce the NOx emissions to less than 2.5ppm.

Unit 2 had a planned general spring maintenance outage scheduled May 16 through May 21, 2022 which included catalyst cleaning, SCR media repairs, re-packing and sealing of both the CO and SCR catalyst, installation of SCR catalyst module restraining brackets, and CO catalyst gasket retention bars. Prior to releasing Unit 2 from the outage the Unit went through a visual performance evaluation to ensure the turbine was ready for operation. Staff was informed by SISU (catalyst contractor) that a CO spike would be observed due to burn in of new carbon steel alignment hardware and gasket retention brackets, new gaskets with sealant adhesives, and lubricants used on installation of new carbon steel hardware.

Unit 2 operated on May 13, 2022 at 0806 hours. Do to the previous experience with Unit 1 it was important to verify and test Unit 1 turbine controls. Unit 2 Tuning Maintenance was initiated at 0803 hours, it is noted under the 2_EMTuning channel, to test the turbine controls. Staff observed several CO ppm spikes in the first ten minutes of operation. Staff was confident they would be able to achieve compliance. The water injection auto-initiated followed by the ammonia flow injection at 0812 hours when exhaust temperature reached above 540°F. The NOx ppm emissions were higher than normal, but the NOx ppm emissions came in compliance by minute 0826. The CO ppm slowly stabilized and did not come into compliance as anticipated from previous experience and runs. When the CO ppm took longer than expected, it was decided to continue the operation because staff observed CO ppm was decreasing. After 50 minutes of operation the unit's CO ppm quickly decreased and came into compliance. However, the CO lbs emissions for maintenance had been exceeded in the first hour of operation. An online passing calibration was performed at 0923 hours. The unit continued to operate for an additional 30 minutes showing all controls and parameters were working and maintaining the unit in compliance. The unit was shut down at 1011 hours however, the CO lbs per hour for maintenance tuning operation had been exceeded (See attachment A).

Question 10 – What was the probable cause of the incident?

The CO lbs permit limit for maintenance operation is 19.4 lbs/hr and the hourly average calculated was 38.93 lbs resulting in an exceedance of 19.53 lbs over permit limit. The cause of the CO lbs/hr maintenance operation exceedance was due to thinking we would be able to meet the limit. When staff realized the CO lbs were exceeded it was determined to let the unit continue and bring it to compliance. The second hour shows the unit came into compliance and an online passing Calibration was performed without any issues. A shutdown command was initiated and the unit shutdown at 1011 hours.

Question 13 – Describe the steps taken to correct the problem:

On 5/13/22 Unit 2 was shut down at 1011 hours. Unit 2 has continued to be in compliance since released from outage. Testing and tuning was performed for CO and NOx emission controls prior to releasing the unit for normal operation per CAISO requirements.

Question 16 – Facility returned to compliance?

Yes, the facility returned in compliance on May 13, 2022. The unit was released from outage.

Also provided attachment B (5.6.22 Run – Before) and attachment C (5.19.22 Run – After) which shows unit in compliance.

ATTACHMENT – A

5.13.22 Exceedance Run

Time	2_CO_CORR ppm	2_CO_LBHR #/hr	2_H2O_FLOW k#/hr	2_NH3_Flow #/hr	2_GasFlow kscfh	2_NOX_CORR ppm	2_EMTuning 1=ON	2_COlb_ETH pounds
8:05	0	0	0	0.89	7.2	0	1	-99.99
8:06	541.8	87.14	0	0.89	68.3	0.06	1	1.45
8:07	311.17	67.01	0	0.9	91.4	26.33	1	2.57
8:08	35.95	8.43	0	0.89	99.5	46.52	1	2.71
8:09	40.57	13.83	1.9	0.9	144.8	40.92	1	2.94
8:10	46.56	23.9	5.3	0.89	218	27.35	1	3.34
8:11	59.88	40.87	9.1	0.91	289.8	18.32	1	4.02
8:12	96.9	85.22	14.4	41.64	373.3	24.21	1	5.44
8:13	149.85	157.5	18.4	103.28	446.3	28.74	1	8.07
8:14	195.47	212.63	18.3	111.89	461.8	10.79	1	11.61
8:15	189.57	207.24	18.4	113.03	464.2	4.92	1	15.06
8:16	122.38	134.23	18.5	113.37	465.7	3.86	1	17.3
8:17	81.75	89.99	18.5	113.73	467.3	3.72	1	18.8
8:18	66.16	72.86	18.5	114.46	467.6	3.78	1	20.01
8:19	50.51	55.63	18.6	116.76	467.6	3.89	1	20.94
8:20	40.47	44.59	18.6	120.39	467.7	3.91	1	21.68
8:21	35.12	38.7	18.5	123.87	467.7	3.7	1	22.33
8:22	33.9	37.38	18.5	126.92	467.8	3.4	1	22.95
8:23	32.8	36.21	18.5	129.87	468.6	3.04	1	23.56
8:24	31.49	34.74	18.6	131.81	468.7	2.74	1	24.14
8:25	30.59	33.74	18.5	133.27	468.5	2.46	1	24.7
8:26	30.07	33.15	18.5	134.41	468.4	2.27	1	25.25
8:27	29.82	32.91	18.5	135.2	468.5	2.18	1	25.8
8:28	29.58	32.59	18.5	135.66	468.2	2.11	1	26.34
8:29	29.41	32.43	18.5	136	467.9	2.08	1	26.88
8:30	29.22	32.2	18.5	136.31	468.2	2.06	1	27.42
8:31	29.03	31.98	18.5	136.67	467.9	2.06	1	27.95
8:32	28.74	31.68	18.5	136.81	467.8	2.05	1	28.48
8:33	28.45	31.33	18.5	137.15	467.6	2.05	1	29
8:34	28.03	30.9	18.5	137.39	467.9	2.05	1	29.52
8:35	27.44	30.25	18.5	137.58	467.6	2.06	1	30.02
8:36	26.86	29.54	18.5	138.08	467.3	2.04	1	30.51
8:37	26.19	28.86	18.5	138.19	467.5	2.05	1	30.99
8:38	25.42	27.99	18.4	138.51	467.7	2.05	1	31.46
8:39	24.52	26.99	18.5	138.73	467.3	2.06	1	31.91
8:40	23.51	25.87	18.5	138.9	467.5	2.06	1	32.34
8:41	22.47	24.73	18.4	139.27	467.3	2.05	1	32.75
8:42	21.52	23.68	18.4	139.41	466.9	2.04	1	33.15
8:43	20.56	22.59	18.4	139.57	466.8	2.05	1	33.53
8:44	19.6	21.56	18.4	139.87	466.8	2.05	1	33.88
8:45	18.97	20.88	18.5	139.94	466.9	2.03	1	34.23
8:46	18.94	20.85	18.4	140.07	467.3	2.02	1	34.58
8:47	18.94	20.82	18.4	139.91	466.6	2.01	1	34.93
8:48	18.94	20.83	18.4	139.99	466.7	2.02	1	35.27
8:49	18.94	20.82	18.4	140.14	466.5	2.03	1	35.62
8:50	18.94	20.92	19.3	140.03	468.8	2.02	1	35.97
8:51	18.82	20.83	19.9	140.01	470.2	1.8	1	36.32
8:52	18.82	20.83	19.9	140.03	470	1.42	1	36.66
8:53	18.82	20.83	19.9	140.07	470.2	1.43	1	37.01

A

Time	2_CO_CORR ppm	2_CO_LBHR #/hr	2_H2O_FLOW k#/hr	2_NH3_Flow #/hr	2_GasFlow kscfh	2_NOX_CORR ppm	2_EMTuning 1=ON	2_COlb_ETH pounds
8:54	18.82	20.84	19.9	140.05	470.3	1.42	1	37.36
8:55	18.82	20.83	19.9	139.96	470.2	1.42	1	37.71
8:56	13.73	15.21	19.9	139.34	470.3	1.42	1	37.96
8:57	8.11	8.99	19.9	138.59	470.4	1.42	1	38.11
8:58	7.36	8.15	19.9	137.65	470.4	1.43	1	38.25
8:59	6.67	7.41	19.9	136.71	470.3	1.46	1	38.37
9:00	6.07	6.71	19.9	135.82	469.8	1.49	1	38.48
9:01	5.55	6.16	19.9	134.97	469.5	1.51	1	38.58
9:02	5.13	5.67	19.9	134.31	469.8	1.56	1	38.68
9:03	4.79	5.28	19.9	133.59	469.8	1.58	1	38.77
9:04	4.49	4.98	19.9	132.91	469.4	1.6	1	38.85
9:05	4.23	4.69	19.9	132.45	469.8	1.63	1	38.93
9:06	4.02	4.44	19.9	131.91	469.5	1.67	1	37.55
9:07	3.89	4.3	20.3	131.67	470.7	1.68	1	36.5
9:08	3.75	4.17	21	131.65	472.3	1.68	1	36.43
9:09	3.71	4.13	21.5	131.85	473.7	1.56	1	36.27
9:10	3.72	4.14	21.8	131.64	474.5	1.35	1	35.94
9:11	3.75	4.19	22.2	130.86	474.6	1.25	1	35.33
9:12	3.77	4.23	22.4	129.49	474.5	1.18	1	33.98
9:13	3.81	4.28	22.3	128.36	474.3	1.12	1	31.43
9:14	3.81	4.26	21.5	126.36	472.3	1.09	1	27.95
9:15	3.67	4.07	21.5	124.65	472.2	1.17	1	24.57
9:16	3.47	3.86	21	123.11	470.8	1.29	1	22.39
9:17	3.3	3.64	19.7	121.16	468.2	1.42	1	20.96
9:18	3.11	3.43	19.5	120.03	467.3	2.23	1	19.8
9:19	2.82	3.09	19.5	120.45	467.5	2.95	0	18.87
9:20	2.59	2.85	19.9	122.58	468.6	3.05	0	18.13
9:21	2.47	2.76	20.2	124.76	469.8	2.7	0	17.48
9:22	2.46	2.72	20.8	126.8	471.4	2.15	0	16.86
9:23	0	0	20.8	127.5	471.9	0	0	16.26
9:24	0	0	20.8	127.64	471.4	0	0	15.68
9:25	0	0	20.8	127.55	471.2	0	0	15.12
9:26	0	0	20.8	127.59	471.5	0	0	14.56
9:27	0	0	20.8	127.56	471	0	0	14.01
9:28	0	0	20.8	127.52	471.5	0	0	13.47
9:29	0	0	20.8	127.57	471.3	0	0	12.93
9:30	0	0	20.8	127.5	471.3	0	0	12.39
9:31	0	0	20.8	127.47	471.4	0	0	11.86
9:32	0	0	20.8	127.46	471.5	0	0	11.33
9:33	0	0	20.8	127.48	471.8	0	0	10.81
9:34	0	0	20.8	127.5	471.9	0	0	10.3
9:35	0	0	20.8	127.51	471.8	0	0	9.79
9:36	0	0	20.8	127.52	471.9	0	0	9.3
9:37	0	0	20.8	127.48	471.9	0	0	8.82
9:38	0	0	20.8	127.52	471.7	0	0	8.35
9:39	0	0	20.8	127.52	471.7	0	0	7.9
9:40	0	0	20.8	127.55	471.4	0	0	7.47
9:41	0	0	20.8	127.47	471.9	0	0	7.06
9:42	1.76	1.98	20.8	127.42	471.5	1.74	0	6.66
9:43	1.74	1.93	20.8	127.06	471.4	1.72	0	6.29

A

Time	2_CO_CORR ppm	2_CO_LBHR #/hr	2_H2O_FLOW k#/hr	2_NH3_Flow #/hr	2_GasFlow kscfh	2_NOX_CORR ppm	2_EMTuning 1=ON	2_COlb_ETH pounds
9:44	1.72	1.93	20.8	126.65	471.2	1.71	0	5.93
9:45	1.71	1.88	20.8	126.28	470.9	1.69	0	5.58
9:46	1.68	1.88	20.8	125.97	471.2	1.71	0	5.23
9:47	1.67	1.83	20.6	125.53	470.8	1.71	0	4.89
9:48	1.64	1.83	20.2	124.85	469.8	1.73	0	4.54
9:49	1.58	1.77	20.2	124.48	469.5	1.79	0	4.19
9:50	1.49	1.63	20.1	124.1	469.2	1.93	0	3.84
9:51	1.43	1.58	20.2	124.2	468.9	2.02	0	3.5
9:52	1.41	1.58	20.2	124.49	469.5	2.04	0	3.15
9:53	1.43	1.58	20.2	124.78	469.6	2.04	0	2.8
9:54	1.43	1.58	20.2	125.1	469.8	2.02	0	2.45
9:55	1.44	1.58	20.2	125.21	469.1	2.04	0	2.11
9:56	1.43	1.58	20.2	125.12	468.8	2.04	0	1.85
9:57	1.41	1.58	20.3	125.41	469.1	2.02	0	1.7
9:58	1.39	1.53	20.2	125.76	468.8	1.99	0	1.57
9:59	1.38	1.52	20.1	125.72	468.3	1.98	0	1.44
10:00	1.36	1.52	20.1	125.78	467.8	1.98	0	1.33
10:01	1.35	1.47	20.1	125.7	467.7	1.93	0	1.23
10:02	1.38	1.45	18.6	116.92	444.4	1.91	0	1.13
10:03	1.64	1.44	14.5	93.96	370.9	1.86	0	1.05
10:04	1.98	1.36	9.9	76.33	294.4	1.59	0	0.96
10:05	1.99	1	4.9	69.82	211	2.33	0	0.89
10:06	1.85	0.6	1.7	71.34	139.1	2.78	0	0.81
10:07	2.33	0.51	0.7	64.53	93.6	3.42	0	0.74
10:08	4.62	1	0.7	68.12	91.1	3.98	0	0.67
10:09	7.84	1.69	0.7	71.9	91.2	4.19	0	0.6
10:10	10.51	2.26	0.7	75.91	91.2	4.02	0	0.53
10:11	11.49	2.47	0.8	79.72	91.1	3.48	0	0.46
10:12	0	0	0.1	27.84	30.6	0	0	0.39
10:13	0	0	0	0.89	0.2	0	0	0.32
10:14	0	0	0	0.89	0.2	0	0	0.25
10:15	0	0	0	0.89	0.3	0	0	0.18
10:16	0	0	0	0.89	0.3	0	0	0.12
10:17	0	0	0	0.89	0.3	0	0	0.06
10:18	0	0	0	0.89	0.3	0	0	-99.99
10:19	0	0	0	0.89	0.3	0	0	

38.93	Exceedance
19.40	Limit CO lbs
19.53	**CO lbs over the limit**

ATTACHMENT B

5.6.22 Run (Before)

Time	2_CO_CORR ppm	2_CO_LBHR #/hr	2_H2O_FLOW k#/hr	2_NH3_Flow #/hr	2_GasFlow kscfh	2_NOX_CORR ppm	2_EMTuning 1=ON	2_COlb_ETH pounds
16:44	576.39	88.31	0	0.89	65	0	0	-99.99
16:45	393.72	85.22	0	0.89	91.9	9.52	0	-99.99
16:46	37.29	8.99	0	0.89	102.4	34.3	0	-99.99
16:47	11.82	3.89	1.7	0.89	139.8	32.12	0	-99.99
16:48	7.93	4.01	5	0.89	214.3	21.22	0	-99.99
16:49	5.21	3.5	8.7	0.89	284.7	13.63	0	-99.99
16:50	3.41	2.69	10.9	35.39	333.1	13.28	0	-99.99
16:51	2.38	1.85	11.2	73.17	333.1	22.59	0	-99.99
16:52	1.85	1.43	11.6	74.67	332.9	14.63	0	-99.99
16:53	1.64	1.29	12	74.45	331.8	8.65	0	-99.99
16:54	1.66	1.29	12.5	74.31	331.8	6.32	0	-99.99
16:55	1.76	1.36	12.8	74.52	332.2	4.98	0	-99.99
16:56	1.91	1.5	13	74.81	332.9	3.99	0	-99.99
16:57	2.07	1.6	13.1	76.4	331.5	3.4	0	-99.99
16:58	2.2	1.7	13.3	78.8	331.2	3.19	0	-99.99
16:59	2.31	1.81	13.5	81.04	331.6	2.41	0	-99.99
17:00	2.46	1.92	13.5	81.96	331.8	1.99	0	-99.99
17:01	2.6	2.02	13.3	82.15	332	1.84	0	-99.99
17:02	2.65	2.06	13.2	82.02	331.9	1.69	0	-99.99
17:03	2.56	1.99	13	81.7	332.4	1.62	0	-99.99
17:04	2.42	1.88	12.9	81.26	332	1.65	0	-99.99
17:05	2.27	1.78	13	80.93	332.4	1.72	0	-99.99
17:06	2.16	1.68	13	80.76	333.7	1.8	0	-99.99
17:07	2.13	1.68	13	80.63	332.5	1.83	0	-99.99
17:08	2.1	1.64	13	80.1	332	1.87	0	-99.99
17:09	2.1	1.64	13	80.33	332.4	1.87	0	-99.99
17:10	2.11	1.63	12.9	79.92	331	1.88	0	-99.99
17:11	2.14	1.67	12.9	79.76	331.5	1.89	0	-99.99
17:12	2.15	1.68	13	80.26	333	1.89	0	-99.99
17:13	2.15	1.68	13	80.33	332.8	1.92	0	-99.99
17:14	2.16	1.67	13	80.17	332	1.94	0	-99.99
17:15	2.16	1.67	13	80.16	332.1	1.93	0	-99.99
17:16	2.15	1.68	13.1	80.36	332.6	1.9	0	-99.99
17:17	2.16	1.67	13.1	80.22	332.1	1.87	0	-99.99
17:18	2.22	1.74	13.1	80.15	332.2	1.83	0	-99.99
17:19	2.25	1.78	13.2	80.34	333.2	1.81	0	-99.99
17:20	2.28	1.78	13.1	79.96	332.1	1.8	0	-99.99
17:21	2.28	1.77	13.1	79.47	331.3	1.81	0	-99.99
17:22	2.28	1.78	13	79.33	331.7	1.82	0	-99.99
17:23	2.28	1.78	13.1	79.4	332.1	1.82	0	-99.99
17:24	2.28	1.77	13.1	79.19	331.2	1.85	0	-99.99
17:25	2.24	1.74	13.1	78.98	331.4	1.86	0	-99.99
17:26	2.23	1.74	13.1	79.19	332.3	1.86	0	-99.99
17:27	2.23	1.74	13	78.87	331.3	1.87	0	-99.99
17:28	2.25	1.78	13.1	78.81	331.8	1.88	0	-99.99
17:29	2.27	1.78	13.1	79.11	332.4	1.88	0	-99.99
17:30	2.28	1.78	13	78.78	331.9	1.89	0	-99.99
17:31	2.27	1.78	13.1	79.1	332.3	1.9	0	-99.99
17:32	2.25	1.78	13.1	78.82	331.5	1.9	0	-99.99

B

Time	2_CO_CORR ppm	2_CO_LBHR #/hr	2_H2O_FLOW k#/hr	2_NH3_Flow #/hr	2_GasFlow kscfh	2_NOX_CORR ppm	2_EMTuning 1=ON	2_COlb_ETH pounds
17:33	2.24	1.74	13.1	78.66	331.2	1.92	0	-99.99
17:34	2.24	1.75	13.2	79.02	332.4	1.92	0	-99.99
17:35	2.24	1.74	13.1	79.03	332	1.92	0	-99.99
17:36	2.25	1.77	13.1	78.86	331.4	1.93	0	-99.99
17:37	2.24	1.74	13.1	78.69	331.1	1.93	0	-99.99
17:38	2.27	1.78	13.1	79.03	331.8	1.92	0	-99.99
17:39	2.29	1.77	13.1	78.98	331.4	1.9	0	-99.99
17:40	2.28	1.78	13.1	79.14	331.9	1.9	0	-99.99
17:41	2.25	1.74	13	78.8	330.5	1.92	0	-99.99
17:42	2.22	1.74	13	78.83	331	1.93	0	-99.99
17:43	2.22	1.74	13	79.25	331.8	1.95	0	-99.99
17:44	2.22	1.74	13	79.27	332	1.96	0	-99.99
17:45	2.22	1.74	13.1	79.52	332.1	1.96	0	-99.99
17:46	2.23	1.74	13	79.49	331.7	1.96	0	-99.99
17:47	2.23	1.74	13	79.36	331.3	1.95	0	-99.99
17:48	0	0	13	79.49	330.8	0	0	-99.99
17:49	0	0	13	79.44	330.9	0	0	-99.99
17:50	0	0	13.1	79.34	332.4	0	0	-99.99
17:51	0	0	13.1	79.3	331.6	0	0	-99.99
17:52	0	0	13	79.29	331	0	0	-99.99
17:53	0	0	13	79.34	331.6	0	0	-99.99
17:54	0	0	13	79.35	330.8	0	0	-99.99
17:55	0	0	13	79.28	331	0	0	-99.99
17:56	0	0	13	79.29	332.1	0	0	-99.99
17:57	0	0	13	79.31	330.6	0	0	-99.99
17:58	0	0	13	79.3	331.5	0	0	-99.99
17:59	0	0	13	79.28	331.5	0	0	-99.99
18:00	0	0	13	79.33	331.4	0	0	-99.99
18:01	0	0	13	79.27	330.5	0	0	-99.99
18:02	0	0	13	79.24	330.1	0	0	-99.99
18:03	0	0	13	79.22	331.1	0	0	-99.99
18:04	0	0	13	79.33	330.9	0	0	-99.99
18:05	0	0	13	79.27	330.6	0	0	-99.99
18:06	0	0	13.1	79.49	331.7	0	0	-99.99
18:07	2.18	1.71	13	80.27	331.4	2.47	0	-99.99
18:08	2.19	1.7	13	81.04	330.6	2.4	0	-99.99
18:09	2.19	1.7	13	81.84	330.6	2.32	0	-99.99
18:10	2.19	1.7	13	82.98	331.2	2.22	0	-99.99
18:11	2.21	1.74	13	83.44	331.3	2.12	0	-99.99
18:12	2.23	1.74	13.1	83.95	332	2.02	0	-99.99
18:13	2.23	1.74	13	84.06	331	1.96	0	-99.99
18:14	2.21	1.73	13	83.92	330.4	1.93	0	-99.99
18:15	2.19	1.7	13	84.02	330.4	1.89	0	-99.99
18:16	2.2	1.71	13.1	84.32	331.7	1.85	0	-99.99
18:17	2.2	1.7	12.9	83.93	330.5	1.83	0	-99.99
18:18	2.2	1.7	13	83.89	330.9	1.81	0	-99.99
18:19	2.23	1.74	13	83.76	331	1.8	0	-99.99
18:20	2.26	1.78	13	83.73	331.6	1.78	0	-99.99
18:21	2.27	1.77	13	83.41	331.2	1.8	0	-99.99
18:22	2.26	1.77	13	83.13	330.7	1.79	0	-99.99

B

Time	2_CO_CORR ppm	2_CO_LBHR #/hr	2_H2O_FLOW k#/hr	2_NH3_Flow #/hr	2_GasFlow kscfh	2_NOX_CORR ppm	2_EMTuning 1=ON	2_COlb_ETH pounds
18:23	2.24	1.74	13.1	82.99	331.4	1.81	0	-99.99
18:24	2.25	1.74	13.1	82.84	331.1	1.82	0	-99.99
18:25	2.27	1.78	13.1	82.92	331.6	1.81	0	-99.99
18:26	2.3	1.8	13	82.38	330.1	1.8	0	-99.99
18:27	2.32	1.8	13	82.23	330.3	1.79	0	-99.99
18:28	2.35	1.84	13	82.01	330.8	1.79	0	-99.99
18:29	2.38	1.84	13.1	82.17	331.5	1.77	0	-99.99
18:30	2.4	1.88	13.1	81.91	331.6	1.8	0	-99.99
18:31	2.37	1.84	13.1	81.86	331.4	1.8	0	-99.99
18:32	2.37	1.84	13.1	81.53	331.3	1.83	0	-99.99
18:33	2.36	1.85	13.1	81.44	331.6	1.85	0	-99.99
18:34	2.34	1.84	13.1	81.28	331.1	1.84	0	-99.99
18:35	2.33	1.81	13.1	81.5	331.9	1.84	0	-99.99
18:36	2.33	1.81	13	81.02	330.8	1.87	0	-99.99
18:37	2.34	1.81	13.1	81.16	331.8	1.86	0	-99.99
18:38	2.36	1.84	13.1	81.05	331.4	1.85	0	-99.99
18:39	2.38	1.84	13.1	80.92	331.2	1.86	0	-99.99
18:40	2.39	1.88	13.1	80.69	331	1.87	0	-99.99
18:41	2.39	1.87	13.1	80.63	330.6	1.86	0	-99.99
18:42	2.4	1.87	13	80.36	330	1.87	0	-99.99
18:43	2.4	1.87	13	80.29	330	1.85	0	-99.99
18:44	2.4	1.87	13	80.33	330.3	1.83	0	-99.99
18:45	2.4	1.87	13	80.14	329.9	1.83	0	-99.99
18:46	2.41	1.88	13.1	80.18	331.2	1.85	0	-99.99
18:47	2.42	1.88	13.1	80.29	331.5	1.86	0	-99.99
18:48	2.43	1.88	13.1	80.21	331.9	1.87	0	-99.99
18:49	2.45	1.91	13.1	80.11	331.2	1.86	0	-99.99
18:50	2.48	1.95	13.1	79.96	330.9	1.86	0	-99.99
18:51	2.48	1.95	13.2	80.19	332.3	1.86	0	-99.99
18:52	2.47	1.91	13.1	79.94	331.3	1.83	0	-99.99
18:53	2.48	1.95	13.1	79.61	331	1.86	0	-99.99
18:54	2.47	1.92	13.1	79.72	331.6	1.87	0	-99.99
18:55	2.45	1.91	13.1	79.65	331.4	1.87	0	-99.99
18:56	2.47	1.91	13.1	79.55	331.5	1.89	0	-99.99
18:57	2.46	1.92	13.1	79.73	331.8	1.88	0	-99.99
18:58	2.45	1.91	13.1	79.56	331.1	1.88	0	-99.99
18:59	2.44	1.85	12.3	76.31	320.1	1.89	0	-99.99
19:00	2.54	1.53	7.9	66.92	255.1	1.95	0	-99.99
19:01	2.92	1.21	3.1	63.96	174.9	2.16	0	-99.99
19:02	3.59	0.92	1.1	61.43	109.7	2.49	0	-99.99
19:03	11.12	2.37	0.8	57.98	90.8	3.54	0	-99.99
19:04	19.82	4.26	0.7	61.45	91.1	4.21	0	-99.99
19:05	20.69	4.44	0.8	65.63	91.1	4.58	0	-99.99
19:06	21.63	4.65	0.7	70.9	91.2	4.55	0	-99.99
19:07	22.49	4.04	0.6	62.39	76.2	4.43	0	-99.99
19:08	0	0	0	0.89	0.2	0	0	-99.99
19:09	0	0	0	0.89	0.2	0	0	-99.99
19:10	0	0	0	0.89	0.2	0	0	-99.99
19:11	0	0	0	0.89	0.2	0	0	-99.99
19:12	0	0	0	0.89	0.2	0	0	-99.99

B

Time	2_CO_CORR ppm	2_CO_LBHR #/hr	2_H2O_FLOW k#/hr	2_NH3_Flow #/hr	2_GasFlow kscfh	2_NOX_CORR ppm	2_EMTuning 1=ON	2_COlb_ETH pounds
19:13	0	0	0	0.89	0.2	0	0	-99.99
19:14	0	0	0	0.89	0.2	0	0	-99.99
19:15	0	0	0	0.89	0.2	0	0	-99.99

ATTACHMENT C

5.19.22 Run (After)

Time	2_CO_CORR ppm	2_CO_LBHR #/hr	2_H2O_FLOW k#/hr	2_NH3_Flow #/hr	2_GasFlow kscfh	2_NOX_CORR ppm	2_EMTuning 1=ON	2_COlb_ETH pounds
17:25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]
17:26	340.53	34.98	0	0.89	43.6	0	0	[illegible]
17:27	456.33	97.45	0	0.89	90.7	4.85	0	[illegible]
17:28	48.51	10.86	0	0.89	95	26.78	0	[illegible]
17:29	10.47	3.06	1.4	0.89	124.1	31.76	0	[illegible]
17:30	6.91	3.19	4.8	0.89	196.3	22	0	[illegible]
17:31	4.86	3.07	9.3	0.9	268.6	11.33	0	[illegible]
17:32	3.65	2.9	13.8	10.28	337	7.71	0	[illegible]
17:33	3.15	2.57	14	73.83	344.4	11.28	0	[illegible]
17:34	2.99	2.43	14.1	77.96	345.1	10.52	0	[illegible]
17:35	2.74	2.22	14.2	78.47	345.9	4.16	0	[illegible]
17:36	2.48	2.04	14.5	81.27	347.6	2.51	0	[illegible]
17:37	2.43	2	14.5	82.27	346.7	2.07	0	[illegible]
17:38	2.5	2.04	14.5	82.52	346.3	1.71	0	[illegible]
17:39	2.55	2.08	14.4	82.36	346.9	1.38	0	[illegible]
17:40	2.5	2.03	14.1	81.06	345.4	1.22	0	[illegible]
17:41	2.39	1.96	14.1	79.99	346.2	1.16	0	[illegible]
17:42	2.19	1.78	14.1	78.67	345.6	1.2	0	[illegible]
17:43	2.02	1.63	13.9	77.37	345.7	1.27	0	[illegible]
17:44	1.92	1.56	13.9	76.22	345.8	1.38	0	[illegible]
17:45	1.82	1.49	13.8	75.23	345.1	1.57	0	[illegible]
17:46	1.73	1.41	13.8	74.63	345.4	1.77	0	[illegible]
17:47	1.69	1.37	13.8	74.09	344.2	2.04	0	[illegible]
17:48	0	0	13.7	74.05	343.6	0	0	[illegible]
17:49	0	0	13.8	101.49	345.2	0	0	[illegible]
17:50	0	0	13.8	106.92	344.4	0	0	[illegible]
17:51	0	0	13.7	106.93	343.5	0	0	[illegible]
17:52	0	0	13.8	106.95	344.1	0	0	[illegible]
17:53	0	0	13.8	106.92	344.4	0	0	[illegible]
17:54	0	0	13.8	106.93	344.5	0	0	[illegible]
17:55	0	0	13.8	106.92	344.9	0	0	[illegible]
17:56	0	0	13.8	106.89	344.4	0	0	[illegible]
17:57	0	0	13.8	106.97	342.6	0	0	[illegible]
17:58	0	0	13.8	106.95	344.8	0	0	[illegible]
17:59	0	0	13.7	107	343	0	0	[illegible]
18:00	0	0	13.7	106.96	342.9	0	0	[illegible]
18:01	0	0	13.6	106.89	343.3	0	0	[illegible]
18:02	0	0	13.8	106.95	343.8	0	0	[illegible]
18:03	0	0	13.8	106.93	343.4	0	0	[illegible]
18:04	0	0	13.8	106.93	343.6	0	0	[illegible]
18:05	0	0	13.8	106.7	343.2	0	0	[illegible]
18:06	0	0	13.8	106.76	343.6	0	0	[illegible]
18:07	1.7	1.37	13.8	106.11	343.4	1.02	0	[illegible]
18:08	1.69	1.37	13.8	104.63	343.4	0.99	0	[illegible]
18:09	1.68	1.37	13.7	102.92	342.7	0.98	0	[illegible]
18:10	1.69	1.37	13.7	101.39	342.9	0.97	0	[illegible]
18:11	1.71	1.37	13.8	99.56	342.5	0.97	0	[illegible]
18:12	1.74	1.4	13.7	97.98	342.5	0.99	0	[illegible]
18:13	1.74	1.4	13.8	96.25	342.5	1	0	[illegible]
18:14	1.74	1.41	13.8	94.86	343.6	1.02	0	[illegible]
18:15	1.71	1.37	13.8	93.19	343	1.02	0	[illegible]
18:16	1.7	1.36	13.7	91.39	342	1.06	0	[illegible]
18:17	1.68	1.37	13.8	89.99	342.4	1.08	0	[illegible]
18:18	1.69	1.37	13.8	88.85	343.9	1.1	0	[illegible]
18:19	1.69	1.37	13.7	87.01	342.4	1.15	0	[illegible]
18:20	1.7	1.37	13.9	86.08	343.9	1.18	0	[illegible]
18:21	1.7	1.37	13.8	84.52	342.5	1.22	0	[illegible]
18:22	1.73	1.4	13.8	83.29	342.4	1.29	0	[illegible]
18:23	1.74	1.4	13.8	82.28	342.9	1.37	0	[illegible]
18:24	1.76	1.4	13.7	81.24	342.5	1.44	0	[illegible]
18:25	1.76	1.4	13.8	80.35	342.2	1.57	0	[illegible]
18:26	1.76	1.41	13.8	79.88	343.1	1.64	0	[illegible]
18:27	1.77	1.44	13.8	79.47	342.6	1.74	0	[illegible]

Time	2_CO_CORR ppm	2_CO_LBHR #/hr	2_H2O_FLOW k#/hr	2_NH3_Flow #/hr	2_GasFlow kscfh	2_NOX_CORR ppm	2_EMTuning 1=ON	2_COlb_ETH pounds
18:28	1.76	1.4	13.7	79.05	342.2	1.83	0	
18:29	1.77	1.44	13.7	78.99	342.4	1.9	0	
18:30	1.76	1.4	13.7	78.82	342.5	1.95	0	
18:31	1.76	1.4	13.8	79.05	342.4	1.99	0	
18:32	1.76	1.4	13.8	79.06	342.3	2.01	0	
18:33	1.75	1.4	13.7	79.38	342.6	2.02	0	
18:34	1.77	1.44	13.8	79.76	343.6	2.02	0	
18:35	1.82	1.48	13.8	79.98	342.8	2.01	0	
18:36	1.83	1.48	13.8	80.23	343.2	1.97	0	
18:37	1.8	1.44	13.8	80.15	342.8	1.93	0	
18:38	1.8	1.44	13.7	80.2	342.5	1.92	0	
18:39	1.8	1.44	13.8	80.48	343.7	1.9	0	
18:40	1.8	1.44	13.8	80.63	343.6	1.88	0	
18:41	1.8	1.44	13.7	80.13	342.2	1.88	0	
18:42	1.79	1.44	13.7	80.16	342.3	1.86	0	
18:43	1.78	1.44	13.7	80	342.1	1.85	0	
18:44	1.79	1.44	13.8	80.03	343.2	1.85	0	
18:45	1.8	1.44	13.8	80.14	343.4	1.88	0	
18:46	1.82	1.48	13.9	80.2	343.7	1.91	0	
18:47	1.83	1.48	13.8	80.17	342.8	1.92	0	
18:48	1.82	1.48	13.9	80.13	343.7	1.92	0	
18:49	1.79	1.44	13.8	80.33	343.9	1.92	0	
18:50	1.77	1.44	13.8	80.22	343.6	1.92	0	
18:51	1.77	1.44	13.8	80.14	342.9	1.93	0	
18:52	1.79	1.44	13.8	80.43	343.8	1.93	0	
18:53	1.8	1.44	13.7	80.15	342.4	1.93	0	
18:54	1.81	1.47	13.7	79.99	341.6	1.93	0	
18:55	1.79	1.44	13.7	80.12	342	1.93	0	
18:56	1.79	1.43	13.7	80.06	341.5	1.94	0	
18:57	1.79	1.43	13.7	80.1	341.6	1.94	0	
18:58	1.78	1.43	13.6	79.99	340.9	1.94	0	
18:59	1.78	1.27	10.9	69.71	302.9	1.97	0	
19:00	1.9	1.01	5.8	62.89	222.9	2.04	0	
19:01	2.21	0.79	2.2	63.41	149.5	2.11	0	
19:02	2.97	0.67	0.9	55.43	95.5	2.33	0	
19:03	5.63	1.19	0.8	55.97	90	3.03	0	
19:04	9.45	2.01	0.8	58	90.2	3.48	0	
19:05	12.7	2.7	0.9	60.8	90.2	3.89	0	
19:06	13.76	2.93	0.8	64.4	90.3	3.81	0	
19:07	0	0	0.2	10.62	10.3	0	0	
19:08	0	0	0	0.9	0.2	0	0	
19:09	0	0	0	0.89	0.2	0	0	
19:10	0	0	0	0.87	0.2	0	0	
19:11	0	0	0	0.89	0.2	0	0	
19:12	0	0	0	0.87	0.2	0	0	
19:13	0	0	0	0.83	0.2	0	0	
19:14	0	0	0	0.85	0.2	0	0	
19:15	0	0	0	0.86	0.2	0	0	

South Coast Air Quality Management District

Form 500-N

Title V - Deviations, Emergencies & Breakdowns

*This written report is in addition to requirements to verbally report certain types of incidents. Verbal reports may be made by calling AQMD at 1-800-288-7664 (1-800-CUT-SMOG) or AQMD enforcement personnel.

Mail To:
SCAQMD
P.O. Box 4941
Diamond Bar, CA 91765-0941

Tel: (909) 396-3385
www.aqmd.gov

Section I - Operator Information

1. **Facility Name** (Business Name of Operator That Appears On Permit): CANYON POWER PLANT Unit 4 (D19)

2. **Valid AQMD Facility ID** (Available On Permit Or Invoice Issued By AQMD): 153992

3. **Address:** (where incident occurred) 3071 E. MIRALOMA AVE (Street Address)
ANAHEIM (City) CA (State) 92806 (Zip)

4. **Mailing Address:** (if different from Item 3) _____ (Street Address)
_____ (City) _____ (State) _____ (Zip)

5. Provide the name, title, and phone number of the person to contact for further information:

Ronald Hoffard	Generation Plant Manager	(714) 765-4536
Name	Title	Phone #

Section II - Reporting of Breakdowns, Deviations, and Emergencies

1. This written notification is to report a(n):

Type of Incident	Verbal Report Due*	Written Report Due
a. ☐ Emergency under Rule 3002(g)	Within 1 hour of discovery	Within 2 working days from when the emission limit was exceeded.
b. ☒ Breakdown under: ☐ Rule 430 (Non-RECLAIM) ☐ Rule 2004 (RECLAIM) ☐ Rule 218 (Non-RECLAIM) [See Rule 218(f)(3)]	For Rules 430 & 2004 - Within 1 hour of discovery. For Rule 218 – Within 24 hours or next business day for failure/shutdown exceeding 24 hours	For Rules 430 & 2004 - Within 7 calendar days after breakdown is corrected, but no later than 30 days from start of the breakdown, unless a written extension is granted. For Rule 218 - With required semi-annual reports.
c. ☐ Deviation with excess emissions [See Title V Permit, Section K, Condition No. 22B]	Within 72 hours of discovery of the deviation or shorter reporting period if required by an applicable State or Federal Regulation.	Within 14 days of discovery of the deviation.
d. ☐ Other Deviation [See Title V Permit, Section K, Condition Nos. 22D & 23]	None	With required semi-annual monitoring reports.

2. The incident was first discovered by: Greg Strong (Name) on 07/24/2022 (Date) 06:18 (Time) ○ AM ◉ PM

3. The incident was first reported by: Voicemail left at 1800-CUT-SMOG (Name of AQMD Staff Person) on 07/24/2022 (Date) 07:12 (Time) ○ AM ◉ PM

a. ◉ Via Phone

b. ○ In Person

Notification Number (Required): 708905

4. When did the incident actually occur? 07/24/2022 (Date) 04:56 (Time) ○ AM ◉ PM

AQMD USE ONLY

Received By:		Assigned By:	Inspector:
Date/Time Received:		Date/Time Assigned:	Date/Time Received Assignment:
Date Delivered To Team:		Date Reviewed Inspector Report:	Date Inspected Facility:
Team:	Sector:	Breakdown/Deviation Notification No.	Date Completed Report:

Recommended Action: Cancel Notification Grant Relief Issue NOV No _____ Other: _____

Final Action: Cancel Notification Grant Relief Issue NOV No. _____ Other: _____

5. Has the incident stopped? a. ◉ Yes, on: 07/24/2022 (Date) 05:21 (Time) ○ AM ◉ PM b. ○ No

6. What was the total duration of the incident? _____ (Days) _____ (Hours)

7. For equipment with an operating cycle, as defined in Rule 430 (b)(3)(A), when was the end of the operating cycle during which the incident occurred? _____ (Date) _____ (Time) ○ AM ○ PM

8. Describe the incident and identify each piece of equipment (by permit, application, or device number) affected. Attach photos (when available) of the affected equipment and attach additional pages as necessary.

See attachment A

9. The incident may have resulted in a:

a. ☒ Violation of Permit Condition(s): A99.1 NOx lbs/hr > 14.27 lbs Start-up

b. ☐ Violation of AQMD Rule(s): _____

10. What was the probable cause of the incident? Attach additional pages as necessary.

See attachment A

11. Did the incident result in excess emissions? ○ No ◉ Yes (Complete the following and attach calculations.)

☐ VOC _____ lbs ☒ NOx 38.720 lbs ☐ SOx _____ lbs ☐ H2S _____ lbs

☐ CO _____ lbs ☐ PM _____ lbs ☐ Other: _____ lbs _____ pollutant

12. *For RECLAIM facilities Subject to Rule 2004 (i)(3) ONLY:* If excess emissions of NOx and/or SOx were reported in Item 11, do you want these emissions to be counted when determining compliance with your annual allocations?

a. ◉ Yes, for: ☐ NOx ☐ SOx b. ○ No, for: ☐ NOx ☐ SOx

If box 12(b) above is checked, include all information specified in Rule 2004(i)(3)(B) and (C), as applicable.

13. Describe the steps taken to correct the problem (i.e., steps taken to mitigate excess emissions, equipment repairs, etc.) and the preventative measures employed to avoid future incidents. Include photos of the failed equipment if available and attach additional pages as necessary.

See attachment A

14. Was the facility operating properly prior to the incident?

a. ◉ Yes b. ○ No, because: _____

15. Did the incident result from operator error, neglect or improper operation or maintenance procedures?

a. ◉ Yes b. ○ No, because: _____

16. Has the facility returned to compliance?

a. ○ No, because: _____

b. ◉ Yes (Attach evidence such as emissions calculations, contemporaneous operating logs or other credible evidence.)

Section III - Certification Statement

I certify under penalty of law that based on information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments and other materials are true, accurate, and complete.

For Title V Facilities ONLY: ☒ I also certify under penalty of law that that I am the responsible official for this facility as defined in AQMD Regulation XXX.

1. Signature of Responsible Official:	2. Title of Responsible Official:
	GENERATION PLANT MANAGER
3. Print Name: RONALD HOFFARD	4. Date: 7/28/22
5. Phone #: (714) 765-4536	6. Fax #:

7. Address of Responsible Official:

Street #	City	State	Zip
3071 E. MIRALOMA AVE	Anaheim	CA	92806

AQMD 500N Episode Date: 7/24/22
Identify issue: Water Injection Valve failed to open
Canyon Power Plant: Unit 4/ID# 153992
Notification: 708905

Question 8 - Describe the incident and identify each piece of equipment:

Unit 4 Turbine was in startup at 1656 hours and the Unit was shut down at 1721 hours after operating for 26 minutes. One of the Unit's NOx water injection valves failed to open after start initiated. The operator did not notice NOx ppm increasing instead of decreasing until later and performed an emergency stop. However, the unit's NOx startup limit had been exceeded (**see attachment B**).

Question 10 – What was the probable cause of the incident?

The cause of high NOx ppm was due to failure of a NOx water injection valve. The cause of the exceedance was operator error by failing to identify the progressive increase in NOx ppm and shutting down the Unit within 10 minutes into the startup. The unit continued to operate for an additional 16 minutes.

Question 13 – Describe the steps taken to correct the problem:

Technician troubleshooting:

1. Staff test stroked water injection valve – Demand & Feedback was tracking, not cause of the problem.
2. Staff test stroked upstream/downstream water injection solenoid valves and identified that downstream valve was clicking and upstream was not.
3. Disconnected downstream solenoid to isolate upstream valve. Staff confirmed the upstream valve was the issue.
4. The upstream valve was replaced (**see attachment C**). Unit 4 was run tested at 1950 hours and the water injection auto-opened at 1952 hours as expected. An online passing calibration was initiated at 1958 hours. Unit 4 ran for an additional 41 minutes while staff monitored all unit's emission parameters. A gradual shutdown was initiate at 2048 hours and complete stop at 2056 hours. Unit 4 returned to compliance.

Operating Staff:

1. Staff directed to monitor the Data Acquisition and Handling System (DAHS) during the entire Permit allotted startup minutes.
2. Staff directed to monitor NOx water injection parameters after introduction of NOx water to the starting Unit.
3. Staff directed to record minutes when a started Unit achieves full emissions compliance.
4. Staff directed to emergency stop a Unit at 10 minutes into a startup when NOx ppm is progressively increasing.

Question 16 – Facility returned to compliance?

Unit 4 returned to compliance July 24, 2022 at 2056 hours at the end of the test run (**see attachment B & C**).

ATTACHMENT B

Date/Time	4_LOAD	4_GasFlow	4_NOX_CORR	4_NOxlb_SU	4_NOX_LBHR	4_NH3_Flow	4_H2O_FLOW	4_NOxlbSUH	
	MW	kscfh	ppm	#/hr	#/hr	#/hr	k#/hr	pounds	
07/24/2022 16:50	0	0.3	0	0	0	0.01	0	-99.99	
07/24/2022 16:51	0	0.3	0	0	0	0.04	0	-99.99	
07/24/2022 16:52	-0.01	0.3	0	0	0	0.02	0	-99.99	
07/24/2022 16:53	-0.01	0.3	0	0	0	0.01	0	-99.99	
07/24/2022 16:54	-0.01	0.3	0	0	0	0.01	0	-99.99	
07/24/2022 16:55	-0.01	15.6	0	0	0	0.03	0	-99.99	
07/24/2022 16:56	0	115.5	2.47	1.09	1.09	0.02	0	0.02	**Start-up**
07/24/2022 16:57	1.47	112	18.96	8.23	8.23	0.03	0	0.16	
07/24/2022 16:58	4.09	113.5	29.02	12.75	12.75	0.04	0	0.37	**H2O valve failed to open**
07/24/2022 16:59	13.06	168.8	30.97	20.2	20.2	0.05	0	0.7	
07/24/2022 17:00	22.77	236.9	53	48.5	48.5	0.02	0	1.51	
07/24/2022 17:01	31.79	318.3	88.32	108.62	108.62	6.33	0	3.32	
07/24/2022 17:02	33.26	331.3	119.43	153.08	153.08	73.12	0	5.87	
07/24/2022 17:03	33.38	330.9	134.36	171.96	171.96	79.43	0	8.74	
07/24/2022 17:04	33.23	330.5	127.23	162.74	162.74	79.49	0	11.45	
07/24/2022 17:05	33.28	330.6	126.03	161.05	161.05	79.46	0	14.14	
07/24/2022 17:06	33.36	330.8	126.04	161.15	161.15	79.48	0	16.82	
07/24/2022 17:07	33.24	330.8	126.57	161.84	161.84	79.5	0	19.52	
07/24/2022 17:08	33.25	330.9	127.11	162.58	162.58	79.35	0	22.23	
07/24/2022 17:09	33.34	330.8	127.4	162.88	162.88	79.43	0	24.94	
07/24/2022 17:10	33.23	330.7	127.62	163.18	163.18	79.42	0	27.66	
07/24/2022 17:11	33.27	330.6	127.77	163.48	163.48	79.45	0	30.39	
07/24/2022 17:12	33.21	330.8	128.04	163.93	163.93	79.48	0	33.12	
07/24/2022 17:13	33.31	331	128.39	164.41	164.41	79.47	0	35.86	
07/24/2022 17:14	33.35	330.9	128.57	164.67	164.67	79.42	0	38.61	
07/24/2022 17:15	33.28	331	128.66	164.76	164.76	79.39	0	41.35	
07/24/2022 17:16	33.32	331	128.69	164.76	164.76	79.42	0	44.1	
07/24/2022 17:17	33.29	331.1	128.89	165.16	165.16	79.52	0	46.85	
07/24/2022 17:18	30.47	315.3	129.48	157.93	157.93	77.23	0	49.48	
07/24/2022 17:19	20.89	235.1	131.74	119.75	119.75	69.63	0	51.48	
07/24/2022 17:20	9.94	164.8	107.48	68.51	68.51	66.05	0	52.62	
07/24/2022 17:21	1.47	84.8	67.21	22.07	22.07	35.53	0	52.99	**Emergeny Stop**
07/24/2022 17:22	0	0.3	0	0	0	0.04	0	52.99	
07/24/2022 17:23	0	0.3	0	0	0	0.03	0	52.99	
07/24/2022 17:24	-0.01	0.3	0	0	0	0.03	0	52.99	
07/24/2022 17:25	-0.01	0.3	0	0	0	0.03	0	52.99	
07/24/2022 17:26	-0.01	0.3	0	0	0	0.02	0	52.99	
07/24/2022 17:27	0	0.3	0	0	0	0.03	0	52.99	
07/24/2022 17:28	-0.01	0.3	0	0	0	0.03	0	52.99	
07/24/2022 17:29	-0.01	0.3	0	0	0	0.03	0	52.99	
07/24/2022 17:30	-0.01	0.3	0	0	0	0.03	0	52.99	
07/24/2022 17:31	0	0.3	0	0	0	0.05	0	52.99	
07/24/2022 17:32	0	0.3	0	0	0	0.01	0	52.99	

Date/Time	4_LOAD	4_GasFlow	4_NOX_CORR	4_NOxlb_SU		4_NOX_LBHR	4_NH3_Flow	4_H2O_FLOW	4_NOxlbSUH	
	MW	kscfh	ppm	#/hr		#/hr	#/hr	k#/hr	pounds	
07/24/2022 17:33	-0.01	0.3	0	0		0	0.03	0	52.99	
07/24/2022 17:34	0	0.3	0	0		0	0.03	0	52.99	
07/24/2022 17:35	0	0.3	0	0		0	0.03	0	52.99	
07/24/2022 17:36	0	0.3	0	0		0	0.01	0	52.99	
07/24/2022 17:37	-0.01	0.3	0	0		0	0.04	0	52.99	
07/24/2022 17:38	0	0.3	0	0		0	0.02	0	52.99	
07/24/2022 17:39	0	0.3	0	0		0	0.02	0	52.99	
07/24/2022 17:40	0	0.3	0	0		0	0.02	0	52.99	
07/24/2022 17:41	-0.01	0.3	0	0		0	0.03	0	52.99	
07/24/2022 17:42	-0.01	0.3	0	0		0	0.03	0	52.99	
07/24/2022 17:43	0	0.3	0	0		0	0.03	0	52.99	
07/24/2022 17:44	0	0.3	0	0		0	0.03	0	52.99	
07/24/2022 17:45	-0.01	0.3	0	0		0	0.01	0	52.99	
07/24/2022 17:46	-0.01	0.3	0	0		0	0.03	0	52.99	
07/24/2022 17:47	-0.01	0.3	0	0		0	0	0	52.99	
07/24/2022 17:48	-0.01	0.3	0	0		0	0.03	0	52.99	
07/24/2022 17:49	-0.01	0.3	0	0		0	0.04	0	52.99	
07/24/2022 17:50	-0.02	0.3	0	0		0	0.04	0	52.99	
07/24/2022 17:51	-0.01	0.3	0	0		0	0.01	0	52.99	
07/24/2022 17:52	-0.02	0.3	0	0		0	0.01	0	52.99	
07/24/2022 17:53	-0.01	0.3	0	0		0	0.04	0	52.99	
07/24/2022 17:54	-0.01	0.3	0	0		0	0.01	0	52.99	
07/24/2022 17:55	-0.01	0.3	0	0	52.99 lbs Average	0	0.03	0	52.99	**End of the hour**
07/24/2022 17:56	-0.02	0.3	0	0	14.27 NOx lbs Limit	0	0.03	0	52.97	
07/24/2022 17:57	-0.01	0.3	0	0	**38.72 lbs Exceed**	0	0.03	0	52.83	
07/24/2022 17:58	-0.01	0.3	0	0		0	0.03	0	52.62	
07/24/2022 17:59	0	0.3	0	0		0	0	0	52.28	
					Start-up for Testing					
07/24/2022 19:45	-0.01	0.3	0	0		0	0.02	0	-99.99	
07/24/2022 19:46	-0.01	0.3	0	0		0	0	0	-99.99	
07/24/2022 19:47	-0.01	0.3	0	0		0	0	0	-99.99	
07/24/2022 19:48	-0.02	0.3	0	0		0	0.01	0	-99.99	
07/24/2022 19:49	-0.01	31.5	0	0		0	0.01	0	-99.99	
07/24/2022 19:50	-0.01	108.8	5.1	2.17		2.17	0	0	0.04	
07/24/2022 19:51	0.44	107.8	30.75	12.79		12.79	0	0	0.25	
07/24/2022 19:52	4.15	115.7	61.32	27.46		27.46	0	1.1	0.71	**Water flow response**
07/24/2022 19:53	13.72	195.1	60.51	45.69		45.69	0	4.4	1.47	
07/24/2022 19:54	23.18	247.1	37.66	36.07		36.07	0	8.1	2.07	
07/24/2022 19:55	32.13	332.8	27.86	35.99		35.99	0.02	14.1	2.67	**NH3 flow response**
07/24/2022 19:56	33.32	344	22.89	30.34		30.34	27.42	14.8	3.18	
07/24/2022 19:57	33.26	343.7	21.06	28.15		28.15	79.25	14.6	3.64	

ATTACHMENT B

Date/Time	4_LOAD	4_GasFlow	4_NOX_CORR	4_NOxlb_SU	4_NOX_LBHR	4_NH3_Flow	4_H2O_FLOW	4_NOxlbSUH	
	MW	kscfh	ppm	#/hr	#/hr	#/hr	k#/hr	pounds	
07/24/2022 19:58	33.27	342.7	0	0	0	96.33	14.5	3.64	
07/24/2022 19:59	33.32	341.9	0	0	0	105.44	14.5	3.64	
07/24/2022 20:00	33.29	341.8	0	0	0	103.49	14.4	3.64	
07/24/2022 20:01	33.27	341.3	0	0	0	103.59	14.4	3.64	
07/24/2022 20:02	33.37	340.8	0	0	0	103.8	14.4	3.64	
07/24/2022 20:03	33.31	340.8	0	0	0	103.85	14.4	3.64	
07/24/2022 20:04	33.22	340.6	0	0	0	104.02	14.4	3.64	
07/24/2022 20:05	33.34	340.5	0	0	0	104.26	14.4	3.64	
07/24/2022 20:06	33.25	340.4	0	0	0	104.22	14.4	3.64	
07/24/2022 20:07	33.28	340.7	0	0	0	104.48	14.5	3.64	On-line Calibration
07/24/2022 20:08	33.26	341.4	0	0	0	104.42	14.5	3.64	
07/24/2022 20:09	33.28	341.5	0	0	0	104.52	14.5	3.64	
07/24/2022 20:10	33.3	342.1	0	0	0	104.59	14.6	3.64	
07/24/2022 20:11	33.39	342.1	0	0	0	104.56	14.6	3.64	
07/24/2022 20:12	33.31	342.2	0	0	0	103.74	14.6	3.64	
07/24/2022 20:13	33.25	342.5	0	0	0	102.03	14.5	3.64	
07/24/2022 20:14	33.31	342.6	0	0	0	102.05	14.6	3.64	
07/24/2022 20:15	33.24	342.5	0	0	0	102.01	14.6	3.64	
07/24/2022 20:16	33.28	342.6	1.13	1.44	1.44	100.08	14.5	3.67	
07/24/2022 20:17	33.27	342.6	0.97	1.44	1.44	97.28	14.2	3.69	
07/24/2022 20:18	33.24	342.3	0.89	1.08	1.08	95.48	14.1	3.71	
07/24/2022 20:19	33.26	342	0.84	1.08	1.08	93.81	13.8	3.73	
07/24/2022 20:20	33.27	342	0.82	1.08	1.08	91.96	13.7	3.75	
07/24/2022 20:21	33.37	341.7	0.82	1.08	1.08	90.07	13.5	3.76	
07/24/2022 20:22	33.26	341.6	0.82	1.08	1.08	88.12	13.4	3.78	
07/24/2022 20:23	33.2	341.8	0.85	1.08	1.08	86.44	13.4	3.8	
07/24/2022 20:24	33.24	341.7	0.88	1.08	1.08	84.62	13.5	3.82	
07/24/2022 20:25	33.17	341.6	0.9	1.08	1.08	82.98	13.7	3.84	
07/24/2022 20:26	33.17	341.9	0.93	1.08	1.08	81.3	13.8	3.85	
07/24/2022 20:27	33.35	342	0.92	1.08	1.08	79.83	13.8	3.87	
07/24/2022 20:28	33.2	341.8	0.9	1.08	1.08	78.12	13.8	3.89	
07/24/2022 20:29	33.33	341.8	0.92	1.08	1.08	76.55	13.7	3.91	
07/24/2022 20:30	33.25	341.8	0.95	1.44	1.44	74.92	13.7	3.93	
07/24/2022 20:31	33.27	341.5	1	1.43	1.43	73.28	13.6	3.96	
07/24/2022 20:32	33.35	341.4	1.05	1.43	1.43	71.95	13.6	3.98	
07/24/2022 20:33	33.27	340.5	1.13	1.43	1.43	70.54	13.6	4	
07/24/2022 20:34	33.24	340.1	1.21	1.43	1.43	69.18	13.6	4.03	
07/24/2022 20:35	33.36	339.7	1.33	1.78	1.78	68.12	13.6	4.06	
07/24/2022 20:36	33.25	339.5	1.47	1.78	1.78	67.13	13.6	4.09	
07/24/2022 20:37	33.31	338.9	1.62	2.13	2.13	66.6	13.5	4.12	
07/24/2022 20:38	33.29	339	1.79	2.49	2.49	66.02	13.6	4.16	
07/24/2022 20:39	33.28	338.5	1.94	2.49	2.49	66.35	13.7	4.21	
07/24/2022 20:40	33.22	338.5	2.05	2.84	2.84	66.5	13.9	4.25	

Date/Time	4_LOAD	4_GasFlow	4_NOX_CORR	4_NOxlb_SU	4_NOX_LBHR	4_NH3_Flow	4_H2O_FLOW	4_NOxlbSUH	
	MW	kscfh	ppm	#/hr	#/hr	#/hr	k#/hr	pounds	
07/24/2022 20:41	33.24	338.3	2.03	2.49	2.49	66.96	13.8	4.29	
07/24/2022 20:42	33.38	338.5	1.93	2.49	2.49	67.19	13.9	4.34	
07/24/2022 20:43	33.31	338.7	1.83	2.49	2.49	67.49	13.8	4.38	
07/24/2022 20:44	33.28	338.5	1.72	2.13	2.13	67.44	13.6	4.41	
07/24/2022 20:45	33.18	338.1	1.7	2.13	2.13	67.52	13.4	4.45	
07/24/2022 20:46	33.34	338.6	1.81	2.49	2.49	67.11	13.4	4.49	
07/24/2022 20:47	33.25	338.2	2.03	2.49	2.49	67.27	13.4	4.53	
07/24/2022 20:48	29.51	315.7	2.2	0	2.65	63.81	11.2	4.53	
07/24/2022 20:49	19.78	227.4	2.46	0	2.15	56.42	6	4.53	
07/24/2022 20:50	8.98	167.2	3.71	0	2.46	60.02	2.7	4.5	
07/24/2022 20:51	0.95	101	3.57	0	1.38	36.66	1.1	4.28	
07/24/2022 20:52	-0.01	96.3	3.64	0	1.31	36.33	1	3.82	
07/24/2022 20:53	-0.01	96.7	6.17	0	2.33	40.14	1.1	3.06	
07/24/2022 20:54	-0.01	97	7.11	0	2.65	47.9	1.1	2.46	
07/24/2022 20:55	-0.01	97.1	6.13	0	2.35	57.52	1.1	1.86	
07/24/2022 20:56	-0.02	48.7	4.38	0	0.82	31.94	0.5	1.36	**Shutdown**
07/24/2022 20:57	-0.01	0.3	0	0	0	0	0	0.89	
07/24/2022 20:58	-0.01	0.3	0	0	0	0	0	0.89	
07/24/2022 20:59	-0.01	0.3	0	0	0	0	0	0.89	
07/24/2022 21:00	-0.01	0.3	0	0	0	0.01	0	0.89	
07/24/2022 21:01	0	0.3	0	0	0	0.01	0	0.89	
07/24/2022 21:02	-0.02	0.3	0	0	0	0.01	0	0.89	
07/24/2022 21:03	-0.01	0.3	0	0	0	0.01	0	0.89	
07/24/2022 21:04	-0.01	0.3	0	0	0	0.01	0	0.89	
07/24/2022 21:05	-0.01	0.3	0	0	0	0.01	0	0.89	

Turbine Solenoid Valve System Layout

Two water valves operate simultaneously.
Valve circled in yellow failed.
Flow direction indicated by arrows (⟶)

New Solenoid Valve

Old Solenoid Valve

Function of Solenoid Valve

(water injection system)

The water injection is one of two independent NOx emission control systems. Water is injected into the combustor suppressing the flame temperature and reducing the 1-hour average NOx concentration to approximately 25ppmc at 15% O2.

South Coast Air Quality Management District

Form 500-N

Title V - Deviations, Emergencies & Breakdowns

*This written report is in addition to requirements to verbally report certain types of incidents. Verbal reports may be made by calling AQMD at 1-800-288-7664 (1-800-CUT-SMOG) or AQMD enforcement personnel.

Mail To:
SCAQMD
P.O. Box 4941
Diamond Bar, CA 91765-0941

Tel: (909) 396-3385
www.aqmd.gov

Section I - Operator Information

1. **Facility Name** (Business Name of Operator That Appears On Permit): CANYON POWER PLANT (D25)

2. **Valid AQMD Facility ID** (Available On Permit Or Invoice Issued By AQMD): 153992

3. **Address:** (where incident occurred) 3071 E. MIRALOMA AVENUE (Street Address)
ANAHEIM (City) CA (State) 92806 (Zip)

4. **Mailing Address:** (if different from Item 3) _____ (Street Address)
_____ (City) _____ (State) _____ (Zip)

5. Provide the name, title, and phone number of the person to contact for further information:

RONALD HOFFARD	GENERATION PLANT MGR	(714) 765-4536
Name	Title	Phone #

Section II - Reporting of Breakdowns, Deviations, and Emergencies

1. This written notification is to report a(n):

Type of Incident	Verbal Report Due*	Written Report Due
a. ☐ Emergency under Rule 3002(g)	Within 1 hour of discovery	Within 2 working days from when the emission limit was exceeded.
b. ☐ Breakdown under: ☐ Rule 430 (Non-RECLAIM) ☐ Rule 2004 (RECLAIM) ☐ Rule 218 (Non-RECLAIM) [See Rule 218(f)(3)]	For Rules 430 & 2004 - Within 1 hour of discovery. For Rule 218 – Within 24 hours or next business day for failure/shutdown exceeding 24 hours	For Rules 430 & 2004 - Within 7 calendar days after breakdown is corrected, but no later than 30 days from start of the breakdown, unless a written extension is granted. For Rule 218 - With required semi-annual reports.
c. ☐ Deviation with excess emissions [See Title V Permit, Section K, Condition No. 22B]	Within 72 hours of discovery of the deviation or shorter reporting period if required by an applicable State or Federal Regulation.	Within 14 days of discovery of the deviation.
d. ☒ Other Deviation [See Title V Permit, Section K, Condition Nos. 22D & 23]	None	With required semi-annual monitoring reports.

2. The incident was first discovered by: SCAQMD (Name) on 09/30/2022 (Date) _____ (Time) ○ AM ◉ PM

3. The incident was first reported by: _____ (Name of AQMD Staff Person) on _____ (Date) _____ (Time) ○ AM ○ PM
   a. ○ Via Phone
   b. ○ In Person
   Notification Number (Required): _____

4. When did the incident actually occur? 09/06/2022 (Date) 06:11 (Time) ○ AM ◉ PM

AQMD USE ONLY

Received By:		Assigned By:	Inspector:
Date/Time Received:		Date/Time Assigned:	Date/Time Received Assignment:
Date Delivered To Team:		Date Reviewed Inspector Report:	Date Inspected Facility:
Team:	Sector:	Breakdown/Deviation Notification No.	Date Completed Report:

Recommended Action: Cancel Notification | Grant Relief | Issue NOV No. _____ | Other: _____

Final Action: Cancel Notification | Grant Relief | Issue NOV No. _____ | Other: _____

5. Has the incident stopped? a. ◉ Yes, on: 09/06/2022 (Date) 08:48 (Time) ○ AM ◉ PM b. ○ No

6. What was the total duration of the incident? _____ (Days) 2. (Hours)

7. For equipment with an operating cycle, as defined in Rule 430 (b)(3)(A), when was the end of the operating cycle during which the incident occurred? _____ (Date) _____ (Time) ○ AM ○ PM

8. Describe the incident and identify each piece of equipment (by permit, application, or device number) affected. Attach photos (when available) of the affected equipment and attach additional pages as necessary.

9. The incident may have resulted in a:

a. ☒ Violation of Permit Condition(s): C1.1 exceed 38 minutes in any one hour

b. ☐ Violation of AQMD Rule(s):

10. What was the probable cause of the incident? Attach additional pages as necessary.

11. Did the incident result in excess emissions? ◉ No ○ Yes (Complete the following and attach calculations.)

☐ VOC _____ lbs ☐ NOx _____ lbs ☐ SOx _____ lbs ☐ H2S _____ lbs

☐ CO _____ lbs ☐ PM _____ lbs ☐ Other: _____ lbs _____ pollutant

12. *For RECLAIM facilities Subject to Rule 2004 (i)(3) ONLY:* If excess emissions of NOx and/or SOx were reported in Item 11, do you want these emissions to be counted when determining compliance with your annual allocations?

a. ○ Yes, for: ☐ NOx ☐ SOx b. ○ No, for: ☐ NOx ☐ SOx

If box 12(b) above is checked, include all information specified in Rule 2004(i)(3)(B) and (C), as applicable.

13. Describe the steps taken to correct the problem (i.e., steps taken to mitigate excess emissions, equipment repairs, etc.) and the preventative measures employed to avoid future incidents. Include photos of the failed equipment if available and attach additional pages as necessary.

14. Was the facility operating properly prior to the incident?

a. ◉ Yes b. ○ No, because:

15. Did the incident result from operator error, neglect or improper operation or maintenance procedures?

a. ○ Yes b. ◉ No, because:

16. Has the facility returned to compliance?

a. ○ No, because:

b. ◉ Yes (Attach evidence such as emissions calculations, contemporaneous operating logs or other credible evidence.)

Section III - Certification Statement

I certify under penalty of law that based on information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments and other materials are true, accurate, and complete.

For Title V Facilities ONLY: ☒ I also certify under penalty of law that that I am the responsible official for this facility as defined in AQMD Regulation XXX.

1. Signature of Responsible Official:	2. Title of Responsible Official:
	GENERATION PLANT MANAGER
3. Print Name:	**4. Date:**
RONALD HOFFARD	10/07/2022
5. Phone #:	**6. Fax #:**
(714) 765-4536	

7. Address of Responsible Official:

3071 E. MIRALOMA AVENUE	ANAHEIM	CA	92806
Street #	City	State	Zip

AQMD 500N Episode Date:
Identify issue: Emergency Diesel Engine exceeded operating time limit
Canyon Power Plant: ID# 153992
Notification:

Question 8 - Describe the incident and identify each piece of equipment:

The Canyon Power Plant (CPP) ICE Emergency Diesel Generator, Device No. D25 operated on September 6, 2022 for 2 hours and 58 minutes pursuant to the Governor of California Emergency Proclamation on August 31, 2022, CEC request, and CAISO Energy Emergency Alert Level 3 declaration. The operation of the diesel engine exceeded the 38 minutes in any hour permit limit.

Question 10 – What was the probable cause of the incident?

Canyon Power Plant (CPP) never received the Federal Power Act Section 202(c) from DOE or CAISO. It is not known but suspected that it may have been sent only to the Covered Resources. Without prior knowledge, CPP was lead to believe by the CEC and Governor of California that operation of the Emergency Diesel Generator during the emergency conditions was exempt from SCAQMD Permit Condition C1.1.

Question 13 – Describe the steps taken to correct the problem:

Canyon Power Plant (CPP) is in receipt of the Federal Power Act Section 202(c) document and acknowledges that CPP is not identified as a Covered Resource. CPP will no longer operate the Emergency Diesel Generator in response to CEC or CAISO "requests".

Question 16 – Facility returned to compliance?

From: Emergency Relief <EmergencyRelief@aqmd.gov>
Sent: Friday, September 30, 2022 7:26 PM
To: Ronald Hoffard; Bertha Hernandez
Cc: Emergency Relief; Victor Yip; Kevin Orellana; Pavan Rami
Subject: [EXTERNAL] RE: Canyon Power Plant, Emergency Diesel Generator Operation

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Mr. Hoffard,

South Coast AQMD received your email notification below. Although the Governor's Proclamation of a State of Emergency provides relief from local jurisdiction's requirements, it does not provide relief from Federally Enforceable Title V permit requirements. Therefore, since Canyon Power Plant operates under a Federal Title V permit, all permit requirements remain in effect. Although the U.S. Department of Energy issued an order under the Federal Power Act Section 202(c) for an exemption, it limited applicability to specific facilities identified (i.e., Covered Resources). For Covered Resources that were not identified, no exemption has been granted at this time. Thus, since the facility has violated a permit condition as a result of a CAISO Energy Emergency Alert, please address this as a Title V Deviation. We appreciate your self-reporting on this matter and the supplemental operating information you provided.

Please feel free to call me if you would like to discuss this matter.

Thank you.

TM

Terrence Mann
Deputy Executive Officer
Compliance & Enforcement
South Coast AQMD
21865 Copley Drive
Diamond Bar, CA 91765
tmann@aqmd.gov
Desk: (909) 396-3023
Cell: (909) 414-6298

From: Ronald Hoffard <RHoffard@anaheim.net>
Sent: Thursday, September 8, 2022 11:17 AM
To: Emergency Relief <emergencyrelief@aqmd.gov>
Cc: Bertha Hernandez <BHernandez@anaheim.net>
Subject: Canyon Power Plant, Emergency Diesel Generator Operation

AQMD Emergency Relief,

Pursuant to Governor Newsom's Emergency Proclamation on August 31, 2022, Canyon Power Plant (ID#153992/ORIS #57027) is notifying California Air Resource Board, California Energy Commission and South Coast AQMD of an operation that resulted in an exceedance of a facility permit condition. The IC Engine (D25) operated on September 6, 2022 for 2.6 hours (1 hour 58 minutes over the limit) in response to Governor Newsom's Emergency Proclamation and CAISO Energy Emergency Alert Level 3 declaration. The operation of the diesel engine exceeded the 38 minutes in any hour permit limit. Canyon has attached the recordkeeping log for the IC Engine that includes the "emergency use" hours of operation and the calculation for NOx lbs emissions.

Table 1. Equipment Description and SCAQMD Permit Condition exceeded

Equipment Description	**Equipment ID#**	**ORIS #**	**Permit Condition**	**Condition Description**
ICE, Emergency Power, Diesel Fuel, 1141 BHP	25	57027	C1.1	Limit for Maintenance and Testing **38 minutes in any hour** 4.2 hours in any one month 50 hours in any one year

Regards,

Ron Hoffard

Generation Plant Manager
City of Anaheim | Public Utilities
Office: (714) 765-4536
Mobile: (714) 478-1256
rhoffard@anaheim.net

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 10

CONDITION HAZ-1

List of Hazardous Materials contained at the facility:

- **Aqua Ammonia 19%**
- **Acetylene**
- **Argon**
- **Oxygen**
- **Batteries**
- **Bromine**
- **Calibration gases for the CEMS**
- **CO_2**
- **Diesel Fuel**
- **Fire suppression chemicals**
- **Florescent light bulbs**
- **Freon for the chiller systems R-123**
- **Gas Turbine oil**
- **Gas compressor oil**
- **Reagents for the water treatment system**
- **SF6 in switch gear**
- **Anti-scalent RL 9007**
- **ChemTreat BL124**
- **Microbiocide ChemTreat CL2156**
- **ChemTreat CL6855**
- **12.5% Sodium Hypochlorite Solution**
- **Simple Green**
- **ChemTreat CL41**
- **ChemTreat CL6855**
- **Powerback Concentrate with Anti-Foam Agent**
- **Unleaded gasoline**
- **Propane**

1a*	201	205	207*	209	210a	210b	212	215
CERSID	ChemicalLocation	ChemicalName	CommonName	CASNumber	PFCodeHazardClass	SFCodeHazardClass	RadioActive	LargestContainer
10445230	RO WATER TREATMENT		ANTISCALENT RL 9007				N	350
10445230	AMMONIA STORAGE TANK		AQUA AMMONIA (19%)		5	31	N	10000
10445230	BENEATH BACK-UP GENERATOR		DIESEL FUEL		2		N	500
10445230	IN TURBINE ENGINES and DRUM STORAGE AREA		MOBIL JET OIL II		3		N	150
10445230	ELECTRIC GENERATORS AND DRUM STORAGE AREA		MOBIL DTE LIGHT OIL		4		N	500
10445230	HYDRAULIC STARTERS AND DRUM STORAGE AREA		MOBIL DTE 25 OIL		4		N	55
10445230	NATURAL GAS COMPRESSORS AND DRUM STORAGE AREA		MOBIL PEGASUS 805 OIL		4		N	55
10445230	IN TRANSFORMERS		MINERAL OIL		4		N	5680
10445230	NEAR COOLING TOWER AND IN DRUM STORAGE AREA		BIOCIDE (CHEMTREAT CL41)				N	330
10445230	NEAR COOLING TOWER AND IN DRUM STORAGE AREA		SODIUM HYPOCHLORITE SOLUTION		5		N	330
10445230	WAREHOUSE AND NEAR EXHAUST TOWERS		CALIBRATION GAS				N	150
10445230	DRUM STORAGE AREA	PROPANE	PROPANE	74-98-6	8		N	290
10445230	SUBSTATION BUILDING	SULFUR HEXAFLUORI	SF6	2551-62-4			N	2400
10445230	IN FIRE FIGHTING EQUIPMENT - VARIOUS AREAS	CARBON DIOXIDE	CO2	124-38-9			N	437
10445230	Chiller Enclosure	Freon R-123	Freon	306-83-2			N	920
10445230	WATER TREATMENT		MICROBIOCIDE CL206 CHEMTREAT				N	120
10445230	WATER TREATMENT		ChemTreat BL 124		5		N	320
10445230	WATER TREATMENT		ChemTreat CL 2156		5		N	320
10445230	WATER TREATMENT		ChemTreat CL6855		5		N	320
10445230	DRUM STORAGE AREA		Simple Green				N	55
10445230	DRUM STORAGE AREA		POWERBACK CONCENTRATE WITH ANTIFOAM AGENT				N	55
10445230	DRUM STORAGE AREA	Oil	WASTE OIL	8012-95-1	4		N	55
10445230	SHOP-WAREHOUSE	Acetylene	Acetylene	74-86-2	33	8	N	225
10445230	SHOP-WAREHOUSE	Oxygen	Oxygen Gas	7782-44-7	18		N	250
10445230	STORAGE AREA	Argon	ARGON	70355-97-4			N	125

CALIFORNIA
AIR RESOURCES BOARD
Phone: 1 (916) 324-2517
Email: reftrackinfo@arb.ca.gov

File Report for "Canyon Power Plant"

Year of Filing: 2021 **Submitted Date: 02/10/2022**

Company Profile

Company Name : **City of Anaheim** Federal tax ID : ********970**

Contact Person Details

Person Name : **Mr. Ronald Hoffard (Generation Manager)**

Phone : **Contact: 7147654536**

Email : **rhoffard@anaheim.net**

Mailing Address Information

3071 East Miraloma Ave.
Anaheim, 92806
CA

Billing Address Information

3071 East Miraloma Ave.
Anaheim, 92806
Anaheim

Facility Profile

Facility Name : **Canyon Power Plant** Federal tax ID : ********970**

Contact Person Details

Person Name : **Mr. Ronald Hoffard (Generation Manager)**

Phone : **Contact: 7147654536**

Email : **rhoffard@anaheim.net**

Mailing Address Information

3071 East Miraloma Ave.
Anaheim, 92806
CA

Billing Address Information

3071 East Miraloma Ave.
Anaheim, 92806
Anaheim

Refrigeration System Listing

Number	System ID	Full Charge (lbs)	Refrigerant Type	Installation Date	Temperature Class	Equipment Type	Manufacturer	Operational Status	Model	Model Year	Serial Number	Location	Floor Plan (Y/N)
1	CH-100	5200.00	R-123	05/12/2011	Medium	Chiller (Refrigeration/Industrial Process Cooling)	Trane	Normal Operation	CDHF3000	2011	L10A00350	North side of facility, in dedicated chiller enclosure.	Y
2	CH-200	5200.00	R-123	05/12/2011	Medium	Chiller (Refrigeration/Industrial Process Cooling)	Trane	Normal Operation	CDHF3000	2011	L10B00882	North side of facility in dedicated chiller enclosure.	Y

Leak detection System

Number	ALD ID	Refrigeration System ID	Installation Date	ALD Type	Detection Limit	Alarm Set Point	Concentration Monitor Type	Manufacturer	Number of Sensors	Sensor Type	Sensor Manufacturer	Location of Sensors/Inlets
1	301-IRF A	CH-100CH-200	05/12/2011	Concentration Monitor (Direct System)	10.00	100	Distributed sensors with central readout panel		2	Infra red	Vulcain/honeywell	1 foot above floor

Refrigeration System Inspection and Servicing

Number	Service Date	System ID	Leaks Detected?	Date Leak Detected	Date Leak Repaired	Number of Days	Refrigerant Added (lbs)	Cause of Leak	Service Provided	Date of Initial VT	Date of Follow-up VT	Purpose of Added Refrigerant	Technician Name	Certificate #	Certificate Type
1	02/12/2021	CH-100	No			0	0.00		No				GIlbert Chavez, Jr.	000223692	I
2	02/01/2021	CH-100	No			0	0.00		No				GIlbert Chavez, Jr.	000223692	Universal,I,II,III
3	02/14/2021	CH-200	No			0	0.00		No				GIlbert Chavez, Jr.	000223692	Universal,I,II,III
4	05/17/2021	CH-100	No			0	0.00		No				GIlbert Chavez, Jr.	000223692	Universal,I,II,III
5	05/17/2021	CH-200	No			0	0.00		No				GIlbert Chavez, Jr.	000223692	Universal,I,II,III
6	08/06/2021	CH-100	No			0	0.00		No				GIlbert Chavez, Jr.	000223692	Universal,I,II,III
7	08/06/2021	CH-200	No			0	0.00		No				GIlbert Chavez, Jr.	000223692	Universal,I,II,III
8	08/08/2021	CH-100	No			0	0.00		No				GIlbert Chavez, Jr.	000223692	Universal,I,II,III
9	08/08/2021	CH-200	No			0	0.00		No				GIlbert Chavez, Jr.	000223692	Universal,I,II,III
10	11/22/2021	CH-100	No			0	0.00		No				GIlbert Chavez, Jr.	000223692	Universal,I,II,III
11	11/22/2021	CH-200	No			0	0.00		No				GIlbert Chavez, Jr.	000223692	Universal,I,II,III
12	11/23/2021	CH-100	No			0	0.00		No				GIlbert Chavez, Jr.	000223692	Universal,I,II,III
13	11/23/2021	CH-200	No			0	0.00		No				GIlbert Chavez, Jr.	000223692	Universal,I,II,III

Leak Detection System Inspection and Servicing

Number	Service Date	ALD ID	Service Type	Description of Service
1	08/09/2021	301-IRF A	Callibration	

Refrigerant Purchase Information

Type	Total Purchased (lbs.)	Total Charged (lbs.)	Total Recovered (lbs.)	Total Stored (lbs.)	Total Shipped (lbs.)
R-123	0.00	0.00	0.00	0.00	0.00

Do you claim any of this information is confidential under California law? No

Comment

Submitted By: Ronald Hoffard

CALIFORNIA
AIR RESOURCES BOARD
Phone: (916) 324-2517
Email: rmp@arb.ca.gov
URL: www.arb.ca.gov/rmp/rmp.htm

Invoice Detail

Invoice No: 121960 **Invoice For Year:** 2021 **ARB REFERENCE CODE:** RMP **Dated:** 02/10/2022

City of Anaheim				
#	Facility Name	Amount Due($)	Exemption	Total ($)
1	Canyon Power Plant (CIT003-001)	370.00	0	370.00
TOTAL CHARGES				370.00

Please return a copy on the invoice with your payment to the address below.
"Checks should be made payable to the California Air Resources Board.
If required for your company records, the CARB Federal Tax ID is 68-0288069. A $10 service fee may apply for returned checks."

Air Resources Board

Attn: Accounting

P.O. Box 1436

1001 I St., Floor 20

Sacramento, CA 95812-1436

CALIFORNIA
AIR RESOURCES BOARD
Phone: (916) 324-2517
Email: reftrackinfo@arb.ca.gov

Online Payment Receipt

Invoice No:	**121960**	**Dated:**	**2022-02-10**
Invoice For Year:	**2021**		
Payment Amount:	**$370.00**		
ARB Reference Code:	**RMP**		
Transaction Time:	**02/10/2022 02:18:21 PM**		
Payment Transaction Id:	**100222A44-4EA48BB1-6BF6-4113-B172-6C78733C9B29**		
Payment Result:	**APPROVAL**		
Payment Approval Code:	**008979**		

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 11

CONDITION HAZ-8

In the annual compliance report, the project owner shall include the following statements:

"All current project employee and appropriate contractor background investigations have been performed and that updated certification statements have been appended to the operations security plan".

All current project employee and appropriate contractor background investigations have been performed and that updated certification statements have been appended to the operations security plan.

"The operations security plan includes all current hazardous materials transport vendor certifications for security plans and employee background investigations".

The operations security plan includes all current hazardous materials transport vendor certifications for security plans and employee background investigations.

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 12

SOIL & WATER USE REPORT-7

Monthly Water Reading Reports
Recycle and Potable water usage
&
Wastewater Flow Meter Calibration Report

Company: City of Anaheim/Canyon Power Plant
Plant Location: 3071 E. Miraloma Ave.
City/State/Zip: Anaheim, CA 92806

Period Start: 1/1/2022
Period End: 12/31/2022

Recycle Water Usage

Annual Total Gallons	Annual Total Acre Feet	Monthly Average Gallons	Monthly Average Acre Feet	Monthly Minimum Gallons	Monthly Minimum Acre Feet	Monthly Maximum Gallons	Monthly Maximum Acre Feet	Average Gallons Per Day
19,681,196	60.40	1,640,100	5.03	552,061	1.69	3,455,243	10.60	53,906

Company: City of Anaheim/Canyon Power Plant
Plant Location: 3071 E. Miraloma Ave.
City/State/Zip: Anaheim, CA 92806

Period Start: 1/1/2022
Period End: 12/31/2022

Potable Water Usage

Annual Total Gallons	Annual Total Acre Feet	Monthly Average Gallons	Monthly Average Acre Feet	Monthly Minimum Gallons	Monthly Minimum Acre Feet	Monthly Maximum Gallons	Monthly Maximum Acre Feet	Average Gallons Per Day
763,654	2.34	31,819	0.10	0.00	0.00	475,760	1.46	1,058

Annual Data

	Recycle Water		Portable Water	
	Annual Total Acre Feet	Annual Total Gallons	Annual Total Acre Feet	Annual Total Gallons
2018	73.09	23,817,912	6.99	2,277,132
2019	60.04	19,563,004	0.33	106,201
2020	60.40	19,681,196	2.34	763,654
Average	64.51	21,020,704	3.22	1,048,996
Min	60.04	19,563,004	0.33	106,201
Max	73.09	23,817,912	6.99	2,277,132

Company: City of Anaheim
Plant Location: 3071 E. Miraloma Ave.
City/State/Zip: Anaheim, CA 92806

Period Start: 1/1/2022
Period End: 12/31/2022

Recycled Water Usage

Date	Start Cubic-ft	End Cubic-ft	Total Cubic-ft	Month gal	Daily gal	Month Acre-ft
1/1/2022	24,798,800	24,872,600	73,800	552,060.90	17,808.42	1.69
2/1/2022	24,872,600	25,033,100	160,500	1,200,620.25	42,879.29	3.68
3/1/2022	25,033,100	25,303,600	270,500	2,023,475.25	65,273.40	6.21
4/1/2022	25,303,600	25,494,400	190,800	1,427,279.40	47,575.98	4.38
5/1/2022	25,494,400	25,641,200	146,800	1,098,137.40	35,423.79	3.37
6/1/2022	25,641,200	25,872,700	231,500	1,731,735.75	57,724.53	5.31
7/1/2022	25,872,700	26,152,900	280,200	2,096,036.10	67,614.07	6.43
8/1/2022	26,152,900	26,614,800	461,900	3,455,242.95	111,459.45	10.60
9/1/2022	26,614,800	27,017,200	402,400	3,010,153.20	100,338.44	9.24
10/1/2022	27,017,200	27,177,600	160,400	1,199,872.20	38,705.55	3.68
11/1/2022	27,177,600	27,328,600	151,000	1,129,555.50	37,651.85	3.47
12/1/2022	27,328,600	27,429,800	101,200	757,026.60	24,420.21	2.32
		Annual Total:	2,631,000	19,681,195.50		60.40
		Average:	219,250	1,640,099.63	53,906.25	5.03
		Monthly Minimum:	73,800	552,060.90		1.69
		Monthly Maximum:	461,900	3,455,242.95		10.60

Company: City of Anaheim
Plant Location: 3071 E. Miraloma Ave.
City/State/Zip: Anaheim, CA 92806

Period Start: 1/1/2022
Period End: 12/31/2022

Potable Water Usage

HCF-1

Date	Start Cubic-ft	End Cubic-ft	Total Cubic-ft	Month gal	Daily gal	Month Acre-ft
1/1/2022	1,045,500	1,045,500	0.00	0.00	0.00	0.00
2/1/2022	1,045,500	1,045,500	0.00	0.00	0.00	0.00
3/1/2022	1,045,500	1,045,500	0.00	0.00	0.00	0.00
4/1/2022	1,045,500	1,109,100	63,600.00	475,759.80	15,858.66	1.46
5/1/2022	1,109,100	1,109,100	0.00	0.00	0.00	0.00
6/1/2022	1,109,100	1,109,100	0.00	0.00	0.00	0.00
7/1/2022	1,109,100	1,109,100	0.00	0.00	0.00	0.00
8/1/2022	1,109,100	1,109,200	100.00	748.05	24.13	0.00
9/1/2022	1,109,200	1,127,300	18,100.00	135,397.05	4,513.24	0.42
10/1/2022	1,127,300	1,127,300	0.00	0.00	0.00	0.00
11/1/2022	1,127,300	1,127,300	0.00	0.00	0.00	0.00
12/1/2022	1,127,300	1,127,300	0.00	0.00	0.00	0.00
		Annual Total:	81,800.00	611,904.90		1.88
		Average:	6,816.67	50,992.08	1,699.67	0.16
		Monthly Minimum:	0.00	0.00		0.00
		Monthly Maximum:	63,600.00	475,759.80		1.46

HCF-2

Date	Start Cubic-ft	End Cubic-ft	Total Cubic-ft	Month gal	Daily gal	Month Acre-ft
1/1/2022	262,727	263,484	757	5,662.74	182.67	0.02
2/1/2022	263,484	264,960	1,476	11,041.22	394.33	0.03
3/1/2022	264,960	266,330	1,370	10,248.29	330.59	0.03
4/1/2022	266,330	270,474	4,144	30,999.19	1,033.31	0.10
5/1/2022	270,474	272,237	1,763	13,188.12	425.42	0.04
6/1/2022	272,237	273,600	1,363	10,195.92	339.86	0.03
7/1/2022	273,600	275,049	1,449	10,839.24	349.65	0.03
8/1/2022	275,049	277,049	2,000	14,961.00	482.61	0.05
9/1/2022	277,049	279,043	1,994	14,916.12	497.20	0.05
10/1/2022	279,043	280,617	1,574	11,774.31	379.82	0.04
11/1/2022	280,617	281,691	1,074	8,034.06	267.80	0.02
12/1/2022	281,691	283,013	1,322	9,889.22	319.01	0.03
		Annual Total:	20,286.00	151,749.42		0.47
		Average:	1,690.50	12,645.79	416.86	0.04
		Monthly Minimum:	757.00	5,662.74		0.02
		Monthly Maximum:	4,144.00	30,999.19		0.10

Summary for both meters

Annual Total:	102,086.00	763,654.32		2.34
Average:	4,253.58	31,818.93	1058.26	0.10
Monthly Minimum:	0.00	0.00		0.00
Monthly Maximum:	63,600.00	475,759.80		1.46

Flowtrace
A Division of The Conservtech Group

5875 Rickenbacker Road
Commerce, CA 90040
323-867-9044
fax: 323-867-9045

January 11, 2023

Mr. Kevin Nugent
Source Control Program
Orange County Sanitation Districts
10844 Ellis Avenue
Fountain Valley, CA 92708

Subject: Effluent Flow Meter Hydraulic Calibration Report

Facility: City of Anaheim
Canyon Power Plant
3071 E. Miraloma Ave.
Anaheim, CA 92806
I.W. Permit No. 1-600296

Dear Mr. Nugent,

Enclosed is our report on the effluent flow meter hydraulic calibration completed at the subject facility on January 9, 2023. The calibration was conducted in accordance with requirements of the Orange County Sanitation District, and the meter was determined to be operating within ± 5% accuracy limits for the entire range tested.

If you have any questions regarding this calibration report, please contact me directly, or Bertha A. Hernandez, Environmental Services Specialist.

Sincerely,

Marco A. Gomez, P.E.
Project Engineer

Enclosures

cc: Bertha A. Hernandez, Environmental Services Specialist

WASTEWATER FLOW METER
HYDRAULIC CALIBRATION

PREPARED BY

Flowtrace
A Division of The Conservtech Group

FOR

City of Anaheim
Canyon Power Plant
3071 E. Miraloma Ave.
Anaheim, CA 92806

I.W. Permit No. 1-600296

January 9, 2023

The Conservtech Group / Flowtrace Division | 5875 Rickenbacker Road | Commerce | California | 90040
phone: 323-867-9044 | fax: 323-867-9045

EFFLUENT FLOW METER CALIBRATION REPORT

Company Name: City of Anaheim Permit No.: 1-600296

Discharge Address: 3071 E. Miraloma Ave. Anaheim, CA 92806

Mailing Address: 201 S. Anaheim Blvd. Suite 1101 Anaheim, CA 92805

Meter Location *[Use Meter Location Form (page 3) to identify location]*

☐ a ☐ b ☐ c ☐ d ☒ Other: (Attach sketch)

Effluent Meter Description

Open Channel

A. Flume:
- ☐ Parshall Flume
- ☐ Palmer-Bowlus Flume
- ☐ Trapezoidal
- ☐ Other, Specify:

B. Weir.
- ☐ V-notch
- ☐ Rectangular
- ☐ Trapezoidal
- ☐ Other, Specify:

C. Other
Description:

In-line
- ☒ Magnetic
- ☐ Propeller
- ☐ Ultrasonic
- ☐ Other, Specify:

Effluent Meter Description

Primary Element

Size: 4"

Manufacturer: Badger

Meter Series 2000

Secondary Element

Manufacturer: N/A

Recorder's 100% span = N/A GPM

Totalizer Units: = 1 Gallons per Count

Sampling Signal Contact Closure Frequency: 1 closure per N/A gallons discharged.

Current Facility Wastewater Discharge Rate to Sewer Determined by Calibration Engineer

Average 200 GPM

Peak 300 GPM

EFFLUENT FLOW METER CALIBRATION REPORT

5. Calibration Results

Type of Calibration: [X] Hydraulic [ ] Instrument

Calibration System		Existing Meter				Error (%)	
Flow Rate GPM	Total Discharge Gallons	Primary Element's Head	Flow Rate, GPM Indicator	Recorder	Total Discharge Gallons	Recorder	Totalizer
273	868	--	279	--	888	--	2.3%
203	771	--	208	--	790	--	2.5%
152	581	--	154	--	585	--	0.7%
107	495	--	109	--	505	--	2.0%

A copy of all data collected and of any calculations performed must be attached to this form.

6. Method of Calibration Results *(attach additional sheets if necessary)*

Hydraulic: (For in line flow meters describe calibration/simulator system)

Various flow rates were achieved using 150' of 2.5" fire hose from a local hydrant to the test meter. A 2" Halliburton turbine was used to measure the water flow. At each rate tested, the meter totalizer was timed using an electronic stopwatch for a number of counts. The accumulated volume was then compared to the actual volume to determine the totalizer accuracy.

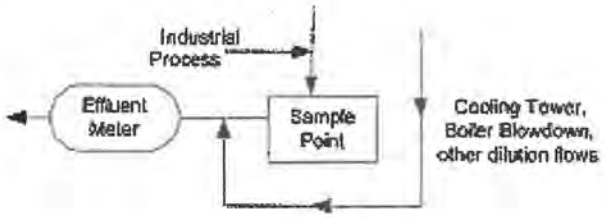
Instrument:

7. Corrective Measures *(describe condition of flow meter prior to calibration and state if any adjustments were made):*

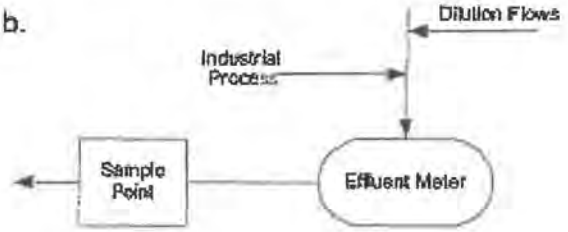
No corrective measures were required.

EFFLUENT FLOW METER LOCATION FORM

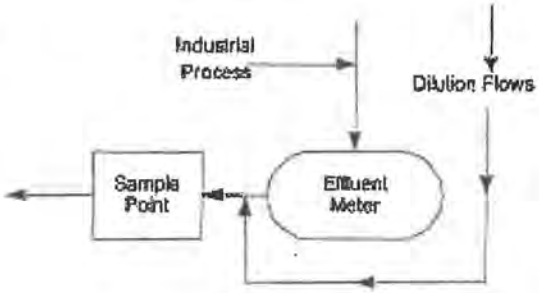
☐ a.



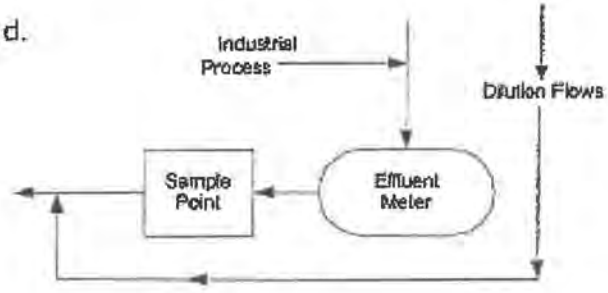
☐ b.



☐ c.



☐ d.

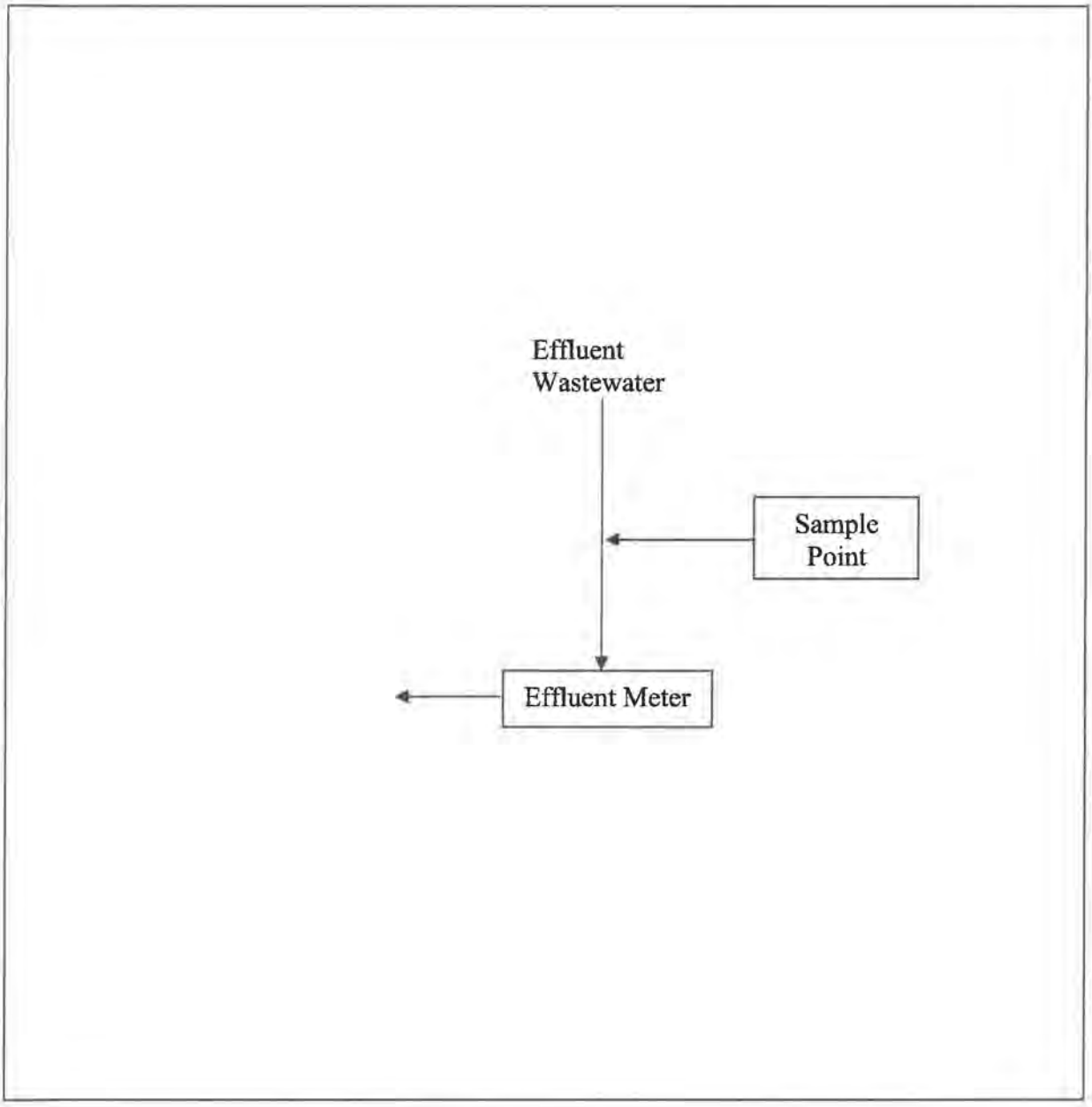


☒ Other

Please provide a schematic of the location of the effluent flow meter

Attachment:

Effluent Flow Meter Location



EFFLUENT FLOW METER MAINTENANCE RECORDS

Company Name: City of Anaheim Permit No.: 1-600296

Discharge Address: 3071 E. Miraloma Ave., Anaheim, CA 92806

Mailing Address: 201 S. Anaheim Blvd., Suite 1101, Anaheim, CA 92805

Name of Responsible Person : Bertha A Hernandez Telephone No. 714-765-4536

Recorder's 100% span = N/A GPM Totalizer: 1 Gallons per Count

Type of Flow Meter: 4" Badger Meter Series 2000

Recorder Chart Change Frequency: ☐ Daily ☐ Weekly ☐ Monthly *(not applicable)*

REGULAR CLEANING MAINTENANCE				
Primary Element Cleaned	Level Measuring Equipment Cleaned	Other (describe)	Date	By
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	02/11/15	Yip / Paz
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	02/11/16	Yip / Paz
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	02/09/17	Yip / Paz
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	01/10/18	Yip / Vitug
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	01/10/19	Paz / Gomez
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	01/10/20	Yip / Gomez
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	01/20/21	Yip / Gomez
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	01/20/22	Yip / Gomez
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	01/09/23	Yip / Paz

CERTIFICATION OF CALIBRATION CHECK

(Certification of Test Results by a California Registered Professional Engineer)

I hereby certify that I am knowledgeable in the field of wastewater flow measurement and that I have supervised the calibration of the flow monitoring system as described on the previous page, and also have reviewed and approved all details of the method of calibration. I consider the calibration method and procedures used to be technically sound, and assume professional responsibility for the validity and accuracy of the results reported.

(Signature)

Marco A Gomez, P.E.
(Full Name – Please Print or Type)

REGISTERED PROFESSIONAL ENGINEER
MARCO A GOMEZ
M 40596
Exp 12/31/23
MECHANICAL
STATE OF CALIFORNIA

M40596 Expires 12/31/23	**Mechanical**	1/11/23
(California Professional Engineering Certification No.)	(Engineering Discipline)	(Date)

CERTIFICATION OF TEST RESULTS BY
AN ADMINISTRATIVE OFFICIAL OF THE COMPANY

City of Anaheim	**1-600296**
(Company Name)	(Permit No.)

I hereby certify that the flow monitoring system certified as properly calibrated above is so arranged and operated, so as to accurately measure and record the industrial wastewater flow to the sewer system.

(Signature)

RON HOFFARD
(Full Name – Please Print or Type)

GENERATION PLANT MANAGER	1/13/23
(Administrative Position in Company)	(Date)

Appendix:

Field Calibration Data
Calibration Certificate

Recorder:

MAX = -- GPM

AVG = 200

PK = 300

Sampler:

Contact Closure = N/A gallons/pulse

Totalizer:

Finish: 111083

Start: 111041663

Diff: 42 13

MULT: 1

Total: 4273 gallons

Client: City of Anaheim - Canyon Power Plant

Date: 1-09-23 IW#: 1-600296

Element: 4" Pipe

Instrument: 4" Badger Meter M2000

Recorder: --

Calibrated Flows and Data

Turbine		Manometer - inches					Duration	Total	Meter		Recorder			Totalizer	
									W.C.	Flow	Reading		Error	Total	Error
cycles	gpm	+	-	Δ	w.c.	gpm	min	gal	in.	gpm	%	gpm	%	gal	%
	273						3.18	868		279				888	2.3
	203						3.80	771		208				790	2.5
	152						3.92	581		154				585	0.7
	107						4.63	495		109				505	2.0

Calibration Type

___ Instrumentation

X Hydraulic

Hydraulic Meter Used:

___ Turbine Meter, 1", Haliburton, Threaded

___ Turbine Meter, 1.5", XO Technologies, 150# Flange

X Turbine Meter, 2", Haliburton, flanged

___ Turbine Meter, 4", XO Technologies, 150# Flange

___ Turbine Meter, 4", Haliburton, flanged

___ Other: ___

K: 4.86

Notes:

① 86018 − 85130 = 888 @ 3:11

87302 − 86512 = 790 @ 3:48

③ 881411 − 875556 = 585 @ 3:49

① 88828 − 88323 = 505 @ 4:38

DICK MUNNS COMPANY
LIQUID & GAS FLOW CALIBRATION

ISO 17025:2017
ACCREDITED LABORATORY
Cert# CL-122

IAS
ACCREDITED
Calibration Laboratory

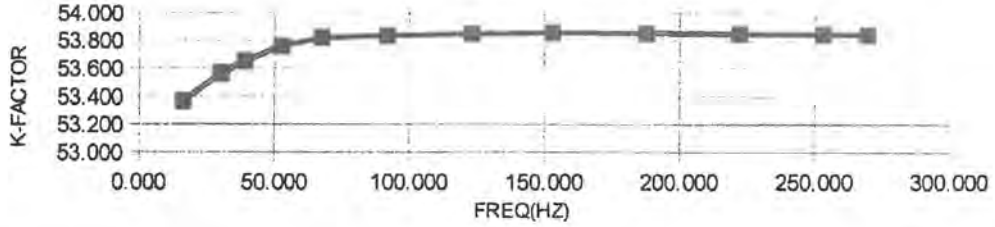
CERTIFICATE OF CALIBRATION

CUSTOMER:	**CONSERVTECH** COMMERCE, CA	**CALIBRATION DATE:**	08/18/22
VSR NUMBER:	9544	**CALIBRATION DUE:**	08/18/23
INST. MANUFACTURER:	HALLIBURTON	**PROCEDURE:**	NAVAIR17-20MG.NIST250
INST. DESCRIPTION:	TURBINE METER	**CALIBRATION FLUID:**	H2O @ 70°F
MODEL NUMBER:	458.99101 (2")	**ARRIVAL CONDITIONS:**	WITHIN MFG. SPEC.
SERIAL NUMBER:	2BF3677	**RETURNED CONDITIONS:**	WITHIN MFG. SPEC.
RATED ACCURACY:	+/- .5% R.D.	**AMBIENT CONDITIONS:**	756mmHGA 54%RH 72°F
UNCERTAINTY GIVEN:	TOTAL measurement uncertainty +/-.151% RD K=2	**CERTIFICATE FILE #:**	503393.2022

NOTES: **** CALIBRATED WITH DMC. MAG COIL ****

DECISION RULE: SIMPLE ACCEPTANCE. MEASUREMENT UNCERTAINTIES NOT TAKEN INTO CONSIDERATION WHEN DETERMINING PASS/FAIL

TEST POINT NUMBER	INDICATED UUT FREQ(HZ)	DM.STD. ACTUAL GPM	ACTUAL K-FACTOR PUL|GAL.
1	16.138	18.103	53.487
2	30.094	33.632	53.687
3	39.012	43.529	53.774
4	52.659	58.635	53.884
5	67.455	75.025	53.946
6	91.844	102.124	53.960
7	123.120	136.863	53.975
8	152.948	169.998	53.982
9	187.530	208.451	53.978
10	221.867	246.632	53.975
11	253.172	281.452	53.971
12	269.513	299.635	53.968



STANDARDS USED:

A14 (VOLUME PROVER 5-50GPM)+/- .02% BY VOLUME CMC +/- .151% RD FLOW TRACE# 1446135470,1453296155	DUE	11/30/22
A710 (ENDRESS+HAUSER 0-1000GPM) +/- .022% BY VOLUME CMC +/-.15% RD FLOW TRACE# 1446135470,14248463640	DUE	06/10/23
A350 (PLATFORM SCALE & TANK: 10,000LBS/ 50-2800GPM) +/- .075 BY MASS TRACE# 1446135470,148647626	DUE	04/25/23

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.) and the Unit Under Test (UUT) is a minimum of 4:1, unless otherwise noted. Calibration has been performed according to the shown procedure. The use of IAS/ILAC logo indicates calibrations are in accordance to ISO/IEC 17025:2017.

Dick Munns Company · 11133 Winners Circle, Los Alamitos, CA 90720
Phone: 714-827-1215 · www.dickmunns.com

Issuing Date: 08/18/2022 Approved By: [signature] Cal. Technician: E.A

Calibrated at: ✓ Lab
___ On-Site (Customer's)

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 13

SOIL & WATER REPORTS-8

OCSD Wastewater Quality Semi-Annual Monitoring Reports

TX Result Report

P 1
04/25/2022 08:25
Serial No. A7PY011022705
TC: 71539

Addressee	Start Time	Time	Prints	Result	Note
OCSD	04-25 08:24	00:01:23	008/008	OK	

Note TMR:Timer TX, POL:Polling, ORG:Original Size Setting, FME:Frame Erase TX, DPG:Page Separation TX, MIX:Mixed Original TX, CALL:Manual TX, CSRC:CSRC, FWD:Forward, PC:PC-FAX, BND:Double-Sided Binding Direction, SP:Special Original, FCODE:F-code, RTX:Re-TX, RLY:Relay, MBX:Confidential, BUL:Bulletin, SIP:SIP Fax, IPADR:IP Address Fax, I-FAX:Internet Fax

Result OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF, TEL: RX from TEL, NG: Other Error, Cont: Continue, No Ans: No Answer, Refuse: Receipt Refused, Busy: Busy, M-Full:Memory Full, LOVR:Receiving length Over, POVR:Receiving page Over, FIL:File Error, DC:Decode Error, MDN:MDN Response Error, DSN:DSN Response Error, PRINT:Compulsory Memory Document Print, DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.

CITY OF ANAHEIM

PULIC UTILITIES DEPARTMENT
Environmental Services
Letter of Transmittal

To:	Ms. Kiranpdreet Kaur Orange County Sanitation District Resource Protection Division 10844 Ellis Avenue Fountain Valley, CA 92708-7018	Date:	04/25/2022
		Project	Canyon Power Plant 3071 E. Miraloma Ave. Anaheim, CA 92806
		Subject:	Semi-Annual Self-Monitoring

We are sending you:

Copy of Original	Description
1	Completed Semi-Annual Form OCSD Self-Monitoring Form for City of Anaheim Canyon Power Plant (Permit No. 1-600296).

These are transmitted:

[1] As requested [ ] For your action [ ] For your files
[ ] For approval [ ] For your review [ ] For your information

Via: [ ] US Mail [X] FAX # 8 of pgs. (714) 593-7799 [ ] Hand Delivery

Remarks: Please contact me at (714) 765-7481 or bhernandez@anaheim.net if you have any questions regarding this submittal.

By: Bertha A Hernandez, Environmental Services Specialist

CITY OF ANAHEIM
PULIC UTILITIES DEPARTMENT
Environmental Services
Letter of Transmittal

To:	Ms. Kiranpdreet Kaur Orange County Sanitation District Resource Protection Division 10844 Ellis Avenue Fountain Valley, CA 92708-7018	Date:	04/25/2022
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By: Bertha A Hernandez, Environmental Services Specialist

IM KN

OCSAN
ORANGE COUNTY SANITATION DISTRICT

ORANGE COUNTY SANITATION DISTRICT
SELF-MONITORING FORM

March 15, 2022

Ronald Hoffard, Generation Plant Manager
City of Anaheim, Canyon Power Plant
3071 E. Miraloma Ave.
Anaheim, CA 92806

Subject: **REMINDER TO CONDUCT SELF-MONITORING**
Permit No. 1-600296

Please be reminded that Self-Monitoring must be conducted between **April 01, 2022 -- April 16, 2022** in accordance with your company's permit requirements. Self-Monitoring must be conducted during a production day in accordance with the guidelines detailed in your company's permit.

It is your responsibility to comply with the requirements set forth in your company's permit. Failure to comply with all the directives, conditions, and requirements of the permit may result in enforcement action against your company.

If your company's permit shows a self-monitoring requirement for total toxic organics (TTOs) and your company has received a waiver from this self-monitoring, you are now required to submit a signed TTOs SMR form to us to comply with the TTO waiver requirements of the U.S. Environmental Protection Agency. Please indicate in the "Sample Comments" that you have received a TTOs self-monitoring waiver from us.

For permittees that have monthly as well as quarterly and/or semi-annual self-monitoring requirements, the forms may list more than the SMR constituents required for the monthly self-monitoring. We ask that you adhere to your permit's self-monitoring requirements and sample only for the constituent(s) required on a monthly basis, except when the quarterly and semi-annual self-monitoring are also required in the same month, in which case all constituents listed on the form must be analyzed for as specified in your permit.

Finally, for those who are required to submit meter readings, a list of the meter readings submitted within the last year is attached to the SMR form for your reference and comparison to current readings.

Thank you for your patience and cooperation. If you have any questions, please contact Kiranpreet Kaur at 714-593-7213.

Kiranpreet Kaur
Senior Engineer

IM KN

OC SAN
ORANGE COUNTY SANITATION DISTRICT

ORANGE COUNTY SANITATION DISTRICT
SELF-MONITORING FORM

SMR No.: S-167683
SMR Type: Standard
City of Anaheim, Canyon Power Plant
General Pretreatment Regulations For Existing And New Sources Of Pollution

Permit No. 1-600296

Sampling Dates: **04/01/2022 to 04/16/2022**
Submit By Date: **04/30/2022**
Sample Start Date: 04/11/2022
Sample End Date: 04/12/2022
Sample Start Time: 0815 AM
Sample End Time: 0815 AM
Sampling Point Location: Sampling Structure located in the center of the site

Contact Person: RONALD HOFFARD
Contact Phone: 714-765-4536
Contact Email: RHOFFARD@ANAHEIM.NET

☐ **No Discharge**

Water Meter Readings: *(If this is a batch discharge, enter volume only)*

Location	Meter Type	Meter ID	Stop Reading	Start Reading	Volume	Units	Digits	Int
Center of site adjacent to the final clarifier/vault	Effluent Flow Meter	EM_1_600296	104550876	104525833	25043	G	9	

Composite

Sample Results: *(If constituent is not detected or is less than detection limit, enter as reported in the lab results.)*

Constituent	Result	Units	EPA Method
BOD T	2.81	mg/L	SM 5210B
TSS	ND	mg/L	SM 2540D

Sample Comments:

Please note that OC San's fax number has changed. Please use the new fax number (714) 378-1277 effective immediately if submitting completed form by fax.

To Submit Data - Fax: (714) 378-1277 or
Mail: Orange County Sanitation District, Resource Protection Division, 10844 Ellis Avenue, Fountain Valley, CA, 92708-7018

Questions: Contact Isabel Melendez at 714-593-7313

RH Ronald Hoffard, please initial each page and submit all pages

IM KN

OCSAN
ORANGE COUNTY SANITATION DISTRICT

ORANGE COUNTY SANITATION DISTRICT
SELF-MONITORING FORM

SMR No.: S-167683
SMR Type: Standard
City of Anaheim, Canyon Power Plant
General Pretreatment Regulations For Existing And New Sources Of Pollution

Permit No. 1-600296

This form must be completely filled out and Laboratory Analysis Report and Chain of Custody must be attached.

Please check if composite sample was obtained using an automatic sampling device: ( ) Yes ( ) No

In accordance with 40 CFR 403.12, the results presented herein must be verified and signed under penalty of perjury by: (i) a responsible corporate officer; (ii) general partner or proprietor; or (iii) a representative who has responsibility for the overall operation of the permitted facility, who has been authorized by the corporate officer, general partner or proprietor to sign such reports, and such authorization has been made in writing and submitted to the District.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.[40 C.F.R. § 403.6(a)(2)(ii) (2005)]

R Hoffard — GENERATION PLANT MANAGER — 4/25/22

Signature (Ronald Hoffard) **Title (Generation Plant Manager)** **Date**

RONALD HOFFARD

Print Name

To Submit Data - Fax: (714) 378-1277 or
Mail: Orange County Sanitation District, Resource Protection Division, 10844 Ellis Avenue, Fountain Valley, CA, 92708-7018

Questions: Contact Isabel Melendez at 714-593-7313

RH Ronald Hoffard, please initial each page and submit all pages

IM KN

OCSAN
ORANGE COUNTY SANITATION DISTRICT

ORANGE COUNTY SANITATION DISTRICT
SELF-MONITORING FORM

SMR No.: S-167683
SMR Type: Standard
City of Anaheim, Canyon Power Plant
General Pretreatment Regulations For Existing And New Sources Of Pollution

Permit No. 1-600296

Sample Location: Compliance Equipment

Meter Type	Name	Event ID	Start - End Date	Reading End	Reading Start	Vol	
EFFLUENT	EM_1_600296	167682	10/12/2021 - 10/13/2021	101481799 Gallon	101466710 Gallon	15089	GPD
EFFLUENT	EM_1_600296	145454	4/14/2021 - 4/15/2021	97860551 Gallon	97848065 Gallon	12400	GPD

To Submit Data - Fax: (714) 378-1277 or
Mail: Orange County Sanitation District, Resource Protection Division, 10844 Ellis Avenue, Fountain Valley, CA, 92708-7018

Questions: Contact Isabel Melendez at 714-593-7313

RH Ronald Hoffard, please initial each page and submit all pages

ALS Group USA, Corp.
3337 Michelson Drive, Suite CN750
Irvine, CA 92612
T +1 714 730 6239

Report

Client: **Canyon Power Plant**
3071 E Miraloma Ave
Anaheim, CA 92806

Work Order No.: 22D0124
Printed: 04/22/2022

Attention: Bertha Hernandez
Project Name: Canyon Power Plant Semi-Annually Wastewater
Project Number: Canyon Power Plant
P.O. Number: MA-106-491110 (exp 8/31/18)

CASE NARRATIVE

Date & Time Sample Start: 04/11/2022; 08:15 AM
Date & Time Sample Stop: 04/12/2022; 08:15 AM

Date & Time Meter Read Start: 04/11/2022; 08:15 AM
Date & Time Meter Read Stop: 04/12/2022; 09:45 AM

Flow Start Number: 104525833
Flow Stop Number: 104550876
Total Flow, GPD: 25043

SAMPLE RECEIPT SUMMARY

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
52-2-758 Composite	22D0124-01	Wastewater	Composite	04/12/2022 09:45	04/12/2022 00:00

DEFINITIONS

Symbol	Definition
RD	Difference between the lowest and highest sample values was greater than 30%.
BD	Blank unseeded oxygen depletion was greater than the method acceptance limit.
DF	Dilution Factor
MDL	Method Detection Limit
ND	Not Detected
RL	Reporting Limit

Respectfully yours,

Shelly Brady

Shelly Brady
Customer Service Manager

Client: Canyon Power Plant

Project Name: Canyon Power Plant Semi-Annually Wastewater
Project Number: Canyon Power Plant
Printed: 04/22/2022

52-2-758 Composite

22D0124-01 (Wastewater)

Analyte	Result	RL	Units	DF	Batch	Analyzed	Analyst	Method	Notes
			ALS Group USA, Corp.						
Wet Chemistry									
Total Dissolved Solids	**62.0**	50.0	mg/L	1	2204235	04/22/2022 09:15	SMC	SM 2540 C	
Total Suspended Solids	ND	2.50	mg/L	1	2204234	04/15/2022 17:45	LRR	SM 2540 D	
General Chemistry									
Biochemical Oxygen Demand	**2.81**	2.00	mg/L	1	2204214	04/18/2022 16:20	SMC	SM 5210B - 5 Day	BD, RD

CHAIN OF CUSTODY

ALS GROUP USA - IRVINE
3337 Michelson Drive, Suite CN750, Irvine, CA 92612
(714) 730-6239 · FAX (714) 730-6462

22D0124

[X] TURNAROUND TIME Normal TAT
DATE: 4/11-12/22 PAGE: 1 OF 1

METHODS

COMPANY City of Anaheim, Canyon Power Plant
CONTACT Victor Carnaggio/Ronald Hoffard
PHONE (714) 765-4260/4536 FAX (714) 666-2410
ADDRESS 3071 E. Miraloma Ave.
Anaheim, CA 92806
Bill/Ship To: Southern California Public Power Authorit
SAMPLES (SIGNATURE)

SAMPLE I.D.	DATE	TIME	DESCRIPTION	TDS	TSS	BOD	NUMBER OF CONTAINERS	COMMENTS
52-2-758	4/12/22	0945	COMP	X	X	X		PH- 7.46 Temp- 19.1

COMMENTS: PO# Ronald Hoffard
Semi-Annually

Chain of Custody Signature Record

1.	Relinquished Signature	Company/ Agenc: AJ	Date/ Time: 4.12.22 1545
2.	Received Signature	Company/ Agenc: ALS	Date/ Time: 4-12-22 1545
3.	Relinquished Signature	Company/ Agenc	Date/ Time
4.	Received Signature	Company/ Agenc	Date/ Time
5.	Relinquished Signature	Company/ Agenc	Date/ Time
6.	Received Signature	Company/ Agenc	Date/ Time

LABORATORY SAMPLE LOG-IN
(Enter following line items on invoice):

TOTAL NUMBER OF CONTAINERS

SAMPLE CONDITIONS:

RECEIVED
Cool [✓] Warm [ ]
2-0 | 3.5

Yes [ ] No [ ]

SPECIAL REQUIREMENTS:

TX Result Report

P 1
10/24/2022 15:02
Serial No. A7PY011022705
TC: 78277

Addressee	Start Time	Time	Prints	Result	Note
OCSD	10-24 15:00	00:01:16	008/008	OK	

Note TMR:Timer TX, POL:Polling, ORG:Original Size Setting, FME:Frame Erase TX, DPG:Page Separation TX, MIX:Mixed Original TX, CALL:Manual TX, CSRC:CSRC, FWD:Forward, PC:PC-FAX, BND:Double-Sided Binding Direction, SP:Special Original, FCODE:F-code, RTX:Re-TX, RLY:Relay, MBX:Confidential, BUL:Bulletin, SIP:SIP Fax, IPADR:IP Address Fax, I-FAX:Internet Fax

Result OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF, TEL: RX From TEL, NG: Other Error, Cont: Continue, No Ans: No Answer, Refuse: Receipt Refused, Busy: Busy, M-Full:Memory Full, LOVR:Receiving length Over, POVR:Receiving page Over, FIL:File Error, DC:Decode Error, MDN:MDN Response Error, DSN:DSN Response Error, PRINT:Compulsory Memory Document Print, DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.

CITY OF ANAHEIM

PULIC UTILITIES DEPARTMENT

Environmental Services

Letter of Transmittal

To:	Ms. Kiranpreet Kaur Orange County Sanitation District Resource Protection Division 10844 Ellis Avenue Fountain Valley, CA 92708-7018	Date:	10/24/2022
		Project	Canyon Power Plant 3071 E. Miraloma Ave. Anaheim, CA 92806
		Subject:	Semi-Annual Self-Monitoring

We are sending you:

Copy of Original	Description
1	Completed Semi-Annual Form OCSD Self-Monitoring Form for City of Anaheim Canyon Power Plant (Permit No. 1-600296).

These are transmitted:

- [1] As requested
- [ ] For approval
- [ ] For your action
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Via: [ ] US Mail [X] FAX # 8 of pgs. (714) 593-7799 [ ] Hand Delivery

Remarks: Please contact me at (714) 765-7481 or bhernandez@anaheim.net if you have any questions regarding this submittal.

By: Bertha A Hernandez, Environmental Services Specialist

CITY OF ANAHEIM
PULIC UTILITIES DEPARTMENT
Environmental Services
Letter of Transmittal

To:	Ms. Kiranpreet Kaur Orange County Sanitation District Resource Protection Division 10844 Ellis Avenue Fountain Valley, CA 92708-7018	Date:	10/24/2022
		Project	Canyon Power Plant 3071 E. Miraloma Ave. Anaheim, CA 92806
		Subject:	Semi-Annual Self-Monitoring

We are sending you:

Copy of Original	Description
1	Completed Semi-Annual Form OCSD Self-Monitoring Form for City of Anaheim Canyon Power Plant (Permit No. 1-600296).

These are transmitted:

[1]	As requested	[ ]	For your action	[ ]	For your files
[ ]	For approval	[ ]	For your review	[ ]	For your information

Via: [ ] US Mail [X] FAX # 8 of pgs. (714) 593-7799 [ ] Hand Delivery

Remarks: Please contact me at (714) 765-7481 or bhernandez@anaheim.net if you have any questions regarding this submittal.

By: Bertha A Hernandez, Environmental Services Specialist

IM KN

OCSAN
ORANGE COUNTY SANITATION DISTRICT

ORANGE COUNTY SANITATION DISTRICT
SELF-MONITORING FORM

September 15, 2022

Ronald Hoffard, Generation Plant Manager
City of Anaheim, Canyon Power Plant
3071 E. Miraloma Ave.
Anaheim, CA 92806

Subject: **REMINDER TO CONDUCT SELF-MONITORING**
Permit No. 1-600296

Please be reminded that Self-Monitoring must be conducted between **October 01, 2022 -- October 16, 2022** in accordance with your company's permit requirements. Self-Monitoring must be conducted during a production day in accordance with the guidelines detailed in your company's permit.

It is your responsibility to comply with the requirements set forth in your company's permit. Failure to comply with all the directives, conditions, and requirements of the permit may result in enforcement action against your company.

If your company's permit shows a self-monitoring requirement for total toxic organics (TTOs) and your company has received a waiver from this self-monitoring, you are now required to submit a signed TTOs SMR form to us to comply with the TTO waiver requirements of the U.S. Environmental Protection Agency. Please indicate in the "Sample Comments" that you have received a TTOs self-monitoring waiver from us.

For permittees that have monthly as well as quarterly and/or semi-annual self-monitoring requirements, the forms may list more than the SMR constituents required for the monthly self-monitoring. We ask that you adhere to your permit's self-monitoring requirements and sample only for the constituent(s) required on a monthly basis, except when the quarterly and semi-annual self-monitoring are also required in the same month in which case all constituents listed on the form must be analyzed for as specified in your permit.

Finally, for those who are required to submit meter readings, a list of the meter readings submitted within the last year is attached to the SMR form for your reference and comparison to current readings.

Thank you for your patience and cooperation. If you have any questions, please contact Kiranpreet Kaur at 714-593-7213.

Kiranpreet Kaur
Senior Engineer

IM KN

OCSAN
ORANGE COUNTY SANITATION DISTRICT

ORANGE COUNTY SANITATION DISTRICT
SELF-MONITORING FORM

SMR No.: S-167684
SMR Type: Standard

City of Anaheim, Canyon Power Plant
General Pretreatment Regulations For Existing And New Sources Of Pollution

Permit No. 1-600296

Sampling Dates: **10/01/2022 to 10/16/2022** Submit By Date: **10/31/2022**

Sample Start Date: 10/10/2022 Sample End Date: 10/11/2022

Sample Start Time: 0930 AM Sample End Time: 0930 AM

Sampling Point Location: Sampling Structure located in the center of the site

Contact Person: RONALD HOFFARD Contact Phone: 714-765-4536

Contact Email: RHOFFARD@ANAHEIM.NET

☐ **No Discharge**

Water Meter Readings: *(If this is a batch discharge, enter volume only)*

Location	Meter Type	Meter ID	Stop Reading	Start Reading	Volume	Units	Digits	Int
Center of site adjacent to the final clarifier/vault	Effluent Flow Meter	EM_1_600296	109621916	109591195	30721	G	9	

Composite

Sample Results: *(If constituent is not detected or is less than detection limit, enter as reported in the lab results.)*

Constituent	Result	Units	EPA Method
BOD T	9.89	mg/L	SM5210B
TSS	ND	mg/L	SM2540D

Sample Comments:

Please note that OC San's fax number has changed. Please use the new fax number (714) 378-1277 effective immediately if submitting completed form by fax.

To Submit Data - Fax: (714) 378-1277 or
Mail: Orange County Sanitation District, Resource Protection Division, 10844 Ellis Avenue, Fountain Valley, CA, 92708-7018

Questions: Contact Isabel Melendez at 714-593-7313

☐ Ronald Hoffard, please initial each page and submit all pages

IM KN

OCSAN
ORANGE COUNTY SANITATION DISTRICT

ORANGE COUNTY SANITATION DISTRICT
SELF-MONITORING FORM

SMR No.: S-167684
SMR Type: Standard

City of Anaheim, Canyon Power Plant

General Pretreatment Regulations For Existing And New Sources Of Pollution

Permit No. 1-600296

This form must be completely filled out and Laboratory Analysis Report and Chain of Custody must be attached.

Please check if composite sample was obtained using an automatic sampling device: (X) Yes ( ) No

In accordance with 40 CFR 403.12, the results presented herein must be verified and signed under penalty of perjury by: (i) a responsible corporate officer; (ii) general partner or proprietor; or (iii) a representative who has responsibility for the overall operation of the permitted facility, who has been authorized by the corporate officer, general partner or proprietor to sign such reports, and such authorization has been made in writing and submitted to the District.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.[40 C.F.R. § 403.6(a)(2)(ii) (2005)]

R Hoffard — 10/24/22

Signature (Ronald Hoffard) **Title (Generation Plant Manager)** **Date**

RONALD HOFFARD

Print Name

To Submit Data - Fax: (714) 378-1277 or
Mail: Orange County Sanitation District, Resource Protection Division, 10844 Ellis Avenue, Fountain Valley, CA, 92708-7018

Questions: Contact Isabel Melendez at 714-593-7313

RH Ronald Hoffard, please initial each page and submit all pages

IM KN

OC SAN
ORANGE COUNTY SANITATION DISTRICT

ORANGE COUNTY SANITATION DISTRICT
SELF-MONITORING FORM

SMR No.: S-167684
SMR Type: Standard

City of Anaheim, Canyon Power Plant

General Pretreatment Regulations For Existing And New Sources Of Pollution

Permit No. 1-600296

Sample Location: Compliance Equipment

Meter Type	Name	Event ID	Start - End Date	Reading End	Reading Start	Vol	
EFFLUENT	EM_1_600296	167683	4/11/2022 - 4/12/2022	104550876 Gallo	104525833 Gallon	25043	GPD
EFFLUENT	EM_1_600296	167682	10/12/2021 - 10/13/2021	101481799 Gallo	101466710 Gallon	15089	GPD

To Submit Data - Fax: (714) 378-1277 or
Mail: Orange County Sanitation District, Resource Protection Division, 10844 Ellis Avenue, Fountain Valley, CA, 92708-7018

Questions: Contact Isabel Melendez at 714-593-7313

RH Ronald Hoffard, please initial each page and submit all pages

ALS Group USA, Corp.
3337 Michelson Drive, Suite CN750
Irvine, CA 92612
T +1 714 730 6239

Report

Client: **Canyon Power Plant**
3071 E Miraloma Ave
Anaheim, CA 92806

Work Order No.: 22J0131
Printed: 10/21/2022

Attention: Victor Carnaggio
Project Name: Canyon Power Plant Semi-Annually Wastewater
Project Number: Canyon Power Plant
P.O. Number: MA-106-491110 (exp 8/31/18)

CASE NARRATIVE

Date & Time Installed: 10/10/2022 9:30 AM
Date & Time Removed: 10/11/2022 9:30 AM

Flow Start Number: 109591195 GAL
Flow Stop Number: 109621916 GAL
Total Flow, GPD: 30721

SAMPLE RECEIPT SUMMARY

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
1-600296 Composite	22J0131-01	Wastewater	Composite	10/11/2022 09:30	10/11/2022 15:00

DEFINITIONS

Symbol	Definition
C	GGA recovery was below the method acceptance limit. All other QC samples were within accetable limits.
DF	Dilution Factor
MDL	Method Detection Limit
ND	Not Detected
RL	Reporting Limit

Respectfully yours,

Zondria L. Tuggles For Shelly Brady
Customer Service Manager

Client: Canyon Power Plant

Project Name: Canyon Power Plant Semi-Annually Wastewater
Project Number: Canyon Power Plant
Printed: 10/21/2022

1-600296 Composite

22J0131-01 (Wastewater)

Analyte	Result	RL	Units	DF	Batch	Analyzed	Analyst	Method	Notes
ALS Group USA, Corp.									
Wet Chemistry									
Total Dissolved Solids	142	50.0	mg/L	1	2210221	10/17/2022 17:15	SMC	SM 2540 C	
Total Suspended Solids	ND	2.50	mg/L	1	2210290	10/19/2022 16:36	JER	SM 2540 D	
General Chemistry									
Biochemical Oxygen Demand	9.89	2.00	mg/L	1	2210201	10/17/2022 13:53	SMC	SM 5210B - 5 Day	C

CHAIN OF CUSTODY

ALS GROUP USA - IRVINE
3337 Michelson Drive, Suite CN750, Irvine, CA 92612
(714) 730-6239 - FAX (714) 730-6462

225013 1

[X] TURNAROUND TIME Normal TAT
DATE: 10/10-11/22 PAGE: 1 OF 1

METHODS

COMPANY City of Anaheim, Canyon Power Plant
CONTACT Victor Carnaggio/Ronald Hoffard
PHONE (714) 765-4260/4536 FAX (714) 666-2410
ADDRESS 3071 E. Miraloma Ave.
Anaheim, CA 92806
Bill/Ship To: Southern California Public Power Authority
SAMPLES (SIGNATURE)

SAMPLE I.D.	DATE	TIME	DESCRIPTION	TDS	TSS	BOD	NUMBER OF CONTAINERS	COMMENTS
52-2-758	10/11/22	0930	COMP	X	X	X		PH- 7.62 TEMP-22.6°

COMMENTS
PO# Ronald Hoffard
Semi-Annually

Chain of Custody Signature Record

1.	Relinquished Signature	ALS Company/ Agenc	10-11-22 1500 Date/ Time
2.	Received Signature	ALS Company/ Agenc	10/11/22 1500 Date/ Time
3.	Relinquished Signature	Company/ Agenc	Date/ Time
4.	Received Signature	Company/ Agenc	Date/ Time
5.	Relinquished Signature	Company/ Agenc	Date/ Time
6.	Received Signature	Company/ Agenc	Date/ Time

LABORATORY SAMPLE LOG-IN
(Enter following line items on invoice):

TOTAL NUMBER OF CONTAINERS

SAMPLE CONDITIONS:
RECEIVED
Cool [ ] Warm [ ]
7-0/2.6
Yes [ ] No [ ]

SPECIAL REQUIREMENTS:

OC Sanitation District

No Violations or Corrective Actions
To report for CY 2022

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 14

VIS-4

SURFACE TREATMENT OF PROJECT STRUCTURES AND BUILDINGS

VIS-4: Surface Treatment of Project Structures and Buildings

Condition of Certification VIS-4 requires a status report of the surface treatment maintenance for the structures and buildings in the Annual Compliance Report. The report shall specify the following:

1. **The condition of surfaces of all structures and buildings at the end of the reporting year 2021:**
    a. Butler Building (Administrative and Warehouse)
    b. Main Electrical Enclosure (MEE)
    c. Balance of Plan (BOPEE)
    d. Substation Building
    e. Chiller
    f. RO Skid (open wall with roof sheet metal covering)
        i. The exterior building material is fabricated sheet metal. The colors and finishes do not create excessive glare and consistent with local policies and ordinances. All structure and buildings visual inspection showed no trouble items and all are in good working order.
    g. Gas Turbines (4 identical units)
2. **Maintenance activities that occurred in CY 2022:**
    a. May Planned Outage
        i. Semi-annual maintenance performed
    b. December Planned Outage moved to January 2023
        i. Semi-annual maintenance performed
3. **Schedule maintenance activities for CY 2023:**
    a. May 2023 Planned Outage
        i. Semi-annual maintenance
    b. January 2024 Planned Outage
        i. Semi-annual maintenance

Status report regarding condition of Structures and Buildings

The photographs below shows the surface treatment of project structures and buildings. All buildings comply with condition VIS-4.

Warehouse Building (1/27/23)

Administrative Building (1/27/23)

Main Electrical Enclosure Building (1/27/23)

Substation Building (1/27/23)

Chiller Building (1/27/23)

RO Skid Structure (1/27/23)

Balance of Plant Building (1/27/23)

LM 6000 Turbines (1/27/23)

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 15

LANDSCAPE SCREENING

VIS-5: Landscape Screening

Condition of Certification VIS-5 requires a status report in the Annual Compliance Report regarding landscape maintenance activities. At the Canyon Power Plant the landscape maintenance activities were performed according to the contract and consistent with policies and requirements of the City of Anaheim plan and zoning ordinance.

The contracted company performed the following landscape maintenance activities:

Contracted Landscape Services – Landscape West Mgmt. Service, Inc. (Period: Jan 1, through December 31, 2022).

Activity Type	Frequency
Weed Control	2x/wk.
Landscape areas	
Hardscape areas	
Gravel areas	1x/Mo
Fertilization	2x/year
Shrubs	
Ground cover	
Trees	
Pest Control	As needed
Rodents	
Irrigation Maintenance	As needed
Inspect all Sprinklers/Systems	
Trees	As needed
Canopy Trees	
Maintenance/Clean-Up	2x/wk.
Ground Cover and Shrubs	
Trash & Litter at Landscape area	
Trash & Litter at enclosed gravel areas	
Monthly Inspection	

The photographs below taken by staff on 1/27/2023 of the landscape maintenance demonstrating compliance pursuant VIS-5 condition:

Landscaping - Exterior Plants

Miraloma Avenue, south wall

Miraloma Avenue, south wall

East wall ivy

Landscaping - Interior Plant

Administration Building Planter

Admin and Warehouse Building Planter

Warehouse Building Planter

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 16

AQ-9
NH3 SLIP TESTING

TEST REPORT FOR
THIRD QUARTER 2022 AMMONIA SLIP TEST AT CANYON POWER PLANT – UNIT 1
FACILITY ID: 153992, DEVICE ID: D1

Prepared For:

Canyon Power Plant
3071 E. Mira Loma Avenue
Anaheim, California 92806

For Submittal To:

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

Prepared By:

Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, California 92705
(714) 279-6777

Rudy Nunez

Test Date: **August 22, 2022**
Production Date: **September 20, 2022**
Report Number: **W002AS-019365-RT-3919**

MONTROSE AIR QUALITY SERVICES

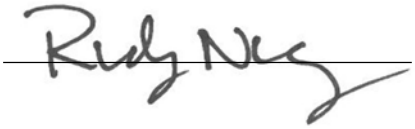
STAC ACCREDITED TO ASTM D7036 ONLY CERT #3925.01

CONFIDENTIALITY STATEMENT

Except as otherwise required by law or regulation, this information contained in this communication is intended exclusively for the individual or entity to which it is addressed. This communication may contain information that is proprietary, privileged or confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it.

REVIEW AND CERTIFICATION

All work, calculations, and other activities and tasks performed and presented in this document were carried out by me or under my direction and supervision. I hereby certify that, to the best of my knowledge, Montrose operated in conformance with the requirements of the Montrose Quality Management System and ASTM D7036-04 during this test project.

Signature:  Date: 9/20/2022

Name: Rudy Nunez Title: Client Project Manager

I have reviewed, technically and editorially, details, calculations, results, conclusions, and other appropriate written materials contained herein. I hereby certify that, to the best of my knowledge, the presented material is authentic, accurate, and conforms to the requirements of the Montrose Quality Management System and ASTM D7036-04.

Signature:  Date: 9/20/2022

Name: Surya Adhikari Title: Senior Reporting QC Specialist

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

1.0 INTRODUCTION AND SUMMARY

Montrose Air Quality Services, LLC (MAQS) was contracted by the Canyon Power Plant to perform an ammonia slip test at Unit 1 as required by the facility Permit (Facility ID 153992) Condition Number D29.2. This report documents the results of the ammonia slip tests performed on August 22, 2022. The test was performed by Rudy Nunez, Alfred Stewart, and Danny Avila of MAQS. Rudy Nunez was the on-site Qualified Individual for MAQS. MAQS qualifies as an independent testing laboratory under SCAQMD Rule 304 (no conflict of interest) and is certified by the SCAQMD to conduct testing for criteria pollutants according to District Methods. Bertha Hernandez coordinated the test for Canyon Power Plant.

The test consisted of duplicate ammonia tests performed at 49 MW. The test program followed the procedures described in the initial compliance test protocol (MAQS document R038842). The results of the test are summarized in Table 1-1. The table shows that the ammonia slip from this unit was less than the permitted limit of 5 ppm corrected to 15% O_2.

TABLE 1-1
AMMONIA SLIP TEST RESULTS SUMMARY
CANYON POWER PLANT
UNIT 1
AUGUST 22, 2022

Parameter/Units	Result(1)	Limit
NH_3		
ppm	1.4	--
ppm at 15%O_2	1.3	5

(1) Maximum of duplicate runs, as required by SCAQMD Method 207.1

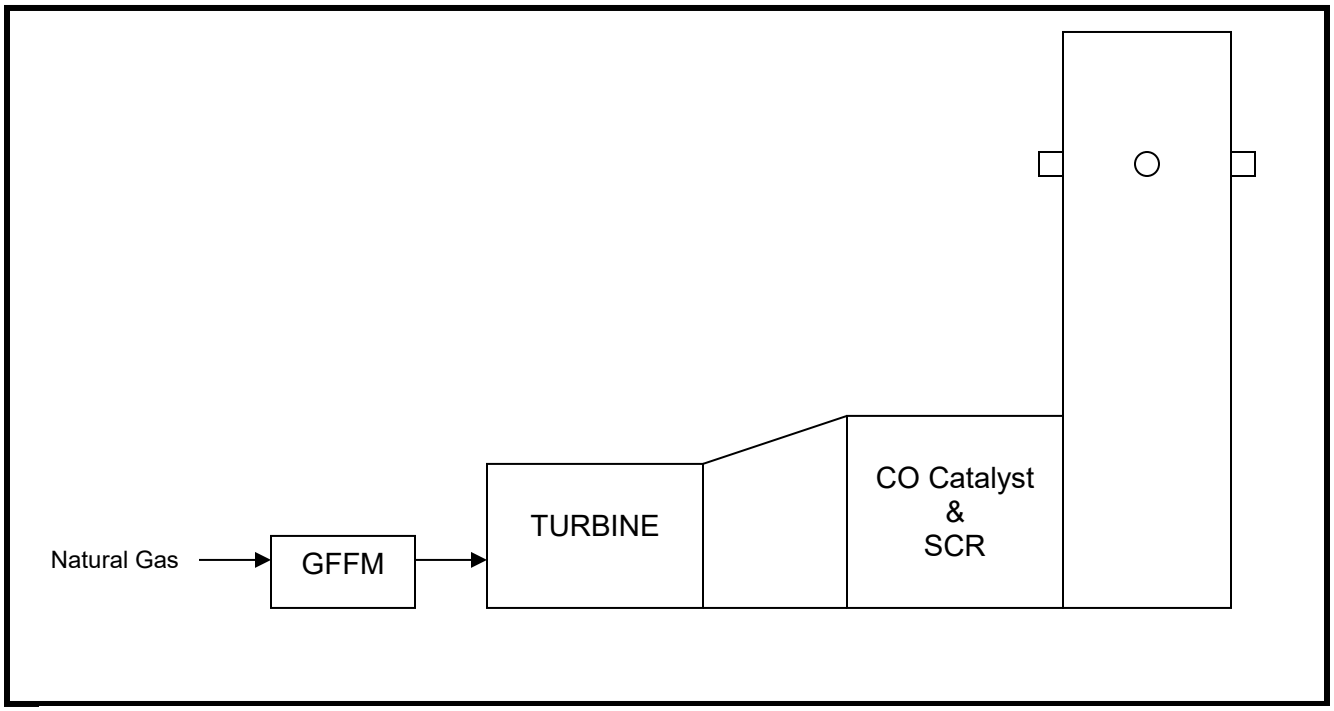
Section 2 of this document provides a brief description of the unit, test conditions, sample location, and CEMS. Details of the test procedures are provided in Section 3. Section 4 provides the results of each individual test. All raw data, calculations, quality assurance data, unit operating conditions, and CEMS data are provided in the appendices.

2.0 UNIT AND CEMS DESCRIPTION

2.1 UNIT DESCRIPTION

The City of Anaheim Canyon Power Plant is located at 3071 E. Mira Loma Avenue, Anaheim, California 92806. The facility consists of four identical generating units. Each unit consists of a natural gas fired, GE Model LM6000PC Sprint simple cycle, gas turbine. The units are natural gas fired with a rated heat input of 479 MMBtu per hour at 46°F, with water injection. The units are equipped with a CO catalyst and Selective Catalytic Reduction (SCR) system for CO and NO_x control respectively. Figure 2-1 presents a block diagram of the unit.

FIGURE 2-1
UNIT BLOCK DIAGRAM
CANYON POWER PLANT
UNIT 1



Stack Inside Diameter:	11 feet, 8 inches
Distance from Upstream Disturbance:	23 feet, 4 inches (2.0 Diameters)
Distance from Stack Exit:	16 feet, 6 inches (1.4 Diameters)

2.2 CEMS DESCRIPTION

NO_x and CO emissions from the unit are monitored by a dry, extractive Continuous Emission Monitoring System (CEMS). Stack flow rate is determined from fuel flow rate, O_2 concentration, standard F-Factor, and fuel higher heating value using EPA Method 19.

2.3 TEST CONDITIONS

The tests were performed with the unit operating at an average load of 49 MW. Tests were performed while the unit was firing natural gas and operating under normal conditions. Unit operation was established by the Canyon Power Plant operators.

2.4 SAMPLE LOCATION

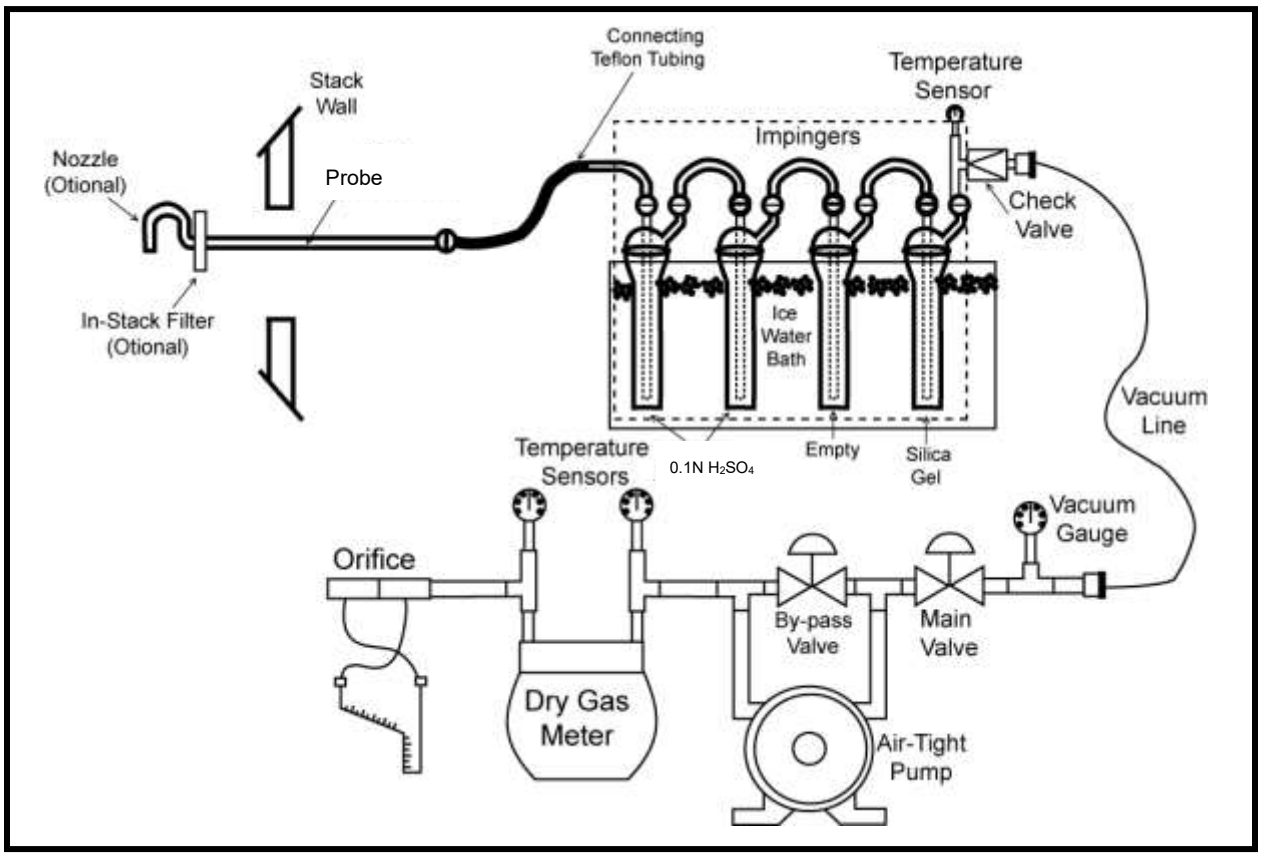
The measurements were made from sample ports located on the exhaust stack. There are four sample ports equally spaced at this location. The stack inside diameter at the sample plane is 11 feet, 8 inches. The sample ports are located 23 feet, 4 inches (2.0 diameters) downstream of the nearest flow disturbance and 16 feet, 6 inches (1.4 diameters) from the stack exit.

3.0 TEST DESCRIPTION

Flue gas samples were collected non-isokinetically using a SCAQMD Method 207.1 sample train. The samples were collected using a 12-point traverse at the exhaust stack location. Each test was performed over a 60 minute interval. The sample gas was drawn through a titanium probe, Teflon sample line, two impingers each containing 100 ml of 0.1N H_2SO_4, an empty impinger, an impinger containing silica gel, and a dry gas meter. The optional nozzle and filter were not used since the source is natural gas fired. The contents of the sample line and the first three impingers were recovered and analyzed by SCAQMD Method 207.1 for ammonia concentration by Ion Specific Electrode analysis. Figure 3-1 presents a diagram of the sampling equipment.

Stack O_2 and NO_x concentrations, and stack volumetric flow rate data were recorded from the Continuous Emission Monitoring System (CEMS) which is installed on the unit. These data were used to correct the ammonia concentration to 15% O_2 and to report the mass emission rates.

FIGURE 3-1
SCAQMD METHOD 207.1 SAMPLE EQUIPMENT



4.0 TEST RESULTS AND OVERVIEW

4.1 TEST RESULTS

The results of the test are summarized in Table 4-1. The results show that the ammonia slip was 1.3 ppm @ 15% O_2 which is less than the permitted limit of 5 ppm @ 15% O_2.

TABLE 4-1
AMMONIA SLIP TEST RESULTS
CANYON POWER PLANT
UNIT 1
AUGUST 22, 2022

Parameter/Units	Run 1	Run 2	Average	Maximum(1)	Limit
Test	1-NH_3-U1	2-NH_3-U1			--
Date	8/22/2022	8/22/2022			--
Time	1844/1947	2019/2122			--
O_2, %(2)	14.39	14.39	14.39	--	--
Stack Flow, dscfm @ T_{ref}(2)	227,303	227,795	227,549	--	--
NO_x, ppmc(2)	2.2	2.3	2.2	--	2.5
NH_3					
ppm	1.4	1.0	1.2	1.4	--
ppmc	1.3	0.9	1.1	1.3	5
lb/hr	0.9	0.6	0.7	0.9	--
lb/MMBtu	0.002	0.001	0.001	0.002	--
lb/MMSCF	1.9	1.2	1.5	1.9	--

(1) Maximum of duplicate test runs, as required by SCAQMD Method 207.1
(2) From facility CEMS

4.2 TEST OVERVIEW

The test program was successful in meeting the program objectives. The sample train was leak checked before and after the test and all QA/QC requirements of SCAQMD Method 207.1 were satisfied.

APPENDIX A
RAW DATA

Appendix A.1
Sample Data Sheets

MONTROSE
AIR QUALITY SERVICES

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: SCPPA
LOCATION: Canyon #1
DATE: 8-22-22
RUN NO: 1-NH3
OPERATOR: AS
METER BOX NO: 12-WCS
METER ΔH@: 1.648
METER Yd: .988
STACK AREA, FT²: 106.90
TRAVERSE POINTS, MIN/POINT: 5/12
ΔH= 1.0 X ΔP: N/A
Probe Condition, pre/post test: good/good
Silica Gel Expended, Y(N)
Filter Condition after Test: N/A
Check Weight: 499.9 / 500.0

AMBIENT TEMPERATURE: 80
BAROMETRIC PRESSURE: 29.67
ASSUMED MOISTURE: N/A
PITOT TUBE COEFF, Cp: .84
PROBE ID NO/MATERIAL: T-304/SS
PROBE LENGTH: 6ft
NOZZLE ID NO/ MATERIAL: N/A
NOZZLE DIAMETER: N/A
FILTER NO/TYPE: N/A
PRE-TEST LEAK RATE: : 2.002 CFM@ 15 in. Hg.
POST-TEST LEAK RATE: 2.00 CFM@ 15 in. Hg.
PITOT LEAK CHECK - PRE: ✓ POST: ✓
CHAIN OF CUSTODY: SAMPLE CUSTODIAN ✓
SAMPLER AS
SAMPLE CUSTODIAN ✓

Imp. #	Contents	Post-Test	Pre-Test	= Difference
1	.1N H_2SO_4	928.2	738.3	
2	.1N H_2SO_4	778.9	776.4	
3	MT	609.7	607.7	
4	SG	884.2	875.5	
LR	DI H_2O	Ø	100	
Total:				

Point	Time	Meter Volume, ft³	ΔP in. H_2O	ΔH in. H_2O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In	Meter Temp, °F Out	Vacuum in. Hg.	O_2 %	Pstatic in. H_2O
3	1844	867.400	N/A	1.0	N/A	N/A	N/A	56	81	80	4		
2	1849	870.550						56	80	80	4		
1	1854	873.640						57	80	79	4		
Ø	1859	876.675											
3	1900	876.675						57	80	79	4		
2	1905	879.610						57	81	78	4		
1	1910	882.570						57	81	78	4		
Ø	1915	885.490											
3	1916	885.490						57	80	77	4		
2	1921	888.470						58	81	77	4		
1	1926	891.460						58	81	77	4		
Ø	1931	894.425											
3	1932	894.425						58	79	77	4		
2	1937	897.340						58	81	77	4		
1	1942	900.290						58	81	77	4		
End	1947	903.210											
Average:													

Comments:

Date of last revision 2/14/2017

DS834048
Master Document Storage\Forms\Datasheets\Field Datasheets

MONTROSE
AIR QUALITY SERVICES

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: SCPPA
LOCATION: Canyon
DATE: 8-22-22
RUN NO: 2-NH3
OPERATOR: AS
METER BOX NO: 12-WCS
METER ΔH@: 1.648
METER Yd: .988
STACK AREA, FT²: 106.90
TRAVERSE POINTS, MIN/POINT: 5/12
ΔH= 1.0 X ΔP: N/A
Probe Condition, pre/post test: good/good
Silica Gel Expended, Y/N
Filter Condition after Test: N/A
Check Weight: 499.9 / 500.0

AMBIENT TEMPERATURE: 72
BAROMETRIC PRESSURE: 29.67
ASSUMED MOISTURE: N/A
PITOT TUBE COEFF, Cp: .84
PROBE ID NO/MATERIAL: Titanium
PROBE LENGTH: 8ft
NOZZLE ID NO/ MATERIAL: N/A
NOZZLE DIAMETER: N/A
FILTER NO/TYPE: N/A
PRE-TEST LEAK RATE: : <.002 CFM@ 15 in. Hg.
POST-TEST LEAK RATE: <.002 CFM@ 15 in. Hg.
PITOT LEAK CHECK - PRE: V POST: V
CHAIN OF CUSTODY: SAMPLE CUSTODIAN JP
SAMPLER AS
SAMPLE CUSTODIAN RN

→ 930.9

Imp. #	Contents	Post-Test	Pre-Test = Difference
1	1N H_2SO_4	~~887.7~~ 746	1.5
2	1N H_2SO_4	763.3	755.2
3	MT	640.2	639.6
4	SG	827.7	820.7
LR	DI H_2O	Ø	100
Total:			

Point	Time	Meter Volume, ft³	ΔP in. H_2O	ΔH in. H_2O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In	Meter Temp, °F Out	Vacuum in. Hg.	O_2 %	Pstatic in. H_2O
3	2019	904.900	N/A	1.0	N/A	N/A	N/A	SS	74	74	4		
2	2024	907.710						SS	74	74	4		
1	2029	910.900						SG	75	74	4		
Ø	2034	914.170											
3	2035	914.170		1.0				SS	77	74	4		
2	2040	917.100						SS	77	74	4		
1	2045	920.080						SS	78	74	4		
Ø	2050	923.030											
3	2051	923.030		1.0				SS	77	74	4		
2	2056	925.950						SS	80	74	4		
1	2101	928.940						SS	80	74	4		
Ø	2106	931.920											
3	2107	931.920		1.0				SS	79	75	4		
2	2112	934.870						SS	80	75	4		
1	2117	937.790						SS	79	75	4		
End	2122	940.700											
Average:													

Comments: ✗ RN 8-22-22

DS834048

Date of last revision 2/14/2017

Master Document Storage\Forms\Datasheets\Field Datasheets

MONTROSE
AIR QUALITY SERVICES

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: SCPPA
LOCATION: CANYON – U1
DATE: 8-20-22
RUN NO: FBT
OPERATOR: AS/DA
METER BOX NO: 12. WCS
METER ΔH@: 1.648
METER Yd: 0.982
STACK AREA, FT²: 106.9
TRAVERSE POINTS, MIN/POINT: NO
ΔH= NA X ΔP:
Probe Condition, pre/post test: OK/OK
Silica Gel Expended, Y/N: NO
Filter Condition after Test: NA
Check Weight: 499.1 / 500.0

AMBIENT TEMPERATURE: 80
BAROMETRIC PRESSURE: 29.67
ASSUMED MOISTURE: NA
PITOT TUBE COEFF, Cp: NA
PROBE ID NO/MATERIAL: TITANIUM
PROBE LENGTH: 8'
NOZZLE ID NO/ MATERIAL: NA
NOZZLE DIAMETER: NA
FILTER NO/TYPE: N
PRE-TEST LEAK RATE: : <0.002 CFM@ 15 in. Hg.
POST-TEST LEAK RATE: : — CFM@ — in. Hg.
PITOT LEAK CHECK - PRE: NA POST: NA
CHAIN OF CUSTODY: SAMPLE CUSTODIAN RN
SAMPLER AS
SAMPLE CUSTODIAN RN

Imp. #	Contents	Post-Test	Pre-Test	Difference
1	0.1N H_2SO_4	840.1	740.1	
2	0.1N H_2SO_4	778.9	778.9	
3	Empty	606.1	606.1	
4	SG	875.5	875.5	
	(LR)	(100)		
Total:				

FBT

Point	Time	Meter Volume, ft³	ΔP in. H_2O	ΔH in. H_2O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In	Meter Temp, °F Out	Vacuum in. Hg.	O_2 %	Pstatic in. H_2O
Average:													

Comments:

Appendix A.2
Laboratory Data

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS CALCULATION

Project Number:	PROJ-019365
Client/ Location:	SCPPA Canyon Power Plant
Sample Location:	U1
District Method:	SCAQMD 207.1
Sample Date:	8/22/2022
Analysis Date:	8/26/2022
Analyst's Initials:	PR
Calibration Curve Slope	-56.1773
Y-intercept	112.2773
R^2	

Sample	P mV	Conc. µg NH_3 /ml as N	C avg as N	TV (ml)	C avg as NH_3	µg NH_3/ sample	% Recover	Temp
28 ug NH_3 / ml as N	30.9	28.092						22
Repeat 28 ug NH_3/ml as N	30.8	28.207	28.150	NA	34.217	NA	100.53	22
1-NH3	114.0	0.932						20
Repeat 1-NH3	115.2	0.887	0.909	893	1.106	987.218		20
28 NH_3/ml as N	30.9	28.092						22
Repeat 28 ug NH_3/ml as N	30.8	28.207	28.150	NA	34.217	NA	100.53	22

Notes:

Measured Concentration of Ammonia (C) in µg NH_3 / ml as N

$C=10^{(P-B)/M}$

P = electrode potential (mV), M=slope and B=intercept

Average Measured Ammonia Concentration (Cavg) = (C1 + C2)/2

where C1, C2 results from duplicate analyses (µg NH_3 /ml as N)

Cavg (µg NH_3/ml as NH_3) = Cavg (µg NH_3/ ml as N) * 17.03/ 14.01

µg NH_3 / sample = Cavg (µg NH_3/ml as NH_3) * TV

Used 100 ml of samples and standards with 2 ml ISA and constant stirring rate.

All solutions turned blue and remained blue with ISA unless otherwise indicated.

Sample PH and Temperatures can be found on the laboratory datasheet.

Maximum samples (including blanks) between 28 ug/ml check standard is 5 samples analyzed in duplicate.

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS QUALITY CONTROL

Project Number:	PROJ-019365
Client/ Location:	SCPPA Canyon Power Plant
Sample Location:	U1
District Method:	SCAQMD 207.1
Sample Date:	8/22/2022
Analysis Date:	8/26/2022
Analyst's Initials:	PR

Sample	% recovery	RPD %	RPA %
28 ug NH3 / ml as N			
Repeat 28 ug NH3/ml as N	NA	-0.41	0.534
1-NH3			
Repeat 1-NH3	NA	4.92	NA
28 NH3/ml as N			
Repeat 28 ug NH3/ml as N	NA	-0.41	0.534

Notes:

spike: 100 ml sample + 2 ml (1000 μg NH_3 / ml as N)

Matrix Spike Percent Recovery (%R)

%R = (C spike*0.104 - Csample*0.102)/2 *100

Cspike = average result of matrix spike (μg NH_3/ ml as N)

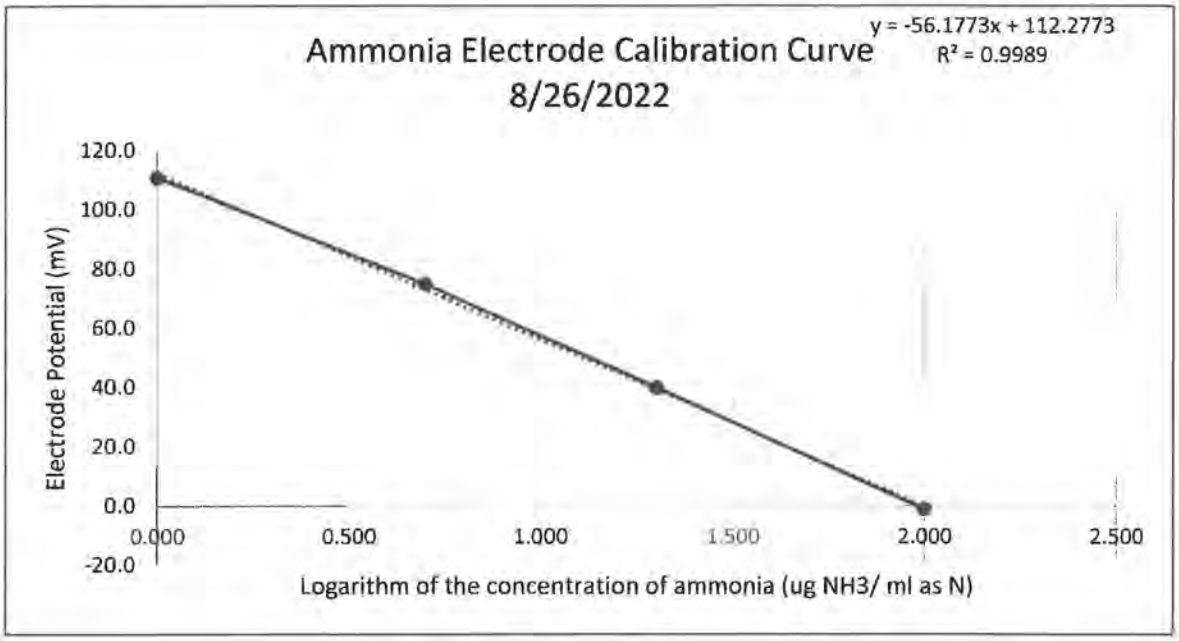
Relative Percent Difference (RPD) = (C1-C2)/ Cavg *100 (must be 5% or less)

Relative Percent Accuracy (RPA) (must be 10% or less)

RPA = (Cavg-theoretical value of standard)/ theoretical value of standard * 100

AMMONIA ELECTRODE CALIBRATION CURVE

NH_3 concentration (μg NH_3 / ml as N)	log NH_3 concentration	Electrode potential (mV)	Sample Temperature (C)	Room Temperature (C)
1	0.000	110.8	22	22
5	0.699	74.9	22	22
20	1.301	39.9	22	22
100	2.000	-1.2	22	22



slope	-56.1773
y-intercept	112.2773

Concentration (μg NH_3 / ml as N)	Value LR line	Difference	% Difference
1	1.0624	0.0624	6.2422
5	4.6275	-0.3725	-7.4503
20	19.4255	-0.5745	-2.8724
100	104.7093	4.7093	4.7093

Calculation:

Regression Line: P=M*log(μg of NH_3/ ml as N)+B

Measured Concentration of Ammonia (C) in μg / ml NH_3 as N: $C=10^{(P-B)/M}$

where P = electrode potential, M= slope (must be -57±3) and B= intercept

All standards were prepared in 0.04N H_2SO_4 and allowed to equilibrate to room temperature.

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS CALCULATION

Project Number:	PROJ-019365
Client/ Location:	SCPPA Canyon Power Plant
Sample Location:	U1
District Method:	SCAQMD 207.1
Sample Date:	8/22/2022
Analysis Date:	8/26/2022
Analyst's Initials:	PR
Calibration Curve Slope	-56.6451
Y-intercept	88.6201
R^2	

Sample	P mV	Conc. µg NH_3 /ml as N	C avg as N	TV (ml)	C avg as NH_3	µg NH_3/ sample	% Recover	Temp
28 ug NH_3 / ml as N	6.5	28.166						22
Repeat 28 ug NH_3/ml as N	6.4	28.281	28.224	NA	34.308	NA	100.80	22
2-NH3	100.1	0.627						20
Repeat 2- NH_3	101.2	0.600	0.613	892.0	0.746	665.084		20
spike 2-NH_3	19.2	16.808						20
Repeat 2-NH3 spike	20.0	16.271	16.540	NA	20.105	NA	82.88	20
28 NH_3/ml as N	4.6	30.428						22
Repeat 28 ug NH_3/ml as N	4.8	30.182	30.305	NA	36.837	NA	108.23	22
Reagent Blank	170.2	0.036						20
Repeat Reagent Blank	171.3	0.035	0.035	NA	0.043	NA		20
Field Blank	183.1	0.021						20
Repeat Field Blank	183.9	0.021	0.021	845	0.026	21.712		20
DI H2O Blank	198.6	0.011						20
Repeat DI H2O Blank	199.8	0.011	0.011	NA	0.014	NA		20
28 NH_3/ml as N	5.1	29.816						22
Repeat 28 ug NH_3/ml as N	5.1	29.816	29.816	NA	36.243	NA	106.48	22

Notes:

Measured Concentration of Ammonia (C) in µg NH_3 / ml as N

$C=10^{(P-B)/M}$

P = electrode potential (mV), M=slope and B=intercept

Average Measured Ammonia Concentration (Cavg) = (C1 + C2)/2

where C1, C2 results from duplicate analyses (µg NH_3 /ml as N)

Cavg (µg NH_3/ml as NH_3) = Cavg (µg NH_3/ ml as N) * 17.03/ 14.01

µg NH_3 / sample = Cavg (µg NH_3/ml as NH_3) * TV

Used 100 ml of samples and standards with 2 ml ISA and constant stirring rate.

All solutions turned blue and remained blue with ISA unless otherwise indicated.

Sample PH and Temperatures can be found on the laboratory datasheet.

Maximum samples (including blanks) between 28 ug/ml check standard is 5 samples analyzed in duplicate.

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS QUALITY CONTROL

Project Number:	PROJ-019365
Client/ Location:	SCPPA Canyon Power Plant
Sample Location:	U1
District Method:	SCAQMD 207.1
Sample Date:	8/22/2022
Analysis Date:	8/26/2022
Analyst's Initials:	PR

Sample	% recovery	RPD %	RPA %
28 ug NH3 / ml as N Repeat 28 ug NH3/ml as N	NA	-0.41	0.799
2-NH3 Repeat 2- NH3	NA	4.47	NA
spike 2-NH3 Repeat 2-NH3 spike	82.88	3.25	NA
28 NH3/ml as N Repeat 28 ug NH3/ml as N	NA	0.81	8.231
Reagent Blank Repeat Reagent Blank	NA	4.47	NA
Field Blank Repeat Field Blank	NA	3.25	NA
DI H2O Blank Repeat DI H2O Blank	NA	4.88	NA
28 NH3/ml as N Repeat 28 ug NH3/ml as N	NA	0.00	6.485

Notes:

spike: 100 ml sample + 2 ml (1000 µg NH_3 / ml as N)

Matrix Spike Percent Recovery (%R)

%R = (C spike*0.104 - Csample*0.102)/2 *100

Cspike = average result of matrix spike (µg NH_3/ ml as N)

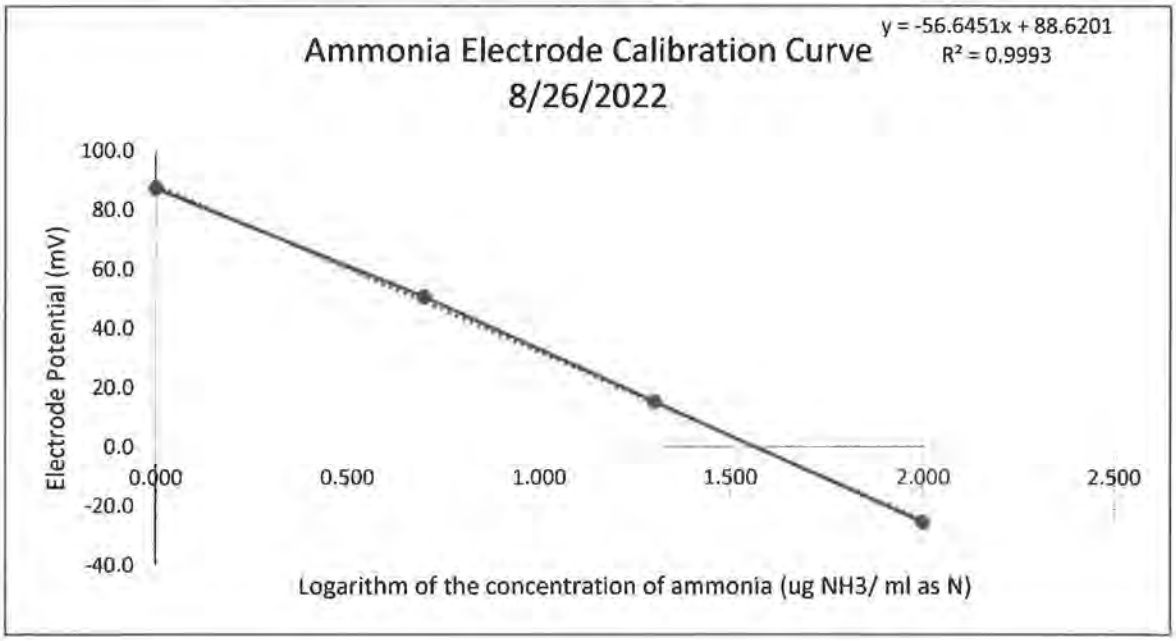
Relative Percent Difference (RPD) = (C1-C2)/ Cavg *100 (must be 5% or

Relative Percent Accuracy (RPA) (must be 10% or less)

RPA = (Cavg-theoretical value of standard)/ theoretical value of standard * 100

AMMONIA ELECTRODE CALIBRATION CURVE

NH_3 concentration (μg NH_3 / ml as N)	log NH_3 concentration	Electrode potential (mV)	Sample Temperature (C)	Room Temperature (C)
1	0.000	87.4	22	22
5	0.699	50.7	22	22
20	1.301	15.3	22	22
100	2.000	-25.5	22	22



slope	-56.6451
y-intercept	88.6201

Concentration (μg NH_3 / ml as N)	Value LR line	Difference	% Difference
1	1.0508	0.0508	5.0847
5	4.6712	-0.3288	-6.5750
20	19.6959	-0.3041	-1.5203
100	103.4310	3.4310	3.4310

Calculation:

Regression Line: P=M*log(μg of NH_3/ ml as N)+B

Measured Concentration of Ammonia (C) in μg / ml NH_3 as N: $C=10^{(P-B)/M}$

where P = electrode potential, M= slope (must be -57±3) and B= intercept

All standards were prepared in 0.04N H_2SO_4 and allowed to equilibrate to room temperature.

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS

Project #: PROJ-019365 District Method: SCAQMD 207.1 Sample Date: 8/22/2022
Client/Location: SCPPA Canyon Calibration Date: 8/26/2022 Analysis Date: 8/26/2022
Sample Location: U1 Calibration Curve: $y = -56.1773x + 112.2773$ Analyst's Initials: PR
Test #'s: 1-NH3 R^2: 0.9989 ROOM TEMPERATURE (°C): 22

Sample	Total Vol. (mL)	Electrode Potential (mV)	Conc. µg NH_3 – N / ml	Cavg (µg NH_3 – N / ml)	µg NH_3 / sample	T (°C)	Blue after + ISA (Y/N)	pH	% R
Standard Check: 28 µg NH3/ml		30.9	28.092	28.150		22	Y		101
		30.8	28.207			22	Y		
1-NH3	893	114.0	0.932	0.909	987.218	20	Y	<2	
		115.2	0.887			20	Y		
Standard Check: 28 mg NH3/ml		30.9	28.092	28.150		22	Y		101
		30.8	28.207			22	Y		

Notes: Total volume of samples and standards used: 100 ml
Volume of pH adjusting ISA used in ml: 2 ml
Absorbing solution: H_2SO_4

Calculations: Conc. (µg NH_3 – N / ml) = $10^{(P-B)/M}$; (P = electrode potential, B = y-intercept and M = slope)
Cavg = average result of duplicate analyses (µg NH_3 – N / ml) = (C1+C2)/2
µg NH_3 / sample = Cavg* 17.03/ 14.01 * TV
mg / sample = µg /sample ÷ 1000
ppm NH_3 = mg NH_3/sample x 1/Vmstd x 1/454000 x SV/17 x 10^6

MONTROSE

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS CALIBRATION DATA

District Method: SCAQMD 207.1

Calibration Date: 8/26/2022

Calibration Curve: y=-56.1773x + 112.2773

R^2 0.9989

Analyst's Initials: PR

Thermometer #: 66 1731

ISE Electrode #: 12

Calibration Standard (µg NH_3 / ml as N)	Electrode Potential (mV)	Solution Temperature (°C)	Room Temperature (°C)
1	110.8	22	22
5	74.9	22	22
20	39.9	22	22
100	-1.2	22	22

Notes:

Total volume of samples and standards used: 100 ml
Volume of pH adjusting ISA used in ml: 2 ml
Absorbing solution: H_2SO_4
Slope of the calibration curve shall be between -54 to -60
R^2 must be 0.9997 or greater
Calibration solutions, sample solutions and Calibration Verification standard temperature within ± 2°C

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS

Project #: PROJ-019365 District Method: SCAQMD 207.1 Sample Date: 8/22/2022
Client/Location: SCPPA Canyon Calibration Date: 8/26/2022 Analysis Date: 8/26/2022
Sample Location: U1 Calibration Curve: y = -56.645lx + 88.620 Analyst's Initials: PR
Test #'s: 2-NH3 R²: 0.9993 ROOM TEMPERATURE (°C): 22

Sample	Total Vol. (mL)	Electrode Potential (mV)	Conc. µg NH_3 – N / ml	Cavg (µg NH_3 – N / ml)	µg NH_3 / sample	T (°C)	Blue after + ISA (Y/N)	pH	% R
Standard Check: 28 µg NH3/ml		6.5	28.166	28.224		22	Y	~~10~~ *	101
		6.4	28.281			22	Y		
2-NH_3	892	100.1	0.627	0.613	665.084	20	Y	<2	
		101.2	0.600			20	Y		
Spike: 2-NH_3 + 2ml 1000 ppm NH_3		19.2	16.808	16.540		20	Y	~~83~~ *	83
		20.0	16.271			20	Y		
Standard Check: 28 µg NH_3/ml		4.6	30.428	30.305		22	Y	~~108~~ *	108
		4.8	30.182			22	Y		
Reagent Blank		170.2	0.036	0.035		20	Y		
		171.3	0.035			20	Y		
Field Blank	845	183.1	0.021	0.021	21.712	20	Y	<2	
		183.9	0.021			20	Y		
DI H_2O Blank		198.6	0.011	0.011		20	Y	.	
		199.8	0.011			20	Y		
Standard Check: 28 µg NH_3/ml		5.1	29.816	29.816		22	Y	~~106~~ *	106
		5.1	29.816			2	Y		

Notes: Total volume of samples and standards used: 100 ml
Volume of pH adjusting ISA used in ml: 2 ml
Absorbing solution: H_2SO_4

Calculations: Conc. (µg NH_3 – N / ml) = $10^{(P-B)/M}$; (P = electrode potential, B = y-intercept and M = slope)
Cavg = average result of duplicate analyses (µg NH_3 – N / ml) = (C1+C2)/2
µg NH_3 / sample = Cavg* 17.03/ 14.01 * TV
mg / sample = µg /sample ÷ 1000
ppm NH_3 = mg NH_3/sample x 1/Vmstd x 1/454000 x SV/17 x 10^6

* PR 8/26/22

MONTROSE

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS CALIBRATION DATA

District Method: SCAQMD 207.1

Calibration Date: 8/26/2022
Calibration Curve: y=-56.645lx +88.6201
R^2 0.9993
Analyst's Initials: PR
Thermometer #: 661731
ISE Electrode #: 14

Calibration Standard (µg NH_3 / ml as N)	Electrode Potential (mV)	Solution Temperature (°C)	Room Temperature (°C)
1	87.4	22	22
5	50.7	22	22
20	15.3	22	22
100	-25.5	22	22

Notes:
Total volume of samples and standards used: 100ml
Volume of pH adjusting ISA used in ml: 2ml
Absorbing solution: H_2SO_4
Slope of the calibration curve shall be between -54 to -60
R^2 must be 0.9997 or greater
Calibration solutions, sample solutions and Calibration Verification standard temperature within ± 2°C

Date of last revision 4/24/2019

DS1939150
Santa Ana\Forms\Lab Datasheets

CHAIN OF CUSTODY

CLIENT: SCPPA - Canyon Power Plant PROJECT #: PROJ-019365 TEST DATE(S): 8/22/2022

LOCATION: U1 SAMPLER(S): DA, AS

SAMPLE LOCATION: Stack PROJECT MANAGER: RN

TEST METHOD(S): SCAQMD 207.1 DATE DUE: 8/29/2022

OUTSIDE LAB REQUIRED?: No COMPLIANCE TEST?: Yes

DATE	TIME	TEST #	SAMPLE DESCRIPTION	CONTAINERS	SAMPLER	COMMENTS
8/22/2022	1844/1947	1-NH3-U1	Probe, Line, Impingers	1	DA, AS	
8/22/2022	2019/2122	2-NH3-U1	Probe, Line, Impingers	1	DA, AS	
8/22/2022		Reagent Blank	0.1 N H_2SO_4	1	RN	
8/22/2022		Reagent Blank	DI H2O	1	RN	
8/22/2022		FB-NH3-U1	Probe, Line, Impingers	1	DA, AS	

RELEASED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Ry My	8/24/ 1215AM	P. Reyes	8/25/22 1330

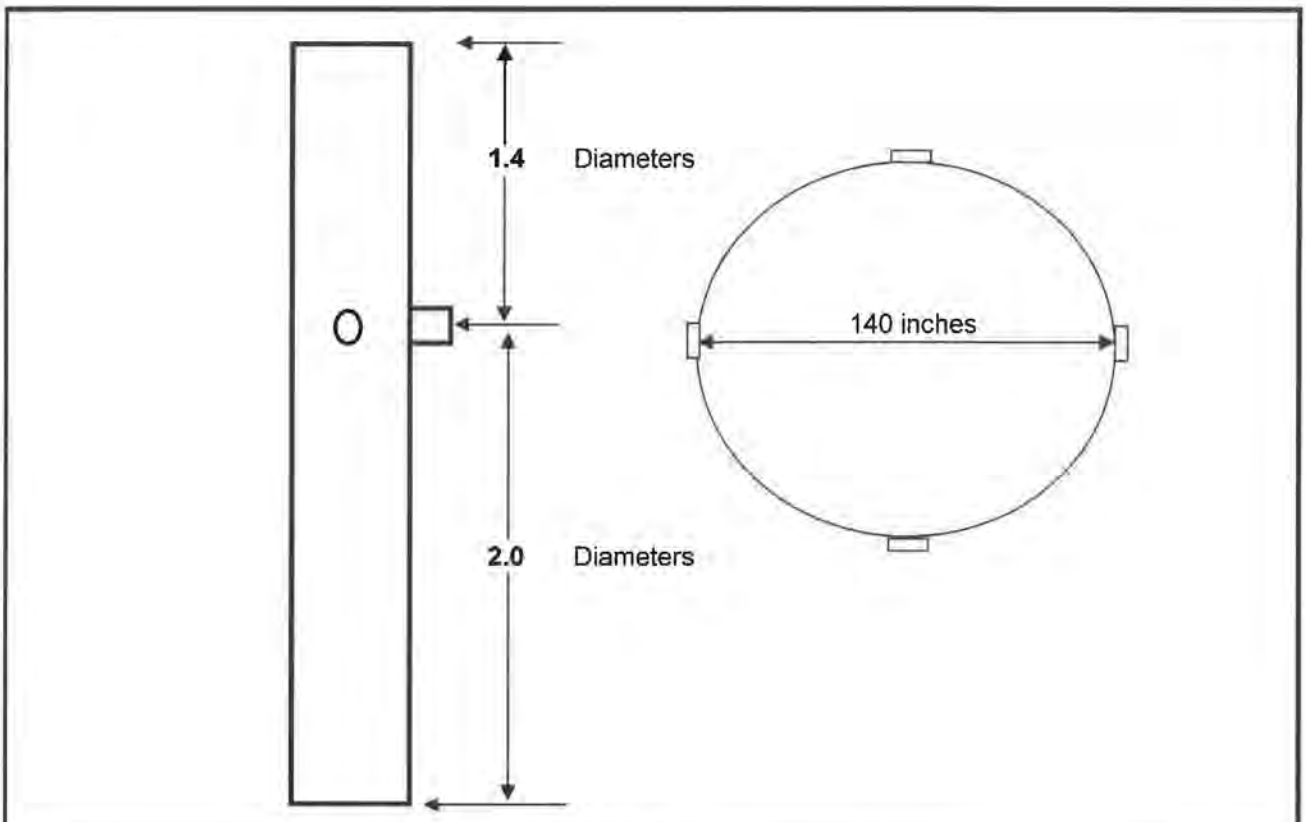
ANALYSIS REQUIRED: NH_3 by SCAQMD 207.1 (ISE)

Appendix A.3
QA/QC Data

METHOD 1 DATA SHEET
SAMPLE LOCATION

Client: SCPPA Date: 8/22/22

Sample Location: U1 Performed By: RN



Diameter (in.)	**140.00**
Upstream (ft.)	**23.33**
Downstream (ft.)	**16.50**
Coupling (in.)	**11.25**
Stack Area (ft^2)	**106.90**

Sample Point	% of Diameter	Dist from Wall (inches)	Dist from Port (inches)
1	4.4	6.1	17.3
2	14.6	20.5	31.8
3	29.6	41.4	52.7
4	70.4	98.6	109.8
5	85.4	119.5	130.7
6	95.6	133.9	145.2

SEMI-ANNUAL DRY GAS METER/ORIFICE CALIBRATION

Orifice Method - Triplicate Runs/Four Calibration Points
English Meter Box Units, English K' Factor
Filename: M:\Santa Ana\Equipment\Test Equipment\Calibrations\Dry Gas Meters\12-WCS\2022\[12WCS Semi Annual Cal 7-28-2022.xls]WCS
File Modified From: APEX 522 Series Meter box Calibration
Revised: 4/8/2005

Model #: E.S. C-5000 Source Sampler
ID #: 12-WCS
Date: 7/28/2022
Bar. Pressure: 29.84 (in. Hg)
Performed By: L.Olivares
Reviewed By: M.Chowsanitphon

DRY GAS METER READINGS									CRITICAL ORIFICE READINGS					
		Volume	Volume	Volume	Initial Temps.		Final Temps.		Orifice	K' Orifice	Actual	Ambient Temperature		
dH (in H2O)	Time (min)	Initial (cu ft)	Final (cu ft)	Total (cu ft)	Inlet (deg F)	Outlet (deg F)	Inlet (deg F)	Outlet (deg F)	Serial# (number)	Coefficient (see above)	Vacuum (in Hg)	Initial (deg F)	Final (deg F)	Average (deg F)
0.12	26.00	773.350	778.735	5.385	76.0	74.0	77.0	76.0	AA-33	0.1574	19.0	81.0	76.0	78.5
0.12	26.00	778.735	784.120	5.385	77.0	76.0	77.0	76.0	AA-33	0.1574	19.0	76.0	76.0	76.0
0.12	26.00	784.120	789.500	5.380	77.0	76.0	77.0	75.0	AA-33	0.1574	19.0	76.0	77.0	76.5
0.57	12.00	756.900	762.330	5.430	75.0	74.0	75.0	74.0	QI-48	0.3434	17.0	81.0	85.0	83.0
0.57	12.00	762.330	767.765	5.435	75.0	74.0	75.0	74.0	QI-48	0.3434	17.0	85.0	76.0	80.5
0.57	12.00	767.765	773.205	5.440	75.0	74.0	76.0	74.0	QI-48	0.3434	17.0	76.0	80.0	78.0
1.80	7.00	739.900	745.450	5.550	76.0	76.0	75.0	75.0	QI-63	0.5994	16.0	77.0	78.0	77.5
1.80	7.00	745.450	750.970	5.520	75.0	75.0	75.0	74.0	QI-63	0.5994	16.0	78.0	81.0	79.5
1.80	7.00	750.970	756.495	5.525	75.0	74.0	76.0	74.0	QI-63	0.5994	16.0	81.0	81.0	81.0
3.30	5.00	723.300	728.685	5.385	78.0	77.0	77.0	76.0	AA-73	0.8121	15.0	77.0	77.0	77.0
3.30	5.00	728.685	734.060	5.375	77.0	76.0	77.0	76.0	AA-73	0.8121	15.0	77.0	77.0	77.0
3.30	5.00	734.060	739.430	5.370	77.0	76.0	77.0	75.0	AA-73	0.8121	15.0	77.0	76.0	76.5

DRY GAS METER		ORIFICE			DRY GAS METER CALIBRATION FACTOR	ORIFICE CALIBRATION FACTOR				
VOLUME CORRECTED Vm(std) (cu ft)	VOLUME CORRECTED Vm(std) (liters)	VOLUME CORRECTED Vcr(std) (cu ft)	VOLUME CORRECTED Vcr(std) (liters)	VOLUME NOMINAL Vcr (cu ft)		Y Value (number)	dH@ Value (in H2O)	Individual Run 0.95 < Y < 1.05?	Individual Orifice Ymax - Ymin < 0.010?	Orifice Average 0.98 < Y/Yd < 1.02?	Orifice Average dH@ - dH@ av < 0.155?
5.292	149.9	5.262	149.0	5.384		0.994	1.622	Pass			
5.285	149.7	5.275	149.4	5.371		0.998	1.611	Pass			
5.280	149.5	5.272	149.3	5.374		0.999	1.613	Pass			
					Average	0.997	1.615		Pass	Pass	Pass
5.355	151.7	5.277	149.4	5.444		0.985	1.635	Pass			
5.360	151.8	5.289	149.8	5.431		0.987	1.627	Pass			
5.362	151.9	5.301	150.1	5.418		0.989	1.620	Pass			
					Average	0.987	1.627		Pass	Pass	Pass
5.480	155.2	5.400	152.9	5.514		0.986	1.673	Pass			
5.458	154.6	5.390	152.7	5.525		0.988	1.682	Pass			
5.463	154.7	5.383	152.4	5.532		0.985	1.688	Pass			
					Average	0.986	1.681		Pass	Pass	Pass
5.321	150.7	5.229	148.1	5.334		0.983	1.666	Pass			
5.316	150.6	5.229	148.1	5.334		0.983	1.668	Pass			
5.314	150.5	5.231	148.1	5.332		0.984	1.668	Pass			
					Average	0.983	1.667		Pass	Pass	Pass

Average Yd: 0.988 dH@: 1.648

Q @ dH = 1: 0.584

SIGNED: Signature on File Date: 7/28/2022

MONTROSE

DIGITAL TEMPERATURE READOUT CALIBRATION

Digital Temperature Readout ID: 12-WCS
Readout Description: Control Box
Date: 7/5/2022
Performed By: LO, RMo, DA

Calibrated Thermocouple ID: TC-CAL
T1 Reference Thermometer ID: 313010
T2 Reference Thermometer ID: 242167
T3 Reference Thermometer ID: 805002770

T/C I.D. **TC-CAL**	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (OIL)	12-WCS	380	380	380	380	378	378	378	378	2.0	0.2%	Pass
T2 (Boiling H_2O)	12-WCS	212	212	212	212	212	212	212	212	0.0	0.0%	Pass
T1 (Ice/Water)	12-WCS	30	30	30	30	32	32	32	32	2.0	0.4%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
2) Pass if all Differences are less than 1.5% (°R)

Thermocouple Source Readings

	T/C Source S/N	T/C - Readout °F				T/C Source °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T4 (~650 F)	129462	648	649	648	648	650	650	650	650	1.7	0.2%	Pass
T3 (~370 F)	129462	366	366	365	366	370	370	370	370	4.3	0.5%	Pass
T2 (~212 F)	129462	210	209	209	209	212	212	212	212	2.7	0.4%	Pass
T1 (~32 F)	129462	28	27	27	27	32	32	32	32	4.7	0.9%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
2) Pass if all Differences are less than 1.5% (°R)

Barometric Pressure Determination	
Date: 08/22/22	
Data By: Rudy Nunez	
Reference: https://forecast.weather.gov/MapClick.php?lat=33.8329&lon=-117.9152	
Reference Barometer ID	FW0063 Fullerton CSU (F0063)
Reference Barometer Location	Last update 22 Aug 04:08 PM PDT
Reference Barometer Other Info.	
Reference Barometer Indication, corrected to sea level	29.94
Reference Barometer Reference Elevation	247
Reference Barometer Actual Pressure	29.69
Test Barometer Location/Site	Canyon Power Plant
Location/Site Elevation	212
Location/Site Barometric Pressure	29.73
Sampling Location Height (above/below site elevation)	60
Sampling Location Barometric Pressure	**29.67**

APPENDIX B
FACILITY CEMS DATA

CEMTEK KVB-Enertec NetDAHS© NH3-1 Version 47.0

Average Values Report
Generated: 8/23/2022 20:48

Company: City Of Anaheim
Plant: 3071 Miraloma Ave.,
City/St: Anaheim, CA, 92806
Source: 1

Period Start: 8/22/2022 18:44
Period End: 8/22/2022 19:47
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 1_O2 %	Average 1_NOXPPM ppm	Average 1_NOX_CORR ppm	Average 1_NOX_LBHR #/hr	Average 1_NOX_LBMM #/MBTU	Average 1_GasFlow kscfh	Average 1_LOAD MW	Average 1_STACKFLW kscfm	Average 1_COPPM ppm	Average 1_CO_CORR ppm	Average 1_CO_LBHR #/hr
08/22/2022 18:44	14.37	2.58	2.33	4.48	0.009	474.0	49.29	231.2	3.40	3.07	3.43
08/22/2022 18:45	14.35	2.37	2.13	3.98	0.008	474.3	49.30	230.7	3.58	3.22	3.59
08/22/2022 18:46	14.36	2.31	2.08	3.98	0.008	473.4	49.21	230.6	3.68	3.32	3.68
08/22/2022 18:47	14.39	2.30	2.08	3.96	0.008	471.6	49.05	230.8	3.66	3.32	3.66
08/22/2022 18:48	14.40	2.71	2.46	4.46	0.009	471.4	49.08	231.0	3.47	3.15	3.51
08/22/2022 18:49	14.40	2.89	2.62	4.95	0.010	471.4	49.07	231.0	3.25	2.95	3.27
08/22/2022 18:50	14.41	2.81	2.55	4.45	0.009	471.3	49.07	231.4	3.14	2.85	3.17
08/22/2022 18:51	14.41	2.60	2.36	4.45	0.009	470.9	49.04	231.1	3.12	2.84	3.16
08/22/2022 18:52	14.41	2.40	2.18	3.96	0.008	471.3	49.10	231.4	3.10	2.82	3.12
08/22/2022 18:53	14.39	2.33	2.11	3.96	0.008	471.6	49.12	230.8	3.13	2.84	3.17
08/22/2022 18:54	14.39	2.26	2.05	3.96	0.008	471.8	49.14	230.9	3.20	2.90	3.22
08/22/2022 18:55	14.39	2.20	1.99	3.47	0.007	471.7	49.09	230.8	3.25	2.95	3.27
08/22/2022 18:56	14.39	2.20	1.99	3.47	0.007	471.4	49.14	230.7	3.26	2.95	3.27
08/22/2022 18:57	14.39	2.19	1.98	3.46	0.007	471.3	49.16	230.6	3.26	2.95	3.27
08/22/2022 18:58	14.38	2.17	1.96	3.47	0.007	471.6	49.18	230.4	3.28	2.97	3.32
08/22/2022 18:59	14.38	2.11	1.91	3.47	0.007	471.7	49.18	230.5	3.34	3.02	3.37
08/22/2022 19:00	14.39	2.04	1.85	3.47	0.007	471.4	49.18	230.7	3.40	3.08	3.42
08/22/2022 19:01	14.39	2.01	1.82	3.47	0.007	471.7	49.21	230.8	3.44	3.12	3.47
08/22/2022 19:02	14.39	2.00	1.81	3.47	0.007	471.8	49.20	230.9	3.46	3.14	3.47
08/22/2022 19:03	14.38	2.01	1.82	3.47	0.007	471.6	49.22	230.4	3.47	3.14	3.47
08/22/2022 19:04	14.39	2.03	1.84	3.47	0.007	471.7	49.22	230.8	3.47	3.14	3.52
08/22/2022 19:05	14.39	2.03	1.84	3.47	0.007	471.8	49.22	230.9	3.49	3.16	3.52
08/22/2022 19:06	14.39	2.06	1.87	3.47	0.007	471.9	49.23	230.9	3.51	3.18	3.52
08/22/2022 19:07	14.39	2.16	1.96	3.47	0.007	472.1	49.21	231.0	3.51	3.18	3.52
08/22/2022 19:08	14.38	2.22	2.01	3.47	0.007	472.5	49.22	230.9	3.51	3.18	3.52
08/22/2022 19:09	14.39	2.24	2.03	3.47	0.007	472.1	49.21	231.0	3.50	3.17	3.52
08/22/2022 19:10	14.39	2.27	2.06	3.96	0.008	471.7	49.18	230.8	3.46	3.14	3.47
08/22/2022 19:11	14.39	2.31	2.09	3.96	0.008	471.8	49.17	230.9	3.42	3.10	3.47
08/22/2022 19:12	14.38	2.41	2.18	3.96	0.008	472.0	49.19	230.6	3.41	3.09	3.42
08/22/2022 19:13	14.38	2.47	2.24	3.96	0.008	472.0	49.19	230.6	3.44	3.11	3.47
08/22/2022 19:14	14.38	2.48	2.24	3.97	0.008	472.1	49.22	230.7	3.47	3.14	3.47
08/22/2022 19:15	14.38	2.47	2.24	3.96	0.008	472.0	49.22	230.6	3.48	3.15	3.52
08/22/2022 19:16	14.39	2.48	2.25	3.96	0.008	471.9	49.22	230.9	3.48	3.15	3.52
08/22/2022 19:17	14.39	2.48	2.25	3.96	0.008	471.9	49.21	230.9	3.49	3.16	3.52
08/22/2022 19:18	14.39	2.48	2.25	3.97	0.008	472.1	49.21	231.0	3.49	3.16	3.52
08/22/2022 19:19	14.39	2.48	2.25	3.96	0.008	471.8	49.16	230.9	3.49	3.16	3.52
08/22/2022 19:20	14.39	2.48	2.25	3.97	0.008	472.1	49.18	231.0	3.48	3.15	3.52
08/22/2022 19:21	14.39	2.47	2.24	3.96	0.008	471.9	49.20	230.9	3.48	3.15	3.52
08/22/2022 19:22	14.39	2.48	2.25	3.96	0.008	472.0	49.22	231.0	3.49	3.16	3.52
08/22/2022 19:23	14.39	2.49	2.26	3.96	0.008	471.8	49.20	230.9	3.50	3.17	3.52
08/22/2022 19:24	14.38	2.48	2.24	3.96	0.008	471.6	49.21	230.4	3.49	3.16	3.52
08/22/2022 19:25	14.38	2.47	2.24	3.96	0.008	472.0	49.20	230.6	3.48	3.15	3.52
08/22/2022 19:26	14.37	2.47	2.23	3.97	0.008	472.1	49.22	230.3	3.48	3.14	3.52
08/22/2022 19:27	14.37	2.48	2.24	3.96	0.008	472.0	49.21	230.3	3.47	3.14	3.47
08/22/2022 19:28	14.38	2.48	2.24	3.96	0.008	471.8	49.21	230.5	3.47	3.14	3.47
08/22/2022 19:29	14.38	2.48	2.24	3.97	0.008	472.1	49.21	230.7	3.49	3.16	3.52
08/22/2022 19:30	14.39	2.47	2.24	3.96	0.008	472.0	49.22	231.0	3.50	3.17	3.52

Period Start:	Average 1_O2 %	Average 1_NOXPPM ppm	Average 1_NOX_CORR ppm	Average 1_NOX_LBHR #/hr	Average 1_NOX_LBMM #/MBTU	Average 1_GasFlow kscfh	Average 1_LOAD MW	Average 1_STACKFLW kscfm	Average 1_COPPM ppm	Average 1_CO_CORR ppm	Average 1_CO_LBHR #/hr
08/22/2022 19:31	14.39	2.47	2.24	3.96	0.008	471.9	49.20	230.9	3.50	3.17	3.52
08/22/2022 19:32	14.39	2.47	2.24	3.96	0.008	471.9	49.21	230.9	3.50	3.17	3.52
08/22/2022 19:33	14.39	2.47	2.24	3.96	0.008	471.9	49.20	230.9	3.50	3.17	3.52
08/22/2022 19:34	14.39	2.47	2.24	3.96	0.008	472.0	49.21	231.0	3.50	3.17	3.52
08/22/2022 19:35	14.39	2.46	2.23	3.97	0.008	472.1	49.20	231.0	3.51	3.18	3.52
08/22/2022 19:36	14.39	2.47	2.24	3.97	0.008	472.4	49.22	231.2	3.52	3.19	3.57
08/22/2022 19:37	14.39	2.46	2.23	3.97	0.008	472.2	49.22	231.1	3.52	3.19	3.57
08/22/2022 19:38	14.39	2.47	2.24	3.97	0.008	472.1	49.21	231.0	3.52	3.19	3.57
08/22/2022 19:39	14.39	2.47	2.24	3.96	0.008	472.0	49.24	231.0	3.52	3.19	3.57
08/22/2022 19:40	14.38	2.46	2.23	3.97	0.008	472.3	49.21	230.8	3.52	3.19	3.52
08/22/2022 19:41	14.39	2.47	2.24	3.97	0.008	472.1	49.19	231.0	3.51	3.18	3.52
08/22/2022 19:42	14.37	2.46	2.22	3.97	0.008	472.3	49.21	230.4	3.51	3.17	3.52
08/22/2022 19:43	14.38	2.46	2.23	3.97	0.008	472.2	49.22	230.7	3.51	3.18	3.52
08/22/2022 19:44	14.39	2.45	2.22	3.97	0.008	472.1	49.21	231.0	3.51	3.18	3.52
08/22/2022 19:45	14.39	2.45	2.22	3.97	0.008	472.2	49.21	231.1	3.50	3.17	3.52
08/22/2022 19:46	14.39	2.45	2.22	3.96	0.008	472.0	49.21	231.0	3.49	3.16	3.52
08/22/2022 19:47	14.39	2.45	2.22	3.96	0.008	472.0	49.22	231.0	3.49	3.16	3.52
Daily Average*	**14.39**	**2.39**	**2.16**	**3.89**	**0.008**	**472.0**	**49.19**	**230.8**	**3.44**	**3.12**	**3.47**
Maximum*	**14.41**	**2.89**	**2.62**	**4.95**	**0.010**	**474.3**	**49.30**	**231.4**	**3.68**	**3.32**	**3.68**
	08/22/2022 18:52	08/22/2022 18:49	08/22/2022 18:49	08/22/2022 18:49	08/22/2022 18:49	08/22/2022 18:45	08/22/2022 18:45	08/22/2022 18:52	08/22/2022 18:46	08/22/2022 18:47	08/22/2022 18:46
Minimum*	**14.35**	**2.00**	**1.81**	**3.46**	**0.007**	**470.9**	**49.04**	**230.3**	**3.10**	**2.82**	**3.12**
	08/22/2022 18:45	08/22/2022 19:02	08/22/2022 19:02	08/22/2022 18:57	08/22/2022 19:09	08/22/2022 18:51	08/22/2022 18:51	08/22/2022 19:27	08/22/2022 18:52	08/22/2022 18:52	08/22/2022 18:52

* Does not include Invalid Averaging Periods ("N/A")

Average Values Report
Generated: 8/23/2022 20:50

Company: City Of Anaheim
Plant: 3071 Miraloma Ave.,
City/St: Anaheim, CA, 92806
Source: 1

Period Start: 8/22/2022 20:19
Period End: 8/22/2022 21:22
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 1_O2 %	Average 1_NOXPPM ppm	Average 1_NOX_CORR ppm	Average 1_NOX_LBHR #/hr	Average 1_NOX_LBMM #/MBTU	Average 1_GasFlow kscfh	Average 1_LOAD MW	Average 1_STACKFLW kscfm	Average 1_COPPM ppm	Average 1_CO_CORR ppm	Average 1_CO_LBHR #/hr
08/22/2022 20:19	14.39	2.45	2.22	3.96	0.008	471.8	49.17	230.9	3.49	3.16	3.52
08/22/2022 20:20	14.39	2.47	2.24	3.96	0.008	471.9	49.20	230.9	3.49	3.16	3.52
08/22/2022 20:21	14.39	2.47	2.24	3.97	0.008	472.1	49.18	231.0	3.49	3.16	3.52
08/22/2022 20:22	14.39	2.46	2.23	3.97	0.008	472.1	49.20	231.0	3.49	3.16	3.52
08/22/2022 20:23	14.39	2.46	2.23	3.97	0.008	472.3	49.19	231.1	3.48	3.15	3.52
08/22/2022 20:24	14.39	2.45	2.22	3.96	0.008	471.9	49.21	230.9	3.47	3.14	3.52
08/22/2022 20:25	14.39	2.45	2.22	3.96	0.008	472.0	49.18	231.0	3.47	3.14	3.52
08/22/2022 20:26	14.39	2.44	2.21	3.96	0.008	471.9	49.19	230.9	3.46	3.14	3.47
08/22/2022 20:27	14.39	2.44	2.21	3.97	0.008	472.1	49.18	231.0	3.45	3.13	3.47
08/22/2022 20:28	14.39	2.46	2.23	3.97	0.008	472.2	49.19	231.1	3.44	3.12	3.47
08/22/2022 20:29	14.39	2.47	2.24	3.96	0.008	471.8	49.19	230.9	3.43	3.11	3.47
08/22/2022 20:30	14.39	2.50	2.27	3.96	0.008	471.9	49.20	230.9	3.40	3.08	3.42
08/22/2022 20:31	14.39	2.51	2.27	3.97	0.008	472.1	49.20	231.0	3.40	3.08	3.42
08/22/2022 20:32	14.39	2.49	2.26	3.96	0.008	471.8	49.19	230.9	3.42	3.10	3.47
08/22/2022 20:33	14.39	2.50	2.27	3.96	0.008	472.0	49.19	231.0	3.41	3.09	3.42
08/22/2022 20:34	14.39	2.52	2.28	3.96	0.008	471.7	49.18	230.8	3.40	3.08	3.42
08/22/2022 20:35	14.39	2.53	2.29	3.97	0.008	472.7	49.19	231.3	3.41	3.09	3.42
08/22/2022 20:36	14.41	2.52	2.29	3.96	0.008	471.7	49.18	231.5	3.42	3.11	3.47
08/22/2022 20:37	14.40	2.53	2.30	3.96	0.008	471.3	49.11	231.0	3.40	3.09	3.41
08/22/2022 20:38	14.39	2.54	2.30	3.96	0.008	472.0	49.20	231.0	3.39	3.07	3.42
08/22/2022 20:39	14.39	2.50	2.27	3.96	0.008	472.0	49.21	231.0	3.42	3.10	3.47
08/22/2022 20:40	14.39	2.47	2.24	3.97	0.008	472.1	49.17	231.0	3.42	3.10	3.47
08/22/2022 20:41	14.39	2.47	2.24	3.96	0.008	471.9	49.17	230.9	3.42	3.10	3.47
08/22/2022 20:42	14.39	2.47	2.24	3.97	0.008	472.1	49.23	231.0	3.42	3.10	3.47
08/22/2022 20:43	14.39	2.47	2.24	3.97	0.008	472.3	49.20	231.1	3.42	3.10	3.47
08/22/2022 20:44	14.39	2.48	2.25	3.97	0.008	472.4	49.18	231.2	3.43	3.11	3.47
08/22/2022 20:45	14.39	2.48	2.25	3.97	0.008	472.1	49.23	231.0	3.43	3.11	3.47
08/22/2022 20:46	14.39	2.48	2.25	3.97	0.008	472.1	49.19	231.0	3.44	3.12	3.47
08/22/2022 20:47	14.39	2.49	2.26	3.97	0.008	472.3	49.19	231.1	3.44	3.12	3.47
08/22/2022 20:48	14.39	2.50	2.27	3.97	0.008	472.1	49.21	231.0	3.44	3.12	3.47
08/22/2022 20:49	14.39	2.48	2.25	3.97	0.008	472.2	49.20	231.1	3.46	3.14	3.47
08/22/2022 20:50	14.39	2.48	2.25	3.97	0.008	472.5	49.22	231.2	3.45	3.13	3.47
08/22/2022 20:51	14.39	2.49	2.26	3.97	0.008	472.1	49.18	231.0	3.44	3.12	3.47
08/22/2022 20:52	14.39	2.49	2.26	3.97	0.008	472.3	49.18	231.1	3.42	3.10	3.47
08/22/2022 20:53	14.39	2.49	2.26	3.97	0.008	472.7	49.18	231.3	3.43	3.11	3.47
08/22/2022 20:54	14.39	2.49	2.26	3.96	0.008	472.0	49.16	231.0	3.43	3.11	3.47
08/22/2022 20:55	14.39	2.49	2.26	3.97	0.008	472.4	49.16	231.2	3.43	3.11	3.47
08/22/2022 20:56	14.39	2.50	2.27	3.97	0.008	472.4	49.19	231.2	3.41	3.09	3.42
08/22/2022 20:57	14.39	2.50	2.27	3.97	0.008	472.5	49.17	231.2	3.38	3.06	3.42
08/22/2022 20:58	14.39	2.50	2.27	3.97	0.008	472.3	49.16	231.1	3.38	3.06	3.42
08/22/2022 20:59	14.39	2.50	2.27	3.97	0.008	472.4	49.17	231.2	3.39	3.07	3.42
08/22/2022 21:00	14.39	2.50	2.27	3.97	0.008	472.2	49.14	231.1	3.39	3.07	3.42
08/22/2022 21:01	14.39	2.50	2.27	3.97	0.008	472.3	49.16	231.1	3.40	3.08	3.42
08/22/2022 21:02	14.39	2.50	2.27	3.97	0.008	472.1	49.12	231.0	3.40	3.08	3.42
08/22/2022 21:03	14.39	2.49	2.26	3.97	0.008	472.2	49.14	231.1	3.41	3.09	3.42
08/22/2022 21:04	14.39	2.48	2.25	3.97	0.008	472.3	49.16	231.1	3.42	3.10	3.47
08/22/2022 21:05	14.39	2.50	2.27	3.97	0.008	472.4	49.16	231.2	3.43	3.11	3.47

Period Start:	Average 1_O2 %	Average 1_NOXPPM ppm	Average 1_NOX_CORR ppm	Average 1_NOX_LBHR #/hr	Average 1_NOX_LBMM #/MBTU	Average 1_GasFlow kscfh	Average 1_LOAD MW	Average 1_STACKFLW kscfm	Average 1_COPPM ppm	Average 1_CO_CORR ppm	Average 1_CO_LBHR #/hr
08/22/2022 21:06	14.39	2.51	2.27	3.97	0.008	472.3	49.18	231.1	3.43	3.11	3.47
08/22/2022 21:07	14.39	2.51	2.27	3.97	0.008	472.5	49.17	231.2	3.42	3.10	3.47
08/22/2022 21:08	14.39	2.52	2.28	3.97	0.008	472.4	49.19	231.2	3.41	3.09	3.42
08/22/2022 21:09	14.39	2.54	2.30	3.97	0.008	472.5	49.20	231.2	3.40	3.08	3.42
08/22/2022 21:10	14.39	2.53	2.29	3.97	0.008	472.8	49.19	231.3	3.40	3.08	3.43
08/22/2022 21:11	14.39	2.53	2.29	3.98	0.008	473.6	49.34	231.8	3.40	3.08	3.43
08/22/2022 21:12	14.39	2.52	2.28	3.98	0.008	473.9	49.41	231.9	3.41	3.09	3.43
08/22/2022 21:13	14.39	2.55	2.31	4.48	0.009	474.3	49.42	232.1	3.41	3.09	3.44
08/22/2022 21:14	14.39	2.58	2.34	4.47	0.009	473.3	49.34	231.6	3.42	3.10	3.48
08/22/2022 21:15	14.39	2.57	2.33	4.48	0.009	474.1	49.46	232.0	3.42	3.10	3.48
08/22/2022 21:16	14.39	2.57	2.33	4.49	0.009	474.7	49.48	232.3	3.43	3.11	3.49
08/22/2022 21:17	14.39	2.59	2.35	4.48	0.009	474.6	49.51	232.2	3.44	3.12	3.49
08/22/2022 21:18	14.39	2.60	2.36	4.48	0.009	474.6	49.46	232.2	3.44	3.12	3.49
08/22/2022 21:19	14.39	2.60	2.36	4.49	0.009	474.8	49.50	232.3	3.44	3.12	3.49
08/22/2022 21:20	14.39	2.60	2.36	4.49	0.009	474.9	49.50	232.4	3.45	3.13	3.49
08/22/2022 21:21	14.39	2.60	2.36	4.48	0.009	474.6	49.50	232.2	3.44	3.12	3.49
08/22/2022 21:22	14.39	2.61	2.37	4.48	0.009	474.5	49.48	232.2	3.45	3.13	3.49
Daily Average*	**14.39**	**2.51**	**2.27**	**4.05**	**0.008**	**472.6**	**49.23**	**231.3**	**3.43**	**3.11**	**3.46**
Maximum*	**14.41**	**2.61**	**2.37**	**4.49**	**0.009**	**474.9**	**49.51**	**232.4**	**3.49**	**3.16**	**3.52**
	08/22/2022 20:36	08/22/2022 21:22	08/22/2022 21:22	08/22/2022 21:20	08/22/2022 21:22	08/22/2022 21:20	08/22/2022 21:17	08/22/2022 21:20	08/22/2022 20:22	08/22/2022 20:22	08/22/2022 20:25
Minimum*	**14.39**	**2.44**	**2.21**	**3.96**	**0.008**	**471.3**	**49.11**	**230.8**	**3.38**	**3.06**	**3.41**
	08/22/2022 21:22	08/22/2022 20:27	08/22/2022 20:27	08/22/2022 20:54	08/22/2022 21:12	08/22/2022 20:37	08/22/2022 20:37	08/22/2022 20:34	08/22/2022 20:58	08/22/2022 20:58	08/22/2022 20:37

* Does not include Invalid Averaging Periods ("N/A")

APPENDIX C
CALCULATIONS

Appendix C.1
General Emissions Calculations

GENERAL EMISSIONS 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

$$P_s = P_{bar} + \frac{P_{sg}}{13.6}$$

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

$$V_{mstd} = 0.03342 * V_m * \left(P_{bar} + \frac{\Delta H}{13.6}\right) * \frac{T_{ref}}{T_m} * Y_d$$

B. Water vapor volume, scf

$$V_{wstd} = 0.0472 * V_{ic} * \frac{T_{ref}}{528°R}$$

C. Moisture content, dimensionless

$$B_{wo} = \frac{V_{wstd}}{(V_{mstd} + V_{wstd})}$$

III. Stack Gas Volumetric 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

$$\frac{lb}{MMBtu} = \frac{ppm * MW_i * F}{SV * 10^6} * \frac{20.9}{20.9 - \%\ O_2}$$

VI. Percent Isokinetic

$$I = \frac{17.32 * T_s\ (V_{mstd})}{(1 - B_{wo})\ 0 * V_s * P_s * Dn^2} * \frac{520°R}{T_{ref}}$$

VII. Particulate Emissions

(a) Grain loading, gr/dscf
$C = 0.01543\ (M_n/V_{m\ std})$

(b) Grain loading at 12% CO_2, gr/dscf
$C_{12\%}\ CO_2 = C\ (12/\%\ CO_2)$

(c) Mass emissions, lb/hr
$M = C * Q_{sd} * (60\ min/hr) / (7000\ gr/lb)$

(d) Particulate emission factor

$$lb/10^6\ Btu = Cx\ \frac{1\ lb}{7000\ gr} * F * \frac{20.9}{20.9 - \%\ O_2}$$

Nomenclature:

A_s	=	stack area, ft^2
B_{wo}	=	flue gas moisture content, dimensionless
$C_{12\%CO2}$	=	particulate grain loading, gr/dscf corrected to 12% CO_2
C	=	particulate grain loading, gr/dscf
C_p	=	pitot calibration factor, dimensionless
Dn	=	nozzle diameter, inches
F	=	fuel F-Factor, dscf/MMBtu @ 0% O_2
H	=	orifice differential pressure, iwg
I	=	% isokinetics
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_{wi}	=	molecular weight of specie i:
	SO_2:	64
	NO_x:	46
	CO:	28
	HC:	16
0	=	sample time, minutes
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

Appendix C.2
Spreadsheet Summaries

SCAQMD 207.1 EXAMPLE CALCULATION
TEST NUMBER: 1-NH3-U1

Identifier	Description	Units	Equation	Value
A	Reference Temperature	F	--	60
B	Reference Temperature	R	A + 460	520
C	Meter Calibration Factor (Yd)	--	--	0.988
D	Barometric Pressure	" Hg	--	29.67
E	Meter Volume	acf	--	35.810
F	Meter Temperature	F	--	79.3
G	Meter Temperature	R	F + 460	539.3
H	Delta H	" H_2O	--	1.0
I	Meter Volume (standard)	dscf	0.03342 * E * (D + H/13.6) * B/G * C	33.910
J	Liquid Collected	grams	--	103.1
K	Water vapor volume	scf	0.0472 * J * B/528	4.793
L	Moisture Content	--	K/(K + I)	0.124
M	Gas Constant	ft-lbf/lb-mole-R	--	1545.33
N	Specific Molar Volume	SCF/lb-mole	385.3 * B / 528	379.5
O	F-Factor	dscf/MMBtu	--	8,710
P	HHV	Btu/SCF	--	1,050
Q	Mass Conversion Factor	lb/ug	--	2.2046E-09
R	O_2 Correction Factor	--	--	15
S	Stack Flow Rate @ 68 F	dscfm	--	230,800
T	Stack Flow Rate @ Tref	dscfm	S * B/528	227,303
U	Mass NH_3	ug	--	987
V	Mass NH_3	lb	U * Q	2.18E-06
W	MW of NH_3	lb/lb-mole	--	17.03
X	NH_3	ppm	$(V * N * 10^6)/(I * W)$	1.4
Y	Flue Gas O_2	%	--	14.39
Z	NH_3	ppmc	X * (20.9 - R)/(20.9 - Y)	1.3
AA	NH_3	lb/hr	$X * T * W * 60/(N * 10^6)$	0.9
AB	NH_3	lb/MMBtu	$(X * W * O)/(385.3 * 10^6) * 20.9/(20.9 - Y)$	0.002
AC	NH_3	lb/MMSCF	AB * P	1.9

Note:

(1) Some values may be slightly different from those shown on the run sheets due to round off errors. This page is intended to show the calculation methodology only.

SCAQMD METHOD 207.1
DATA WORKSHEET AND SUMMARY

Facility	Canyon		Parameter		NH_3
Unit	U1		Fuel		Natural gas
Sample Location	Stack		Data By		RN
Test Number	1-NH3-U1	2-NH3-U1	Average	Maximum	Limit
Reference Temperature (°F)	60	60			
Test Date	8/22/2022	8/22/2022			
Test Method	SCAQMD 207.1	SCAQMD 207.1			
Sample Train	12-WCS	12-WCS			
Meter Calibration Factor	0.988	0.988			
Stack Area (ft^2)	106.90	106.90			
Sample Time (Minutes)	60	60			
Barometric Pressure ("Hg)	29.67	29.67			
Start/Stop Time	1844/1947	2019/2122			
Meter Volume (acf)	35.810	35.800			
Meter Temperature (°F)	79.3	75.9			
Meter Pressure (iwg)	1.0	1.0			
Liquid Volume (ml)	103.1	100.1			
Stack O_2 (%)	14.39	14.39	14.39	(from facility CEMS)	
Unit Load (MW)	49	49	49.4		
Standard Sample Volume (SCF)	33.910	34.116			
Moisture Fraction	0.124	0.120			
Stack Flow Rate (dscfm, 68 °F)	230,800	231,300	231,050	(from facility CEMS)	
Stack Flow Rate (@ Tref)	227,303	227,795	227,549		
Gas Constant (ft-lbf/lb-mole-R)	1545.33	1545.33			
Molecular Weight NH_3 (lb/lb-mole)	17.03	17.03			
Specific Molar Volume (ft^3/lb-mole)	379.5	379.5			
F-Factor (dscf/MMBtu)	8,710	8,710			
HHV(Btu/SCF)	1,050	1,050			
Mass Conversion (lb/ug)	2.2046E-09	2.2046E-09			
O_2 Correction Factor (%)	15	15			
Mass NH_3 (ug)	987.218	665.084			
Mass NH_3 (lb)	2.18E-06	1.47E-06			
NH_3 (ppmv, flue gas)	1.43	0.96	1.19	1.43	
NH_3 (ppmv @ O_2 Correction Factor)	1.30	0.87	1.08	1.30	5
NH_3 (lb/hr)	0.87	0.59	0.73	0.87	
NH_3 (lb/MMBtu)	0.002	0.001	0.001	0.002	
NH_3 (lb/MMSCF)	1.85	1.24	1.55	1.85	

Note: SCAQMD Method 207.1 requires the higher of the duplicate runs be reported as the test result.

1-NH3-U1

Point	Meter Volume	Delta H	Tm In	Tm Out
3	867.400	1.0	81	80
2			80	80
1			80	79
3			80	79
2			81	78
1			81	78
3			80	77
2			81	77
1			81	77
3			79	77
2			81	77
1			81	77
Stop	903.210			
Result	**35.810**	**1.0**	**79.3**	

Impinger Weights

#	Post-Test	Pre-Test	Difference
1	928.2	738.3	189.9
2	778.9	776.4	2.5
3	609.7	607.7	2.0
4	884.2	875.5	8.7
Line Rinse	0.0	100.0	-100.0
			103.1

2-NH3-U1

Point	Meter Volume	Delta H	Tm In	Tm Out
3	904.900	1.0	74	74
2			74	74
1			75	74
3			77	74
2			77	74
1			78	74
3			77	74
2			80	74
1			80	74
3			79	75
2			80	75
1			79	75
Stop	940.700			
Result	**35.800**	**1.0**	**75.9**	

Impinger Weights

#	Post-Test	Pre-Test	Difference
1	930.9	746.5	184.4
2	763.3	755.2	8.1
3	640.2	639.6	0.6
4	827.7	820.7	7.0
Line Rinse	0.0	100.0	-100.0
			100.1

APPENDIX D
QUALITY ASSURANCE

Appendix D.1
Quality Assurance Program Summary

QUALITY ASSURANCE PROGRAM SUMMARY

As part of Montrose Air Quality Services, LLC (Montrose) ASTM D7036-04 certification, Montrose is committed to providing emission related data which is complete, precise, accurate, representative, and comparable. Montrose quality assurance program and procedures are designed to ensure that the data meet or exceed the requirements 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

Assignment of an Internal QA Officer: Montrose has assigned an internal QA Officer who is responsible for administering all aspects of the QA program.

Internal Quality Assurance Manual: Montrose has prepared a QA Manual according to the requirements of ASTM D7036-04 and guidelines issued by EPA. The manual documents and formalizes all of Montrose's QA efforts. The manual is revised upon periodic review and as Montrose adds capabilities. The QA manual provides details on the items provided in this summary.

Personnel Testing and Training: Personnel testing and training is essential to the production of high quality test results. Montrose training programs include:

- A requirement for all technical personnel to read and understand the test methods performed
- A requirement for all technical personnel to read and understand the Montrose QA manual
- In-house testing and training
- Quality Assurance meetings
- Third party testing where available
- Maintenance of training records.

Equipment Maintenance and Calibration: All laboratory and field equipment used as a part of Montrose's emission measurement programs is maintained according to manufacturer's recommendations. A summary of the major equipment maintenance schedules is summarized in Table 1. 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 is summarized in Table 2. The calibration technique may vary to meet regulatory agency requirements.

Knowledge of Current Test Methods: Montrose maintains current copies of EPA, ARB, and SCAQMD Source Test Manuals and Rules and Regulations.

Chain-of-Custody: Montrose maintains chain-of-custody documentation on all data sheets and samples. Samples are stored in a locked area accessible only to Montrose source test personnel. Data sheets are kept in the custody of the originator, program manager, or in locked storage until return to Montrose office. Electronic field data is duplicated for backup on secure storage media. The original data sheets are used for report preparation and any additions are initialed and dated.

QA Reviews: Periodic field, laboratory, and report reviews are performed by the in-house QA coordinator. Periodically, test plans are reviewed to ensure proper test methods are selected and reports are reviewed to ensure that the methods were followed and any deviations from the methods are justified and documented.

ASTM D7036-04 Required Information

Uncertainty Statement

Montrose is qualified to conduct this test program and has established a quality management system that led to accreditation with ASTM Standard D7036-04 (Standard Practice for Competence of Air Emission Testing Bodies). Montrose participates in annual functional assessments for conformance with D7036-04 which are conducted by the American Association for Laboratory Accreditation (A2LA). All testing performed by Montrose is supervised on site by at least one Qualified Individual (QI) as defined in D7036-04 Section 8.3.2. Data quality objectives for estimating measurement uncertainty within the documented limits in the test methods are met by using approved test protocols for each project as defined in D7036-04 Sections 7.2.1 and 12.10. Additional quality assurance information is presented in the report appendices.

Performance Data

Performance data are available for review.

Qualified Personnel

A qualified individual (QI), defined by performance on a third party or internal test on the test methods, is present on each test event.

Plant Entry and Safety Requirements

Plant Entry

All test personnel are required to check in with the guard at the entrance gate or other designated area. Specific details are provided by the facility and project manager.

Safety Requirements

All personnel shall have the following personal protective equipment (PPE) and wear them where designated:

- Hard Hat
- Safety Glasses
- Steel Toe Boots
- Hearing Protection
- Gloves
- High Temperature Gloves (if required)

The following safety measures will be followed:

- Good housekeeping
- SDS for all on-site hazardous materials
- Confine selves to necessary areas (stack platform, mobile laboratory, CEMS data acquisition system, control room, administrative areas)
- Knowledge of evacuation procedures

Each facility will provide plant specific safety training.

TABLE 1
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	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Replace parts 4. Leak check
Flow Meters	1. Free mechanical movement	As recommended by manufacturer	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 Van 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 2
MAJOR 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	Semi-Annually	3-point linearity	< 1% of analyzer range
NO_x Analyzer	Daily	NO_2 -> NO converter efficiency	> 90%
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%
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 $\Delta H@$	--
Temperature Sensors	Semi-Annually	3-point calibration vs. NIST traceable standard	+/- 1.5%

Note: Calibration requirements that meet applicable regulatory agency requirements will be used.

Appendix D.2
SCAQMD and STAC Certifications

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

September 1, 2021

Mr. John Peterson
Montrose Air Quality Services, LLC
1631 E. Saint Andrew Place
Santa Ana, CA 92705

Subject: LAP Approval Notice
Reference # 96LA1220

Dear Mr. Peterson:

We have reviewed your renewal letter under the South Coast Air Quality Management District's Laboratory Approval Program (LAP). We are pleased to inform you that your firm is approved for the period beginning September 30, 2021, and ending September 30, 2022 for the following methods, subject to the requirements in the LAP Conditions For Approval Agreement and conditions listed in the attachment to this letter:

South Coast AQMD Methods 1-4	South Coast AQMD Methods 5.1, 5.2, 5.3, 6.1
South Coast AQMD Methods 10.1 and 100.1	South Coast AQMD Methods 25.1 and 25.3 (Sampling)
USEPA CTM-030 and ASTM D6522-00	Rule 1121/ 1146.2 Protocol
Rule 1420/1420.1/1420.2 - (Lead) Source and Ambient Sampling	

Your LAP approval to perform nitrogen oxide emissions compliance testing for Rule 1121/ 1146.2 Protocols includes satellite facilities located at:

McKenna Boiler 1510 North Spring Street Los Angeles, CA 90012	Noritz America Corp. 11160 Grace Avenue Fountain Valley, CA 92708	Ajax Boiler, Inc. 2701 S. Harbor Blvd. Santa Ana, CA 92704
VA Laundry Bldg., Greater LA Healthcare Sys. 508 Constitution Avenue Los Angeles, CA 90049	So Cal Gas – Engr Analysis Ctr, Bldg H 8101 Rosemead Blvd Pico Rivera, CA 90660	

Thank you for participating in the 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, Colin Eckerle. He may be reached by telephone at (909) 396-2476, or via e-mail at ceckerle@aqmd.gov.

Sincerely,

D. Sarkar

Dipankar Sarkar
Program Supervisor
Source Test Engineering

DS:CE
Attachment

210901 LapRenewal.doc

STAC
STACK TESTING ACCREDITATION COUNCIL

American Association for Laboratory Accreditation

Accredited Air Emission Testing Body

A2LA has accredited

MONTROSE AIR QUALITY SERVICES

In recognition of the successful completion of the joint A2LA and Stack Testing Accreditation Council (STAC) evaluation process, this laboratory is accredited to perform testing activities in compliance with ASTM D7036:2004 - Standard Practice for Competence of Air Emission Testing Bodies.

Presented this 4th day of February 2022.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3925.01
Valid to February 29, 2024

This accreditation program is not included under the A2LA ILAC Mutual Recognition Arrangement.

MONTROSE AIR QUALITY SERVICES

Appendix D.3
Individual QI Certificate

CERTIFICATE OF COMPLETION

Rudy Nunez

This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):

SCAQMD Methods 1.1 – 4.1

Certificate Number: 002-2018-5

DATE OF ISSUE: 1/16/18

DATE OF EXPIRATION: 1/16/23

Tate Strickler, Accreditation Director

MONTROSE ENVIRONMENTAL

CERTIFICATE OF COMPLETION

Rudy Nunez

This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):

SCAQMD Method 207.1

Certificate Number: 002-2018-12

Tate Strickler, Accreditation Director

DATE OF ISSUE: 1/17/18

DATE OF EXPIRATION: 1/17/23

MONTROSE ENVIRONMENTAL

Appendix D.4
Statement of No Conflict of Interest

STATEMENT OF NO CONFLICT OF INTEREST AS AN INDEPENDENT TESTING LABORATORY

(To be completed by authorized source testing firm representative and included in source test report)

The following facility and equipment were tested by my source testing firm and are the subjects of this statement:

Facility ID:	**153992**
Date(s) Tested:	**August 22, 2022**
Facility Name:	**Canyon Power Plant**
Equipment Address:	**3071 E. Mira Loma Ave.**
	Anaheim, California 92806
Equipment Tested:	**Unit 1**
Device ID, A/N, P/N:	**D1**

I state, as its legally authorized representative, that the source testing firm of:

Source Test Firm: Montrose Air Quality Services, LLC

Business Address: 1631 E. St. Andrew Pl.

Santa Ana, California 92705

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: Rudy Nunez **Date:** **9/20/2022**

Rudy Nunez	**Client Project Manager**	**(714) 279-6777**	**9/20/2022**
(Name)	(Title)	(Phone)	(Date)

FORM ST-110 :stevforl.doc (Revised 11/18/98

APPENDIX E
APPLICABLE PERMIT SECTIONS

FACILITY PERMIT TO OPERATE
CANYON POWER PLANT

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: POWER GENERATION					
GAS TURBINE, NO. 1, NATURAL GAS, GENERAL ELECTRIC, MODEL LM6000PC SPRINT, SIMPLE CYCLE, 479 MMBTU/HR AT 46 DEG F, WITH INLET CHILLING, WITH WATER INJECTION WITH A/N: 555828 GENERATOR, 50.95 MW	D1	C3	NOX: MAJOR SOURCE**	**CO**: 4 PPMV NATURAL GAS (4) **[RULE 1303(a)(1)-BACT, 5-10-1996;** *RULE 1303(a)(1) -BACT, 12-6-2002*]; **CO**: 2000 PPMV NATURAL GAS (5) **[RULE 407, 4-2-1982]**; **NOX**: 2.5 PPMV NATURAL GAS (4) **[RULE 2005, 6-3-2011]**; **NOX**: 25 PPMV NATURAL GAS (8) **[40CFR 60 Subpart KKKK, 7-6-2006]**; **PM10**: 0.01 GRAINS/SCF NATURAL GAS (5A) **[RULE 475, 10-8-1976;** *RULE 475, 8-7-1978*]; **PM10**: 0.1 GRAINS/SCF NATURAL GAS (5) **[RULE 409, 8-7-1981]**; **PM10**: 1.67 LBS/HR NATURAL GAS (5C) **[RULE 1303(b)(2)-Offset, 5-10-1996;** *RULE 1303(b)(2) -Offset, 12-6-2002*]; **PM10**: 11 LBS/HR NATURAL GAS (5B) **[RULE 475, 10-8-1976;** *RULE 475, 8-7-1978*]; **SO2**: (9) **[40CFR 72 - Acid Rain Provisions, 11-24-1997]**; **SOX**: 0.06 LBS/MMBTU NATURAL GAS (8) **[40CFR 60 Subpart KKKK, 7-6-2006]**; **VOC**: 2 PPMV NATURAL GAS (4) **[RULE 1303(a)(1)-BACT, 5-10-1996;** *RULE 1303(a)(1)-BACT, 12-6-2002*]	A63.1, A99.1, A99.2, A99.3, A195.1, A195.2, A195.3, A327.1, B61.1, D12.1, D29.2, D29.3, D82.1, D82.2, E193.1, H23.1, I298.1, K40.1

* (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
CANYON POWER PLANT

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: POWER GENERATION					
CO OXIDATION CATALYST, NO. 1, BASF, 110 CUBIC FEET OF TOTAL CATALYST VOLUME A/N: 476654	C3	D1 C4			
SELECTIVE CATALYTIC REDUCTION, NO. 1, CORMETECH CMHT-21, 1012 CU.FT.; WIDTH: 2 FT 6 IN; HEIGHT: 25 FT 9 IN; LENGTH: 18 FT WITH A/N: 476654 AMMONIA INJECTION	C4	C3 S6		**NH3**: 5 PPMV NATURAL GAS **(4) [RULE 1303(a)(1)-BACT, 5-10-1996;** ***RULE 1303(a)(1) -BACT, 12-6-2002***]	A195.4, D12.2, D12.3, D12.4, E179.1, E179.2, E193.1
STACK, TURBINE NO. 1, HEIGHT: 86 FT ; DIAMETER: 11 FT 8 IN A/N: 555828	S6	C4			

* (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.

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 : C4, C10, C16, C22]

D12.5 The operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.

[RULE 1110.2, 2-1-2008; RULE 1110.2, 9-7-2012; **RULE 1303(b)(2)-Offset, 5-10-1996;** RULE 1303(b)(2)-Offset, 12-6-2002; RULE 1401, 9-10-2010; RULE 1470, 5-4-2012; **RULE 2012, 5-6-2005; 40CFR 60 Subpart IIII, 1-30-2013]**

[Devices subject to this condition : D25]

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
NH3 emissions	District method 207.1 and 5.3 or EPA method 17	1 hour	Outlet of the SCR serving this equipment

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

The test(s) shall be conducted at least quarterly during the first twelve months of operation and at least annually thereafter. The AQMD shall be notified of the date and time of the test at least 10 days prior to the test.

If the turbine is not in operation during one calendar year, then no testing is required during that calendar year.

The NOx concentration, as determined by the CEMS, shall be simultaneously recorded during the ammonia slip test. If the CEMS is inoperable, a test shall be conducted to determine the NOx emissions using District Method 100.1 measured over a 60 minute averaging time period.

The test shall be conducted and the results submitted to the District within 60 days after the test date.

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration limit.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition : D1, D7, D13, D19]

D29.3 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Sampling Time	Test Location
SOX emissions	AQMD Laboratory Method 307-91	Not Applicable	Fuel sample
VOC emissions	District Method 25.3	1 hour	Outlet of the SCR serving this equipment
PM emissions	District method 5.1	4 hours	Outlet of the SCR serving this equipment

THIS IS THE LAST PAGE OF THIS DOCUMENT

If you have any questions, please contact one of the following individuals by email or phone.

Name: Mr. Rudy Nunez
Title: Client Project Manager
Region: West
Email: RNunez@montrose-env.com
Phone: (714) 279-6777

Name: Mr. Matt McCune
Title: Regional Vice President
Region: West
Email: MMccune@montrose-env.com
Phone: (714) 279-6777

TEST REPORT FOR
THIRD QUARTER 2022 AMMONIA SLIP TEST AT CANYON POWER PLANT – UNIT 2
FACILITY ID: 153992, DEVICE ID: D7

Prepared For:

Canyon Power Plant
3071 E. Mira Loma Avenue
Anaheim, California 92806

For Submittal To:

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

Prepared By:

Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, California 92705
(714) 279-6777

Rudy Nunez

Test Date: **August 23, 2022**
Production Date: **September 20, 2022**
Report Number: **W002AS-019365-RT-3921**

MONTROSE AIR QUALITY SERVICES

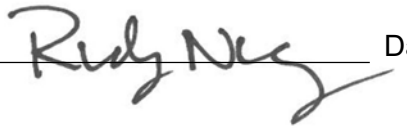
STAC ACCREDITED TO ASTM D7036 ONLY CERT #3925.01

CONFIDENTIALITY STATEMENT

Except as otherwise required by law or regulation, this information contained in this communication is intended exclusively for the individual or entity to which it is addressed. This communication may contain information that is proprietary, privileged or confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it.

REVIEW AND CERTIFICATION

All work, calculations, and other activities and tasks performed and presented in this document were carried out by me or under my direction and supervision. I hereby certify that, to the best of my knowledge, Montrose operated in conformance with the requirements of the Montrose Quality Management System and ASTM D7036-04 during this test project.

Signature:  Date: 9/20/2022

Name: Rudy Nunez Title: Client Project Manager

I have reviewed, technically and editorially, details, calculations, results, conclusions, and other appropriate written materials contained herein. I hereby certify that, to the best of my knowledge, the presented material is authentic, accurate, and conforms to the requirements of the Montrose Quality Management System and ASTM D7036-04.

Signature:  Date: 9/20/2022

Name: Surya Adhikari Title: Senior Reporting QC Specialist

TABLE OF CONTENTS

1.0 INTRODUCTION AND SUMMARY

Montrose Air Quality Services, LLC (MAQS) was contracted by the Canyon Power Plant to perform an ammonia slip test at Unit 2 as required by the facility Permit (Facility ID 153992) Condition Number D29.2. This report documents the results of the ammonia slip tests performed on August 23, 2022. The test was performed by Rudy Nunez, Alfred Stewart, and Danny Avila of MAQS. Rudy Nunez was the on-site Qualified Individual for MAQS. MAQS qualifies as an independent testing laboratory under SCAQMD Rule 304 (no conflict of interest) and is certified by the SCAQMD to conduct testing for criteria pollutants according to District Methods. Bertha Hernandez coordinated the test for Canyon Power Plant.

The test consisted of duplicate ammonia tests performed at 49 MW. The test program followed the procedures described in the initial compliance test protocol (MAQS document R038842). The results of the test are summarized in Table 1-1. The table shows that the ammonia slip from this unit was less than the permitted limit of 5 ppm corrected to 15% O_2.

TABLE 1-1
AMMONIA SLIP TEST RESULTS SUMMARY
CANYON POWER PLANT
UNIT 2
AUGUST 23, 2022

Parameter/Units	Result(1)	Limit
NH_3		
ppm	0.8	--
ppm at 15%O_2	0.8	5

(1) Maximum of duplicate runs, as required by SCAQMD Method 207.1

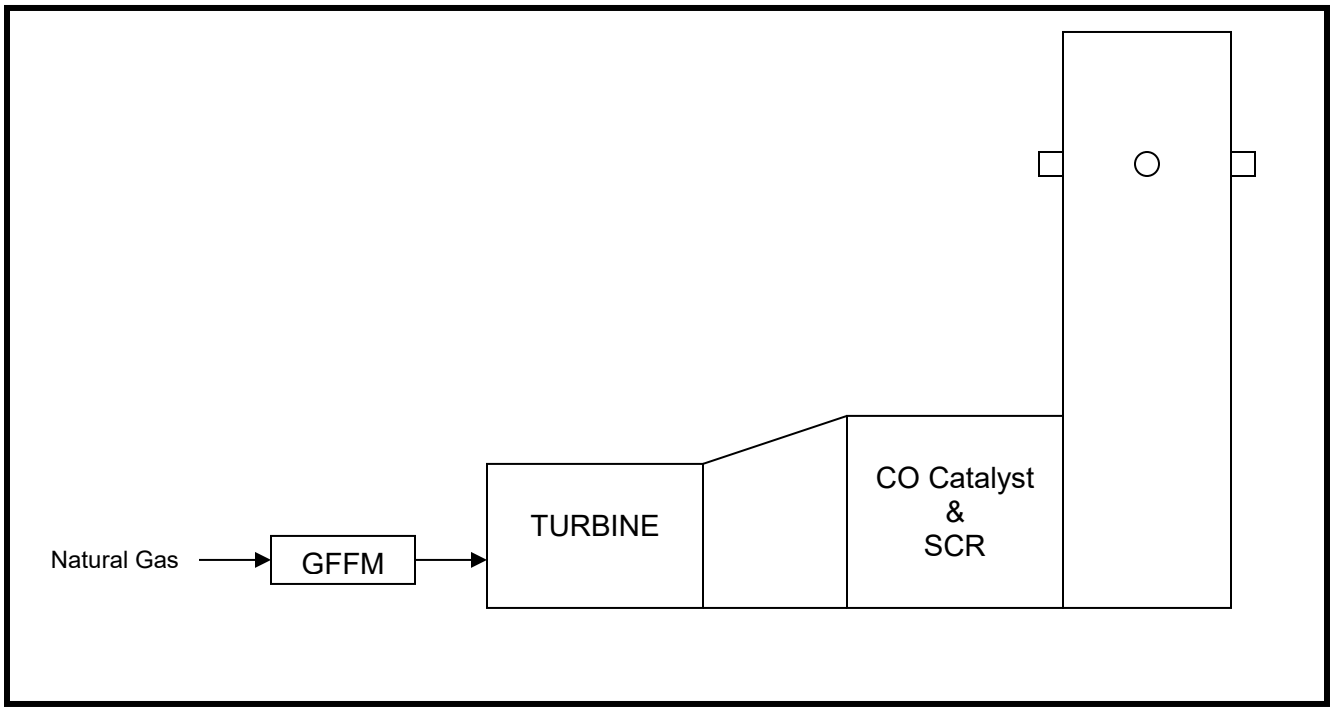
Section 2 of this document provides a brief description of the unit, test conditions, sample location, and CEMS. Details of the test procedures are provided in Section 3. Section 4 provides the results of each individual test. All raw data, calculations, quality assurance data, unit operating conditions, and CEMS data are provided in the appendices.

2.0 UNIT AND CEMS DESCRIPTION

2.1 UNIT DESCRIPTION

The City of Anaheim Canyon Power Plant is located at 3071 E. Mira Loma Avenue, Anaheim, California 92806. The facility consists of four identical generating units. Each unit consists of a natural gas fired, GE Model LM6000PC Sprint simple cycle, gas turbine. The units are natural gas fired with a rated heat input of 479 MMBtu per hour at 46°F, with water injection. The units are equipped with a CO catalyst and Selective Catalytic Reduction (SCR) system for CO and NO_x control respectively. Figure 2-1 presents a block diagram of the unit.

FIGURE 2-1
UNIT BLOCK DIAGRAM
CANYON POWER PLANT
UNIT 2



Stack Inside Diameter:	11 feet, 8 inches
Distance from Upstream Disturbance:	23 feet, 4 inches (2.0 Diameters)
Distance from Stack Exit:	16 feet, 6 inches (1.4 Diameters)

2.2 CEMS DESCRIPTION

NO_x and CO emissions from the unit are monitored by a dry, extractive Continuous Emission Monitoring System (CEMS). Stack flow rate is determined from fuel flow rate, O_2 concentration, standard F-Factor, and fuel higher heating value using EPA Method 19.

2.3 TEST CONDITIONS

The tests were performed with the unit operating at an average load of 49 MW. Tests were performed while the unit was firing natural gas and operating under normal conditions. Unit operation was established by the Canyon Power Plant operators.

2.4 SAMPLE LOCATION

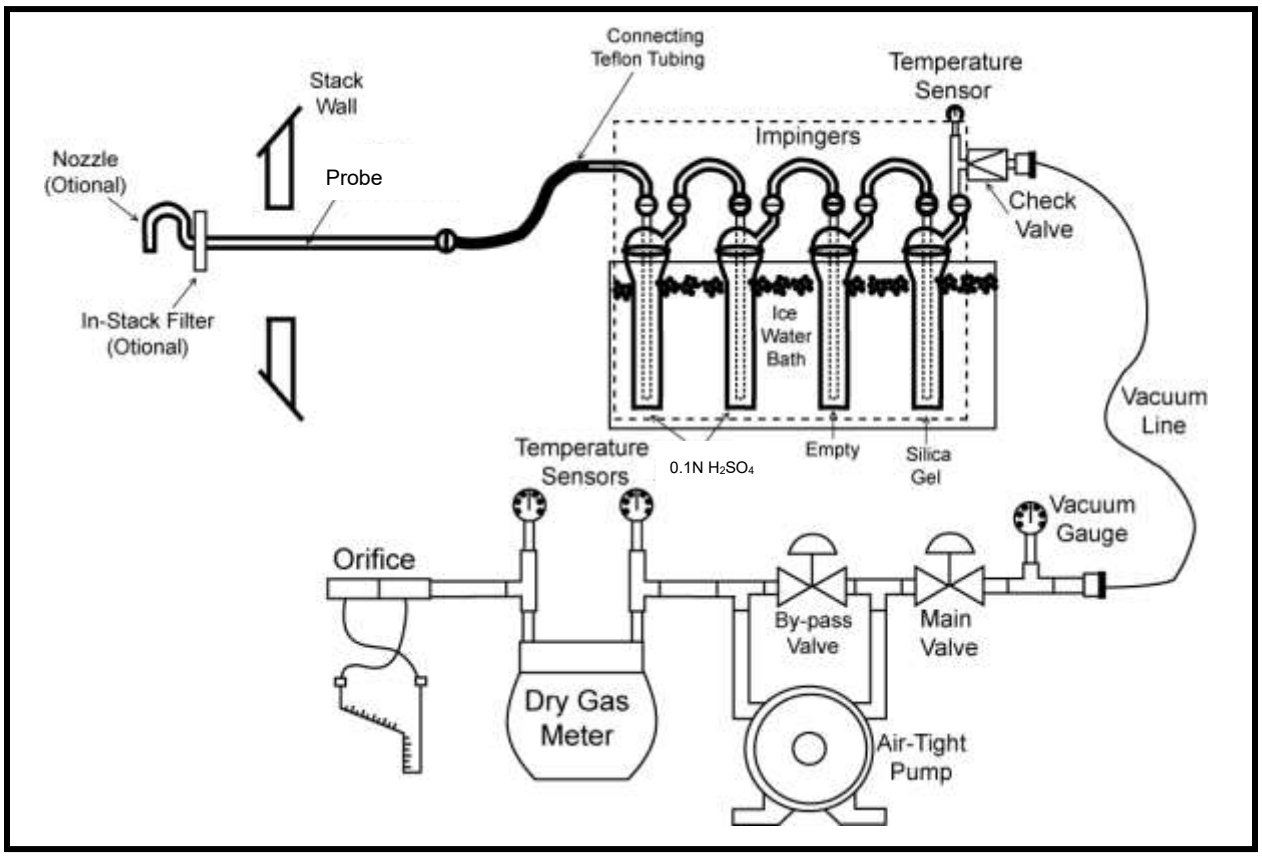
The measurements were made from sample ports located on the exhaust stack. There are four sample ports equally spaced at this location. The stack inside diameter at the sample plane is 11 feet, 8 inches. The sample ports are located 23 feet, 4 inches (2.0 diameters) downstream of the nearest flow disturbance and 16 feet, 6 inches (1.4 diameters) from the stack exit.

3.0 TEST DESCRIPTION

Flue gas samples were collected non-isokinetically using a SCAQMD Method 207.1 sample train. The samples were collected using a 12-point traverse at the exhaust stack location. Each test was performed over a 60 minute interval. The sample gas was drawn through a titanium probe, Teflon sample line, two impingers each containing 100 ml of 0.1N H_2SO_4, an empty impinger, an impinger containing silica gel, and a dry gas meter. The optional nozzle and filter were not used since the source is natural gas fired. The contents of the sample line and the first three impingers were recovered and analyzed by SCAQMD Method 207.1 for ammonia concentration by Ion Specific Electrode analysis. Figure 3-1 presents a diagram of the sampling equipment.

Stack O_2 and NO_x concentrations, and stack volumetric flow rate data were recorded from the Continuous Emission Monitoring System (CEMS) which is installed on the unit. These data were used to correct the ammonia concentration to 15% O_2 and to report the mass emission rates.

FIGURE 3-1
SCAQMD METHOD 207.1 SAMPLE EQUIPMENT



4.0 TEST RESULTS AND OVERVIEW

4.1 TEST RESULTS

The results of the test are summarized in Table 4-1. The results show that the ammonia slip was 0.8 ppm @ 15% O_2 which is less than the permitted limit of 5 ppm @ 15% O_2.

TABLE 4-1
AMMONIA SLIP TEST RESULTS
CANYON POWER PLANT
UNIT 2
AUGUST 23, 2022

Parameter/Units	Run 1	Run 2	Average	Maximum(1)	Limit
Test	1-NH3-U2	2-NH3-U2			--
Date	8/23/2022	8/23/2022			--
Time	1621/1724	1749/1852			--
O_2, %(2)	14.40	14.41	14.41	--	--
Stack Flow, dscfm @ T_{ref}(2)	227,992	229,174	228,583	--	--
NO_x, ppmc(2)	2.4	2.4	2.4	--	2.5
NH_3					
ppm	0.8	0.7	0.8	0.8	--
ppmc	0.8	0.7	0.7	0.8	5
lb/hr	0.5	0.5	0.5	0.5	--
lb/MMBtu	0.001	0.001	0.001	0.001	--
lb/MMSCF	1.1	1.0	1.0	1.1	--

(1) Maximum of duplicate test runs, as required by SCAQMD Method 207.1
(2) From facility CEMS

4.2 TEST OVERVIEW

The test program was successful in meeting the program objectives. The sample train was leak checked before and after the test and all QA/QC requirements of SCAQMD Method 207.1 were satisfied.

APPENDIX A
RAW DATA

Appendix A.1
Sample Data Sheets

MONTROSE
AIR QUALITY SERVICES

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: SCPPA
LOCATION: CANYON 62
DATE: 8-23-22
RUN NO: 1-NH3
OPERATOR: AS
METER BOX NO: 12-WCS
METER ΔH@: 1.648
METER Yd: .988
STACK AREA, FT²: 106.90
TRAVERSE POINTS, MIN/POINT: 5/12
ΔH= 1.0 X ΔP: N/A
Probe Condition, pre/post test: good/good
Silica Gel Expended, Y/N: N
Filter Condition after Test: N/A
Check Weight:

AMBIENT TEMPERATURE: 82
BAROMETRIC PRESSURE: 29.55
ASSUMED MOISTURE: N/A
PITOT TUBE COEFF, Cp: .99
PROBE ID NO/MATERIAL: T:tan:ven
PROBE LENGTH: 8A
NOZZLE ID NO/ MATERIAL: N/A
NOZZLE DIAMETER: N/A
FILTER NO/TYPE: N/A
PRE-TEST LEAK RATE: : <.002 CFM@ 15 in. Hg.
POST-TEST LEAK RATE: : <.002 CFM@ 15 in. Hg.
PITOT LEAK CHECK - PRE: ✓ POST: ✓
CHAIN OF CUSTODY: SAMPLE CUSTODIAN
SAMPLER AS
SAMPLE CUSTODIAN RN

Imp. #	Contents	Post-Test	Pre-Test	= Difference
1	0.1N H_2SO_4	959.3	764.7	
2	0.1N H_2SO_4	753.7	750.4	
3	EMPTY	606.7	606.3	
4	SG	892.1	884.2	
	LR		(100)	
Total:				

Point	Time	Meter Volume, ft³	ΔP in. H_2O	ΔH in. H_2O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In	Meter Temp, °F Out	Vacuum in. Hg.	O_2 %	Pstatic in. H_2O
3	1621	055.600	N/A	1.0	N/A	N/A	N/A	53	86	83	4		
2	1626	058.560						53	86	83	4		
1	1631	061.570						52	85	83	4		
Ø	1636	064.555											
3	1637	064.555						55	85	83	4		
2	1642	067.530						52	85	83	4		
1	1647	070.475						52	85	82	4		
Ø	1652	073.440											
3	1653	073.440						52	87	82	4		
2	1658	076.360						52	87	82	4		
1	1703	079.310						52	87	82	4		
Ø	1708	082.325											
3	1709	082.325						55	85	82	4		
2	1714	085.330						55	85	82	4		
1	1719	088.360						54	87	82	4		
End	1724	091.385											
Average:													

Comments:

MONTROSE
AIR QUALITY SERVICES

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: SCPPA
LOCATION: Canyon
DATE: 8-23-22
RUN NO: 2-NH3
OPERATOR: AS
METER BOX NO: 12-WCS
METER ΔH@: 1.648
METER Yd: .988
STACK AREA, FT²: 106.90
TRAVERSE POINTS, MIN/POINT: 5/12
ΔH= 1.0 X ΔP: N/A
Probe Condition, pre/post test: good/good
Silica Gel Expended, Y/N: N
Filter Condition after Test: N/A
Check Weight:

AMBIENT TEMPERATURE: 79
BAROMETRIC PRESSURE: 24.55
ASSUMED MOISTURE: N/A
PITOT TUBE COEFF, Cp: .99
PROBE ID NO/MATERIAL: Titanium
PROBE LENGTH: 8ft
NOZZLE ID NO/ MATERIAL: N/A
NOZZLE DIAMETER: N/A
FILTER NO/TYPE: N/A
PRE-TEST LEAK RATE: : <.002 CFM@ 15 in. Hg.
POST-TEST LEAK RATE: : <.002 CFM@ 15 in. Hg.
PITOT LEAK CHECK - PRE: ✓ POST: ✓
CHAIN OF CUSTODY: SAMPLE CUSTODIAN
SAMPLER AS
SAMPLE CUSTODIAN RN

Imp. #	Contents	Post-Test	- Pre-Test	= Difference
1	0.1N H2SO4	944.8	753.1	
2	0.1N H2SO4	742.6	740.7	
3	EMPTY	649.6	648.6	
4	S4	835.7	828.4	
	LR		<100>	
Total:				

Point	Time	Meter Volume, ft³	ΔP in. H₂O	ΔH in. H₂O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In	Meter Temp, °F Out	Vacuum in. Hg.	O₂ %	Pstatic in. H₂O
3	1749	093.850	N/A	1.0	N/A	N/A	N/A	S2	81	79	4		
2	1754	097.190						S2	80	79	4		
1	1759	100.230						S2	80	79	4		
Ø	1804	103.265											
3	1805	103.265		1.0				S1	80	78	4		
2	1810	106.200						S1	80	78	4		
1	1815	109.080						S1	80	78	4		
Ø	1820	112.090											
3	1821	112.090		1.0				S3	78	76	4		
2	1826	115.100						S2	77	76	4		
1	1831	118.090						S1	75	75	4		
Ø	1836	121.080											
3	1837	121.080		1.0				S0	75	73	4		
2	1842	124.040						S0	75	73	4		
1	1847	127.050						S1	75	73	4		
End	1852	129.935											
Average:													

Comments:

MONTROSE
AIR QUALITY SERVICES

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: SCPPA
LOCATION: CANYON U-2
DATE: 8.23.22
RUN NO: FB1
OPERATOR: AS
METER BOX NO: 12-WCS
METER ΔH@: 1.648
METER Yd: 0.988
STACK AREA, FT²: 1069
TRAVERSE POINTS, MIN/POINT: NA
ΔH= NA X ΔP:
Probe Condition, pre/post test: OK/OK
Silica Gel Expended, Y/N: NO
Filter Condition after Test: NA
Check Weight: 500.1 500.0

AMBIENT TEMPERATURE: 80°F
BAROMETRIC PRESSURE: 29.55
ASSUMED MOISTURE: NA
PITOT TUBE COEFF, Cp: NA
PROBE ID NO/MATERIAL: TITANIUM
PROBE LENGTH: 8 FOOT
NOZZLE ID NO/ MATERIAL: NA
NOZZLE DIAMETER: NA
FILTER NO/TYPE: NA
PRE-TEST LEAK RATE: : 0.002 CFM@ 15 in. Hg.
POST-TEST LEAK RATE: : — CFM@ — in. Hg.
PITOT LEAK CHECK - PRE: — POST: —
CHAIN OF CUSTODY: SAMPLE CUSTODIAN RN
SAMPLER AS
SAMPLE CUSTODIAN RN

Imp. #	Contents	Post-Test	Pre-Test	= Difference
1	0.1N H_2SO_4	865.6	765.5	
2	0.1N H_2SO_4	751.1	751.1	
3	EMPTY	604.3	604.3	
4	SG	874.6	874.6	
	LR	<100mL>		
Total:				

Point	Time	Meter Volume, ft³	ΔP in. H_2O	ΔH in. H_2O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In	Meter Temp, °F Out	Vacuum in. Hg.	O_2 %	Pstatic in. H_2O
Average:													

FB1

Comments:

Appendix A.2
Laboratory Data

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS CALCULATION

Project Number:	PROJ-019365
Client/ Location:	SCPPA Canyon Power Plant
Sample Location:	U2
District Method:	SCAQMD 207.1
Sample Date:	8/23/2022
Analysis Date:	8/26/2022
Analyst's Initials:	PR
Calibration Curve Slope	-57.3510
Y-intercept	92.1760
R^2	

Sample	P mV	Conc. µg NH_3 /ml as N	C avg as N	TV (ml)	C avg as NH_3	µg NH_3/ sample	% Recover	Temp
28 ug NH_3 / ml as N	9.5	27.643						22
Repeat 28 ug NH_3/ml as N	9.6	27.532	27.587	NA	33.534	NA	98.53	22
1-NH3	107.2	0.547						20
Repeat 1-NH3	107.2	0.547	0.547	859	0.665	571.222		20
28 NH_3/ml as N	9.5	27.643						22
Repeat 28 ug NH_3/ml as N	9.6	27.532	27.587	NA	33.534	NA	98.53	22

Notes:

Measured Concentration of Ammonia (C) in µg NH_3 / ml as N

$C=10^{(P-B)/M}$

P = electrode potential (mV), M=slope and B=intercept

Average Measured Ammonia Concentration (Cavg) = (C1 + C2)/2

where C1, C2 results from duplicate analyses (µg NH_3 /ml as N)

Cavg (µg NH_3/ml as NH_3) = Cavg (µg NH_3/ ml as N) * 17.03/ 14.01

µg NH_3 / sample = Cavg (µg NH_3/ml as NH_3) * TV

Used 100 ml of samples and standards with 2 ml ISA and constant stirring rate.
All solutions turned blue and remained blue with ISA unless otherwise indicated.
Sample PH and Temperatures can be found on the laboratory datasheet.
Maximum samples (including blanks) between 28 ug/ml check standard is 5 samples analyzed in duplicate.

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS QUALITY CONTROL

Project Number:	PROJ-019365
Client/ Location:	SCPPA Canyon Power Plant
Sample Location:	U2
District Method:	SCAQMD 207.1
Sample Date:	8/23/2022
Analysis Date:	8/26/2022
Analyst's Initials:	PR

Sample	% recovery	RPD %	RPA %
28 ug NH3 / ml as N Repeat 28 ug NH3/ml as N	NA	0.40	-1.474
1-NH3 Repeat 1-NH3	NA	0.00	NA
28 NH3/ml as N Repeat 28 ug NH3/ml as N	NA	0.40	-1.474

Notes:

spike: 100 ml sample + 2 ml (1000 µg NH_3 / ml as N)

Matrix Spike Percent Recovery (%R)

%R = (C spike*0.104 - Csample*0.102)/2 *100

Cspike = average result of matrix spike (µg NH_3/ ml as N)

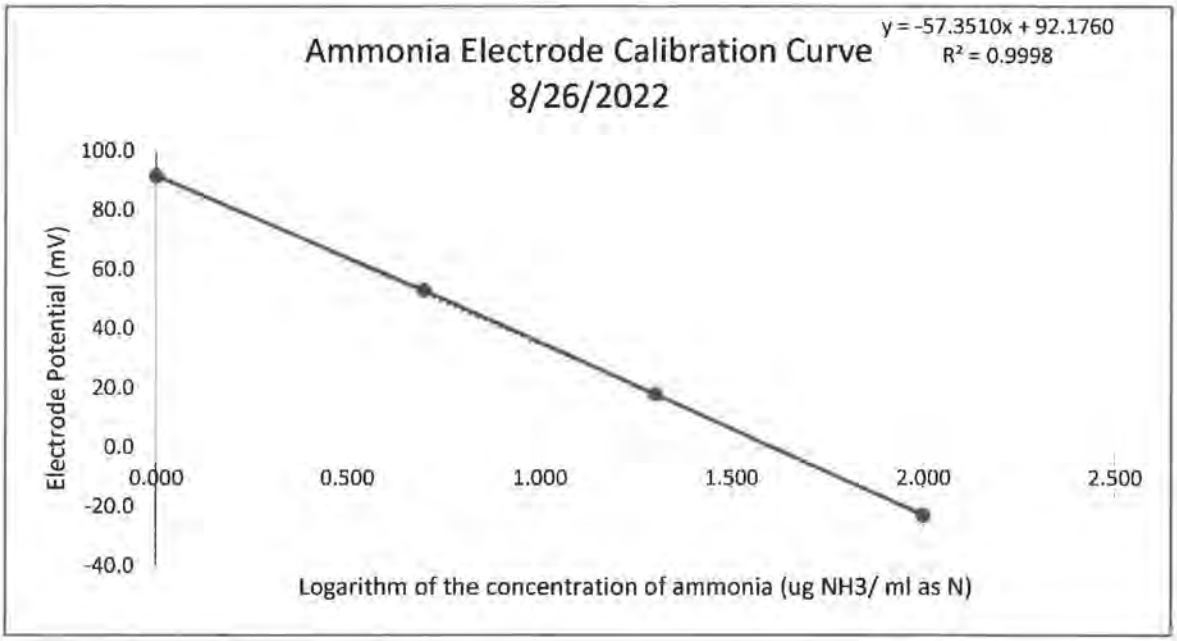
Relative Percent Difference (RPD) = (C1-C2)/ Cavg *100 (must be 5% or less)

Relative Percent Accuracy (RPA) (must be 10% or less)

RPA = (Cavg-theoretical value of standard)/ theoretical value of standard * 100

AMMONIA ELECTRODE CALIBRATION CURVE

NH_3 concentration (μg NH_3 / ml as N)	log NH_3 concentration	Electrode potential (mV)	Sample Temperature (C)	Room Temperature (C)
1	0.000	91.5	22	22
5	0.699	53.0	22	22
20	1.301	17.8	22	22
100	2.000	-23.0	22	22



slope	-57.3510
y-intercept	92.1760

Concentration (μg NH_3 / ml as N)	Value LR line	Difference	% Difference
1	1.0275	0.0275	2.7514
5	4.8205	-0.1795	-3.5900
20	19.8087	-0.1913	-0.9565
100	101.9212	1.9212	1.9212

Calculation:

Regression Line: P=M*log(μg of NH_3/ ml as N)+B

Measured Concentration of Ammonia (C) in μg / ml NH_3 as N: $C=10^{(P-B)/M}$

where P = electrode potential, M= slope (must be -57±3) and B= intercept

All standards were prepared in 0.04N H_2SO_4 and allowed to equilibrate to room temperature.

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS CALCULATION

Project Number:	PROJ-019365
Client/ Location:	SCPPA Canyon Power Plant
Sample Location:	U2
District Method:	SCAQMD 207.1
Sample Date:	8/23/2022
Analysis Date:	8/26/2022
Analyst's Initials:	PR
Calibration Curve Slope	-56.6451
Y-intercept	88.6201
R^2	

Sample	P mV	Conc. µg NH_3 /ml as N	C avg as N	TV (ml)	C avg as NH_3	µg NH_3/ sample	% Recover	Temp
28 ug NH_3 / ml as N	6.5	28.166						22
Repeat 28 ug NH_3/ml as N	6.4	28.281	28.224	NA	34.308	NA	100.80	22
2-NH3	105.5	0.504						20
Repeat 2- NH_3	104.6	0.522	0.513	836.0	0.623	521.202		20
spike 2-NH_3	18.8	17.084						20
Repeat 2-NH3 spike	17.8	17.793	17.438	NA	21.197	NA	88.06	20
28 NH_3/ml as N	5.1	29.816						22
Repeat 28 ug NH_3/ml as N	5.2	29.695	29.755	NA	36.169	NA	106.27	22
Reagent Blank	184.5	0.020						20
Repeat Reagent Blank	185.4	0.020	0.020	NA	0.024	NA		20
Field Blank	190.9	0.016						20
Repeat Field Blank	191.7	0.015	0.015	856	0.019	16.018		20
DI H2O Blank	198.5	0.011						20
Repeat DI H2O Blank	199.5	0.011	0.011	NA	0.014	NA		20
28 NH_3/ml as N	5.2	29.695						22
Repeat 28 ug NH_3/ml as N	5.3	29.574	29.635	NA	36.023	NA	105.84	22

Notes:

Measured Concentration of Ammonia (C) in µg NH_3 / ml as N

$C=10^{(P-B)/M}$

P = electrode potential (mV), M=slope and B=intercept

Average Measured Ammonia Concentration (Cavg) = (C1 + C2)/2

where C1, C2 results from duplicate analyses (µg NH_3 /ml as N)

Cavg (µg NH_3/ml as NH_3) = Cavg (µg NH_3/ ml as N) * 17.03/ 14.01

µg NH_3 / sample = Cavg (µg NH_3/ml as NH_3) * TV

Used 100 ml of samples and standards with 2 ml ISA and constant stirring rate.

All solutions turned blue and remained blue with ISA unless otherwise indicated.

Sample PH and Temperatures can be found on the laboratory datasheet.

Maximum samples (including blanks) between 28 ug/ml check standard is 5 samples analyzed in duplicate.

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS QUALITY CONTROL

Project Number:	PROJ-019365
Client/ Location:	SCPPA Canyon Power Plant
Sample Location:	U2
District Method:	SCAQMD 207.1
Sample Date:	8/23/2022
Analysis Date:	8/26/2022
Analyst's Initials:	PR

Sample	% recovery	RPD %	RPA %
28 ug NH3 / ml as N Repeat 28 ug NH3/ml as N	NA	-0.41	0.799
2-NH3 Repeat 2- NH3	NA	-3.66	NA
spike 2-NH3 Repeat 2-NH3 spike	88.06	-4.06	NA
28 NH3/ml as N Repeat 28 ug NH3/ml as N	NA	0.41	6.269
Reagent Blank Repeat Reagent Blank	NA	3.66	NA
Field Blank Repeat Field Blank	NA	3.25	NA
DI H2O Blank Repeat DI H2O Blank	NA	4.06	NA
28 NH3/ml as N Repeat 28 ug NH3/ml as N	NA	0.41	5.838

Notes:

spike: 100 ml sample + 2 ml (1000 µg NH_3 / ml as N)

Matrix Spike Percent Recovery (%R)

%R = (C spike*0.104 - Csample*0.102)/2 *100

Cspike = average result of matrix spike (µg NH_3/ ml as N)

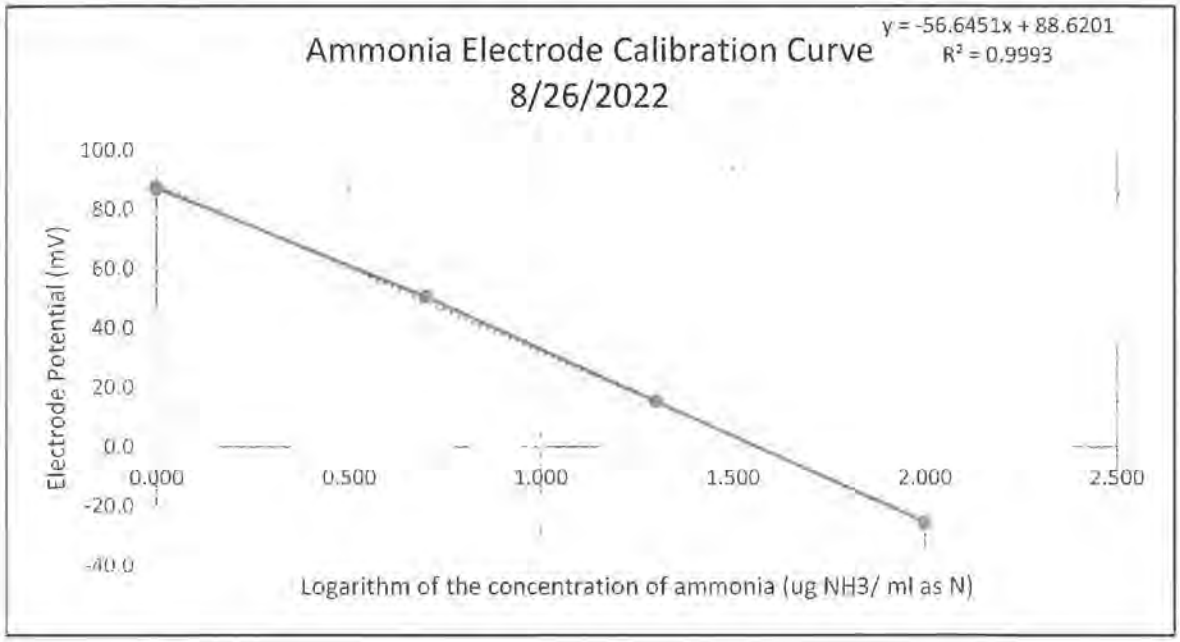
Relative Percent Difference (RPD) = (C1-C2)/ Cavg *100 (must be 5% or

Relative Percent Accuracy (RPA) (must be 10% or less)

RPA = (Cavg-theoretical value of standard)/ theoretical value of standard * 100

AMMONIA ELECTRODE CALIBRATION CURVE

NH_3 concentration (μg NH_3 / ml as N)	log NH_3 concentration	Electrode potential (mV)	Sample Temperature (C)	Room Temperature (C)
1	0.000	87.4	22	22
5	0.699	50.7	22	22
20	1.301	15.3	22	22
100	2.000	-25.5	22	22



slope	-56.6451
y-intercept	88.6201

Concentration (μg NH_3 / ml as N)	Value LR line	Difference	% Difference
1	1.0508	0.0508	5.0847
5	4.6712	-0.3288	-6.5750
20	19.6959	-0.3041	-1.5203
100	103.4310	3.4310	3.4310

Calculation:

Regression Line: $P=M*\log(\mu g \text{ of } NH_3/ \text{ ml as N})+B$

Measured Concentration of Ammonia (C) in μg / ml NH_3 as N: $C=10^{(P-B)/M}$

where P = electrode potential, M= slope (must be -57±3) and B= intercept

All standards were prepared in 0.04N H_2SO_4 and allowed to equilibrate to room temperature.

MOUNTED

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS

Project #: PR0J-019365 District Method: SCAQMD 207.1 Sample Date: 8/23/2022
Client/Location: SCPPA Campus Calibration Date: 8/26/2022 Analysis Date: 8/26/2022
Sample Location: U2 Calibration Curve: Y=-57.3510x+92.1760 Analyst's Initials: PR
Test #'s: 1-NH3 R²: 0.9998 ROOM TEMPERATURE (°C): 22

Sample	Total Vol. (mL)	Electrode Potential (mV)	Conc. µg NH3 – N / ml	Cavg (µg NH3 – N / ml)	µg NH3 / sample	T (°C)	Blue after + ISA (Y/N)	pH	% R
Standard Check: 28 µg NH3/ml		9.5	27.643	27.587		22	Y		99
		9.6	27.532			22	Y		
1-NH3	859	107.2	0.547	~~571.222~~ 0.547	571.222	20	Y	<2	
		107.2	0.547			20	Y		
Standard Check: 28 mg NH3/ml		9.5	27.643	27.587		22	Y		99
		9.6	27.532			22	Y		

Notes: Total volume of samples and standards used: 100 ml
Volume of pH adjusting ISA used in ml: 2 ml
Absorbing solution: H_2SO_4

Calculations: Conc. (µg NH3 – N / ml) = $10^{(P-B)/M}$; (P = electrode potential, B = y-intercept and M = slope)
Cavg = average result of duplicate analyses (µg NH3 – N / ml) = (C1+C2)/2
µg NH3 / sample = Cavg* 17.03/ 14.01 * TV
mg / sample = µg /sample ÷ 1000
ppm NH3 = mg NH3/sample x 1/Vmstd x 1/454000 x SV/17 x 10^6

* PR 8/26/22

MOUNTED

MONTROSE

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS CALIBRATION DATA

District Method: SCAQMD 207.1

Calibration Date: 8/26/2022
Calibration Curve: y = -57.3510x + 92.1760
R^2 0.9998
Analyst's Initials: PR
Thermometer #: 061731
ISE Electrode #: 14

Calibration Standard (µg NH_3 / ml as N)	Electrode Potential (mV)	Solution Temperature (°C)	Room Temperature (°C)
1	91.5	22	22
5	53.0	22	22
20	17.8	22	22
100	-23.0	22	22

Notes:
Total volume of samples and standards used: 100 ml
Volume of pH adjusting ISA used in ml: 2 ml
Absorbing solution: H_2SO_4
Slope of the calibration curve shall be between -54 to -60
R^2 must be 0.9997 or greater
Calibration solutions, sample solutions and Calibration Verification standard temperature within ± 2°C

Date of last revision 4/24/2019

DS1939150
Santa Ana\Forms\Lab Datasheets

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS

Project #: PROJ-019365 District Method: SCAQMD 207.1 Sample Date: 8/23/2022
Client/Location: SCPPA Canyon Calibration Date: 8/26/2022 Analysis Date: 8/26/2022
Sample Location: U2 Calibration Curve: Y=-56.645lx+88.620 Analyst's Initials: PR
Test #'s: 2-NH3 R²: 0.9993 ROOM TEMPERATURE (°C): 22

Sample	Total Vol. (mL)	Electrode Potential (mV)	Conc. µg NH_3 – N / ml	Cavg (µg NH_3 – N / ml)	µg NH_3 / sample	T (°C)	Blue after + ISA (Y/N)	pH	% R
Standard Check: 28 µg NH3/ml		0.5	28.166	28.224		22	Y		101
		0.4	28.281			22	Y		
2-NH_3	836	105.5	0.504	0.513	521.202	20	Y	<2	
		104.6	0.522			20	Y		
Spike=2-NH_3 + 2ml 1000ppm NH_3		18.8	17.084	17.438		20	Y		88
		17.8	17.793			20	Y		
Standard Check= 28 µg NH_3/ml		5.1	29.816	29.755		22	Y		106
		5.2	29.695			22	Y		
Reagent Blank		184.5	0.020	0.020		20	Y		
		185.4	0.020			20	Y		
Field Blank	856	190.9	0.016	0.015	16.018	20	Y	<2	
		191.7	0.015			20	Y		
DI H_2O Blank		198.5	0.011	0.011		20	Y		
		199.5	0.011			20	Y		
Standard Check= 28 µg NH_3/ml		5.2	29.695	29.635		22	Y		106
		5.3	29.574			22	Y		

Notes: Total volume of samples and standards used: 100 ml
Volume of pH adjusting ISA used in ml: 2ml
Absorbing solution: H_2SO_4

Calculations: Conc. (µg NH_3 – N / ml) = $10^{(P-B)/M}$; (P = electrode potential, B = y-intercept and M = slope)
Cavg = average result of duplicate analyses (µg NH_3 – N / ml) = (C1+C2)/2
µg NH_3 / sample = Cavg* 17.03/ 14.01 * TV
mg / sample = µg /sample ÷ 1000
ppm NH_3 = mg NH_3/sample x 1/Vmstd x 1/454000 x SV/17 x 10^6

MONTROSE

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS CALIBRATION DATA

District Method: SCAQMD 207.1

Calibration Date: 8/26/2022
Calibration Curve: y = -56.6451x + 88.6201
R^2 0.9993
Analyst's Initials: PR
Thermometer #: 661731
ISE Electrode #: 14

Calibration Standard (µg NH_3 / ml as N)	Electrode Potential (mV)	Solution Temperature (°C)	Room Temperature (°C)
1	87.4	22	22
5	50.7	22	22
20	15.3	22	22
100	-25.5	22	22

Notes:
Total volume of samples and standards used: 100 ml
Volume of pH adjusting ISA used in ml: 2 ml
Absorbing solution: H_2SO_4
Slope of the calibration curve shall be between -54 to -60
R^2 must be 0.9997 or greater
Calibration solutions, sample solutions and Calibration Verification standard temperature within ± 2°C

CHAIN OF CUSTODY

CLIENT: SCPPA - Canyon Power Plant PROJECT #: PROJ-019365 TEST DATE(S): 8/23/2022

LOCATION: U2 SAMPLER(S): DA, AS

SAMPLE LOCATION: Stack PROJECT MANAGER: RN

TEST METHOD(S): SCAQMD 207.1 DATE DUE: 8/30/2022

OUTSIDE LAB REQUIRED?: No COMPLIANCE TEST?: Yes

DATE	TIME	TEST #	SAMPLE DESCRIPTION	CONTAINERS	SAMPLER	COMMENTS
8/23/2022	1621/1724	1-NH3-U2	Probe, Line, Impingers	1	DA, AS	
8/23/2022	1749/1852	2-NH3-U2	Probe, Line, Impingers	1	DA, AS	
8/23/2022		Reagent Blank	0.1 N H_2SO_4	1	RN	
8/23/2022		Reagent Blank	DI H2O	1	RN	
8/23/2022		FB-NH3-U2	Probe, Line, Impingers	1	DA, AS	

RELEASED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Ruj Ny	8/24/22 1215 Am	P. Reyes	8/25/22 1330

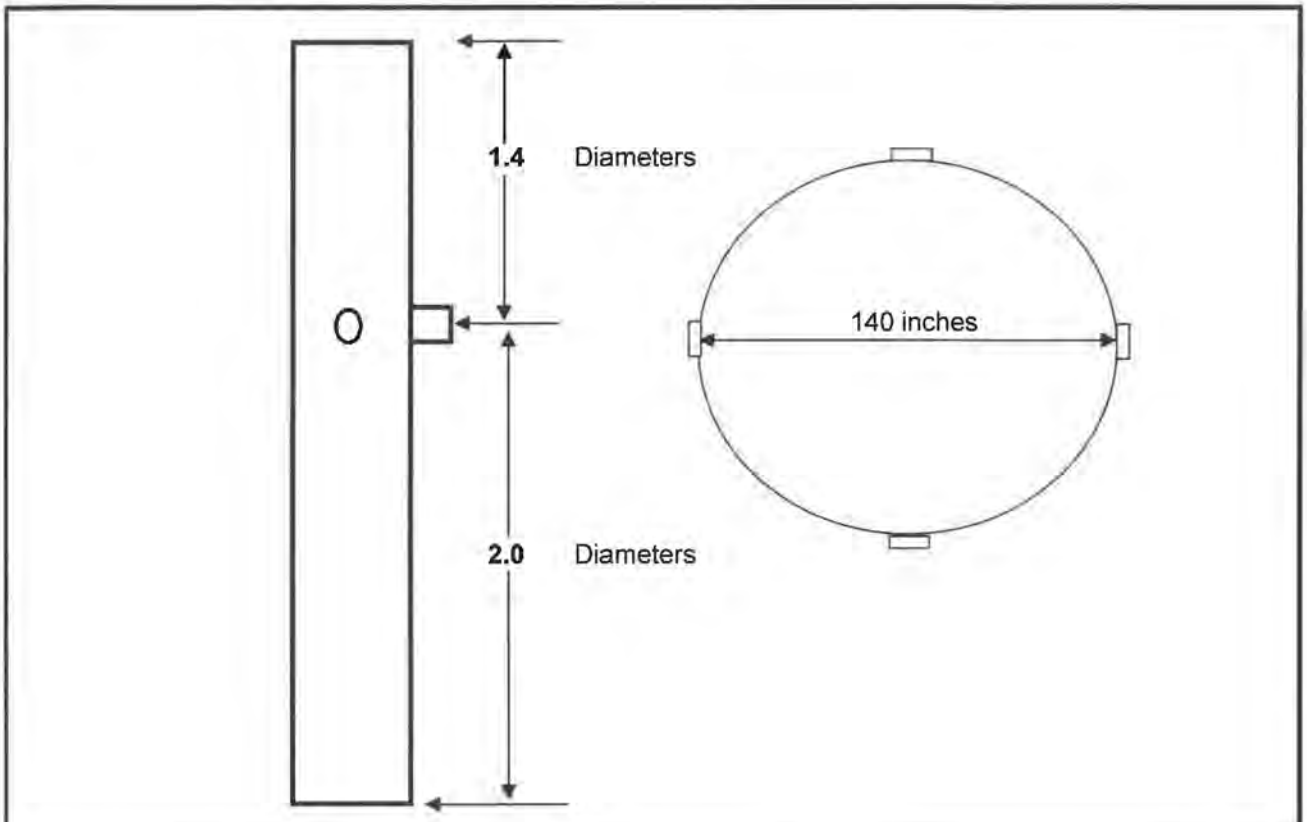
ANALYSIS REQUIRED: NH_3 by SCAQMD 207.1 (ISE)

Appendix A.3
QA/QC Data

METHOD 1 DATA SHEET
SAMPLE LOCATION

Client: SCPPA Date: 8/23/22

Sample Location: U2 Performed By: RN



Diameter (in.)	**140.00**
Upstream (ft.)	**23.33**
Downstream (ft.)	**16.50**
Coupling (in.)	**11.25**
Stack Area (ft^2)	**106.90**

Sample Point	% of Diameter	Dist from Wall (inches)	Dist from Port (inches)
1	4.4	6.1	17.3
2	14.6	20.5	31.8
3	29.6	41.4	52.7
4	70.4	98.6	109.8
5	85.4	119.5	130.7
6	95.6	133.9	145.2

SEMI-ANNUAL DRY GAS METER/ORIFICE CALIBRATION

Orifice Method - Triplicate Runs/Four Calibration Points
English Meter Box Units, English K' Factor
Filename: M:\Santa Ana\Equipment\Test Equipment\Calibrations\Dry Gas Meters\12-WCS\2022\[12WCS Semi Annual Cal 7-28-2022.xls]WCS
File Modified From: APEX 522 Series Meter box Calibration
Revised: 4/8/2005

Model #: E.S. C-5000 Source Sampler
ID #: 12-WCS
Date: 7/28/2022
Bar. Pressure: 29.84 (in. Hg)
Performed By: L.Olivares
Reviewed By: M.Chowsanitphon

DRY GAS METER READINGS									CRITICAL ORIFICE READINGS					
					Initial Temps.		Final Temps.					Ambient Temperature		
dH (in H2O)	Time (min)	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Inlet (deg F)	Outlet (deg F)	Inlet (deg F)	Outlet (deg F)	Orifice Serial# (number)	K' Orifice Coefficient (see above)	Actual Vacuum (in Hg)	Initial (deg F)	Final (deg F)	Average (deg F)
0.12	26.00	773.350	778.735	5.385	76.0	74.0	77.0	76.0	AA-33	0.1574	19.0	81.0	76.0	78.5
0.12	26.00	778.735	784.120	5.385	77.0	76.0	77.0	76.0	AA-33	0.1574	19.0	76.0	76.0	76.0
0.12	26.00	784.120	789.500	5.380	77.0	76.0	77.0	76.0	AA-33	0.1574	19.0	76.0	77.0	76.5
0.57	12.00	756.900	762.330	5.430	75.0	74.0	75.0	74.0	QI-48	0.3434	17.0	81.0	85.0	83.0
0.57	12.00	762.330	767.765	5.435	75.0	74.0	75.0	74.0	QI-48	0.3434	17.0	85.0	76.0	80.5
0.57	12.00	767.765	773.205	5.440	75.0	74.0	76.0	74.0	QI-48	0.3434	17.0	76.0	80.0	78.0
1.80	7.00	739.900	745.450	5.550	76.0	76.0	75.0	75.0	QI-63	0.5994	16.0	77.0	78.0	77.5
1.80	7.00	745.450	750.970	5.520	75.0	75.0	75.0	74.0	QI-63	0.5994	16.0	78.0	81.0	79.5
1.80	7.00	750.970	756.495	5.525	75.0	74.0	76.0	74.0	QI-63	0.5994	16.0	81.0	81.0	81.0
3.30	5.00	723.300	728.685	5.385	78.0	77.0	77.0	76.0	AA-73	0.8121	15.0	77.0	77.0	77.0
3.30	5.00	728.685	734.060	5.375	77.0	76.0	77.0	76.0	AA-73	0.8121	15.0	77.0	77.0	77.0
3.30	5.00	734.060	739.430	5.370	77.0	76.0	77.0	75.0	AA-73	0.8121	15.0	77.0	76.0	76.5

DRY GAS METER		ORIFICE			DRY GAS METER CALIBRATION FACTOR	ORIFICE CALIBRATION FACTOR	Individual Run	Individual Orifice	Orifice Average	Orifice Average
VOLUME CORRECTED Vm(std) (cu ft)	VOLUME CORRECTED Vm(std) (liters)	VOLUME CORRECTED Vcr(std) (cu ft)	VOLUME CORRECTED Vcr(std) (liters)	VOLUME NOMINAL Vcr (cu ft)	Y Value (number)	dH@ Value (in H2O)	0.95 < Y < 1.05?	Ymax - Ymin < 0.010?	0.98 < Y/Yd < 1.02?	dH@ - dH@ av < 0.155?
5.292	149.9	5.262	149.0	5.384	0.994	1.622	Pass			
5.285	149.7	5.275	149.4	5.371	0.998	1.611	Pass			
5.280	149.5	5.272	149.3	5.374	0.999	1.613	Pass			
				Average	0.997	1.615		Pass	Pass	Pass
5.355	151.7	5.277	149.4	5.444	0.985	1.635	Pass			
5.360	151.8	5.289	149.8	5.431	0.987	1.627	Pass			
5.362	151.9	5.301	150.1	5.418	0.989	1.620	Pass			
				Average	0.987	1.627		Pass	Pass	Pass
5.460	155.2	5.400	152.9	5.514	0.986	1.673	Pass			
5.458	154.6	5.390	152.7	5.525	0.988	1.682	Pass			
5.463	154.7	5.383	152.4	5.532	0.985	1.688	Pass			
				Average	0.986	1.681		Pass	Pass	Pass
5.321	150.7	5.229	148.1	5.334	0.983	1.665	Pass			
5.316	150.6	5.229	148.1	5.334	0.983	1.668	Pass			
5.314	150.5	5.231	148.1	5.332	0.984	1.668	Pass			
				Average	0.983	1.667		Pass	Pass	Pass

Average Yd:	0.988	dH@:	1.648
		Q @ dH = 1:	0.584

SIGNED: Signature on File Date: 7/28/2022

MONTROSE

DIGITAL TEMPERATURE READOUT CALIBRATION

Digital Temperature Readout ID: 12-WCS
Readout Description: Control Box
Date: 7/5/2022
Performed By: LO, RMo, DA

Calibrated Thermocouple ID: TC-CAL
T1 Reference Thermometer ID: 313010
T2 Reference Thermometer ID: 242167
T3 Reference Thermometer ID: 805002770

T/C I.D. **TC-CAL**	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (OIL)	12-WCS	380	380	380	380	378	378	378	378	2.0	0.2%	Pass
T2 (Boiling H_2O)	12-WCS	212	212	212	212	212	212	212	212	0.0	0.0%	Pass
T1 (Ice/Water)	12-WCS	30	30	30	30	32	32	32	32	2.0	0.4%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
2) Pass if all Differences are less than 1.5% (°R)

Thermocouple Source Readings

	T/C Source S/N	T/C - Readout °F				T/C Source °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T4 (~650 F)	129462	648	649	648	648	650	650	650	650	1.7	0.2%	Pass
T3 (~370 F)	129462	366	366	365	366	370	370	370	370	4.3	0.5%	Pass
T2 (~212 F)	129462	210	209	209	209	212	212	212	212	2.7	0.4%	Pass
T1 (~32 F)	129462	28	27	27	27	32	32	32	32	4.7	0.9%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
2) Pass if all Differences are less than 1.5% (°R)

Barometric Pressure Determination	
Date: 08/23/22	
Data By: Rudy Nunez	
Reference: https://forecast.weather.gov/MapClick.php?lat=33.8329&lon=-117.9152	
Reference Barometer ID	FW0063 Fullerton CSU (F0063)
Reference Barometer Location	Lat: 33.8805°NLon: 117.88417°WElev: 247ft.
Reference Barometer Other Info.	Last update 23 Aug 01:53 PM PDT
Reference Barometer Indication, corrected to sea level	29.82
Reference Barometer Reference Elevation	247
Reference Barometer Actual Pressure	29.57
Test Barometer Location/Site	Canyon Power Plant
Location/Site Elevation	212
Location/Site Barometric Pressure	29.61
Sampling Location Height (above/below site elevation)	60
Sampling Location Barometric Pressure	**29.55**

APPENDIX B
FACILITY CEMS DATA

CEMTEK KVB-Enertec NetDAHS© NH3-1 Version 47.0

Average Values Report
Generated: 8/23/2022 20:41

Company: City Of Anaheim
Plant: 3071 Miraloma Ave.,
City/St: Anaheim, CA, 92806
Source: 2

Period Start: 8/23/2022 16:21
Period End: 8/23/2022 17:24
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 2_O2 %	Average 2_NOXPPM ppm	Average 2_NOX_CORR ppm	Average 2_NOX_LBHR #/hr	Average 2_NOX_LBMM #/MBTU	Average 2_GasFlow kscfh	Average 2_LOAD MW	Average 2_STACKFLW kscfm	Average 2_COPPM ppm	Average 2_CO_CORR ppm	Average 2_CO_LBHR #/hr
08/23/2022 16:21	14.39	2.60	2.36	4.48	0.009	474.1	49.22	232.0	3.60	3.26	3.63
08/23/2022 16:22	14.39	2.59	2.35	4.48	0.009	474.0	49.21	232.0	3.59	3.25	3.63
08/23/2022 16:23	14.39	2.59	2.35	4.48	0.009	474.1	49.25	232.0	3.58	3.24	3.63
08/23/2022 16:24	14.39	2.61	2.37	4.48	0.009	474.1	49.23	232.0	3.56	3.23	3.58
08/23/2022 16:25	14.40	2.62	2.38	4.47	0.009	473.0	49.21	231.8	3.55	3.22	3.58
08/23/2022 16:26	14.41	2.64	2.40	4.46	0.009	472.3	49.17	231.8	3.52	3.20	3.57
08/23/2022 16:27	14.42	2.71	2.47	4.45	0.009	470.9	49.15	231.5	3.49	3.18	3.51
08/23/2022 16:28	14.42	2.79	2.54	4.45	0.009	470.9	49.18	231.5	3.45	3.14	3.46
08/23/2022 16:29	14.41	2.83	2.57	4.45	0.009	470.6	49.19	231.0	3.43	3.12	3.46
08/23/2022 16:30	14.40	2.78	2.52	4.45	0.009	470.5	49.20	230.6	3.46	3.14	3.46
08/23/2022 16:31	14.40	2.76	2.51	4.45	0.009	471.0	49.18	230.9	3.51	3.19	3.51
08/23/2022 16:32	14.40	2.79	2.53	4.46	0.009	471.5	49.23	231.1	3.54	3.21	3.56
08/23/2022 16:33	14.39	2.76	2.50	4.46	0.009	471.7	49.21	230.8	3.56	3.23	3.57
08/23/2022 16:34	14.40	2.67	2.42	4.46	0.009	472.0	49.21	231.3	3.58	3.25	3.62
08/23/2022 16:35	14.40	2.60	2.36	4.46	0.009	472.3	49.21	231.5	3.60	3.27	3.62
08/23/2022 16:36	14.40	2.55	2.31	4.46	0.009	472.1	49.21	231.4	3.64	3.30	3.67
08/23/2022 16:37	14.40	2.53	2.30	3.96	0.008	472.0	49.21	231.3	3.66	3.32	3.72
08/23/2022 16:38	14.40	2.51	2.28	3.97	0.008	472.4	49.24	231.5	3.68	3.34	3.72
08/23/2022 16:39	14.40	2.51	2.28	3.97	0.008	472.1	49.25	231.4	3.69	3.35	3.72
08/23/2022 16:40	14.40	2.53	2.30	3.97	0.008	472.4	49.24	231.5	3.71	3.37	3.77
08/23/2022 16:41	14.40	2.52	2.29	3.97	0.008	472.2	49.23	231.4	3.72	3.38	3.77
08/23/2022 16:42	14.40	2.52	2.29	3.97	0.008	472.6	49.26	231.6	3.72	3.38	3.77
08/23/2022 16:43	14.40	2.51	2.28	3.97	0.008	472.7	49.26	231.7	3.71	3.37	3.77
08/23/2022 16:44	14.39	2.50	2.27	3.97	0.008	472.7	49.27	231.3	3.70	3.35	3.72
08/23/2022 16:45	14.39	2.51	2.27	3.97	0.008	472.6	49.26	231.3	3.70	3.35	3.72
08/23/2022 16:46	14.39	2.52	2.28	3.97	0.008	472.5	49.26	231.2	3.69	3.34	3.72
08/23/2022 16:47	14.39	2.53	2.29	3.97	0.008	472.7	49.24	231.3	3.70	3.35	3.72
08/23/2022 16:48	14.40	2.53	2.30	3.97	0.008	472.8	49.22	231.7	3.73	3.39	3.77
08/23/2022 16:49	14.39	2.51	2.27	3.97	0.008	472.5	49.22	231.2	3.73	3.38	3.77
08/23/2022 16:50	14.39	2.49	2.26	3.97	0.008	472.6	49.24	231.3	3.73	3.38	3.77
08/23/2022 16:51	14.39	2.49	2.26	3.97	0.008	472.6	49.23	231.3	3.73	3.38	3.77
08/23/2022 16:52	14.39	2.49	2.26	3.97	0.008	472.9	49.23	231.4	3.73	3.38	3.77
08/23/2022 16:53	14.39	2.49	2.26	3.97	0.008	472.9	49.22	231.4	3.72	3.37	3.77
08/23/2022 16:54	14.39	2.48	2.25	3.97	0.008	472.6	49.23	231.3	3.71	3.36	3.72
08/23/2022 16:55	14.39	2.48	2.25	3.97	0.008	472.7	49.21	231.3	3.70	3.35	3.72
08/23/2022 16:56	14.39	2.48	2.25	3.97	0.008	472.7	49.22	231.3	3.71	3.36	3.72
08/23/2022 16:57	14.39	2.51	2.27	3.97	0.008	472.8	49.20	231.3	3.72	3.37	3.77
08/23/2022 16:58	14.39	2.58	2.34	4.47	0.009	472.9	49.22	231.4	3.74	3.39	3.77
08/23/2022 16:59	14.39	2.58	2.34	4.47	0.009	473.0	49.25	231.5	3.74	3.39	3.77
08/23/2022 17:00	14.39	2.57	2.33	4.47	0.009	473.0	49.24	231.5	3.75	3.40	3.77
08/23/2022 17:01	14.39	2.58	2.34	4.47	0.009	473.0	49.27	231.5	3.75	3.40	3.77
08/23/2022 17:02	14.39	2.59	2.35	4.47	0.009	473.0	49.31	231.5	3.74	3.39	3.77
08/23/2022 17:03	14.39	2.59	2.35	4.47	0.009	473.2	49.30	231.6	3.74	3.39	3.78
08/23/2022 17:04	14.39	2.57	2.33	4.47	0.009	473.2	49.28	231.6	3.74	3.39	3.78
08/23/2022 17:05	14.39	2.57	2.33	4.47	0.009	473.4	49.29	231.7	3.74	3.39	3.78
08/23/2022 17:06	14.39	2.57	2.33	4.47	0.009	473.2	49.29	231.6	3.76	3.41	3.78
08/23/2022 17:07	14.40	2.57	2.33	4.47	0.009	473.3	49.31	232.0	3.77	3.42	3.83

Period Start:	Average 2_O2 %	Average 2_NOXPPM ppm	Average 2_NOX_CORR ppm	Average 2_NOX_LBHR #/hr	Average 2_NOX_LBMM #/MBTU	Average 2_GasFlow kscfh	Average 2_LOAD MW	Average 2_STACKFLW kscfm	Average 2_COPPM ppm	Average 2_CO_CORR ppm	Average 2_CO_LBHR #/hr
08/23/2022 17:08	14.40	2.57	2.33	4.47	0.009	473.3	49.27	232.0	3.78	3.43	3.83
08/23/2022 17:09	14.39	2.58	2.34	4.46	0.009	472.3	49.27	231.1	3.77	3.42	3.82
08/23/2022 17:10	14.39	2.61	2.37	4.46	0.009	472.3	49.28	231.1	3.76	3.41	3.77
08/23/2022 17:11	14.40	2.62	2.38	4.46	0.009	471.9	49.27	231.3	3.74	3.39	3.77
08/23/2022 17:12	14.40	2.64	2.40	4.46	0.009	471.7	49.24	231.2	3.71	3.37	3.76
08/23/2022 17:13	14.41	2.66	2.42	4.46	0.009	471.8	49.22	231.6	3.69	3.35	3.72
08/23/2022 17:14	14.41	2.69	2.45	4.46	0.009	471.5	49.25	231.5	3.69	3.35	3.71
08/23/2022 17:15	14.41	2.69	2.45	4.46	0.009	471.6	49.26	231.5	3.67	3.34	3.71
08/23/2022 17:16	14.42	2.66	2.42	4.45	0.009	471.3	49.27	231.7	3.67	3.34	3.71
08/23/2022 17:17	14.40	2.64	2.40	4.46	0.009	471.7	49.27	231.2	3.68	3.34	3.71
08/23/2022 17:18	14.40	2.63	2.39	4.46	0.009	471.6	49.27	231.1	3.70	3.36	3.71
08/23/2022 17:19	14.41	2.65	2.41	4.46	0.009	471.7	49.28	231.5	3.71	3.37	3.76
08/23/2022 17:20	14.40	2.64	2.40	4.46	0.009	471.6	49.27	231.1	3.72	3.38	3.76
08/23/2022 17:21	14.40	2.61	2.37	4.46	0.009	471.9	49.31	231.3	3.72	3.38	3.77
08/23/2022 17:22	14.41	2.62	2.38	4.46	0.009	471.9	49.27	231.6	3.72	3.38	3.77
08/23/2022 17:23	14.42	2.61	2.38	4.46	0.009	472.1	49.28	232.1	3.71	3.38	3.77
08/23/2022 17:24	14.41	2.60	2.36	4.46	0.009	472.3	49.29	231.8	3.71	3.37	3.77
Daily Average*	**14.40**	**2.59**	**2.35**	**4.30**	**0.009**	**472.4**	**49.24**	**231.5**	**3.67**	**3.33**	**3.71**
Maximum*	**14.42**	**2.83**	**2.57**	**4.48**	**0.009**	**474.1**	**49.31**	**232.1**	**3.78**	**3.43**	**3.83**
	08/23/2022 17:23	08/23/2022 16:29	08/23/2022 16:29	08/23/2022 16:24	08/23/2022 17:24	08/23/2022 16:24	08/23/2022 17:21	08/23/2022 17:23	08/23/2022 17:08	08/23/2022 17:08	08/23/2022 17:08
Minimum*	**14.39**	**2.48**	**2.25**	**3.96**	**0.008**	**470.5**	**49.15**	**230.6**	**3.43**	**3.12**	**3.46**
	08/23/2022 17:10	08/23/2022 16:56	08/23/2022 16:56	08/23/2022 16:37	08/23/2022 16:57	08/23/2022 16:30	08/23/2022 16:27	08/23/2022 16:30	08/23/2022 16:29	08/23/2022 16:29	08/23/2022 16:30

* Does not include Invalid Averaging Periods ("N/A")

N H3-2

CEMTEK KVB-Enertec NetDAHS© Version 47.0

Average Values Report
Generated: 8/23/2022 20:44

Company: City Of Anaheim
Plant: 3071 Miraloma Ave.,
City/St: Anaheim, CA, 92806
Source: 2

Period Start: 8/23/2022 17:49
Period End: 8/23/2022 18:52
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 2_O2 %	Average 2_NOXPPM ppm	Average 2_NOX_CORR ppm	Average 2_NOX_LBHR #/hr	Average 2_NOX_LBMM #/MBTU	Average 2_GasFlow kscfh	Average 2_LOAD MW	Average 2_STACKFLW kscfm	Average 2_COPPM ppm	Average 2_CO_CORR ppm	Average 2_CO_LBHR #/hr
08/23/2022 17:49	14.40	2.62	2.38	4.47	0.009	472.6	49.33	231.6	3.79	3.44	3.82
08/23/2022 17:50	14.40	2.61	2.37	4.47	0.009	473.0	49.33	231.8	3.81	3.46	3.87
08/23/2022 17:51	14.39	2.61	2.37	4.47	0.009	473.0	49.33	231.5	3.81	3.45	3.82
08/23/2022 17:52	14.41	2.62	2.38	4.47	0.009	472.6	49.33	232.0	3.81	3.46	3.87
08/23/2022 17:53	14.41	2.61	2.37	4.47	0.009	473.1	49.35	232.2	3.83	3.48	3.88
08/23/2022 17:54	14.40	2.59	2.35	4.47	0.009	473.3	49.36	232.0	3.86	3.50	3.93
08/23/2022 17:55	14.40	2.59	2.35	4.47	0.009	473.0	49.34	231.8	3.85	3.49	3.87
08/23/2022 17:56	14.40	2.59	2.35	4.47	0.009	473.3	49.36	232.0	3.82	3.47	3.88
08/23/2022 17:57	14.40	2.58	2.34	4.48	0.009	473.7	49.33	232.2	3.82	3.47	3.88
08/23/2022 17:58	14.40	2.57	2.33	4.48	0.009	474.0	49.38	232.3	3.84	3.49	3.88
08/23/2022 17:59	14.40	2.54	2.31	3.98	0.008	474.1	49.38	232.4	3.88	3.52	3.93
08/23/2022 18:00	14.40	2.54	2.31	3.98	0.008	474.0	49.37	232.3	3.90	3.54	3.93
08/23/2022 18:01	14.39	2.54	2.30	3.98	0.008	474.1	49.39	232.0	3.90	3.53	3.93
08/23/2022 18:02	14.39	2.54	2.30	3.98	0.008	474.4	49.41	232.1	3.91	3.54	3.93
08/23/2022 18:03	14.40	2.55	2.31	4.48	0.009	474.0	49.37	232.3	3.90	3.54	3.93
08/23/2022 18:04	14.40	2.57	2.33	4.48	0.009	473.8	49.33	232.2	3.85	3.49	3.88
08/23/2022 18:05	14.41	2.60	2.36	4.48	0.009	473.9	49.34	232.6	3.75	3.41	3.78
08/23/2022 18:06	14.41	2.60	2.36	4.48	0.009	473.7	49.35	232.5	3.70	3.36	3.73
08/23/2022 18:07	14.41	2.60	2.36	4.48	0.009	473.8	49.37	232.6	3.70	3.36	3.73
08/23/2022 18:08	14.40	2.60	2.36	4.48	0.009	474.0	49.38	232.3	3.71	3.37	3.78
08/23/2022 18:09	14.40	2.60	2.36	4.48	0.009	473.9	49.35	232.3	3.71	3.37	3.78
08/23/2022 18:10	14.41	2.60	2.36	4.48	0.009	473.9	49.35	232.6	3.70	3.36	3.73
08/23/2022 18:11	14.40	2.61	2.37	4.48	0.009	473.9	49.35	232.3	3.70	3.36	3.73
08/23/2022 18:12	14.41	2.60	2.36	4.48	0.009	473.9	49.34	232.6	3.68	3.35	3.73
08/23/2022 18:13	14.41	2.59	2.35	4.48	0.009	473.9	49.35	232.6	3.67	3.34	3.73
08/23/2022 18:14	14.42	2.60	2.37	4.48	0.009	473.8	49.34	232.9	3.67	3.34	3.73
08/23/2022 18:15	14.42	2.60	2.37	4.48	0.009	473.9	49.32	233.0	3.69	3.36	3.73
08/23/2022 18:16	14.42	2.60	2.37	4.48	0.009	473.9	49.35	233.0	3.72	3.39	3.78
08/23/2022 18:17	14.42	2.60	2.37	4.48	0.009	474.0	49.38	233.0	3.74	3.41	3.78
08/23/2022 18:18	14.41	2.57	2.34	4.48	0.009	474.3	49.40	232.8	3.74	3.40	3.78
08/23/2022 18:19	14.41	2.57	2.34	4.48	0.009	474.4	49.38	232.9	3.75	3.41	3.79
08/23/2022 18:20	14.42	2.58	2.35	4.48	0.009	474.4	49.41	233.2	3.73	3.40	3.79
08/23/2022 18:21	14.42	2.58	2.35	4.48	0.009	474.2	49.40	233.1	3.73	3.40	3.78
08/23/2022 18:22	14.42	2.58	2.35	4.48	0.009	474.1	49.40	233.1	3.73	3.40	3.78
08/23/2022 18:23	14.42	2.58	2.35	4.48	0.009	474.2	49.42	233.1	3.74	3.41	3.78
08/23/2022 18:24	14.41	2.58	2.35	4.48	0.009	474.3	49.44	232.8	3.75	3.41	3.78
08/23/2022 18:25	14.40	2.57	2.33	4.48	0.009	474.1	49.41	232.4	3.75	3.40	3.78
08/23/2022 18:26	14.41	2.57	2.34	4.48	0.009	474.4	49.42	232.9	3.74	3.40	3.79
08/23/2022 18:27	14.41	2.57	2.34	4.48	0.009	474.3	49.43	232.8	3.73	3.39	3.78
08/23/2022 18:28	14.41	2.58	2.35	4.48	0.009	474.3	49.42	232.8	3.71	3.37	3.78
08/23/2022 18:29	14.42	2.57	2.34	4.48	0.009	474.1	49.45	233.1	3.70	3.37	3.78
08/23/2022 18:30	14.42	2.56	2.33	4.48	0.009	474.3	49.47	233.2	3.70	3.37	3.78
08/23/2022 18:31	14.40	2.57	2.33	4.48	0.009	474.2	49.44	232.4	3.72	3.38	3.78
08/23/2022 18:32	14.41	2.58	2.35	4.48	0.009	474.5	49.45	232.9	3.75	3.41	3.79
08/23/2022 18:33	14.41	2.58	2.35	4.48	0.009	474.4	49.45	232.9	3.76	3.42	3.84
08/23/2022 18:34	14.41	2.58	2.35	4.48	0.009	474.5	49.44	232.9	3.77	3.43	3.84
08/23/2022 18:35	14.41	2.57	2.34	4.48	0.009	474.5	49.45	232.9	3.76	3.42	3.84

Period Start:	Average 2_O2 %	Average 2_NOXPPM ppm	Average 2_NOX_CORR ppm	Average 2_NOX_LBHR #/hr	Average 2_NOX_LBMM #/MBTU	Average 2_GasFlow kscfh	Average 2_LOAD MW	Average 2_STACKFLW kscfm	Average 2_COPPM ppm	Average 2_CO_CORR ppm	Average 2_CO_LBHR #/hr
08/23/2022 18:36	14.42	2.57	2.34	4.49	0.009	474.8	49.46	233.4	3.74	3.41	3.79
08/23/2022 18:37	14.42	2.56	2.33	4.48	0.009	474.5	49.47	233.3	3.74	3.41	3.79
08/23/2022 18:38	14.42	2.55	2.32	4.48	0.009	474.6	49.46	233.3	3.74	3.41	3.79
08/23/2022 18:39	14.42	2.56	2.33	4.48	0.009	474.5	49.49	233.3	3.75	3.41	3.84
08/23/2022 18:40	14.42	2.56	2.33	4.49	0.009	474.8	49.46	233.4	3.76	3.42	3.84
08/23/2022 18:41	14.42	2.56	2.33	4.49	0.009	474.7	49.48	233.4	3.77	3.43	3.84
08/23/2022 18:42	14.41	2.57	2.34	4.49	0.009	474.7	49.46	233.0	3.77	3.43	3.84
08/23/2022 18:43	14.41	2.57	2.34	4.49	0.009	475.3	49.50	233.3	3.77	3.43	3.84
08/23/2022 18:44	14.41	2.57	2.34	4.49	0.009	475.2	49.47	233.3	3.75	3.41	3.79
08/23/2022 18:45	14.40	2.58	2.34	4.49	0.009	475.0	49.48	232.8	3.73	3.39	3.79
08/23/2022 18:46	14.41	2.57	2.34	4.49	0.009	475.0	49.49	233.2	3.72	3.38	3.79
08/23/2022 18:47	14.41	2.58	2.35	4.49	0.009	475.0	49.47	233.2	3.73	3.39	3.79
08/23/2022 18:48	14.42	2.59	2.36	4.49	0.009	474.9	49.47	233.4	3.74	3.41	3.79
08/23/2022 18:49	14.42	2.58	2.35	4.49	0.009	474.9	49.46	233.4	3.76	3.42	3.84
08/23/2022 18:50	14.42	2.57	2.34	4.49	0.009	475.3	49.51	233.7	3.76	3.42	3.84
08/23/2022 18:51	14.41	2.57	2.34	4.49	0.009	475.0	49.50	233.2	3.75	3.41	3.79
08/23/2022 18:52	14.42	2.56	2.33	4.49	0.009	475.0	49.49	233.5	3.76	3.42	3.84
Daily Average*	**14.41**	**2.58**	**2.35**	**4.45**	**0.009**	**474.2**	**49.41**	**232.7**	**3.76**	**3.42**	**3.81**
Maximum*	**14.42**	**2.62**	**2.38**	**4.49**	**0.009**	**475.3**	**49.51**	**233.7**	**3.91**	**3.54**	**3.93**
	08/23/2022 18:52	08/23/2022 17:52	08/23/2022 17:52	08/23/2022 18:52	08/23/2022 18:52	08/23/2022 18:50	08/23/2022 18:50	08/23/2022 18:50	08/23/2022 18:02	08/23/2022 18:03	08/23/2022 18:03
Minimum*	**14.39**	**2.54**	**2.30**	**3.98**	**0.008**	**472.6**	**49.32**	**231.5**	**3.67**	**3.34**	**3.73**
	08/23/2022 18:02	08/23/2022 18:02	08/23/2022 18:02	08/23/2022 18:02	08/23/2022 18:02	08/23/2022 17:52	08/23/2022 18:15	08/23/2022 17:51	08/23/2022 18:14	08/23/2022 18:14	08/23/2022 18:15

* Does not include Invalid Averaging Periods ("N/A")

APPENDIX C
CALCULATIONS

Appendix C.1
General Emissions Calculations

GENERAL EMISSIONS 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

$$P_s = P_{bar} + \frac{P_{sg}}{13.6}$$

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

$$V_{mstd} = 0.03342 * V_m * \left(P_{bar} + \frac{\Delta H}{13.6}\right) * \frac{T_{ref}}{T_m} * Y_d$$

B. Water vapor volume, scf

$$V_{wstd} = 0.0472 * V_{ic} * \frac{T_{ref}}{528°R}$$

C. Moisture content, dimensionless

$$B_{wo} = \frac{V_{wstd}}{(V_{mstd} + V_{wstd})}$$

III. Stack Gas Volumetric 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

$$\frac{lb}{MMBtu} = \frac{ppm * MW_i * F}{SV * 10^6} * \frac{20.9}{20.9 - \%\ O_2}$$

VI. Percent Isokinetic

$$I = \frac{17.32 * T_s\ (V_{mstd})}{(1 - B_{wo})\ 0 * V_s * P_s * Dn^2} * \frac{520°R}{T_{ref}}$$

VII. Particulate Emissions

(a) Grain loading, gr/dscf
$C = 0.01543\ (M_n/V_{m\ std})$

(b) Grain loading at 12% CO_2, gr/dscf
$C_{12\%}\ CO_2 = C\ (12/\%\ CO_2)$

(c) Mass emissions, lb/hr
$M = C * Q_{sd} * (60\ min/hr) / (7000\ gr/lb)$

(d) Particulate emission factor

$$lb/10^6\ Btu = Cx\ \frac{1\ lb}{7000\ gr} * F * \frac{20.9}{20.9 - \%\ O_2}$$

Nomenclature:

A_s	=	stack area, ft^2
B_{wo}	=	flue gas moisture content, dimensionless
$C_{12\%CO2}$	=	particulate grain loading, gr/dscf corrected to 12% CO_2
C	=	particulate grain loading, gr/dscf
C_p	=	pitot calibration factor, dimensionless
Dn	=	nozzle diameter, inches
F	=	fuel F-Factor, dscf/MMBtu @ 0% O_2
H	=	orifice differential pressure, iwg
I	=	% isokinetics
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_{wi}	=	molecular weight of specie i:
	SO_2:	64
	NO_x:	46
	CO:	28
	HC:	16
0	=	sample time, minutes
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

Appendix C.2
Spreadsheet Summaries

SCAQMD 207.1 EXAMPLE CALCULATION
TEST NUMBER: 1-NH3-U2

Identifier	Description	Units	Equation	Value
A	Reference Temperature	F	--	60
B	Reference Temperature	R	A + 460	520
C	Meter Calibration Factor (Yd)	--	--	0.988
D	Barometric Pressure	" Hg	--	29.55
E	Meter Volume	acf	--	35.785
F	Meter Temperature	F	--	84.1
G	Meter Temperature	R	F + 460	544.1
H	Delta H	" H_2O	--	1.0
I	Meter Volume (standard)	dscf	0.03342 * E * (D + H/13.6) * B/G * C	33.452
J	Liquid Collected	grams	--	106.2
K	Water vapor volume	scf	0.0472 * J * B/528	4.937
L	Moisture Content	--	K/(K + I)	0.129
M	Gas Constant	ft-lbf/lb-mole-R	--	1545.33
N	Specific Molar Volume	SCF/lb-mole	385.3 * B / 528	379.5
O	F-Factor	dscf/MMBtu	--	8,710
P	HHV	Btu/SCF	--	1,050
Q	Mass Conversion Factor	lb/ug	--	2.2046E-09
R	O_2 Correction Factor	--	--	15
S	Stack Flow Rate @ 68 F	dscfm	--	231,500
T	Stack Flow Rate @ Tref	dscfm	S * B/528	227,992
U	Mass NH_3	ug	--	571
V	Mass NH_3	lb	U * Q	1.26E-06
W	MW of NH_3	lb/lb-mole	--	17.03
X	NH_3	ppm	$(V * N * 10^b)/(I * W)$	0.8
Y	Flue Gas O_2	%	--	14.40
Z	NH_3	ppmc	X * (20.9 - R)/(20.9 - Y)	0.8
AA	NH_3	lb/hr	$X * T * W * 60/(N * 10^b)$	0.5
AB	NH_3	lb/MMBtu	$(X * W * O)/(385.3 * 10^b) * 20.9/(20.9 - Y)$	0.001
AC	NH_3	lb/MMSCF	AB * P	1.1

Note:

(1) Some values may be slightly different from those shown on the run sheets due to round off errors. This page is intended to show the calculation methodology only.

SCAQMD METHOD 207.1
DATA WORKSHEET AND SUMMARY

Facility	Canyon		Parameter		NH_3
Unit	U2		Fuel		Natural gas
Sample Location	Stack		Data By		RN
Test Number	1-NH3-U2	2-NH3-U2	Average	Maximum	Limit
Reference Temperature (°F)	60	60			
Test Date	8/23/2022	8/23/2022			
Test Method	SCAQMD 207.1	SCAQMD 207.1			
Sample Train	12-WCS	12-WCS			
Meter Calibration Factor	0.988	0.988			
Stack Area (ft^2)	106.90	106.90			
Sample Time (Minutes)	60	60			
Barometric Pressure ("Hg)	29.55	29.55			
Start/Stop Time	1621/1724	1749/1852			
Meter Volume (acf)	35.785	36.085			
Meter Temperature (°F)	84.1	77.2			
Meter Pressure (iwg)	1.0	1.0			
Liquid Volume (ml)	106.2	101.9			
Stack O_2 (%)	14.40	14.41	14.41	(from facility CEMS)	
Unit Load (MW)	49	49	49.3		
Standard Sample Volume (SCF)	33.452	34.166			
Moisture Fraction	0.129	0.122			
Stack Flow Rate (dscfm, 68 °F)	231,500	232,700	232,100	(from facility CEMS)	
Stack Flow Rate (@ Tref)	227,992	229,174	228,583		
Gas Constant (ft-lbf/lb-mole-R)	1545.33	1545.33			
Molecular Weight NH_3 (lb/lb-mole)	17.03	17.03			
Specific Molar Volume (ft^3/lb-mole)	379.5	379.5			
F-Factor (dscf/MMBtu)	8,710	8,710			
HHV(Btu/SCF)	1,050	1,050			
Mass Conversion (lb/ug)	2.2046E-09	2.2046E-09			
O_2 Correction Factor (%)	15	15			
Mass NH_3 (ug)	571.222	521.202			
Mass NH_3 (lb)	1.26E-06	1.15E-06			
NH_3 (ppmv, flue gas)	0.84	0.75	0.79	0.84	
NH_3 (ppmv @ O_2 Correction Factor)	0.76	0.68	0.72	0.76	5
NH_3 (lb/hr)	0.51	0.46	0.49	0.51	
NH_3 (lb/MMBtu)	0.001	0.001	0.001	0.001	
NH_3 (lb/MMSCF)	1.09	0.97	1.03	1.09	

Note: SCAQMD Method 207.1 requires the higher of the duplicate runs be reported as the test result.

1-NH3-U2

Point	Meter Volume	Delta H	Tm In	Tm Out
3	55.600	1.0	86	83
2			86	83
1			85	83
3			85	83
2			85	83
1			85	82
3			87	82
2			87	82
1			85	82
3			85	82
2			87	82
1				
Stop	91.385			
Result	**35.785**	**1.0**	**84.1**	

Impinger Weights

#	Post-Test	Pre-Test	Difference
1	959.3	764.7	194.6
2	753.7	750.4	3.3
3	606.7	606.3	0.4
4	892.1	884.2	7.9
Line Rinse	0.0	100.0	-100.0
			106.2

2-NH3-U2

Point	Meter Volume	Delta H	Tm In	Tm Out
3	93.850	1.0	81	79
2			80	79
1			80	79
3			80	78
2			80	78
1			80	78
3			78	76
2			77	76
1			75	75
3			75	73
2			75	73
1			75	73
Stop	129.935			
Result	**36.085**	**1.0**	**77.2**	

Impinger Weights

#	Post-Test	Pre-Test	Difference
1	944.8	753.1	191.7
2	742.6	740.7	1.9
3	649.6	648.6	1.0
4	835.7	828.4	7.3
Line Rinse	0.0	100.0	-100.0
			101.9

APPENDIX D
QUALITY ASSURANCE

Appendix D.1
Quality Assurance Program Summary

QUALITY ASSURANCE PROGRAM SUMMARY

As part of Montrose Air Quality Services, LLC (Montrose) ASTM D7036-04 certification, Montrose is committed to providing emission related data which is complete, precise, accurate, representative, and comparable. Montrose quality assurance program and procedures are designed to ensure that the data meet or exceed the requirements 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

Assignment of an Internal QA Officer: Montrose has assigned an internal QA Officer who is responsible for administering all aspects of the QA program.

Internal Quality Assurance Manual: Montrose has prepared a QA Manual according to the requirements of ASTM D7036-04 and guidelines issued by EPA. The manual documents and formalizes all of Montrose's QA efforts. The manual is revised upon periodic review and as Montrose adds capabilities. The QA manual provides details on the items provided in this summary.

Personnel Testing and Training: Personnel testing and training is essential to the production of high quality test results. Montrose training programs include:

- A requirement for all technical personnel to read and understand the test methods performed
- A requirement for all technical personnel to read and understand the Montrose QA manual
- In-house testing and training
- Quality Assurance meetings
- Third party testing where available
- Maintenance of training records.

Equipment Maintenance and Calibration: All laboratory and field equipment used as a part of Montrose's emission measurement programs is maintained according to manufacturer's recommendations. A summary of the major equipment maintenance schedules is summarized in Table 1. 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 is summarized in Table 2. The calibration technique may vary to meet regulatory agency requirements.

Knowledge of Current Test Methods: Montrose maintains current copies of EPA, ARB, and SCAQMD Source Test Manuals and Rules and Regulations.

Chain-of-Custody: Montrose maintains chain-of-custody documentation on all data sheets and samples. Samples are stored in a locked area accessible only to Montrose source test personnel. Data sheets are kept in the custody of the originator, program manager, or in locked storage until return to Montrose office. Electronic field data is duplicated for backup on secure storage media. The original data sheets are used for report preparation and any additions are initialed and dated.

QA Reviews: Periodic field, laboratory, and report reviews are performed by the in-house QA coordinator. Periodically, test plans are reviewed to ensure proper test methods are selected and reports are reviewed to ensure that the methods were followed and any deviations from the methods are justified and documented.

ASTM D7036-04 Required Information

Uncertainty Statement

Montrose is qualified to conduct this test program and has established a quality management system that led to accreditation with ASTM Standard D7036-04 (Standard Practice for Competence of Air Emission Testing Bodies). Montrose participates in annual functional assessments for conformance with D7036-04 which are conducted by the American Association for Laboratory Accreditation (A2LA). All testing performed by Montrose is supervised on site by at least one Qualified Individual (QI) as defined in D7036-04 Section 8.3.2. Data quality objectives for estimating measurement uncertainty within the documented limits in the test methods are met by using approved test protocols for each project as defined in D7036-04 Sections 7.2.1 and 12.10. Additional quality assurance information is presented in the report appendices.

Performance Data

Performance data are available for review.

Qualified Personnel

A qualified individual (QI), defined by performance on a third party or internal test on the test methods, is present on each test event.

Plant Entry and Safety Requirements

Plant Entry

All test personnel are required to check in with the guard at the entrance gate or other designated area. Specific details are provided by the facility and project manager.

Safety Requirements

All personnel shall have the following personal protective equipment (PPE) and wear them where designated:

- Hard Hat
- Safety Glasses
- Steel Toe Boots
- Hearing Protection
- Gloves
- High Temperature Gloves (if required)

The following safety measures will be followed:

- Good housekeeping
- SDS for all on-site hazardous materials
- Confine selves to necessary areas (stack platform, mobile laboratory, CEMS data acquisition system, control room, administrative areas)
- Knowledge of evacuation procedures

Each facility will provide plant specific safety training.

TABLE 1
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	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Replace parts 4. Leak check
Flow Meters	1. Free mechanical movement	As recommended by manufacturer	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 Van 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 2
MAJOR 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	Semi-Annually	3-point linearity	< 1% of analyzer range
NO_x Analyzer	Daily	NO_2 -> NO converter efficiency	> 90%
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%
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 $\Delta H@$	--
Temperature Sensors	Semi-Annually	3-point calibration vs. NIST traceable standard	+/- 1.5%

Note: Calibration requirements that meet applicable regulatory agency requirements will be used.

Appendix D.2
SCAQMD and STAC Certifications

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

September 1, 2021

Mr. John Peterson
Montrose Air Quality Services, LLC
1631 E. Saint Andrew Place
Santa Ana, CA 92705

Subject: LAP Approval Notice
Reference # 96LA1220

Dear Mr. Peterson:

We have reviewed your renewal letter under the South Coast Air Quality Management District's Laboratory Approval Program (LAP). We are pleased to inform you that your firm is approved for the period beginning September 30, 2021, and ending September 30, 2022 for the following methods, subject to the requirements in the LAP Conditions For Approval Agreement and conditions listed in the attachment to this letter:

South Coast AQMD Methods 1-4	South Coast AQMD Methods 5.1, 5.2, 5.3, 6.1
South Coast AQMD Methods 10.1 and 100.1	South Coast AQMD Methods 25.1 and 25.3 (Sampling)
USEPA CTM-030 and ASTM D6522-00	Rule 1121/ 1146.2 Protocol
Rule 1420/1420.1/1420.2 - (Lead) Source and Ambient Sampling	

Your LAP approval to perform nitrogen oxide emissions compliance testing for Rule 1121/ 1146.2 Protocols includes satellite facilities located at:

McKenna Boiler 1510 North Spring Street Los Angeles, CA 90012	Noritz America Corp. 11160 Grace Avenue Fountain Valley, CA 92708	Ajax Boiler, Inc. 2701 S. Harbor Blvd. Santa Ana, CA 92704
VA Laundry Bldg., Greater LA Healthcare Sys. 508 Constitution Avenue Los Angeles, CA 90049	So Cal Gas – Engr Analysis Ctr, Bldg H 8101 Rosemead Blvd Pico Rivera, CA 90660	

Thank you for participating in the 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, Colin Eckerle. He may be reached by telephone at (909) 396-2476, or via e-mail at ceckerle@aqmd.gov.

Sincerely,

D. Sarkar

Dipankar Sarkar
Program Supervisor
Source Test Engineering

DS:CE
Attachment

210901 LapRenewal.doc

American Association for Laboratory Accreditation

Accredited Air Emission Testing Body

A2LA has accredited

MONTROSE AIR QUALITY SERVICES

In recognition of the successful completion of the joint A2LA and Stack Testing Accreditation Council (STAC) evaluation process, this laboratory is accredited to perform testing activities in compliance with ASTM D7036:2004 - Standard Practice for Competence of Air Emission Testing Bodies.

Presented this 4th day of February 2022.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3925.01
Valid to February 29, 2024

This accreditation program is not included under the A2LA ILAC Mutual Recognition Arrangement.

Appendix D.3
Individual QI Certificate

CERTIFICATE OF COMPLETION

Rudy Nunez

This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):

SCAQMD Methods 1.1 – 4.1

Certificate Number: 002-2018-5

DATE OF ISSUE: 1/16/18

DATE OF EXPIRATION: 1/16/23

Tate Strickler, Accreditation Director

MONTROSE ENVIRONMENTAL

CERTIFICATE OF COMPLETION

Rudy Nunez

This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):

SCAQMD Method 207.1

Certificate Number: 002-2018-12

DATE OF ISSUE: 1/17/18

DATE OF EXPIRATION: 1/17/23

Tate Strickler, Accreditation Director

MONTROSE ENVIRONMENTAL

Appendix D.4
Statement of No Conflict of Interest

STATEMENT OF NO CONFLICT OF INTEREST AS AN INDEPENDENT TESTING LABORATORY

(To be completed by authorized source testing firm representative and included in source test report)

The following facility and equipment were tested by my source testing firm and are the subjects of this statement:

Facility ID:	**153992**
Date(s) Tested:	**August 23, 2022**
Facility Name:	**Canyon Power Plant**
Equipment Address:	**3071 E. Mira Loma Ave.**
	Anaheim, California 92806
Equipment Tested:	**Unit 2**
Device ID, A/N, P/N:	**D7**

I state, as its legally authorized representative, that the source testing firm of:

Source Test Firm: Montrose Air Quality Services, LLC

Business Address: 1631 E. St. Andrew Pl.

Santa Ana, California 92705

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: Rudy Nunez **Date:** **9/20/2022**

Rudy Nunez	**Client Project Manager**	**(714) 279-6777**	**9/20/2022**
(Name)	(Title)	(Phone)	(Date)

FORM ST-110 :stevforl.doc (Revised 11/18/98

APPENDIX E
APPLICABLE PERMIT SECTIONS

FACILITY PERMIT TO OPERATE
CANYON POWER PLANT

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: POWER GENERATION					
GAS TURBINE, NO. 2, NATURAL GAS, GENERAL ELECTRIC, MODEL LM6000PC SPRINT, SIMPLE CYCLE, 479 MMBTU/HR AT 46 DEG F, WITH INLET CHILLING, WITH WATER INJECTION WITH A/N: 555829 GENERATOR, 50.95 MW	D7	C9	NOX: MAJOR SOURCE**	**CO**: 4 PPMV NATURAL GAS (4) **[RULE 1303(a)(1)-BACT, 5-10-1996;** *RULE 1303(a)(1) -BACT, 12-6-2002*]; **CO**: 2000 PPMV NATURAL GAS (5) **[RULE 407, 4-2-1982]**; **NOX**: 2.5 PPMV NATURAL GAS (4) **[RULE 2005, 6-3-2011]**; **NOX**: 25 PPMV NATURAL GAS (8) **[40CFR 60 Subpart KKKK, 7-6-2006]**; **PM10**: 0.01 GRAINS/SCF NATURAL GAS (5A) **[RULE 475, 10-8-1976;** *RULE 475, 8-7-1978*]; **PM10**: 0.1 GRAINS/SCF NATURAL GAS (5) **[RULE 409, 8-7-1981]**; **PM10**: 1.67 LBS/HR NATURAL GAS (5C) **[RULE 1303(b)(2)-Offset, 5-10-1996;** *RULE 1303(b)(2) -Offset, 12-6-2002*]; **PM10**: 11 LBS/HR NATURAL GAS (5B) **[RULE 475, 10-8-1976;** *RULE 475, 8-7-1978*]; **SO2**: (9) **[40CFR 72 - Acid Rain Provisions, 11-24-1997]**; **SOX**: 0.06 LBS/MMBTU NATURAL GAS (8) **[40CFR 60 Subpart KKKK, 7-6-2006]**; **VOC**: 2 PPMV NATURAL GAS (4) **[RULE 1303(a)(1)-BACT, 5-10-1996;** *RULE 1303(a)(1)-BACT, 12-6-2002*]	A63.1, A99.1, A99.2, A99.3, A195.1, A195.2, A195.3, A327.1, B61.1, D12.1, D29.2, D29.3, D82.1, D82.2, E193.1, H23.1, I298.2, K40.1

* (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
CANYON POWER PLANT

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: POWER GENERATION					
CO OXIDATION CATALYST, NO. 2, BASF, 110 CUBIC FEET OF TOTAL CATALYST VOLUME A/N: 476657	C9	D7 C10			
SELECTIVE CATALYTIC REDUCTION, NO. 2, CORMETECH CMHT-21, 1012 CU.FT.; WIDTH: 2 FT 6 IN; HEIGHT: 25 FT 9 IN; LENGTH: 18 FT WITH A/N: 476657 AMMONIA INJECTION	C10	C9 S12		**NH3**: 5 PPMV NATURAL GAS (4) **[RULE 1303(a)(1)-BACT, 5-10-1996;** *RULE 1303(a)(1) -BACT, 12-6-2002*]	A195.5, D12.2, D12.3, D12.4, E179.1, E179.2, E193.1
STACK, TURBINE NO. 2, HEIGHT: 86 FT ; DIAMETER: 11 FT 8 IN A/N: 555829	S12	C10			

* (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.

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 : C4, C10, C16, C22]

D12.5 The operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.

[**RULE 1110.2, 2-1-2008;** RULE 1110.2, 9-7-2012; **RULE 1303(b)(2)-Offset, 5-10-1996;** RULE 1303(b)(2)-Offset, 12-6-2002; RULE 1401, 9-10-2010; RULE 1470, 5-4-2012; **RULE 2012, 5-6-2005; 40CFR 60 Subpart IIII, 1-30-2013]**

[Devices subject to this condition : D25]

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
NH3 emissions	District method 207.1 and 5.3 or EPA method 17	1 hour	Outlet of the SCR serving this equipment

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

The test(s) shall be conducted at least quarterly during the first twelve months of operation and at least annually thereafter. The AQMD shall be notified of the date and time of the test at least 10 days prior to the test.

If the turbine is not in operation during one calendar year, then no testing is required during that calendar year.

The NOx concentration, as determined by the CEMS, shall be simultaneously recorded during the ammonia slip test. If the CEMS is inoperable, a test shall be conducted to determine the NOx emissions using District Method 100.1 measured over a 60 minute averaging time period.

The test shall be conducted and the results submitted to the District within 60 days after the test date.

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration limit.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition : D1, D7, D13, D19]

D29.3 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Sampling Time	Test Location
SOX emissions	AQMD Laboratory Method 307-91	Not Applicable	Fuel sample
VOC emissions	District Method 25.3	1 hour	Outlet of the SCR serving this equipment
PM emissions	District method 5.1	4 hours	Outlet of the SCR serving this equipment

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If you have any questions, please contact one of the following individuals by email or phone.

Name: Mr. Rudy Nunez
Title: Client Project Manager
Region: West
Email: RNunez@montrose-env.com
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Name: Mr. Matt McCune
Title: Regional Vice President
Region: West
Email: MMccune@montrose-env.com
Phone: (714) 279-6777

TEST REPORT FOR
FOURTH QUARTER 2022 AMMONIA SLIP TEST
AT CANYON POWER PLANT UNIT 3
FACILITY ID: 153992, DEVICE ID: D13

Prepared For:

Canyon Power Plant
3071 E. Mira Loma Avenue
Anaheim, California 92806

For Submittal To:

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

Prepared By:

Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, California 92705
(714) 279-6777

John Peterson

Test Date: **November 14, 2022**
Production Date: **December 12, 2022**
Report Number: **W002AS-021478-RT-4145**

MONTROSE AIR QUALITY SERVICES

STAC ACCREDITED TO ASTM D7036 ONLY CERT #3925.01

CONFIDENTIALITY STATEMENT

Except as otherwise required by law or regulation, this information contained in this communication is intended exclusively for the individual or entity to which it is addressed. This communication may contain information that is proprietary, privileged or confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it.

REVIEW AND CERTIFICATION

All work, calculations, and other activities and tasks performed and presented in this document were carried out by me or under my direction and supervision. I hereby certify that, to the best of my knowledge, Montrose operated in conformance with the requirements of the Montrose Quality Management System and ASTM D7036-04 during this test project.

Signature:  Date: 12/12/2022

Name: John Peterson Title: District Manager - Santa Ana

I have reviewed, technically and editorially, details, calculations, results, conclusions, and other appropriate written materials contained herein. I hereby certify that, to the best of my knowledge, the presented material is authentic, accurate, and conforms to the requirements of the Montrose Quality Management System and ASTM D7036-04.

Signature:  Date: 12/12/2022

Name: Michael Chowsanitphon Title: Reporting Hub Manager

TABLE OF CONTENTS

1.0 INTRODUCTION AND SUMMARY

Montrose Air Quality Services, LLC (MAQS) was contracted by Southern California Public Power Authority (SCPPA) Canyon Power Plant to perform an ammonia slip test at Unit 3 as required by the facility Permit (Facility ID 153992) Condition Number D29.2. This report documents the results of the ammonia slip tests performed on November 14, 2022. The test was performed by John Peterson, Ray Madrigal, and Allen Dusky. John Peterson and Ray Madrigal were the on-site Qualified Individuals for MAQS. Ms. Bertha Hernandez of SCPPA City of Anaheim coordinated the test for Canyon Power Plant.

MAQS qualifies as an independent testing laboratory under SCAQMD Rule 304 (no conflict of interest) and is certified by the SCAQMD to conduct testing for criteria pollutants according to District Methods.

The test consisted of duplicate ammonia tests performed at 47.9 MW. The test program followed the procedures described in the initial compliance test protocol (MAQS document R038842). The results of the test are summarized in Table 1-1. The table shows that the ammonia slip from this unit was less than the permitted limit of 5 ppm corrected to 15% O_2.

TABLE 1-1
AMMONIA SLIP TEST RESULTS SUMMARY
SCPPA – CANYON POWER PLANT
UNIT 3
NOVEMBER 14, 2022

Parameter/Units	Result[(1)]	Limit
NH_3		
ppm	1.2	--
ppm @ 15% O_2	1.1	5

(1) Maximum of duplicate runs, as required by SCAQMD Method 207.1.

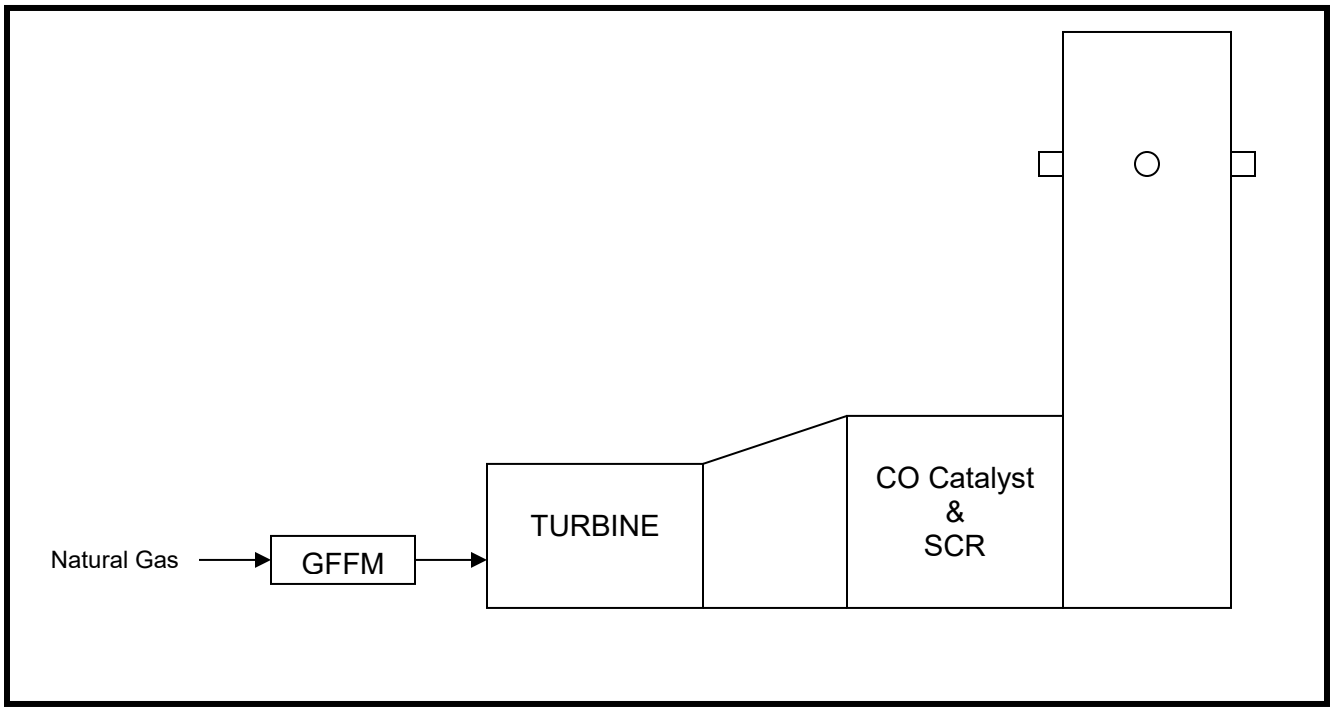
Section 2 of this document provides a brief description of the unit, test conditions, sample location, and CEMS. Details of the test procedures are provided in Section 3. Section 4 provides the results of each individual test. All raw data, calculations, quality assurance data, unit operating conditions, and CEMS data are provided in the appendices.

2.0 UNIT AND CEMS DESCRIPTION

2.1 UNIT DESCRIPTION

The City of Anaheim Canyon Power Plant is located at 3071 E. Mira Loma Avenue, Anaheim, California 92806. The facility consists of four identical generating units. Each unit consists of a natural gas fired, GE Model LM6000PC Sprint simple cycle, gas turbine. The units are natural gas fired with a rated heat input of 479 MMBtu per hour at 46°F, with water injection. The units are equipped with a CO oxidation catalyst and Selective Catalytic Reduction (SCR) system for emissions controls. Figure 2-1 presents a block diagram of the unit.

FIGURE 2-1
UNIT BLOCK DIAGRAM
SCPPA – CANYON POWER PLANT
UNIT 3



Stack Inside Diameter:	11 feet, 8 inches
Distance from Upstream Disturbance:	23 feet, 4 inches (2.0 Diameters)
Distance from Stack Exit:	16 feet, 6 inches (1.4 Diameters)

2.2 CEMS DESCRIPTION

NO_x emissions from the unit is monitored by a dry, extractive Continuous Emission Monitoring System (CEMS). Stack flow rate is determined from fuel flow rate, O_2 concentration, standard F-Factor, and fuel higher heating value using EPA Method 19.

2.3 TEST CONDITIONS

The tests were performed with the unit operating at an average load of 47.9 MW. Tests were performed while the unit was firing natural gas and operating under normal conditions. Unit operation was established by the Canyon Power Plant operators.

2.4 SAMPLE LOCATION

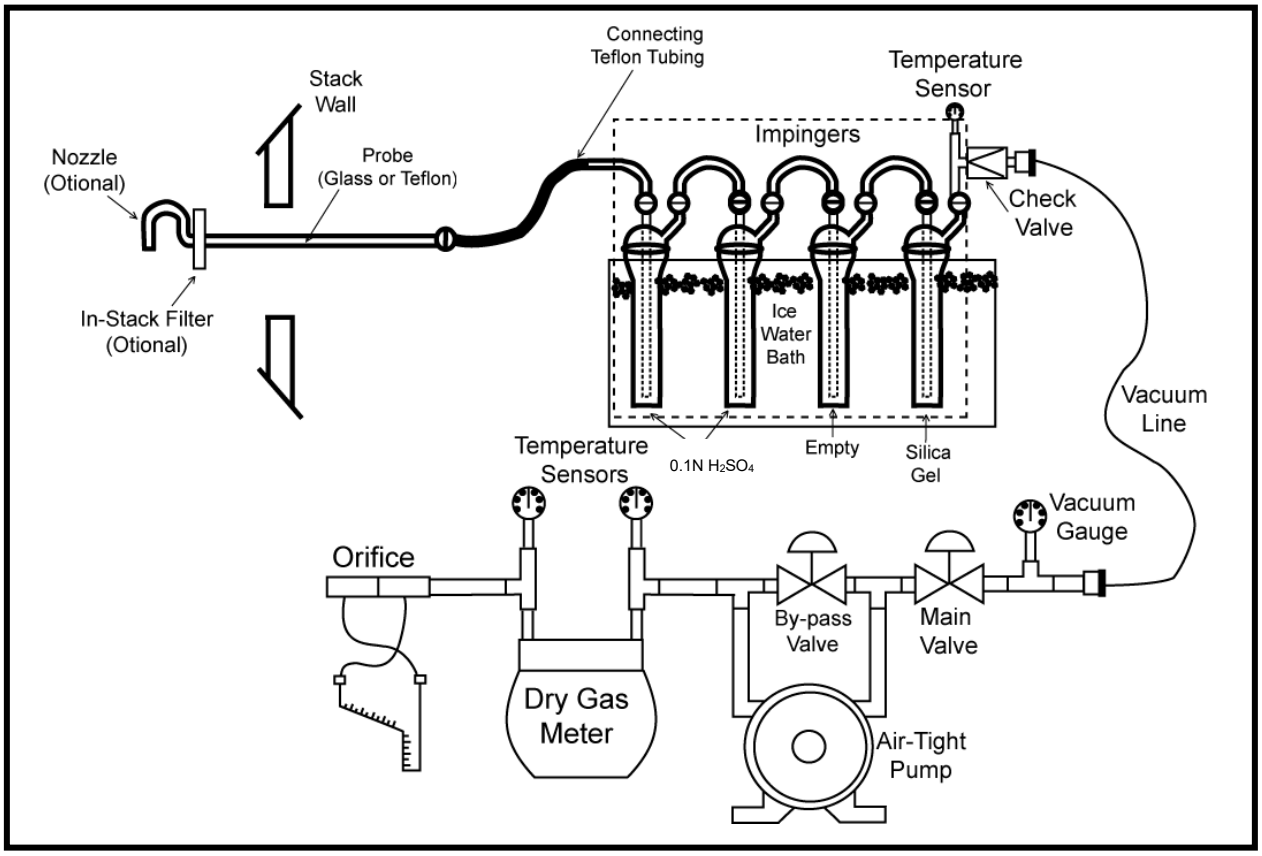
The measurements were made from sample ports located on the exhaust stack. There are four sample ports equally spaced at this location. The stack inside diameter at the sample plane is 11 feet, 8 inches. The sample ports are located 23 feet, 4 inches (2.0 diameters) downstream of the nearest flow disturbance and 16 feet, 6 inches (1.4 diameters) from the stack exit. A diagram of the sample location and individual traverse points is contained in Appendix A.1.

3.0 TEST DESCRIPTION

Flue gas samples were collected non-isokinetically using a SCAQMD Method 207.1 sample train. The samples were collected using a 12-point traverse at the exhaust stack location. Each test was performed over a 60 minute interval. The sample gas was drawn through a titanium probe, Teflon sample line, two impingers each containing 100 ml of 0.1N H_2SO_4, an empty impinger, an impinger containing silica gel, and a dry gas meter. The optional nozzle and filter were not used since the source is natural gas fired. The contents of the sample line and the first three impingers were recovered and analyzed by SCAQMD Method 207.1 for ammonia concentration by Ion Specific Electrode analysis. Figure 3-1 presents a diagram of the sample train.

Stack NO_x and O_2 concentrations and stack volumetric flow rate data were recorded from the Continuous Emission Monitoring System (CEMS) which is installed on the unit. These data were used to correct the ammonia concentration to 15% O_2.

FIGURE 3-1
SCAQMD METHOD 207.1 SAMPLE TRAIN



4.0 TEST RESULTS

The results of the test are summarized in Table 4-1. The results show that the maximum ammonia slip was 1.1 ppm @ 15% O_2 which is less than the permitted limit of 5 ppm @ 15% O_2.

TABLE 4-1
AMMONIA SLIP TEST RESULTS
SCPPA – CANYON POWER PLANT
UNIT 3
NOVEMBER 14, 2022

Parameter/Units	1-NH_3	2-NH_3	Average	Maximum(1)	Limit
Start/Stop Time	1737-1840	1907-2010	--	--	--
O_2, %(2)	14.69	14.65	14.67	--	--
Stack Flow, dscfm @ T_{ref}(2)	230,652	232,326	231,489	--	--
NO_x, ppmc(2)	2.1	2.2	2.1	--	2.5
NH_3					
ppm	1.2	0.8	1.0	1.2	--
ppm @ 15% O_2	1.1	0.8	0.9	1.1	5
lb/hr	0.7	0.5	0.6	0.7	--
lb/MMBtu	0.001	0.001	0.001	0.001	--
lb/MMSCF	1.6	1.1	1.3	1.6	--

(1) Maximum of duplicate test runs, as required by SCAQMD Method 207.1
(2) From facility CEMS

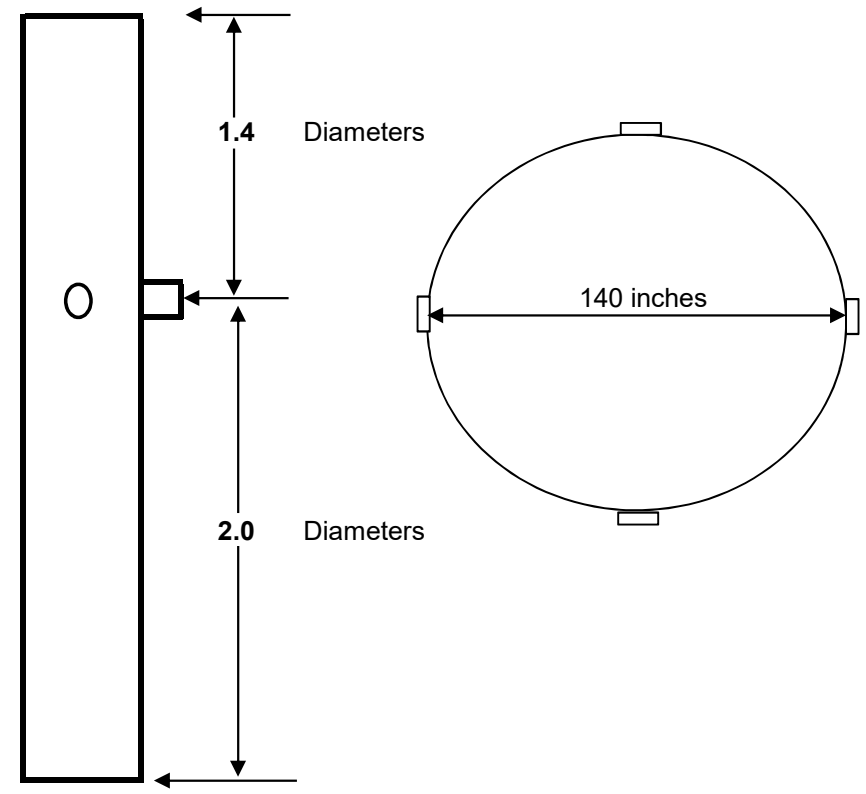
APPENDIX A
TEST DATA

Appendix A.1
SCAQMD Method 1.1 Data

METHOD 1 DATA SHEET
SAMPLE LOCATION

Client: SCPPA Date: 11/14/22

Sample Location: U3 Performed By: JP



Diameter (in.)	**140.00**
Upstream (ft.)	**23.33**
Downstream (ft.)	**16.50**
Coupling (in.)	**11.25**
Stack Area (ft^2)	**106.90**

Sample Point	% of Diameter	Dist from Wall (inches)	Dist from Port (inches)
1	4.4	6.1	17.3
2	14.6	20.5	31.8
3	29.6	41.4	52.7
4	70.4	98.6	109.8
5	85.4	119.5	130.7
6	95.6	133.9	145.2

Appendix A.2
Sample Data Sheets

MONTROSE AIR QUALITY SERVICES

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET – STANDARD

CLIENT: Canyon
LOCATION: Unit #3
DATE: 11-14-22
RUN NO: 1-NH3
OPERATOR: RM
METER BOX NO: 34-WC5
METER ΔH@: 1.856
METER Yd: 1.017
STACK AREA, FT²: 106.9
TRAVERSE POINTS, MIN/POINT: 5/12
ΔH= NA ΔP:
Probe Condition, pre/post test: Nlc
Silica Gel Expanded, Y/N: NO
Filter Condition after Test: Nlc
Check Weight: 500.0/500.0

AMBIENT TEMPERATURE: 62°
BAROMETRIC PRESSURE: 29.54
ASSUMED MOISTURE:
PITOT TUBE COEFF, Cp:
PROBE ID NO/MATERIAL:
PROBE LENGTH:
NOZZLE ID NO/ MATERIAL:
NOZZLE DIAMETER:
FILTER NO/TYPE:
PRE-TEST LEAK RATE: : <0.005 CFM@ 14" in. Hg.
POST-TEST LEAK RATE: <0.005 CFM@ 8" in. Hg.
PITOT LEAK CHECK - PRE: NA POST: NA
CHAIN OF CUSTODY: SAMPLE CUSTODIAN JP
SAMPLER RM
SAMPLE CUSTODIAN JP

Imp. #	Contents	Post-Test	Pre-Test	= Difference
1	.1N H2SO4	824.2	657.3	
2	.1N H2SO4	734.2	733.3	
3	Empty	609.8	609.7	
4	Si	892.4	883.7	
	LR			-100
Total:				

Point	Time	Meter Volume, ft³	ΔP in. H₂O	ΔH in. H₂O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In	Meter Temp, °F Out	Vacuum in. Hg.	O₂ %	P. static in. H₂O
6	1737	801.123	NA	1.0	NA	NA	NA	50	64	64	3		
5	1742	803.870						51	64	63	3		
4	1747	806.650						51	64	63	3		
3	1752	809.390						53	67	63	3		
2	1757	811.999						53	67	64	3		
1	1802	814.740						54	69	64	3		
0	1807	817.420											
6	1810	817.420						56	67	64	3		
5	1815	820.110						53	67	63	3		
4	1820	822.840						53	68	63	3		
3	1825	825.450						55	70	65	3		
2	1830	828.140						56	70	65	3		
1	1835	830.950						56	71	66	3		
0	1840	833.430											
Average:													

Comments:

MONTROSE AIR QUALITY SERVICES

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET – STANDARD

CLIENT: CANYON
LOCATION: Unit #3
DATE: 11-14-22
RUN NO: 2-NH3
OPERATOR: RM
METER BOX NO: 34-WCS
METER ΔH@: 1.886
METER Yd: 1.017
STACK AREA, FT²: 106.9
TRAVERSE POINTS, MIN/POINT: 5/12
ΔH= NA X ΔP:
Probe Condition, pre/post test: N/a
Silica Gel Expanded, Y/N: NO
Filter Condition after Test: N/a
Check Weight: 500.0 / 500.0

AMBIENT TEMPERATURE: 60°
BAROMETRIC PRESSURE: 29.54
ASSUMED MOISTURE:
PITOT TUBE COEFF, Cp:
PROBE ID NO/MATERIAL:
PROBE LENGTH:
NOZZLE ID NO/ MATERIAL:
NOZZLE DIAMETER:
FILTER NO/TYPE:
PRE-TEST LEAK RATE: : <0.005 CFM@ 12" in. Hg.
POST-TEST LEAK RATE: <0.005 CFM@ 10" in. Hg.
PITOT LEAK CHECK - PRE: NA POST: NA
CHAIN OF CUSTODY: SAMPLE CUSTODIAN JP
SAMPLER RM
SAMPLE CUSTODIAN JP

NA

Imp. #	Contents	Post-Test	Pre-Test = Difference
1	.1N H2SO4	930.8	750.5
2	.1N H2SO4	735.5	735.0
3	Empty	649.2	649.1
4	SG	941.7	933.2
	JR	100 mL	
Total:			

Point	Time	Meter Volume, ft³	ΔP in. H₂O	ΔH in. H₂O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In	Meter Temp, °F Out	Vacuum in. Hg.	O₂ %	P. static in. H₂O
6	1907	836.550	NA	1.0	NA	NA	NA	56	68	65	4		
5	1912	839.305						50	71	68	4		
4	1917	841.905						50	71	68	4		
3	1922	844.540						51	72	68	4		
2	1927	847.310						51	73	69	4		
1	1932	850.114						51	73	69	4		
0	1937	852.660											
6	1940	852.610						54	71	69	4		
5	1945	856.830						52	73	69	4		
4	1950	858.445						52	73	69	4		
3	1955	860.835						53	73	70	4		
2	2000	863.600						53	74	70	4		
1	2005	866.320						54	74	70	4		
0	2010	869.090											
Average:													

Comments:

MONTROSE
AIR QUALITY SERVICES

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: SCPPA CAM407
LOCATION: Unit 3
DATE: 11/14/17
RUN NO: RB-WHS
OPERATOR: RAY
METER BOX NO: 34-WCS
METER ΔH@: 1.856
METER Yd: 1.017
STACK AREA, FT²: 106.9
TRAVERSE POINTS, MIN/POINT:
ΔH= _____ X ΔP:
Probe Condition, pre/post test: N/a
Silica Gel Expended, Y/N: NP
Filter Condition after Test: N/a
Check Weight: 500.0 / 500.0

AMBIENT TEMPERATURE: 60°
BAROMETRIC PRESSURE: 29.84
ASSUMED MOISTURE:
PITOT TUBE COEFF, Cp:
PROBE ID NO/MATERIAL:
PROBE LENGTH:
NOZZLE ID NO/ MATERIAL: N/A
NOZZLE DIAMETER:
FILTER NO/TYPE:
PRE-TEST LEAK RATE: : <0.005 CFM@ 12" in. Hg.
POST-TEST LEAK RATE: : _____ CFM@ _____ in. Hg.
PITOT LEAK CHECK - PRE: _____ POST: _____
CHAIN OF CUSTODY: SAMPLE CUSTODIAN JP
SAMPLER Ray
SAMPLE CUSTODIAN JP

Imp. #	Contents	Post-Test - Pre-Test = Difference
1	1N H_2SO_4	752.3
2	1N H_2SO_4	736.0
3	MT	652.1
4	SG	935.6
UR	DI H_2O @	100
Total:		

Point	Time	Meter Volume, ft³	ΔP in. H_2O	ΔH in. H_2O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In	Meter Temp, °F Out	Vacuum in. Hg.	O_2 %	Pstatic in. H_2O
Average:													

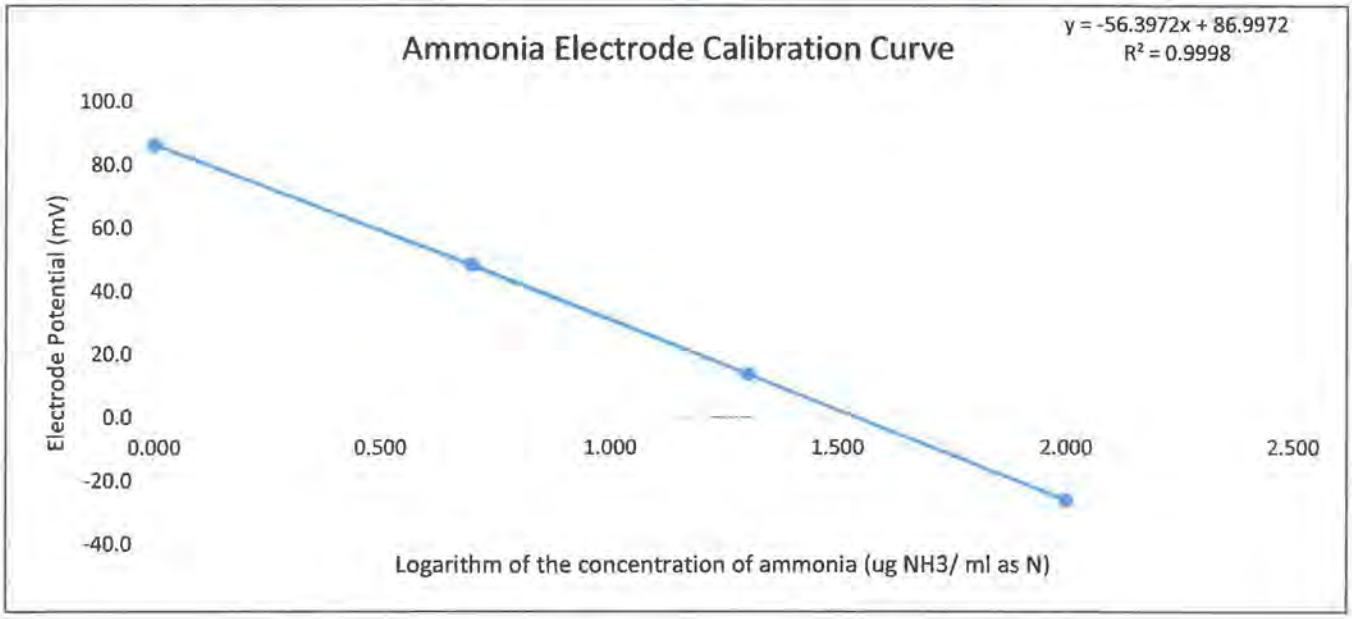
Comments: _____

Appendix A.3
Laboratory Data

AMMONIA ELECTRODE CALIBRATION CURVE DATA

District Method: SCAQMD 207.1
Date: November 16, 2022
Project Number: PROJ-021478
Client/Location: SCPPA

NH_3 concentration (µg NH3 / ml as N)	Log NH_3 concentration	Electrode Potential (mV)	Sample Temperature (°C)	Room Temperature (°C)
1	0.000	86.4	21.0	21.5
5	0.699	48.4	20.9	21.5
20	1.301	13.8	20.9	21.5
100	2.000	-26.2	21.0	21.5



Slope	Y-Intercept	R^2
-56.3972	86.9972	0.9998

NH_3 concentration (µg NH3 / ml as N)	Value LR line	Difference	% Difference
1	1.0247	0.0247	2.4681
5	4.8348	-0.1652	-3.3034
20	19.8558	-0.1442	-0.7210
100	101.6583	1.6583	1.6583

Notes:

- Regression Line: P=M*log(mg of NH_3/ ml as N)+B.
- Measured Concentration of Ammonia (C) in mg / ml NH_3 as N: $C=10^{(P-B)/M}$ where P = electrode potential, M= slope and B= intercept.
- All standards are prepared in 0.04N H_2SO_4 and allowed to equilibrate to room temperature.
- Slope of calibration curve must be between -54 and -60.
- R^2 must be 0.997 or greater.
- Calibration solution temperature must be within ± 2°C.

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS CALCULATION DATA

District Method: SCAQMD 207.1

MONTROSE

Project Number: PROJ-021478
Client/Location: SCPPA
Sample Location: Unit 3 Stack
Sample Date: 11/14/2022
Analysis Date: 11/16/2022
Analyst's Initials: VM

Calibration Curve Slope: -56.3972
Y-intercept: 86.9972
R^2: 0.9998
Thermometer #: 1
ISE Electrode #: 9

Sample	Total Volume (mL)	Sample Temperature (°C)	Electrode Potential (mV)	Conc. µg NH3 /ml as N	C_{avg} as N	C_{avg} as NH_3	µg NH_3/ sample
Standard Check: 28 µg NH_3 / ml as N	NA	21.1	4.2	29.384	28.796	35.003	NA
		21.2	5.2	28.208			
1-NH_3	579.6	20.1	84.5	1.107	1.081	1.314	761.508
		19.9	85.7	1.054			
2-NH_3	576.0	20.0	94.3	0.742	0.750	0.911	525.007
		20.1	93.8	0.757			
Spike 1-NH3	NA	19.9	13.4	20.183	20.101	24.434	NA
		20.0	13.6	20.019			
Standard Check: 28 µg NH_3 / ml as N	NA	21.4	7.6	25.575	26.108	31.736	NA
		21.5	6.6	26.641			
Reagent Blank 0.1N H_2SO_4	NA	20.2	157.0	0.057	0.056	0.068	NA
		20.2	157.9	0.055			
DI H_2O Blank	NA	20.3	173.2	0.030	0.029	0.035	NA
		20.3	174.2	0.028			
Field Blank	430.0	20.2	170.1	0.034	0.033	0.040	17.285
		20.2	170.9	0.033			
Standard Check: 28 µg NH_3 / ml as N	NA	21.5	7.9	25.264	25.630	31.155	NA
		21.6	7.2	25.996			

Notes:

- Measured Concentration of Ammonia (C) in mg NH_3 / ml as N.
- $C=10^{(P-B)/M}$, P = electrode potential (mV), M=slope and B=intercept.
- Average Measured Ammonia Concentration (C_{avg}) = (C_1 + C_2)/2 where C_1, C_2 are results from duplicate analyses (mg NH_3 /ml as N).
- C_{avg} (mg NH_3/ml as NH_3) = C_{avg} (mg NH_3/ ml as N) * 17.03/14.01.
- mg NH_3 / sample = C_{avg} (mg NH_3/ml as NH_3) * TV.
- Used 100 ml of samples and standards with 2 ml ISA and constant stirring rate, analyzed in duplicate.
- Sample pH and temperatures can be found on the laboratory datasheet.
- Maximum number of samples (including blanks) between 28 ug/ml check standard is 5 samples analyzed in duplicate.
- All samples are collected in 0.1N H_2SO_4 and allowed to equilibrate to room temperature.
- All calibration verification standard (C.V.) are prepared in 0.04N H_2SO_4 and allowed to equilibrate to room temperature.
- Sample solutions, blanks and C.V. Standard temperature must be within ± 2°C.
- Spike: 100 ml sample + 2 ml 1000ppm NH_3 as N.

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS QUALITY CONTROL

District Method: SCAQMD 207.1

MONTROSE

Project Number: PROJ-021478
Client/ Location: SCPPA
Sample Location: Unit 3 Stack
Sample Date: 11/14/2022
Analysis Date: 11/16/2022
Analyst's Initials: VM

Sample	Recovery (%)	RPD (%)	RPA (%)
Standard Check: 28 µg NH_3 / ml as N	NA	4.08	2.843
1-NH3	NA	4.90	NA
2-NH3	NA	-2.04	NA
Spike 1-NH3	99.01	0.82	NA
Standard Check: 28 µg NH_3 / ml as N	NA	-4.08	-6.756
Reagent Blank 0.1N H_2SO_4	NA	3.67	NA
DI H_2O Blank	NA	4.08	NA
Field Blank	NA	3.27	NA
Standard Check: 28 µg NH_3 / ml as N	NA	-2.86	-8.463

Notes:
- Spike: 100 ml sample + 2 ml 1000ppm NH_3 as N.
- Matrix Spike Percent Recovery (%R).
- $\%R = (C_{spike}*0.104 - C_{sample}*0.102)/2 *100$.
- Cspike = average result of matrix spike (mg NH_3/ ml as N).
- Relative Percent Difference (RPD) = $(C_1-C_2)/ C_{avg} *100$ **(must be 5% or less).**
- Relative Percent Accuracy (RPA) **(must be 10% or less).**
- RPA = (C_{avg}-theoretical value of standard)/ theoretical value of standard * 100.

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS DATA

District Method: SCAQMD 207.1

MONTROSE

Project Number: PROJ-021478
Client/Location: SCPPA
Sample Location: Unit 3 Stack
Sample Date: 11/14/22
Analysis Date: 11/16/22

Calibration Curve: $y = -56.3972x + 86.9972$
R^2: 0.9998
Thermometer #: 1
ISE Electrode #: 9
Analyst's Initials: VM

NH3 concentration (µg NH3 / ml as N)	Electrode Potential (mV)	Sample Temperature (°C)	Room Temperature (°C)
1	86.4	21.0	21.5
5	48.4	20.9	21.5
20	13.8	20.9	21.5
100	-26.2	21.0	21.5

Sample	Total Volume (mL)	Sample Temperature (°C)	Electrode Potential (mV)	Blue after ISA (Y/N)	pH
Standard Check: 28 µg NH_3 / ml as N	NA	21.1	4.2	Y	NA
		21.2	5.2	Y	
1-NH_3	579.6	20.1	84.5	Y	<2
		19.9	85.7	Y	
2-NH_3	576.0	20.0	94.3	Y	<2
		20.1	93.8	Y	
		~~19.9~~ *			
		~~20.0~~			
Spike: 1-NH_3	NA	19.9	13.4	Y	NA
		20.0	13.6	Y	
Standard Check: 28 µg NH_3 / ml as N	NA	21.4	7.6	Y	NA
		21.5	6.6	Y	
Reagent Blank 0.1N H_2SO_4	NA	20.2	150	Y	NA
		20.2	157.9	Y	
DI H_2O Blank	NA	20.3	173.2	Y	NA
		20.3	174.2	Y	
Field Blank	430.0	20.2	170.1	Y	<2
		20.2	170.9	Y	
Standard Check: 28 µg NH_3 / ml as N	NA	21.5	7.9	Y	NA
		21.6	7.2	Y	

* VM 11/17/22

Notes:

- Used 100 ml of samples or standards with 2 ml ISA and constant stirring rate.
- Spike: 100 ml sample + 2 ml 1000ppm NH_3 as N.
- All calibration solution and calibration verification standard (C.V.) are prepared in 0.04N H_2SO_4 and allowed to equilibrate to room temperature.
- All samples are collected in 0.1N H_2SO_4 and allowed to equilibrate to room temperature.
- All solutions turned blue and remained blue with ISA unless otherwise indicated.
- Maximum number of samples (including blanks) between 28 ug/ml check standard is 5 samples analyzed in duplicate.
- All samples must have a pH of less than 2.
- Sample solutions, calibration solution and C.V. standard temperature must be within ± 2°C of one another.
- Slope of calibration curve must be between -54 and -60.
- R^2 must be 0.997 or greater.

CHAIN OF CUSTODY

CLIENT: SCPPA | PROJECT #: PROJ-021478 | TEST DATE(S): 11/14/2022

LOCATION: U3 | SAMPLER(S): RM,AD

SAMPLE LOCATION: Stack | PROJECT MANAGER: JP

TEST METHOD(S): SCAQMD 207.1 | DATE DUE: 11/21/2022

OUTSIDE LAB REQUIRED?: No | COMPLIANCE TEST?: Yes

DATE	TIME	TEST #	SAMPLE DESCRIPTION	CONTAINERS	SAMPLER	COMMENTS
11/14/2022	1737-1840	1-NH3-U3	Probe, Line, Impingers	1	RM,AD	
11/14/2022	1907-2010	2-NH3-U3	Probe, Line, Impingers	1	RM,AD	
11/14/2022	13:00	Reagent Blank	0.1 N H_2SO_4	1	JP	
11/14/2022	13:00	Reagent Blank	DI H2O	1	JP	
11/14/2022	21:00	Field Blank	Probe, Line, Impingers	1	RM,AD	

RELEASED BY	DATE/TIME	RECEIVED BY	DATE/TIME
John Rubon	11/15/22 22:00	Ry	11/19/22 2200
Ry	11/19/22 2300		11/16/22 0617

ANALYSIS REQUIRED: NH_3 by SCAQMD 207.1 (ISE)

Appendix A.4
QA/QC Data

Barometric Pressure Determination	
Date: 11/14/22	
Data By: JP	
Reference: https://forecast.weather.gov/MapClick.php?lat=33.8329&lon=-117.9152	
Reference Barometer ID	FW0063 Fullerton CSU (F0063)
Reference Barometer Location	Lat: 33.8805°NLon: 117.88417°WElev: 247ft.
Reference Barometer Other Info.	14 Nov 02:53 PM PST
Reference Barometer Indication, corrected to sea level	30.11
Reference Barometer Reference Elevation	247
Reference Barometer Actual Pressure	29.86
Test Barometer Location/Site	Canyon Power Plant
Location/Site Elevation	212
Location/Site Barometric Pressure	29.90
Sampling Location Height (above/below site elevation)	60
Sampling Location Barometric Pressure	**29.84**

SEMI-ANNUAL DRY GAS METER/ORIFICE CALIBRATION

Orifice Method - Triplicate Runs/Four Calibration Points
English Meter Box Units, English K' Factor
Filename: M:\Santa Ana\Equipment\Test Equipment\Calibrations\Dry Gas Meters\34-WCS\2022\[34WCS Semi Annual Cal 7-18-2022.x
File Modified From: APEX 522 Series Meter box Calibration
Revised: 4/8/2005

Model #: NuTech2010 Stack Sampler
ID #: 34 WCS
Date: 7/18/2022
Bar. Pressure: 29.87 (in. Hg)
Performed By: JS
Reviewed By: M.Chowsanitphon

DRY GAS METER READINGS									CRITICAL ORIFICE READINGS					
					Initial Temps.		Final Temps.					Ambient Temperature		
dH (in H2O)	Time (min)	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Inlet (deg F)	Outlet (deg F)	Inlet (deg F)	Outlet (deg F)	Orifice Serial# (number)	K' Orifice Coefficient (see above)	Actual Vacuum (in Hg)	Initial (deg F)	Final (deg F)	Average (deg F)
0.13	26.00	131.100	136.385	5.285	78.0	77.0	78.0	77.0	AA-33	0.1574	19.0	76.0	77.0	76.5
0.13	26.00	136.385	141.675	5.290	78.0	77.0	78.0	77.0	AA-33	0.1574	19.0	77.0	76.0	76.5
0.13	26.00	141.675	146.962	5.287	78.0	77.0	79.0	78.0	AA-33	0.1574	19.0	77.0	76.0	76.5
0.65	12.00	114.700	120.024	5.324	77.0	77.0	78.0	77.0	QI-48	0.3434	18.0	76.0	76.0	76.0
0.65	12.00	120.024	125.366	5.342	78.0	77.0	78.0	77.0	QI-48	0.3434	18.0	76.0	76.0	76.0
0.65	12.00	125.366	130.704	5.338	78.0	77.0	79.0	77.0	QI-48	0.3434	18.0	76.0	76.0	76.0
2.10	7.00	96.200	101.611	5.411	78.0	75.0	79.0	76.0	QI-63	0.5994	17.0	75.0	75.0	75.0
2.10	7.00	101.611	107.020	5.409	79.0	76.0	79.0	76.0	QI-63	0.5994	17.0	75.0	75.0	75.0
2.10	7.00	107.020	112.425	5.405	79.0	76.0	79.0	77.0	QI-63	0.5994	17.0	75.0	75.0	75.5
3.80	5.00	78.500	83.703	5.203	75.0	74.0	77.0	75.0	AA-73	0.8121	15.0	74.0	74.0	74.0
3.80	5.00	83.703	88.896	5.193	77.0	75.0	78.0	75.0	AA-73	0.8121	15.0	74.0	75.0	74.5
3.80	5.00	88.896	94.109	5.213	78.0	75.0	79.0	75.0	AA-73	0.8121	15.0	75.0	75.0	75.0

DRY GAS METER		ORIFICE			DRY GAS METER CALIBRATION FACTOR	ORIFICE CALIBRATION FACTOR					
VOLUME CORRECTED Vm(std) (cu ft)	VOLUME CORRECTED Vm(std) (liters)	VOLUME CORRECTED Vcr(std) (cu ft)	VOLUME CORRECTED Vcr(std) (liters)	VOLUME NOMINAL Vcr (cu ft)		Y Value (number)	dH@ Value (in H2O)	Individual Run 0.95 < Y < 1.05?	Individual Orifice Ymax - Ymin < 0.010?	Orifice Average 0.98 < Y/Yd < 1.02?	Orifice Average dH@ - dH@ av < 0.155?
5.182	146.8	5.278	149.5	5.374		1.018	1.742	Pass			
5.187	146.9	5.278	149.5	5.374		1.017	1.742	Pass			
5.180	146.7	5.278	149.5	5.374		1.019	1.741	Pass			
					Average	**1.018**	**1.742**		**Pass**	**Pass**	**Pass**
5.230	148.1	5.317	150.6	5.408		1.017	1.828	Pass			
5.245	148.5	5.317	150.6	5.408		1.014	1.828	Pass			
5.239	148.4	5.317	150.6	5.408		1.015	1.828	Pass			
					Average	**1.015**	**1.828**		**Pass**	**Pass**	**Pass**
5.337	151.1	5.418	153.4	5.502		1.015	1.941	Pass			
5.330	150.9	5.418	153.4	5.502		1.017	1.939	Pass			
5.323	150.8	5.416	153.4	5.504		1.017	1.939	Pass			
					Average	**1.016**	**1.939**		**Pass**	**Pass**	**Pass**
5.170	146.4	5.249	148.6	5.319		1.015	1.913	Pass			
5.150	145.9	5.246	148.6	5.322		1.019	1.913	Pass			
5.165	146.3	5.244	148.5	5.324		1.015	1.915	Pass			
					Average	**1.016**	**1.914**		**Pass**	**Pass**	**Pass**

Average Yd: 1.017 **dH@: 1.856**

Q @ dH = 1: 0.551

SIGNED: Signature on File Date: 7/18/2022

MONTROSE
AIR QUALITY SERVICES

DIGITAL TEMPERATURE READOUT CALIBRATION

Digital Temperature Readout ID: 34-WCS
Readout Description: Control Box
Date: 7/5/2022
Performed By: LO, RMo, DA

Calibrated Thermocouple ID: TC-CAL
T1 Reference Thermometer ID: 313010
T2 Reference Thermometer ID: 242167
T3 Reference Thermometer ID: 805002770

T/C I.D. TC-CAL	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (OIL)	34-WCS	374	374	374	374	378	378	378	378	4.0	0.5%	Pass
T2 (Boiling H_2O)	34-WCS	216	216	216	216	212	212	212	212	4.0	0.6%	Pass
T1 (Ice/Water)	34-WCS	35	35	35	35	32	32	32	32	3.0	0.6%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
2) Pass if all Differences are less than 1.5% (°R)

Thermocouple Source Readings

	T/C Source S/N	T/C - Readout °F				T/C Source °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T4 (~650 F)	129462	651	651	652	651	650	650	650	650	1.3	0.1%	Pass
T3 (~370 F)	129462	367	368	368	368	370	370	370	370	2.3	0.3%	Pass
T2 (~212 F)	129462	212	211	210	211	212	212	212	212	1.0	0.1%	Pass
T1 (~32 F)	129462	29	29	29	29	32	32	32	32	3.0	0.6%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
2) Pass if all Differences are less than 1.5% (°R)

APPENDIX B
FACILITY CEMS DATA

i-NH3

CEMTEK KVB-Enertec NetDAHS©

Version 48.0

Average Values Report
Generated: 11/14/2022 19:34

Company: City Of Anaheim
Plant: 3071 Miraloma Ave.,
City/St: Anaheim, CA, 92806
Source: 3

Period Start: 11/14/2022 17:37
Period End: 11/14/2022 18:40
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 3_O2 %	Average 3_NOXPPM ppm	Average 3_NOX_CORR ppm	Average 3_NOX_LBHR #/hr	Average 3_NOX_LBMM #/MBTU	Average 3_COPPM ppm	Average 3_CO_CORR ppm	Average 3_CO_LBHR #/hr	Average 3_CO_LBMM #/MBTU	Average 3_GasFlow kscfh	Average 3_LOAD MW	Average 3_STACKFLW kscfm
11/14/2022 17:37	14.72	2.28	2.18	3.80	0.008	2.19	2.09	2.23	0.0047	452.3	47.13	233.1
11/14/2022 17:38	14.73	2.29	2.19	3.80	0.008	2.19	2.09	2.23	0.0047	452.9	47.09	233.8
11/14/2022 17:39	14.73	2.29	2.19	3.80	0.008	2.20	2.10	2.23	0.0047	452.6	47.09	233.7
11/14/2022 17:40	14.71	2.28	2.17	3.81	0.008	2.19	2.09	2.24	0.0047	453.0	47.29	233.2
11/14/2022 17:41	14.72	2.26	2.16	3.81	0.008	2.19	2.09	2.24	0.0047	453.0	47.15	233.5
11/14/2022 17:42	14.72	2.26	2.16	3.80	0.008	2.20	2.10	2.23	0.0047	452.8	47.17	233.4
11/14/2022 17:43	14.72	2.26	2.16	3.81	0.008	2.21	2.11	2.24	0.0047	453.4	47.27	233.7
11/14/2022 17:44	14.72	2.27	2.17	3.81	0.008	2.21	2.11	2.24	0.0047	453.5	47.19	233.8
11/14/2022 17:45	14.72	2.27	2.17	3.81	0.008	2.21	2.11	2.24	0.0047	453.5	47.13	233.8
11/14/2022 17:46	14.72	2.26	2.16	3.81	0.008	2.22	2.12	2.29	0.0048	453.6	47.23	233.8
11/14/2022 17:47	14.72	2.25	2.15	3.81	0.008	2.24	2.14	2.29	0.0048	453.6	47.32	233.8
11/14/2022 17:48	14.72	2.23	2.13	3.81	0.008	2.24	2.14	2.29	0.0048	454.0	47.20	234.0
11/14/2022 17:49	14.72	2.21	2.11	3.81	0.008	2.26	2.16	2.29	0.0048	454.1	47.26	234.1
11/14/2022 17:50	14.70	2.22	2.11	3.82	0.008	2.28	2.17	2.34	0.0049	454.4	47.24	233.5
11/14/2022 17:51	14.70	2.22	2.11	3.82	0.008	2.29	2.18	2.34	0.0049	454.7	47.20	233.6
11/14/2022 17:52	14.70	2.22	2.11	3.82	0.008	2.28	2.17	2.34	0.0049	454.6	47.30	233.6
11/14/2022 17:53	14.71	2.19	2.09	3.82	0.008	2.27	2.16	2.34	0.0049	454.5	47.30	233.9
11/14/2022 17:54	14.70	2.19	2.08	3.82	0.008	2.27	2.16	2.29	0.0048	455.1	47.39	233.9
11/14/2022 17:55	14.71	2.19	2.09	3.82	0.008	2.29	2.18	2.34	0.0049	454.9	47.23	234.1
11/14/2022 17:56	14.70	2.18	2.07	3.82	0.008	2.29	2.18	2.34	0.0049	455.3	47.48	234.0
11/14/2022 17:57	14.72	2.18	2.08	3.82	0.008	2.30	2.20	2.34	0.0049	455.3	47.37	234.7
11/14/2022 17:58	14.71	2.19	2.09	3.83	0.008	2.30	2.19	2.34	0.0049	455.4	47.41	234.4
11/14/2022 17:59	14.69	2.25	2.14	3.83	0.008	2.30	2.19	2.34	0.0049	455.7	47.51	233.8
11/14/2022 18:00	14.69	2.39	2.27	3.83	0.008	2.31	2.19	2.34	0.0049	455.6	47.45	233.7
11/14/2022 18:01	14.68	2.45	2.32	4.31	0.009	2.35	2.23	2.39	0.0050	455.9	47.53	233.5
11/14/2022 18:02	14.69	2.45	2.33	4.31	0.009	2.36	2.24	2.40	0.0050	456.2	47.52	234.0
11/14/2022 18:03	14.69	2.39	2.27	3.83	0.008	2.37	2.25	2.44	0.0051	455.9	47.45	233.9
11/14/2022 18:04	14.69	2.32	2.20	3.83	0.008	2.36	2.24	2.40	0.0050	456.3	47.57	234.1
11/14/2022 18:05	14.71	2.31	2.20	3.83	0.008	2.36	2.25	2.39	0.0050	456.1	47.62	234.7
11/14/2022 18:06	14.68	2.30	2.18	3.83	0.008	2.35	2.23	2.40	0.0050	456.4	47.49	233.7
11/14/2022 18:07	14.70	2.29	2.18	3.84	0.008	2.35	2.24	2.40	0.0050	456.8	47.56	234.7
11/14/2022 18:08	14.69	2.28	2.17	3.84	0.008	2.36	2.24	2.40	0.0050	456.7	47.82	234.3
11/14/2022 18:09	14.70	2.31	2.20	3.84	0.008	2.37	2.26	2.45	0.0051	457.2	47.71	234.9
11/14/2022 18:10	14.70	2.35	2.24	3.84	0.008	2.38	2.26	2.45	0.0051	457.0	47.65	234.8
11/14/2022 18:11	14.69	2.38	2.26	3.84	0.008	2.38	2.26	2.45	0.0051	457.2	47.60	234.6
11/14/2022 18:12	14.70	2.37	2.26	3.85	0.008	2.38	2.26	2.45	0.0051	457.9	47.67	235.3
11/14/2022 18:13	14.68	2.36	2.24	3.85	0.008	2.40	2.28	2.45	0.0051	457.8	47.61	234.5
11/14/2022 18:14	14.68	2.37	2.25	3.85	0.008	2.41	2.29	2.45	0.0051	458.0	47.56	234.6
11/14/2022 18:15	14.67	2.37	2.24	3.85	0.008	2.41	2.28	2.45	0.0051	457.8	47.86	234.1
11/14/2022 18:16	14.68	2.36	2.24	3.85	0.008	2.41	2.29	2.45	0.0051	457.8	47.99	234.5
11/14/2022 18:17	14.69	2.36	2.24	3.85	0.008	2.42	2.30	2.50	0.0052	457.8	47.75	234.9
11/14/2022 18:18	14.67	2.38	2.25	3.84	0.008	2.44	2.31	2.50	0.0052	457.6	47.74	234.0
11/14/2022 18:19	14.68	2.38	2.26	3.85	0.008	2.44	2.31	2.50	0.0052	457.9	47.89	234.5
11/14/2022 18:20	14.68	2.38	2.26	3.85	0.008	2.43	2.30	2.50	0.0052	458.1	47.88	234.6
11/14/2022 18:21	14.67	2.37	2.24	3.85	0.008	2.45	2.32	2.50	0.0052	458.1	47.81	234.2
11/14/2022 18:22	14.69	2.36	2.24	3.85	0.008	2.46	2.34	2.50	0.0052	458.2	47.80	235.0
11/14/2022 18:23	14.66	2.35	2.22	3.85	0.008	2.45	2.32	2.50	0.0052	458.4	47.72	234.0
11/14/2022 18:24	14.68	2.34	2.22	3.85	0.008	2.45	2.32	2.50	0.0052	458.3	47.81	234.7
11/14/2022 18:25	14.66	2.33	2.20	3.85	0.008	2.47	2.34	2.50	0.0052	458.4	47.69	234.0
11/14/2022 18:26	14.65	2.32	2.19	3.85	0.008	2.49	2.35	2.55	0.0053	458.5	47.82	233.7
11/14/2022 18:27	14.68	2.32	2.20	3.85	0.008	2.50	2.37	2.55	0.0053	458.4	47.83	234.8
11/14/2022 18:28	14.67	2.34	2.22	3.85	0.008	2.50	2.37	2.55	0.0053	458.6	47.83	234.5

Period Start:	Average 3_O2 %	Average 3_NOXPPM ppm	Average 3_NOX_CORR ppm	Average 3_NOX_LBHR #/hr	Average 3_NOX_LBMM #/MBTU	Average 3_COPPM ppm	Average 3_CO_CORR ppm	Average 3_CO_LBHR #/hr	Average 3_CO_LBMM #/MBTU	Average 3_GasFlow kscfh	Average 3_LOAD MW	Average 3_STACKFLW kscfm
11/14/2022 18:29	14.68	2.38	2.26	3.85	0.008	2.48	2.35	2.55	0.0053	458.6	47.89	234.9
11/14/2022 18:30	14.69	2.40	2.28	3.85	0.008	2.49	2.37	2.55	0.0053	458.2	47.69	235.0
11/14/2022 18:31	14.67	2.40	2.27	3.85	0.008	2.50	2.37	2.55	0.0053	458.6	47.87	234.5
11/14/2022 18:32	14.68	2.39	2.27	3.85	0.008	2.51	2.38	2.55	0.0053	458.3	47.69	234.7
11/14/2022 18:33	14.67	2.37	2.24	3.85	0.008	2.50	2.37	2.55	0.0053	458.1	47.61	234.2
11/14/2022 18:34	14.66	2.37	2.24	3.85	0.008	2.49	2.35	2.55	0.0053	458.2	47.66	233.9
11/14/2022 18:35	14.69	2.38	2.26	3.85	0.008	2.50	2.38	2.55	0.0053	458.4	47.74	235.1
11/14/2022 18:36	14.68	2.39	2.27	3.85	0.008	2.51	2.38	2.55	0.0053	458.1	47.69	234.6
11/14/2022 18:37	14.67	2.38	2.25	3.85	0.008	2.52	2.39	2.60	0.0054	458.6	47.77	234.5
11/14/2022 18:38	14.66	2.39	2.26	3.85	0.008	2.52	2.38	2.55	0.0053	458.5	47.67	234.1
11/14/2022 18:39	14.67	2.38	2.25	3.85	0.008	2.51	2.38	2.55	0.0053	458.2	47.66	234.3
11/14/2022 18:40	14.66	2.37	2.24	3.85	0.008	2.50	2.36	2.55	0.0053	458.4	47.60	234.0
Daily Average*	**14.69**	**2.32**	**2.20**	**3.85**	**0.008**	**2.37**	**2.25**	**2.42**	**0.0050**	**456.4**	**47.54**	**234.2**
Maximum*	**14.73**	**2.45**	**2.33**	**4.31**	**0.009**	**2.52**	**2.39**	**2.60**	**0.0054**	**458.6**	**47.99**	**235.3**
	11/14/2022 17:39	11/14/2022 18:02	11/14/2022 18:02	11/14/2022 18:02	11/14/2022 18:02	11/14/2022 18:38	11/14/2022 18:37	11/14/2022 18:37	11/14/2022 18:37	11/14/2022 18:37	11/14/2022 18:16	11/14/2022 18:12
Minimum*	**14.65**	**2.18**	**2.07**	**3.80**	**0.008**	**2.19**	**2.09**	**2.23**	**0.0047**	**452.3**	**47.09**	**233.1**
	11/14/2022 18:26	11/14/2022 17:57	11/14/2022 17:56	11/14/2022 17:42	11/14/2022 18:40	11/14/2022 17:41	11/14/2022 17:41	11/14/2022 17:42	11/14/2022 17:45	11/14/2022 17:37	11/14/2022 17:39	11/14/2022 17:37

* Does not include Invalid Averaging Periods ("N/A")

CEMTEK KVB-Enertec NetDAHS©

2-NH3

Version 48.0

Average Values Report
Generated: 11/14/2022 21:09

Company: City Of Anaheim
Plant: 3071 Miraloma Ave.,
City/St: Anaheim, CA, 92806
Source: 3

Period Start: 11/14/2022 19:07
Period End: 11/14/2022 20:10
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 3_O2 %	Average 3_NOXPPM ppm	Average 3_NOX_CORR ppm	Average 3_NOX_LBHR #/hr	Average 3_NOX_LBMM #/MBTU	Average 3_COPPM ppm	Average 3_CO_CORR ppm	Average 3_CO_LBHR #/hr	Average 3_CO_LBMM #/MBTU	Average 3_GasFlow kscfh	Average 3_LOAD MW	Average 3_STACKFLW kscfm
11/14/2022 19:07	14.64	2.37	2.23	3.87	0.008	2.58	2.43	2.66	0.0055	461.2	48.17	234.7
11/14/2022 19:08	14.65	2.38	2.25	3.88	0.008	2.58	2.44	2.66	0.0055	461.4	48.09	235.2
11/14/2022 19:09	14.64	2.37	2.23	3.87	0.008	2.58	2.43	2.66	0.0055	460.9	48.15	234.5
11/14/2022 19:10	14.65	2.36	2.23	3.87	0.008	2.59	2.44	2.66	0.0055	461.0	48.03	235.0
11/14/2022 19:11	14.64	2.36	2.22	3.87	0.008	2.60	2.45	2.66	0.0055	461.0	48.11	234.6
11/14/2022 19:12	14.65	2.37	2.24	3.87	0.008	2.60	2.45	2.66	0.0055	460.8	48.15	234.9
11/14/2022 19:13	14.65	2.37	2.24	3.87	0.008	2.60	2.45	2.66	0.0055	460.8	48.01	234.9
11/14/2022 19:14	14.65	2.38	2.25	3.87	0.008	2.59	2.44	2.66	0.0055	460.6	47.99	234.8
11/14/2022 19:15	14.65	2.38	2.25	3.87	0.008	2.60	2.45	2.66	0.0055	461.0	48.22	235.0
11/14/2022 19:16	14.66	2.36	2.23	3.87	0.008	2.60	2.46	2.66	0.0055	460.9	48.09	235.3
11/14/2022 19:17	14.65	2.37	2.24	3.87	0.008	2.60	2.45	2.66	0.0055	460.7	47.93	234.8
11/14/2022 19:18	14.64	2.37	2.23	3.87	0.008	2.59	2.44	2.66	0.0055	460.6	48.13	234.4
11/14/2022 19:19	14.65	2.39	2.26	3.87	0.008	2.57	2.43	2.61	0.0054	460.9	48.13	234.9
11/14/2022 19:20	14.64	2.39	2.25	3.87	0.008	2.56	2.41	2.61	0.0054	461.0	48.04	234.6
11/14/2022 19:21	14.66	2.37	2.24	3.87	0.008	2.57	2.43	2.66	0.0055	461.1	47.99	235.4
11/14/2022 19:22	14.64	2.37	2.23	3.87	0.008	2.58	2.43	2.66	0.0055	460.9	48.06	234.5
11/14/2022 19:23	14.65	2.39	2.26	3.88	0.008	2.58	2.44	2.66	0.0055	461.3	48.16	235.1
11/14/2022 19:24	14.66	2.40	2.27	3.88	0.008	2.57	2.43	2.66	0.0055	461.3	48.14	235.5
11/14/2022 19:25	14.64	2.41	2.27	3.88	0.008	2.58	2.43	2.67	0.0055	461.5	48.02	234.9
11/14/2022 19:26	14.65	2.43	2.29	3.87	0.008	2.59	2.44	2.66	0.0055	461.2	48.04	235.1
11/14/2022 19:27	14.66	2.46	2.33	4.36	0.009	2.59	2.45	2.66	0.0055	461.4	47.98	235.6
11/14/2022 19:28	14.66	2.46	2.33	4.36	0.009	2.59	2.45	2.67	0.0055	461.8	48.01	235.8
11/14/2022 19:29	14.64	2.45	2.31	4.36	0.009	2.58	2.43	2.67	0.0055	461.7	48.27	235.0
11/14/2022 19:30	14.66	2.47	2.34	4.36	0.009	2.57	2.43	2.67	0.0055	461.6	48.17	235.7
11/14/2022 19:31	14.64	2.47	2.33	4.37	0.009	2.56	2.41	2.62	0.0054	462.3	48.40	235.3
11/14/2022 19:32	14.64	2.47	2.33	4.37	0.009	2.58	2.43	2.67	0.0055	462.6	48.38	235.4
11/14/2022 19:33	14.63	2.43	2.29	3.88	0.008	2.57	2.42	2.62	0.0054	462.4	48.22	234.9
11/14/2022 19:34	14.66	2.40	2.27	3.89	0.008	2.57	2.43	2.67	0.0055	462.6	48.35	236.2
11/14/2022 19:35	14.65	2.38	2.25	3.88	0.008	2.59	2.44	2.67	0.0055	462.3	48.24	235.6
11/14/2022 19:36	14.65	2.38	2.25	3.88	0.008	2.60	2.45	2.67	0.0055	462.4	48.31	235.7
11/14/2022 19:37	14.65	2.38	2.25	3.89	0.008	2.60	2.45	2.67	0.0055	463.0	48.41	236.0
11/14/2022 19:38	14.66	2.37	2.24	3.89	0.008	2.60	2.46	2.67	0.0055	462.8	48.30	236.3
11/14/2022 19:39	14.64	2.37	2.23	3.89	0.008	2.59	2.44	2.67	0.0055	463.0	48.29	235.6
11/14/2022 19:40	14.65	2.38	2.25	3.89	0.008	2.60	2.45	2.67	0.0055	462.7	48.28	235.8
11/14/2022 19:41	14.65	2.37	2.24	3.89	0.008	2.61	2.46	2.68	0.0055	463.6	48.33	236.3
11/14/2022 19:42	14.64	2.35	2.21	3.89	0.008	2.62	2.47	2.67	0.0055	463.1	48.25	235.7
11/14/2022 19:43	14.64	2.34	2.21	3.89	0.008	2.63	2.48	2.73	0.0056	463.5	48.24	235.9
11/14/2022 19:44	14.64	2.32	2.19	3.90	0.008	2.66	2.51	2.73	0.0056	464.0	48.22	236.1
11/14/2022 19:45	14.64	2.30	2.17	3.90	0.008	2.69	2.54	2.78	0.0057	463.7	48.29	236.0
11/14/2022 19:46	14.64	2.30	2.17	3.89	0.008	2.70	2.54	2.77	0.0057	463.6	48.36	235.9
11/14/2022 19:47	14.65	2.31	2.18	3.89	0.008	2.70	2.55	2.77	0.0057	463.6	48.49	236.3
11/14/2022 19:48	14.65	2.31	2.18	3.89	0.008	2.69	2.54	2.77	0.0057	463.3	48.25	236.2
11/14/2022 19:49	14.65	2.32	2.19	3.89	0.008	2.67	2.52	2.77	0.0057	463.5	48.33	236.3
11/14/2022 19:50	14.65	2.33	2.20	3.89	0.008	2.66	2.51	2.73	0.0056	463.5	48.44	236.3
11/14/2022 19:51	14.63	2.38	2.24	3.89	0.008	2.67	2.51	2.72	0.0056	463.3	48.20	235.4
11/14/2022 19:52	14.65	2.44	2.30	3.90	0.008	2.65	2.50	2.73	0.0056	463.8	48.26	236.4
11/14/2022 19:53	14.64	2.46	2.32	4.38	0.009	2.65	2.50	2.73	0.0056	463.9	48.22	236.1
11/14/2022 19:54	14.65	2.46	2.32	4.39	0.009	2.67	2.52	2.78	0.0057	464.4	48.23	236.7
11/14/2022 19:55	14.64	2.46	2.32	4.39	0.009	2.68	2.53	2.78	0.0057	464.1	48.39	236.2
11/14/2022 19:56	14.65	2.45	2.31	4.39	0.009	2.69	2.54	2.78	0.0057	464.4	48.33	236.7
11/14/2022 19:57	14.65	2.42	2.28	3.90	0.008	2.71	2.56	2.78	0.0057	464.8	48.39	236.9
11/14/2022 19:58	14.64	2.42	2.28	3.91	0.008	2.73	2.57	2.83	0.0058	465.0	48.28	236.7

Period Start:	Average 3_O2 %	Average 3_NOXPPM ppm	Average 3_NOX_CORR ppm	Average 3_NOX_LBHR #/hr	Average 3_NOX_LBMM #/MBTU	Average 3_COPPM ppm	Average 3_CO_CORR ppm	Average 3_CO_LBHR #/hr	Average 3_CO_LBMM #/MBTU	Average 3_GasFlow kscfh	Average 3_LOAD MW	Average 3_STACKFLW kscfm
11/14/2022 19:59	14.65	2.42	2.28	3.91	0.008	2.74	2.59	2.83	0.0058	465.4	48.37	237.2
11/14/2022 20:00	14.64	2.40	2.26	3.91	0.008	2.74	2.58	2.83	0.0058	465.0	48.25	236.7
11/14/2022 20:01	14.62	2.40	2.25	3.91	0.008	2.76	2.59	2.83	0.0058	465.1	48.45	236.0
11/14/2022 20:02	14.66	2.40	2.27	3.91	0.008	2.77	2.62	2.88	0.0059	465.1	48.19	237.5
11/14/2022 20:03	14.67	2.39	2.26	3.91	0.008	2.80	2.65	2.88	0.0059	465.1	48.10	237.8
11/14/2022 20:04	14.65	2.39	2.26	3.90	0.008	2.80	2.64	2.88	0.0059	464.6	48.21	236.8
11/14/2022 20:05	14.66	2.38	2.25	3.90	0.008	2.81	2.66	2.93	0.0060	464.7	48.17	237.2
11/14/2022 20:06	14.65	2.39	2.26	3.90	0.008	2.82	2.66	2.93	0.0060	464.8	48.20	236.9
11/14/2022 20:07	14.64	2.38	2.24	3.91	0.008	2.83	2.67	2.93	0.0060	465.6	48.42	237.0
11/14/2022 20:08	14.64	2.34	2.21	3.92	0.008	2.87	2.70	2.99	0.0061	466.6	48.46	237.4
11/14/2022 20:09	14.63	2.27	2.14	3.93	0.008	2.94	2.77	3.05	0.0062	468.0	48.66	237.8
11/14/2022 20:10	14.61	2.22	2.08	3.94	0.008	3.00	2.81	3.10	0.0063	468.6	48.90	237.3
Daily Average*	**14.65**	**2.38**	**2.25**	**3.96**	**0.008**	**2.65**	**2.50**	**2.73**	**0.0056**	**463.0**	**48.24**	**235.9**
Maximum*	**14.67**	**2.47**	**2.34**	**4.39**	**0.009**	**3.00**	**2.81**	**3.10**	**0.0063**	**468.6**	**48.90**	**237.8**
	11/14/2022 20:03	11/14/2022 19:32	11/14/2022 19:30	11/14/2022 19:56	11/14/2022 19:56	11/14/2022 20:10	11/14/2022 20:10	11/14/2022 20:10	11/14/2022 20:10	11/14/2022 20:10	11/14/2022 20:10	11/14/2022 20:09
Minimum*	**14.61**	**2.22**	**2.08**	**3.87**	**0.008**	**2.56**	**2.41**	**2.61**	**0.0054**	**460.6**	**47.93**	**234.4**
	11/14/2022 20:10	11/14/2022 20:10	11/14/2022 20:10	11/14/2022 19:26	11/14/2022 20:10	11/14/2022 19:31	11/14/2022 19:31	11/14/2022 19:20	11/14/2022 19:33	11/14/2022 19:18	11/14/2022 19:17	11/14/2022 19:18

* Does not include Invalid Averaging Periods ("N/A")

APPENDIX C
CALCULATIONS

Appendix C.1
General Emissions Calculations

GENERAL EMISSIONS 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

$$P_s = P_{bar} + \frac{P_{sg}}{13.6}$$

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

$$V_{mstd} = 0.03342 * V_m * \left(P_{bar} + \frac{\Delta H}{13.6}\right) * \frac{T_{ref}}{T_m} * Y_d$$

B. Water vapor volume, scf

$$V_{wstd} = 0.0472 * V_{ic} * \frac{T_{ref}}{528°R}$$

C. Moisture content, dimensionless

$$B_{wo} = \frac{V_{wstd}}{(V_{mstd} + V_{wstd})}$$

III. Stack Gas Volumetric 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

$$\frac{lb}{MMBtu} = \frac{ppm * MW_i * F}{SV * 10^6} * \frac{20.9}{20.9 - \%\ O_2}$$

VI. Percent Isokinetic

$$I = \frac{17.32 * T_s\ (V_{mstd})}{(1 - B_{wo})\ 0 * V_s * P_s * Dn^2} * \frac{520°R}{T_{ref}}$$

VII. Particulate Emissions

(a) Grain loading, gr/dscf
$C = 0.01543\ (M_n/V_{m\ std})$

(b) Grain loading at 12% CO_2, gr/dscf
$C_{12\%}\ CO_2 = C\ (12/\%\ CO_2)$

(c) Mass emissions, lb/hr
$M = C * Q_{sd} * (60\ min/hr) / (7000\ gr/lb)$

(d) Particulate emission factor

$$lb/10^6\ Btu = Cx\ \frac{1\ lb}{7000\ gr} * F * \frac{20.9}{20.9 - \%\ O_2}$$

Nomenclature:

A_s	=	stack area, ft^2
B_{wo}	=	flue gas moisture content, dimensionless
$C_{12\%CO2}$	=	particulate grain loading, gr/dscf corrected to 12% CO_2
C	=	particulate grain loading, gr/dscf
C_p	=	pitot calibration factor, dimensionless
Dn	=	nozzle diameter, inches
F	=	fuel F-Factor, dscf/MMBtu @ 0% O_2
H	=	orifice differential pressure, iwg
I	=	% isokinetics
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_{wi}	=	molecular weight of specie i:
	SO_2:	64
	NO_x:	46
	CO:	28
	HC:	16
0	=	sample time, minutes
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

Appendix C.2
Spreadsheet Summaries

SCAQMD METHOD 207.1
DATA WORKSHEET AND SUMMARY

Facility	**Canyon**		Parameter		**NH_3**
Unit	**U3**		Fuel		**Natural gas**
Sample Location	**Stack**		Data By		**JP**
Test Number	1-NH3-U3	2-NH3-U3	Average	Maximum	Limit
Reference Temperature (°F)	60	60			
Test Date	11/14/2022	11/14/2022			
Test Method	SCAQMD 207.1	SCAQMD 207.1			
Sample Train	34WCS	34WCS			
Meter Calibration Factor	1.017	1.017			
Stack Area (ft^2)	106.90	106.90			
Sample Time (Minutes)	60	60			
Barometric Pressure ("Hg)	29.84	29.84			
Start/Stop Time	1737-1840	1907-2010			
Meter Volume (acf)	32.305	32.540			
Meter Temperature (°F)	65.7	70.5			
Meter Pressure (iwg)	1.0	1.0			
Liquid Volume (ml)	76.6	89.4			
Stack O_2 (%)	14.69	14.65	14.67	(from facility CEMS)	
Unit Load (MW)	47.5	48.2	47.9		
Standard Sample Volume (SCF)	32.489	32.429			
Moisture Fraction	0.099	0.114			
Stack Flow Rate (dscfm, 68 °F)	234,200	235,900	235,050	(from facility CEMS)	
Stack Flow Rate (@ Tref)	230,652	232,326	231,489		
Gas Constant (ft-lbf/lb-mole-R)	1545.33	1545.33			
Molecular Weight NH_3 (lb/lb-mole)	17.03	17.03			
Specific Molar Volume (ft^3/lb-mole)	379.5	379.5			
F-Factor (dscf/MMBtu)	8,710	8,710			
HHV(Btu/SCF)	1,050	1,050			
Mass Conversion (lb/ug)	2.2046E-09	2.2046E-09			
O_2 Correction Factor (%)	15	15			
Mass NH_3 (ug)	762	525			
Mass NH_3 (lb)	1.68E-06	1.16E-06			
NH_3 (ppmv, flue gas)	1.2	0.8	1.0	1.2	
NH_3 (ppmv @ O_2 Correction Factor)	1.1	0.8	0.9	1.1	5
NH_3 (lb/hr)	0.7	0.5	0.6	0.7	
NH_3 (lb/MMBtu)	0.001	0.001	0.001	0.001	
NH_3 (lb/MMSCF)	1.6	1.1	1.3	1.6	

Note: SCAQMD Method 207.1 requires the higher of the duplicate runs be reported as the test result.

SCAQMD 207.1 EXAMPLE CALCULATION
TEST NUMBER: 1-NH3-U3

Identifier	Description	Units	Equation	Value
A	Reference Temperature	F	--	60
B	Reference Temperature	R	A + 460	520
C	Meter Calibration Factor (Yd)	--	--	1.017
D	Barometric Pressure	" Hg	--	29.84
E	Meter Volume	acf	--	32.305
F	Meter Temperature	F	--	65.7
G	Meter Temperature	R	F + 460	525.7
H	Delta H	" H_2O	--	1.0
I	Meter Volume (standard)	dscf	0.03342 * E * (D + H/13.6) * B/G * C	32.489
J	Liquid Collected	grams	--	76.6
K	Water vapor volume	scf	0.0472 * J * B/528	3.561
L	Moisture Content	--	K/(K + I)	0.099
M	Gas Constant	ft-lbf/lb-mole-R	--	1545.33
N	Specific Molar Volume	SCF/lb-mole	385.3 * B / 528	379.5
O	F-Factor	dscf/MMBtu	--	8,710
P	HHV	Btu/SCF	--	1,050
Q	Mass Conversion Factor	lb/ug	--	2.2046E-09
R	O_2 Correction Factor	--	--	15
S	Stack Flow Rate @ 68 F	dscfm	--	234,200
T	Stack Flow Rate @ Tref	dscfm	S * B/528	230,652
U	Mass NH_3	ug	--	762
V	Mass NH_3	lb	U * Q	1.68E-06
W	MW of NH_3	lb/lb-mole	--	17.03
X	NH_3	ppm	$(V * N * 10^b)/(I * W)$	1.2
Y	Flue Gas O_2	%	--	14.69
Z	NH_3	ppmc	X * (20.9 - R)/(20.9 - Y)	1.1
AA	NH_3	lb/hr	$X * T * W * 60/(N * 10^b)$	0.7
AB	NH_3	lb/MMBtu	$(X * W * O)/(385.3 * 10^b) * 20.9/(20.9 - Y)$	0.001
AC	NH_3	lb/MMSCF	AB * P	1.6

Note:

(1) Some values may be slightly different from those shown on the run sheets due to round off errors. This page is intended to show the calculation methodology only.

SCAQMD METHOD 207.1 - AMMONIA
DETERMINATION OF SAMPLE TIME

Source: Canyon U3
Date: 11/14/2022
Performed by: JP

Constants:

	1,000	mg/gram
	454	grams/lb
	35.315	SCF/SCM
	379.5	SCF/lb-mole
	1,000,000	parts/million parts
MW_{NH3}	17.03	lb/lb-mole
MW_{N2}	14.01	lb/lb-mole

Variables:

Target concentration	5	ppm @ O_2 correction factor
O_2 correction factor	15	% O_2
Expected Flue Gas O_2	14.5	% O_2
F	2	Safety Factor
P	128.5	electrode potential corresponding to minimum value on calibration curve (mV)
B	128.83	y-intercept
M	-58.676	slope
V_r	0.5	Assumed liquid volume of probe rinse and first impinger (L)
Q @ dH = 1	0.551	cfm

Calculated Values:

Target concentration	5.4	ppm - raw
Target concentration	3.90	mg/dscm
C_1	1.013	Lowest concentration on a calibration curve (mg NH3-N/L)
RL	0.616	analytical mass reporting limit, mg
PSV	0.316	Planned sample volume, cubic meters
PSV	11.144	Planned sample volume, cubic feet
VSR	33.1	achievable volumetric sampling rate (dscf/hr)
PST	**20.2**	**Planned sample time, minutes (minimum)**

Notes:
1) A minimum of 1 hour sample time is required for any mass per hour limits.
2) Facility Permit or Rule may specify sample time

APPENDIX D
QUALITY ASSURANCE

Appendix D.1
Quality Assurance Program Summary

QUALITY ASSURANCE PROGRAM SUMMARY

As part of Montrose Air Quality Services, LLC (MAQS) ASTM D7036-04 certification, MAQS is committed to providing emission related data which is complete, precise, accurate, representative, and comparable. MAQS quality assurance program and procedures are designed to ensure that the data meet or exceed the requirements 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

Assignment of an Internal QA Officer: MAQS has assigned an internal QA Officer who is responsible for administering all aspects of the QA program.

Internal Quality Assurance Manual: MAQS has prepared a QA Manual according to the requirements of ASTM D7036-04 and guidelines issued by EPA. The manual documents and formalizes all of MAQS QA efforts. The manual is revised upon periodic review and as MAQS adds capabilities. The QA manual provides details on the items provided in this summary.

Personnel Testing and Training: Personnel testing and training is essential to the production of high quality test results. MAQS training programs include:

- A requirement for all technical personnel to read and understand the test methods performed
- A requirement for all technical personnel to read and understand the MAQS QA manual
- In-house testing and training
- Quality Assurance meetings
- Third party testing where available
- Maintenance of training records.

Equipment Maintenance and Calibration: All laboratory and field equipment used as a part of MAQS emission measurement programs is maintained according to manufacturer's recommendations. A summary of the major equipment maintenance schedules is summarized in Table 1. 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 is summarized in Table 2. The calibration technique may vary to meet regulatory agency requirements.

Knowledge of Current Test Methods: MAQS maintains current copies of EPA, ARB, and SCAQMD Source Test Manuals and Rules and Regulations.

Chain-of-Custody: MAQS maintains chain-of-custody documentation on all data sheets and samples. Samples are stored in a locked area accessible only to MAQS source test personnel. Data sheets are kept in the custody of the originator, program manager, or in locked storage until return to MAQS office. Electronic field data is duplicated for backup on secure storage media. The original data sheets are used for report preparation and any additions are initialed and dated.

QA Reviews: Periodic field, laboratory, and report reviews are performed by the in-house QA coordinator. Periodically, test plans are reviewed to ensure proper test methods are selected and reports are reviewed to ensure that the methods were followed and any deviations from the methods are justified and documented.

ASTM D7036-04 Required Information

Uncertainty Statement

Montrose is qualified to conduct this test program and has established a quality management system that led to accreditation with ASTM Standard D7036-04 (Standard Practice for Competence of Air Emission Testing Bodies). Montrose participates in annual functional assessments for conformance with D7036-04 which are conducted by the American Association for Laboratory Accreditation (A2LA). All testing performed by Montrose is supervised on site by at least one Qualified Individual (QI) as defined in D7036-04 Section 8.3.2. Data quality objectives for estimating measurement uncertainty within the documented limits in the test methods are met by using approved test protocols for each project as defined in D7036-04 Sections 7.2.1 and 12.10. Additional quality assurance information is presented in the report appendices.

Performance Data

Performance data are available for review.

Qualified Personnel

A qualified individual (QI), defined by performance on a third party or internal test on the test methods, is present on each test event.

Plant Entry and Safety Requirements

Plant Entry

All test personnel are required to check in with the guard at the entrance gate or other designated area. Specific details are provided by the facility and project manager.

Safety Requirements

All personnel shall have the following personal protective equipment (PPE) and wear them where designated:

- Hard Hat
- Safety Glasses
- Steel Toe Boots
- Hearing Protection
- Gloves
- High Temperature Gloves (if required)

The following safety measures are followed:

- Good housekeeping
- SDS for all on-site hazardous materials
- Confine selves to necessary areas (stack platform, mobile laboratory, CEMS data acquisition system, control room, administrative areas)
- Knowledge of evacuation procedures

Each facility will provide plant specific safety training.

TABLE 1
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	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Replace parts 4. Leak check
Flow Meters	1. Free mechanical movement	As recommended by manufacturer	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 Van 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 2
MAJOR 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	Semi-Annually	3-point linearity	< 1% of analyzer range
NO_x Analyzer	Daily	NO_2 -> NO converter efficiency	> 90%
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%
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%

Note: Calibration requirements will be used that meet applicable regulatory agency requirements.

Appendix D.2
SCAQMD and STAC Certifications

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

September 1, 2022

Mr. John Peterson
Montrose Air Quality Services, LLC
1631 E. Saint Andrew Place
Santa Ana, CA 92705

Subject: LAP Approval Notice
Reference # 96LA1220

Dear Mr. Peterson:

We have reviewed your renewal letter under the South Coast Air Quality Management District's Laboratory Approval Program (LAP). We are pleased to inform you that your firm is approved for the period beginning September 30, 2022, and ending September 30, 2023, for the following methods, subject to the requirements in the LAP Conditions For Approval Agreement and conditions listed in the attachment to this letter:

South Coast AQMD Methods 1-4	South Coast AQMD Methods 5.1, 5.2, 5.3, 6.1
South Coast AQMD Methods 10.1 and 100.1	South Coast AQMD Methods 25.1 and 25.3 (Sampling)
USEPA CTM-030 and ASTM D6522-00	Rule 1121/ 1146.2 Protocol
Rule 1420/1420.1/1420.2 – (Lead) Source and Ambient Sampling	

Your LAP approval to perform nitrogen oxide emissions compliance testing for Rule 1121/ 1146.2 Protocols includes satellite facilities located at:

McKenna Boiler 1510 North Spring Street Los Angeles, CA 90012	Noritz America Corp. 11160 Grace Avenue Fountain Valley, CA 92708	Ajax Boiler, Inc. 2701 S. Harbor Blvd. Santa Ana, CA 92704
VA Laundry Bldg., Greater LA Healthcare Sys. 508 Constitution Avenue Los Angeles, CA 90049	So Cal Gas – Engr Analysis Ctr, Bldg H 8101 Rosemead Blvd Pico Rivera, CA 90660	

Thank you for participating in the 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, Colin Eckerle. He may be reached by telephone at (909) 396-2476, or via e-mail at ceckerle@aqmd.gov.

Sincerely,

D. Sarkar

Dipankar Sarkar
Program Supervisor
Source Test Engineering

DS:CE
Attachment

220901 LapRenewal.doc

STAC STACK TESTING ACCREDITATION COUNCIL

A2LA American Association for Laboratory Accreditation

Accredited Air Emission Testing Body

A2LA has accredited

MONTROSE AIR QUALITY SERVICES

In recognition of the successful completion of the joint A2LA and Stack Testing Accreditation Council (STAC) evaluation process, this laboratory is accredited to perform testing activities in compliance with ASTM D7036:2004 - Standard Practice for Competence of Air Emission Testing Bodies.

Presented this 4th day of February 2022.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3925.01
Valid to February 29, 2024

This accreditation program is not included under the A2LA ILAC Mutual Recognition Arrangement.

Appendix D.3
Individual QI Certificate

CERTIFICATE OF COMPLETION

Ray Madrigal

This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):

SCAQMD Methods 1.1, 1.2, 2.1, 2.2, 2.3, 3.1 & 4.1

Certificate Number: 002-2022-12

DATE OF ISSUE: 01/17/2022

Tate Strickler, VP – Quality Systems

DATE OF EXPIRATION: 01/16/2027

MONTROSE ENVIRONMENTAL

CERTIFICATE OF COMPLETION

Ray Madrigal

This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):

SCAQMD Method 207.1

Certificate Number: 002-2022-76

DATE OF ISSUE: 07/19/2022

Tate Strickler, VP – Quality Systems

DATE OF EXPIRATION: 07/18/2027

MONTROSE ENVIRONMENTAL

Appendix D.4
Statement of No Conflict of Interest

STATEMENT OF NO CONFLICT OF INTEREST AS AN INDEPENDENT TESTING LABORATORY

(To be completed by authorized source testing firm representative and included in source test report)

The following facility and equipment were tested by my source testing firm and are the subjects of this statement:

Facility ID:	**153992**
Date(s) Tested:	**November 14, 2022**
Facility Name:	**Canyon Power Plant**
Equipment Address:	**3071 E. Mira Loma Avenue**
	Anaheim, California 92806
Equipment Tested:	**Unit 3**
Device ID, A/N, P/N:	**D13**

I state, as its legally authorized representative, that the source testing firm of:

Source Test Firm:	Montrose Air Quality Services, LLC
Business Address:	1631 E. St. Andrew Pl.
	Santa Ana, California 92705

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: John D. Peterson **Date:** **12/12/2022**

John Peterson	**District Manager – Santa Ana**	**(714) 279-6777**	**12/12/2022**
(Name)	(Title)	(Phone)	(Date)

FORM ST-110 :stevforl.doc (Revised 11/18/98

APPENDIX E
APPLICABLE PERMIT SECTIONS

FACILITY PERMIT TO OPERATE
CANYON POWER PLANT

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: POWER GENERATION					
GAS TURBINE, NO. 3, NATURAL GAS, GENERAL ELECTRIC, MODEL LM6000PC SPRINT, SIMPLE CYCLE, 479 MMBTU/HR AT 46 DEG F, WITH INLET CHILLING, WITH WATER INJECTION WITH A/N: 555830 GENERATOR, 50.95 MW	D13	C15	NOX: MAJOR SOURCE**	**CO**: 4 PPMV NATURAL GAS (4) **[RULE 1303(a)(1)-BACT, 5-10-1996;** *RULE 1303(a)(1) -BACT, 12-6-2002*]; **CO**: 2000 PPMV NATURAL GAS (5) **[RULE 407, 4-2-1982]**; **NOX**: 2.5 PPMV NATURAL GAS (4) **[RULE 2005, 6-3-2011]**; **NOX**: 25 PPMV NATURAL GAS (8) **[40CFR 60 Subpart KKKK, 7-6-2006]**; **PM10**: 0.01 GRAINS/SCF NATURAL GAS (5A) **[RULE 475, 10-8-1976;** *RULE 475, 8-7-1978*]; **PM10**: 0.1 GRAINS/SCF NATURAL GAS (5) **[RULE 409, 8-7-1981]**; **PM10**: 1.67 LBS/HR NATURAL GAS (5C) **[RULE 1303(b)(2)-Offset, 5-10-1996;** *RULE 1303(b)(2) -Offset, 12-6-2002*]; **PM10**: 11 LBS/HR NATURAL GAS (5B) **[RULE 475, 10-8-1976;** *RULE 475, 8-7-1978*]; **SO2**: (9) **[40CFR 72 - Acid Rain Provisions, 11-24-1997]**; **SOX**: 0.06 LBS/MMBTU NATURAL GAS (8) **[40CFR 60 Subpart KKKK, 7-6-2006]**; **VOC**: 2 PPMV NATURAL GAS (4) **[RULE 1303(a)(1)-BACT, 5-10-1996;** *RULE 1303(a)(1)-BACT, 12-6-2002*]	A63.1, A99.1, A99.2, A99.3, A195.1, A195.2, A195.3, A327.1, B61.1, D12.1, D29.2, D29.3, D82.1, D82.2, E193.1, H23.1, I298.3, K40.1

* (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
CANYON POWER PLANT

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: POWER GENERATION					
CO OXIDATION CATALYST, NO. 3, BASF, 110 CUBIC FEET OF TOTAL CATALYST VOLUME A/N: 476660	C15	D13 C16			
SELECTIVE CATALYTIC REDUCTION, NO. 3, CORMETECH CMHT-21, 1012 CU.FT.; WIDTH: 2 FT 6 IN; HEIGHT: 25 FT 9 IN; LENGTH: 18 FT WITH A/N: 476660 AMMONIA INJECTION	C16	C15 S18		**NH3**: 5 PPMV NATURAL GAS (4) **[RULE 1303(a)(1)-BACT, 5-10-1996;** *RULE 1303(a)(1) -BACT, 12-6-2002*]	A195.6, D12.2, D12.3, D12.4, E179.1, E179.2, E193.1
STACK, TURBINE NO. 3, HEIGHT: 86 FT ; DIAMETER: 11 FT 8 IN A/N: 555830	S18	C16			

* (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.

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 : C4, C10, C16, C22]

D12.5 The operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.

[RULE 1110.2, 2-1-2008; RULE 1110.2, 9-7-2012; **RULE 1303(b)(2)-Offset, 5-10-1996;** RULE 1303(b)(2)-Offset, 12-6-2002; RULE 1401, 9-10-2010; RULE 1470, 5-4-2012; **RULE 2012, 5-6-2005; 40CFR 60 Subpart IIII, 1-30-2013]**

[Devices subject to this condition : D25]

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
NH3 emissions	District method 207.1 and 5.3 or EPA method 17	1 hour	Outlet of the SCR serving this equipment

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

The test(s) shall be conducted at least quarterly during the first twelve months of operation and at least annually thereafter. The AQMD shall be notified of the date and time of the test at least 10 days prior to the test.

If the turbine is not in operation during one calendar year, then no testing is required during that calendar year.

The NOx concentration, as determined by the CEMS, shall be simultaneously recorded during the ammonia slip test. If the CEMS is inoperable, a test shall be conducted to determine the NOx emissions using District Method 100.1 measured over a 60 minute averaging time period.

The test shall be conducted and the results submitted to the District within 60 days after the test date.

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration limit.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition : D1, D7, D13, D19]

D29.3 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Sampling Time	Test Location
SOX emissions	AQMD Laboratory Method 307-91	Not Applicable	Fuel sample
VOC emissions	District Method 25.3	1 hour	Outlet of the SCR serving this equipment
PM emissions	District method 5.1	4 hours	Outlet of the SCR serving this equipment

THIS IS THE LAST PAGE OF THIS DOCUMENT

If you have any questions, please contact one of the following individuals by email or phone.

Name: Mr. John Peterson
Title: District Manager - Santa Ana
Region: West
Email: JPeterson@montrose-env.com
Phone: (714) 279-6777

Name: Mr. Matt McCune
Title: Regional Vice President
Region: West
Email: MMccune@montrose-env.com
Phone: (714) 279-6777

TEST REPORT FOR
2Q22 AMMONIA SLIP TEST
AT CANYON POWER PLANT UNIT 4
FACILITY ID 153992, DEVICE ID D19

Prepared For:

Canyon Power Plant
3071 E. Mira Loma Avenue.
Anaheim, California 92806

For Submittal To:

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

Prepared By:

Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, California 92705
(714) 279-6777

John Groenenboom

Test Date: **May 31, 2022**
Production Date: **July 7, 2022**
Report Number: **W002AS-016956-RT-3742**

ACCREDITED
TO ASTM D7036 ONLY
CERT #3925.01

CONFIDENTIALITY STATEMENT

Except as otherwise required by law or regulation, this information contained in this communication is intended exclusively for the individual or entity to which it is addressed. This communication may contain information that is proprietary, privileged or confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it.

REVIEW AND CERTIFICATION

All work, calculations, and other activities and tasks performed and presented in this document were carried out by me or under my direction and supervision. I hereby certify that, to the best of my knowledge, Montrose operated in conformance with the requirements of the Montrose Quality Management System and ASTM D7036-04 during this test project.

Signature:  Date: 7/7/2022

Name: John Groenenboom Title: Client Project Manager

I have reviewed, technically and editorially, details, calculations, results, conclusions, and other appropriate written materials contained herein. I hereby certify that, to the best of my knowledge, the presented material is authentic, accurate, and conforms to the requirements of the Montrose Quality Management System and ASTM D7036-04.

Signature:  Date: 7/7/2022

Name: Michael Chowsanitphon Title: Reporting Manager

TABLE OF CONTENTS

1.0 INTRODUCTION AND SUMMARY

Montrose Air Quality Services, LLC (MAQS) was contracted by the Canyon Power Plant to perform an ammonia slip test at Unit 4 as required by the facility Permit (Facility ID 153992) Condition Number D29.2. This report documents the results of the ammonia slip tests performed on May 31, 2022. The test was performed by John Groenenboom, Randy Monzon, Kevin Sandoval, and Jordan Monzon. John Groenenboom was the on-site Qualified Individual for MAQS. MAQS qualifies as an independent testing laboratory under SCAQMD Rule 304 (no conflict of interest) and is certified by the SCAQMD to conduct testing for criteria pollutants according to District Methods. Ms. Bertha Hernandez coordinated the test for Canyon Power Plant.

The test program followed the procedures described in the initial compliance test protocol (MAQS document R038842). The results of the test are summarized in Table 1-1. The table shows that the ammonia slip from this unit was less than the permitted limit of 5 ppm corrected to 15% O_2.

TABLE 1-1
RESULTS SUMMARY
CANYON POWER PLANT
UNIT 4
MAY 31, 2022

Parameter/Units	Result(1)	Limit
NH_3		
ppm	1.6	--
ppmc	1.5	5

(1) Maximum of duplicate runs, as required by SCAQMD Method 207.1

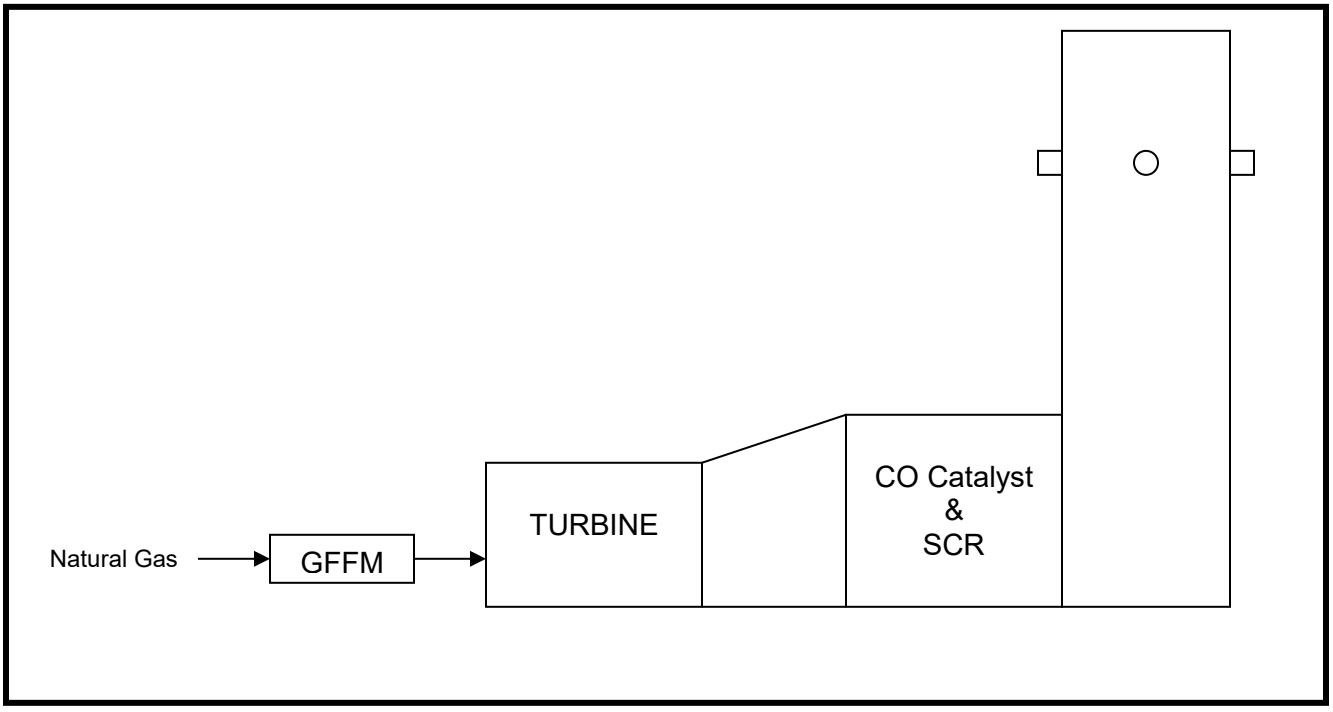
Section 2 of this document provides a brief description of the unit, test conditions, sample location, and CEMS. Details of the test procedures are provided in Section 3. Section 4 provides the results of each individual test. All raw data, calculations, quality assurance data, unit operating conditions, and CEMS data are provided in the appendices.

2.0 UNIT AND CEMS DESCRIPTION

2.1 UNIT DESCRIPTION

The City of Anaheim Canyon Power Plant is located at 3071 E. Mira Loma Avenue, Anaheim, California 92806. The facility consists of four identical generating units. Each unit consists of a natural gas fired, GE Model LM6000PC Sprint simple cycle, gas turbine. The units are natural gas fired with a rated heat input of 479 MMBtu per hour at 46°F, with water injection. The units are equipped with a CO catalyst and Selective Catalytic Reduction (SCR) system for NO_x control. Figure 2-1 presents a block diagram of the unit.

FIGURE 2-1
UNIT BLOCK DIAGRAM
CANYON POWER PLANT
UNIT 4



Stack Inside Diameter:	11 feet, 8 inches
Distance from Upstream Disturbance:	23 feet, 4 inches (2.0 Diameters)
Distance from Stack Exit:	16 feet, 6 inches (1.4 Diameters)

2.2 CEMS DESCRIPTION

NO_x and CO emissions from the unit are monitored by a dry, extractive Continuous Emission Monitoring System (CEMS). Stack flow rate is determined from fuel flow rate, O_2 concentration, standard F-Factor, and fuel higher heating value using EPA Method 19.

2.3 TEST CONDITIONS

The tests were performed with the unit operating at an average load of 50.1 MW. Tests were performed while the unit was firing natural gas and operating under normal conditions. Unit operation was established by the Canyon Power Plant operators.

2.4 SAMPLE LOCATION

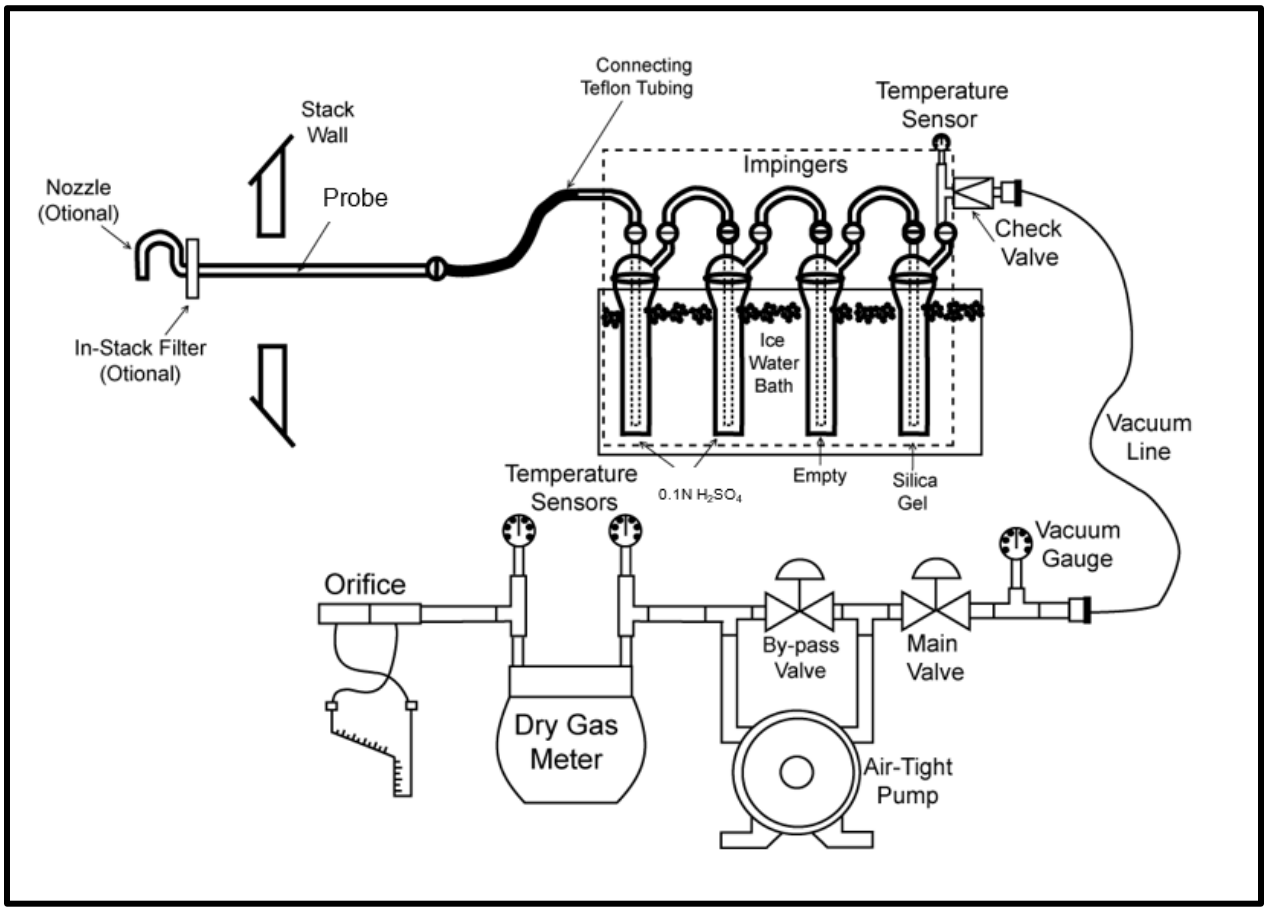
The measurements were made from sample ports located on the exhaust stack. There are four sample ports equally spaced at this location. The stack inside diameter at the sample plane is 11 feet, 8 inches. The sample ports are located 23 feet, 4 inches (2.0 diameters) downstream of the nearest flow disturbance and 16 feet, 6 inches (1.4 diameters) from the stack exit.

3.0 TEST DESCRIPTION

Flue gas samples were collected non-isokinetically using a SCAQMD Method 207.1 sample train. The samples were collected using a 12-point traverse at the exhaust stack. Each test was performed over a 60-minute interval. The sample gas was drawn through a Titanium probe, Teflon sample line, two impingers each containing 100 ml of 0.1N H_2SO_4, an empty impinger, an impinger containing silica gel, and a dry gas meter. The optional nozzle and filter were not used since the source is natural gas fired. The contents of the sample line and the first three impingers were recovered and analyzed by SCAQMD Method 207.1 for ammonia concentration by Ion Specific Electrode analysis. Figure 3-1 presents a diagram of the sampling equipment.

Stack O_2 and NO_x concentrations and stack volumetric flow rate data were recorded from the Continuous Emission Monitoring System (CEMS) which is installed on the unit. These data were used to correct the ammonia concentration to 15% O_2.

FIGURE 3-1
SCAQMD METHOD 207.1 SAMPLING EQUIPMENT



4.0 RESULTS AND OVERVIEW

4.1 TEST RESULTS

The results of the test are summarized in Table 4-1. The results show that the maximum ammonia slip was 1.5 ppm @ 15% O_2 which is less than the permitted limit of 5 ppm @ 15% O_2.

TABLE 4-1
DETAILED TEST RESULTS
CANYON POWER PLANT
UNIT 4
MAY 31, 2022

Parameter/Units	1-NH_3	2-NH_3	Average	Maximum(1)	Limit
Date	5/31/2022	5/31/2022			--
Start/Stop Time	1805/1911	1947/2053			--
O_2, %(2)	14.49	14.51	14.50	--	--
Stack Flow, dscfm @ T_{ref}(2)	234,492	235,280	234,886	--	--
NO_x, ppm a5% O_2(2)	1.9	2.1	2.0	--	2.5
NH_3					
ppm	1.6	1.2	1.4	1.6	--
ppm 15% O_2	1.5	1.1	1.3	1.5	5
lb/hr	1.0	0.7	0.9	1.0	--
lb/MMBtu	0.002	0.001	0.002	0.002	--
lb/MMSCF	2.1	1.5	1.8	2.1	--

(1) Maximum of duplicate test runs, as required by SCAQMD Method 207.1
(2) From facility CEMS

4.2 TEST OVERVIEW

The test program was successful in meeting the program objectives. The QA/QC requirements of SCAQMD Method 207.1 were met. The results are considered representative of the source at the time of the tests.

APPENDIX A
RAW DATA

Appendix A.1
Sample Data Sheets

MONTROSE AIR QUALITY SERVICES

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Canyon Power
LOCATION: U4
DATE: 5/31/22
RUN NO: 1-044
OPERATOR: KAS / RM / SM
METER BOX NO: 10 P&M
METER ΔH@: 1.830
METER Yd: 0.991
STACK AREA, FT²: 106.9
TRAVERSE POINTS, MIN/POINT: 12/3
ΔH= NA X ΔP:
Probe Condition, pre/post test: Good / Good
Silica Gel Expended, Y/N: N
Filter Condition after Test: N/A
Check Weight: 500.0 / 500.1

AMBIENT TEMPERATURE: 73°
BAROMETRIC PRESSURE: 29.58
ASSUMED MOISTURE: 11.5
PITOT TUBE COEFF, Cp: NA
PROBE ID NO/MATERIAL: Titanium
PROBE LENGTH: 6'
NOZZLE ID NO/ MATERIAL: NA
NOZZLE DIAMETER: NA
FILTER NO/TYPE: NA
PRE-TEST LEAK RATE: 0.005 CFM@ 14" in. Hg.
POST-TEST LEAK RATE: 0.005 CFM@ 13" in. Hg.
PITOT LEAK CHECK - PRE: NA POST: NA
CHAIN OF CUSTODY: SAMPLE CUSTODIAN JG
SAMPLER KAS
SAMPLE CUSTODIAN JG

Imp. #	Contents	Post-Test	Pre-Test	= Difference
1	0.1 N H_2SO_4	893.3	694.4	
2	0.1 N H_2SO_4	670.8	666.7	
3	MT	631.6	629.4	
4	SG	944.8	933.1	
4R		Ø	100	
Total:				

Point	Time	Meter Volume, ft³	ΔP in. H_2O	ΔH in. H_2O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In	Meter Temp, °F Out	Vacuum in. Hg.	O_2 %	Pstatic in. H_2O
3	1805	896.000	NA	1.5	NA	NA	NA	57	72	67	5"		
2	1810	899.645		1.5				54	73	68	5"		
1	1815	903.325		1.5				52	74	69	5"		
P/L	1820	906.787											
3	1822	906.787		1.5				51	73	67	5"		
2	1827	909.760		1.5				51	74	68	5"		
1	1832	914.000		1.5				52	75	69	5"		
P/L	1837	917.585											
3	1839	917.585		1.5				52	74	68	5"		
2	1844	921.170		1.5				53	75	69	5"		
1	1849	924.755		1.5				53	76	70	5"		
P/L	1854	928.299											
3	1856	928.299		1.5				53	75	69	5"		
2	1901	931.843		1.5				54	74	71	5"		
1	1906	935.385		1.5				54	77	71	5"		
END	1911	938.784											
Average:													

Comments:

Date of last revision 2/14/2017

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MONTROSE
AIR QUALITY SERVICES

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Canyon Power
LOCATION: 44
DATE: 5/31/22
RUN NO: 2-WH
OPERATOR: KAS/ RM/ JM
METER BOX NO: 10 P4M
METER ΔH@: 1.930
METER Yd: 0.991
STACK AREA, FT²: 106.9
TRAVERSE POINTS, MIN/POINT: 12/5
ΔH= NA X ΔP:
Probe Condition, pre/post test: Good/Good
Silica Gel Expended, Y/N:
Filter Condition after Test: NA
Check Weight: 500.0 / 500.0

AMBIENT TEMPERATURE: 70°
BAROMETRIC PRESSURE: 24.58
ASSUMED MOISTURE: 11
PITOT TUBE COEFF, Cp: NA
PROBE ID NO/MATERIAL: Titanium
PROBE LENGTH: 6'
NOZZLE ID NO/ MATERIAL: NA
NOZZLE DIAMETER: NA
FILTER NO/TYPE: NA
PRE-TEST LEAK RATE: 0.005 CFM@ 13" in. Hg.
POST-TEST LEAK RATE: 0.005 CFM@ 12" in. Hg.
PITOT LEAK CHECK - PRE: NA POST: NA
CHAIN OF CUSTODY: SAMPLE CUSTODIAN JG
SAMPLER KAS
SAMPLE CUSTODIAN JG

Imp. #	Contents	Post-Test	Pre-Test	= Difference
1	0.1N H_2SO_4	607.7	603.4	
2	0.1N H_2SO_4	749.6	747.2	
3	WT	637.0	639.3	
4	SG	964.5	952.8	
CR		Ø	100	
Total:				

Point	Time	Meter Volume, ft³	ΔP in. H_2O	ΔH in. H_2O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In	Meter Temp, °F Out	Vacuum in. Hg.	O_2 %	Pstatic in. H_2O
3	1947	940.700	NA	1.5	NA	NA	NA	56	66	64	5"		
2	1952	944.320		1.5				53	66	65	5"		
1	1957	947.925		1.5				52	67	65	5"		
P/C	2002	951.452											
3	2004	951.352		1.5				52	65	64	5"		
2	2009	954.775		1.5				51	67	65	5"		
1	2014	958.205		1.5				51	68	66	5"		
P/C	2019	961.788											
3	2021	961.788		1.5				52	64	64	5"		
2	2026	965.370		1.5				53	67	65	5"		
1	2031	968.955		1.5				53	67	66	5"		
P/C	2036	972.105											
3	2038	972.105		1.5				53	65	65	5"		
2	2043	975.755		1.5				54	67	66	5"		
1	2048	979.430		1.5				55	68	66	5"		
END	2053	983.240											
Average:													

Comments:

Date of last revision 2/14/2017

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MONTROSE
AIR QUALITY SERVICES

W002AS-016956-RT-3742

14 of 60

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Canyon
LOCATION: U4
DATE: 5/31/2?
RUN NO: FB-NH_3
OPERATOR: KAS / [illegible]
METER BOX NO: 10P#1
METER ΔH@: 1.830
METER Yd: .991
STACK AREA, FT^2: 106.9
TRAVERSE POINTS, MIN/POINT: NA
ΔH= NA X ΔP:
Probe Condition, pre/post test: good
Silica Gel Expended, Y/N: N
Filter Condition after Test: NA
Check Weight: good / good

AMBIENT TEMPERATURE: 73°
BAROMETRIC PRESSURE: 29.58
ASSUMED MOISTURE: NA
PITOT TUBE COEFF, Cp: NA
PROBE ID NO/MATERIAL: NA / Ti
PROBE LENGTH: 6'
NOZZLE ID NO/ MATERIAL: NA
NOZZLE DIAMETER: NA
FILTER NO/TYPE: NA
PRE-TEST LEAK RATE: : 0.005 CFM@ 14 in. Hg.
POST-TEST LEAK RATE: : CFM@ in. Hg.
PITOT LEAK CHECK - PRE: NA POST: NA
CHAIN OF CUSTODY: SAMPLE CUSTODIAN TG
SAMPLER KAS
SAMPLE CUSTODIAN TG

Imp. #	Contents	Post-Test	- Pre-Test	= Difference
1	0.1N H_2SO_4	701.4	601.8	
2	0.1N H_2SO_4	739.4	739.3	
3	MT	640.3	640.5	
4	SG	971.1	971.0	
LR		0	100	
Total:				

Point	Time	Meter Volume, ft^3	ΔP in. H_2O	ΔH in. H_2O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In	Meter Temp, °F Out	Vacuum in. Hg.	O_2 %	Pstatic in. H_2O
Average:													

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Comments:

Date of last revision 2/14/2017

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Appendix A.2
Laboratory Data

MONTROSE
AIR QUALITY SERVICES

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS

Project #: 016956 District Method: SCAQMD 207.1 Sample Date: 5.31.22
Client/Location: SCPPA / CAN TN Calibration Date: 6.3.22 Analysis Date: 6.3.22
Sample Location: UNIT 4 Calibration Curve: Y= 57.594lx +94.619 Analyst's Initials: JS
Test #'s: 1,2 - NH_3 R^2: 0.9999 Room Temperature (°C): 27

Sample	Total Vol. (mL)	Electrode Potential (mV)	Conc. µg NH_3 – N / ml	Cavg (µg NH_3 – N / ml)	µg NH_3 / sample	T (°C)	Blue after + ISA (Y/N)	pH	% R
Standard Check: 28 µg NH_3/ml		10.5	28.877	28.762		22.7	X		103
		10.7	28.647			22.7	Y		
1-NH_3	565.1	77.0	2.023	1.991	1367.509	22.5	X	<2	
		77.8	1.959			22.6	Y		
2-NH_3	497.0	82.6	1.617	1.610	972.940	22.6	Y	<2	
		82.8	1.604			22.6	Y		
Spike: 2-NH_3 +2ml 1000ppm NH_3		19.2	20.394	20.641		22.7	X		99
		18.6	20.889			22.8	Y		
Standard Check: 28 µg NH3/ml		11.3	27.968	27.968		22.8	X		100
		11.3	27.968			22.8	X		
Reagent Blank 0.1N H_2SO_4		192.0	0.020	0.021		22.9	Y		
		191.2	0.021			22.9	X		
DI H_2O Blank		192.4	0.020	0.020		22.8	Y		
		192.7	0.020			22.9	X		
Field Blank	413.5	178.2	0.035	0.035	17.714	23	X	<2	
		178.4	0.035			23	Y		
Standard Check: 28 µg NH3/ml		11.2	28.080	28.024		23	Y		100
		11.3	27.968			23	X		

Notes: Total volume of samples and standards used: 100 mL
Volume of pH adjusting ISA used in ml: 2mL
Absorbing solution: H_2SO_4

Calculations: Conc. (µg NH_3 – N / ml) = $10^{(P-B)/M}$; (P = electrode potential, B = y-intercept and M = slope)
Cavg = average result of duplicate analyses (µg NH_3 – N / ml) = (C1+C2)/2
µg NH_3 / sample = Cavg* 17.03/ 14.01 * TV
mg / sample = µg /sample ÷ 1000
ppm NH_3 = mg NH_3/sample x 1/Vmstd x 1/454000 x SV/17 x 10^6

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS CALCULATION

Project Number:	PROJ-016956
Client/ Location:	SCPPA CANYON
Sample Location:	UNIT 4
District Method:	SCAQMD 207.1
Sample Date:	5/31/2022
Analysis Date:	6/3/2022
Analyst's Initials:	JS/VM
Calibration Curve Slope	-57.5941
Y-intercept	94.6191

Sample	P mV	Conc. µg NH_3 /ml as N	C avg as N	TV (ml)	C avg as NH_3	µg NH_3/ sample
28 ug NH_3 / ml as N	10.5	28.877	28.762			
Repeat 28 ug NH_3/ml as N	10.7	28.647		NA	34.962	NA
1-NH3-3	77.0	2.023	1.991	565.1		
Repeat 1-NH3-3	77.8	1.959		565.1	2.420	1367.509
2-NH3	82.6	1.617	1.610	497.0		
Repeat 2- NH_3	82.8	1.604		497.0	1.958	972.940
spike 2-NH_3	19.2	20.394	20.641			
Repeat 2-NH3 spike	18.6	20.889		NA	25.091	NA
28 NH_3/ml as N	11.3	27.968	27.968			
Repeat 28 ug NH_3/ml as N	11.3	27.968		NA	33.997	NA
Reagent Blank	192.0	0.020	0.021			
Repeat Reagent Blank	191.2	0.021		NA	0.025	NA
DI H2O Blank	192.4	0.020	0.020			
Repeat DI H2O Blank	192.7	0.020		NA	0.024	NA
Field Blank	178.2	0.035	0.035			
Repeat Field Blank	178.4	0.035		413.5	0.043	17.714
28 NH_3/ml as N	11.2	28.080	28.024			
Repeat 28 ug NH_3/ml as N	11.3	27.968		NA	34.065	NA

Notes:

Measured Concentration of Ammonia (C) in µg NH_3 / ml as N

$C=10^{(P-B)/M}$

P = electrode potential (mV), M=slope and B=intercept

Average Measured Ammonia Concentration (Cavg) = (C1 + C2)/2

where C1, C2 results from duplicate analyses (µg NH_3 /ml as N)

Cavg (µg NH_3/ml as NH_3) = Cavg (µg NH_3/ ml as N) * 17.03/ 14.01

µg NH_3 / sample = Cavg (µg NH_3/ml as NH_3) * TV

Used 100 ml of samples and standards with 2 ml ISA and constant stirring rate.

All solutions turned blue and remained blue with ISA unless otherwise indicated.

Sample PH and Temperatures can be found on the laboratory datasheet.

Maximum samples (including blanks) between 28 ug/ml check standard is 5 samples analyzed in duplicate.

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS QUALITY CONTROL

Project Number:	PROJ-016956
Client/ Location:	SCPPA CANYON
Sample Location:	UNIT 4
District Method:	SCAQMD 207.1
Sample Date:	5/31/2022
Analysis Date:	6/3/2022
Analyst's Initials:	JS/VM

Sample	% recovery	RPD %	RPA %
28 ug NH3 / ml as N Repeat 28 ug NH3/ml as N	NA	0.80	2.721
1-NH3-3 Repeat 1-NH3-3	NA	3.20	NA
2-NH3 Repeat 2- NH3	NA	0.80	NA
spike 2-NH3 Repeat 2-NH3 spike	99.12	-2.40	NA
28 NH3/ml as N Repeat 28 ug NH3/ml as N	NA	0.00	-0.114
Reagent Blank Repeat Reagent Blank	NA	-3.20	NA
DI H2O Blank Repeat DI H2O Blank	NA	1.20	NA
Field Blank Repeat Field Blank	NA	0.80	NA
28 NH3/ml as N Repeat 28 ug NH3/ml as N	NA	0.40	0.086

Notes:

spike: 100 ml sample + 2 ml (1000 μg NH_3 / ml as N)

Matrix Spike Percent Recovery (%R)

%R = (C spike*0.104 - Csample*0.102)/2 *100

Cspike = average result of matrix spike (μg NH_3/ ml as N)

Relative Percent Difference (RPD) = (C1-C2)/ Cavg *100 (must be 5% or less)

Relative Percent Accuracy (RPA) (must be 10% or less)

RPA = (Cavg-theoretical value of standard)/ theoretical value of standard * 100

MONTROSE
AIR QUALITY SERVICES

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS CALIBRATION DATA

District Method: SCAQMD 207.1

Calibration Date: 6.3.22

Calibration Curve: Y=57.594|x +94.619|

R^2 0.9999

Analyst's Initials: SS

Thermometer #: 2

ISE Electrode #: 9

Calibration Standard (µg NH_3 / ml as N)	Electrode Potential (mV)	Solution Temperature (°C)	Room Temperature (°C)
1	94.3	21.9	22
5	54.9	21.9	22
20	196	21.9	22
100	-20.7	21.9	22

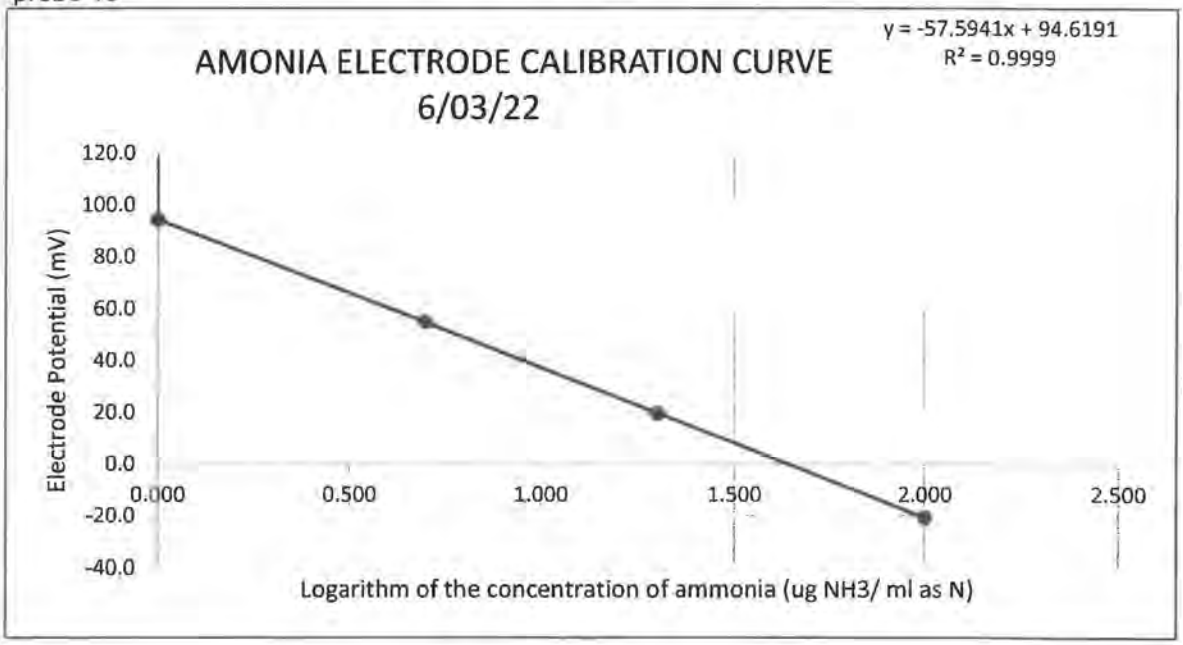
Notes:

Total volume of samples and standards used: 100 mL
Volume of pH adjusting ISA used in ml: 2 mL
Absorbing solution: H_2SO_4
Slope of the calibration curve shall be between -54 to -60
R^2 must be 0.9997 or greater
Calibration solutions, sample solutions and Calibration Verification standard temperature within ± 2°C

AMMONIA ELECTRODE CALIBRATION CURVE

NH_3 concentration (μg NH_3 / ml as N)	log NH_3 concentration	Electrode potential (mV)	Sample Temperature (C)	Room Temperature (C)
1	0.000	94.3	21.9	22
5	0.699	54.9	21.9	22
20	1.301	19.6	21.9	22
100	2.000	-20.7	21.9	22

probe 18



slope	-57.5941
y-intercept	94.6191

Concentration (μg NH_3 / ml as N)	Value LR line	Difference	% Difference
1	1.0128	0.0128	1.2838
5	4.8937	-0.1063	-2.1258
20	20.0701	0.0701	0.3503
100	100.5249	0.5249	0.5249

Calculation:

Regression Line: $P=M*\log(\mu g \text{ of } NH_3/ \text{ ml as N})+B$

Measured Concentration of Ammonia (C) in μg / ml NH_3 as N: $C=10^{(P-B)/M}$

where P = electrode potential, M= slope (must be -57±3) and B= intercept

All standards were prepared in 0.04N H_2SO_4 and allowed to equilibrate to room temperature.

CHAIN OF CUSTODY

CLIENT: SCPPA Canyon PROJECT NUMBER: PROJ-016956 TEST DATE(S): 5/31/2022

LOCATION: Canyon SAMPLER(S): RMO, JM, KAS

SAMPLE LOCATION: Unit 4 PROJECT MANAGER: JG

TEST METHOD(S): SCAQMD 207.1 DATE DUE: Normal

OUTSIDE LAB REQUIRED?: NO COMPLIANCE TEST? YES

DATE	TIME	TEST #	SAMPLE DESCRIPTION	CONTAINERS	SAMPLER	COMMENTS
5/31/2022		1-NH3-4	Probe, Line, Impingers	1	RMO, JM, KAS	
5/31/2022		2-NH3-4	Probe, Line, Impingers	1	RMO, JM, KAS	
5/31/2022		FB-NH3-1	Probe, Line, Impingers	1	RMO, JM, KAS	
5/31/2022		RB-NH3	0.1 N H2SO4	1	RMO, JM, KAS	
5/31/2022		RB-NH3	DI H2O	1	RMO, JM, KAS	

RELEASED BY	DATE/TIME	RECEIVED BY	DATE/TIME
[signature]	6-2-22 1140 AM	[signature]	6-3-22 - 8:49

ANALYSIS REQUIRED:

Appendix A.3
QA/QC Data

SEMI-ANNUAL DRY GAS METER/ORIFICE CALIBRATION

Orifice Method - Triplicate Runs/Four Calibration Points
English Meter Box Units, English K' Factor
Filename: M:\Santa Ana\Equipment\Test Equipment\Calibrations\Dry Gas Meters\10-P&M\2022\[10P&M Semi Annual Cal 3-23-2022.xls]WCS
File Modified From: APEX 522 Series Meter box Calibration
Revised: 4/8/2005

Model #: Equimeter S-275
ID #: 10 P&M
Date: 3/23/2022
Bar. Pressure: 30.03 (in. Hg)
Performed By: L.Olivares
Reviewed By: M.Chowsanitphon

DRY GAS METER READINGS									CRITICAL ORIFICE READINGS					
		Volume	Volume	Volume	Initial Temps.		Final Temps.		Orifice	K' Orifice	Actual	Ambient Temperature		
dH (in H2O)	Time (min)	Initial (cu ft)	Final (cu ft)	Total (cu ft)	Inlet (deg F)	Outlet (deg F)	Inlet (deg F)	Outlet (deg F)	Serial# (number)	Coefficient (see above)	Vacuum (in Hg)	Initial (deg F)	Final (deg F)	Average (deg F)
0.13	26.00	755.300	760.760	5.460	81.0	80.0	81.0	79.0	AA-33	0.1574	19.0	77.0	77.0	77.0
0.13	26.00	760.760	766.215	5.455	81.0	79.0	81.0	79.0	AA-33	0.1574	19.0	77.0	77.0	77.0
0.13	26.00	766.215	771.675	5.460	81.0	79.0	81.0	73.0	AA-33	0.1574	19.0	77.0	77.0	77.0
0.67	12.00	738.300	743.830	5.530	81.0	80.0	81.0	80.0	QI-48	0.3434	18.0	76.0	76.0	76.0
0.67	12.00	743.830	749.360	5.530	81.0	80.0	81.0	80.0	QI-48	0.3434	18.0	76.0	76.0	76.0
0.67	12.00	749.360	754.875	5.515	81.0	80.0	81.0	80.0	QI-48	0.3434	18.0	76.0	76.0	76.0
2.00	7.00	720.900	726.465	5.565	84.0	78.0	84.0	79.0	QI-63	0.5894	16.0	75.0	75.0	75.0
2.00	7.00	726.465	732.015	5.550	84.0	79.0	85.0	80.0	QI-63	0.5894	16.0	75.0	75.0	75.0
2.00	7.00	732.015	737.590	5.575	85.0	80.0	85.0	80.0	QI-63	0.5894	16.0	75.0	75.0	75.0
3.80	5.00	703.300	708.645	5.345	78.0	75.0	81.0	76.0	AA-73	0.8121	15.0	74.0	75.0	74.5
3.80	5.00	708.645	714.005	5.360	81.0	76.0	84.0	77.0	AA-73	0.8121	15.0	75.0	75.0	75.0
3.80	5.00	714.005	719.375	5.370	84.0	77.0	86.0	78.0	AA-73	0.8121	15.0	75.0	75.0	75.0

DRY GAS METER		ORIFICE			DRY GAS METER CALIBRATION FACTOR	ORIFICE CALIBRATION FACTOR	Individual Run	Individual Orifice	Orifice Average	Orifice Average
VOLUME CORRECTED Vm(std) (cu ft)	VOLUME CORRECTED Vm(std) (liters)	VOLUME CORRECTED Vcr(std) (cu ft)	VOLUME CORRECTED Vcr(std) (liters)	VOLUME NOMINAL Vcr (cu ft)	Y Value (number)	dH@ Value (in H2O)	0.95 < Y < 1.05?	Ymax - Ymin < 0.010?	0.98 < Y/Yd < 1.02?	dH@ - dH@ av < 0.155?
5.355	151.7	5.303	150.2	5.376	0.990	1.726	**Pass**			
5.353	151.6	5.303	150.2	5.376	0.991	1.728	**Pass**			
5.373	152.2	5.303	150.2	5.376	0.987	1.738	**Pass**			
				Average	**0.989**	**1.731**		**Pass**	**Pass**	**Pass**
5.429	153.7	5.345	151.4	5.408	0.985	1.864	**Pass**			
5.429	153.7	5.345	151.4	5.408	0.985	1.864	**Pass**			
5.414	153.3	5.345	151.4	5.408	0.987	1.864	**Pass**			
				Average	**0.985**	**1.864**		**Pass**	**Pass**	**Pass**
5.473	155.0	5.447	154.3	5.502	0.995	1.828	**Pass**			
5.451	154.4	5.447	154.3	5.502	0.999	1.825	**Pass**			
5.470	154.9	5.447	154.3	5.502	0.996	1.823	**Pass**			
				Average	**0.997**	**1.825**		**Pass**	**Pass**	**Pass**
5.317	150.6	5.274	149.4	5.322	0.992	1.901	**Pass**			
5.312	150.4	5.272	149.3	5.324	0.992	1.899	**Pass**			
5.305	150.2	5.272	149.3	5.324	0.994	1.896	**Pass**			
				Average	**0.993**	**1.899**		**Pass**	**Pass**	**Pass**

Average Yd: 0.991 **dH@: 1.830**

Q @ dH = 1: 0.554

SIGNED: Signature on File Date: 3/23/2022

MONTROSE

DIGITAL TEMPERATURE READOUT CALIBRATION

Digital Temperature Readout ID: PTC-79
Readout Description: Handheld
Date: 1/7/2022
Performed By: JG, NG, RM, DA, AS

Calibrated Thermocouple ID: TC-CAL
T1 Reference Thermometer ID: 661731
T2 Reference Thermometer ID: 805002770
T3 Reference Thermometer ID: 805002770

T/C I.D. **TC-CAL**	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (OIL)	PTC-79	350	350	350	350	350	350	350	350	0.0	0.0%	Pass
T2 (Boiling H_2O)	PTC-79	215	215	215	215	212	212	212	212	3.0	0.4%	Pass
T1 (Ice/Water)	PTC-79	34	34	34	34	32	32	32	32	2.0	0.4%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
2) Pass if all Differences are less than 1.5% (°R)

Thermocouple Source Readings

	T/C Source S/N	T/C - Readout °F				T/C Source °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T4 (~650 F)	129103	652	653	653	653	650	650	650	650	2.7	0.2%	Pass
T3 (~370 F)	129103	373	373	373	373	370	370	370	370	3.0	0.4%	Pass
T2 (~212 F)	129103	215	215	215	215	212	212	212	212	3.0	0.4%	Pass
T1 (~32 F)	129103	36	36	36	36	32	32	32	32	4.0	0.8%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
2) Pass if all Differences are less than 1.5% (°R)

Barometric Pressure Determination

Date: 05/31/22

Data By: JG

Reference: https://forecast.weather.gov/MapClick.php?lat=33.8329&lon=-117.9152#.X9DlHNhKiUk

Reference Barometer ID	**FW0063 Fullerton CSU (F0063)**
Reference Barometer Location	Lat: 33.8805°NLon: 117.88417°WElev: 247ft.
Reference Barometer Other Info.	**18 May 12:54 PM PDT**
Reference Barometer Indication, corrected to sea level	**29.85**
Reference Barometer Reference Elevation	**247**
Reference Barometer Actual Pressure	29.60
Test Barometer Location/Site	Canyon Power Plant
Location/Site Elevation	**212**
Location/Site Barometric Pressure	29.64
Sampling Location Height (above/below site elevation)	**60**
Sampling Location Barometric Pressure	**29.58**

APPENDIX B
FACILITY CEMS DATA

CEMTEK KVB-Enertec NetDAHS©

MWH
Version 47.0

Average Values Report
Generated: 5/31/2022 22:05

Company: City Of Anaheim
Plant: 3071 Miraloma Ave.,
City/St: Anaheim, CA, 92806
Source: 4

Period Start: 5/31/2022 18:05
Period End: 5/31/2022 19:10
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 4_O2 %	Average 4_NOXPPM ppm	Average 4_NOX_CORR ppm	Average 4_NOX_LBMM #/MBTU	Average 4_NOX_LBHR #/hr	Average 4_COPPM ppm	Average 4_CO_CORR ppm	Average 4_CO_LBHR #/hr	Average 4_CO_LBMM #/MBTU	Average 4_GasFlow kscfh	Average 4_LOAD MW	Average 4_STACKFLW kscfm
05/31/2022 18:05	14.48	1.87	1.72	0.006	3.02	2.78	2.55	2.86	0.0057	478.6	50.09	237.5
05/31/2022 18:06	14.47	1.87	1.72	0.006	3.02	2.78	2.55	2.87	0.0057	478.9	50.04	237.2
05/31/2022 18:07	14.48	1.87	1.72	0.006	3.02	2.76	2.54	2.87	0.0057	478.9	50.18	237.6
05/31/2022 18:08	14.48	1.87	1.72	0.006	3.02	2.75	2.53	2.86	0.0057	478.7	50.07	237.5
05/31/2022 18:09	14.48	1.86	1.71	0.006	3.02	2.75	2.53	2.87	0.0057	478.8	50.08	237.6
05/31/2022 18:10	14.47	1.86	1.71	0.006	3.02	2.75	2.52	2.86	0.0057	478.7	49.98	237.2
05/31/2022 18:11	14.48	1.86	1.71	0.006	3.02	2.77	2.55	2.87	0.0057	479.1	50.07	237.8
05/31/2022 18:12	14.48	1.86	1.71	0.006	3.02	2.79	2.56	2.92	0.0058	480.0	50.05	238.2
05/31/2022 18:13	14.43	1.85	1.69	0.006	3.02	2.77	2.53	2.87	0.0057	479.2	50.06	236.0
05/31/2022 18:14	14.44	1.89	1.73	0.006	3.03	2.73	2.49	2.83	0.0056	480.7	50.16	237.0
05/31/2022 18:15	14.45	1.94	1.77	0.007	3.52	2.68	2.45	2.77	0.0055	479.2	50.06	236.7
05/31/2022 18:16	14.44	1.96	1.79	0.007	3.53	2.65	2.42	2.72	0.0054	479.9	50.06	236.7
05/31/2022 18:17	14.45	1.97	1.80	0.007	3.53	2.63	2.41	2.72	0.0054	479.6	49.98	236.9
05/31/2022 18:18	14.46	1.93	1.77	0.007	3.52	2.67	2.45	2.77	0.0055	479.5	50.04	237.2
05/31/2022 18:19	14.46	1.89	1.73	0.006	3.02	2.72	2.49	2.82	0.0056	479.3	50.00	237.1
05/31/2022 18:20	14.47	1.92	1.76	0.006	3.02	2.73	2.50	2.82	0.0056	478.8	49.97	237.2
05/31/2022 18:21	14.48	1.94	1.78	0.007	3.52	2.72	2.50	2.82	0.0056	478.9	49.94	237.6
05/31/2022 18:22	14.48	1.92	1.76	0.007	3.52	2.75	2.53	2.87	0.0057	479.3	50.12	237.9
05/31/2022 18:23	14.48	1.90	1.75	0.006	3.02	2.76	2.54	2.87	0.0057	479.2	50.02	237.8
05/31/2022 18:24	14.48	1.89	1.74	0.006	3.02	2.77	2.55	2.87	0.0057	479.5	50.16	237.9
05/31/2022 18:25	14.48	1.87	1.72	0.006	3.02	2.80	2.57	2.92	0.0058	479.3	50.04	237.9
05/31/2022 18:26	14.48	1.84	1.69	0.006	3.02	2.84	2.61	2.97	0.0059	479.6	49.98	238.0
05/31/2022 18:27	14.48	1.82	1.67	0.006	3.02	2.87	2.64	2.97	0.0059	479.6	50.04	238.0
05/31/2022 18:28	14.48	1.82	1.67	0.006	3.02	2.89	2.66	3.02	0.0060	479.8	50.02	238.1
05/31/2022 18:29	14.48	1.81	1.66	0.006	3.02	2.90	2.67	3.02	0.0060	479.2	50.12	237.8
05/31/2022 18:30	14.49	1.80	1.66	0.006	3.02	2.91	2.68	3.02	0.0060	479.5	49.99	238.3
05/31/2022 18:31	14.48	1.81	1.66	0.006	3.02	2.91	2.67	3.02	0.0060	480.1	50.03	238.2
05/31/2022 18:32	14.48	1.82	1.67	0.006	3.02	2.89	2.66	3.02	0.0060	479.9	50.07	238.1
05/31/2022 18:33	14.48	1.82	1.67	0.006	3.02	2.89	2.66	3.02	0.0060	480.0	50.05	238.2
05/31/2022 18:34	14.49	1.82	1.68	0.006	3.03	2.89	2.66	3.03	0.0060	480.5	50.10	238.8
05/31/2022 18:35	14.49	1.84	1.69	0.006	3.02	2.87	2.64	2.97	0.0059	479.1	50.03	238.1
05/31/2022 18:36	14.49	1.99	1.83	0.007	3.52	2.69	2.48	2.82	0.0056	479.5	50.04	238.3
05/31/2022 18:37	14.49	2.19	2.02	0.007	3.52	2.51	2.31	2.62	0.0052	479.4	50.08	238.3
05/31/2022 18:38	14.50	2.24	2.07	0.008	4.03	2.42	2.23	2.52	0.0050	479.2	50.04	238.5
05/31/2022 18:39	14.49	2.24	2.06	0.008	4.02	2.41	2.22	2.51	0.0050	478.7	50.00	237.9
05/31/2022 18:40	14.49	2.24	2.06	0.008	4.03	2.40	2.21	2.52	0.0050	479.9	50.00	238.5
05/31/2022 18:41	14.50	2.23	2.06	0.008	4.03	2.40	2.21	2.52	0.0050	479.5	49.88	238.7
05/31/2022 18:42	14.49	2.22	2.04	0.008	4.03	2.40	2.21	2.52	0.0050	479.9	50.03	238.5
05/31/2022 18:43	14.49	2.22	2.04	0.008	4.03	2.41	2.22	2.52	0.0050	480.1	50.11	238.6
05/31/2022 18:44	14.49	2.21	2.03	0.007	3.53	2.44	2.25	2.52	0.0050	480.2	50.00	238.6
05/31/2022 18:45	14.49	2.18	2.01	0.007	3.53	2.47	2.27	2.57	0.0051	480.0	50.16	238.6
05/31/2022 18:46	14.49	2.16	1.99	0.007	3.53	2.50	2.30	2.62	0.0052	479.9	49.96	238.5
05/31/2022 18:47	14.50	2.15	1.98	0.007	3.53	2.50	2.30	2.62	0.0052	479.8	50.17	238.8
05/31/2022 18:48	14.49	2.16	1.99	0.007	3.53	2.49	2.29	2.57	0.0051	480.1	50.04	238.6
05/31/2022 18:49	14.50	2.16	1.99	0.007	3.53	2.47	2.28	2.57	0.0051	479.6	50.31	238.7
05/31/2022 18:50	14.49	2.16	1.99	0.007	3.52	2.45	2.26	2.57	0.0051	479.3	49.99	238.2
05/31/2022 18:51	14.50	2.18	2.01	0.007	3.53	2.45	2.26	2.57	0.0051	479.8	50.12	238.8
05/31/2022 18:52	14.49	2.19	2.02	0.007	3.52	2.45	2.26	2.57	0.0051	479.4	50.08	238.3
05/31/2022 18:53	14.50	2.20	2.03	0.007	3.52	2.44	2.25	2.52	0.0050	479.3	50.06	238.6
05/31/2022 18:54	14.50	2.20	2.03	0.007	3.52	2.45	2.26	2.57	0.0051	479.1	50.07	238.5
05/31/2022 18:55	14.50	2.19	2.02	0.007	3.52	2.45	2.26	2.57	0.0051	479.4	50.11	238.6
05/31/2022 18:56	14.50	2.20	2.03	0.007	3.52	2.45	2.26	2.57	0.0051	479.4	50.14	238.6

Period Start:	Average 4_O2 %	Average 4_NOXPPM ppm	Average 4_NOX_CORR ppm	Average 4_NOX_LBMM #/MBTU	Average 4_NOX_LBHR #/hr	Average 4_COPPM ppm	Average 4_CO_CORR ppm	Average 4_CO_LBHR #/hr	Average 4_CO_LBMM #/MBTU	Average 4_GasFlow kscfh	Average 4_LOAD MW	Average 4_STACKFLW kscfm
05/31/2022 18:57	14.50	2.20	2.03	0.007	3.52	2.45	2.26	2.57	0.0051	479.4	50.34	238.6
05/31/2022 18:58	14.50	2.19	2.02	0.007	3.52	2.45	2.26	2.57	0.0051	479.4	50.12	238.6
05/31/2022 18:59	14.50	2.18	2.01	0.007	3.53	2.45	2.26	2.57	0.0051	479.6	50.09	238.7
05/31/2022 19:00	14.50	2.17	2.00	0.007	3.52	2.44	2.25	2.52	0.0050	479.5	49.98	238.7
05/31/2022 19:01	14.50	2.17	2.00	0.007	3.52	2.43	2.24	2.52	0.0050	479.1	50.14	238.5
05/31/2022 19:02	14.50	2.16	1.99	0.007	3.52	2.43	2.24	2.52	0.0050	479.2	50.08	238.5
05/31/2022 19:03	14.50	2.16	1.99	0.007	3.52	2.45	2.26	2.57	0.0051	479.4	50.18	238.6
05/31/2022 19:04	14.51	2.16	1.99	0.007	3.52	2.46	2.27	2.56	0.0051	478.7	49.88	238.6
05/31/2022 19:05	14.50	2.16	1.99	0.007	3.53	2.47	2.28	2.57	0.0051	479.7	50.17	238.8
05/31/2022 19:06	14.50	2.15	1.98	0.007	3.52	2.47	2.28	2.57	0.0051	479.4	50.17	238.6
05/31/2022 19:07	14.50	2.16	1.99	0.007	3.53	2.47	2.28	2.57	0.0051	479.8	50.15	238.8
05/31/2022 19:08	14.50	2.17	2.00	0.007	3.52	2.45	2.26	2.57	0.0051	479.4	50.12	238.6
05/31/2022 19:09	14.50	2.18	2.01	0.007	3.53	2.44	2.25	2.52	0.0050	479.6	49.99	238.7
05/31/2022 19:10	14.50	2.19	2.02	0.007	3.53	2.43	2.24	2.52	0.0050	479.6	50.22	238.7
Daily Average*	**14.49**	**2.03**	**1.87**	**0.007**	**3.38**	**2.61**	**2.40**	**2.72**	**0.0054**	**479.5**	**50.07**	**238.1**
Maximum*	**14.51**	**2.24**	**2.07**	**0.008**	**4.03**	**2.91**	**2.68**	**3.03**	**0.0060**	**480.7**	**50.34**	**238.8**
	05/31/2022 19:04	05/31/2022 18:40	05/31/2022 18:38	05/31/2022 18:43	05/31/2022 18:43	05/31/2022 18:31	05/31/2022 18:30	05/31/2022 18:34	05/31/2022 18:34	05/31/2022 18:14	05/31/2022 18:57	05/31/2022 19:07
Minimum*	**14.43**	**1.80**	**1.66**	**0.006**	**3.02**	**2.40**	**2.21**	**2.51**	**0.0050**	**478.6**	**49.88**	**236.0**
	05/31/2022 18:13	05/31/2022 18:30	05/31/2022 18:31	05/31/2022 18:35	05/31/2022 18:35	05/31/2022 18:42	05/31/2022 18:42	05/31/2022 18:39	05/31/2022 19:10	05/31/2022 18:05	05/31/2022 19:04	05/31/2022 18:13

* Does not include Invalid Averaging Periods ("N/A")

CEMTEK KVB-Enertec NetDAHS©

Average Values Report
Generated: 5/31/2022 22:06

Company: City Of Anaheim
Plant: 3071 Miraloma Ave.,
City/St: Anaheim, CA, 92806
Source: 4

Period Start: 5/31/2022 19:47
Period End: 5/31/2022 20:52
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 4_O2 %	Average 4_NOXPPM ppm	Average 4_NOX_CORR ppm	Average 4_NOX_LBMM #/MBTU	Average 4_NOX_LBHR #/hr	Average 4_COPPM ppm	Average 4_CO_CORR ppm	Average 4_CO_LBHR #/hr	Average 4_CO_LBMM #/MBTU	Average 4_GasFlow kscfh	Average 4_LOAD MW	Average 4_STACKFLW kscfm
05/31/2022 19:47	14.51	2.39	2.21	0.008	4.03	2.69	2.48	2.82	0.0056	479.2	50.08	238.9
05/31/2022 19:48	14.50	2.29	2.11	0.008	4.03	2.81	2.59	2.92	0.0058	479.5	50.06	238.7
05/31/2022 19:49	14.51	2.27	2.10	0.008	4.02	2.85	2.63	2.97	0.0059	479.0	50.16	238.8
05/31/2022 19:50	14.51	2.27	2.10	0.008	4.03	2.80	2.59	2.92	0.0058	479.4	50.05	239.0
05/31/2022 19:51	14.51	2.28	2.11	0.008	4.03	2.76	2.55	2.87	0.0057	479.3	50.01	239.0
05/31/2022 19:52	14.51	2.28	2.11	0.008	4.03	2.76	2.55	2.87	0.0057	479.6	50.11	239.1
05/31/2022 19:53	14.51	2.27	2.10	0.008	4.03	2.78	2.57	2.92	0.0058	479.7	50.15	239.2
05/31/2022 19:54	14.51	2.27	2.10	0.008	4.03	2.78	2.57	2.92	0.0058	479.3	50.11	239.0
05/31/2022 19:55	14.51	2.27	2.10	0.008	4.03	2.76	2.55	2.87	0.0057	479.5	50.07	239.1
05/31/2022 19:56	14.50	2.27	2.09	0.008	4.03	2.75	2.54	2.87	0.0057	479.4	50.05	238.6
05/31/2022 19:57	14.50	2.27	2.09	0.008	4.03	2.73	2.52	2.82	0.0056	479.4	50.14	238.6
05/31/2022 19:58	14.51	2.27	2.10	0.008	4.03	2.73	2.52	2.87	0.0057	479.3	50.08	239.0
05/31/2022 19:59	14.51	2.27	2.10	0.008	4.03	2.74	2.53	2.87	0.0057	479.4	50.09	239.0
05/31/2022 20:00	14.51	2.27	2.10	0.008	4.03	2.74	2.53	2.87	0.0057	479.5	50.03	239.1
05/31/2022 20:01	14.51	2.28	2.11	0.008	4.03	2.74	2.53	2.87	0.0057	479.4	50.04	239.0
05/31/2022 20:02	14.51	2.28	2.11	0.008	4.03	2.75	2.54	2.87	0.0057	479.2	50.13	238.9
05/31/2022 20:03	14.51	2.27	2.10	0.008	4.02	2.76	2.55	2.87	0.0057	478.8	50.09	238.7
05/31/2022 20:04	14.51	2.26	2.09	0.008	4.02	2.76	2.55	2.87	0.0057	479.0	50.12	238.8
05/31/2022 20:05	14.52	2.26	2.09	0.008	4.02	2.76	2.55	2.87	0.0057	478.8	50.09	239.1
05/31/2022 20:06	14.51	2.27	2.10	0.008	4.02	2.73	2.52	2.86	0.0057	478.5	50.14	238.5
05/31/2022 20:07	14.51	2.27	2.10	0.008	4.03	2.71	2.50	2.82	0.0056	479.7	50.23	239.2
05/31/2022 20:08	14.51	2.26	2.09	0.008	4.02	2.72	2.51	2.82	0.0056	479.1	50.10	238.9
05/31/2022 20:09	14.51	2.27	2.10	0.008	4.03	2.72	2.51	2.82	0.0056	479.6	50.15	239.1
05/31/2022 20:10	14.51	2.29	2.11	0.008	4.03	2.72	2.51	2.82	0.0056	479.4	49.98	239.0
05/31/2022 20:11	14.51	2.30	2.12	0.008	4.03	2.71	2.50	2.82	0.0056	479.4	49.98	239.0
05/31/2022 20:12	14.51	2.29	2.11	0.008	4.03	2.73	2.52	2.87	0.0057	479.3	50.11	239.0
05/31/2022 20:13	14.51	2.28	2.11	0.008	4.03	2.75	2.54	2.87	0.0057	479.4	50.10	239.0
05/31/2022 20:14	14.51	2.27	2.10	0.008	4.03	2.75	2.54	2.87	0.0057	479.2	49.94	238.9
05/31/2022 20:15	14.51	2.26	2.09	0.008	4.03	2.75	2.54	2.87	0.0057	479.2	50.04	238.9
05/31/2022 20:16	14.51	2.25	2.08	0.008	4.03	2.74	2.53	2.87	0.0057	479.5	50.06	239.1
05/31/2022 20:17	14.51	2.26	2.09	0.008	4.03	2.73	2.52	2.87	0.0057	479.3	50.20	239.0
05/31/2022 20:18	14.51	2.26	2.09	0.008	4.03	2.73	2.52	2.87	0.0057	479.3	50.11	239.0
05/31/2022 20:19	14.51	2.27	2.10	0.008	4.03	2.73	2.52	2.87	0.0057	479.3	49.93	239.0
05/31/2022 20:20	14.51	2.28	2.11	0.008	4.03	2.73	2.52	2.87	0.0057	479.7	50.11	239.2
05/31/2022 20:21	14.51	2.28	2.11	0.008	4.03	2.73	2.52	2.87	0.0057	479.4	50.01	239.0
05/31/2022 20:22	14.51	2.29	2.11	0.008	4.02	2.74	2.53	2.87	0.0057	479.0	50.23	238.8
05/31/2022 20:23	14.51	2.28	2.11	0.008	4.03	2.74	2.53	2.87	0.0057	479.4	50.10	239.0
05/31/2022 20:24	14.51	2.28	2.11	0.008	4.02	2.74	2.53	2.87	0.0057	479.0	50.09	238.8
05/31/2022 20:25	14.51	2.28	2.11	0.008	4.02	2.73	2.52	2.87	0.0057	479.1	50.02	238.9
05/31/2022 20:26	14.51	2.28	2.11	0.008	4.03	2.70	2.49	2.82	0.0056	479.3	50.09	239.0
05/31/2022 20:27	14.51	2.27	2.10	0.008	4.03	2.69	2.48	2.82	0.0056	479.4	50.06	239.0
05/31/2022 20:28	14.51	2.28	2.11	0.008	4.03	2.69	2.48	2.82	0.0056	479.2	50.13	238.9
05/31/2022 20:29	14.51	2.27	2.10	0.008	4.03	2.70	2.49	2.82	0.0056	479.6	50.16	239.1
05/31/2022 20:30	14.50	2.28	2.10	0.008	4.03	2.71	2.50	2.82	0.0056	479.2	50.06	238.5
05/31/2022 20:31	14.51	2.28	2.11	0.008	4.03	2.73	2.52	2.87	0.0057	479.5	49.98	239.1
05/31/2022 20:32	14.52	2.29	2.12	0.008	4.03	2.74	2.53	2.87	0.0057	479.4	50.10	239.4
05/31/2022 20:33	14.51	2.29	2.11	0.008	4.02	2.75	2.54	2.87	0.0057	479.1	49.99	238.9
05/31/2022 20:34	14.51	2.28	2.11	0.008	4.02	2.74	2.53	2.86	0.0057	478.7	50.13	238.6
05/31/2022 20:35	14.51	2.27	2.10	0.008	4.03	2.74	2.53	2.87	0.0057	479.2	50.05	238.9
05/31/2022 20:36	14.51	2.27	2.10	0.008	4.02	2.73	2.52	2.87	0.0057	478.9	50.05	238.7
05/31/2022 20:37	14.51	2.26	2.09	0.008	4.02	2.72	2.51	2.82	0.0056	478.9	50.17	238.7
05/31/2022 20:38	14.52	2.27	2.10	0.008	4.03	2.72	2.52	2.82	0.0056	479.1	50.10	239.2

2-NH3

Period Start:	Average 4_O2 %	Average 4_NOXPPM ppm	Average 4_NOX_CORR ppm	Average 4_NOX_LBMM #/MBTU	Average 4_NOX_LBHR #/hr	Average 4_COPPM ppm	Average 4_CO_CORR ppm	Average 4_CO_LBHR #/hr	Average 4_CO_LBMM #/MBTU	Average 4_GasFlow kscfh	Average 4_LOAD MW	Average 4_STACKFLW kscfm
05/31/2022 20:39	14.51	2.28	2.11	0.008	4.02	2.71	2.50	2.82	0.0056	479.0	50.11	238.8
05/31/2022 20:40	14.51	2.29	2.11	0.008	4.02	2.68	2.47	2.81	0.0056	478.3	50.19	238.4
05/31/2022 20:41	14.51	2.37	2.19	0.008	4.02	2.62	2.42	2.71	0.0054	478.5	50.18	238.5
05/31/2022 20:42	14.52	2.41	2.23	0.008	4.02	2.60	2.40	2.72	0.0054	478.9	50.13	239.1
05/31/2022 20:43	14.52	2.35	2.17	0.008	4.02	2.66	2.46	2.76	0.0055	478.5	49.95	238.9
05/31/2022 20:44	14.52	2.28	2.11	0.008	4.02	2.74	2.53	2.87	0.0057	478.8	49.96	239.1
05/31/2022 20:45	14.51	2.26	2.09	0.008	4.02	2.75	2.54	2.86	0.0057	478.1	50.10	238.4
05/31/2022 20:46	14.53	2.28	2.11	0.008	4.02	2.70	2.50	2.82	0.0056	478.8	50.13	239.4
05/31/2022 20:47	14.52	2.31	2.14	0.008	4.02	2.67	2.47	2.76	0.0055	478.4	50.07	238.9
05/31/2022 20:48	14.51	2.30	2.12	0.008	4.02	2.68	2.47	2.81	0.0056	478.7	50.15	238.6
05/31/2022 20:49	14.52	2.27	2.10	0.008	4.02	2.71	2.51	2.81	0.0056	478.7	50.10	239.0
05/31/2022 20:50	14.52	2.28	2.11	0.008	4.02	2.70	2.50	2.82	0.0056	478.8	50.17	239.1
05/31/2022 20:51	14.52	2.30	2.13	0.008	4.02	2.72	2.52	2.82	0.0056	478.8	50.15	239.1
05/31/2022 20:52	14.53	2.29	2.12	0.008	4.02	2.73	2.53	2.86	0.0057	478.5	50.14	239.3
Daily Average*	**14.51**	**2.28**	**2.11**	**0.008**	**4.03**	**2.73**	**2.52**	**2.85**	**0.0057**	**479.1**	**50.09**	**238.9**
Maximum*	**14.53**	**2.41**	**2.23**	**0.008**	**4.03**	**2.85**	**2.63**	**2.97**	**0.0059**	**479.7**	**50.23**	**239.4**
	05/31/2022 20:52	05/31/2022 20:42	05/31/2022 20:42	05/31/2022 20:52	05/31/2022 20:35	05/31/2022 19:49	05/31/2022 19:49	05/31/2022 19:49	05/31/2022 19:49	05/31/2022 20:20	05/31/2022 20:22	05/31/2022 20:46
Minimum*	**14.50**	**2.25**	**2.08**	**0.008**	**4.02**	**2.60**	**2.40**	**2.71**	**0.0054**	**478.1**	**49.93**	**238.4**
	05/31/2022 20:30	05/31/2022 20:16	05/31/2022 20:16	05/31/2022 20:52	05/31/2022 20:52	05/31/2022 20:42	05/31/2022 20:42	05/31/2022 20:41	05/31/2022 20:42	05/31/2022 20:45	05/31/2022 20:19	05/31/2022 20:45

* Does not include Invalid Averaging Periods ('N/A')

APPENDIX C
CALCULATIONS

Appendix C.1
General Emissions Calculations

GENERAL EMISSIONS 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

$$P_s = P_{bar} + \frac{P_{sg}}{13.6}$$

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

$$V_{mstd} = 0.03342 * V_m * \left(P_{bar} + \frac{\Delta H}{13.6}\right) * \frac{T_{ref}}{T_m} * Y_d$$

B. Water vapor volume, scf

$$V_{wstd} = 0.0472 * V_{ic} * \frac{T_{ref}}{528°R}$$

C. Moisture content, dimensionless

$$B_{wo} = \frac{V_{wstd}}{(V_{mstd} + V_{wstd})}$$

III. Stack Gas Volumetric 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

$$\frac{lb}{MMBtu} = \frac{ppm * MW_i * F}{SV * 10^6} * \frac{20.9}{20.9 - \%\ O_2}$$

VI. Percent Isokinetic

$$I = \frac{17.32 * T_s\ (V_{mstd})}{(1 - B_{wo})\ 0 * V_s * P_s * Dn^2} * \frac{520°R}{T_{ref}}$$

VII. Particulate Emissions

(a) Grain loading, gr/dscf
$C = 0.01543\ (M_n/V_{m\ std})$

(b) Grain loading at 12% CO_2, gr/dscf
$C_{12\%}\ CO_2 = C\ (12/\%\ CO_2)$

(c) Mass emissions, lb/hr
$M = C * Q_{sd} * (60\ min/hr) / (7000\ gr/lb)$

(d) Particulate emission factor

$$lb/10^6\ Btu = Cx\ \frac{1\ lb}{7000\ gr} * F * \frac{20.9}{20.9 - \%\ O_2}$$

Nomenclature:

A_s	=	stack area, ft^2
B_{wo}	=	flue gas moisture content, dimensionless
$C_{12\%CO2}$	=	particulate grain loading, gr/dscf corrected to 12% CO_2
C	=	particulate grain loading, gr/dscf
C_p	=	pitot calibration factor, dimensionless
Dn	=	nozzle diameter, inches
F	=	fuel F-Factor, dscf/MMBtu @ 0% O_2
H	=	orifice differential pressure, iwg
I	=	% isokinetics
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_{wi}	=	molecular weight of specie i:
	SO_2:	64
	NO_x:	46
	CO:	28
	HC:	16
0	=	sample time, minutes
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

Appendix C.2
Spreadsheet Summaries

SCAQMD 207.1 EXAMPLE CALCULATION
TEST NUMBER: 1-NH3-U4

Identifier	Description	Units	Equation	Value
A	Reference Temperature	F	--	60
B	Reference Temperature	R	A + 460	520
C	Meter Calibration Factor (Yd)	--	--	0.991
D	Barometric Pressure	" Hg	--	29.58
E	Meter Volume	acf	--	42.784
F	Meter Temperature	F	--	71.7
G	Meter Temperature	R	F + 460	531.7
H	Delta H	" H_2O	--	1.5
I	Meter Volume (standard)	dscf	0.03342 * E * (D + H/13.6) * B/G * C	41.145
J	Liquid Collected	grams	--	116.9
K	Water vapor volume	scf	0.0472 * J * B/528	5.434
L	Moisture Content	--	K/(K + I)	0.117
M	Gas Constant	ft-lbf/lb-mole-R	--	1545.33
N	Specific Molar Volume	SCF/lb-mole	385.3 * B / 528	379.5
O	F-Factor	dscf/MMBtu	--	8,710
P	HHV	Btu/SCF	--	1,050
Q	Mass Conversion Factor	lb/ug	--	2.2046E-09
R	O_2 Correction Factor	--	--	15
S	Stack Flow Rate @ 68 F	dscfm	--	238,100
T	Stack Flow Rate @ Tref	dscfm	S * B/528	234,492
U	Mass NH_3	ug	--	1,368
V	Mass NH_3	lb	U * Q	3.01E-06
W	MW of NH_3	lb/lb-mole	--	17.03
X	NH_3	ppm	$(V * N * 10^6)/(I * W)$	1.6
Y	Flue Gas O_2	%	--	14.49
Z	NH_3	ppmc	X * (20.9 - R)/(20.9 - Y)	1.5
AA	NH_3	lb/hr	$X * T * W * 60/(N * 10^6)$	1.0
AB	NH_3	lb/MMBtu	$(X * W * O)/(385.3 * 10^6) * 20.9/(20.9 - Y)$	0.002
AC	NH_3	lb/MMSCF	AB * P	2.2

Note:

(1) Some values may be slightly different from those shown on the run sheets due to round off errors. This page is intended to show the calculation methodology only.

SCAQMD METHOD 207.1
DATA WORKSHEET AND SUMMARY

Facility	**Canyon**		Parameter		**NH_3**
Unit	**U4**		Fuel		**Natural gas**
Sample Location	**Stack**		Data By		**JG**
Test Number	1-NH3-U4	2-NH3-U4	Average	Maximum	Limit
Reference Temperature (°F)	60	60			
Test Date	5/31/2022	5/31/2022			
Test Method	SCAQMD 207.1	SCAQMD 207.1			
Sample Train	10 P&M	10 P&M			
Meter Calibration Factor	0.991	0.991			
Stack Area (ft^2)	106.90	106.90			
Sample Time (Minutes)	60	60			
Barometric Pressure ("Hg)	29.58	29.58			
Start/Stop Time	1805/1911	1947/2053			
Meter Volume (acf)	42.784	42.540			
Meter Temperature (°F)	71.7	65.8			
Meter Pressure (iwg)	1.5	1.5			
Liquid Volume (ml)	116.9	120.1			
Stack O_2 (%)	14.49	14.51	14.50	(from facility CEMS)	
Unit Load (MW)	50.1	50.1	50.1		
Standard Sample Volume (SCF)	41.145	41.369			
Moisture Fraction	0.117	0.119			
Stack Flow Rate (dscfm, 68 °F)	238,100	238,900	238,500	(from facility CEMS)	
Stack Flow Rate (@ Tref)	234,492	235,280	234,886		
Gas Constant (ft-lbf/lb-mole-R)	1545.33	1545.33			
Molecular Weight NH_3 (lb/lb-mole)	17.03	17.03			
Specific Molar Volume (ft^3/lb-mole)	379.5	379.5			
F-Factor (dscf/MMBtu)	8,710	8,710			
HHV(Btu/SCF)	1,050	1,050			
Mass Conversion (lb/ug)	2.2046E-09	2.2046E-09			
O_2 Correction Factor (%)	15	15			
Mass NH_3 (ug)	1,368	973			
Mass NH_3 (lb)	3.01E-06	2.14E-06			
NH_3 (ppmv, flue gas)	1.6	1.2	1.4	1.6	
NH_3 (ppmv @ O_2 Correction Factor)	1.5	1.1	1.3	1.5	5
NH_3 (lb/hr)	1.0	0.7	0.9	1.0	
NH_3 (lb/MMBtu)	0.002	0.001	0.002	0.002	
NH_3 (lb/MMSCF)	2.1	1.5	1.8	2.1	

Note: SCAQMD Method 207.1 requires the higher of the duplicate runs be reported as the test result.

1-NH3-U4

Point	Meter Volume	Delta H	Tm In	Tm Out
6	896.000	1.5	72	67
5			73	68
4			74	69
3			73	67
2			74	68
1			75	69
Stop				
6			74	68
5			75	69
4			76	70
3			75	69
2			76	71
1			77	71
Stop	938.784			
Result	**42.784**	**1.5**		**71.7**

Impinger Weights

#	Post-Test	Pre-Test	Difference
1	893.3	694.4	198.9
2	670.8	666.7	4.1
3	631.6	629.4	2.2
4	944.8	933.1	11.7
Line Rinse	0.0	100.0	-100.0
			116.9

2-NH3-U4

Point	Meter Volume	Delta H	Tm In	Tm Out
6	940.700	1.5	66	64
5			66	65
4			67	65
3			65	64
2			67	65
1			68	66
Stop				
6			66	64
5			67	65
4			67	66
3			65	65
2			67	66
1			68	66
Stop	983.240			
Result	**42.540**	**1.5**		**65.8**

Impinger Weights

#	Post-Test	Pre-Test	Difference
1	807.7	603.4	204.3
2	749.6	747.2	2.4
3	637.0	635.3	1.7
4	964.5	952.8	11.7
Line Rinse	0.0	100.0	-100.0
			120.1

APPENDIX D
QUALITY ASSURANCE

Appendix D.1
Quality Assurance Program Summary

QUALITY ASSURANCE PROGRAM SUMMARY

As part of Montrose Air Quality Services, LLC (MAQS) ASTM D7036-04 certification, MAQS is committed to providing emission related data which is complete, precise, accurate, representative, and comparable. MAQS quality assurance program and procedures are designed to ensure that the data meet or exceed the requirements 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

Assignment of an Internal QA Officer: MAQS has assigned an internal QA Officer who is responsible for administering all aspects of the QA program.

Internal Quality Assurance Manual: MAQS has prepared a QA Manual according to the requirements of ASTM D7036-04 and guidelines issued by EPA. The manual documents and formalizes all of MAQS QA efforts. The manual is revised upon periodic review and as MAQS adds capabilities. The QA manual provides details on the items provided in this summary.

Personnel Testing and Training: Personnel testing and training is essential to the production of high quality test results. MAQS training programs include:

- A requirement for all technical personnel to read and understand the test methods performed
- A requirement for all technical personnel to read and understand the MAQS QA manual
- In-house testing and training
- Quality Assurance meetings
- Third party testing where available
- Maintenance of training records.

Equipment Maintenance and Calibration: All laboratory and field equipment used as a part of MAQS emission measurement programs is maintained according to manufacturer's recommendations. A summary of the major equipment maintenance schedules is summarized in Table 1. 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 is summarized in Table 2. The calibration technique may vary to meet regulatory agency requirements.

Knowledge of Current Test Methods: MAQS maintains current copies of EPA, ARB, and SCAQMD Source Test Manuals and Rules and Regulations.

Chain-of-Custody: MAQS maintains chain-of-custody documentation on all data sheets and samples. Samples are stored in a locked area accessible only to MAQS source test personnel. Data sheets are kept in the custody of the originator, program manager, or in locked storage until return to MAQS office. Electronic field data is duplicated for backup on secure storage media. The original data sheets are used for report preparation and any additions are initialed and dated.

QA Reviews: Periodic field, laboratory, and report reviews are performed by the in-house QA coordinator. Periodically, test plans are reviewed to ensure proper test methods are selected and reports are reviewed to ensure that the methods were followed and any deviations from the methods are justified and documented.

ASTM D7036-04 Required Information

Uncertainty Statement

Montrose is qualified to conduct this test program and has established a quality management system that led to accreditation with ASTM Standard D7036-04 (Standard Practice for Competence of Air Emission Testing Bodies). Montrose participates in annual functional assessments for conformance with D7036-04 which are conducted by the American Association for Laboratory Accreditation (A2LA). All testing performed by Montrose is supervised on site by at least one Qualified Individual (QI) as defined in D7036-04 Section 8.3.2. Data quality objectives for estimating measurement uncertainty within the documented limits in the test methods are met by using approved test protocols for each project as defined in D7036-04 Sections 7.2.1 and 12.10. Additional quality assurance information is presented in the report appendices.

Performance Data

Performance data are available for review.

Qualified Personnel

A qualified individual (QI), defined by performance on a third party or internal test on the test methods, is present on each test event.

Plant Entry and Safety Requirements

Plant Entry

All test personnel are required to check in with the guard at the entrance gate or other designated area. Specific details are provided by the facility and project manager.

Safety Requirements

All personnel shall have the following personal protective equipment (PPE) and wear them where designated:

- Hard Hat
- Safety Glasses
- Steel Toe Boots
- Hearing Protection
- Gloves
- High Temperature Gloves (if required)

The following safety measures are followed:

- Good housekeeping
- SDS for all on-site hazardous materials
- Confine selves to necessary areas (stack platform, mobile laboratory, CEMS data acquisition system, control room, administrative areas)
- Knowledge of evacuation procedures

Each facility will provide plant specific safety training.

TABLE 1
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	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Replace parts 4. Leak check
Flow Meters	1. Free mechanical movement	As recommended by manufacturer	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 Van 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 2
MAJOR 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	Semi-Annually	3-point linearity	< 1% of analyzer range
NO_x Analyzer	Daily	NO_2 -> NO converter efficiency	> 90%
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%
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%

Note: Calibration requirements will be used that meet applicable regulatory agency requirements.

Appendix D.2
SCAQMD and STAC Certifications

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

September 1, 2021

Mr. John Peterson
Montrose Air Quality Services, LLC
1631 E. Saint Andrew Place
Santa Ana, CA 92705

Subject: LAP Approval Notice
Reference # 96LA1220

Dear Mr. Peterson:

We have reviewed your renewal letter under the South Coast Air Quality Management District's Laboratory Approval Program (LAP). We are pleased to inform you that your firm is approved for the period beginning September 30, 2021, and ending September 30, 2022 for the following methods, subject to the requirements in the LAP Conditions For Approval Agreement and conditions listed in the attachment to this letter:

South Coast AQMD Methods 1-4	South Coast AQMD Methods 5.1, 5.2, 5.3, 6.1
South Coast AQMD Methods 10.1 and 100.1	South Coast AQMD Methods 25.1 and 25.3 (Sampling)
USEPA CTM-030 and ASTM D6522-00	Rule 1121/ 1146.2 Protocol
Rule 1420/1420.1/1420.2 – (Lead) Source and Ambient Sampling	

Your LAP approval to perform nitrogen oxide emissions compliance testing for Rule 1121/ 1146.2 Protocols includes satellite facilities located at:

McKenna Boiler 1510 North Spring Street Los Angeles, CA 90012	Noritz America Corp. 11160 Grace Avenue Fountain Valley, CA 92708	Ajax Boiler, Inc. 2701 S. Harbor Blvd. Santa Ana, CA 92704

VA Laundry Bldg., Greater LA Healthcare Sys. 508 Constitution Avenue Los Angeles, CA 90049	So Cal Gas – Engr Analysis Ctr, Bldg H 8101 Rosemead Blvd Pico Rivera, CA 90660

Thank you for participating in the 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, Colin Eckerle. He may be reached by telephone at (909) 396-2476, or via e-mail at ceckerle@aqmd.gov.

Sincerely,

D. Sarkar

Dipankar Sarkar
Program Supervisor
Source Test Engineering

DS:CE
Attachment

210901 LapRenewal.doc

STAC STACK TESTING ACCREDITATION COUNCIL

A2LA American Association for Laboratory Accreditation

Accredited Air Emission Testing Body

A2LA has accredited

MONTROSE AIR QUALITY SERVICES

In recognition of the successful completion of the joint A2LA and Stack Testing Accreditation Council (STAC) evaluation process, this laboratory is accredited to perform testing activities in compliance with ASTM D7036:2004 - Standard Practice for Competence of Air Emission Testing Bodies.

Presented this 4th day of February 2022.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3925.01
Valid to February 29, 2024

This accreditation program is not included under the A2LA ILAC Mutual Recognition Arrangement.

Appendix D.3
Individual QI Certificate

Certificate of Completion

John Groenenboom

This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):

SCAQMD Methods 1.1, 1.2, 2.1, 2.2, 2.3, 3.1 & 4.1

Certificate Number: 002-2022-17

Tate Strickler, VP – Quality Systems

DATE OF ISSUE: 01/20/2022

DATE OF EXPIRATION: 01/19/2027

MONTROSE ENVIRONMENTAL

CERTIFICATE OF COMPLETION

John Groenenboom

This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):

SCAQMD Method 207.1

Certificate Number: 002-2022-24

DATE OF ISSUE: 01/20/2022

Tate Strickler, VP – Quality Systems

DATE OF EXPIRATION: 01/19/2027

MONTROSE ENVIRONMENTAL

Appendix D.4
Statement of No Conflict of Interest

STATEMENT OF NO CONFLICT OF INTEREST AS AN INDEPENDENT TESTING LABORATORY

(To be completed by authorized source testing firm representative and included in source test report)

The following facility and equipment were tested by my source testing firm and are the subjects of this statement:

Facility ID:	**153992**
Date(s) Tested:	**May 31, 2022**
Facility Name:	**Canyon Power**
Equipment Address:	**3071 E. Mira Loma**
	Anaheim, California 92806
Equipment Tested:	**Unit 4**
Device ID, A/N, P/N:	**D19**

I state, as its legally authorized representative, that the source testing firm of:

Source Test Firm: Montrose Air Quality Services, LLC

Business Address: 1631 E. St. Andrew Pl.

Santa Ana, California 92705

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: _____ **Date:** **7/7/2022**

John Groenenboom	**Client Project Manager**	**(714) 279-6777**	**7/7/2022**
(Name)	(Title)	(Phone)	(Date)

FORM ST-110 :stevforl.doc (Revised 11/18/98

APPENDIX E
APPLICABLE PERMIT SECTIONS

FACILITY PERMIT TO OPERATE
CANYON POWER PLANT

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: POWER GENERATION					
GAS TURBINE, NO. 4, NATURAL GAS, GENERAL ELECTRIC, MODEL LM6000PC SPRINT, SIMPLE CYCLE, 479 MMBTU/HR AT 46 DEG F, WITH INLET CHILLING, WITH WATER INJECTION WITH A/N: 555831 GENERATOR, 50.95 MW	D19	C21	NOX: MAJOR SOURCE**	**CO**: 4 PPMV NATURAL GAS (4) **[RULE 1303(a)(1)-BACT, 5-10-1996;** *RULE 1303(a)(1) -BACT, 12-6-2002*]; **CO**: 2000 PPMV NATURAL GAS (5) **[RULE 407, 4-2-1982]**; **NOX**: 2.5 PPMV NATURAL GAS (4) **[RULE 2005, 6-3-2011]**; **NOX**: 25 PPMV NATURAL GAS (8) **[40CFR 60 Subpart KKKK, 7-6-2006]**; **PM10**: 0.01 GRAINS/SCF NATURAL GAS (5A) **[RULE 475, 10-8-1976;** *RULE 475, 8-7-1978*]; **PM10**: 0.1 GRAINS/SCF NATURAL GAS (5) **[RULE 409, 8-7-1981]**; **PM10**: 1.67 LBS/HR NATURAL GAS (5C) **[RULE 1303(b)(2)-Offset, 5-10-1996;** *RULE 1303(b)(2) -Offset, 12-6-2002*]; **PM10**: 11 LBS/HR NATURAL GAS (5B) **[RULE 475, 10-8-1976;** *RULE 475, 8-7-1978*]; **SO2**: (9) **[40CFR 72 - Acid Rain Provisions, 11-24-1997]**; **SOX**: 0.06 LBS/MMBTU NATURAL GAS (8) **[40CFR 60 Subpart KKKK, 7-6-2006]**; **VOC**: 2 PPMV NATURAL GAS (4) **[RULE 1303(a)(1)-BACT, 5-10-1996;** *RULE 1303(a)(1)-BACT, 12-6-2002*]	A63.1, A99.1, A99.2, A99.3, A195.1, A195.2, A195.3, A327.1, B61.1, D12.1, D29.2, D29.3, D82.1, D82.2, E193.1, H23.1, I298.4, K40.1

* (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
CANYON POWER PLANT

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: POWER GENERATION					
CO OXIDATION CATALYST, NO. 4, BASF, 110 CUBIC FEET OF TOTAL CATALYST VOLUME A/N: 476663	C21	D19 C22			
SELECTIVE CATALYTIC REDUCTION, NO. 4, CORMETECH CMHT-21, 1012 CU.FT.; WIDTH: 2 FT 6 IN; HEIGHT: 25 FT 9 IN; LENGTH: 18 FT WITH A/N: 476663 AMMONIA INJECTION	C22	C21 S24		**NH3**: 5 PPMV NATURAL GAS (4) **[RULE 1303(a)(1)-BACT, 5-10-1996;** *RULE 1303(a)(1) -BACT, 12-6-2002*]	A195.7, D12.2, D12.3, D12.4, E179.1, E179.2, E193.1
STACK, TURBINE NO. 4, HEIGHT: 86 FT ; DIAMETER: 11 FT 8 IN A/N: 555831	S24	C22			
System 2: INTERNAL COMBUSTION ENGINE					

* (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.

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 : C4, C10, C16, C22]

D12.5 The operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.

[**RULE 1110.2, 2-1-2008;** RULE 1110.2, 9-7-2012; **RULE 1303(b)(2)-Offset, 5-10-1996;** RULE 1303(b)(2)-Offset, 12-6-2002; RULE 1401, 9-10-2010; RULE 1470, 5-4-2012; **RULE 2012, 5-6-2005; 40CFR 60 Subpart IIII, 1-30-2013**]

[Devices subject to this condition : D25]

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
NH3 emissions	District method 207.1 and 5.3 or EPA method 17	1 hour	Outlet of the SCR serving this equipment

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

The test(s) shall be conducted at least quarterly during the first twelve months of operation and at least annually thereafter. The AQMD shall be notified of the date and time of the test at least 10 days prior to the test.

If the turbine is not in operation during one calendar year, then no testing is required during that calendar year.

The NOx concentration, as determined by the CEMS, shall be simultaneously recorded during the ammonia slip test. If the CEMS is inoperable, a test shall be conducted to determine the NOx emissions using District Method 100.1 measured over a 60 minute averaging time period.

The test shall be conducted and the results submitted to the District within 60 days after the test date.

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration limit.

[**RULE 1303(a)(1)-BACT, 5-10-1996;** RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition : D1, D7, D13, D19]

D29.3 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Sampling Time	Test Location
SOX emissions	AQMD Laboratory Method 307-91	Not Applicable	Fuel sample
VOC emissions	District Method 25.3	1 hour	Outlet of the SCR serving this equipment
PM emissions	District method 5.1	4 hours	Outlet of the SCR serving this equipment

THIS IS THE LAST PAGE OF THIS DOCUMENT

If you have any questions, please contact one of the following individuals by email or phone.

Name: Mr. John Groenenboom
Title: Client Project Manager
Region: West
Email: JGroenenboom@montrose-env.com
Phone: (714) 279-6777

Name: Mr. Matt McCune
Title: Regional Vice President
Region: West
Email: MMccune@montrose-env.com
Phone: (714) 279-6777

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 17

AQ-14 & AQ-24
RTC INVENTORY

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

December 29, 2021

Bertha A. Hernandez
Environmental Services Specialist
Canyon Power Plant (ID: 153992)
3071 E. Miraloma Ave.
Anaheim, CA 92806

Dear Ms. Hernandez:

Enclosed is your re-issued Facility Permit for Compliance Year 2022 (January 1, 2022 – December 31, 2022). This reissuance is an Administrative Permit Revision to your RECLAIM/Title V Facility Permit and includes the Title Page, Table of Contents, and Section B (RECLAIM Annual Emission Allocations) in accordance with Rule 2002(b)(4).

Please review the enclosed Section B carefully, as it will be part of your official Facility Permit. The changes are stated below. Please note that the South Coast Air Quality Management District (South Coast AQMD) rules allow you to appeal the terms and conditions of any section(s) of the enclosed Facility Permit by petitioning the Hearing Board within thirty days of receipt of the permit.

We recently sent you an invoice for the annual operating renewal fee for your facility permit. This must be paid on or before the due date indicated on the invoice or your facility permit will expire due to non-payment of fees.

A. Facility Permit

The enclosed Facility Permit contains changes described as follows:

1. The revision numbers and dates of the Title Page and the Table of Contents have been updated to reflect the reissuance of the relevant permit sections.

2. Section B – RECLAIM Annual Emission Allocation

   Section B has been updated to reflect all approved RECLAIM Trading Credit (RTC) transactions approved as of December 17, 2021. Therefore, if you have submitted any RTC transactions in December, please review your records carefully to ensure that you take into account any RTC transactions that have not been approved as of that date and make necessary changes to your facility's RTC balances when reconciling your facility's emissions.

   In addition, the South Coast AQMD has updated Section B of the Facility Permit to list your facility's allocation balances for the next fifteen years pursuant to Rule

2002(b)(4). Also, your facility's Starting Allocation and Non-Tradable RTCs in Compliance Year 1994 are listed within this section. This establishes the level used to determine compliance with Rule 2005(c)(4) and applicability of Rule 2005(e) – Trading Zone Restrictions.

B. Appeals

As previously mentioned, if you determine that certain changes or clarifications need to be made to the enclosed permit, you may appeal the terms and conditions by petitioning the Hearing Board within thirty days of receipt. If you determine there are administrative errors in these permit sections, please notify South Coast AQMD staff within thirty days of receipt of your permit sections. Your facility is still bound by the requirements of your entire Facility Permit while your appeal is under consideration by South Coast AQMD staff and/or Hearing Board.

Any comments or questions regarding your RECLAIM/Title V Facility Permit may be directed to Mr. Li Chen, Senior Air Quality Engineer at (909) 396-2426 or lchen@aqmd.gov.

Sincerely,

Thomas G. Liebel
Senior Engineering Manager
Energy/Public Services/Waste Management/Terminals

Enclosure

cc: Laura Yannayon, U.S. EPA (via cdx.epa.gov)
Rafael Reynosa, Sr. Enforcement Manager – Compliance

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

Title Page
Facility ID: 153992
Revision #: 18
Date: January 01, 2022

FACILITY PERMIT TO OPERATE

CANYON POWER PLANT
3071 E MIRALOMA AVE
ANAHEIM, CA 92806

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.

Wayne Nastri
Executive Officer

By Thomas G. Liebel for
Jason Aspell
Deputy Executive Officer
Engineering and Permitting

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

Table of Content
Facility ID: 153992
Revision #: 18
Date: January 01, 2022

FACILITY PERMIT TO OPERATE CANYON POWER PLANT

TABLE OF CONTENTS

FACILITY PERMIT TO OPERATE
CANYON POWER PLANT

SECTION B: RECLAIM ANNUAL EMISSION ALLOCATION

The annual allocation of NOx RECLAIM Trading Credits (RTCs) for this facility is calculated pursuant to Rule 2002. Total NOx emission shall not exceed such annual allocations unless the operator obtains RTCs corresponding to the facility's increased emissions in compliance with Rules 2005 and 2007.

The level of Starting Allocation plus Non-Tradable Credits used to determine compliance with Rule 2005(c)(4) and applicability of Rule 2005(e) - Trading Zone Restrictions is listed on the last page of this Section.

The following table lists the annual allocations that were issued to this facility and the amounts of RTCs held by this facility on the day of printing this Section.

RECLAIM POLLUTANT ANNUAL ALLOCATION (POUNDS)

Year Begin (month/year)	Year End	Zone	NOx RTC Initially Allocated	NOx RTC[1] Holding as of 01/01/2022 (pounds)	Non-Tradable[2] Non-Usable RTCs (pounds)
7/2019	6/2020	Coastal	0	7761	1292
1/2020	12/2020	Coastal	0	5389	3248
7/2020	6/2021	Coastal	0	9245	2548
1/2021	12/2021	Coastal	0	33988	3295
7/2021	6/2022	Coastal	0	26660	2585
1/2022	12/2022	Coastal	0	27445	6543
7/2022	6/2023	Coastal	0	21527	5133
1/2023	12/2023	Coastal	0	27445	0
7/2023	6/2024	Coastal	0	21527	0
1/2024	12/2024	Coastal	0	27445	0
7/2024	6/2025	Coastal	0	21527	0
1/2025	12/2025	Coastal	0	27445	0
7/2025	6/2026	Coastal	0	21527	0
1/2026	12/2026	Coastal	0	27445	0
7/2026	6/2027	Coastal	0	21527	0
1/2027	12/2027	Coastal	0	27445	0
7/2027	6/2028	Coastal	0	21527	0

Footnotes:

1. This number may change due to pending trades, emissions reported under Quarterly Certification of Emissions Report (QCER) and Annual Permit Emission Program (APEP) Report required pursuant to Rule 2004, or deductions made pursuant to Rule 2010(b). The most recent total RTC information can be obtained from the District's RTC Listing.

2. The use of such credits is subject to restrictions set forth in paragraph (f)(1) of Rule 2002.

FACILITY PERMIT TO OPERATE
CANYON POWER PLANT

SECTION B: RECLAIM ANNUAL EMISSION ALLOCATION

The annual allocation of NOx RECLAIM Trading Credits (RTCs) for this facility is calculated pursuant to Rule 2002. Total NOx emission shall not exceed such annual allocations unless the operator obtains RTCs corresponding to the facility's increased emissions in compliance with Rules 2005 and 2007.

The level of Starting Allocation plus Non-Tradable Credits used to determine compliance with Rule 2005(c)(4) and applicability of Rule 2005(e) - Trading Zone Restrictions is listed on the last page of this Section.

The following table lists the annual allocations that were issued to this facility and the amounts of RTCs held by this facility on the day of printing this Section.

RECLAIM POLLUTANT ANNUAL ALLOCATION (POUNDS)

Year Begin (month/year)	Year End	Zone	NOx RTC Initially Allocated	NOx RTC[1] Holding as of 01/01/2022 (pounds)	Non-Tradable[2] Non-Usable RTCs (pounds)
1/2028	12/2028	Coastal	0	27445	0
7/2028	6/2029	Coastal	0	21527	0
1/2029	12/2029	Coastal	0	27445	0
7/2029	6/2030	Coastal	0	21527	0
1/2030	12/2030	Coastal	0	27445	0
7/2030	6/2031	Coastal	0	21527	0
1/2031	12/2031	Coastal	0	27445	0
7/2031	6/2032	Coastal	0	21527	0
1/2032	12/2032	Coastal	0	27445	0
7/2032	6/2033	Coastal	0	21527	0
1/2033	12/2033	Coastal	0	27445	0
7/2033	6/2034	Coastal	0	21527	0
1/2034	12/2034	Coastal	0	27445	0
7/2034	6/2035	Coastal	0	21527	0
1/2035	12/2035	Coastal	0	27445	0
7/2035	6/2036	Coastal	0	21527	0
1/2036	12/2036	Coastal	0	27445	0

Footnotes:

1. This number may change due to pending trades, emissions reported under Quarterly Certification of Emissions Report (QCER) and Annual Permit Emission Program (APEP) Report required pursuant to Rule 2004, or deductions made pursuant to Rule 2010(b). The most recent total RTC information can be obtained from the District's RTC Listing.

2. The use of such credits is subject to restrictions set forth in paragraph (f)(1) of Rule 2002.

FACILITY PERMIT TO OPERATE
CANYON POWER PLANT

SECTION B: RECLAIM ANNUAL EMISSION ALLOCATION

The annual allocation of NOx RECLAIM Trading Credits (RTCs) for this facility is calculated pursuant to Rule 2002. Total NOx emission shall not exceed such annual allocations unless the operator obtains RTCs corresponding to the facility's increased emissions in compliance with Rules 2005 and 2007.

The level of Starting Allocation plus Non-Tradable Credits used to determine compliance with Rule 2005(c)(4) and applicability of Rule 2005(e) - Trading Zone Restrictions is listed on the last page of this Section.

The following table lists the annual allocations that were issued to this facility and the amounts of RTCs held by this facility on the day of printing this Section.

RECLAIM POLLUTANT ANNUAL ALLOCATION (POUNDS)

Year Begin (month/year)	Year End	Zone	NOx RTC Initially Allocated	NOx RTC[1] Holding as of 01/01/2022 (pounds)	Non-Tradable[2] Non-Usable RTCs (pounds)
7/2036	6/2037	Coastal	0	21527	0
1/2037	12/2037	Coastal	0	27445	0

Footnotes:

1. This number may change due to pending trades, emissions reported under Quarterly Certification of Emissions Report (QCER) and Annual Permit Emission Program (APEP) Report required pursuant to Rule 2004, or deductions made pursuant to Rule 2010(b). The most recent total RTC information can be obtained from the District's RTC Listing.

2. The use of such credits is subject to restrictions set forth in paragraph (f)(1) of Rule 2002.

FACILITY PERMIT TO OPERATE
CANYON POWER PLANT

SECTION B: RECLAIM ANNUAL EMISSION ALLOCATION

The annual allocation of RECLAIM Trading Credits (RTCs) for this facility is calculated pursuant to Rule 2002. If the facility submits a permit application to increase in an annual allocation to a level greater than the facility's starting Allocation plus Non-Tradable credits as listed below, the application will be evaluated for compliance with Rule 2005 (c)(4). Rule 2005 (e) - Trading Zone Restrictions applies if an annual allocation is increased to a level greater than the facility's Starting Allocation plus Non-Tradable Credits:

Year		Zone	RTC Starting Allocation (pounds)	Non-Tradable Credits(NTC) (pounds)
Begin (month/year)	End			

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 18

AQ-17
NH3 FLOW METER ACCURACY REPORTS

HRD 6

HOMER R. DULIN CO.

729 EAST WILLOW STREET
SIGNAL HILL, CALIFORNIA 90755
(562) 424-8533 FAX (562) 426-7707

CERT. NO. 3-112-22

CALIBRATION CERTIFICATION

SUBMITTED BY: SCPPA - CANYON POWER PLANT

FLOWMETER SERIAL NO: . MFG. SERIAL NO: 14134531

MANUFACTURER: MICRO MOTION MODEL: CMF025M313NQBUEZZZ

TUBE NO: N/A FLOAT NO: N/A

DATA IS: As Found/As Left ; In Tolerance

See Remarks ☑

Calibrated @ customer's facility ☐

REMARKS: DIRECT READING ELECTRONIC INDICATOR TRANSMITTER S/N: 14134531, CALIBRATED IN LBS/HR H2O @ 75°F. SP.GR. 1.0 METER UNSTABLE BELOW 20.09 LB/HR INDICATED.

ACCURACY ± 1% RATE

INDICATED		ACTUAL	
LB/H		LBS/HR	
150.61		150.80	
130.53		130.76	
122.76		123.03	
114.59		114.88	
94.56		94.75	
75.57		75.93	
56.93		57.14	
47.28		47.49	
37.60		37.75	
20.09		20.13	
0.00		0.00	

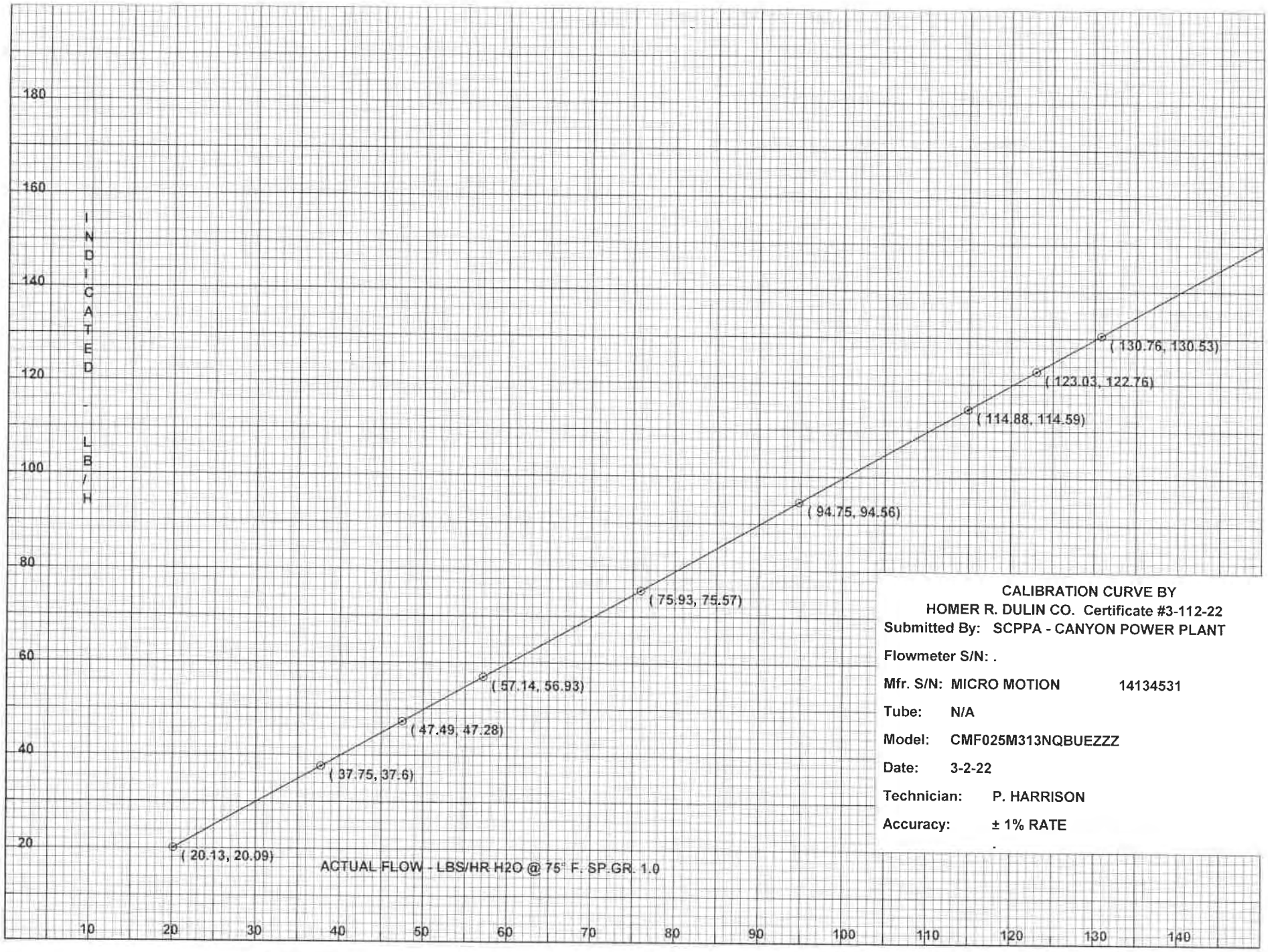
Flowmeter Certified with HOMER R. DULIN CO.

Equip. No. 6209 YYY Accuracy 0.20% Equip. Cal. Date: 1/02/22(INSP) Cal. Due: 1/02/23(INSP)

NIST Cert. No. 822/264157 Procedure No: ISA:RP 16.6

P.O. No SCPPA-2100349 Shipper No. .

3-2-22	3-2-23	P. HARRISON Paul Harrison
CALIBRATION DATE	RECALIBRATION DUE	CALIBRATION TECHNICIAN


INDICATED - LB/H
ACTUAL FLOW - LBS/HR H2O @ 75° F. SP.GR. 1.0
(20.13, 20.09)
(37.75, 37.6)
(47.49, 47.28)
(57.14, 56.93)
(75.93, 75.57)
(94.75, 94.56)
(114.88, 114.59)
(123.03, 122.76)
(130.76, 130.53)
CALIBRATION CURVE BY
HOMER R. DULIN CO. Certificate #3-112-22
Submitted By: SCPPA - CANYON POWER PLANT
Flowmeter S/N: .
Mfr. S/N: MICRO MOTION 14134531
Tube: N/A
Model: CMF025M313NQBUEZZZ
Date: 3-2-22
Technician: P. HARRISON
Accuracy: ± 1% RATE

HRD 9

HOMER R. DULIN CO.

729 EAST WILLOW STREET
SIGNAL HILL, CALIFORNIA 90755
(562) 424-8533 FAX (562) 426-7707

CERT. NO. 3-204-22

CALIBRATION CERTIFICATION

SUBMITTED BY: SCPPA - CANYON POWER PLANT

FLOWMETER SERIAL NO: . MFG. SERIAL NO: 14236418

MANUFACTURER: MICRO MOTION MODEL: CMF025M313NQBUEZZZ

TUBE NO: N/A FLOAT NO: N/A

DATA IS: As Found/As Left ; In Tolerance

See Remarks ☑

Calibrated @ customer's facility ☐

REMARKS: DIRECT READING ELECTRONIC INDICATOR TRANSMITTER S/N: 14138117, CALIBRATED IN LBS/HR H2O @ 75° F. SP.GR. 1.0 - METER IS UNSTABLE

ACCURACY ± 1% RATE

INDICATED		ACTUAL	
LB/H		LBS/HR	
150.33		151.56	
130.21		131.01	
109.99		110.24	
95.56		95.61	
80.02		80.01	
70.00		70.01	
54.01		53.85	
36.44		36.20	
26.90		26.94	
17.61		17.74	

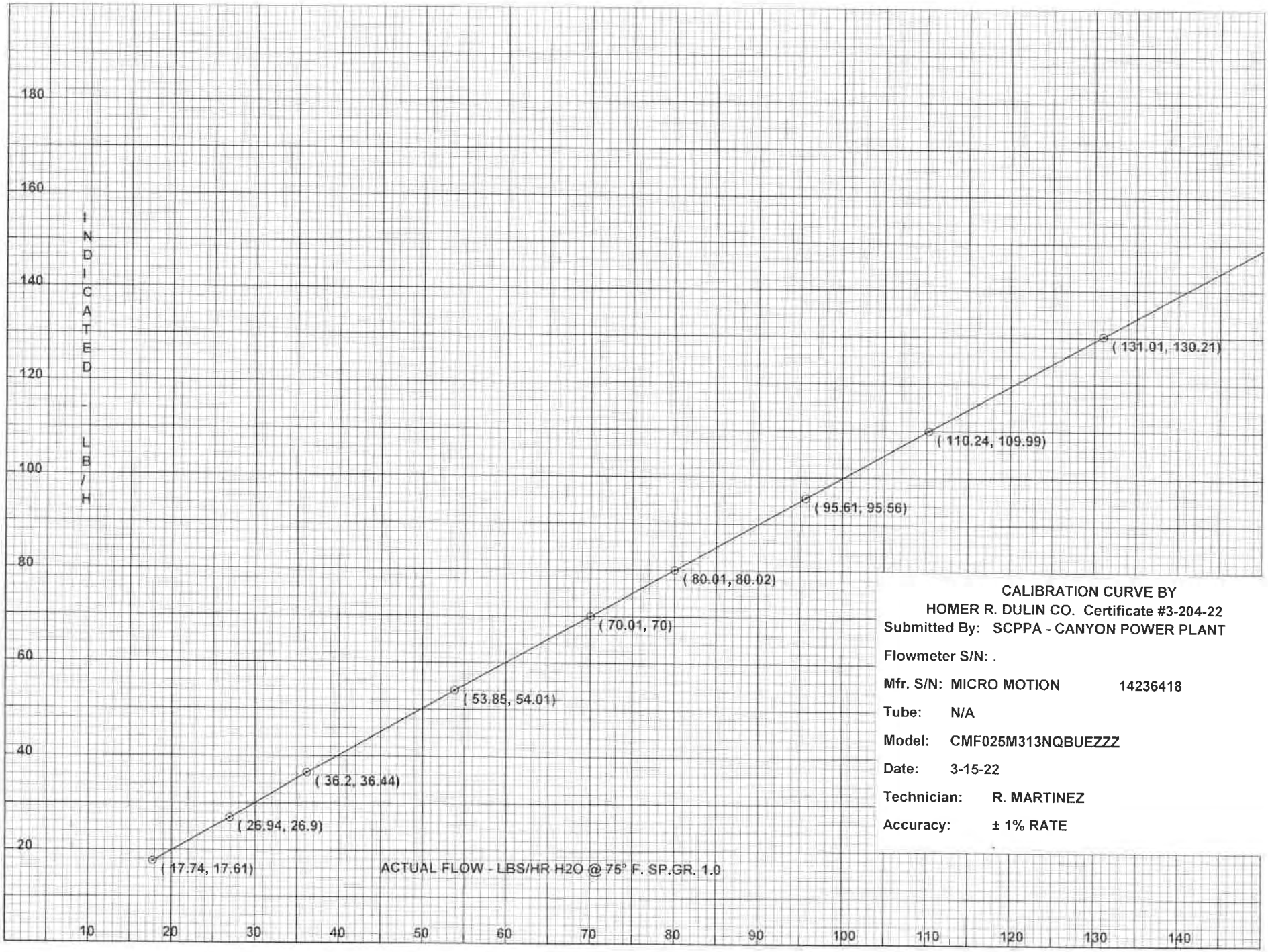
Flowmeter Certified with HOMER R. DULIN CO.

Equip. No. 11605 Accuracy 0.005% Equip. Cal. Date: 9/13/21 Cal. Due: 9/13/24

NIST Cert. No. MSML CC #21188 A Procedure No: ISA:RP 16.6

P.O. No SCPPA-2100349 Shipper No. .

3-15-22	3-15-23	R. MARTINEZ Rogelio Martinez
CALIBRATION DATE	RECALIBRATION DUE	CALIBRATION TECHNICIAN



CALIBRATION CURVE BY
HOMER R. DULIN CO. Certificate #3-204-22

Submitted By: SCPPA - CANYON POWER PLANT

Flowmeter S/N: .

Mfr. S/N: MICRO MOTION 14236418

Tube: N/A

Model: CMF025M313NQBUEZZZ

Date: 3-15-22

Technician: R. MARTINEZ

Accuracy: ± 1% RATE

HRD 6

HOMER R. DULIN CO.

729 EAST WILLOW STREET
SIGNAL HILL, CALIFORNIA 90755
(562) 424-8533 FAX (562) 426-7707

CERT. NO. 3-157-22

CALIBRATION CERTIFICATION

SUBMITTED BY: SCPPA - CANYON POWER PLANT

FLOWMETER SERIAL NO:. MFG. SERIAL NO: 14136005

MANUFACTURER: MICRO MOTION MODEL: CMF025M313NQBUEZZZ

TUBE NO: . FLOAT NO: .

DATA IS: As Found/As Left ; In Tolerance See Remarks ☑

Calibrated @ customer's facility ☐

REMARKS: DIRECT READING ELECTRONIC INDICATOR TRANSMITTER S/N: 14136005, CALIBRATED IN LBS/HR H2O @ 75° F. SP.GR. 1.0 - METER READINGS ARE AVERAGED. METER IS VERY UNSTABLE

ACCURACY ± 1% RATE

INDICATED		ACTUAL	
LB/H		LBS/HR	
149.78		151.11	
135.33		136.61	
121.31		122.26	
106.54		107.46	
92.22		93.06	
77.73		78.26	
63.23		63.81	
49.19		49.50	
34.46		34.55	
20.54		20.69	

Flowmeter Certified with HOMER R. DULIN CO.

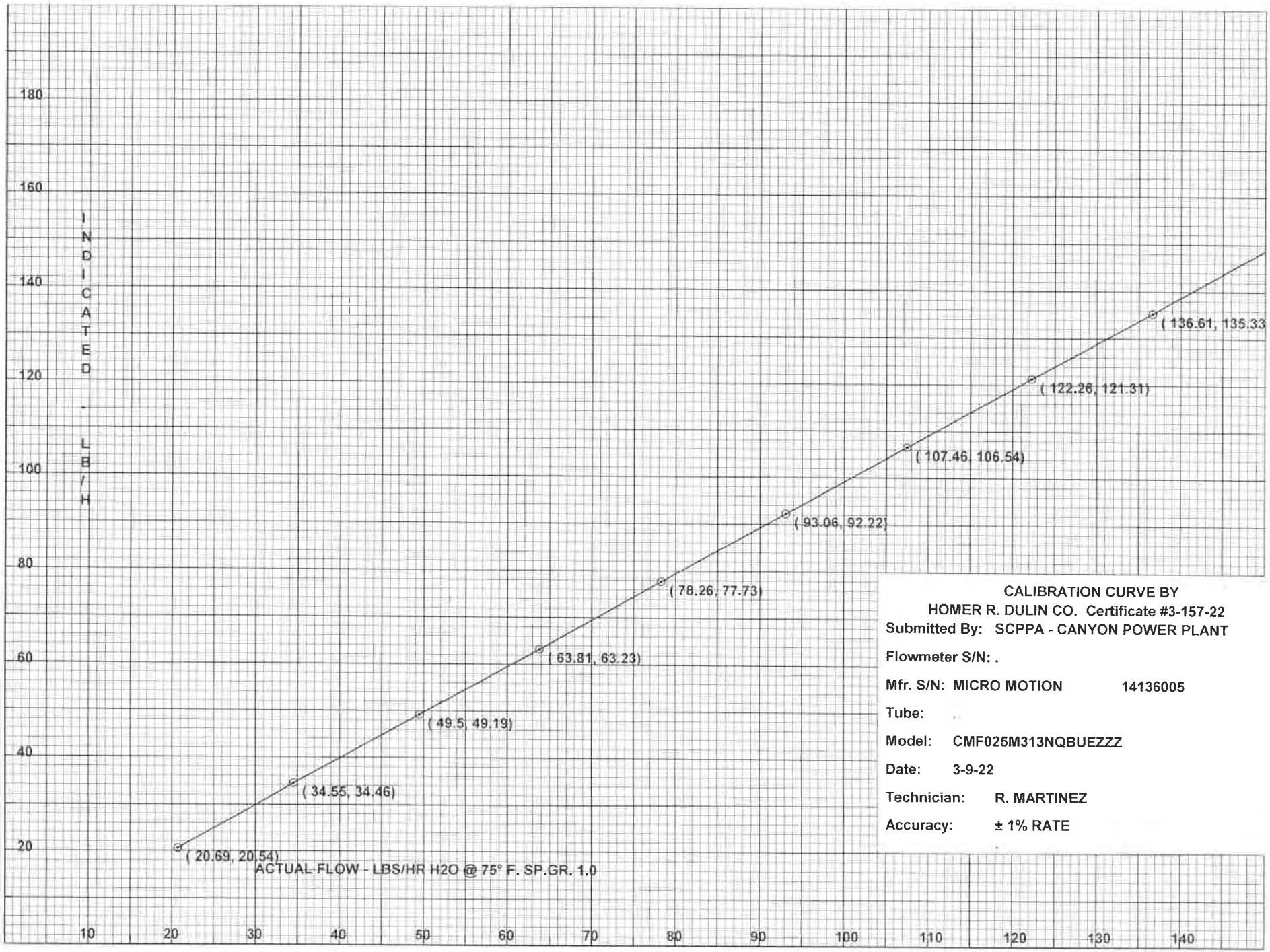
Equip. No. 11605 Accuracy 0.005% Equip. Cal. Date: 9/13/21 Cal. Due: 9/13/24

NIST Cert. No. MSML CC #21188 A Procedure No: ISA:RP 16.6

P.O. No SCPPA-2100349 Shipper No. .

3-9-22	3-9-23	R. MARTINEZ Rogelio Martinez
CALIBRATION DATE	RECALIBRATION DUE	CALIBRATION TECHNICIAN

HRD 6



CALIBRATION CURVE BY
HOMER R. DULIN CO. Certificate #3-157-22

Submitted By: SCPPA - CANYON POWER PLANT

Flowmeter S/N: .

Mfr. S/N: MICRO MOTION 14136005

Tube:

Model: CMF025M313NQBUEZZZ

Date: 3-9-22

Technician: R. MARTINEZ

Accuracy: ± 1% RATE

HRD 6

HOMER R. DULIN CO.

729 EAST WILLOW STREET
SIGNAL HILL, CALIFORNIA 90755
(562) 424-8533 FAX (562) 426-7707

CERT. NO. 3-237-22

CALIBRATION CERTIFICATION

SUBMITTED BY: SCPPA - CANYON POWER PLANT

FLOWMETER SERIAL NO:. MFG. SERIAL NO: 14832375

MANUFACTURER: MICRO MOTION MODEL: CMF025M313N2BAEZZZ

TUBE NO: N/A FLOAT NO: N/A

DATA IS: As Found/As Left ; In Tolerance See Remarks ☑

Calibrated @ customer's facility ☐

REMARKS: DIRECT READING ELECTRONIC INDICATOR TRANSMITTER S/N: 14832375, CALIBRATED IN LBS/HR H2O @ 75° F. SP.GR. 1.0 METER IS VERY UNSTABLE.

ACCURACY ± 1% RATE

INDICATED		ACTUAL	
LB/HR		LBS/HR	
151.40		152.01	
134.75		135.06	
121.40		121.96	
110.00		110.26	
92.01		92.06	
77.71		77.51	
61.31		61.30	
50.42		50.50	
36.77		36.65	
20.23		20.10	

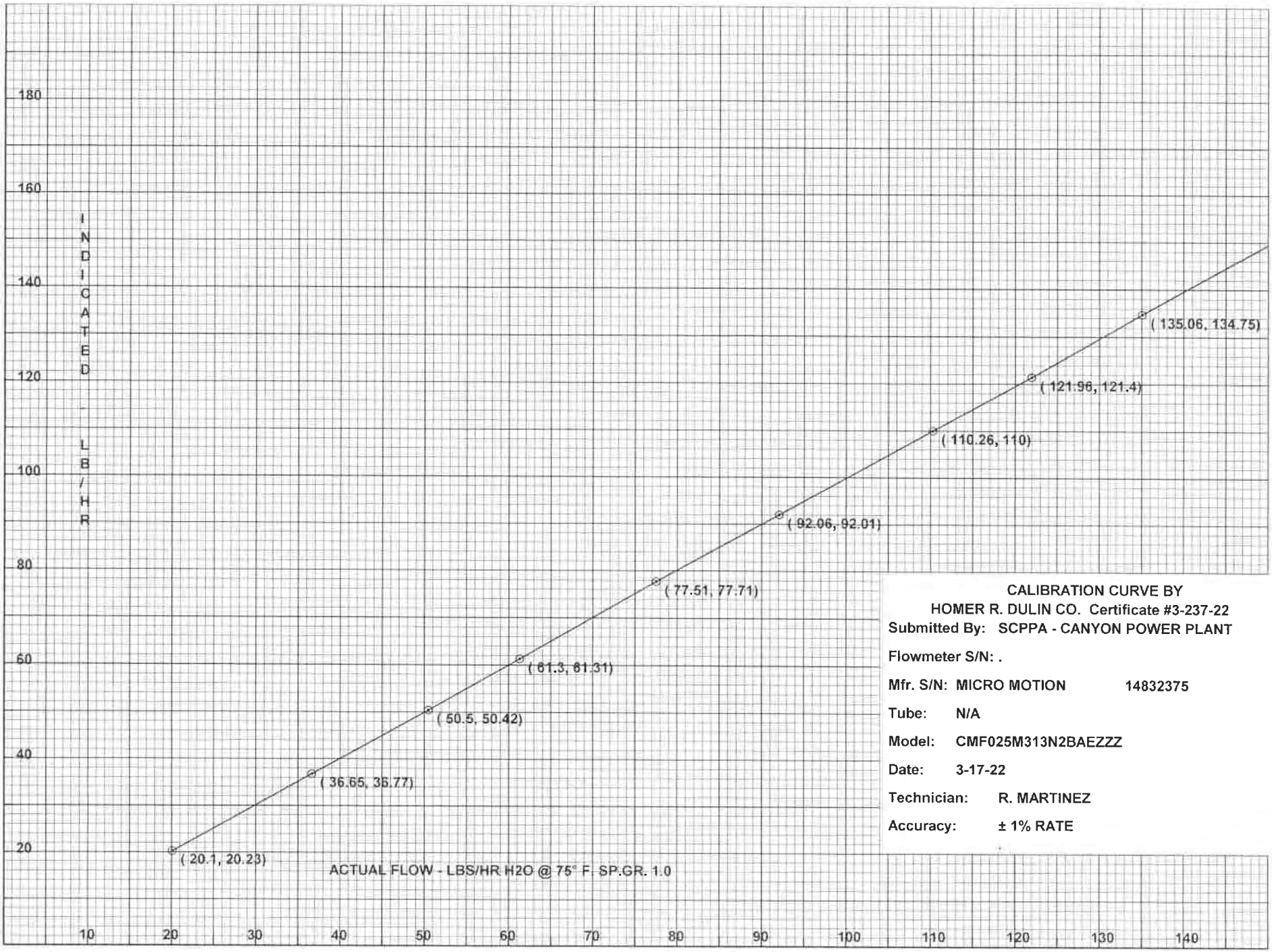
Flowmeter Certified with HOMER R. DULIN CO.

Equip. No. 11605 Accuracy 0.005% Equip. Cal. Date: 9/13/21 Cal. Due: 9/13/24

NIST Cert. No. MSML CC #21188 A Procedure No: ISA:RP 16.6

P.O. No SCPPA-2100349 Shipper No. .

3-17-22	3-17-23	R. MARTINEZ Rogelio Martinez
CALIBRATION DATE	RECALIBRATION DUE	CALIBRATION TECHNICIAN



CALIBRATION CURVE BY
HOMER R. DULIN CO. Certificate #3-237-22

Submitted By: SCPPA - CANYON POWER PLANT

Flowmeter S/N: .

Mfr. S/N: MICRO MOTION 14832375

Tube: N/A

Model: CMF025M313N2BAEZZZ

Date: 3-17-22

Technician: R. MARTINEZ

Accuracy: ± 1% RATE

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 19

AQ-18
SCR INLET TEMPERATURE SENSOR

CALIBRATION REPORTS

Calibration: SCR Inlet Temperature
Unit 1 TE-403A-403D

Calibration Certificate

Certificate Number:

Position ID: 1-TE-403A

Printed: 1/18/2022 1:50:28 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	SCR INLET TEMP
Work Order Number	
Location	NH3 INJ SKID
Plant	CANYON/ERU/U1/

Device

Device ID	1-TE-403A	
Serial Number		
Manufacturer		
Rangeability		
Operating		Operating Humidity

Function

Name	U1 SCR INLET TEMP (ud)	
Transfer Function	Linear	
Range	100 ... 1000 °F	100 ... 1000 °F

Calibration Event

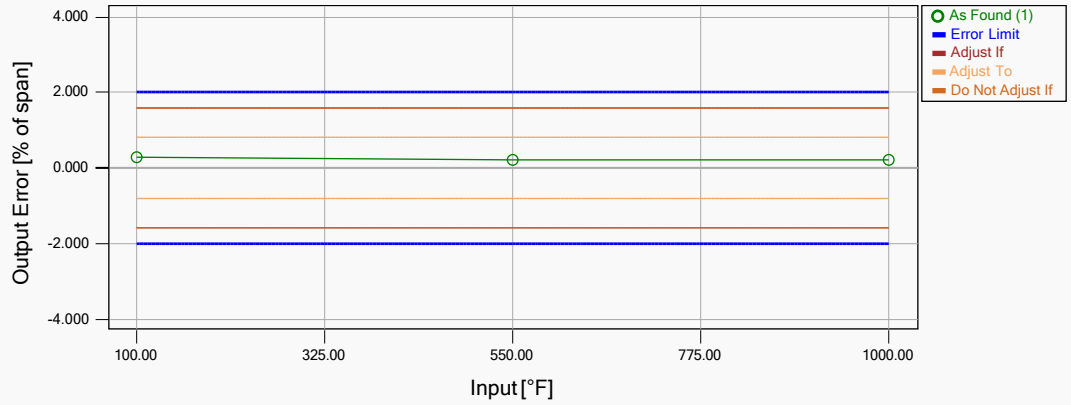
Calibration time	1/18/2022 8:12:59 AM	
Next Calibration		
Environment		Environment

Calibration Procedure

Due Date	1/18/2023	Interval	1 years
Reject If Error >	2 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	TC-R-OUT/ TC1 : 65279	Due Date: 3/30/2022
Output Calibrator		Due Date:
Output Module		Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.277 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.01	100.0	102.500	0.277
550.0	550.01	550.0	552.000	0.221
1000.0	1000.01	1000.0	1002.000	0.221

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2022 8:12:59 AM

Calibration Certificate

Certificate Number:

Position ID: 1-TE-403B

Printed: 1/18/2022 1:50:28 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	SCR INLET TEMP
Work Order Number	
Location	NH3 INJ SKID
Plant	CANYON/ERU/U1/

Device

Device ID	1-TE-403B	
Serial Number		
Manufacturer		
Rangeability		
Operating		Operating Humidity

Function

Name	U1 SCR INLET TEMP (ud)	
Transfer Function	Linear	
Range	100 ... 1000 °F	100 ... 1000 °F

Calibration Event

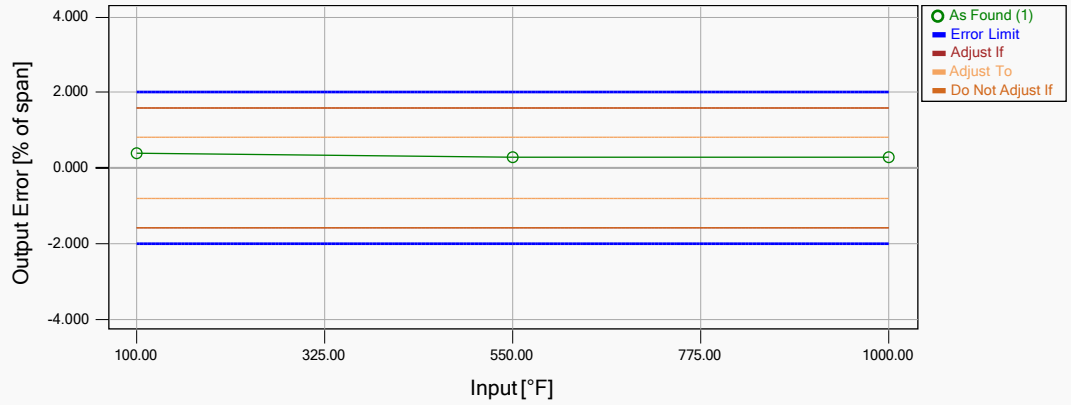
Calibration time	1/18/2022 8:16:58 AM	
Next Calibration		
Environment		Environment

Calibration Procedure

Due Date	1/18/2023	Interval	1 years
Reject If Error >	2 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	TC-R-OUT/ TC1 : 65279	Due Date: 3/30/2022
Output Calibrator		Due Date:
Output Module		Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.388 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.01	100.0	103.500	0.388
550.0	550.01	550.0	552.500	0.277
1000.0	1000.01	1000.0	1002.500	0.277

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2022 8:16:58 AM

Calibration Certificate

Certificate Number:

Position ID: 1-TE-403C

Printed: 1/18/2022 1:50:28 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	SCR INLET TEMP
Work Order Number	
Location	NH3 INJ SKID
Plant	CANYON/ERU/U1/

Device

Device ID	1-TE-403C	
Serial Number		
Manufacturer		
Rangeability		
Operating		Operating Humidity

Function

Name	U1 SCR INLET TEMP (ud)	
Transfer Function	Linear	
Range	100 ... 1000 °F	100 ... 1000 °F

Calibration Event

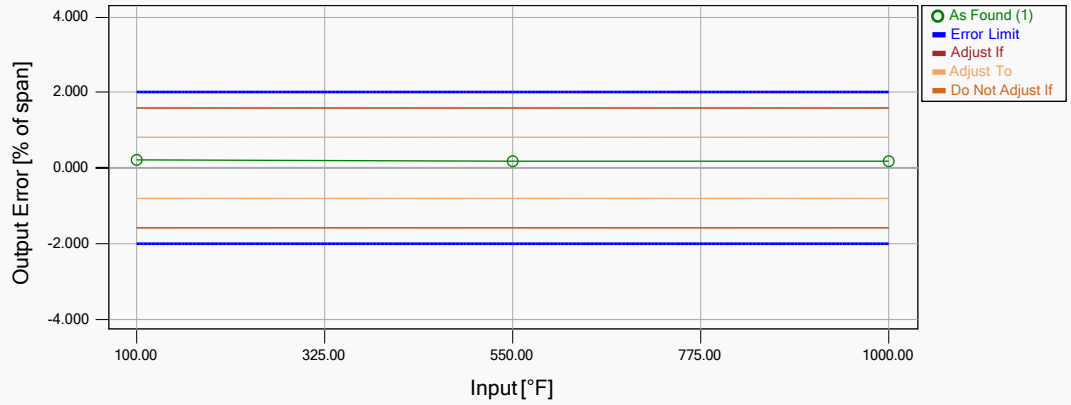
Calibration time	1/18/2022 8:20:50 AM	
Next Calibration		
Environment		Environment

Calibration Procedure

Due Date	1/18/2023	Interval	1 years
Reject If Error >	2 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	TC-R-OUT/ TC1 : 65279	Due Date: 3/30/2022
Output Calibrator		Due Date:
Output Module		Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.222 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.00	100.0	102.000	0.222
550.0	550.00	550.0	551.500	0.167
1000.0	1000.01	1000.0	1001.500	0.166

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2022 8:20:50 AM

Calibration Certificate

Certificate Number:

Position ID: 1-TE-403D

Printed: 1/18/2022 1:50:28 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	SCR INLET TEMP
Work Order Number	
Location	NH3 INJ SKID
Plant	CANYON/ERU/U1/

Device

Device ID	1-TE-403D	
Serial Number		
Manufacturer		
Rangeability		
Operating		Operating Humidity

Function

Name	U1 SCR INLET TEMP (ud)	
Transfer Function	Linear	
Range	100 ... 1000 °F	100 ... 1000 °F

Calibration Event

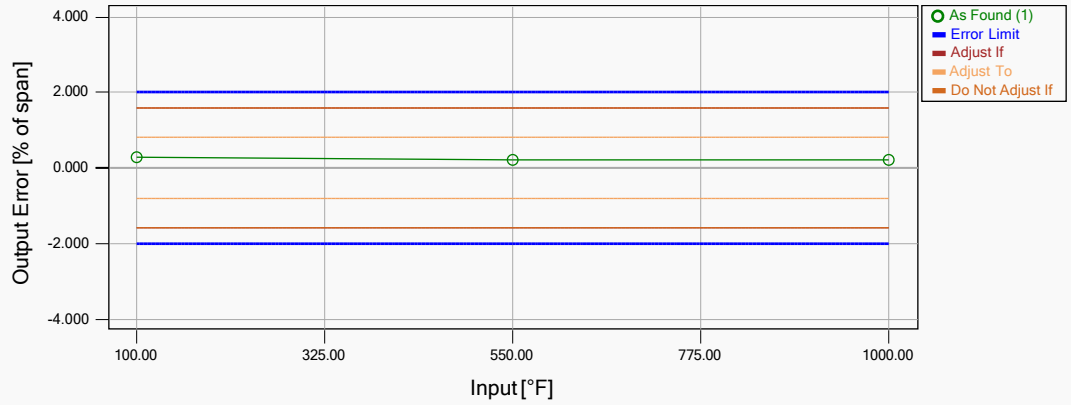
Calibration time	1/18/2022 8:23:52 AM	
Next Calibration		
Environment		Environment

Calibration Procedure

Due Date	1/18/2023	Interval	1 years
Reject If Error >	2 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	TC-R-OUT/ TC1 : 65279	Due Date: 3/30/2022
Output Calibrator		Due Date:
Output Module		Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.277 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.01	100.0	102.500	0.277
550.0	550.00	550.0	552.000	0.222
1000.0	1000.01	1000.0	1002.000	0.221

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2022 8:23:52 AM

Calibration: SCR Inlet Temperature
Unit 2 TE-403A-403D

Calibration Certificate

Certificate Number:

Position ID: 2-TE-403A

Printed: 1/18/2022 1:54:55 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	SCR INLET TEMP
Work Order Number	
Location	NH3 INJ SKID
Plant	CANYON/ERU/U2/

Device

Device ID	2-TE-403A	
Serial Number		
Manufacturer		
Rangeability		
Operating		Operating Humidity

Function

Name	U2 SCR INLET TEMP (ud)	
Transfer Function	Linear	
Range	100 ... 1000 °F	100 ... 1000 °F

Calibration Event

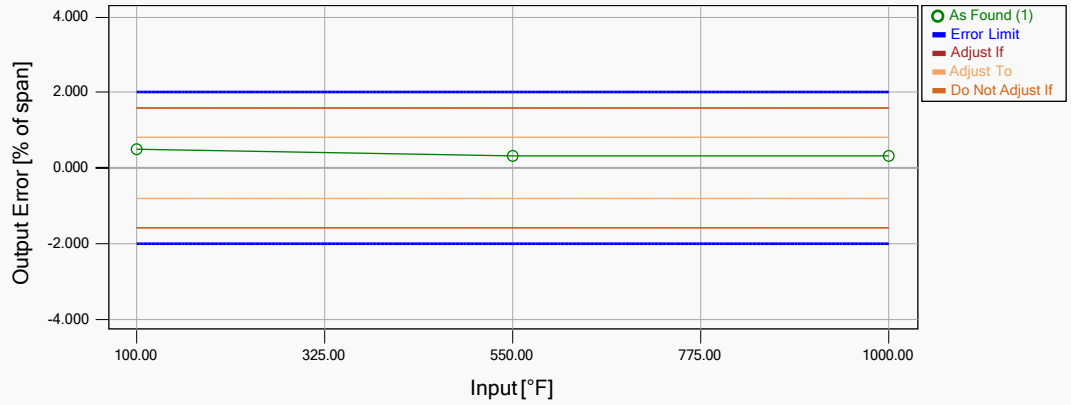
Calibration time	1/18/2022 8:58:00 AM	
Next Calibration		
Environment		Environment

Calibration Procedure

Due Date	1/18/2023	Interval	1 years
Reject If Error >	2 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	TC-R-OUT/ TC1 : 65279	Due Date: 3/30/2022
Output Calibrator		Due Date:
Output Module		Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.500 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.00	100.0	104.500	0.500
550.0	550.00	550.0	553.000	0.333
1000.0	1000.00	1000.0	1003.000	0.333

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2022 8:58:00 AM

Calibration Certificate

Certificate Number:

Position ID: 2-TE-403B

Printed: 1/18/2022 1:54:55 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	SCR INLET TEMP
Work Order Number	
Location	NH3 INJ SKID
Plant	CANYON/ERU/U2/

Device

Device ID	2-TE-403B	
Serial Number		
Manufacturer		
Rangeability		
Operating		Operating Humidity

Function

Name	U2 SCR INLET TEMP (ud)	
Transfer Function	Linear	
Range	100 ... 1000 °F	100 ... 1000 °F

Calibration Event

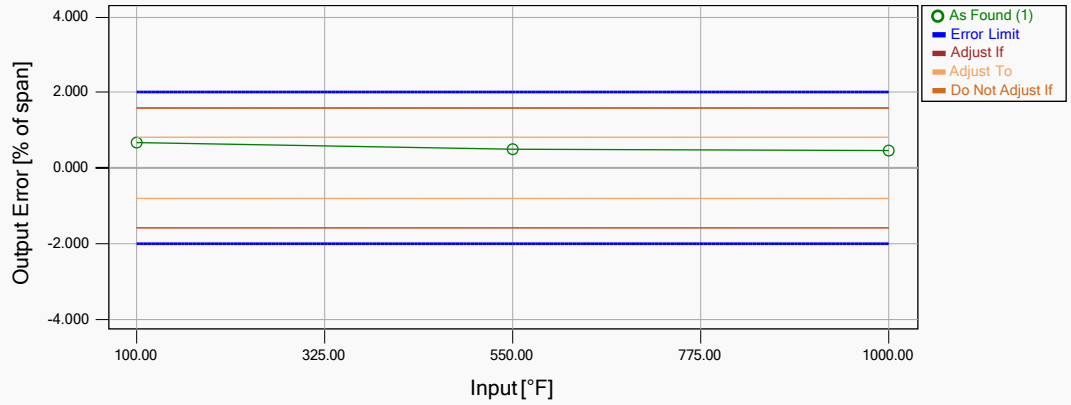
Calibration time	1/18/2022 9:01:30 AM	
Next Calibration		
Environment		Environment

Calibration Procedure

Due Date	1/18/2023	Interval	1 years
Reject If Error >	2 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	TC-R-OUT/ TC1 : 65279	Due Date: 3/30/2022
Output Calibrator		Due Date:
Output Module		Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.666 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.01	100.0	106.000	0.666
550.0	550.01	550.0	554.500	0.499
1000.0	1000.01	1000.0	1004.000	0.443

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2022 9:01:30 AM

Calibration Certificate

Certificate Number:

Position ID: 2-TE-403C

Printed: 1/18/2022 1:54:55 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	SCR INLET TEMP
Work Order Number	
Location	NH3 INJ SKID
Plant	CANYON/ERU/U2/

Device

Device ID	2-TE-403C	
Serial Number		
Manufacturer		
Rangeability		
Operating		Operating Humidity

Function

Name	U2 SCR INLET TEMP (ud)	
Transfer Function	Linear	
Range	100 ... 1000 °F	100 ... 1000 °F

Calibration Event

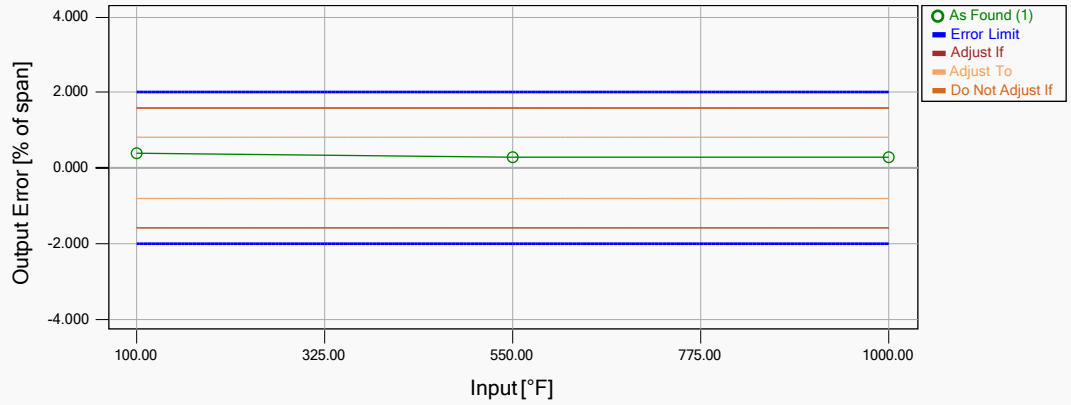
Calibration time	1/18/2022 9:06:07 AM	
Next Calibration		
Environment		Environment

Calibration Procedure

Due Date	1/18/2023	Interval	1 years
Reject If Error >	2 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	TC-R-OUT/ TC1 : 65279	Due Date: 3/30/2022
Output Calibrator		Due Date:
Output Module		Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.388 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.01	100.0	103.500	0.388
550.0	550.01	550.0	552.500	0.277
1000.0	1000.01	1000.0	1002.500	0.277

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2022 9:06:07 AM

Calibration Certificate

Certificate Number:

Position ID: 2-TE-403D

Printed: 1/18/2022 1:54:55 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	SCR INLET TEMP
Work Order Number	
Location	NH3 INJ SKID
Plant	CANYON/ERU/U2/

Device

Device ID	2-TE-403D	
Serial Number		
Manufacturer		
Rangeability		
Operating		Operating Humidity

Function

Name	U2 SCR INLET TEMP (ud)	
Transfer Function	Linear	
Range	100 ... 1000 °F	100 ... 1000 °F

Calibration Event

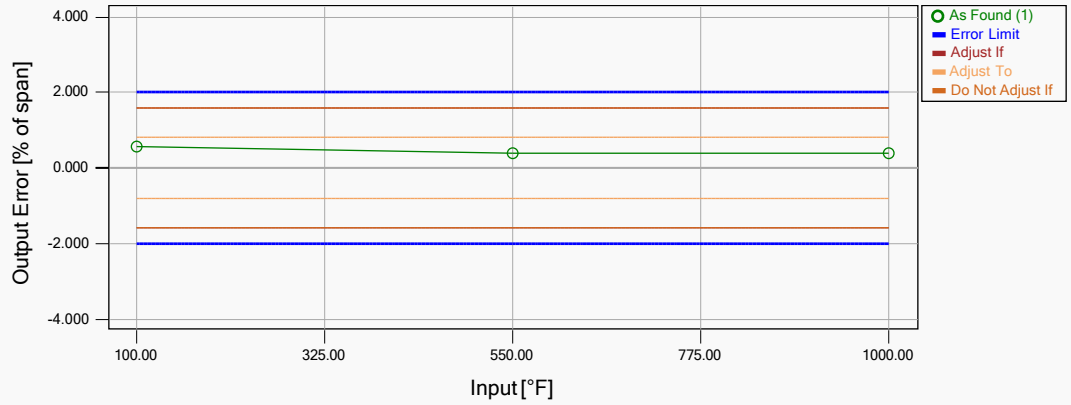
Calibration time	1/18/2022 9:10:03 AM	
Next Calibration		
Environment		Environment

Calibration Procedure

Due Date	1/18/2023	Interval	1 years
Reject If Error >	2 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	TC-R-OUT/ TC1 : 65279	Due Date: 3/30/2022
Output Calibrator		Due Date:
Output Module		Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.554 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.01	100.0	105.000	0.554
550.0	550.02	550.0	553.500	0.387
1000.0	1000.01	1000.0	1003.500	0.388

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2022 9:10:03 AM

Calibration: SCR Inlet Temperature
Unit 3 TE-403A-403D

Calibration Certificate

Certificate Number:

Position ID: 3-TE-403A

Printed: 1/18/2022 1:56:54 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	SCR INLET TEMP
Work Order Number	
Location	NH3 INJ SKID
Plant	CANYON/ERU/U3/

Device

Device ID	3-TE-403A	
Serial Number		
Manufacturer		
Rangeability		
Operating		Operating Humidity

Function

Name	U3 SCR INLET TEMP (ud)	
Transfer Function	Linear	
Range	100 ... 1000 °F	100 ... 1000 °F

Calibration Event

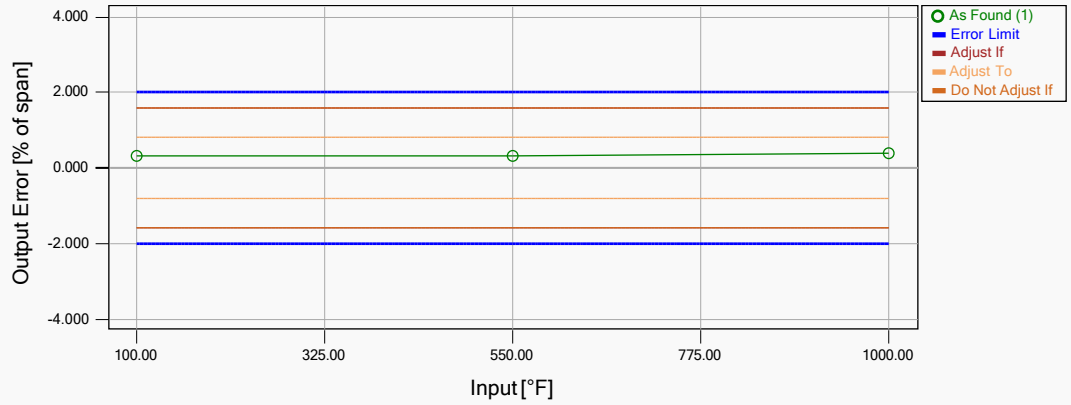
Calibration time	1/18/2022 9:42:27 AM	
Next Calibration		
Environment		Environment

Calibration Procedure

Due Date	1/18/2023	Interval	1 years
Reject If Error >	2 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	TC-R-OUT/ TC1 : 65279	Due Date: 3/30/2022
Output Calibrator		Due Date:
Output Module		Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.389 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.01	100.0	103.000	0.332
550.0	550.00	550.0	553.000	0.333
1000.0	1000.00	1000.0	1003.500	0.389

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2022 9:42:27 AM

Calibration Certificate

Certificate Number:

Position ID: 3-TE-403B

Printed: 1/18/2022 1:56:54 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	SCR INLET TEMP
Work Order Number	
Location	NH3 INJ SKID
Plant	CANYON/ERU/U3/

Device

Device ID	3-TE-403B	
Serial Number		
Manufacturer		
Rangeability		
Operating		Operating Humidity

Function

Name	U3 SCR INLET TEMP (ud)	
Transfer Function	Linear	
Range	100 ... 1000 °F	100 ... 1000 °F

Calibration Event

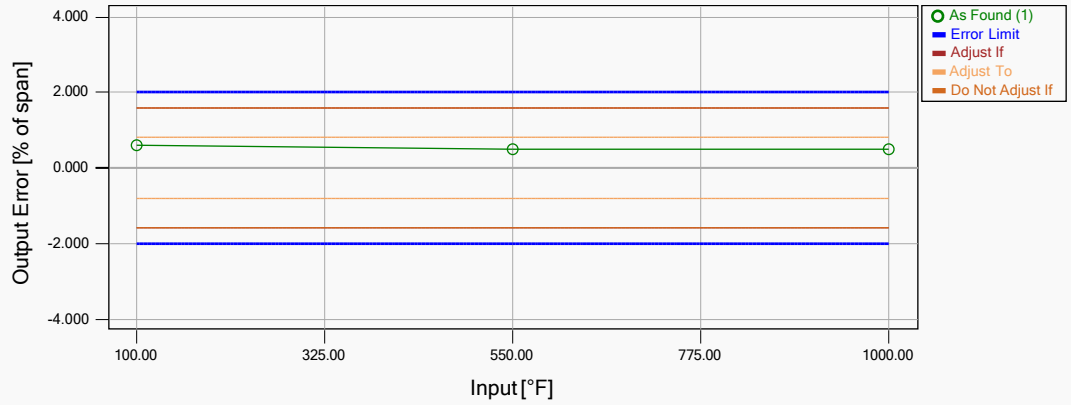
Calibration time	1/18/2022 9:45:30 AM	
Next Calibration		
Environment		Environment

Calibration Procedure

Due Date	1/18/2023	Interval	1 years
Reject If Error >	2 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	TC-R-OUT/ TC1 : 65279	Due Date: 3/30/2022
Output Calibrator		Due Date:
Output Module		Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.610 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.01	100.0	105.500	0.610
550.0	550.01	550.0	554.500	0.499
1000.0	1000.01	1000.0	1004.500	0.499

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2022 9:45:30 AM

Calibration Certificate

Certificate Number:

Position ID: 3-TE-403C

Printed: 1/18/2022 1:56:54 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	SCR INLET TEMP
Work Order Number	
Location	NH3 INJ SKID
Plant	CANYON/ERU/U3/

Device

Device ID	3-TE-403C	
Serial Number		
Manufacturer		
Rangeability		
Operating		Operating Humidity

Function

Name	U3 SCR INLET TEMP (ud)	
Transfer Function	Linear	
Range	100 ... 1000 °F	100 ... 1000 °F

Calibration Event

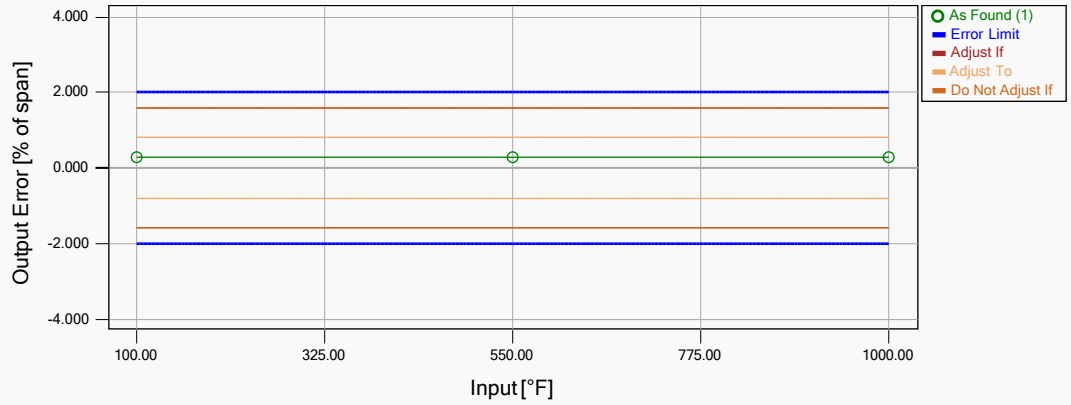
Calibration time	1/18/2022 9:48:44 AM	
Next Calibration		
Environment		Environment

Calibration Procedure

Due Date	1/18/2023	Interval	1 years
Reject If Error >	2 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	TC-R-OUT/ TC1 : 65279	Due Date: 3/30/2022
Output Calibrator		Due Date:
Output Module		Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.277 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.01	100.0	102.500	0.277
550.0	550.01	550.0	552.500	0.277
1000.0	1000.01	1000.0	1002.500	0.277

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2022 9:48:44 AM

Calibration Certificate

Certificate Number:

Position ID: 3-TE-403D

Printed: 1/18/2022 1:56:54 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	SCR INLET TEMP
Work Order Number	
Location	NH3 INJ SKID
Plant	CANYON/ERU/U3/

Device

Device ID	3-TE-403D	
Serial Number		
Manufacturer		
Rangeability		
Operating		Operating Humidity

Function

Name	U3 SCR INLET TEMP (ud)	
Transfer Function	Linear	
Range	100 ... 1000 °F	100 ... 1000 °F

Calibration Event

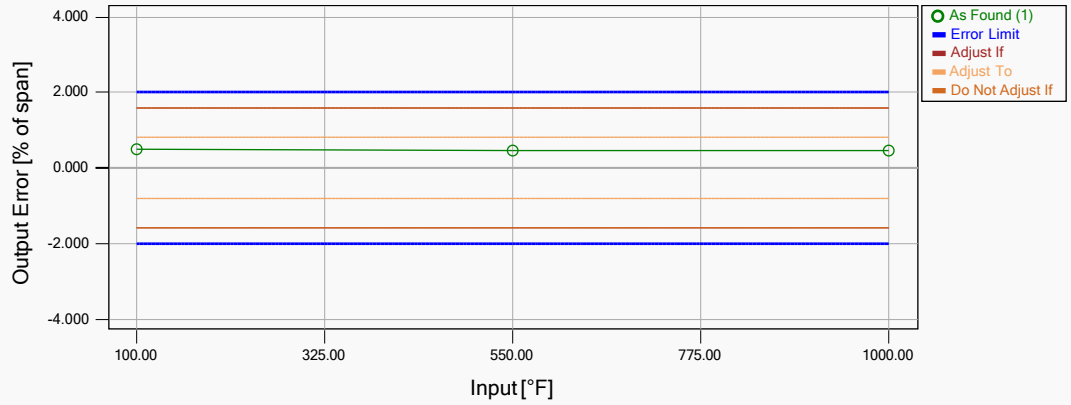
Calibration time	1/18/2022 9:51:53 AM	
Next Calibration		
Environment		Environment

Calibration Procedure

Due Date	1/18/2023	Interval	1 years
Reject If Error >	2 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	TC-R-OUT/ TC1 : 65279	Due Date: 3/30/2022
Output Calibrator		Due Date:
Output Module		Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.499 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.01	100.0	104.500	0.499
550.0	550.01	550.0	554.000	0.443
1000.0	1000.01	1000.0	1004.000	0.443

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2022 9:51:53 AM

Calibration: SCR Inlet Temperature
Unit 4 TE-403A-403D

Calibration Certificate

Certificate Number:

Position ID: 4-TE-403A

Printed: 1/18/2022 1:58:46 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	SCR INLET TEMP
Work Order Number	
Location	NH3 INJ SKID
Plant	CANYON/ERU/U4/

Device

Device ID	4-TE-403A	
Serial Number		
Manufacturer		
Rangeability		
Operating		Operating Humidity

Function

Name	U4 SCR INLET TEMP (ud)	
Transfer Function	Linear	
Range	100 ... 1000 °F	100 ... 1000 °F

Calibration Event

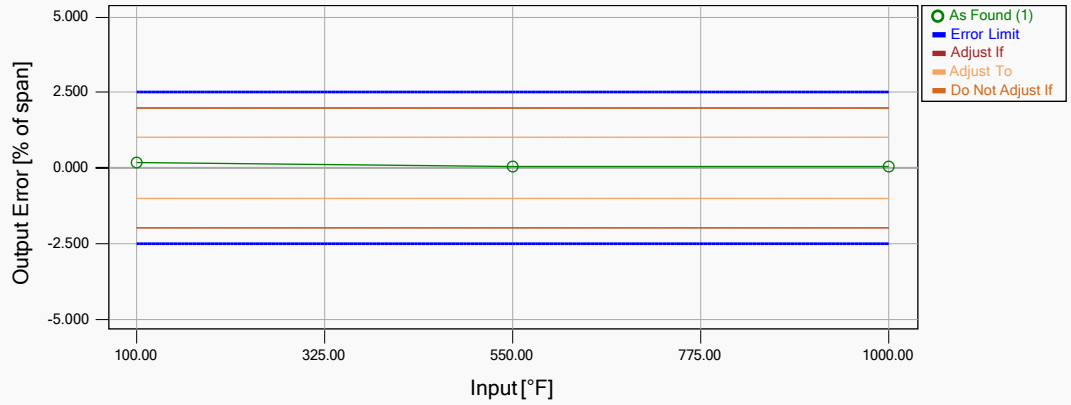
Calibration time	1/18/2022 10:21:18 AM	
Next Calibration		
Environment		Environment

Calibration Procedure

Due Date	1/18/2023	Interval	1 years
Reject If Error >	2.5 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	TC-R-OUT/ TC1 : 65279	Due Date: 3/30/2022
Output Calibrator		Due Date:
Output Module		Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.167 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.00	100.0	101.500	0.167
550.0	550.00	550.0	550.500	0.056
1000.0	1000.00	1000.0	1000.500	0.056

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2022 10:21:18 AM

Calibration Certificate

Certificate Number:

Position ID: 4-TE-403B

Printed: 1/18/2022 1:58:46 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	SCR INLET TEMP
Work Order Number	
Location	NH3 INJ SKID
Plant	CANYON/ERU/U4/

Device

Device ID	4-TE-403B	
Serial Number		
Manufacturer		
Rangeability		
Operating		Operating Humidity

Function

Name	U4 SCR INLET TEMP (ud)	
Transfer Function	Linear	
Range	100 ... 1000 °F	100 ... 1000 °F

Calibration Event

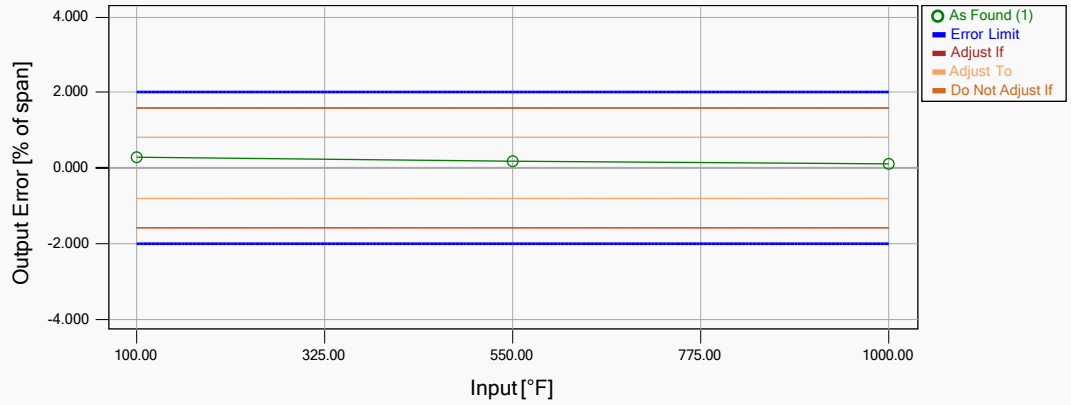
Calibration time	1/18/2022 10:24:20 AM	
Next Calibration		
Environment		Environment

Calibration Procedure

Due Date	1/18/2023	Interval	1 years
Reject If Error >	2 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	TC-R-OUT/ TC1 : 65279	Due Date: 3/30/2022
Output Calibrator		Due Date:
Output Module		Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.277 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.01	100.0	102.500	0.277
550.0	550.01	550.0	551.500	0.166
1000.0	1000.01	1000.0	1001.000	0.110

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2022 10:24:20 AM

Calibration Certificate

Certificate Number:

Position ID: 4-TE-403C

Printed: 1/18/2022 1:58:46 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	SCR INLET TEMP
Work Order Number	
Location	NH3 INJ SKID
Plant	CANYON/ERU/U4/

Device

Device ID	4-TE-403C	
Serial Number		
Manufacturer		
Rangeability		
Operating		Operating Humidity

Function

Name	U4 SCR INLET TEMP (ud)	
Transfer Function	Linear	
Range	100 ... 1000 °F	100 ... 1000 °F

Calibration Event

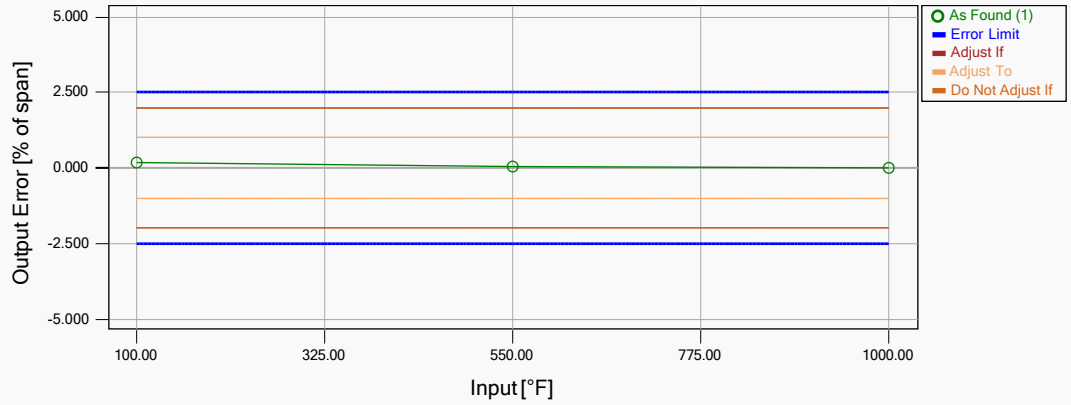
Calibration time	1/18/2022 10:27:31 AM	
Next Calibration		
Environment		Environment

Calibration Procedure

Due Date	1/18/2023	Interval	1 years
Reject If Error >	2.5 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	TC-R-OUT/ TC1 : 65279	Due Date: 3/30/2022
Output Calibrator		Due Date:
Output Module		Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.167 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.00	100.0	101.500	0.167
550.0	550.01	550.0	550.500	0.054
1000.0	1000.01	1000.0	1000.000	-0.001

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2022 10:27:31 AM

Calibration Certificate

Certificate Number:

Position ID: 4-TE-403D

Printed: 1/18/2022 1:58:46 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	SCR INLET TEMP
Work Order Number	
Location	NH3 INJ SKID
Plant	CANYON/ERU/U4/

Device

Device ID	4-TE-403D	
Serial Number		
Manufacturer		
Rangeability		
Operating		Operating Humidity

Function

Name	U4 SCR INLET TEMP (ud)	
Transfer Function	Linear	
Range	100 ... 1000 °F	100 ... 1000 °F

Calibration Event

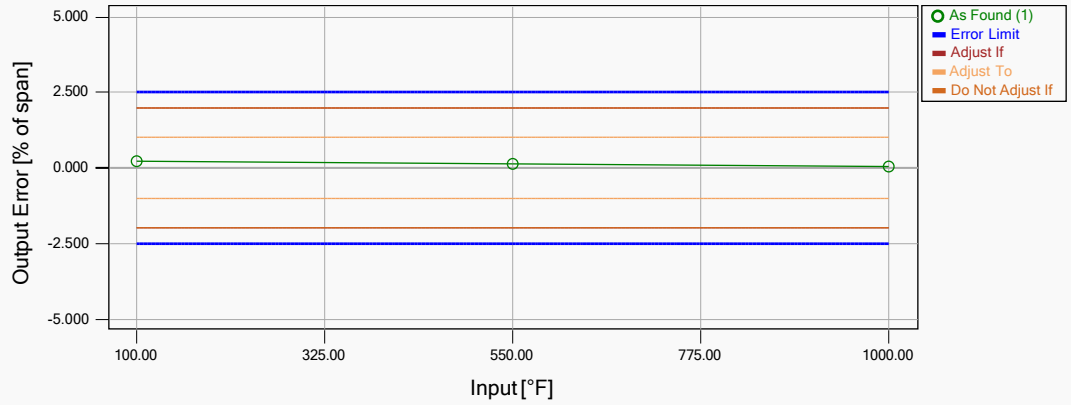
Calibration time	1/18/2022 10:30:51 AM	
Next Calibration		
Environment		Environment

Calibration Procedure

Due Date	1/18/2023	Interval	1 years
Reject If Error >	2.5 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	TC-R-OUT/ TC1 : 65279	Due Date: 3/30/2022
Output Calibrator		Due Date:
Output Module		Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.220 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.02	100.0	102.000	0.220
550.0	550.00	550.0	551.000	0.111
1000.0	1000.01	1000.0	1000.500	0.054

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2022 10:30:51 AM

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 20

AQ-19
SCR DIFFERENTIAL PRESSURE SENSOR

CALIBRATION REPORTS

Calibration Report: SCR Differential Pressure Sensor
Unit 1 PDIT-403

Calibration Certificate

Certificate Number:

Position ID: 1-PDIT-403

Printed: 1/18/2022 1:43:18 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	U1 SCR DP
Work Order Number	
Location	U1 ERU
Plant	CANYON/ERU/U1/

Device

Device ID	1-PDIT-403
Serial Number	
Manufacturer	Rosemount 3051S2CD1A2F12A1AB3E5L4M5Q4
Rangeability	
Operating	Operating Humidity

Function

Name	U1 SCR DP (ud)	
Transfer Function	Linear	
Range	0 ... 10 inH2O (G)	4 ... 20 mA

Calibration Event

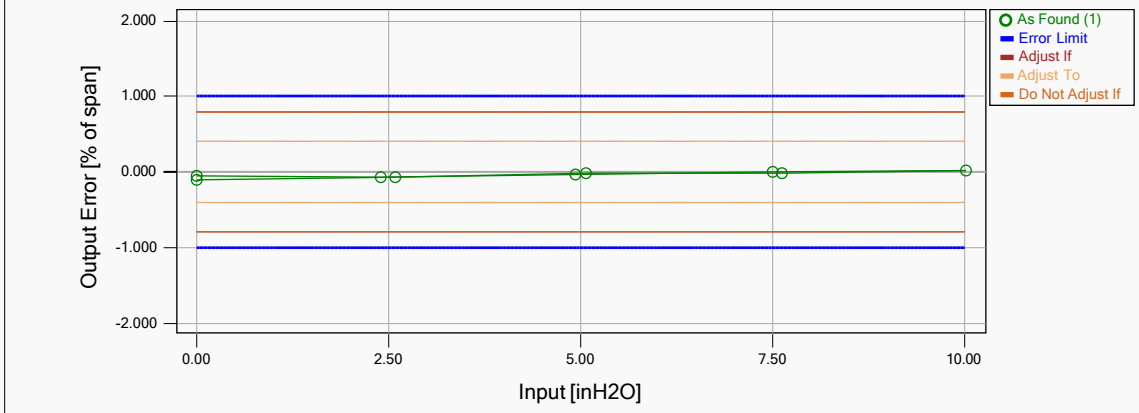
Calibration time	1/6/2022 9:14:00 AM
Next Calibration	
Environment	Environment

Calibration Procedure

Due Date	1/6/2023	Interval	1 years
Reject If Error >	1 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	P2C : 69381	Due Date: 3/30/2022
Output Calibrator	MC6 : 605835	Due Date: 3/30/2022
Output Module	IN : 25613	Due Date: 3/30/2022



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -0.100 % of span

Nominal Input [inH2O]	Actual Input [inH2O]	Nominal Output [mA]	Actual Output [mA]	Found Error [% of span]
0.0000	0.00	4.0000	3.9907	-0.058
2.500	2.41	8.000	7.8449	-0.069
5.000	4.94	12.000	11.8996	-0.028
7.500	7.51	16.000	16.0153	-0.004
10.000	10.03	20.000	20.0494	0.009
7.500	7.63	16.000	16.2055	-0.016
5.000	5.08	12.000	12.1264	-0.010
2.500	2.59	8.000	8.1319	-0.076
0.0000	0.01	4.0000	4.0000	-0.100

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/6/2022 9:14:00 AM

Calibration Report: SCR Differential Pressure Sensor
Unit 2 PDIT-403

Calibration Certificate

Certificate Number:

Position ID: 2-PDIT-403

Printed: 1/18/2022 1:51:39 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	U2 SCR DP
Work Order Number	
Location	U2 ERU
Plant	CANYON/ERU/U2/

Device

Device ID	2-PDIT-403
Serial Number	
Manufacturer	Rosemount 3051S2CD1A2F12A1AB3E5L4M5Q4
Rangeability	
Operating	Operating Humidity

Function

Name	U2 SCR DP (ud)	
Transfer Function	Linear	
Range	0 ... 10 inH2O (G)	4 ... 20 mA

Calibration Event

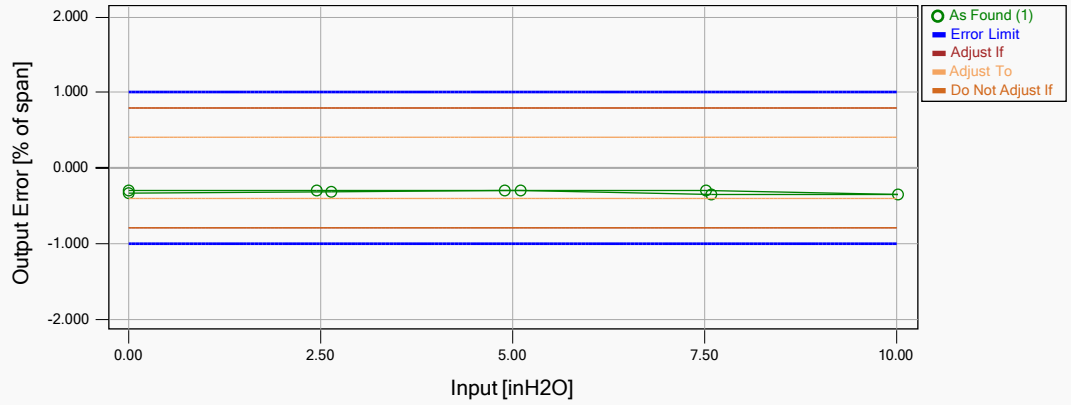
Calibration time	1/6/2022 10:06:21 AM
Next Calibration	
Environment	Environment

Calibration Procedure

Due Date	1/6/2023	Interval	1 years
Reject If Error >	1 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	P2C : 69381	Due Date: 3/30/2022
Output Calibrator	MC6 : 605835	Due Date: 3/30/2022
Output Module	IN : 25613	Due Date: 3/30/2022



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -0.356 % of span

Nominal Input [inH2O]	Actual Input [inH2O]	Nominal Output [mA]	Actual Output [mA]	Found Error [% of span]
0.0000	0.00	4.0000	3.9473	-0.329
2.500	2.64	8.000	8.1729	-0.319
5.000	4.91	12.000	11.8086	-0.296
7.500	7.52	16.000	15.9830	-0.306
10.000	10.02	20.000	19.9763	-0.348
7.500	7.60	16.000	16.1030	-0.356
5.000	5.12	12.000	12.1429	-0.307
2.500	2.45	8.000	7.8732	-0.293
0.0000	0.00	4.0000	3.9523	-0.298

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/6/2022 10:06:21 AM

Calibration Report: SCR Differential Pressure Sensor
Unit 3 PDIT-403

Calibration Certificate

Certificate Number:

Position ID: 3-PDIT-403

Printed: 1/18/2022 1:55:40 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	U3 SCR DP
Work Order Number	
Location	U3 ERU
Plant	CANYON/ERU/U3/

Device

Device ID	3-PDIT-403
Serial Number	
Manufacturer	Rosemount 3051S2CD1A2F12A1AB3E5L4M5Q4
Rangeability	
Operating	Operating Humidity

Function

Name	U3 SCR DP (ud)	
Transfer Function	Linear	
Range	0 ... 10 inH2O (G)	4 ... 20 mA

Calibration Event

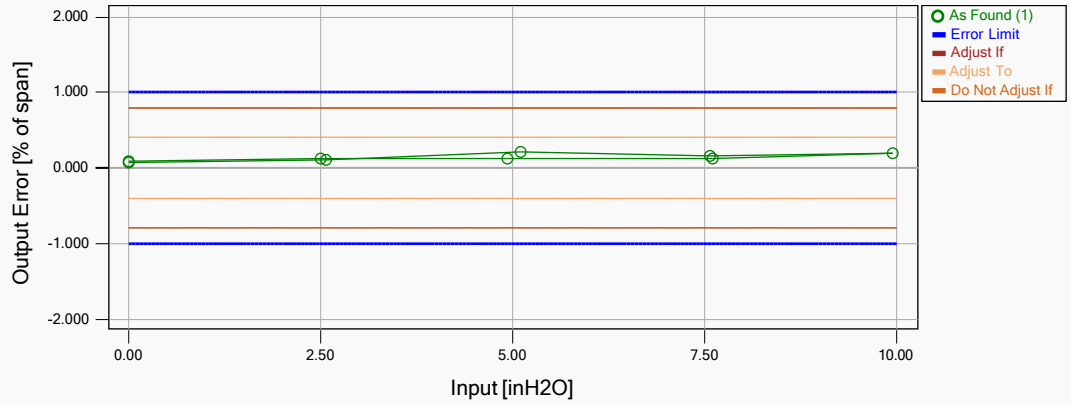
Calibration time	1/6/2022 10:34:25 AM
Next Calibration	
Environment	Environment

Calibration Procedure

Due Date	1/6/2023	Interval	1 years
Reject If Error >	1 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	P2C : 69381	Due Date: 3/30/2022
Output Calibrator	MC6 : 605835	Due Date: 3/30/2022
Output Module	IN : 25613	Due Date: 3/30/2022



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.206 % of span

Nominal Input [inH2O]	Actual Input [inH2O]	Nominal Output [mA]	Actual Output [mA]	Found Error [% of span]
0.0000	0.00	4.0000	4.0149	0.093
2.500	2.50	8.000	8.0190	0.119
5.000	4.94	12.000	11.9234	0.121
7.500	7.62	16.000	16.2126	0.129
10.000	9.96	20.000	19.9682	0.201
7.500	7.57	16.000	16.1361	0.151
5.000	5.12	12.000	12.2249	0.206
2.500	2.58	8.000	8.1452	0.108
0.0000	0.00	4.0000	4.0114	0.071

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/6/2022 10:34:25 AM

Calibration Report: SCR Differential Pressure Sensor
Unit 4 PDIT-403

Calibration Certificate

Certificate Number:

Position ID: 4-PDIT-403

Printed: 1/18/2022 1:57:32 PM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name	U4 SCR DP
Work Order Number	
Location	U4 ERU
Plant	CANYON/ERU/U4/

Device

Device ID	4-PDIT-403	
Serial Number	393481	
Manufacturer	Rosemount 3051C	
Rangeability		
Operating		Operating Humidity

Function

Name	U4 SCR DP (ud)	
Transfer Function	Linear	
Range	0 ... 10 inH2O (G)	4 ... 20 mA

Calibration Event

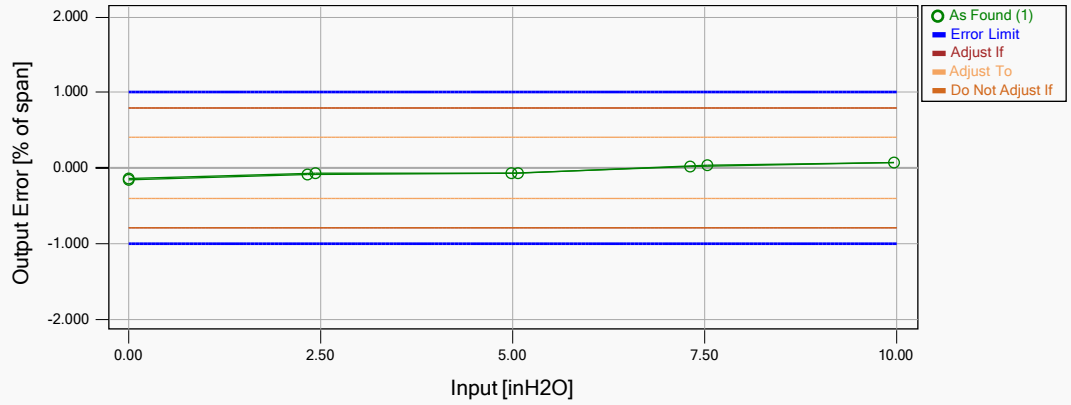
Calibration time	1/6/2022 12:36:25 PM	
Next Calibration		
Environment		Environment

Calibration Procedure

Due Date	1/6/2023	Interval	1 years
Reject If Error >	1 % of span		
Adjust To Error <	40 % of Reject If Error	Classification	
Calibration Strategy			

Calibrators

Input Calibrator	MC6 : 605835	Due Date: 3/30/2022
Input Module	P2C : 69381	Due Date: 3/30/2022
Output Calibrator	MC6 : 605835	Due Date: 3/30/2022
Output Module	IN : 25613	Due Date: 3/30/2022



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -0.156 % of span

Nominal Input [inH2O]	Actual Input [inH2O]	Nominal Output [mA]	Actual Output [mA]	Found Error [% of span]
0.0000	0.00	4.0000	3.9751	-0.156
2.500	2.34	8.000	7.7290	-0.094
5.000	5.07	12.000	12.1002	-0.074
7.500	7.54	16.000	16.0694	0.034
10.000	9.98	20.000	19.9799	0.074
7.500	7.32	16.000	15.7152	0.020
5.000	4.99	12.000	11.9713	-0.079
2.500	2.44	8.000	7.8925	-0.072
0.0000	0.00	4.0000	3.9786	-0.134

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/6/2022 12:36:25 PM

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 21

WASTE-10
COOLING TOWER SLUDGE TESTING

No Sludge developed for CY 2022

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