air pollution control district
SANTA BARBARA COUNTY

PERMIT to OPERATE 9108-R5

and

PART 70 OPERATING PERMIT 9108

CARPINTERIA FIELD – SOUTH COUNTY
OCS PLATFORM HOGAN

PARCEL OCS-P-0166
CARPINTERIA FIELD
OUTER CONTINENTAL SHELF

OPERATOR

ConocoPhillips/Beacon West

Santa Barbara County
Air Pollution Control District

February 2024

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ABBREVIATIONS/ACRONYMS

APCO	Air Pollution Control Officer
AP-42	USEPA *Compilation of Emission Factors* document
API	American Petroleum Institute
AQAP	Air Quality Attainment Plan
ASTM	American Society for Testing and Materials
ATC	Authority to Construct
bbl	barrel (42 gallons per barrel)
BS&W	Basic water and sediment
bhp	brake horsepower
bpd	barrels per day
BSFC	brake-specific fuel consumption
Btu	British thermal unit
CAAA	Clean Air Act Amendments of 1990
CAP	Clean Air Plan
CARB	California Air Resources Board
CEMS	continuous emissions monitoring system
CFR	Code of Federal Regulations
clp	component leak-path
CO	carbon monoxide
CO_2	carbon dioxide
COA	corresponding offshore area
District	Santa Barbara County Air Pollution Control District
ERC	emission reduction credit
FHC	fugitive hydrocarbon
FR	Federal Register
gr	grain
g	gram
gal	gallon
GHG	greenhouse gases
HHV	higher heating value
H_2S	hydrogen sulfide
H&SC	California Health and Safety Code
IC	internal combustion
I&M	inspection and maintenance
k	thousand
kV	kilovolt
lb.	pound
LHV	lower heating value
MCC	motor control center
MM, mm	million
MSDS	Material Safety Data Sheet
MW	molecular weight
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NGL	natural gas liquids
NO_X	oxides of nitrogen (calculated as NO_2)
NSPS	New Source Performance Standards
PFD	process flow diagram
P&ID	piping and instrumentation diagram
ppmv	parts per million volume (concentration)

psia	pounds per square inch absolute
psig	pounds per square inch gauge
PM	particulate matter
PM_{10}	particulate matter less than 10 µm in size
$PM_{2.5}$	particulate matter less than 2.5 µm in size
PSV	pressure safety valve
PTO	Permit to Operate
PRD	pressure relief device
PVRV	pressure vacuum relief valve
ROC	reactive organic compounds
scf	standard cubic feet
scfd	standard cubic feet per day
scfm	standard cubic feet per minute
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SO_X	sulfur oxides
TEG	triethylene glycol
TOC	total organic compounds
tpq	tons per quarter
tpy	tons per year
TVP	true vapor pressure
USEPA	United States Environmental Protection Agency or EPA
UPS	uninterrupted power supply
VRS	vapor recovery system
wt. %	weight percent

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1.0 Introduction

1.1 Purpose

General. The Santa Barbara County Air Pollution Control District (District) is responsible for implementing all applicable federal, state and local air pollution requirements, which affect any stationary source of air pollution in Santa Barbara County. The federal requirements include regulations listed in the Code of Federal Regulations: 40 CFR Parts 50, 51, 52, 55, 61, 63, 68, 70 and 82. The State regulations may be found in the California Health & Safety Code, Division 26, Section 39000 et. seq. The applicable local regulations can be found in the District's Rules and Regulations. This is a combined permitting action that covers both the Federal Part 70 permit (Part 70 Operating Permit 9108) and the District Operating Permit (Permit to Operate 9108-R5).

Santa Barbara County is designated as a non-attainment area for the state PM_{10} and Ozone ambient air quality standard.

Part 70 Permitting. This is the fifth renewal of the Outer Continental Shelf (OCS) Platform Hogan ("Hogan") Part 70 operating permit. The District triennial permit reevaluation has been combined with this Part 70 Permit renewal. Platform Hogan is a part of the Carpinteria Field – South County Stationary Source and is a major source for NO_X. Conditions listed in this permit are based on federal, state or District rules and requirements. Sections 9.A, 9.B and 9.C of this permit are enforceable by the District, the USEPA and the public since these sections are federally enforceable under Part 70. Where any references contained in these Sections refer to any other part of this permit, that part of the permit referred to is federally enforceable.

Pursuant to the stated aims of Title V of the CAAA of 1990 (i.e., the Part 70 operating permit program), this permit has been designed to meet two objectives. First, compliance with all conditions in this permit would ensure compliance with all District and federally enforceable requirements for the facility. Second, the permit is a comprehensive document to be used as a reference by the permittee, the regulatory agencies, and the public to assess compliance.

Greenhouse Gases - Rule 810. This reevaluation incorporates greenhouse gas emission calculations for the stationary source. These emissions establish baseline conditions under Rule 810, *Federal Prevention of Significant Deterioration*.

1.2 Facility Overview

1.2.1 Facility Overview: Platform Hogan is located on offshore lease tract OCS-P-0166, approximately 8 miles southeast from the City of Santa Barbara, California (Latitude 34°20'16" North, Longitude 119°52'22" West. For District regulatory purposes, Platform Hogan is situated in the Southern Zone[1] of Santa Barbara County. Figure 1.1 shows the location of the facility off the Santa Barbara County coast. Platform Hogan is a nine leg, 66 wellhead slot, platform placed in a water depth of 155 feet. The platform was installed in 1967, drilling operations began in 1968, and the first phase (50 wells) was concluded in 1979. There are no active oil and gas operations on the platform as the platform is currently being decommissioned.

During normal operations, oil and gas were transported via sub-sea pipelines to the La Conchita oil and gas plant in Ventura County. The platform was designed to produce 15,000 barrels per day of oil/water emulsion and 15 million standard cubic feet per day of natural gas. As of

[1] District Rule 102, Definition: "Southern Zone"

December 2014, the production rate was approximately 0.51 MMScf/day of gas, 313 Bbls/day of crude oil, and 515 Bbls/day of water. The average API gravity of the produced crude oil was 24.5º API as measured in 2009 and the TVP is 3 psia (at 81º F).

The " Carpinteria Field – South County " stationary source consists of two OCS platforms, namely:

- Platform Hogan (FID = 8001)
- Platform Houchin (FID = 8002)

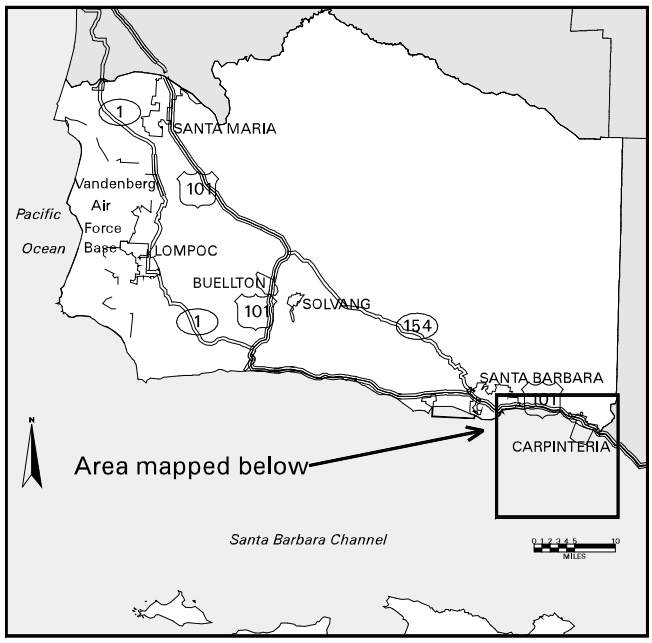
Operations at Platform Hogan included the following primary systems:

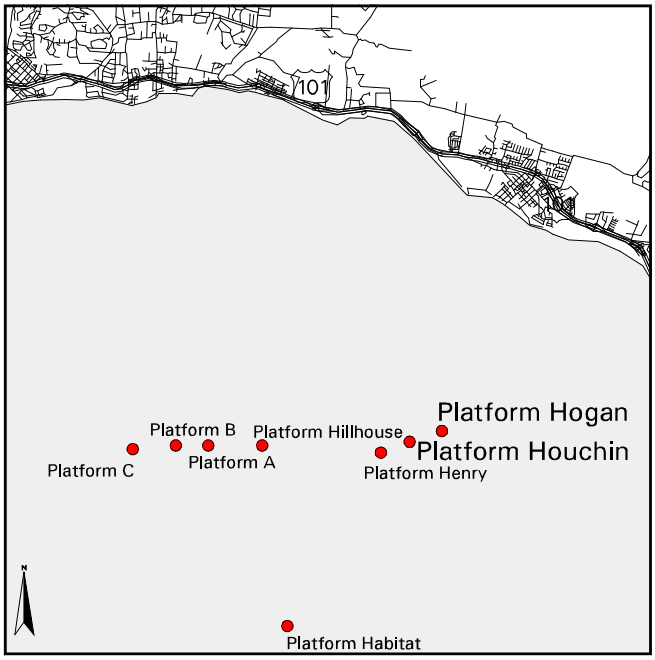
- Subsurface and wellhead production system
- Well cleanup system
- Gas lift production system
- Test separation system
- Oil and water shipping and metering system
- Gas shipping and metering system
- Low pressure compression system
- Wastewater injection system
- Electrical system
- Safety system

All equipment on Platform Hogan is powered electrically, except the cranes, the mud pump, the emergency equipment and the well service rig which are powered by diesel-fired IC engines.

Figure 1.1 Location Map for Coastal Platform Hogan

Carpinteria Field – South County





1.2.2 Facility New Source Overview: Since issuance of the initial operating permit PTO 9108 on September 4, 1994, the following NSR actions and permit modifications have been issued:

PERMIT	FINAL ISSUED	PERMIT DESCRIPTION
PTO Mod 9108-1	09/04/1994	Reduce supply boat emissions.
ATC/PTO 9556	06/21/1996	Reduce north crane engine hours <200 hours/yr.
ATC/PTO 10357-02	09/2001	Increases the operating hours of the North crane to 2000 hours per year.
ATC 10937	02/15/2003	Replace automatic well tester (AWT) unit.
PTO Mod 9108-3	07/28/2004	Replace fuel flow meters with hour meters on North crane.
PTO Mod 11950-01	03/07/2007	Permit a firewater pump, E/S generator, crane and a E/S generator due to loss of Rule 202 exemption.
ATC 12389	08/07/2008	Removal of the hydrocarbon vent stack and the installation of a production flare.
PTO 13308	09/19/2009	Permit well kill pump and well service rig engine due to a loss or Rule 202 exemption.
ATC-PTO 13371	02/16/2010	Increases the permitted planned, unplanned and purge/pilot flaring volumes for the production flare.
PTO 12389	05/16/12	Installation of a John Zink model KMI 8-1 open pipe flare.
ATC 13965	02/12/13	Modify the Emergency Response Vessel equipment description.
ATC 13982	02/25/13	Increase the maximum purge/pilot and unplanned flare volume on Platforms Hogan and Houchin.
ATC 14164	12/10/13	Control the CO emissions from the rig engine.
PTO 13965	04/19/2017	Modify the Emergency Response Vessel equipment description.
PTO 13982	04/19/2017	Increase the maximum purge/pilot and unplanned flare volume on Platforms Hogan and Houchin.
PT-70 ADM 14058	04/19/2017	Change of responsible official from Robert P. Carone to Charles W. Cappel.
PTO 14164	04/19/2017	Control the CO emissions from the rig engine.
Trn O/O 9108-01	12/19/2020	Transfer of operator from Pacific Operators Offshore to ConocoPhillips and Beacon West.
PT-70 ADM 16048	01/2023	Change of Responsible Official from Charles W. Cappel to Keith Wenal.
PTO 9108-04	Date of Issuance of PTO 9108-R5	Modify permit language of several permit conditions.
ATC 15893	10/19/2022	Increase CO emission factor for crew and supply auxiliary engines.
ATC 15928	6/20/2023	Add one additional supply boat and one crew boat.
PTO 16054	6/20/2023	Install portable crane.

1.3 Emission Sources

Air pollution emissions from Platform Hogan are the result of combustion sources, storage tanks, and piping components, such as valves and flanges. Section 4 of the permit provides the District's engineering analysis of these emission sources. Section 5 of the permit describes the allowable emissions from each permitted emissions unit, the platform as a whole; it also lists the potential emissions from non-permitted emission units.

The principal equipment components or activities that had the potential to cause the release of air contaminants from Platform Hogan or from equipment used in support of Platform Hogan operations are:

1. Crew boats used to transport personnel and cargo to and from the platform.
2. Supply boats used to transport equipment, fuel, and supplies to and from the platform.
3. Two pedestal cranes, each operated by a diesel fired internal combustion engine.
4. One portable crane operated by a diesel fired internal combustion engine.
5. One mud pump (Well Kill Pump) powered by a diesel fired internal combustion engine.
6. Various piping components, produced water tanks, and other evaporative sources that emit fugitive hydrocarbons to the atmosphere.
7. Well Service Rig, powered by a diesel fired IC engine that is used for well work over.
8. One (standby) diesel-fired firewater pump, which is operated in emergency situation;
9. Two (standby) diesel-fired power generators, which are operated in emergency situations.
10. One pedestal crane with an IC engine rated at less than 100 bhp.
11. One production flare used to flare gas from unplanned casing blowdown and planned pipeline pigging operations.

A list of all permitted equipment is provided in Section 10, Attachment 10.5.

1.4 Emission Control Overview

Air quality emission controls were formerly used on Platform Hogan for a number of emission units to reduce air pollution emissions. Additionally, the use of onshore utility grid power allowed Platform Hogan to operate without the use or need for large gas turbine-powered generators or compressors. The emission controls employed on the platform included:

- A Fugitive Hydrocarbon Inspection & Maintenance (I&M) program for detecting and repairing leaks of hydrocarbons from piping components, consistent with the requirements of Rule 331, to reduce ROC emissions by approximately 80%.

- Use of "N 60-type" nozzle and timing retard in the crane IC engines to lower NO_X emissions.

- Use of turbo-charging, enhanced seawater inter-cooling and 4^o injection timing retard on supply boat main engines to achieve a NO_X emissions rate of 8.4 g/bhp-hr.

- Use of turbo-charging, inter-cooling, and 4^o injection timing retard on the crew boat main engines to achieve a NO_X emissions rate of 8.4 g/bhp-hr.

- Use of Tier 2 main engines and Tier 4 auxiliary engines on the emergency response boats. The main engines on these boats achieve a NO_X emission rate of 6.76 g/bhp-hr. The NO_X

emission rate for the auxiliary engines is 5.04 g/bhp-hr.

- Portable crane engine equipped with a turbocharger and a diesel oxidation catalyst.

- Use of a production flare to combust gas from unplanned casing blowdown and gas produced during planned pipeline pigging operations.

1.5 Offsets/Emission Reduction Credit Overview

This facility does not provide any emission reduction credits (ERCs) to any other sources; neither, does the facility require any ERCs to operate its equipment.

1.6 Part 70 Operating Permit Overview

1.6.1. Federally-enforceable Requirements: All federally enforceable requirements are listed in 40 CFR Part 70.2 (Definitions) under "applicable requirements." These include all SIP-approved District Rules, all conditions in the District-issued Authority to Construct permits and all conditions applicable to major sources under federally promulgated rules and regulations. All permits (and conditions therein) issued pursuant to the OCS Air Regulation are federally enforceable. All these requirements are also enforceable by the public under CAAA. (see Tables 3.1 and 3.2 for a list of federally enforceable requirements).

1.6.2. Insignificant Emissions Units: Insignificant emission units are defined under District Rule 1301 as any regulated air pollutant emitted from the unit, excluding Hazardous Air Pollutants (HAPs), that are less than 2 tons per year based on the unit's potential to emit and any HAP regulated under section 112(g) of the Clean Air Act that does not exceed 0.5 ton per year based on the unit's potential to emit. Insignificant activities must be listed in the Part 70 application with supporting calculations. Applicable requirements may apply to insignificant units. (See Attachment 10.6 for the Insignificant Emissions Unit list)

1.6.3. Federal Potential to Emit: The federal potential to emit (PTE) of a stationary source does not include fugitive emissions of any pollutant, unless the source is: (1) subject to a federal NSPS/NESHAP requirement which was in effect as of August 7, 1980, or (2) included in the 29-category source list specified in 40 CFR51.66 or 52.21. Thus, its fugitive emissions are not listed in its federal PTE. The federal PTE does include all emissions from any insignificant emissions units. Three internal combustion engines Platform Hogan are subject to NESHAP per *40 CFR Part 63 {MACT Standards Subpart ZZZZ}*. (*See Section 5.4 for the federal PTE for this source.*)

1.6.4. Permit Shield: The operator of a major source may be granted a shield: (a) specifically stipulating any federally enforceable conditions that are no longer applicable to the source and (b) stating the reasons for such non-applicability. The permit shield must be based on a request from the source and its detailed review by the District. Permit shields cannot be granted indiscriminately with respect to all federal requirements. No request for a permit shield has been made.

1.6.5. Alternate Operating Scenarios: A major source may be permitted to operate under different operating scenarios, if appropriate descriptions of such scenarios are included in its Part 70 permit application and if such operations are allowed under federally-enforceable rules. No request has been made for alternative operating scenarios.

1.6.6. Compliance Certification: Part 70 permit holders must certify compliance with all applicable federally enforceable requirements including permit conditions. Such certification must accompany each Part 70 permit application; and, be re-submitted annually on or before March 1st

or on a more frequent schedule, as specified in the permit. Each certification is signed by a "responsible official" of the owner/operator company whose name and address is listed prominently in the Part 70 permit. (see Section 1.6.10 below)

1.6.7. Permit Reopening: Part 70 permits are re-opened and revised if the source becomes subject to a new rule or new permit conditions are necessary to ensure compliance with existing rules. The permits are also re-opened if they contain a material mistake or the emission limitations or other conditions are based on inaccurate permit application data. (see Section 4.10.3, CAM Rule)

1.6.8. MACT/Hazardous Air Pollutants (HAPs): Part 70 permits also regulate emission of HAPs from major sources through the imposition of maximum achievable control technology (MACT), where applicable. See Sections 3.2.5 for specifics on 40 CFR 63, Subpart HH and Section 3.2.6 on 40 CFR 63, Subpart ZZZZ.

1.6.9. Compliance Assurance Monitoring (CAM): The CAM rule became effective on April 22, 1998. This rule affects emission units at the source subject to a federally enforceable emission limit or standard that uses a control device to comply with the emission standard, and either pre-control or post-control emissions exceed the Part 70 source emission thresholds. Sources subject to CAM Rule must submit a CAM Rule Compliance Plan along with their Part 70 operating permit renewal applications. (see Section 4.9.3). The District has determined that no emissions unit at this facility is subject to CAM Rule.

1.6.10. Responsible Official: The designated responsible official and their mailing addresses are:

Keith Wenal
Beacon West Energy Group
1145 Eugenia Place, Suite 101
Carpinteria CA, 93013

2.0 Process Description

2.1 Process Summary

There is currently no active oil and gas operations on Platform Hogan. Historically, the only processing performed on the platform was the separation of the produced fluids and gas into separate streams. The following facility descriptions are of those which formerly occurred on the platform.

Production facilities consisted of wells, gas/liquid separators, a low pressure vapor recovery compressor, a gas lift system and kick-off compressor, liquid shipping pumps, and surge tanks that were once needed to ship produced fluids and gas to the La Conchita treatment facility in Ventura County. The crude oil and natural gas formerly produced were sweet and had low concentrations of H_2S and mercaptans.

Platform Hogan had a design production rate of 15,000 bpd of oil emulsion and 15 million scf/day of gas. Produced fluids and gas are no longer shipped in the two separate sub-sea pipelines to the La Conchita oil and gas plant.

2.1.1 Production: Platform Hogan has 66 allowed well slots. Fifty wells were drilled. All wells are currently shut-in and isolated.

The oil production flow line from each wellhead tie into four separate piping manifolds or headers: two production headers, a test header, and a well clean-up header. Normally, the flow from each well is initially directed into one of the production headers, and then to a production separator (6471 or 6472). Each of the two production header and separator systems can handle the entire flow from all the wells. Two separate production systems are provided on the platform to allow for equipment maintenance and repair without having to shut in the production wells.

The test header and test separator (L49904) are used to flow test individual production wells. For the flow test, the well is switched from the production header to the test header. Only one well is tested at a time.

The well clean-up header and separator are used to start-up a well after a work over is completed. The well clean-up separator (6474) is a horizontal vessel and has a high gas capacity. For the first few hours after a well is brought back on line, gas surge and contamination by drilling fluid or reservoir sand can occur. After the flow rate stabilizes and any drilling fluids are removed, the well is switched over to the production header and separator.

Produced oil and water from the production separators, the cleanup separator, and the test separator flows to one of two surge tanks (6473 and 6475). The surge tanks are used to provide surge capacity and ensure adequate suction pressure to the four oil shipping pumps. This extra capacity allows the pumps to run continuously without frequent starting and stopping that could upset the operation of downstream liquid handling equipment. The pipeline shipping pumps send the produced fluids directly to the sub-sea pipeline to the Conchita facility. A turbine meter is provided on the pipeline to measure the fluid flow rate and totalize the volume of oil and water emulsion produced.

Platform Hogan has a small deck drain water collection system. There are no clarifiers or gas flotation units on the platform for water treating. Fluids collected by the deck drains flow to a deck drain tank and are pumped to the settling tank. Fluids from the settling tank are pumped to the surge tank and are mixed with the produced fluids from the separators.

2.1.2 Gas, Oil, and Water Separation: The horizontal two-phase separators (6471 and 6472) measure six feet in diameter by fifteen feet long, seam-to-seam. The wells were produced directly into the production separators, and the normal production from all the wells on Platform Hogan is handled by these separators. Normally both separators are in operation, thereby maximizing the liquid retention time and providing the best possible gas/liquid separation.

The separators operate at approximately 70 psig and 100^{o}F. The gas section (upper half) of the separator is designed to reduce the fluid velocity sufficiently to cause liquids to drop out. Both separators also have a mist extractor to promote removal of liquid droplets from the gas stream. Operating pressure of the separators is automatically controlled by a pressure control valve in the gas-to-shore pipeline.

The liquid section (lower half) of the separator is designed with sufficient retention time to allow entrained gas to bubble out of the liquid. The liquid section does not split the oil and water into two separate streams. Liquid level in the production separator is automatically controlled by a level control valve. Oil and water from the production separators flows to the surge tanks.

2.1.3 Waste Water Treatment: There are no wastewater treatment facilities on Platform Hogan. Produced fluids are no longer shipped to the La Conchita facility for processing.

2.1.4 Well Testing and Maintenance: The test separator is a horizontal separator, three feet in diameter by eight feet long, seam-to-seam. Its capacity is smaller than the production separators because only one well is tested at a time. It also has a mist extractor to promote removal of liquid droplets from the gas stream. The test separator has its own backpressure control valve to operate at a higher pressure than the production separators. Gas from the separator is measured by an orifice meter in the outlet line, and is commingled with the gas from the production separator.

The combined flow of oil and water from the test separator is measured by a turbine meter. The water cut (fraction of water in the produced fluids) is determined by a capacitance probe in the liquid outlet line. Oil and water from the test separator flows to the oil surge tank.

After completion of a well work-over, the oil production from a well is sent to the clean-up separator (6474), which segregates the well from the rest of the platform's wells and prevents contamination of the production separators and piping. The initial production from a well can also have frequent flow surges or high gas flow rates, and producing the well into the well clean-up separator prevents upsetting the normal production from the platform. After the flow from the well has stabilized, it is switched back to the production header and separator.

The well clean-up separator is a horizontal two-phase separator, four feet in diameter by 15 feet long, seam-to-seam. Gas from the separator is measured by an orifice meter in the outlet line, and is commingled with the gas from the production separators.

The total fluid flow from the well clean-up separator is measured by a turbine meter and is sent to the oil surge tank.

2.1.5 Emulsion-Breaking Fluid and Crude Oil Storage: There are no emulsion-breaking fluid or crude oil storage facilities on Platform Hogan.

2.1.6 Emulsion Shipping: The surge tanks (6473 and 6475) are horizontal pressure vessels six feet in diameter by fifteen feet long, seam-to-seam. They operate at approximately 35 psig, with the operating pressure controlled by the vapor recovery compressor. Gas from the surge tanks was used by the vapor recovery compressor to regulate tank pressure, with excess going to the gas pipeline. There are no internal baffles or mist extractors inside the surge tanks. They provide surge capacity to stabilize the flow of fluids and prevent upsets in the downstream processing equipment. They also hold a sufficient volume of produced fluids to allow the shipping pumps to operate continuously. High and low level switches in the surge tanks automatically open and close make-up line valves to maintain proper fluid level and gas pressure.

2.1.7 Drain Sumps: Platform Hogan is equipped with a deck drain system, which collects oil and water from the production and upper decks. The decks are equipped with curbs around the perimeter and curbs or seals around the deck penetrations to prevent any liquids from spilling overboard. Fluids from the production deck flow to the deck drain tank, with fluids from the upper deck flowing directly to the settling tank. The deck drain tank is a horizontal vessel with a surface area of 18 square feet that operates at atmospheric pressure. A sump pump (PBH-DK-1) sends the collected fluids to the settling tank. The settling tank is a horizontal vessel, 6 feet in diameter by 18 feet long, seam-to-seam that operates at atmospheric pressure. The liquids from the settling tank are pumped to the surge tanks, with overflow going to the disposal tube. The disposal tube is a vertical drainpipe that discharges fluids near the ocean floor.

2.1.8 Gas Compression, Dehydration, and Disposition: No gas processing, dehydration, or sweetening was performed on Platform Hogan. Natural gas was removed from the crude oil by the

production separators, test separator, well clean-up separator, and oil surge tanks. A vapor recovery compressor is used to maintain the pressure in the surge tanks.

There are four wells on Platform Hogan that were formerly produced by gas lift. A 10-inch pipeline from shore supplied the gas needed for the gas lift operations. The gas flows through a scrubber to remove any liquids and is then boosted in pressure by the kick-off compressor.

2.1.9 Gas Sweetening and Sulfur Recovery: The gas produced from Platform Hogan was sweet gas. There are no gas sweetening or sulfur recovery facilities on Platform Hogan.

2.1.10 Vapor Recovery Systems: Platform Hogan is equipped with a vapor recovery system rated at 1.2 MMscfd. Gas from the surge tank is compressed to approximately 90 psig and is directed to the onshore pipeline. All other produced gas from the platform flows to the onshore gas pipeline at casing head pressure of about 50 psig. The deck sump and settling tank are not connected to vapor recovery or the gas gathering system.

2.1.11 Fuel Gas System: Platform Hogan does not have a fuel gas system as there is no equipment on the platform that burns natural gas. Diesel #2 fuel, which contains less than 0.5% sulfur by weight, is used by the two pedestal cranes and other diesel fired equipment. Platform Hogan has one 10,400-gallon diesel storage tank located at the north pedestal crane.

2.1.12 Production Flare System: Platform Hogan has a produced gas flare system that is designed to combust gases from platform process equipment. During an emergency condition, this system flares these gases for safety reasons. For safety reasons and to comply with federal regulations, gas flaring is required during unplanned casing blowdown prior to well work over as well as during planned smart-pigging required for the pipeline. Planned events include (but are not limited to):

- Pipe line pigging operations
- Compressor shutdowns/startups for routine maintenance
- New well unloading and cleanup
- Clearing of gas lines during equipment or process turnarounds
- Episodic events such as equipment depressurization for maintenance, purging of vessels and gas pipeline blowdown
- Bureau of Safety and Environmental Enforcement ordered safety tests

Unplanned or emergency events include (but are not limited to) the following:

- Emergency shutdowns caused by safety devices
- Well surges during drilling or production
- Unintentional pressure safety valve releases
- Well casing blowdown during work-over and rig operations (unplanned)
- Processing equipment or compressor failures
- Onshore facility failures that affect platform operations
- Faulty-sensor caused shutdowns
- High/low temperature and pressure indicated shutdowns
- Electrical equipment failures and power failure
- Pipeline failures

- Earthquakes or other unforeseeable emergency events

2.2 Support Systems

2.2.1 Piping Assemblies and Pipelines: The piping on Platform Hogan is designed, tested, and installed in general accordance with API 14C and 14E. In general, piping 2" or larger is of welded carbon steel construction; similarly, piping 1.5 inches and smaller is generally of threaded carbon steel construction.

Four sub-sea pipelines are associated with Platform Hogan. An isolated and idle 12-inch produced gas pipeline and a 10-inch oil and water pipeline run from the platform to the La Conchita facility. An isolated and idle 10-inch gas pipeline and an isolated and idle 4-inch wastewater pipeline run from the shore to the platform. The gas line to the platform supplies gas for gas lift operations, while the wastewater is stored in a 400 bbl kill water tank, is injected into a water disposal well or is disposed of per a NPDES permit.

2.2.2 Power Generation: Electrical power for Platform Hogan is provided from shore by SCE through a 34.5 kilovolt sub-sea cable. The platform has a 500 kW diesel stand-by generator, which is used in the event of a power outage from SCE. During such a power failure, the Motor Control Center (MCC) on Platform Hogan supplies standby power from the diesel generator to critical equipment. A 24-volt battery backup system is provided for the essential platform controls.

2.2.3 Crew Boat: The operator uses two crew/utility boats (hereinafter referred to as "crew boats") for a variety of purposes in support of Platform Hogan. The crew boats make two to four round trips per day, seven days a week, to the platform from Casitas Pier in Carpinteria. The crew boats also services Platform Houchin. The crew boat is used for the following activities:

1. Load, transport (receipt, movement and delivery) and unload personnel, supplies, and equipment to and from the platforms and dock or pier locations for routine operations and special logistic situations, [Examples: transport of drilling/work-over fluid, casing, specialty chemicals, cement or other supplies].
2. Support supply/work boat while it is working at the platforms, [Examples: hold supply boat in position and transfer equipment or supplies].
3. Operate boat engines to maintain boat positioning while working at the platforms, docks, or piers or in open waters.
4. Support operations in conjunction with maintenance and/or repairs on platform components, [Examples: mooring buoy, boat dock, structural supports, diving operations and cathodic protection equipment].
5. Support operations in conjunction with surveys of platform and sub-sea components including pipelines and power cables, [Examples: side scan sonar, ROV inspection, diving inspections and marine biological inspections].
6. Support operations in conjunction with drilling and work-over operations, [Examples: perforation watch and marine safety zone surveillance].
7. Support/participate in oil spill drills and actual incidents, [Examples: deploying boom and recovery equipment, taking samples and personnel exposure measurements and other spill response activities].
8. Support/participate in safety, health, and emergency drills and actual incidents. [Examples: third party requests for assistance, Medi-vac and platform evacuation as well as other safety and health activities,-fire and explosion, well control blowout, storm, vessel collision, bomb

threat, support operations during periods of elevated Homeland Security Alert threat levels (orange or red) as requested by Federal Agencies, and man overboard].

9. Provide standby boat services when required due to limitations of platform survival craft capabilities and/or platform personnel count.
10. Supply marine support services to accommodate activities by local, state and federal agencies and special industry / public interest groups when requested.
11. Conduct engine source compliance tests as required by the permits or other rules and regulations.
12. Perform vessel and boat maintenance as required.
13. Travel to safe harbor from platforms, dock or pier during extreme weather or other emergency situations.

2.2.4 Supply Boat: Permitted emissions are based on the operations of two supply boats used to supply a variety of purposes in support of Platform Hogan. (Note: The operator is using its crew boat at this time as its supply boat.) In its current maintenance and monitoring mode, supply boat use is approximately 6-8 trips per month. Should well work or well repair activity be undertaken, the supply boat activity increases, but is expected not to exceed 100 trips per year. The supply boat, based in Port Hueneme, also services Platform Houchin. The supply boat is used for the following activities:

1. Load, transport (receipt, movement and delivery) and unload personnel, equipment and supplies to and from the platforms and Port Hueneme or other ports during routine operations to accommodate special logistic situations, [Examples: transport of drilling/work-over fluid, casing, specialty chemicals, cement or other supplies to a dock or pier to accommodate special needs of a vendor].
2. Support supply/work boat while it is working at the platforms, [Examples: hold supply boat in position and transfer equipment or supplies].
3. Operate boat engines to maintain boat positioning while working at the platforms, docks, or piers or in open waters.
4. Support operations in conjunction with maintenance and/or repairs on platform components, [Examples: mooring buoy, boat dock, structural supports, diving operations and cathodic protection equipment].
5. Support operations in conjunction with surveys of platform and sub-sea components including pipelines and power cables, [Examples: side scan sonar, ROV inspection, diving inspections and marine biological inspections].
6. Support operations in conjunction with drilling and work-over operations, [Examples: perforation watch and marine safety zone surveillance].
7. Support/participate in oil spill drills and actual incidents. [Examples: deploying boom and recovery equipment, taking samples and personnel exposure measurements and other spill response activities].
8. Support/participate in safety, health, and emergency drills and actual incidents, [Examples: third party requests for assistance, Medi-vac and platform evacuation as well as other safety and health activities,-fire and explosion, well control blowout, storm, vessel collision, bomb threat, support operations during periods of elevated Homeland Security Alert threat levels (orange or red) as requested by Federal Agencies, and man overboard].

9. Provide standby boat services when required due to limitations of platform survival craft capabilities and/or platform personnel count.
10. Supply marine support services to accommodate activities by local, state and federal agencies and special industry/public interest groups when requested.
11. Conduct engine source compliance tests as required by the permits or other rules and regulations.
12. Perform vessel and boat maintenance as required.

2.2.5 Helicopter: The helipad on Platform Hogan is no longer in service.

2.2.6 Emergency Drills: The operator conducts periodic and unannounced emergency response drills. Several plans have been developed for different types of emergency situations that could occur on or around the platform. The plans include the *Emergency Evacuation Plan and Oil Spill Contingency Plan*. All of the plans have been prepared to comply with applicable rules and regulations and guidelines set forth by the appropriate regulatory agencies. In addition, the following drills are practiced by the entire crew on a regular basis: (1) man overboard, (2) combustible gas, (3) abandon platform, and (4) emergency shut down.

2.3 Drilling Activities

2.3.1 Drilling Activities: Drilling activities including well work overs had periodically occurred on the platform. Engines with rated horsepower greater than or equal to 50 horsepower used in drilling activities must obtain District permits or qualify for the Rule 202.F.2 exemption.

2.4 Maintenance/Degreasing Activities

2.4.1 Paints and Coatings: Intermittent surface coating operations were conducted throughout the platform for occasional equipment maintenance needs. Normally only touch-up and equipment labeling or tagging is performed using spray cans.

2.4.2 Solvent Usage: Solvents not used for surface coating thinning were be used on the platform for daily operations. Usage includes cold solvent degreasing and wipe cleaning with rags.

2.5 Planned Process Turnarounds

The operator performs no planned process turnarounds on Platform Hogan. All production paths have bypass and redundant equipment to ensure no downtime in production. Major pieces of equipment undergo maintenance as specified by the manufacturer. Maintenance of critical components is carried out according to the requirements of Rule 331 {Fugitive Emissions Inspection and Maintenance}.

2.6 Other Processes

Pigging: Pigging operations are no longer performed between the facility and the La Conchita Plant in Ventura County. The pigging system is connected to the La Conchita Plant's pig receiver.

Unplanned Activities/Emissions: The operator does not anticipate or foresee any circumstances that would require special equipment use and result in excess emissions. The operator has stated that no other processes exist that would be subject to permit.

2.7 Detailed Process Equipment Listing

Refer to Section 10, Attachment 10.4 for a complete listing of all permitted and exempt equipment.

3.0 Regulatory Review

3.1 Rule Exemptions Claimed

- District Rule 202 (Exemptions to Rule 201): Section D.6 of the Rule requires the operator to report any *de minimis* modifications at the facility.

- District Rule 202 (Exemptions to Rule 201): The following equipment units are exempt from the requirements to obtain a District permit. An exemption from a District permit, however, does not grant relief from any federally applicable prohibitory rule (or permit) unless specifically exempted by that prohibitory rule. (See also Section 10.5 for a complete list of permit-exempt equipment):
  - Diesel fuel tank: 10,400-gallon capacity (Section V.2)

  Note: The historical District Rule 202 (Section F.1.6) drilling engine exemption for OCS sources expired on February 19, 2009, so drilling engines with a rated horsepower of 50 or greater are no longer permit exempt. However, drilling or other engines that qualify as portable and are registered in the State Portable Equipment Registration Program (PERP registration) may qualify for a permit exemption in accordance with Rule 202.F.2. District authorization is required prior to use of PERP registered equipment on the OCS.

- District Rule 325 (Crude Oil production and Separation): The facility obtained an exemption from Rule 325, Sections D.1 and D.2, in May 1999 for its deck drain tank and settling tank under the provisions of Rule 325.B.3 (ROC content of tank liquids less than 5mg/l)

- District Rule 331 (Fugitive Emissions Inspections and Maintenance): The following exemptions to Rule 331 were requested for and approved by the District:
  - Section B.2.b for components buried below the ground.
  - Section B.2.c for one-half inch stainless steel tube fittings.

- District Rule 333 (Control of Emissions from Reciprocating IC Engines): Under Section B.1.b, engines exempt per Rule 202 are also exempt from the requirements of this rule. Under Section B.2, engines with total aggregated operational periods less than 200 hours per calendar year are exempt from the requirements of this rule, except section D.1, Section D.2, Section J.3, and Section K. The South Crane engine, the emergency standby generator engine, the Well Kill Pump engine and the firewater pump engine are all limited to less than 200 hours per calendar year.

3.2 Compliance with Applicable Federal Rules and Regulations

3.2.1 40 CFR Parts 51/52 {Non-attainment Area Review and Prevention of Significant Deterioration}: Platform Hogan was constructed and permitted prior to the applicability of these regulations. However, all permit modifications at Platform Hogan after September 4, 1992, are subject to District New Source Review requirements. Compliance with District Regulations VIII (*New Source Review*) ensures that any future modifications to the facility will comply with these regulations.

3.2.2 40 CFR Part 55 {OCS Air Regulations}: As an existing OCS source, Platform Hogan is operating in compliance with the requirements of this regulation.

3.2.3 40 CFR Part 60 {New Source Performance Standards}: None of Platform Hogan's existing equipment is subject to the provisions of this Part.

3.2.4 40 CFR Part 61 {National Emissions Standards for Hazardous Air Pollutants}: This facility is not currently subject to any of the provisions of Part 61.

3.2.5 40 CFR Part 63 {Maximum Achievable Control Technology (MACT)}: In September 2001, the facility submitted data to the USEPA and to the District concerning their 'initial' gas-to-oil ratio (GOR) and the initial API gravity of their oil. The facility was determined to be exempt from the Oil and Gas Production MACT, Subpart HH under 40 CFR 63.760(e)(1) ['Black Oil Exemption']; however, it is subject to recordkeeping under the General Standards of Part 63, i.e., under §63.10(b)(3).

3.2.6 40 CFR Part 63 {*MACT Standards Subpart ZZZZ}:* The revised National Emission Standard for Hazardous Air Pollutants (NESHAP) for reciprocating internal combustion engines (RICE) was published in the Federal Register on January 18, 2008. An affected source under the NESHAP is any existing, new, or reconstructed stationary RICE located at a major source or area source.

Existing Non-Emergency Non-Black Start Compression Ignition RICE ≤ 300 hp. Two engines, the North Crane (ID# 004873) and the South Crane (ID# 004872) are subject to the requirements for engines rated less than or equal to 300 bhp. The following operating requirements apply:

(1) Change the oil and filter every 1,000 hours of operation or annually, whichever comes first; and

(2) Inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first; and

(3) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first.

Existing Non-Emergency Non-Black Start Compression Ignition RICE 300 < hp ≤ 500. Two engines, the Well Service Rig (ID# 007107) and the Well Kill Pump (ID 004856) are subject to the requirements for existing, non-emergency, non-black start CI stationary engines rated between 300 and 500 bhp. The annual hours of the Well Kill Pump engine have been reduced to 100 hours in order to qualify as a low use engine as defined by §63.6675. Table 2c of the Subpart specifies maintenance requirements for this engine which includes oil and filter changes, and inspections of the air cleaner, hoses, and belts. 40 CFR 63 Subpart ZZZZ requires a carbon monoxide reduction of 70 percent or limiting the concentration of CO in the exhaust gas to 49 ppmvd or less at 15 percent oxygen for the Well Service Rig engine. This regulation also requires the installation of a closed crankcase ventilation system or an open crankcase filtration emission control system.

Existing Emergency Compression Ignition RICE. One engine, the diesel fired 605 bhp standby emergency generator (ID# 102020) is subject to the following requirements:

(1) Change the oil and filter every 500 hours of operation or annually, whichever comes first; and

(2) Inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first; and

(3) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first.

3.2.7 40 CFR Part 64 {Compliance Assurance Monitoring}: This rule became effective on April 22, 1998. None of the emission units at this facility are subject to the requirements of the CAM Rule, per 40 CFR 64.2 (Applicability). Pre-control emissions of any pollutant from the North Crane unit are less than 100 tpy; while the South Crane and the boat engines do not use any control device to comply with any federally enforceable emissions limit.

3.2.8 40 CFR Part 70 {Operating Permits}: This Subpart is applicable to Platform Hogan. Table 3.1 lists the federally enforceable District promulgated rules that are "generic" and apply to the facility. Table 3.2 lists the federally enforceable District promulgated rules that are "unit-specific" that apply to the facility. These tables are based on data available from the District's administrative files and the facility's Part 70 Operating Permit Renewal Application 9108-R5.

In its Part 70 renewal application, the operator certified compliance with all existing District rules and permit conditions. This certification is also required of the operator semi-annually. Issuance of this permit and compliance with all its terms and conditions will ensure that the facility complies with the provisions of all applicable Subparts.

3.3 Compliance with Applicable State Rules and Regulations

3.3.1 Division 26. Air Resources {California Health & Safety Code}: The administrative provisions of the Health & Safety Code apply to this facility and will be enforced by the District. These provisions are District-enforceable only.

3.3.2 California Administrative Code Title 17: These sections specify the standards by which abrasive blasting activities are governed throughout the State. All abrasive blasting activities at the Platform Hogan are required to conform to these standards. Compliance will be assessed through onsite inspections. These standards are District-enforceable only. However, CAC Title 17 does not preempt enforcement of any SIP-approved rule that may be applicable to abrasive blasting activities.

3.3.3 California Administrative Code Title 17 Section 93118.5: The Airborne Toxic Control Measure (ATCM) for Diesel Engines on Commercial Harbor Craft Operated within California Waters and 24 Nautical Miles of the California Baseline specifies emission standards and operational requirements for new and in-use engines. The crew boat and supply boat engines are subject to this ATCM. As part of the compliance with this ATCM, the crew boat and supply boat engines are required to burn CARB ultra-low sulfur diesel in all the engines onboard the vessel and install hour meters on all diesel engines. The crew boat and supply boat are not considered ferries, excursion vessels, tugboats, towboats, push boats, or multipurpose harbor craft, so they are not subject to the in use engine replacement requirements of section (e)(6).

3.3.4 Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition (CI) Engines (CCR Section 93115, Title 17): This ATCM applies for all stationary diesel-fueled engines rated over 50 brake horsepower (bhp) at this facility. On March 17, 2005, District Rule 202 was revised to remove the compression-ignited engine (e.g. diesel) permit exemption for units rated over 50 bhp to allow the District to implement the State's ATCM for Stationary Compression Ignition Engines. Compliance shall be assessed through onsite inspections and reporting. The operating requirements and emission standards outlined in the ATCM do not apply to stationary diesel-fueled engines solely used on the OCS. However, these OCS engines are required to meet fuel, recordkeeping, reporting, and monitoring requirements outlined in the ATCM. On

January 30, 2006 the DICE ATCM was incorporated into 40 CFR Part 55, making the requirements of the DICE ATCM federally enforceable in the OCS.

3.4 Compliance with Applicable Local Rules and Regulations

3.4.1 Applicability Tables: Tables 3.1 and 3.2 list the federally-enforceable District rules. Table 3.3 lists the non-federally-enforceable District rules that apply to this facility.

3.4.2 Rules Requiring Further Discussion: This section provides a more detailed discussion regarding the applicability and compliance of certain rules. The following is a rule-by-rule evaluation of compliance for Platform Hogan:

Rule 201 - Permits Required*:* This rule applies to any person who builds, erects, alters, replaces, operates or uses any article, machine, equipment, or other contrivance which may cause the issuance of air contaminants. The equipment included in this permit is listed in Attachment 10.4. An Authority to Construct is required to return any de-permitted equipment to service and may be subject to New Source Review.

Rule 210 - Fees: Pursuant to Rule 201.G District permits are reevaluated every three years. This includes the re-issuance of the underlying permit to operate. Fees for this facility are recovered under the cost reimbursement provisions of this rule.

Rule 301 (Circumvention): This rule prohibits the concealment of any activity that would otherwise constitute a violation of Division 26 (Air Resources) of the California H&SC and the District rules and regulations. To the best of the District's knowledge, the facility is operating in compliance with this rule.

Rule 302 (Visible Emissions): This rule prohibits the discharge from any single source any air contaminants for which a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade than a reading of 1 on the Ringelmann Chart or of such opacity to obscure an observer's view to a degree equal to or greater than a reading of 1 on the Ringelmann Chart. Equipment at Platform Hogan subject to this rule includes all diesel-fired, reciprocating internal combustion engines. Improperly maintained diesel engines have the potential to violate this rule. Compliance will be assured by requiring all engines to be maintained according to manufacturer maintenance schedules. Also, the operator will perform *quarterly* visible emissions checks for all diesel-fired IC engines.

Rule 305 (Particulate Matter, Southern Zone): Platform Hogan is considered a Southern Zone source. This rule prohibits the discharge into the atmosphere from any source particulate matter in excess of specified concentrations measured in gr/scf. The maximum allowable concentrations are determined as a function of volumetric discharge, measured in scfm, and are listed in Table 305(a) of the rule. Emission units subject to this rule include: all diesel- fired IC engines on the platform. Improperly maintained diesel engines have the potential to violate this rule. PM_{10} emissions from the diesel-fired IC engines will meet emission limitations through proper engine maintenance per Section 9.C permit conditions on maintenance.

Rule 309 (Specific Contaminants): Under Section "A," no source may discharge sulfur compounds and combustion contaminants in excess of 0.2% as SO_2 (by volume) and 0.3 gr/scf (at 12% CO_2) respectively. All diesel powered piston IC engines have the potential to exceed the combustion contaminant (gr/scf) limit if not properly maintained (see discussion on Rule 305 above for compliance). Note that all diesel-fired equipment have to comply with the fuel sulfur

limits in District Rule 311 (see below), which keeps the SO_2 emission concentration well below 200 ppmv.

Rule 310 (Odorous Organic Compounds): This rule prohibits the discharge of H_2S and organic sulfides that result in a ground level impact beyond the property boundary in excess of 0.06 ppmv averaged over 3 minutes or 0.03 ppmv averaged over 1 hour. No measured data exists to confirm compliance with this rule; however, all produced gas from Platform A is sweet (*less than 4 ppmv S*). As a result, it is expected that compliance with this rule will be achieved.

Rule 311 (Sulfur Content of Fuels): This rule limits the sulfur content of fuels combusted at the Platform Hogan to 0.5% (by wt.) for liquids fuels {and 15 gr/100 scf (calculated as H_2S) or 239 ppmvd for gaseous fuels}. All reciprocating IC engines on the platform and on the crew and supply boats use CARB certified diesel fuel (total sulfur content of 0.0015 percent by weight), which is in compliance with the liquid fuel limits.

Rule 317 (Organic Solvent): This rule sets specific prohibitions against the usage of both photochemically and non-photochemically reactive organic solvents (40 lb./day and 3,000 lb./day respectively). Solvents may be used on the Platform Hogan during normal operations for degreasing by wipe cleaning and for use in paints and coatings in maintenance operations. There is the potential to exceed the limits under Section B.2 during significant surface coating activities. To demonstrate compliance with this rule, the operator is required to maintain detailed daily solvent usage records (along with the solvent's MSDS) and submit them semi-annually to the District.

Rule 321 (Solvent Cleaning Operations): This rule was revised to fulfill the commitment in the Clean Air Plan to implement requirements for solvent cleaning machines and solvent cleaning. The revised rule contains solvent reactive organic compounds (ROCs) content limits, revised requirements for solvent cleaning machines, and sanctioned solvent cleaning devices and methods. These provisions apply to solvent cleaning machines and wipe cleaning.

Rule 322 (Metal Surface Coating Thinner and Reducer): This rule prohibits the use of photochemically reactive solvents for use as thinners or reducers in metal surface coatings. The operator will be required to maintain records to ensure compliance with this rule.

Rule 323.1 (Architectural Coatings): This rule sets the standards for any architectural coating that is supplied, sold, offered for sale, or manufactured for use within the District.

Rule 324 (Disposal and Evaporation of Solvents): This rule prohibits any source from disposing more than one and a half gallons of any photochemically reactive solvent per day by means that will allow the evaporation of the solvent into the atmosphere. The facility will be required to maintain records to ensure compliance with this rule.

Rule 325 (Crude Oil Production and Separation): This Rule adopted January 25, 1994, applies to equipment used in the production, gathering, storage, processing and separation of crude oil and gas prior to custody transfer. The primary requirements of this rule are under Sections D and E. Section D requires the use of vapor recovery systems on all tanks and vessels, including wastewater tanks, oil/water separators and sumps. Section E requires that all produced gas be controlled at all times, except for wells undergoing routine maintenance. Production and test separators and the deck sump and settling tank on this platform are all connected to gas gathering systems. According to the application for this facility, produced gas is not vented to the

atmosphere due to considerations such as: process equipment redundancy in the design, process control systems and operational procedures.

Previously, gas produced during planned pigging operations was "stacked" in an out of service pipeline and then sent to shore after completion of the pigging. The stacking option is no longer available to the operator. In order to comply with District Rule 325 installation of a flare was necessary to avoid venting of produced gas directly to atmosphere.

Rule 328 (Continuous Emissions Monitoring): This rule details the applicability and standards for the use of continuous emission monitoring systems (CEMS). Process monitoring systems (e.g., fuel meters) are used to track emissions. There are no CEMS in use on the platform.

Rule 331 (Fugitive Emissions Inspection and Maintenance): This rule applies to components in liquid and gaseous hydrocarbon service at oil and gas production fields. An I&M Plan was submitted for the facility and received District approval of this Plan on 1/15/95. Ongoing compliance with the many provisions of this rule will be assessed via platform inspection by District personnel using an organic vapor analyzer and through analysis of operator records.

Rule 333 (Control of Emissions from Reciprocating IC Engine): This rule applies to all engines with a rated brake horsepower of 50 or greater that are fueled by liquid or gaseous fuels, unless such engines are permit-exempt. The 230 hp diesel-fired "North" pedestal crane engine, the 310 bhp portable crane engine and the 400 hp diesel-fired Well Service Rig on Platform Hogan are subject to the NO_X standards under Section E.4 of 700 ppmvd (at 15% O_2). Ongoing compliance will be achieved through implementation of the District-approved Rule 333, Section F *Inspection and Maintenance Plan* (submitted to the District in July 2014 and subsequent updates) required under Section E and through biennial source testing. The 99 hp South Crane engine, the 510 hp emergency standby generator engine, the 318 hp Well Kill Pump engine and the 110 hp Fire Water Pump engine are exempt from the requirements of this rule with the exception of Section D.1, Section D.2, Section J.3, and Section K of this rule because they operate under 200 hours per year.

On June 19, 2008 Rule 333 was revised. The NO_X emission limit for diesel-fired engines was reduced, and ROC and CO limits were added. In addition, the inspection and maintenance requirements of the Rule were changed. The preexisting emission limits of Rule 333 applied until two years after the revised Rule 333 was added to 40 CFR OCS Part 55. The revised Rule became effective on the OCS on November 21, 2008. In addition, operators of IC engines were required to submit new or revised *Compliance Plans* and *Inspection and Maintenance Plans* within six months after the Rule revision became effective on the OCS. These plans were submitted on May 21, 2009 and approved in June 2009.

Rule 352 (Natural Gas-Fired Fan-Type Central Furnaces and Small Water Heaters): This rule applies to new water heaters rated less than 75,000 Btu/hr and new fan-type central furnaces. It requires the certification of newly installed units.

Rule 353 (Adhesives and Sealants): This rule applies to the use of adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers. Compliance shall be based on site inspections.

Rule 359 (Flares and Thermal Oxidizers): The emission standards in 359.D.5.c do not apply to this project because the flare is not a thermal oxidizer or a ground-level enclosed flare as defined in the rule. A *Flare Minimization Plan* was approved for this facility on February 21, 2014.

In order to demonstrate compliance with Rule 359.D.2.b and 359.G, the operator submitted and obtained District approval of a *Flare Process Monitoring and Calibration Plan* on February 21, 2014 to ensure a continuous pilot and that flare flow meters are properly located and accurate.

Rule 360 (Emissions of Nitrogen from Large Water Heaters and Small Boilers): The permittee shall comply with the requirements of this rule whenever a new boiler, process heater or other external combustion device is added or an existing unit is replaced. An ATC/PTO permit shall be obtained prior to installation of any grouping of Rule 360 applicable boilers or hot water heaters whose combined system design heat input rating exceeds 2.000 MMBtu/hr. An ATC shall be obtained for any size boiler or water heater if the unit is not fired on natural gas or propane. The facility currently has no units subject to this rule.

Rule 361 (Small Boilers, Steam Generators and Process Heaters): The permittee shall comply with the requirements of this rule whenever a new boiler, process heater or other external combustion device is added or an existing unit is replaced. An ATC permit shall be obtained prior to installation, replacement, or modification of any existing Rule 361 applicable boiler or water heater rated over 2.000 MMBtu/hr. An ATC shall be obtained for any size boiler or water heater if the unit is not fired on natural gas or propane. The facility currently has no units subject to this rule.

Rule 505 (Breakdown Conditions): This rule describes the procedures that the facility must follow when a breakdown condition occurs to any emissions unit associated with Platform Hogan. A breakdown condition is defined as an unforeseeable failure or malfunction of (1) any air pollution control equipment or related operating equipment which causes a violation of an emission limitation or restriction prescribed in the District Rules and Regulations, or by State law, or (2) any in-stack continuous monitoring equipment, provided such failure or malfunction:

a. Is not the result of neglect or disregard of any air pollution control law or rule or regulation;
b. Is not the result of an intentional or negligent act or omission on the part of the owner or operator;
c. Is not the result of improper maintenance;
d. Does not constitute a nuisance as defined in Section 41700 of the Health and Safety Code;
e. Is not a recurrent breakdown of the same equipment items.

Rule 603 (Emergency Episode Plans): Section "A" of this rule requires the submittal of a *Stationary Source Curtailment Plan* for all stationary sources that can be expected to emit more than 100 tons per year of hydrocarbons, nitrogen oxides, carbon monoxide or particulate matter. The facility submitted such a plan in June 2002.

Rule 810 (Federal Prevention of Significant Deterioration): This rule was adopted January 20, 2011 to incorporate the federal Prevention of Significant Deterioration rule requirements into the District's rules and regulations. Future projects at the facility will be evaluated to determine whether they constitute a new major stationary source or a major modification.

3.5 Compliance History

This section contains a summary of the compliance history for this facility and was obtained from documentation contained in the District's Administrative file.

3.5.1 Facility Inspections: Platform Hogan was inspected by the District on a semi-annual basis. The inspection reports associated with these inspections were reviewed as part of the permit renewal process. Since the previous permit renewal, multiple enforcement actions were issued as a result of these inspections and/or as a result of District review of the semi-annual compliance reports or from Deviation Report submittals. See Section 3.5.2 below for a summary of enforcement actions.

3.5.2 Enforcement Actions: The following enforcement actions have been issued to the operator of record since issuance of the previous permit renewal. Compliance has been achieved for each violation.

VIOLATION	NUMBER	ISSUE DATE	DESCRIPTION OF VIOLATION
NOV	11295	06/15/2018	Exceeding allowable number of major fugitive I&M leaks.
NOV	11386	11/29/2018	Violation of PTO 9108 condition 9.C.15.
NOV	11602	06/27/2019	Exceeding North crane NOx emission limits.
NOV	12137	11/27/2019	Exceeding allowable number of major fugitive I&M leaks.
NOV	12197	03/04/2020	Failure to submit permit renewal application within required time.
NOV	12583	10/14/2020	Failure to submit CVR report within required time.

3.5.3 Variances/Significant Hearing Board Actions: The following variances were issued for this facility since issuance of the previous permit renewal:

3.5.3.1
- Interim Variance Order 2021-03-I: This interim variance order was granted for the period of January 8, 2021 to April 7, 2021 to relieve the platform owner/operator of the obligations to maintain certain emission controls, monitoring and maintenance requirements associated with multiple District rules and permit conditions of PTO 9108 for the duration of the variance period. Relief was granted based on the deteriorated conditions of platform equipment and, based on these conditions, the limited ability of the facility operator to achieve compliance with multiple conditions of the facility permit.

- Regular Variance Order 2021-05-R: This regular variance order was granted due to the temporary nature of Interim Variance Order 2021-03-I. This variance order was granted for the period of March 3, 2021 to February 7, 2022 to relieve the platform owner/operator of the obligations to maintain certain emission controls, monitoring and maintenance requirements associated with multiple District rules and permit conditions of PTO 9108for the duration of the variance period. Relief was granted based on the deteriorated conditions of platform equipment and, based on these conditions, the limited ability of the facility operator to achieve compliance with multiple conditions of the facility permit.

- Variance Order Modification 2021-05-M1: A Modification of Final Compliance Date and Modification of Conditions of Regular Variance 2021-05-R for the emission controls, monitoring, and maintenance requirements at the Petitioner's facility in violation of District Rules 331.D - I, 359.D.2.b, and 206, Part 70 Permit to Operate 9108-R4, Conditions 9.C.1.b.v, 9.C.1.b.vi, 9.C.1.c.i, 9.C.2.a, 9.C.2.b, 9.C.2.c, 9.C.2.d, 9.C.6.b.ii, 9.C.6.b.iii, and 9.C.6.b.iv from January 5, 2022 through January 4, 2023.

- Variance Order 2021-06-I: Interim Variance for venting Reactive Organic Compounds (ROCs) through the flare header without emission controls at the Petitioner's facility causing a violation of Rules 325.D.1, 359.D.2.b, 206 and Conditions 9.C.6.b.ii, 9.C.6.b.iii, 9.C.6.b.iv and 9.C.9 of Permit to Operate 9109-R4 from January 15, 2021 through April 14, 2021.

Table 3.1 - Generic Federally-Enforceable District Rules

Generic Requirements	Affected Emission Units	Basis for Applicability	Adoption Date
RULE 101: Compliance by Existing Installations	All emission units	Emission of pollutants	June 21, 2012
RULE 102: Definitions	All emission units	Emission of pollutants	August 25, 2016
RULE 103: Severability	All emission units	Emission of pollutants	October 23, 1978
RULE 201: Permits Required	All emission units	Emission of pollutants	June 21, 2012
RULE 202: Exemptions to Rule 201	Applicable emission units, as listed in form 1302-H of the Part 70 application.	Insignificant activities/emissions, per size/rating/function	August 25, 2016
RULE 203: Transfer	All emission units	Change of ownership	April 17, 1997
RULE 204: Applications	All emission units	Addition of new equipment of modification to existing equipment.	August 25, 2016
RULE 205: Standards for Granting Permits	All emission units	Emission of pollutants	April 17, 1997
RULE 206: Conditional Approval of Authority to Construct or Permit to Operate	All emission units	Applicability of relevant Rules	October 15, 1991
RULE 207: Denial of Applications	All emission units	Applicability of relevant Rules	October 23, 1978
RULE 208: Action on Applications – Time Limits	All emission units. Not applicable to Part 70 permit applications.	Addition of new equipment of modification to existing equipment.	April 17, 1997
RULE 212: Emission Statements	All emission units	Administrative	October 20, 1992
RULE 301: Circumvention	All emission units	Any pollutant emission	October 23, 1978
RULE 302: Visible Emissions	All emission units	Particulate matter emissions	June 1981
RULE 303: Nuisance	All emission units	Emissions that can injure, damage or offend.	June 1981
RULE 304: Particulate Matter – Northern Zone	Each PM Source	Emissions of PM in effluent gas	October 23, 1978
RULE 309: Specific Contaminants	All emission units	Combustion contaminant emission	October 23, 1978
Rule 310: Odorous Organic Sulfides	All emission units	Combustion contaminant emission	October 23, 1978
RULE 311: Sulfur Content of Fuel	All combustion units	Use of fuel containing sulfur	October 23, 1978
RULE 317: Organic Solvents	Emission units using solvents	Solvent used in process operations.	October 23, 1978

Generic Requirements	Affected Emission Units	Basis for Applicability	Adoption Date
RULE 321: Solvent Cleaning Operations	Emission units using solvents.	Solvent used in process operations.	June 21, 2012
RULE 322: Metal Surface Coating Thinner and Reducer	Emission units using solvents.	Solvent used in process operations.	October 23, 1978
RULE 323.1: Architectural Coatings	Paints used in maintenance and surface coating activities.	Application of architectural coatings.	January 1, 2015
RULE 324: Disposal and Evaporation of Solvents	Emission units using solvents.	Solvent used in process operations.	October 23, 1978
RULE 353: Adhesives and Sealants	Emission units using adhesives and solvents.	Adhesives and sealants used in process operations.	June 21, 2012
RULE 505.A, B1, D: Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded or rule requirements are not complied with.	October 23, 1978
RULE 603: Emergency Episode Plans	Stationary sources with PTE greater than 100 tpy	Carpinteria Field – South County is a major source.	June 15, 1981
REGULATION VIII: New Source Review	All emission units	Addition of new equipment of modification to existing equipment. Applications to generate ERC Certificates.	August 25, 2016
REGULATION XIII (RULES 1301-1305): Part 70 Operating Permits	All emission units	Carpinteria Field – South County is a major source.	January 18, 2001

Table 3.2 - Unit-Specific Federally-Enforceable District Rules

Unit-Specific Requirements	Affected Emission Units	Basis for Applicability	Adoption Date
RULE 325: Crude Oil Production and Separation	Storage tanks: Emission units capable of venting gases.	All pre-custody production and processing emission units	January 18, 2001
RULE 331: Fugitive Emissions Inspection & Maintenance	Components (valves, fittings, pumps, compressors, hatches, sight glasses, meters, pressure relief devices, etc.) used to handle oil and gas.	Components emit fugitive ROCs.	Dec 10, 1991
RULE 333: Control of Emissions from Reciprocating IC Engines	IC Engines not exempt from permitting under Rule 202	IC engines exceeding 50 bhp rating.	June 19, 2008
RULE 359: Flares and Thermal Oxidizers	Flare Relief System	Flaring.	June 28, 1994
RULE 360: Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers	None	NO_X emissions from external combustion units.	March 15, 2018

Table 3.3 - Non-Federally-Enforceable District Rules

Requirement	Affected Emission Units	Basis for Applicability	Adoption Date
RULE 210: Fees	All emission units	Administrative	March 17, 2005
RULE 212: Emission Statements	All emission units	Administrative	October 20, 1992
RULE 310: Odorous Organic Sulfides	All emission units	Emission of organic sulfides	October 23, 1978
RULE 361: Small Boilers, Steam Generators, and Process Heaters	Any boiler, steam generator, and process heater with a rated heat input capacity greater than 2 MMBtu/hr and less than 5 MMBTU/hr.	Any equipment item covered by this rule must comply with the rule emission limits.	June 20, 2019
RULES 501-504: Variance Rules	All emission units	Administrative	October 23, 1978
RULE 505.B2, B3, C, E, F, G: Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded or rule requirements are not complied with.	October 23, 1978
RULES 506-519: Variance Rules	All emission units	Administrative	October 23, 1978

4.0 Engineering Analysis

4.1 General

The engineering analyses performed for this permit were limited to the review of:

- Facility process flow diagrams
- Emission factors and calculation methods for each emissions unit
- Emission control equipment/technology (including RACT, BACT, NSPS, NESHAP, MACT)
- Emission source testing, sampling, CEMS, CAM
- Existing process monitors needed to ensure compliance

A review and analysis of material balances, potential breakdown scenarios, and design considerations for safety and system reliability were not performed due to the lack of any regulatory mandate. Unless noted otherwise, default ROC/THC reactivity profiles from the District's document titled "*VOC/ROC Emission Factors and Reactivities for Common Source Types*" dated 3/12/01 (version 1.2) was used to determine non-methane, non-ethane fraction of THC.

4.2 Stationary Combustion Sources

All stationary combustion sources at Platform Hogan consist of diesel-fired internal combustion engines. Primary power on the platform is supplied by a submarine electric cable from SCE.

4.2.1 Reciprocating Stationary IC Engines: Stationary IC engines on the platform rated over 50 bhp include: the 230 hp North Crane engine, the 318 hp mud pump engine, the 400 hp Well Service Rig engine, the 510 hp emergency electrical generator, the 110 hp emergency firewater pump engine, the 99 hp South Crane engine (utilizing N-60 injectors) and a 310 hp portable crane. The 230 hp North Crane engine and the 400 hp Well Service Rig are subject to all Rule 333 requirements. The South Crane engine, the emergency generator engines, the mud pump engine and the emergency Fire Pump engine are all currently exempt from Rule 333 requirements except for Section D.1, Section D.2, Section J.3, and Section K. The portable crane engine is certified Tier 4 final engine equipped with a turbocharger and a diesel oxidation catalyst and is subject to Rule 333. This crane is shared between Platforms Hogan and Houchin.

With the exception of the portable crane engine, the calculation methodology is similar for all stationary IC engines:

$$ER = [(EF \times BHP \times BSFC \times LCF \times HPP) \div 10^6]$$

where:
- ER = emission rate (lb./period)
- EF = pollutant specific emission factor (lb./MMBtu)
- BHP = engine rated max. brake-horsepower (bhp)
- BSFC = engine brake specific fuel consumption (Btu/bhp-hr)
- LCF = liquid fuel correction factor, LHV to HHV
- HPP = operating hours per time period (hrs/period)

The emission factor is an energy-based value using the higher heating value (HHV) of the fuel. As such, an energy based BSFC value must also be based on the HHV. Manufacturer BSFC data are typically based on lower heating value (LHV) data and thus require a conversion (LCF) to the

HHV basis. For diesel fuel oil, the HHV values are typically 6% greater than the corresponding LHV data. Volume or mass based BSFC data do not need any conversions.

The calculation methodology for the portable crane engine is:

E1, lb/day = Engine Rating (bhp) * NTE EF (g/bhp-hr) * Daily Hours (hr/day) * (lb/453.6 g)
E2, tpy = Engine Rating (bhp) * NTE EF (g/bhp-hr) * Annual Hours (hr/yr) * (lb/453.6 g) * (ton/2000 lb)

The portable crane emission factors are based on mass balance for SO_x and USEPA Tier 4 Final emission factors for NO_x, ROC, CO and PM, with an applied NTE emission factor multiplier of 1.50 for NO_x and ROC, and an NTE multiplier of 1.25 for CO. Mass emission estimates for the engine are based on the maximum allowed hours of operation. Daily hours are 12 hrs/day.

The North Crane is driven by a Detroit Diesel Model 6-71 engine rated at 230 bhp, while the South Crane engine is driven by a Detroit Diesel Model 3-71 engine rated at 99 bhp (utilizing N-60 injectors) and the mud pump engine is driven by a Detroit Diesel Model 8-71 engine rated at 318 bhp and the Well Service Rig engine is driven by a Detroit Diesel Model 8VF09351 engine rated at 400 bhp. These engines are equipped with "N-60"-type fuel injectors. The timing on the North Crane engine was adjusted in order to meet the NO_X standard of this rule. Low operating loads allow this engine to comply with the Rule 333 NO_X emission standard of 700 ppmv at 15% oxygen. All NO_X emission factors (lb./MMBtu) used in emissions calculation are based on (a) manufacturer's brake-specific fuel consumption (BSFC), (b) default diesel fuel specifications and (c) either the Rule 333 emission standard of 8.4 g/bhp-hr or the AP-42 specified factor of 14 g/bhp-hr. The emission factors for PM, CO and ROC are from USEPA AP-42, Table 3.3-1 (7/93). The CO emission factor for the Well Service Rig is reduced by 70 percent due to the installation of an oxidation catalyst in compliance with NESHAP Subpart ZZZZ. The SO_X emission factor is based on mass balance calculations.

The diesel-fired IC engines on the platform used for non-drilling operations are not equipped with diesel fuel flow metering devices. These IC engines are equipped with non-resettable hour meters. The actual engine usage time is logged monthly. The engine emissions are then calculated using total elapsed run time, the maximum rated engine bhp rating and BSFC data (from Table 5.1-1) to determine the number of gallons consumed per unit time. Ongoing compliance with Rule 333 by the North Crane IC engine will be accomplished by quarterly inspections per Section E of this rule and biennial source testing.

4.3 Fugitive Hydrocarbon Sources

Fugitive Hydrocarbon Emissions: Emissions of reactive organic compounds from piping components such as valves, flanges and connections have been quantified using District P&P 6100.061 (*Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities Through the Use of Facility Component Counts – Modified for the Revised ROC Definition)*. The operator determined the number of emission leak-paths. District staff verified this data by checking a representative number of P&IDs and by site checks. A total of 4,332 controlled and 268 uncontrolled oil/emulsion component leak-paths and 1,662 gas/light-liquid component leak-paths (all controlled) exist on the platform. The calculation methodology for the fugitive emissions is:

$$ER = [(EF \times CLP \div 24) \times (1 - CE) \times (HPP)]$$

where: ER = emission rate (lb./period)

EF = ROC emission factor (lb./clp-day)
CLP = component leak-path (clp)
CE = control efficiency
HPP = operating hours per time period (hrs/period)

An emission control efficiency of 80% is credited to all components that are safe to monitor (as defined per Rule 331) due to the implementation of a District-approved Inspection and Maintenance program for leak detection and repair consistent with Rule 331 requirements. Unsafe to monitor components are not eligible for I&M control credit. Ongoing compliance is determined in the field by inspection with an organic vapor analyzer and verification of operator records.

4.4 Flare System

Platform Hogan has a produced flare system that is designed to collect gases from platform process equipment. During an emergency condition, this system flares these gases for safety reasons. For safety reasons and to comply with District and federal regulations, gas flaring is required during unplanned casing blowdown prior to well work over, and during planned smart-pigging required for the pipeline. The calculation methodology for the vent flow is:

$$ER = [(SCFPP \times EFxHHV]$$

where: ER = emission rate (lb. /period)
EF = emission factor (lb. /MMBtu)
SCFPP = gas flow rate per operating period (MMscf/period)
HHV = higher heating value of produced Natural Gas

Note: The previously installed Vent Relief System has been replaced by the Flare System, and has been removed from the platform. No venting is permitted on the platform.

4.5 Crew and Supply Vessels

The operator uses both crew boat and supply boats in support of Platform Hogan. For crew and supply boats, the operator has identified primary and spot charter boats. Primary boats are equipped with main engines controlled for NO_X. Spot charter boats are normally uncontrolled for NO_X. The spot-charter usage is limited to 10% of actual boat usage.

The primary supply boat is based on the Rebekah C equipped with four 1,800 bhp main engines (i.e., 7,200 bhp), two 230 bhp auxiliary engines (i.e., 460 bhp) and one 250 bhp bow thruster engine. The main engines associated with the M/V Rebekah C supply boat are Tier 3 controlled engines. The auxiliary engines are not controlled. The spot charter vessel is assumed to have main engines with a maximum combined engine size of 2,250 bhp

There are two types of primary crew boats; The first primary crew boat is based on the M/V Matthew which is equipped with two Tier 2 certified main engines. The main engines are Detroit Diesel Series 60 600 bhp engines. Controlled NO_X emissions of each diesel fired main engine shall not exceed 337 lb/1000 gallons (8.4 g/bhp-hr). The second primary crew boat is based on the M/V Ryan T, equipped with four 575 bhp main engines (i.e., 2,300 bhp). The main engines are Tier 3 controlled engines. The auxiliary engines are not controlled and are assumed to have a maximum size of 198 bhp. The spot charter crew vessel is assumed to have main engines with a maximum combined engine size of 1,530 bhp.

The permit assesses emission liability based solely on two emission factors (the cruise modes). A detailed description of emission factors and calculations are provided in Attachment A. The calculation methodology for the crew and supply boat main engine emissions is:

$$ER = [(EF \times EHP \times BSFC \times EL \times TM) \div (10^3)]$$

where: ER = emission rate (lbs. per period)
EF = full load pollutant specific emission factor (lb/1000 gallons)
EHP = engine max rated horsepower (bhp)
BSFC = engine brake specific fuel consumption (gal/bhp-hr)
EL = engine load factors (percent of max fuel consumption)
TM = time in mode (hours/period)

The calculations for the auxiliary engines are similar, except that a 50% engine load factor for the generators is utilized. Compliance with the main engine controlled emission rates shall be assessed through emission source testing. Ongoing compliance is assessed through implementation of a District-approved *Boat Monitoring and Reporting Plan* (approved February 20, 2014). Total mileage from Platform Hogan to Port Hueneme is approximately 25 miles.

Emergency Response Boats. One of four identical emergency response vessels (*M/Vs Ocean Scout, Ocean Guardian, Ocean Sentinel, and Ocean Defender*) is permanently assigned to Platform Hogan. The total engine horsepower, including auxiliary engines, is 2,978 bhp. Emissions are calculated in a prorated fashion among the eleven OCS platforms that utilize the vessel off the Santa Barbara coast. The auxiliary engines are interim Tier 4 engines, however, Tier 2 emission factors are used to establish the PTE of the auxiliary engines to provide flexibility for circumstances that may require use of a different boat. If other emergency response boats are used, boat fuel usage (and resulting emissions) shall be assessed against this emissions category.

4.6 Tanks/Vessels/Sumps

4.6.1 Tanks: Platform Hogan has a diesel fuel storage tank that is subject to permit. The diesel storage tank services the crane IC engines on the platform and is not controlled. The tank emissions are small and are assumed to be less than 0.10 tpy (200 lb./yr.). The detailed tank calculations for compliance will be performed using the methods presented in USEPA AP-42, Chapter 12.

4.6.2 Vessels: Platform Hogan has pressure vessels (e.g., production separators, a test separator, clean-up separator, test treater, oil surge vessel, and suction scrubbers). Emissions from pressure vessels are due to fugitive hydrocarbon leaks from valves and connections.

4.6.3 Sumps/Settling Tanks: There is one deck sump tank, which recovers any liquids that spills on the deck (ABH-138), and a settling tank. The sump tank and settling tank are covered but are not controlled. The emissions from these tanks are based on the CARB/KVB Report (*Emissions Characteristics of Crude Oil Production in California,* January 1983). These tanks are classified as being in secondary production and heavy oil service. The calculation is:

$$ER = [(EF \times SAREA \div 24) \times (1 \ CE) \times (HPP)]$$

where: ER = emission rate (lb./period)
EF = ROC emission factor (lb/ft^2-day)
SAREA = unit surface area (ft^2)

CE = control efficiency
HPP = operating hours per time period (hrs/period)

4.7 Vapor Recovery Systems

Platform Hogan has a vapor recovery system rated at 1.2 MMscfd. Gas from the surge tank is compressed to approximately 90 psig and is directed to the onshore pipeline. All other produced gas from the platform flows to the onshore gas pipeline at casing head pressure of about 50 psig. The deck sump and settling tank are not connected to vapor recovery or the gas gathering system.

4.8 Helicopters

The helipad on Platform Hogan is no longer in service. Helicopters are no longer used for offshore transportation.

4.9 Other Emission Sources

4.9.1 Pigging: Oil emulsion pipeline pigging operations occur on the platform. These consist of an emulsion pipeline pig launcher to the La Conchita onshore facility. The oil pig launcher is de-pressurized to the platform's gas gathering system prior to and after each use. The small amounts of emissions that remain are vented to the atmosphere. The District has assumed that this remaining pressure does not exceed 5 psig. The calculation per period is:

$$ER = [V_1 \times \rho \times wt\ \% \times EPP]$$

where: ER = emission rate (lb./period)
V_1 = volume of vessel (ft^3)
ρ = density of vapor at actual conditions (lb/ft^3)
wt. % = weight percent ROC-TOC
EPP = pigging events per time period (events/period)

Detailed calculation methodology for pigging emissions are shown in Attachment 10.1

4.9.2 General Solvent Cleaning/Degreasing: Solvent usage (not used as thinners for surface coating) occurring on Platform Hogan as part of normal daily operations includes small cold solvent degreasing and wipe cleaning. Mass balance emission calculations are used assuming all the solvent used evaporates to the atmosphere.

4.9.3 Surface Coating: Surface coating operations typically include normal touch up activities. Entire platform painting programs are performed once every few years. Emissions are determined based on mass balance calculations assuming all solvents evaporate into the atmosphere. Emissions of $PM/PM_{10}/PM_{2.5}$ from paint over spray are not calculated due to the lack of established calculation techniques.

4.9.4 Abrasive Blasting: Abrasive blasting with CARB certified sands may be performed as a preparation step prior to surface coating. The engines used to power the compressor may be electric or diesel fired. If diesel fired, permits will be required unless the engine is registered with CARB. Particulate matter is emitted during this process. A general emission factor of 0.01 pound PM per pound of abrasive is used (SCAQMD - Permit Processing Manual, 1989) to estimate emissions of PM, PM_{10} and $PM_{2.5}$. A $PM/PM_{10}/PM_{2.5}$ ratio of 1.0 is assumed.

4.10 BACT/NSPS/NESHAP/MACT

4.10.1 BACT: The portable crane engine is subject to Best Available Control Technology (BACT) requirements. Permit condition 9C.8, Table 4.2 and Attachment 10.2 address the basis and all BACT requirements.

4.10.2 NSPS: No equipment on Platform Hogan are subject to New Source Performance Standards (NSPS) requirements.

4.10.3 NESHAP: This facility is not currently subject to any National Emissions Standards for Hazardous Air Pollutants (NESHAP).

4.10.4 MACT: The revised *National Emission Standard for Hazardous Air Pollutants* (NESHAP) for reciprocating internal combustion engines (RICE) was published in the Federal Register on January 18, 2008. An affected source under the NESHAP is any existing, new, or reconstructed stationary RICE located at a major source or area source. Two engines, the North Crane (ID 004849) and the South Crane (ID 004848) are subject to the requirements for engines rated less than or equal to 300 bhp.

4.11 CEMS/Process Monitoring

4.11.1 CEMS: There are no in-stack continuous emission monitors (CEMS) at Platform Hogan. Process monitors listed below are used to track emissions.

4.11.2 Process Monitoring: In many instances, ongoing compliance beyond a single (snap shot) source test is assessed by the use of process monitoring system. Examples of these monitors include: engine hour meters, fuel usage meters, water injection mass flow meters, flare gas flow meters and hydrogen sulfide analyzers. Once these process monitors are in place, it is important that they be well maintained and calibrated to ensure that the required accuracy and precision of the devices are within specifications. At a minimum, the following process monitors will be required to be calibrated and maintained in good working order:

- Crew Boat Diesel Fuel Meters (main engines)
- Supply Boat Diesel Fuel Meters (main engines)
- Hour Meters (cranes, Well Kill Pump, emergency generators, fire water pump, Well Service Rig engine)
- Flare flow meters

To implement the above calibration and maintenance requirements, the facility shall execute its District-approved *Process Monitoring Calibration and Maintenance Plan* (approved July 2002) and any subsequent District approved plans for flare metering.

4.12 Source Testing/Sampling

4.12.1 Source Testing/Calibration: Source testing and sampling are required in order to ensure compliance with permitted emission limits, prohibitory rules, control measures and the assumptions that form the basis of this operating permit. Table 4.1 details the pollutants, test methods and frequency of required testing. The facility is required to follow the District *Source Test Procedures Manual* (May 24, 1990 and all updates). The following emission units are required to be source tested:

- North Crane Engine
- Supply Boat Main Engines

- Crew Boat Main Engines
- Well Service Rig Engine
- Portable Crane Engine

Details of the source testing requirements, e.g., the pollutants, the test methods and frequency of required testing for these emission units are listed in Section 9.C

4.12.2 Sampling: The facility shall sample and analyze the process streams by third party, as listed in the table below:

Process Stream	**Sampling* Point**	**Specific Location***	**Parameter to Sample or Test**	**Test/Sampling Method**	**Sampling Frequency**
Produced gas	Production Separator Outlet	To be submitted by the facility to the District per a P&ID mark-up, within 60 days of receiving this permit	Composition TRS H_2S	D-1945/ D-3588 EPA Method 16 EPA Method 15	Annual Annual Annual
Produced Oil	La Conchita Onshore Plant or Sales Invoice	N/A	API Gravity	D-287-82	Biennial

*-- The above sampling locations, sampling and analytical methods may be revised upon written request from the permittee and its subsequent approval by the District.

All samples shall be collected in accordance with District-approved Methods as listed above, and shall be analyzed within 72 hours from the time of collection. All sampling and analysis shall be traceable by chain of custody procedures. All sampling and analysis data/results shall be submitted to the District in accordance with Permit Condition 9.C.17(e)(2). Except as allowed under Condition 9.C.14, sampling shall occur at the frequency listed above.

TABLE 4.1 - SOURCE TEST REQUIREMENTS

Emission Points	Pollutants/ Parameters	Test Methods
- Crane Engine (North) - Crew Boat Main Engines - Supply Boat Main Engines - Well Service Rig Engine - Portable Crane Engine	NO_X (ppmv, lb/hr)	CARB 1-100 or USEPA 7E
	CO (ppmv, lb/hr)	CARB 1-100 or USEPA 10
	ROC (ppmv, lb/hr)	USEPA 18
	Fuel Flow Rate	meter
	Fuel High Heating Value	ASTM
	Total Sulfur Content	ASTM

Site Specific Requirements

a. All emissions tests to consist of three 40-minute runs. Crane engine tests to consist of three 20-minute runs. Crane engine to be tested at a 'representative' load condition, based on past 6 – 12 months historical lift data. Sufficient documentation supporting the proposed representative load shall be provided to the District in the source test plan for approval prior to source testing. Crew and/or supply boat main engines to be tested at cruise load. Crew boat test runs may be shortened if the boat is used on normal trips to/from the platform. Additional testing may be required if loads are not achieved.

b. The specific project 'crew' and/or 'supply' boat to be tested shall be determined by the District.

c. USEPA Methods 1-4 to be used to determine O_2, dry MW, moisture content, CO_2, and stack flow rate. Alternatively, USEPA Method 19 may be used to determine stack flow rate based on the heat input rate.

d. Source testing shall be performed for all engines in "as found" conditions operating at District-approved, representative engine loads.

e. The main engines from one 'crew' and/or one 'supply' boat shall be tested annually. The crane engine and Well Service Rig engine shall be tested biennially.

f. Fuel meters shall meet the calibration and metered volume corrections specified in Rule 333.G.3.a. All fuel meters used for (Method 19) stack gas flow rate determination shall have sufficient resolution to measure fuel volumes consumed during each test run.

TABLE 4.2 - BACT REQUIREMENTS

Emission Unit/Process	Pollutant	Control Technology	Performance Standard
Portable Crane Engine (DID # 397999)	NOx	EPA Tier 4 certified engine	NOx: 0.30 g/bhp-hr or 34 ppmv @ 15% O_2
	ROC	EPA Tier 4 certified engine	ROC: 0.14 g/bhp-hr or 45 ppmv @ 15% O2
	PM_{10}	EPA Tier 4 certified engine, CARB ultra-low sulfur diesel	PM: 0.01 g/bhp-hr

Table Notes:

(a) The NO_x and ROC BACT performance standard is based on the not-to-exceed (NTE) value. See the permit evaluation for an explanation of NTE factor.

5.0 Emissions

5.1 General

Past District permits PTO 9108-R4, ATC 13965, ATC 13982, ATC 14164, and PTO 12389 are consolidated into this District re-evaluation permit 9108-R5 (also serving as a Part 70 permit). All provisions in these permits were analyzed to determine the permit conditions of PTO 9108-R4, including the permitted emission limits of criteria pollutants from all applicable emission units.

Emissions calculations are divided into "permitted" and "exempt" categories. Specific equipment to be exempt from District permit is determined by District Rule 202. The permitted emissions for each emissions unit are based on the equipment's potential-to-emit (as defined by Rule 102). Section 5.2 details the permitted emissions for each emissions unit. Section 5.3 details the overall permitted emissions for the facility based on reasonable worst-case scenarios using the potential-to-emit for each emissions unit. Section 5.4 provides the federal potential to emit calculation using the definition of potential to emit used in Rule 1301. HAP emissions from the Carpinteria Field – South County stationary source platforms do not reach 'major source' thresholds; these emissions are detailed in Section 5.7 of this permit. Section 5.5 provides the emissions from permit exempt equipment at Platform Hogan. Section 5.6 serves as the Part 70 list of insignificant emission units. In order to accurately track emissions from a facility, the District uses a computer database. Attachment 10.3 contains the District's documentation for the information entered into that database.

5.2 Permitted Emission Limits - Emission Units

Each emissions unit associated with the facility was analyzed to determine the potential-to-emit for the following pollutants:

⇒ Nitrogen Oxides (NO_X) [2]
⇒ Reactive Organic Compounds (ROC)
⇒ Carbon Monoxide (CO)
⇒ Sulfur Oxides (SO_X) [3]
⇒ Particulate Matter (PM) [4]
⇒ Particulate Matter smaller than 10 microns (PM_{10})
⇒ Particulate Matter smaller than 2.5 microns ($PM_{2.5}$)
⇒ Greenhouse Gases (GHG)

Permitted emissions are calculated for both short term (daily) and long term (annual) time periods. Section 4.0 (Engineering Analysis) provides a general discussion of the basic calculation methodologies and emission factors used. The reference documentation for the specific emission calculations, as well as detailed calculation spreadsheets, may be found in Section 4 and Attachments 10.1 and 10.2 respectively. Table 5.1-1 provides the basic operating characteristics. Table 5.1-2 provides the specific emission factors. Table 5.1-3 shows the permitted short-term and permitted long-term emissions for each unit or operation.

[2] Calculated and reported as nitrogen dioxide (NO_2)

[3] Calculated and reported as sulfur dioxide (SO_2)

[4] Calculated and reported as all particulate matter smaller than 100 μm

5.3 Permitted Emission Limits - Facility Totals

The total potential-to-emit for all emission units associated with the facility analyzed. This analysis looked at the reasonable worst-case operating scenarios for each operating period. The equipment operating in each of the scenarios are presented below. Unless otherwise specified, the operating characteristics defined in Table 5.1-1 for each emission unit are assumed. Table 5.2 shows the total permitted emissions for the facility.

Daily Scenario:

- North pedestal crane engine
- Well Service Rig engine
- Well Kill Pump engine
- South pedestal crane engine
- Spot charter, crew and/or supply boats
- Generator engines on supply boat provide half of maximum engine rating
- Bow thruster on supply boat does not operate during peak hour
- Fugitive components
- Oil pig launcher
- Deck sump
- Settling tank
- Diesel tank
- Solvent usage
- Production flare

Annual Scenario:

- North pedestal crane engine
- Well Service Rig engine
- Well Kill Pump engine
- South pedestal crane engine
- Emergency standby generator engine
- Firewater pump engine
  Fugitive components
- Controlled and uncontrolled crew and/or supply boats
- Generator engines on supply boat provide half of maximum engine rating
- Bow thruster on supply boat
- Emergency response boat
- Oil pig launcher
- Deck sumps
- Settling tank
- Diesel tank
- Solvent usage
- Production flare

5.4 Part 70: Federal Potential to Emit for the Facility

Table 5.3 lists the federal Part 70 potential to emit. Being subject to the OCS Air Regulation, all project emissions, except fugitive emissions, are counted in the federal definition of potential to emit. However, fugitives are counted in the federal PTE if the facility is subject to any applicable NSPS or NESHAP requirement promulgated before August 7, 1980. All internal combustion engines on Platform Hogan greater than 50 bhp are subject to NESHAP per *40 CFR Part 63 {MACT Standards Subpart ZZZZ}.*

5.5 District Permit-Exempt Emission Units

The Platform operates the following District permit-exempt unit with insignificant emissions:

- One (1) 10,400 gallon diesel fuel tank near the North Crane. (Ref: District Rule 202.V.8)

5.6 Part 70 Insignificant Emission Units

Part 70 insignificant emission units are defined under District Rule 1301. Insignificant activities such as maintenance operations using wipe-cleaning solvents, paints and coatings contribute to the facility emissions. Table 5.4 lists all insignificant emissions units and the expected emissions.

5.7 Part 70: Hazardous Air Pollutant Emissions for the Facility

Total emissions of hazardous air pollutants (HAP) are computed based on the factors listed in Table 5.5-1 for each emissions unit. Potential Facility HAP emissions are shown in Table 5.5-2. Stationary Source HAP emissions are shown in in Table 5.5-3. These are based on a combination of the worst-case scenario listed in Section 5.3. HAPs emissions have been revised based on updated HAPs emission factors.

Table 5.1-1
Platform Hogan: Part 70/PTO 9108-R5
Operating Equipment Description

		Device Specifications					Usage Data		Maximum Load Schedule					
Equipment Category	**Emissions Unit**	**ID #**	**Fuel**	**%S**	**Size**	**Units**	**Capacity**	**Units**	**Load**	**hr**	**day**	**qtr**	**year**	**References**
Combustion -- IC Engines	North Crane Engine	004849	D-2	0.0015	230	bhp	1.750	MMBtu/hour	1.000	1	16	500	1,000	A
	South Crane Engine	004848	D-2	0.0015	99	bhp	0.790	MMBtu/hour	1.000	1	2	199	199	
	Emergency Power Generator	004850	D-2	0.0015	510	bhp	4.640	MMBtu/hour	1.000	1	2	200	200	
	Emergency Fire Pump	004851	D-2	0.0015	110	bhp	0.980	MMBtu/hour	1.000	1	2	200	200	
	Well Kill Pump	004856	D-2	0.0015	318	bhp	2.451	MMBtu/hour	1.000	1	2	100	100	
	Well Service Rig	007107	D-2	0.0015	400	bhp	3.461	MMBtu/hour	1.000	1	2	2,190	8,760	
	Portable Crane Engine	397999	D-2	0.0015	310	bhp	2.380	MMBtu/hour	1.000	1	12	-	4,380	
Combustion -- Flare	Planned - Other	111371	PG	0.0239	0.8500	MMSCF/day	3.760	MMSCF/year	1.000	1	1	1	1	
	Unplanned	--	PG	0.0239	0.8500	MMSCF/day	8.500	MMSCF/year	1.000	1	1	1	1	
	Pilot	--	PG	0.0239	0.0034	MMSCF/day	2.500	MMSCF/year	1.000	1	24	2,190	8,760	
Fugitive Components	Oil -- Controlled	004853	--	--	4,332	comp-leak path	--	--	1.000	1	24	2,190	8,760	B
	Oil -- Unsafe	102663	--	--	268	comp-leak path	--	--	1.000	1	24	2,190	8,760	
	Gas -- Controlled	004854	--	--	1,662	comp-leak path	--	--	1.000	1	24	2,190	8,760	
	Gas -- Unsafe	105139	--	--	0	comp-leak path	--	--	1.000	1	24	2,190	8,760	
Supply Boat	Main Engines - Controlled	398041	D-2	0.0015	7,200	bhp	396.00	gal/hr	0.650	1	5.5	425	425	
	Main Engines - Uncontrolled	105136	D-2	0.0015	2,250	bhp	123.75	gal/hr	0.650	1	11	22	75	
	Auxiliary Engines	5464	D-2	0.0015	460	bhp	25.30	gal/hr	0.500	1	11	425	425	
	Bow Thrusters	398043	D-3	0.0015	250	bhp	13.75	gal/hr	1.000	1	2	35	138	
Emergency Response Boat	Main Engines (Tier 2)	005466	D-2	0.0015	2,900	bhp	159.50	gal/hr	0.650	--	--	18	72	
	Auxiliary Engine (Tier 4)	105797	D-2	0.0015	78	bhp	4.29	gal/hr	0.500	1	24	18	72	
Crew Boat	Main Engines - Tier 2 Controlled	385117	D-2	0.0015	1,800	bhp	99.00	gal/hr	0.850	1	10	380	1520	
	Main Engines - Tier 3 Controlled	398039	D-2	0.0015	2,300	bhp	126.50	gal/hr	0.850	1	7.85	722.2	1649	
	Main Engines -- Uncontrolled	105137	D-2	0.0015	1,530	bhp	84.15	gal/hr	0.850	1	10	38	152	
	Auxiliary Engines	398040	D-2	0.0015	198	bhp	10.89	gal/hr	0.500	1	10	680	1520	
Pigging Equipment	Oil Launcher	102649	--	--	5.00	cu.ft	5.00	psig.	1.000	1	1	39	156	E
Sumps/Tanks/Separators	Deck Drain Tank	102665	--	--	30.00	sq.ft	18.00	sq.ft	1.000	1	24	2,190	8,760	F
	Settling Tank	102666	--	--	160.00	sq.ft	108.00	sq.ft	1.000	1	24	2,190	8,760	
Solvent Usage	Paints/Cleaning/Degreasing	102638	--	--	500	gal/yr of paints	4.00	gal/day	1.000	1	1	91	365	H

** -- indicates data not available for these parameters

Table 5.1-2
Platform Hogan: Part 70/PTO 9108-R5
Equipment Emission Factors

Equipment Category	Emissions Unit	ID#	NO_X	ROC	CO	SO_X	PM	PM_{10}	$PM_{2.5}$	GHG	Units	References
		Emission Factors										
Combustion -- IC Engines	North Crane Engine	004849	2.40	0.30	0.95	0.0015	0.31	0.30	0.30	163.6	lb/MMBtu	A
	South Crane Engine	004848	14.06	1.12	3.03	0.0049	0.98	0.98	0.98	556.6	g/bhp-hr	
	Emergency Power Generator	004850	14.06	1.12	3.03	0.0049	0.98	0.98	0.98	556.6	g/bhp-hr	
	Emergency Fire Pump	004851	14.06	1.12	3.03	0.0049	0.98	0.98	0.98	556.6	g/bhp-hr	
	Well Kill Pump	004856	14.06	1.12	3.03	0.0000	0.98	0.98	0.98	556.6	g/bhp-hr	
	Well Service Rig	007107	2.14	0.30	0.285	0.0000	0.31	0.30	0.30	117.1	lb/MMBtu	
	Portable Crane Engine	397999	0.45	0.21	3.250	0.0055	0.01	0.01	0.01	556.6	g/bhp-hr	
Combustion -- Flare	Planned - Other	111371	0.068	0.057	0.37	0.037	0.02	0.02	0.02	117.1	lb/MMBtu	
	Unplanned	--	0.068	0.057	0.37	0.037	0.02	0.02	0.02	117.1	lb/MMBtu	
	Pilot	--	0.068	0.057	0.37	0.037	0.02	0.02	0.02	117.1	lb/MMBtu	
Fugitive Components	Oil -- Controlled	004853	—	0.0009	—	—	—	—	—	—	lb/day-clp	B
	Oil -- Unsafe	102663	—	0.0044	—	—	—	—	—	—	lb/day-clp	
	Gas -- Controlled	004854	—	0.0154	—	—	—	—	—	—	lb/day-clp	
	Gas -- Unsafe	105139	—	0.0769	—	—	—	—	—	—	lb/day-clp	
Supply Boat	Main Engines - Controlled	398041	337.00	16.80	78.30	0.21	33.00	32.00	32.00	22,309.6	lb/1000 gal	
	Main Engines -- Uncontrolled	105136	561.00	16.80	78.30	0.21	33.00	32.00	32.00	22,309.6	lb/1000 gal	
	Auxiliary Engines	5464	604.17	49.00	164.40	0.21	42.47	42.47	42.47	22,309.6	lb/1000 gal	
	Bow Thruster	398043	604.17	49.00	164.40	0.21	42.47	42.47	42.47	22,309.6	lb/1000 gal	
Emergency Response Boat	Main Engines (Tier 2)	005466	271.00	16.80	148.00	0.21	6.00	6.00	6.00	22,309.6	lb/1000 gal	
	Auxiliary Engine (Tier 4)	105797	202.00	12.03	104.00	0.21	6.00	6.00	6.00	22,309.6	lb/1000 gal	
Crew Boat	Main Engines - Tier 2 Controlled	385117	234.50	26.06	167.00	0.21	9.02	9.02	9.02	22,309.6 a/	lb/1000 gal	
	Main Engines - Tier 3 Controlled	398039	169.17	3.19	167.00	0.21	2.99	2.99	2.99	22,309.6 a/	lb/1000 gal	
	Main Engines -- Uncontrolled	105137	561.00	42.30	99.70	0.21	33.00	32.00	32.00	22,309.6 a/	lb/1000 gal	
	Auxiliary Engines	398040	604.17	49.00	164.40	0.21	42.47	42.47	42.47	22,309.6 a/	lb/1000 gal	
Pigging Equipment	Oil Launcher	102649	—	0.152	—	—	—	—	—	—	lb/cf-event	E
Sumps/Tanks/Separators	Deck Drain Tank	102665	—	0.002	—	—	—	—	—	—	lb/sq.ft.-day	F
	Settling Tank	102666	—	0.002	—	—	—	—	—	—	lb/sq.ft.-day	
Solvent Usage	Paints/Cleaning/Degreasing	102638	—	420.00	—	—	—	—	—	—	gm/liter*	H

* -- 420 gm/liter = 3.505 lbs/gallon

Table 5.1-3
Platform Hogan: Part 70/PTO 9108-R5
Emission Limits by Emission Unit

Equipment Category	Emissions Unit	ID#	NO_x		ROC		CO		SO_x		PM		PM_{10}		$PM_{2.5}$		GHG	
			lbs/hr	lbs/day	lbs/hr	lbs/day	lbs/hr	lbs/day	lbs/hr	lbs/day	lbs/hr	lbs/day	lbs/hr	lbs/day	lbs/hr	lbs/day	lbs/hr	lbs/day
Combustion -- IC Engines	North Crane Engine	004849	4.20	67.22	0.53	8.40	1.66	26.61	0.00	0.04	0.54	8.68	0.53	8.40	0.53	8.40	286.4	4,582.3
	South Crane Engine	004848	3.07	6.14	0.24	0.49	0.66	1.32	0.00	0.00	0.21	0.43	0.21	0.43	0.21	0.43	121.5	243.0
	Emergency Power Generator	004850	15.81	31.62	1.26	2.52	3.41	6.81	0.01	0.01	1.10	2.20	1.10	2.20	1.10	2.20	625.8	1,251.6
	Emergency Fire Pump	004851	3.41	6.82	0.27	0.54	0.73	1.47	0.00	0.00	0.24	0.48	0.24	0.48	0.24	0.48	135.0	270.0
	Well Kill Pump	004856	9.86	19.71	0.79	1.57	2.12	4.25	0.00	0.00	0.69	1.37	0.69	1.37	0.69	1.37	390.2	780.4
	Well Service Rig	007107	7.41	14.81	1.04	2.08	0.99	23.67	0.00	0.00	1.07	2.15	1.04	2.08	1.04	2.08	405.2	810.5
	Portable Crane Engine	397999	--	3.70	--	1.72	--	26.65	--	0.05	--	0.08	--	0.08	--	0.08	377.5	755.0
Combustion -- Flare	Planned - Other	111371	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Unplanned	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Pilot	--	0.01	0.24	0.01	0.20	0.06	1.32	0.01	0.13	0.00	0.07	0.00	0.07	0.00	0.07	17.4	418.0
Fugitive Components	Oil -- Controlled	004853	--	--	0.16	3.80	--	--	--	--	--	--	--	--	--	--	--	--
	Oil -- Unsafe	102663	--	--	0.05	1.18	--	--	--	--	--	--	--	--	--	--	--	--
	Gas -- Controlled	004854	--	--	1.06	25.56	--	--	--	--	--	--	--	--	--	--	--	--
	Gas -- Unsafe	105139	--	--	0.00	0.00	--	--	--	--	--	--	--	--	--	--	--	--
Supply Boat	Main Engines -- Controlled	398041	86.74	477.09	4.32	23.78	20.15	110.85	0.05	0.30	8.49	46.72	8.24	45.30	8.24	45.30	5,742.5	31,583.7
	Main Engines -- Uncontrolled	105136	45.13	496.38	1.35	14.86	6.30	69.28	0.02	0.19	2.65	29.20	2.57	28.31	2.57	28.31	1,794.5	19,739.8
	Worst Case		**86.74**	**496.38**	**4.32**	**23.78**	**20.15**	**110.85**	**0.05**	**0.30**	**8.49**	**46.72**	**8.24**	**45.30**	**8.24**	**45.30**	**5,742.49**	**31,583.70**
	Auxiliary Engines	5464	7.64	84.07	0.62	6.82	2.08	22.88	0.00	0.03	0.54	5.91	0.54	5.91	0.54	5.91	282.2	3,104.4
	Bow Thruster	398043	8.31	16.61	0.67	1.35	2.26	4.52	0.00	0.01	0.58	1.17	0.58	1.17	0.58	1.17	306.8	613. 5
Emergency Response Boat	Main Engines (Tier 2)	005466	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Auxiliary Engine (Tier 4)	105797	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Crew Boat	Main Engines - Tier 2 Controlled	385117	19.73	197.33	2.19	21.93	14.05	140.53	0.02	0.18	0.76	7.59	0.76	2.52	0.76	2.52	1,877.4	18,773.5
	Main Engines - Tier 3 Controlled	398039	18.19	142.79	0.34	2.69	17.96	140.96	0.02	0.18	0.32	2.52	0.32	7.59	0.32	7.59	2,398.8	18,830.9
	Main Engines -- Uncontrolled	105137	40.13	401.27	3.03	30.26	7.13	71.31	0.02	0.15	2.36	23.60	2.36	22.89	2.36	22.89	1,595.7	15,957.0
	Worst Case		**40.13**	**401.27**	**3.03**	**30.26**	**17.96**	**140.96**	**0.02**	**0.18**	**2.36**	**23.60**	**2.36**	**22.89**	**2.36**	**22.89**	**2,398.8**	**18,830.9**
	Auxiliary Engines	398040	3.29	32.90	0.27	2.67	0.90	8.95	0.00	0.01	0.23	2.31	0.23	2.31	0.23	2.31	121.5	1,214.8
Pigging Equipment	Oil Launcher	102649	--	--	0.76	0.76	--	--	--	--	--	--	--	--	--	--	--	--
			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sumps/Tanks/Separators	Deck Drain Tank	102665	--	--	0.0014	0.0340	--	--	--	--	--	--	--	--	--	--	--	--
	Settling Tank	102666	--	--	0.0085	0.2040	--	--	--	--	--	--	--	--	--	--	--	--
			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solvent Usage	Paints/Cleaning/Degreasing	102638	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 5.1-4
Platform Hogan: Part 70/PTO 9108-R5
Emission Limits by Emission Unit

Equipment Category	Emissions Unit	ID #	NO_X TPQ	NO_X TPY	ROC TPQ	ROC TPY	CO TPQ	CO TPY	SO_X TPQ	SO_X TPY	PM TPQ	PM TPY	PM_{10} TPQ	PM_{10} TPY	$PM_{2.5}$ TPQ	$PM_{2.5}$ TPY	GHG TPQ	GHG TPY
Combustion -- IC Engines	North Crane Engine	004849	1.05	2.10	0.13	0.26	0.42	0.83	0.01	0.01	0.14	0.27	0.13	0.26	0.13	0.26	71.6	143.2
	South Crane Engine	004848	0.31	0.31	0.02	0.02	0.07	0.07	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02	12.0	12.0
	Emergency Power Generator	004850	1.58	1.58	0.13	0.13	0.34	0.34	0.00	0.00	0.11	0.11	0.11	0.11	0.11	0.11	62.2	62.2
	Emergency Fire Pump	004851	0.34	0.34	0.03	0.03	0.07	0.07	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02	13.4	13.4
	Well Kill Pump	004856	0.49	0.49	0.04	0.04	0.11	0.11	0.00	0.00	0.03	0.03	0.03	0.03	0.03	0.03	19.4	19.4
	Well Service Rig	007107	8.11	32.44	1.14	4.55	1.08	4.32	0.00	0.01	1.18	4.70	1.14	4.55	1.14	4.55	443.8	1,775.0
	Portable Crane Engine	397999	--	0.67	--	0.31	--	4.86	--	0.01	--	0.01	--	0.01	--	0.01	0.0	0.0
Combustion -- Flare	Planned - Other	111371	0.03	0.13	0.03	0.11	0.18	0.73	0.02	0.07	0.01	0.04	0.01	0.04	0.00	0.04	57.8	231.2
	Unplanned	--	0.08	0.30	0.06	0.25	0.41	1.65	0.04	0.16	0.02	0.09	0.02	0.09	0.01	0.09	130.6	522.6
	Pilot	--	0.02	0.09	0.02	0.07	0.12	0.49	0.01	0.05	0.01	0.03	0.01	0.03	0.00	0.03	38.4	153.7
Fugitive Components	Oil -- Controlled	004853	--	--	0.17	0.69	--	--	--	--	--	--	--	--	--	--	--	--
	Oil -- Unsafe	102663	--	--	0.05	0.21	--	--	--	--	--	--	--	--	--	--	--	--
	Gas -- Controlled	004854	--	--	1.17	4.66	--	--	--	--	--	--	--	--	--	--	--	--
	Gas -- Unsafe	105139	--	--	0.00	0.00	--	--	--	--	--	--	--	--	--	--	--	--
Supply Boat	Main Engines -- Controlled	398041	18.43	18.43	0.92	0.92	4.28	4.28	0.01	0.01	1.81	1.81	1.75	1.75	1.75	1.75	1,220.3	1,220.3
	Main Engines -- Uncontrolled	105136	0.50	1.69	0.01	0.05	0.07	0.24	0.00	0.00	0.03	0.10	0.03	0.10	0.03	0.10	19.7	67.3
	Worst Case		**18.43**	**18.43**	**0.92**	**0.92**	**4.28**	**4.28**	**0.01**	**0.01**	**1.81**	**1.81**	**1.75**	**1.75**	**1.75**	**1.75**	**1,220.30**	**1,220.30**
	Auxiliary Engines	5464	1.62	1.62	0.13	0.13	0.40	0.40	0.00	0.00	0.11	0.11	0.11	0.11	0.11	0.11	60.0	60.0
	Bow Thruster	398043	0.14	0.57	0.01	0.05	0.04	0.14	0.00	0.00	0.04	0.04	0.04	0.04	0.04	0.04	5.4	21.2
Emergency Response Boat	Main Engines (Tier 2)	005466	0.25	1.01	0.02	0.06	0.14	0.55	0.00	0.00	0.01	0.02	0.01	0.02	0.01	0.02	20.8	83.3
	Auxiliary Engine (Tier 4)	105797	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.4	1.7
Crew Boat	Main Engines - Tier 2 Controlled	385117	3.75	15.00	0.42	1.67	2.67	10.68	0.00	0.01	0.14	0.58	0.14	0.58	0.14	0.58	356.70	1,426.80
	Main Engines - Tier 3 Controlled	398039	6.57	15.00	0. 12	0.28	6. 48	14.81	0. 01	0.02	0. 12	0.27	0. 12	0.27	0. 12	0.27	866.20	1,977.80
	Main Engines -- Uncontrolled	105137	0.76	3.05	0.06	0.23	0.14	0.54	0.00	0.00	0.04	0.18	0.04	0.17	0.04	0.17	30.30	121.30
	Worst Case		**6.57**	**15.00**	**0.42**	**1.67**	**6.48**	**14.81**	**0.01**	**0.02**	**0.14**	**0.58**	**0.14**	**0.58**	**0.14**	**0.58**	**866.20**	**1,977.80**
	Auxiliary Engines	398040	1.12	2.50	0.09	0.20	0.28	0.62	0.00	0.00	0.08	0.18	0.08	0.18	0.08	0.18	41.30	92.30
Pigging Equipment	Oil Launcher	102649	--	--	0.01	0.06	--	--	--	--	--	--	--	--	--	--	--	--
							--	--	--	--	--	--	--	--	--	--	--	--
Sumps/Tanks/Separators	Deck Drain Tank	102665	--	--	0.00	0.01	--	--	--	--	--	--	--	--	--	--	--	--
	Settling Tank	102666	--	--	0.01	0.04	--	--	--	--	--	--	--	--	--	--	--	--
							--	--	--	--	--	--	--	--	--	--	--	--
Solvent Usage	Paints/Cleaning/Degreasing	102638	--	--	0.65	2.60	--	--	--	--	--	--	--	--	--	--	--	--

Table 5.2
Platform Hogan: Part 70/PTO 9108-R5
Total Permitted Facility Emissions

A. Peak Daily (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}	$PM_{2.5}$	GHG
Combustion -- IC Engines	146.32	15.60	64.13	0.06	15.31	14.96	14.96	7,937.8
Combustion -- Flare	0.24	0.20	1.32	0.13	0.07	0.07	0.07	418.0
Fugitive Emissions	--	30.54	--	--	--	--	--	--
Supply Boat	597.06	31.95	138.25	0.33	53.80	52.38	52.38	35,301.60
Emergency Response Boat	--	--	--	--	--	--	--	--
Crew Boat	434.17	32.93	149.91	0.19	25.91	25.20	25.20	20,045.7
Pigging Equipment	--	0.06	--	--	--	--	--	--
Sumps/Tanks/Separators	--	0.24	--	--	--	--	--	--
Paints/Cleaning/Degreasing	--	--	--	--	--	--	--	--
TOTALS (lb/day)	**1,177.79**	**111.52**	**353.61**	**0.71**	**95.09**	**92.61**	**92.61**	**63,703.1**

B. Peak Annual (tons/yr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}	$PM_{2.5}$	GHG
Combustion -- IC Engines	37.26	5.03	5.74	0.02	5.16	5.00	5.00	2,025.2
Combustion -- Flare	0.53	0.44	2.87	0.28	0.15	0.15	0.15	907.4
Fugitive Emissions	--	5.57	--	--	--	--	--	--
Supply Boat	20.63	1.10	4.82	0.01	1.96	1.90	1.90	1,301.5
Emergency Response Boat	1.03	0.06	0.56	0.00	0.02	0.02	0.02	85.0
Crew Boat	17.50	1.87	15.43	0.02	0.76	0.76	0.76	2,070.1
Pigging Equipment	--	0.06	--	--	--	--	--	--
Sumps/Tanks/Separators	--	0.04	--	--	--	--	--	--
Paints/Cleaning/Degreasing	--	2.60	--	--	--	--	--	--
TOTALS (ton/yr)	**76.94**	**16.77**	**29.41**	**0.34**	**8.06**	**7.84**	**7.84**	**6,389.2**

Table 5.3
Platform Hogan: Part 70/PTO 9108-R5
Federal Potential to Emit

A. Peak Daily (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}	$PM_{2.5}$
Combustion -- IC Engines	150.02	17.32	64.13	0.06	15.31	14.96	14.96
Combustion -- Flare	0.24	0.20	1.32	0.13	0.07	0.07	0.07
Fugitive Emissions	--	--	--	--	--	--	--
Supply Boat	597.06	31.95	138.25	0.33	53.80	52.38	52.38
Emergency Response Boat	--	--	--	--	--	--	--
Crew Boat	434.17	32.93	149.91	0.19	25.91	25.20	25.20
Pigging Equipment	--	--	--	--	--	--	--
Sumps/Tanks/Separators	--	--	--	--	--	--	--
Paints/Cleaning/Degreasing	--	--	--	--	--	--	--
TOTALS (lb/day)	**1181.49**	**82.40**	**353.61**	**0.71**	**95.09**	**92.61**	**92.61**

B. Peak Annual (tons/yr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}	$PM_{2.5}$
Combustion -- IC Engines	37.26	5.03	1.31	0.01	0.43	0.42	0.42
Combustion -- Flare	0.53	0.44	2.87	0.28	0.15	0.15	0.15
Fugitive Emissions	--	--	--	--	--	--	--
Supply Boat	20.63	1.10	4.82	0.01	1.96	1.90	1.90
Emergency Response Boat	1.03	0.06	0.56	0.00	0.02	0.02	0.02
Crew Boat	17.50	1.87	15.43	0.02	0.76	0.76	0.76
Pigging Equipment	--	--	--	--	--	--	--
Sumps/Tanks/Separators	--	--	--	--	--	--	--
Paints/Cleaning/Degreasing	--	--	--	--	--	--	--
TOTALS (ton/yr)	**76.94**	**8.50**	**24.98**	**0.33**	**3.32**	**3.25**	**3.25**

Significant Emission Units:
Drilling Engines previously exempt from District permit became subject to permit per Rule 202 revision adopted 6/19/2008 and are included in PTE.

Table 5.4
Platform Hogan: Part 70/PTO 9108-R5
Estimated Insignificant Emission Units' Emissions

Annual (tons/year)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}	$PM_{2.5}$
Diesel Fuel Tank	--	0.10	--	--	--	--	--
Surface Coating - Maintenance	--	0.00	--	--	--	--	--
TOTALS (ton/yr)	**0.00**	**0.10**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 5.5-1
Platform Hogan: Part 70/PTO 9108-R5
Equipment Hazardous Air Pollutant Emission Factors

				Emission Factors																															
Equipment Category	**Description**		**Dev No**	Hexane	Benzene	Toluene	Xylene	Iso-Octane [1]	Formaldehyde	PAH-Polycyclic napthalene)	Naphthalene	Acetaldehyde	Acrolein	1,3-Butadiene	Chlorobenzene	Ethylbenzene	Hydrogen Chloride	Arsenic	Beryllium	Cadmium	Total Chromium	Cobalt	Lead	Manganese	Mercury	Nickel	Selenium	**Units**	**References**
Combustion -- IC Engines	North Crane Engine		004849	0.0269	0.1863	0.1054	0.0424	--	1.7261	0.0362	0.0197	0.7833	0.0339	0.2174	0.0002	0.0109	0.1863	0.0016	--	0.0015	0.0006	--	0.0083	0.0031	0.0020	0.0039	0.0022	lb/1000 gal	A
	South Crane Engine		004848	0.0269	0.1863	0.1054	0.0424	--	1.7261	0.0362	0.0197	0.7833	0.0339	0.2174	0.0002	0.0109	0.1863	0.0016	--	0.0015	0.0006	--	0.0083	0.0031	0.0020	0.0039	0.0022	lb/1000 gal	A
	Emergency Power Generator		004850	0.0269	0.1863	0.1054	0.0424	--	1.7261	0.0362	0.0197	0.7833	0.0339	0.2174	0.0002	0.0109	0.1863	0.0016	--	0.0015	0.0006	--	0.0083	0.0031	0.0020	0.0039	0.0022	lb/1000 gal	A
	Emergency Fire Pump		004851	0.0269	0.1863	0.1054	0.0424	--	1.7261	0.0362	0.0197	0.7833	0.0339	0.2174	0.0002	0.0109	0.1863	0.0016	--	0.0015	0.0006	--	0.0083	0.0031	0.0020	0.0039	0.0022	lb/1000 gal	A
	Well Kill Pump		004856	0.0269	0.1863	0.1054	0.0424	--	1.7261	0.0362	0.0197	0.7833	0.0339	0.2174	0.0002	0.0109	0.1863	0.0016	--	0.0015	0.0006	--	0.0083	0.0031	0.0020	0.0039	0.0022	lb/1000 gal	A
	Well Service Rig		007107	0.0269	0.1863	0.1054	0.0424	--	1.7261	0.0362	0.0197	0.7833	0.0339	0.2174	0.0002	0.0109	0.1863	0.0016	--	0.0015	0.0006	--	0.0083	0.0031	0.0020	0.0039	0.0022	lb/1000 gal	A
Combustion -- Flare[1]	Planned - Other		111371	0.029	0.159	0.058	0.029	--	1.169	0.003	0.011	0.043	0.010	--	--	1.444	--	2.0E-04	1.2E-05	1.1E-03	1.4E-03	8.4E-05	--	3.8E-04	2.6E-04	2.1E-03	2.4E-05	lb/MMcf	B
	Unplanned		--	0.029	0.159	0.058	0.029	--	1.169	0.003	0.011	0.043	0.010	--	--	1.444	--	2.0E-04	1.2E-05	1.1E-03	1.4E-03	8.4E-05	--	3.8E-04	2.6E-04	2.1E-03	2.4E-05	lb/MMcf	B
	Pilot		--	0.029	0.159	0.058	0.029	--	1.169	0.003	0.011	0.043	0.010	--	--	1.444	--	2.0E-04	1.2E-05	1.1E-03	1.4E-03	8.4E-05	--	3.8E-04	2.6E-04	2.1E-03	2.4E-05	lb/MMcf	B
Fugitive Components[2]	Oil -- Controlled		004853	0.3000	0.0030	--	--	0.1554	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	lb/lb-ROC	C
	Oil -- Unsafe		102663	0.3000	0.0030	--	--	0.1554	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	lb/lb-ROC	C
	Gas -- Controlled		004854	0.1576	0.0030	--	--	0.1494	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	lb/lb-ROC	D
	Gas -- Unsafe		105139	0.1576	0.0030	--	--	0.1494	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	lb/lb-ROC	D
Supply Boat	Main Engines -- Controlled		398041	1.96E-04	9.33E-04	4.09E-04	2.85E-04	--	1.18E-03	8.32E-05	8.48E-05	7.67E-04	9.25E-05	3.91E-05	1.46E-06	7.96E-05	1.36E-03	1.17E-05	--	1.09E-05	4.38E-06	--	6.06E-05	2.26E-05	1.46E-05	2.85E-05	1.61E-05	lb/MMBtu	
	Main Engines -- Uncontrolled		105140	1.96E-04	9.33E-04	4.09E-04	2.85E-04	--	1.18E-03	8.32E-05	8.48E-05	7.67E-04	9.25E-05	3.91E-05	1.46E-06	7.96E-05	1.36E-03	1.17E-05	--	1.09E-05	4.38E-06	--	6.06E-05	2.26E-05	1.46E-05	2.85E-05	1.61E-05	lb/MMBtu	
	Auxiliary Engines		005464	1.96E-04	9.33E-04	4.09E-04	2.85E-04	--	1.18E-03	8.32E-05	8.48E-05	7.67E-04	9.25E-05	3.91E-05	1.46E-06	7.96E-05	1.36E-03	1.17E-05	--	1.09E-05	4.38E-06	--	6.06E-05	2.26E-05	1.46E-05	2.85E-05	1.61E-05	lb/MMBtu	
	Bow Thruster		398043	1.96E-04	9.33E-04	4.09E-04	2.85E-04	--	1.18E-03	8.32E-05	8.48E-05	7.67E-04	9.25E-05	3.91E-05	1.46E-06	7.96E-05	1.36E-03	1.17E-05	--	1.09E-05	4.38E-06	--	6.06E-05	2.26E-05	1.46E-05	2.85E-05	1.61E-05	lb/MMBtu	
Emergency Response Boat[3]	Main Engines (Tier 2)		005466	1.96E-04	9.33E-04	4.09E-04	2.85E-04	--	1.18E-03	8.32E-05	8.48E-05	7.67E-04	9.25E-05	3.91E-05	1.46E-06	7.96E-05	1.36E-03	1.17E-05	--	1.09E-05	4.38E-06	--	6.06E-05	2.26E-05	1.46E-05	2.85E-05	1.61E-05	lb/MMBtu	E
	Auxiliary Engine (Tier 4)		105797	1.96E-04	9.33E-04	4.09E-04	2.85E-04	--	1.18E-03	8.32E-05	8.48E-05	7.67E-04	9.25E-05	3.91E-05	1.46E-06	7.96E-05	1.36E-03	1.17E-05	--	1.09E-05	4.38E-06	--	6.06E-05	2.26E-05	1.46E-05	2.85E-05	1.61E-05	lb/MMBtu	E
Crew Boat	Main Engines - Tier 2 Controlled		385117	1.96E-04	9.33E-04	4.09E-04	2.85E-04	--	1.18E-03	8.32E-05	8.48E-05	7.67E-04	9.25E-05	3.91E-05	1.46E-06	7.96E-05	1.36E-03	1.17E-05	--	1.09E-05	4.38E-06	--	6.06E-05	2.26E-05	1.46E-05	2.85E-05	1.61E-05	lb/MMBtu	
	Main Engines - Tier 3 Controlled		398039	1.96E-04	9.33E-04	4.09E-04	2.85E-04	--	1.18E-03	8.32E-05	8.48E-05	7.67E-04	9.25E-05	3.91E-05	1.46E-06	7.96E-05	1.36E-03	1.17E-05	--	1.09E-05	4.38E-06	--	6.06E-05	2.26E-05	1.46E-05	2.85E-05	1.61E-05	lb/MMBtu	
	Main Engines -- Uncontrolled		105137	1.96E-04	9.33E-04	4.09E-04	2.85E-04	--	1.18E-03	8.32E-05	8.48E-05	7.67E-04	9.25E-05	3.91E-05	1.46E-06	7.96E-05	1.36E-03	1.17E-05	--	1.09E-05	4.38E-06	--	6.06E-05	2.26E-05	1.46E-05	2.85E-05	1.61E-05	lb/MMBtu	
	Auxiliary Engines		398040	1.96E-04	9.33E-04	4.09E-04	2.85E-04	--	1.18E-03	8.32E-05	8.48E-05	7.67E-04	9.25E-05	3.91E-05	1.46E-06	7.96E-05	1.36E-03	1.17E-05	--	1.09E-05	4.38E-06	--	6.06E-05	2.26E-05	1.46E-05	2.85E-05	1.61E-05	lb/MMBtu	
Pigging Equipment[4]	Oil Launcher		102649	0.1119	0.0011	--	--	0.1554	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	lb/lb-ROC	C
Sumps/Tanks/Separators[5]	Deck Drain Tank		102665	0.0528	0.0264	0.0165	--	0.0050	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	lb/lb-ROC[4]	F
	Settling Tank		102666	0.0528	0.0264	0.0165	--	0.0050	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	lb/lb-ROC[4]	F
Solvent Usage	Paints/Cleaning/Degreasing		102638	--	0.0500	0.0500	0.0500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	lb/lb-ROC	G

References:

A - VCAPCD AB 2588 Combustion Emission Factors (2001) - Diesel Combustion Factors (internal combustion)
http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf
A1 - South Coast Air Quality Management District. December 2016. Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory.Table B-2: Default EF for Diesel/Distillate Oil Fuel Combustion.
http://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/supplemental-instructions-for-ab2588-facilities.pdf
B1 - VCAPCD AB 2588 Combustion Emission Factors (2001) - Natural Gas Fired External Combustion Equipment (flare)
http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf
B2 - USEPA, AP-42 Table 1.4-4. Emission Factors for Metals from Natural Gas Combustion
https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf
C - CARB Speciation Manual Second Edition (1991) Profile Number 756 - Oil & Gas Production Fugitives - Liquid Service.
https://www.ourair.org/wp-content/uploads/CARB-VOC-Species-Profiles.pdf
D - CARB Speciation Manual Second Edition (1991), Profile Number 757 - Oil & Gas Production Fugitives - Gas Service
https://www.ourair.org/wp-content/uploads/CARB-VOC-Species-Profiles.pdf
E1 - USEPA, AP-42 Table 3.3-2. Speciated Organic Compound Emission Factors for Uncontrolled Diesel Engines
http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf.
E2 - VCAPCD AB 2588 Combustion Emissions Factors (2001) - Diesel Combustion Factors (internal combustion)
https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s03.pdf
F - CARB Speciation Manual Second Edition (1991) Profile Number 532 - Oil & Gas Extraction - Well Heads & Cellars/Oil & Water Separators
G - California Air Resources Board. August 1991. Identification of Volatile Organic Compound Species Profiles. Profile #802: Mineral Spirits.

Notes:

[1] The lead emission factor is from AP-42 Table 1.4-2: Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion.
[2] The emission factors, originally in units of lb/lb-TOC, were converted to lb/lb-ROC using an ROC/TOC fraction of 0.33 from Table 2 of the District's P&P 6100.061.
[3] Emission factors from USEPA's AP-42 were supplemented with emission factors from Ventura County Air Pollution Control District for pollutants not included in AP-42 Table 3.3-2.
[4] For the ROC/TOC ratio of 0.885 reference CARB VOC Speciation Profile 297 (storage tanks).
[5] The emission factors, originally in units of lb/lb-TOC, were converted to lb/lb-ROC using an ROC/TOC fraction of 0.606 from Table 3.2.3 of the District's P&P 6100.060.

Table 5.5-2
Platform Hogan: Part 70/PTO 9108-R5
Annual Hazardous Air Pollution Emissions (TPY)

Equipment Category	Description	Dev No	Hexane	Benzene	Toluene	Xylene	Iso/Octane	Formaldhyde	PAHs (total napthalene)	Napthalene	Acetaldhyde	Acrolein	1,3-Butadiene	Chlorbenzene	Ethylbenzene	Hydrogen Chloride	Arsenic	Beryllium	Cadmium	Total Chromium	Cobalt	Lead	Manganese	Mercury	Nickel	Selenium
Combustion -- IC Engines	North Crane Engine	004849	1.76E-04	1.22E-03	6.90E-04	2.78E-04	--	1.13E-02	2.37E-04	1.29E-04	5.13E-03	2.22E-04	1.42E-03	1.31E-06	7.14E-05	1.22E-03	1.05E-05	--	9.82E-06	3.93E-06	--	5.43E-05	2.03E-05	1.31E-05	2.55E-05	1.44E-05
	South Crane Engine	004848	1.51E-05	1.04E-04	5.91E-05	2.38E-05	--	9.68E-04	2.03E-05	1.10E-05	4.39E-04	1.90E-05	1.22E-04	1.12E-07	6.11E-06	1.04E-04	8.97E-07	--	8.41E-07	3.36E-07	--	4.65E-06	1.74E-06	1.12E-06	2.19E-06	1.23E-06
	Emergency Power Generator	004850	7.81E-05	5.41E-04	3.06E-04	1.23E-04	--	5.01E-03	1.05E-04	5.72E-05	2.27E-03	9.84E-05	6.31E-04	5.81E-07	3.16E-05	5.41E-04	4.65E-06	--	4.36E-06	1.74E-06	--	2.41E-05	9.00E-06	5.81E-06	1.13E-05	6.39E-06
	Emergency Fire Pump	004851	1.68E-05	1.17E-04	6.60E-05	2.66E-05	--	1.08E-03	2.27E-05	1.23E-05	4.91E-04	2.12E-05	1.36E-04	1.25E-07	6.83E-06	1.17E-04	1.00E-06	--	9.39E-07	3.76E-07	--	5.20E-06	1.94E-06	1.25E-06	2.44E-06	1.38E-06
	Well Kill Pump	004856	2.44E-05	1.69E-04	9.54E-05	3.84E-05	--	1.56E-03	3.28E-05	1.78E-05	7.09E-04	3.07E-05	1.97E-04	1.81E-07	9.87E-06	1.69E-04	1.45E-06	--	1.36E-06	5.43E-07	--	7.51E-06	2.81E-06	1.81E-06	3.53E-06	1.99E-06
	Well Service Rig	007107	1.34E-03	9.29E-03	5.26E-03	2.11E-03	--	8.61E-02	1.81E-03	9.83E-04	3.91E-02	1.69E-03	1.08E-02	9.97E-06	5.44E-04	9.29E-03	7.98E-05	--	7.48E-05	2.99E-05	--	4.14E-04	1.55E-04	9.97E-05	1.95E-04	1.10E-04
Combustion -- Flare	Planned - Other	111371	5.45E-05	2.99E-04	1.09E-04	5.45E-05	--	2.20E-03	5.64E-06	2.07E-05	8.08E-05	1.88E-05	--	--	2.71E-03	--	3.76E-07	2.26E-08	2.07E-06	2.63E-06	1.58E-07	--	7.14E-07	4.89E-07	3.95E-06	4.51E-08
	Unplanned	--	1.23E-04	6.76E-04	2.47E-04	1.23E-04	--	4.97E-03	1.28E-05	4.68E-05	1.83E-04	4.25E-05	--	--	6.14E-03	--	8.50E-07	5.10E-08	4.68E-06	5.95E-06	3.57E-07	--	1.62E-06	1.11E-06	8.93E-06	1.02E-07
	Pilot	--	3.63E-05	1.99E-04	7.25E-05	3.63E-05	--	1.46E-03	3.75E-06	1.38E-05	5.38E-05	1.25E-05	--	--	1.81E-03	--	2.50E-07	1.50E-08	1.38E-06	1.75E-06	1.05E-07	--	4.75E-07	3.25E-07	2.63E-06	3.00E-08
Fugitive Components	Oil -- Controlled	004853	2.08E-01	2.08E-03	--	--	1.08E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Oil -- Unsafe	102663	6.44E-02	6.44E-04	--	--	3.33E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Gas -- Controlled	004854	7.35E-01	1.40E-02	--	--	6.97E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Gas -- Unsafe	105139	0.00E+00	0.00E+00	--	--	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Supply Boat - Rebakah C.	Main Engines -- Controlled	398041	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Main Engines -- Uncontrolled	105140	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Worst Case	**398041**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**--**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**--**	**0.00E+00**	**0.00E+00**	**--**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**
	Auxiliary Engines	5464	8.40E-05	3.99E-04	1.75E-04	1.22E-04	--	5.05E-04	3.56E-05	3.63E-05	3.28E-04	3.96E-05	1.67E-05	6.24E-07	3.40E-05	5.82E-04	5.00E-06	--	4.68E-06	1.87E-06	--	2.59E-05	9.68E-06	6.24E-06	1.22E-05	6.87E-06
	Bow Thruster	398043	7.49E-05	3.56E-04	1.56E-04	1.09E-04	--	4.50E-04	3.17E-05	3.23E-05	2.92E-04	3.53E-05	1.49E-05	5.57E-07	3.03E-05	5.18E-04	4.45E-06	--	4.17E-06	1.67E-06	--	2.31E-05	8.63E-06	5.57E-06	1.09E-05	6.12E-06
Emergency Response Boat	Main Engines	005466	1.04E-04	4.94E-04	2.16E-04	1.51E-04	--	6.25E-04	4.40E-05	4.49E-05	4.06E-04	4.90E-05	2.07E-05	7.73E-07	4.21E-05	7.20E-04	6.18E-06	--	5.80E-06	2.32E-06	--	3.21E-05	1.20E-05	7.73E-06	1.51E-05	8.50E-06
	Auxiliary Engine	105797	2.15E-06	1.02E-05	4.48E-06	3.12E-06	--	1.29E-05	9.11E-07	9.29E-07	8.40E-06	1.01E-06	4.28E-07	1.60E-08	8.71E-07	1.49E-05	1.28E-07	--	1.20E-07	4.80E-08	--	6.63E-07	2.48E-07	1.60E-07	3.12E-07	1.76E-07
Crew Boat	Main Engines -- Tier 2 Controlled	385117	1.78E-03	8.46E-03	3.71E-03	2.58E-03	0.00E+00	1.07E-02	7.55E-04	7.69E-04	6.96E-03	8.39E-04	3.55E-04	1.32E-05	7.22E-04	1.23E-02	1.06E-04	0.00E+00	9.93E-05	3.97E-05	0.00E+00	5.49E-04	2.05E-04	1.32E-04	2.58E-04	1.46E-04
	Main Engines -- Tier 3 Controlled	398039	2.47E-03	1.17E-02	5.14E-03	3.58E-03	0.00E+00	1.48E-02	1.05E-03	1.07E-03	9.64E-03	1.16E-03	4.92E-04	1.84E-05	1.00E-03	1.71E-02	1.47E-04	0.00E+00	1.38E-04	5.51E-05	0.00E+00	7.62E-04	2.84E-04	1.84E-04	3.58E-04	2.02E-04
	Main Engines -- Uncontrolled	105137	1.51E-04	7.19E-04	3.15E-04	2.20E-04	0.00E+00	9.10E-04	6.41E-05	6.54E-05	5.91E-04	7.13E-05	3.01E-05	1.13E-06	6.13E-05	1.05E-03	9.00E-06	0.00E+00	8.44E-06	3.38E-06	0.00E+00	4.67E-05	1.74E-05	1.13E-05	2.19E-05	1.24E-05
	Worst Case		**2.47E-03**	**1.17E-02**	**5.14E-03**	**3.58E-03**	**0.00E+00**	**1.48E-02**	**1.05E-03**	**1.07E-03**	**9.64E-03**	**1.16E-03**	**4.92E-04**	**1.84E-05**	**1.00E-03**	**1.71E-02**	**1.47E-04**	**0.00E+00**	**1.38E-04**	**5.51E-05**	**0.00E+00**	**7.62E-04**	**2.84E-04**	**1.84E-04**	**3.58E-04**	**2.02E-04**
	Auxiliary Engine #1	398040	1.15E-04	5.48E-04	2.40E-04	1.67E-04	0.00E+00	6.93E-04	4.88E-05	4.98E-05	4.50E-04	5.43E-05	2.29E-05	8.57E-07	4.67E-05	7.98E-04	6.85E-06	0.00E+00	6.43E-06	2.57E-06	0.00E+00	3.56E-05	1.33E-05	8.57E-06	1.67E-05	9.42E-06
Pigging Equipment	Oil Launcher	102649	6.65E-03	6.72E-05	--	--	9.23E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sumps/Tanks/Separators	Deck Drain Tank	102665	3.28E-04	1.64E-04	1.02E-04	--	3.07E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Settling Tank	102666	1.97E-03	9.83E-04	6.14E-04	--	1.84E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solvent Usage	Paints/Cleaning/Degreasing	102638	--	1.30E-01	1.30E-01	1.30E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Total HAPs (TPY):		**1.02E+00**	**1.74E-01**	**1.43E-01**	**1.37E-01**	**8.47E-01**	**1.32E-01**	**3.45E-03**	**2.52E-03**	**5.96E-02**	**3.50E-03**	**1.39E-02**	**3.35E-05**	**1.25E-02**	**3.12E-02**	**2.69E-04**	**8.86E-08**	**2.59E-04**	**1.11E-04**	**6.20E-07**	**1.39E-03**	**5.22E-04**	**3.37E-04**	**6.68E-04**	**3.68E-04**

Notes:
1. These are estimates only, and are not intended to represent emission limits.
2. Based on CAAA, Section 112 (n) (4) stipulations, the HAP emissions listed above can not be aggregated at the source for any purpose, including determination of HAP major source status for MACT applicability.
3. Default fuel properties for diesel are from Tables 5 and 6 of the SBCAPCD's Piston IC Engine Technical Reference Document (2002). https://www.ourair.org/wp-content/uploads/sbcapcdicerefdoc.pdf

Platforms Hogan and Houchin
Stationary Source Hazardous Air Pollutant Emissions (TPY)

Facility	Permit #	Hexane	Benzene	Toluene	Xylene	Iso-Octane	Formaldehyde	PAHs (not incl. naphthalene)	Naphthalene	Acetaldehyde	Acrolein	1,3-Butadiene	Chlorobenzene	Ethylbenzene	Hydrogen Chloride	Arsenic	Beryllium	Cadmium	Total Chromium	Cobalt	Lead	Manganese	Mercury	Nickel	Selenium	Total - All HAP
8001 - Platform Hogan	**PTO 9108-R4**	1.02E+00	1.74E-01	1.43E-01	1.37E-01	8.47E-01	1.32E-01	3.45E-03	2.52E-03	5.96E-02	3.50E-03	1.39E-02	3.35E-05	1.25E-02	3.12E-02	2.69E-04	8.86E-08	2.59E-04	1.11E-04	6.20E-07	1.39E-03	5.22E-04	3.37E-04	6.68E-04	3.68E-04	**2.58E+00**
8002 - Platform Houchin	**PTO 9109-R4**	1.17E+00	2.07E-01	1.60E-01	1.44E-01	9.66E-01	4.10E-01	9.30E-03	5.73E-03	1.86E-01	8.99E-03	4.89E-02	6.62E-05	1.46E-02	6.17E-02	5.31E-04	9.15E-08	5.05E-04	2.09E-04	6.41E-07	2.75E-03	1.03E-03	6.64E-04	1.31E-03	7.29E-04	**3.40E+00**
Total Stationary Source - By Pollutant		**2.19E+00**	**3.81E-01**	**3.04E-01**	**2.80E-01**	**1.81E+00**	**5.42E-01**	**1.28E-02**	**8.25E-03**	**2.45E-01**	**1.25E-02**	**6.28E-02**	**9.97E-05**	**2.71E-02**	**9.29E-02**	**8.01E-04**	**1.80E-07**	**7.64E-04**	**3.20E-04**	**1.26E-06**	**4.14E-03**	**1.55E-03**	**1.00E-03**	**1.98E-03**	**1.10E-03**	**5.99E+00**

Notes:
1. These are estimates only, and are not intended to represent emission limits.
2. Based on CAAA, Section 112 (n) (4) stipulations, the HAP emissions listed above can not be aggregated at the source for any purpose, including determination of HAP major source status for MACT applicability.

6.0 Air Quality Impact Analyses

6.1 Modeling

Air quality impact analyses were not performed since this renewal is not subject to District New Source Review or Prevention of Significant Deterioration review.

6.2 Increments

An air quality increment analysis has not been required for this stationary source.

6.3 Monitoring

Air quality monitoring has not been required for this stationary source.

6.4 Health Risk Assessment

An air toxics Health Risk Assessment was not performed for this permitting action.

7.0 CAP Consistency, Offset Requirements and ERCs

7.1 General

Santa Barbara County has not attained the state PM_{10} and Ozone air quality standards. Therefore, emissions from all emission units at the stationary source and its constituent facilities must be consistent with the provisions of the USEPA and State approved Clean Air Plans (CAP) and must not interfere with progress toward attainment of federal and state ambient air quality standards. Under District regulations, any modifications at the source that result in an emission increase of any nonattainment pollutant exceeding 25 lbs/day must apply BACT (NAR). Increases above offset thresholds will trigger offsets at the source or elsewhere so that there is a net air quality benefit for Santa Barbara County. These offset threshold levels are 240 lbs/day for all attainment pollutants and precursors (except carbon monoxide and $PM_{2.5}$) and 25 tons/year for all non-attainment pollutants and precursors (except carbon monoxide and $PM_{2.5}$).

7.2 Clean Air Plan

The 2007 Clean Air Plan, adopted by the District Board on August 16, 2007, addressed both federal and state requirements, serving as the maintenance plan for the federal eight-hour ozone standard and as the state triennial update required by the Health and Safety Code to demonstrate how the District will expedite attainment of the state eight-hour ozone standard. The plan was developed for Santa Barbara County as required by both the 1998 California Clean Air Act and the 1990 Federal Clean Air Act Amendments.

In December 2019 the District Board adopted the 2019 Ozone Plan. The 2019 Plan provides a three-year update to the 2010 Clean Air Plan. The 2019 Clean Air Plan therefore satisfies all state triennial planning requirements.

7.3 Offset Requirements

The Carpinteria Field – South County Stationary Source exceeds the emission offset thresholds of Regulation VIII for NO_X and ROC. Any future new source review projects at Platform Hogan will require offsets for the emissions associated with the project.

7.4 Emission Reduction Credits

Platform Hogan does not generate emission reduction credits.

8.0 Lead Agency Permit Consistency

The United States Department of Interior's Minerals Management Service approved the *Plan of Development* for Platform Hogan on October 27, 1967. The installation of Platform Hogan predates the California Environmental Quality Act (CEQA) as the platform installation started in 1967 while the act was adopted in 1970.

9.0 Permit Conditions

This section lists the applicable permit conditions for OCS Platform Hogan. Section A lists the standard administrative conditions. Section B lists 'generic' permit conditions, including emission standards, for all equipment in this permit. Section C lists conditions affecting specific equipment. Conditions listed in these Sections are enforceable by the USEPA, the District, the State of California and the public. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally enforceable. In case of a discrepancy between the wording of a condition and the applicable federal or District rule(s), the wording of the rule shall control.

For the purposes of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this permit, nothing in the permit shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test had been performed.

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9.A Standard Administrative Conditions

The following federally enforceable administrative permit conditions apply to the Platform Hogan:

A.1 **Condition Acceptance.** Acceptance of this operating permit by the operator shall be considered as acceptance of all terms, conditions, and limits of this permit. [*Re: PTO 9108*]

A.2 **Grounds for Revocation.** Failure to abide by and faithfully comply with this permit shall constitute grounds for the APCO to petition for permit revocation pursuant to California Health & Safety Code Section 42307 *et seq*. [*Re: PTO 9108*]

A.3 **Reimbursement of Costs**. All reasonable expenses, as defined in District Rule 210, incurred by the District, District contractors, and legal counsel for all activities related to the implementation of Regulation XIII (*Part 70 Operating Permits*) that follow the issuance of this PTO permit, including but not limited to permit condition implementation, compliance verification and emergency response, directly and necessarily related to enforcement of the permit shall be reimbursed by the facility as required by Rule 210. [*Re: PTO 9108, District Rule 210*]

A.4 **Access to Records and Facilities.** As to any condition that requires for its effective enforcement the inspection of records or facilities by the District or its agents, the facility shall make such records available or provide access to such facilities upon notice from the District. Access shall mean access consistent with California Health and Safety Code Section 41510 and Clean Air Act Section 114A. [*Re: PTO 9108*]

A.5 **Compliance.** Nothing contained within this permit shall be construed to allow the violation of any local, State or Federal rule, regulation, ambient air quality standard or air quality increment. [*Re: PTO 9108*]

A.6 **Consistency with Analysis.** Operation under this permit shall be conducted consistent with all written data, specifications and assumptions included with the application and supplements thereof (as documented in the District's project file), and with the District's analyses under which this permit is issued. [*Re: PTO 9108*]

A.7 **Consistency with State and Local Permits.** Nothing in this permit shall relax any air pollution control requirement imposed on the Platform Hogan by the State of California or the California Coastal Commission in any consistency determination for the Project with the California Coastal Act. [*Re: PTO 9108*]

A.8 **Compliance with Department of Interior Permits.** The facility shall comply with all air quality control requirements imposed by the Department of the Interior in the *Plan of Development* approved for Platform Hogan on October 27, 1967, and any subsequent modifications. Such requirements shall be enforceable by the District. [*Re: PTO 9108*]

A.9 **Compliance with Permit Conditions.**

(a) The facility shall comply with all permit conditions.

(b) This permit does not convey property rights or exclusive privilege of any sort to the facility.

(c) Noncompliance with any permit conditions is grounds for permit termination, revocation and re-issuance, modification, enforcement action, or for denial of permit renewal. Any

permit non-compliance constitutes a violation of the Clean Air Act and its implementing regulations or of District Rules or both, as applicable.

(d) The permittee shall not use the "need to halt or reduce a permitted activity in order to maintain compliance" as a defense for noncompliance with any permit condition.

(e) A pending permit action or notification of anticipated noncompliance does not stay any permit condition.

(f) Within a reasonable time period, the facility shall furnish any information requested by the Control Officer, in writing, for the purpose of determining:

(i) compliance with the permit, or

(ii) whether or not cause exists to modify, revoke and reissue, or terminate a permit or for an enforcement action.

(g) In the event that any condition herein is determined to be in conflict with any other condition contained herein, then, if principles of law do not provide to the contrary, the condition most protective of air quality and public health and safety shall prevail to the extent feasible.

[*Re: 40 CFR Part 70.6.(a)(6), District Rule 1303.D.1]*

A.10 **Emergency Provisions.** *Revoked.*

A.11 **Compliance Plan.**

(a) The permittee shall comply with all federally enforceable requirements that become applicable during the permit term in a timely manner.

(b) For all applicable equipment, the permittee shall implement and comply with any specific compliance plan required under any federally-enforceable rules or standards.

[*Re: 40 CFR 70.6(c)(3), District Rule 1302.D.2*]

A.12 **Right of Entry.** The Regional Administrator of USEPA, the Control Officer, or their authorized representatives, upon the presentation of credentials, shall be permitted to enter upon the premises where a Part 70 Source is located or where records must be kept:

(a) To inspect the stationary source, including monitoring and control equipment, work practices, operations, and emission-related activity;

(b) To inspect and duplicate, at reasonable times, records required by this Permit to Operate;

(c) To sample substances or monitor emissions from the source or assess other parameters to assure compliance with the permit or applicable requirements, at reasonable times. Monitoring of emissions can include source testing.

[*Re: 40 CFR 70.6(c), District Rule 1303.D.2*]

A.13 **Severability.** The provisions of this Permit to Operate are severable and if any provision of this Permit to Operate is held invalid, the remainder of this Permit to Operate shall not be affected thereby. [*Re: 40 CFR 70.6(c), District Rules 103 and 1303.D.1*]

A.14 **Permit Life.** The Part 70 permit shall become invalid three years from the date of issuance unless a timely and complete renewal application is submitted to the District. Any operation of the source to which this Part 70 permit is issued beyond the expiration date of this Part 70 permit

and without a valid Part 70 operating permit (or a complete Part 70 permit renewal application) shall be a violation of the CAAA §502(a) and §503(d), and of the District rules.

The permittee shall submit an application for renewal of the Part 70 permit not later than 6 months before the date of the permit expiration. Upon submittal of a timely and complete renewal application, the Part 70 permit shall remain in effect until the Control Officer issues or denies the renewal application. [*Re: District Rule 1304.D.1*]

A.15 **Payment of Fees.** The permittee shall reimburse the District for all its Part 70 permit processing and compliance expenses for the stationary source on a timely basis. Failure to reimburse on a timely basis shall be a violation of this permit and of applicable requirements and can result in forfeiture of the Part 70 permit. Operation without a Part 70 permit subjects the source to potential enforcement action by the District and the USEPA pursuant to section 502(a) of the Clean Air Act. [*Re: District Rules 1303.D.1 and 1304.D.11, 40 CFR 70.6(a)(7*)]

A.16 **Prompt Reporting of Deviations.** The permittee shall submit a written report to the District documenting each and every deviation from the requirements of this permit or any applicable federal requirements within 7 days after discovery of the violation, but not later than 180 days after the date of occurrence. The report shall clearly document 1) the probable cause and extent of the deviation; 2) equipment involved; 3) the quantity of excess pollutant emissions, if any; and, 4) actions taken to correct the deviation. The requirements of this condition shall not apply to deviations reported to District in accordance with Rule 505. *Breakdown Conditions.* [District Rule 1303.D.1, 40 CFR 70.6(a) (3)]

A.17 **Reporting Requirements/Compliance Certification.** The permittee shall submit compliance certification reports to the USEPA annually, i.e., along with the March 1 Annual Report; the reports shall be provided to the Control Officer every six months. These reports shall be submitted on District forms and shall identify each applicable requirement/ condition of the permit, the compliance status with each requirement/condition, the monitoring methods used to determine compliance, whether the compliance was continuous or intermittent, and include detailed information on the occurrence and correction of any deviations (excluding emergency upsets) from permit requirement. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1 and March 1, respectively, each year. Supporting monitoring data shall be submitted in accordance with the "Semi-Annual Monitoring/Compliance Verification Report" condition in section 9.C. The permittee shall include a written statement from the responsible official, which certifies the truth, accuracy, and completeness of the reports. [*Re: District Rules 1303.D.1, 1302.D.3, 1303.2.c*]

A.18 **Federally-enforceable Conditions.** Each federally enforceable condition in this permit shall be enforceable by the USEPA and members of the public. None of the conditions in the District-only enforceable section of this permit are federally enforceable or subject to the public/USEPA review [*Re: CAAA, § 502(b)(6), 40 CFR 70.6(b*)]

A.19 **Recordkeeping Requirements**. The permittee shall maintain records of required monitoring information that include the following:

(a) The date, place and time of sampling or measurements or maintenance activity;

(b) Operating conditions at the time of sampling or measurement or maintenance activity;

(c) Date, place, name of company or entity that performed the analyses or measurement or maintenance activity and the methods used; and

(d) Results of the analyses or measurement or maintenance. Additionally, records must be kept that document the date of analysis and the analytical techniques or methods used.

The records (electronic or hard copy), as well as all supporting information including calibration and maintenance records, shall be maintained for a minimum of five (5) years from date of initial entry by the permittee and shall be made available to the District upon request. [*Re: District Rule 1303.D.1.f, 40 CFR 70.6(a)(3)(ii)(A)*]

A.20 **Conditions for Permit Reopening.** The permit shall be reopened and revised for cause under any of the following circumstances:

(a) Additional Requirements: If additional applicable requirements (e.g., NSPS or MACT) become applicable to the source which has an unexpired permit term of three (3) or more years, the permit shall be reopened. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. However, no such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended. All such re-openings shall be initiated only after a 30 day notice of intent to reopen the permit has been provided to the permittee, except that a shorter notice may be given in case of an emergency.

(b) Inaccurate Permit Provisions: If the District or the USEPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms or conditions of the permit, the permit shall be reopened. Such re-openings shall be made as soon as practicable.

(c) Applicable Requirement: If the District or the USEPA determines that the permit must be revised or revoked to assure compliance with any applicable requirement including a federally enforceable requirement, the permit shall be reopened. Such re-openings shall be made as soon as practicable.

Administrative procedures to reopen a permit shall follow the same procedures as apply to initial permit issuance. Re-openings shall affect only those parts of the permit for which cause to reopen exists. If the permit is reopened, and revised, it will be reissued with the expiration date that was listed in the permit before the re-opening. [*Re: 40 CFR 70.7(f), 40 CFR 70.6(a)*]

9.B Generic Conditions

The generic conditions listed below apply to all emission units, regardless of their category or emission rates. In case of a discrepancy between the wording of a condition and the applicable federal or District rule(s), the wording of the rule shall control.

B.1 **Circumvention (Rule 301).** A person shall not build, erect, install, or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Division 26 (Air Resources) of the Health and Safety Code of the State of California or of these Rules and Regulations. This Rule shall not apply to cases in which the only violation involved is of Section 41700 of the Health and Safety Code of the State of California, or of District Rule 303. [*Re: District Rule 301*]

B.2 **Visible Emissions (Rule 302).** The facility shall not discharge into the atmosphere from any single source of emission any air contaminants for a period or periods aggregating more than three minutes in any one hour which is:

(a) As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or

(b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection B.2.(a) above.

The facility shall determine compliance with this Rule per Condition 9.C.12.

B.3 **PM Concentration - South Zone (Rule 305).** The facility shall not discharge into the atmosphere, from any source, particulate matter in excess of the concentrations listed in Table 305(a) of Rule 305. [*Re: District Rule 305*]

B.4 **Specific Contaminants (Rule 309).** The facility shall not discharge into the atmosphere from any single source sulfur compounds, carbon monoxide and combustion contaminants in excess of the applicable standards listed in Sections A, E and G of Rule 309. [*Re: District Rule 309*].

B.5 **Odorous Organic Sulfides (Rule 310).** The facility shall not discharge into atmosphere H_2S and organic sulfides that result in a ground level impact beyond the facility property boundary in excess of either 0.06 ppmv averaged over 3 minutes or 0.03 ppmv averaged over 1 hour. [*Re: District Rule 310*]

B.6 **Sulfur Content of Fuels (Rule 311).** The facility shall not burn fuels with sulfur content in excess of 0.5% (by weight) for liquid fuels. Compliance with this condition shall be based on diesel fuel billing records or other data showing the certified sulfur content for each shipment. The facility shall submit such statement *semi-annually* as a part of its semi-annual Part 70 compliance verification report to the District. [*Re: District Rule 311*]

B.7 **Organic Solvents (Rule 317).** The facility shall comply with the emission standards listed in Section B of Rule 317. Compliance with this condition shall be based on facility compliance with Condition C.7 of this permit. [*Re: District Rule 317*]

B.8 **Metal Surface Coating Thinner and Reducer (Rule 322).** The use of photochemically reactive solvents as thinners or reducers in metal surface coatings is prohibited. Compliance with this condition shall be based on facility compliance with Condition C.7 of this permit and facility inspections. [*Re: District Rule 322*]

B.9 **Architectural Coatings (Rule 323.I).** The facility shall comply with the coating ROC content and handling standards listed in Section D of Rule 323 as well as the Administrative requirements listed in Section F of Rule 323.I. Compliance with this condition shall be based on facility compliance with Condition C.7 of this permit and facility inspections. [*Re: District Rules 323, 317, 322, 324*]

B.10 **Disposal and Evaporation of Solvents (Rule 324).** The facility shall not dispose through atmospheric evaporation of more than one and a half gallons of any photochemically reactive solvent per day. Compliance with this condition shall be based on facility compliance with Condition C.7 of this permit and facility inspections. [*Re: District Rule 324*]

B.11 **Emergency Episode Plan**. During emergency episodes, the facility shall implement the Emergency Episode Plan as approved by the District in July 2002. [*Re: District Rule 1303, 40 CFR 70.6*]

B.12 **Adhesives and Sealants (Rule 353).** The permittee shall not use adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers, unless the permittee complies with the following:

(a) Such materials used are purchased or supplied by the manufacturer or suppliers in containers of 16 fluid ounces or less; or alternately

(b) When the permittee uses such materials from containers larger than 16 fluid ounces and the materials are not exempt by Rule 353, Section B.1, the total reactive organic compound emissions from the use of such material shall not exceed 200 pounds per year unless the substances used and the operational methods comply with Sections D, E, F, G, and H of Rule 353. Compliance shall be demonstrated by recordkeeping in accordance with Section B.2 and/or Section O of Rule 353.

[Re: District Rule 353]

B.13 **Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers (Rule 360)**: This rule applies to any person who supplies, sells, offers for sale, installs, or solicits the installation of any new water heater, boiler, steam generator or process heater for use within the District with a rated heat input capacity greater than or equal to 75,000 Btu/hour up to and including 2,000,000 Btu/hour.

B.14 **Small Boilers, Steam Generators, and Process Heaters (Rule 361)**: The permittee shall comply with the requirements of District Rule 361: *Small Boilers, Steam Generators, and Process Heaters* whenever a new boiler, process heater or other external combustion device is added or an existing unit is replaced.

B.15 **Oil and Natural Gas Production MACT.** The permittee is exempt from this MACT under 40 CFR 63.760(e)(1) [‘*Black Oil Exemption’*]; however, it is subject to recordkeeping required under the General Standards of 40 CFR 63.10(b)(3). [*Re* 40 CFR 63, Subpart HH]

9.C Equipment Specific Conditions

This section includes non-generic federally enforceable conditions, incorporating emissions and operations limits, and monitoring, recordkeeping and reporting requirements. This section may also contain other non-generic conditions.

C.1 **Internal Combustion Engines.** The following are included in this emissions unit category:

Table C.1-1

District ID #.	Name: HP, Model and Serial Number, if applicable
004849	North Crane, 230 hp, diesel-fired: DD 6-71,6A168663
004848	South Crane, 99 hp, diesel-fired: DD 3-71(N-60 nozzle), 3A68303
004850	Emergency Generator, 510 hp, diesel-fired: Cat D-379, 76B298
004851	Emergency Fire Water Pump, 110 hp, diesel-fired: Cat D-330, 85B1492
004856	Well Kill Pump, 318 hp, diesel-fired: DD 8-71, 7083-7200
007107	Well Service Rig, 400 hp, diesel-fired: DD 8VF 00734, 8038-7000
397999	Portable Cane Engine, 310 hp, diesel-fired: Cummins QSB6.7

(a) Emission Limits: Mass emissions IC engines listed above shall not exceed the limits listed in Tables 5.1-3 and 5.1-4. Compliance with these limits shall be assessed through compliance with the monitoring, recordkeeping, and reporting conditions listed below. In addition, the following specific emission limits apply:

(i) *North Crane Engine* - NO_X, ROC, and CO concentration in the exhaust from the North Crane engine shall not exceed Rule 333 concentration limits. Compliance shall be based on quarterly portable analyzer inspections and biennial source tests in accordance with Rule 333.
(Reference: District Rule 333, ATC 10357-02 and OCS PTO 9108)

(ii) *Well Service Rig Engine* - NO_X and ROC concentration in the exhaust from the North Crane engine shall not exceed Rule 333 concentration limits. Compliance shall be based on quarterly portable analyzer inspections and biennial source tests in accordance with Rule 333. The oxidation catalyst shall reduce CO emissions by at least 70 percent or limit CO emissions in the exhaust to 49 ppmvd at 15% O_2 at all times except during startups.
(Reference: District Rule 333, ATC 14164)

(iii) *Portable Cane Engine* - Emissions from the portable crane engine shall not exceed 34 ppmv NO_x, at 15 % O_2, 45 ppmv ROC at 15% O_2 and 403 ppmv CO at 15% O_2 or 0.01 grams diesel PM per brake-horsepower-hour (g/bhp-hr). *(Reference: ATC 16054)*

(b) Operational Limits: The IC engines permitted herein is subject to the following operational restrictions listed below.

(i) *Fuel Use*
North Crane Engine: The North Crane engine shall not use more than 200 gallons per day and 12,503 gallons per year of diesel fuel. In addition, the heat input to this engine is restricted to 1.7505 MMBtu/hour and 1,750.5 MMBtu/year.

(ii) *Engine Use*

1. *North Crane Engine:* The North Crane engine shall not operate more than:
   a. 16 hours on any calendar day
   b. 1,000 hours during the calendar year.
2. *Emergency Generators:* The Standby Emergency Generator shall limit maintenance and testing[5] operations to no more than 200 hours per year. Emergency use operations, as defined in Section 93115.4 (30) of the ATCM[6], have no operational hour limitations.
3. *South Crane Engine and Fire Pump Engines:* Annual operation of the South Crane engine and Fire Pump engines shall not exceed 200 hours per year.
4. *Well Kill Pump Engine:* Annual operation of the Well Kill Pump engine shall not exceed 100 hours per year.
5. *Portable Crane Engine Operational Limits:* The following operational limits shall apply:
   a. The portable crane engine (DID# 397999) shall not operate more than 12 hours per day and 4,380 hours per year at the Carpinteria Field – South County Stationary Source.
   b. The permittee may only add fuel and/or fuel additives to the engine or any fuel tank directly attached to the engine that complies with the Stationary Diesel Engine ATCM.
   c. The total sulfur content of the diesel fuel used shall not exceed 15 ppmw in accordance with the requirements of the Stationary Diesel Engine ATCM for CARB diesel.
   d. All emission control systems associated with the Tier 4 Final engine shall be maintained and operated in accordance with manufacturer operating procedures. Any reagent used by the Selective Catalytic Reduction (SCR) system shall be maintained above the minimum required level necessary to control emissions when the engine is operating.

[5] "maintenance and testing" is defined in Section (d)(41) of the ATCM
[6] As used in the permit, "ATCM" means Section 93115, Title 17, California Code of Regulations. Airborne Toxic Control Measure for Stationary Compression Ignition (CI) Engines

e. The portable crane engine (DID# 397999) may be operated only on Platform Hogan and Platform Houchin.

(iii) *Fuel and Fuel Additive Requirements*: The permittee may only add CARB Diesel, or an alternative diesel fuel that meets the requirements of the Stationary Diesel ATCM Verification Procedure, or CARB Diesel fuel used with additives that meet the requirements of the Stationary Diesel ATCM Verification Procedure, or any combination of the above to each IC engine or any fuel tank directly attached to each IC engine. Diesel fuel used by all IC engines shall have a sulfur content no greater than 0.0015 weight percent.

(iv) *Engine Identification* - The IC engines listed in Table C.1-1 shall be identified with permanently-affixed plates, tags or marking, referencing either: (i) the IC engine's make, model, serial number, rated BHP and corresponding RPM; or (ii) the operator's unique tag number. The tag shall be made accessible and legible to facilitate District inspection of the IC engine. (*Reference: District Rules 333, OCS PTO 9108, and ATC 10357-02)*

(v) *Crane Operating Maintenance Requirements* - The North Crane engine (ID 004849) and the South Crane engine (ID 004848) are each subject to the following operating requirements:

1. Change the oil and filter every 1,000 hours of operation or annually, whichever comes first. In place of changing the oil every 1,000 hours of operation or annually, the operator may analyze the oil of each engine every 1,000 hours of operation or annually, whichever occurs first. The analysis shall measure the Total Base Number, the oil viscosity, and the percent water content. The oil and filter shall be changed if any of the following limits are exceeded:

   (a) The tested Total Base Number is less than 30 percent of the Total Base Number of the oil when new.

   (b) The tested oil viscosity has changed by more than 20 percent from the oil viscosity when new.

   (c) The tested percent water content (by volume) is greater than 0.5 percent.

2. Inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first; and

3. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first.

(vi) *Emergency Backup Generator, Emergency Fire Water Pump, and Well Kill Pump Maintenance Requirements* - Three engines, the diesel fired 510 bhp Standby Emergency Generator (ID 004850), the diesel fired 110 bhp Fire Water Pump (ID 004851), and the 318 bhp Well Kill Pump (ID 004856) are subject to the following requirements:

1. Change the oil and filter every 500 hours of operation or annually, whichever comes first. In place of changing the oil every 500 hours of operation or annually, the operator may analyze the oil of each engine every 500 hours of operation or annually, whichever occurs first. The analysis shall measure the Total Base Number, the oil viscosity, and the percent water content. The oil and filter shall be changed if any of the following limits are exceeded:

(a) The tested Total Base Number is less than 30 percent of the Total Base Number of the oil when new.

(b) The tested oil viscosity has changed by more than 20 percent from the oil viscosity when new.

(c) The tested percent water content (by volume) is greater than 0.5 percent.

2. Inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first; and

3. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first.

(vii) Well Service Rig Engine Requirements:

1. The Well Service Rig engine shall be equipped with an oxidation catalyst. The oxidation catalyst shall reduce CO emissions by at least 70 percent or limit CO emissions in the exhaust to 49 ppmvd at 15 percent oxygen at all times except during startups.

2. The owner and operator must operate and maintain each engine and oxidation catalyst in a manner consistent with safety and good air pollution control practices for minimizing emissions.

3. The operator shall minimize each engine's time at idle during startups to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

4. Install a closed crankcase ventilation system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates and metals on the Well Service Rig engine.

(c) Monitoring: The following source testing and periodic monitoring conditions shall apply:

(i) *Source Testing* - The permittee shall source test the air emissions and process parameters of the North Crane IC Engine, the Well Service Rig engine and portable crane engine in accordance with Table 4.1, Condition 9.C.16 and the requirements of Rule 333 Section I for compliance with applicable emission limits.

(ii) *I&M Plan* - The permittee shall implement its District-approved Rule 333.F Inspection and Maintenance Plan (I&M Plan) (May 2009) and any subsequent District-approved updates. The I&M Plan may be revised only upon written District-approval.

(iii) *Inspections of IC Engines*: The permittee shall conduct inspections of the North Crane engine exhaust and the well kill engine exhaust for NO_X and CO, in accordance with District Rule 333 requirements and the approved I&M Plan. All portable analyzer calibration and repairs shall be logged. The procedures outlined in Rule 333.F shall be followed for the permittee's use of the portable analyzer. The calibration and repairs of this instrument shall be done in accordance with the manufacturer's requirements.

(iv) *Hourly Use Meters* - The permittee shall report the engine hours of operation for each engine listed above utilizing District-approved dedicated, non-resettable, elapsed time meters. A monthly log shall be maintained that records the hours of operation of the engine each day it is operated along with the monthly and annual hours. The permittee shall record in a log the following: ID number of the equipment; the number of operating hours on each day the engine is operated; and, the cumulative total monthly and annual hours. Alternatively, for the portable crane engine the permittee report the volume of diesel fuel (in gallons) burned in the engine measured through the use of a District-approved calibrated non-resettable fuel meter.

(v) *Fuel Data* - The permittee shall measure the higher heating value (HHV) of the fuel (Btu/gal) on an *annual* basis using District approved methods. The permittee shall also maintain documentation of the diesel fuel sulfur content (as determined by District-approved ASTM methods) for each fuel shipment as certified in the fuel suppliers billing vouchers. (semi-annual statement(s) from all fuel suppliers certifying the fuel supplied as meeting the CARB's low-sulfur diesel limit are also acceptable).

(vi) *Portable Crane Portable Analyzer Monitoring* - The permittee shall perform portable analyzer NO_x and CO monitoring each calendar quarter in which a source test is not performed on the portable crane engine and the engine is operated in excess of 20 hours. The compliance procedures outlined in Section F.3 of Rule 333 shall be followed. Portable analyzer instrument readings shall not exceed the limits specified in permit condition 9C.1 of this permit.

(vii) The emission control systems associated with the Tier 4 Final engine(s) shall be monitored.

(d) Recordkeeping: The required logs and analyses results, as applicable to this permit, which demonstrate compliance with operation limits (9.C.1.(b)) and monitoring requirements (9.C.1.(c)) above shall be kept. All logs and analyses results shall be available to the District upon request. The permittee shall keep all such data for a minimum of five (5) years from the date of information collection and log entry. Information shall include, but may not be limited to:

(i) Written ICE operations logs, including quarterly inspection results, consistent with the requirements of Rule 333;

(ii) Written records documenting individual IC Engine fuel use (gallons) on a monthly basis, and the number of days of operation per month for each engine[7];

(iii) Written records documenting each IC Engine operating hours on a daily/monthly basis. In addition, for the portable crane engine, the location where those operations occurred and the cumulative total annual hours of operation at the Stationary Source.

[7] The hours of operation, along with the engine horsepower rating and BSFC data as listed in Table 5.1-1 of this permit, a fuel correction factor of 1.06, and a high heating value of 138,200 Btu/gal will be used to determine the number of gallons of fuel consumed per time period [see Condition 9.C.1.(d)(ii)].

(iv) For the emergency generators, mud pump and firewater pump, monthly and annual maintenance and testing hours of operation.

(v) On an annual basis, the heating value of the diesel fuel (Btu/gal) shall be recorded based on measurement by the permittee or certified by the fuel supplier.

(vi) Fuel purchase records or a written statement on the fuel supplier's letterhead signed by an authorized representative of the company confirming that the fuel purchased is either CARB Diesel, or an alternative diesel fuel that meets the requirements of the Verification Procedure, or an alternative fuel, or CARB Diesel fuel used with additives that meet the requirements of the Verification Procedure, or any combination of the above *(Reference Stationary Diesel ATCM and Title 13, CCR, Sections 2281 and 2282)*.

(vii) If an operator's tag number is used in lieu of an IC Engine identification plate, written documentation which references the operator's unique IC Engine ID number to a list containing the make, model, serial number, rated maximum BHP and the corresponding RPM.
(*Reference: District Rule 333, 40 CFR 70.6.a.3.(ii*), *OCS PTO 9108, District ATC 10357-02 and PTO 11950-01*)

(viii) A log shall be maintained for any engine subject to 40 CFR 63 Subpart ZZZZ that had a malfunction. The log shall include the date, number, duration, and a brief description for each type of malfunction which occurred and what caused or may have caused any applicable emission limitation to be exceeded. The log must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63 Subpart ZZZZ §63.6605(b), including actions taken to correct a malfunction.

(ix) Engine inspection and maintenance logs shall be maintained consistent with the reporting requirements in the District-approved *IC Engine Inspection and Maintenance Plan.*

(x) Source test reports for all District-required stack emission tests.

(xi) The following requirements from 40 CFR 63 Subpart ZZZZ §63.6655 and §63.6660 shall be met:

a. If the owner and operator must comply with the emission and operating limitations, the owner and operator must keep the records of the following:

1. A copy of each notification and report that the owner and operator submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that the owner and operator submitted, according to the requirement in 40 CFR 63 Subpart ZZZZ §63.10(b)(2)(xiv).

2. Records of the occurrence and duration of each malfunction of operation (*i.e.,* process equipment) of the air pollution control and monitoring equipment.

3. Records of performance tests and performance evaluations as required in 40 CFR 63 Subpart ZZZZ §63.10(b)(2)(viii) and §63.6655(a)(3).

4. Records of all required maintenance performed on the air pollution control and monitoring equipment.

5. Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63 Subpart ZZZZ §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

b. The owner and operator must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the owner and operator operated and maintained the stationary RICE and after-treatment control device according to the maintenance plan.

(e) Reporting: The permittee shall report to the District all information required under the *Semi-Annual Compliance Verification Report* condition of this permit (see permit condition 9.C.17).
[*References: 40 CFR 70.6(a)(3)*, OCS PTO 9108 *and District Rule 333*]

(f) Temporary Engine Replacements - DICE ATCM. Any reciprocating internal combustion engine subject to this permit may be replaced temporarily only if the requirements (i – viii) listed herein are satisfied.

(i) The permitted engine that is being temporarily replaced is in need of routine repair or maintenance.

(ii) The permitted engine does not have a cracked block, unless the block will be replaced under manufacturer's warranty.

(iii) Replacement parts are available for the permitted engine.

(iv) The permitted engine is returned to its original service within 180 days of installation of the temporary engine.

(v) The temporary replacement engine has the same or lower manufacturer rated horsepower and same or lower potential to emit of each pollutant as the permitted engine. At the written request of the permittee, the District may approve a replacement engine with a larger rated horsepower if the proposed temporary engine has manufacturer guaranteed emissions (for a brand new engine) or source test data (for a previously used engine) less than or equal to the permitted engine.

(vi) The temporary replacement engine shall comply with all rules and permit requirements that apply to the permitted engine.

(vii) For each permitted engine to be temporarily replaced, the permittee shall submit a completed *Temporary IC Engine Replacement Notification* form (Form ENF-94) within 14 days of the temporary engine being installed. This form may be sent

hardcopy, or can be e-mailed (e-mail: engr@sbcapcd.org) to the District (Attn: Engineering Supervisor).

(viii) Within 14 days of returning the original permitted engine to service, the permittee shall submit a completed *Temporary IC Engine Replacement Report* form (Form ENF-95). This form may be sent hardcopy, or can be e-mailed (e-mail: engr@sbcapcd.org) to the District (Attn: Engineering Supervisor).

Any engine in temporary replacement service shall be immediately shut down if the District determines that the requirements of this condition have not been met. This condition does not apply to engines that have experienced a cracked block (unless under manufacturer's warranty), to engines for which replacement parts are no longer available, or new engine replacements {including "reconstructed" engines as defined in the ATCM. Such engines are subject to the provisions of New Source Review and the new engine requirements of the ATCM.

(g) Permanent Engine Replacements. Any E/S engine, firewater pump engine or engine used for an essential public service that breaks down and cannot be repaired may install a new replacement engine without first obtaining an ATC permit only if the requirements (i – vi) listed herein are satisfied.

(i) The permitted stationary diesel IC engine is an E/S engine, a firewater pump engine or an engine used for an essential public service (as defined by the District).

(ii) The permitted engine breaks down, cannot be repaired, and needs to be replaced by a new permanent engine.

(iii) The facility provides "good cause" (in writing) for the need to install a new permanent engine before an ATC can be obtained for a new engine.

(iv) The new permanent engine must comply with the requirements of the ATCM for new engines. A temporary replacement engine may be used while the new permanent engine is being procured only if it meets the requirements of the *Temporary Engine Replacements - DICE ATCM* permit condition.

(v) An ATC application for the new permanent engine must be submitted to the District within 15 days of the existing engine being replaced and the ATC must be obtained no later than 180 days from the date of engine replacement (these timelines include the use of a temporary engine).

(vi) For each new permanent engine installed pursuant to this condition, the permittee shall submit a completed *Permanent IC Engine Replacement Notification* form (Form ENF-96) within 14 days of the new engine being installed. This form may be sent hardcopy, or can be e-mailed (e-mail: engr@sbcapcd.org) to the District (Attn: Engineering Supervisor).

Any engine installed (either temporally or permanently) pursuant to this permit condition shall be immediately shut down if the District determines that the requirements of this condition have not been met.

C.2 **Fugitive Hydrocarbon Emissions Components.** The following equipment is included in this emissions unit category:

ID No.	Equipment. Item Name, Number of Component Leak Paths/Item
	Oil Service Components
004853	Components -- Controlled (4,332 component leak paths)
102663	Components -- Unsafe (268 component leak paths)
	Gas/Light Liquid Service Components
004854	Components -- Controlled (1,662 component leak paths)
105139	Components -- Unsafe (0 component leak paths)

(a) Emission Limits: Emissions from equipment items listed in the table above shall meet the limits listed for these items in Tables 5.1-3 and 5.1-4 of this permit. Compliance with these limits shall be assessed through compliance with the monitoring, record-keeping and reporting (MRR) conditions listed in this permit. (*Reference: OCS PTO 9108)*

(b) Operational Limits: Operation of the equipment listed in this section shall conform to the requirements listed in District Rule 331.D and E. Compliance with these limits shall be assessed through compliance with the monitoring, recordkeeping, and reporting conditions in this permit. In addition, the facility shall meet the following specific requirements:

(i) The District-approved I&M Plan for Platform Hogan shall be implemented for the life of the facility. The Plan, and any subsequent District-approved revisions, is incorporated by reference as an enforceable part of this permit.

(ii) The total leak-path component counts listed in the facility's most recent I&M component leak-path inventory (*e.g., Avanti Report to the District dated 8/6/*2001) shall not exceed the total leak-path component counts listed in the Table above (Section 9.C.2) and the Table 5.1-1 by more than five percent.

(iii) All routine venting of hydrocarbons shall be routed to either the sales compressor, flare header, injection well or other District-approved control device. (*References: District Rule 331, 40 CFR 70.6.a.3.(iii*), *OCS PTO 9108*)

(c) Monitoring: The equipment listed in this section is subject to all the monitoring requirements listed in District Rule 331.F. The test methods in Rule 331.I shall be used, when applicable.
(*References: District Rule 331, 40 CFR 70.6.a.3.(iii*))

(d) Recordkeeping: All inspection and repair records shall be retained at the source for a minimum of five years. The equipment listed in this section is subject to all the recordkeeping requirements listed in District Rule 331.G. In addition, the facility shall do the following:

The facility shall record in a log the following:

- a record of leaking component-leak-paths found (including name, location, type of component-leak-path, date of leak detection, the ppmv reading, date of repair

attempt, method of detection, date of re-inspection and ppmv reading after leak is repaired);

- a record of the total component leak paths inspected and the total number and percentage found leaking by component-leak-path type;
- a record of leaks from critical component-leak-paths;
- a record of leaks from component-leak-paths that incur five repair actions within a continuous 12-month period;
- a record of component-leak-path repair actions including dates of component-leak-path re-inspections; and
- calibration records of Organic Vapor Analyzer including dates and methods of calibration and repair

[*References: District Rule 331*]

(e) Reporting: The facility shall report to the District all information required under the *Semi-Annual Compliance Verification Report* condition of this permit (see permit condition 9.C.17). [*References: 40 CFR 70.6(a)(3)*, OCS PTO 9108 *and District Rule 331*]

C.3 **Crew and Supply Boats.** The crew boat is diesel-powered, equipped with either three (3) Tier 2 600 hp main engines or four (4) 575 hp Tier 3 main engines and two (2) 99 bhp auxiliary engines. The supply boat is diesel-powered, equipped with four (4) 1,800 bhp main engines, two (2) 230 bhp auxiliary engines, and one (1) 250 bhp bow thruster engine. The following equipment is included in this category:

The following equipment are included in this category:

ID No.	Equipment Name and Description
Crew Boat	
385117	Crew Boat Tier 2 Main Engines (3), 600 bhp each - Controlled
398039	Crew Boat Tier 3 Main Engines (4), 575 bhp each - Controlled
105137	Crew Boat Main Engines – Uncontrolled
398040	Crew Boat Auxiliary Engines (2), 99 bhp each
Supply Boat	
398041	Supply Boat Main Engines (4), 1,800 bhp each – Controlled
105136	Supply Boat Main Engines – Uncontrolled
005464	Supply Boat – Auxiliary Engines (2), 230 bhp each
398043	Supply Boat – Bow Thruster Engine (1), 250 bhp
Emergency Response Boat	
005466/105797	Emergency Response Main/Aux Engines

(a) Emission Limits: The facility shall comply with the short term and long term mass emission rate limits in Tables 5.1-3 and 5.1-4. Compliance with the quarterly and annual mass emission limits for the main engines on the combined 'controlled crew and supply boats and spot charter crew and supply boats' shall be based on the subtotal emission limits in Table 5.1-4. Compliance with this condition shall be based on the operational, monitoring, recordkeeping and reporting conditions in this permit. The facility shall also comply with the following:

(i) *NO_X Emissions* - Controlled emissions of NO_X shall not exceed:

1. From each diesel fired Tier 2 main engine in each controlled crew boat: 234.50 lb/1000 gallons (g/bhp-hr).

2. From each diesel fired Tier 3 main engine in each controlled crew boat: 169 lb/1000 gallons (8.4 g/bhp-hr).

3. From each diesel fired main engine in each controlled supply boat: 337 lb/1000 gallons (8.4 g/bhp-hr).

4. From each main engine in each uncontrolled crew and supply boat : 561 lb/1000 gallons (14 g/bhp-hr).

5. From each diesel fired main engine in each controlled emergency boat: 271 lb/1000 gal (6.76 g/bhp-hr).

6. From each diesel fired auxiliary engine in each controlled emergency boat: 202 lb/1000 gal (5.04 g/bhp-hr).

These values for controlled emission factors shall be used *for all emissions reporting*. Spot charter crew and supply boats shall not be required to comply with this controlled NO_X emission rate. Compliance shall be based on annual source testing of the crew and supply boat main engines consistent with the requirements listed in Table 4.1 and the Source Testing permit Condition 9.C.16.

(b) Operating Limits: Facility operation of the equipment listed in this section shall not exceed the limits listed below. Compliance with these limits shall be assessed through compliance with the monitoring, recordkeeping and reporting conditions in this permit.

(i) *Fuel Use for Each Boat Engine:*

1. The crew boat Tier 2 main engines shall not use more than: 842 gallons per day; 35,175 gallons per quarter; 140,699 gallons per year of diesel fuel.

2. The crew boat Tier 3 main engines shall not use more than: 844 gallons per day; 85,420 gallons per quarter; 195,040 gallons per year of diesel fuel.

3. The crew boat uncontrolled main engines shall not use more than: 715 gallons per day; 2,990 gallons per quarter; 11,959 gallons per year of diesel fuel.

4. Notwithstanding the fuel use limits of condition 1.(b)(i)(1), 1.(b)(i)(2), and 1.(b)(i)(3) the combined emissions of all crew boat Tier 2, Tier 3, and uncontrolled main engines shall not exceed the worst case crew boat main engines emissions listed in Table 5.3 and Table 5.4.

5. The crew boat auxiliary engines shall not use more than: 54 gallons per day; 4,073 gallons per quarter; 9,104 gallons per year of diesel fuel.

6. The supply boat controlled main engines shall not use more than: 1,416 gallons per day; 120,335 gallons per quarter; 120,335 gallons per year of diesel fuel.

7. The supply boat uncontrolled main engines shall not use more than: 885 gallons per day; 1,947 gallons per quarter; 6,636 gallons per year of diesel fuel.

8. Notwithstanding the fuel use limits of condition 1.(b)(i)(6) and 1.(b)(i)(7), the combined emissions of all supply boat controlled and uncontrolled main engines shall not exceed the worst case supply boat main engines emissions listed in Table 5.3 and Table 5.4.

9. The supply boat auxiliary engines shall not use more than: 139 gallons per day; 5,914 gallons per quarter; 5,914 gallons per year of diesel fuel.

10. The supply boat bow thrusters shall not use more than: 28 gallons per day; 529 gallons per quarter; 2,087 gallons per year of diesel fuel.

11. The emergency response boat engines shall not use more than: 12,500 gallons per quarter; 50,000 gallons per year of diesel fuel. Facility allocation of allowable emergency response boat fuel usage shall not exceed: 1,137 gallons per quarter; 4,546 gallons per year of diesel fuel.

(ii) *Crew and/or Supply Boat Use* – The crew, supply and spot charter boats shall be for the activities specified in Sections 2.2.3 and 2.2.4 of PT-70 PTO 9108-R4. Any boats used for or in support of activities not specified in Section 2.2.3 or 2.2.4 of PT-70 PTO 9108-R4 will be considered as new projects, and the boat emissions associated with such projects will be considered in the project potential to emit.

(iii) *Spot Charter Boat Use* – The allowable annual operations of the spot charter crew boat shall not exceed 152 hours per year. The allowable annual operations of the spot charter supply boat shall not exceed 75 hours per year.

(iv) *Fuel and Fuel Additive Requirements* - The permittee may only add CARB Diesel, or an alternative diesel fuel that meets the requirements of the ATCM Verification Procedure, or CARB Diesel fuel used with additives that meet the requirements of the ATCM Verification Procedure, or any combination of the above to each engine or any fuel tank directly attached to each engine.

(v) *New/Replacement Boats* – The facility may utilize any new/replacement project boat without the need for a permit revision if that boat meets the following conditions:

1. The main engines are of the same or less bhp rating; and

2. The combined pounds per day potential to emit (PTE) of all auxiliary and bow thruster engines is the same or less than the sum of the pounds per day PTE for these engines as determined from the corresponding Table 5.1-3 emission line items of this permit; and

3. The NO_X, ROC, CO, PM and PM_{10} emission factors are the same or less for the main and auxiliary engines. For the Tier 2 crew boat main engines, NO_X emissions must meet the 234.50 lb/1000 gallons emission standard. For the Tier 3 crew boat main engines, NO_X emissions must meet the 169 lb/1000 gallons emission standard. For the emergency boat main and auxiliary engines, NO_X emissions must meet the 271 lb/1000 gallons and 202 lb/1000 gallons emission standards, respectively. Emission factors for crew and supply boat engines can be found in Tables 5.1-1 and 5.1-2.

The above criteria also apply to spot charter boats, except for the NO_X emission standard noted in (c) above. Any proposed new/replacement crew, supply or spot charter boat that does not meet the above requirements (a) - (c) shall first obtain a permit revision prior to operating the boat. The District may require manufacturer guarantees and emission source tests to verify this NO_X emission standard.

The facility shall revise the *Boat Monitoring and Reporting Plan*, obtain District approval of such revisions and implement the revised Plan prior to bringing any new/replacement boat into service, except for the use of spot charters. If a new spot charter is brought into service the facility shall revise and resubmit the boat plan within thirty (30) calendar days after it is first brought into service. If the fuel metering and emissions computation procedures for a new spot charter are identical to a boat that is already addressed in the

approved boat plan, a letter addendum stating this will suffice for the revision/re-submittal of the boat plan.

Prior to bringing the boat into service for the first time, the facility shall submit the information listed below to the District for any new/replacement crew and supply boat that meets the requirements set forth in (a) - (c) above, and for new spot charters that have not been previously used by platforms Hogan and Houchin. For spot charters, this information shall be submitted within thirty (30) calendar days after the boat is first brought into service. The facility shall notify the District Project Manager (via fax or e-mail) within three (3) calendar days after a new spot charter is first brought into operation. Any boat put into service that does not meet the requirements above, as determined by the District at any time, shall immediately cease operations and all prior use of that boat shall be considered a violation of this permit.

(i) Boat description, including the type, size, name, engine descriptions and emission control equipment.

(ii) Engine manufacturers' data on the emission levels for the various engines and applicable engine specification curves.

(iii) A quantitative analysis using the operating and emission factor assumptions given in tables 5.1-1 and 5.1-2 of this permit that demonstrates criteria (b) above is met.

(iv) Estimated fuel usage within 25-miles of Platform Hogan/Houchin.

(v) Any other information the District deems necessary to ensure the new boat will operate consistent with the analyses that form the basis for this permit.

(*Reference: OCS PTO 9108, 40 CFR 70.6 (a)(3)(b))*

(c) Monitoring: The facility shall adhere to the guidelines of the District's Data Reporting Protocol for Crew and Supply Boat Activity Monitoring document (June 21, 1991) in order to document and report boat activity, fuel usage and emissions associated with the platform — via a Boat Monitoring and Reporting Plan or any of its updates.

(i) The facility shall comply with the provisions of their District-approved *Boat Monitoring and Reporting Plan (May 1998)* and any subsequent approved updates.

(ii) The data collected under the *Boat Monitoring and Reporting Plan* shall demonstrate that the boats are being operated consistent with the emission assumptions used in the issuance of this operating permit. Fuel use for all the engines must be collected while the boats are within 25-miles of the platform. Spot charter boats shall, at a minimum, track total fuel usage on a per trip basis using District-approved procedures. Emergency response boats shall, at a minimum, track fuel usage on a quarterly basis using District-approved procedures. These data shall be submitted in a District-approved format to the District.

(iii) The facility shall log in data on injector timing, setting adjustments, major engine overhauls, and routine engine maintenance for the boat engines.
(*Reference: OCS PTO 9108)*

(d) Recordkeeping: The following records shall be maintained in legible logs and shall be made available to the District upon request:

(i) *Maintenance Logs* - Maintenance log summaries that include details on injector timing, setting adjustments, major engine overhauls, and routine engine maintenance. For each main and auxiliary engine with timing retard, a District Form – 10 (IC Engine Timing Certification Form) must be completed each time the engine is serviced with a timing change. These logs and summaries shall be made available to the District upon request.

(ii) *Crew Boat Fuel Usage* - Daily, quarterly and annual fuel use for the crew boat main engines and auxiliary engines.

(iii) *Supply Boat Fuel Usage* - Daily, quarterly and annual fuel use for the supply boat (or for the crew boat when it is used as supply boat) main engines, generator engine and bow thruster engine.

(iv) *Spot Charter Usage* – Cumulative number of trips for the calendar year.

(v) *Emergency Response Boat Fuel Usage* - Total quarterly and annual fuel use for the emergency response boat and Platform Hogan's allocation of that total.

(vi) *Diesel Fuel Sulfur* - The facility shall maintain documentation of the sulfur content of each diesel fuel shipment as certified in the fuel suppliers billing vouchers.

(vii) In addition to the recordkeeping requirements of the facility's approved *Boat Monitoring and Reporting Plan*, the following log shall be maintained and shall be provided to the District in the semi-annual Compliance Verification Reports:

- The number of boat trips made by the primary crew and supply boats, itemized by the date of the trip and the boat name.
- The number of boat trips made by the spot-charter crew and supply boats, itemized by the date of the trip and the boat name.

[*References: 40 CFR 70.6(a)(3), and OCS PTO 9108*]

(e) Reporting: The facility shall report to the District all information required under the *Semi-Annual Compliance Verification Report* condition of this permit (see permit Condition 9.C.17).
[*References: 40 CFR 70.6(a)(3), and OCS PTO 9108*]

C.4 **Pigging Equipment.** The following equipment is included in this emissions category:

ID No.	Name, Serial No., if applicable, size, events/week, release pressure
102649	Oil launcher: 5 acf volume; 165 launches/yr.; release pressure 5 psig

(a) Emission Limits: Mass emissions for the equipment item (i.e., emissions unit) shall not exceed the values listed in Tables 5.1-3 and 5.1-4. Compliance with these limits is assumed to be met through compliance with the operating limit and monitoring condition listed below.

(b) Operational Limits: Operation of the equipment listed in this section shall conform to the requirements listed in District Rule 325.E. In addition, the facility shall meet the following requirements:

Openings – Access openings to the oil pig launcher shall be kept closed at all times, except when a pipeline pig is being placed into or removed from the launcher. The gas pig launcher unit shall be locked out of service.

Events – The number of oil and gas pig operations (events) shall not exceed the maximum operating schedule listed in Table 5.1-1.

(c) Monitoring: The facility shall maintain a log for oil pigging operations. The log shall include the date each pigging operation occurred.

(d) Recordkeeping: The facility shall keep a written record of all pigging operations at the facility pursuant to Condition 9.C.4.(c) above. This record shall contain all permit-required pigging operations data including operations data extending back to five years from the last pigging operation date.

(e) Reporting: The facility shall report to the District all information required under the *Semi-Annual Compliance Verification Report* condition of this permit (see Condition 9.C.17). (*Reference: 40 CFR 70.6.(a).(iii), OCS PTO 9108)*

C.5 **Tanks and Separators.** The following equipment is included in this emissions category:

ID No.	Equipment Name; Serial #, if applicable, Capacity, size
102665	Deck drain sump tank, surface area 18 sq. ft.; vents to atmosphere
102666	Settling sump tank, surface area 108 sq. ft.; vents to atmosphere

(a) Emission Limits: Mass emissions for the equipment item (i.e., emissions unit) shall not exceed the values listed in Tables 5.1-3 and 5.1-4. Compliance with these limits is assumed to be met through compliance with the monitoring condition listed below.

(b) Monitoring: The equipment listed in this section shall is subject to all the monitoring requirements of District Rule 325.H. The test methods outlined in District Rule 325.G shall be used, when applicable.

(c) Recordkeeping: The equipment listed in this section is subject to all the recordkeeping requirements listed in District Rule 325.F

(d) Reporting: The facility shall report to the District all information required under the *Semi-Annual Compliance Verification Report* condition of this permit (see permit condition 9.C.17).
(*Reference: 40 CFR 70.6.(a).(iii), OCS PTO 9108)*

C.6 **Combustion Equipment - Flare.** The following equipment are included in this emissions unit category:

ID No.	Name
111371	Production Flare

(a) Emission Limits: Mass emissions from the flare system listed above shall not exceed the limits listed in Tables 5.1-3 and 5.1-4.

(b) Operational Limits:

(i) *Flaring Volumes* - Flaring volumes from the flare pilots, planned-other, and unplanned events shall not exceed the volumes in Table 5.1-1.

(ii) *Ignition System* - The outlet shall be equipped with an automatic ignition system including a pilot-light gas source or equivalent system, or, shall operate with a pilot flame present at all times -- with the exception of purge periods for automatic-ignition equipped flares or thermal oxidizers.

(iii) *Flame Monitoring* - The presence of the flame in the pilot of the flare shall be continuously monitored using a thermocouple or an equivalent device that detects the presence of a flame.

(iv) *Flame Operation* - The flame shall be operating at all times when combustible gases are vented through the flare.

(v) *Purge Gas* – Only an inert gas shall be used as purge gas.

(vi) *Flare Fuel Gas Sulfur Limit* - The sulfur content of produced gas combusted in the pilot and during flaring events shall not exceed 15 gr/100 scf (239 ppmv) total sulfur calculated as hydrogen sulfide at standard conditions. Planned flaring is defined in District Rule 359. Compliance shall be based on annual lab analyses. The operator shall perform additional testing/analyses of the sulfur content, using approved test methods, as requested by the District. The operator shall submit all such lab analyses reports to the District.

(c) Monitoring: The following monitoring conditions apply to the flare system:

(i) *Flare Volumes* - The volumes of gas flared shall be monitored by use of the District-approved flare flow meter. The equipment shall be operated in accordance with the District-approved *Flare Process Monitor and Calibration Plan*, which is incorporated by reference as an enforceable part of this permit.

(ii) *Purge and Pilot Volumes*: The volume of purge and pilot gas shall be monitored by use of a District approved flow meter. The equipment shall be operated in accordance with the District-approved *Flare Process Monitor and Calibration Plan*, which is incorporated by reference as an enforceable part of this permit.

(iii) *Sulfur Content* – For each flare event *lasting more than one hour*, the H_2S concentration of the flared gas shall be measured by detection tube. The operator

shall perform additional testing of the sulfur content, using approved test methods, as requested by the District. The operator shall submit all such lab analyses reports to the District.

(d) Recordkeeping: The following recordkeeping conditions apply to the flare system:

(i) *Flare Volumes* - All flaring events shall be recorded in a log. The log shall include: date; duration of flaring events (start and stop times); quantity of gas flared; reason for flaring events; and the type of event (e.g., planned or unplanned).

(ii) *Sulfur Content* - A log of the total sulfur content of gas combusted during flaring events shall be maintained.

(iii) All requirements of District Rules 331.G and 359.G.

(e) Reporting: On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.
(Re: District Rules 359 and 1303, 40 CFR 70.6)

C.7 **Solvent Usage.** The following emissions unit is included in this category:

ID No.	Emissions Unit Name
102676	Cleaning/Degreasing

(a) Operational Limits: The facility shall use no more than 500 gallons/year of solvents. In addition, the facility shall comply with the requirements listed below for all solvent usage:

(i) *Containers* - Vessels or containers used for storing materials containing organic solvents shall be kept closed unless adding to or removing material from the vessel or container.

(ii) *Materials* - All materials that have been soaked with cleanup solvents shall be stored, when not in use, in closed containers that are equipped with tight seals.

(iii) *Solvent leaks* - Solvent leaks shall be minimized to the maximum extent feasible or the solvent shall be removed to a sealed container and the equipment taken out of service until repaired. A solvent leak is defined as either the flow of three liquid drops per minute or a discernable continuous flow of solvent.

(iv) *Reclamation Plan* - The facility may submit a Plan to the District for the disposal of any reclaimed solvent. If the Plan is approved by the District, all solvent disposed of pursuant to the Plan will not be assumed to have evaporated as emissions into the air and, therefore, will not be counted as emissions from the source. The facility shall obtain District approval of the procedures used for such a disposal Plan. The Plan shall detail all procedures used for collecting, storing, and transporting the reclaimed solvent. Further, the ultimate fate of these reclaimed solvents must be stated in the Plan.

(b) Recordkeeping: The facility shall record in a log the following on a monthly basis:

For each solvent used:

(i) Amount used;

(ii) The percentage of ROC by weight (as applied);

(iii) The solvent density.

(iv) The amount of solvent reclaimed for District-approved disposal; whether the solvent is photochemically reactive; and

(v) The resulting emissions to the atmosphere in units of pounds per month and pounds per day (computed based on monthly emissions divided by the number of days in that moth). Product sheets (MSDS or equivalent) detailing the constituents of all solvents shall be maintained in a readily accessible location on the platform. All applicable logs and MSDS data must be retained for a minimum of five years from the date of the last use of the solvent(s) concerned.

For each coating used:

(i) Coating type and manufacturing ID;

(ii) The ROC content as applied;

(iii) The resulting emissions to the atmosphere in pounds per month.

(c) Reporting: The facility shall report to the District all information required under the *Semi-Annual Compliance Verification Report* condition of this permit (see Condition 9.C.17).

(*Reference: 40 CFR 70.6.(a).(iii), OCS PTO 9108)*

C.8 **Best Available Control Technology.** The permittee shall apply emission control technology and plant design measures that represent Best Available Control Technology ("BACT") to the operation of the equipment/facilities as described in this permit and the District's Permit Evaluation for this permit. Table 4.2 and the Emission Limitations, Operational Restrictions, Monitoring, Recordkeeping and Reporting Conditions of this permit define the specific control technology and performance standard emission limits for BACT. The BACT shall be in place, and shall be operational at all times, for the life of the project. BACT related monitoring, recordkeeping and reporting requirements are defined in those specific permit conditions.

C.9 **Facility Throughput Limitations.** Although not currently producing, Platform Hogan production is limited to 15,000 barrels of oil emulsion and 15 million standard cubic feet of produced gas per day, averaged on a monthly basis. The facility shall record in a log the volumes of crude oil, produced water and gas produced and the actual number of days in production per month. The above limits are based on actual days of operation during the month. (*Reference: OCS PTO 9108)*

C.10 **Produced Gas.** The facility shall direct all produced gases to the sales compressors, the flare header or other permitted control device when de-gassing, purging or blowing down any oil and gas well or tank, vessel or container that contains reactive organic compounds or reduced sulfur compounds due to activities that include, but are not limited to, process or equipment turnarounds, process upsets (e.g., well spikes), well blowdown and Bureau of Safety and Environmental Enforcement ordered safety tests. [*Reference: District Rules 325, 331, PTO 9108*]

C.11 **Abrasive Blasting Equipment.** All abrasive blasting activities performed on Platform Hogan shall comply with the requirements of the California Administrative Code Title 17, Sub-Chapter 6, Sections 92000 through 92530, and with all applicable District Rules approved by the USEPA under the State Implementation Plan (SIP). [*Reference: PTO 9108*]

C.12 **Diesel IC Engines - Particulate Matter Emissions.** To ensure compliance with District Rules 205.A, 302, 304, 309 and the California Health and Safety Code Section 41701, the facility shall implement manufacturer recommended operational and maintenance procedures to ensure that all diesel-fired engines at the platform minimize particulate emissions. The facility shall implement their District-approved *IC Engine Particulate Matter Operation and Maintenance Plan* (May 23, 2002 and all District-approved updates thereof) for the life of the project. All diesel-fired engines at the platform, regardless of exemption status, shall be included in this Plan. [*Reference: District Rules 205.A, 302, 304, 309, PTO 9108*]

C.13 **Visible Emissions Rule Compliance for Diesel Fueled IC Engine(s).** The facility shall not discharge any visible emissions into the atmosphere from its IC engines for a period or periods aggregating more than three minutes in any one hour. Once per calendar quarter, the facility shall perform a visible emissions observation for a six-minute period on each permitted and exempt engine when operating. If an engine does not operate during a calendar quarter, no monitoring is required. Visible emission observations shall be documented using a District-approved Visible Emissions Recordkeeping Log. If no visible emissions are detected during the six-minute observation period, no further monitoring is required. If visible emissions are detected during the six-minute period, then the visible emission inspection shall continue in accordance with the "Monitoring Procedure" listed below.

Monitoring Procedure: The facility shall conduct visible emissions observations every 15 seconds (using a stop-watch) and record the observation as either “0” (no visible emissions) or “E” (visible emissions) on a Visible Emissions Recordkeeping Log. Any time visible emissions are observed at the end of a 15-second interval, it shall be assumed that the visible emissions occurred for the entire 15 seconds preceding the reading. The start time and end time of the visible emission observations shall be recorded together with the date of the observation and name of the observer. The facility shall conduct a visible emissions observation for the length of time necessary to document three continuous minutes of no visible emissions or the presence of visible emissions for more than the aggregation of three minutes during any hour, whichever occurs first.

Compliance Assessment: The facility shall be deemed in compliance with this condition if no visible emissions are observed during the initial six-minute period. If any visible emissions are observed during the initial six-minute period, the facility shall continue with the visible emissions observation. The facility shall be deemed to be in compliance with this condition if no more than 12 “E” notations occur within any one-hour period. For compliance purposes, “one hour period” shall mean a rolling hour.

C.14 **Process Monitoring Systems - Operation and Maintenance.** All platform process monitoring devices listed in Section 4.11 of this permit shall be properly operated and maintained according to the District-approved *Process Monitor Calibration and Maintenance Plan* as approved by the District in July 2014 (and any subsequent District-approved updates). (*Reference: PTO 9108*).

C.15 **Process Stream Sampling and Analysis.** The facility shall sample and analyze the process streams listed in Section 4.12.2 of this permit according to the methods and frequency detailed in that Section. All process stream samples shall be taken according to District approved ASTM

methods and must follow traceable chain of custody procedures. Notwithstanding the above, sampling and analysis of the process streams listed in Section 4.12.2 is not required in any reporting period during which no oil or gas processing occurred at the Platform. (*Re: District Rules 325, 331, 333, PTO 9108*)

C.16 **Source Testing.** The following source testing provisions shall apply:

(i) The facility shall conduct source testing of air emissions and process parameters listed in Section 4.12 and Table 4.1 of this Permit to Operate. More frequent source testing may be required if the equipment does not comply with permitted limitations or if other compliance problems, as determined by the APCO, occur. Source testing of the North Crane engine shall be performed on a biennial schedule using October 2001 as the initial test date. Source testing of the Well Service Rig engine shall be performed biennially, using February 2010 as the initial test date. The crane and rig engines shall be loaded to the maximum safe load obtainable. Source testing of one crew boat and one supply boat shall occur on an annual basis, and testing shall be completed by December 31 each year. The crew and supply boat main engines shall be tested at normal cruise speeds (minimum of 70% of maximum engine load).

Source testing of the portable crane shall be required for NO_x, CO and ROC if the result of a portable analyzer reading (required by Condition 3.e of this permit) exceeds the threshold of 34 ppmvd NO_x @ 15% O_2, unless compliance with this threshold is demonstrated by a retest within 15 days of the initial reading. A source test shall be conducted within 60 days of the initial reading if triggered by these criteria. If the engine demonstrates compliance with the NO_x, CO and ROC emission limits of this permit in a source test, the engine shall not be subject to another source test for two years from the date of the initial compliant source test. After two years, source testing may again be triggered based on the result of a portable analyzer reading, unless compliance is demonstrated by a retest within 15 days of the initial reading. If the engine does not demonstrate compliance with the NO_x, CO and ROC emission limits of this permit in any source test, it shall be source tested every two years thereafter.

Notwithstanding the above, a source test shall not be required for equipment that is documented to be in an out-of-service status and is not operational at the time of biennial source testing. However, when such equipment becomes operational, a source test shall be performed within 30 calendar days of start-up.

(ii) The facility shall submit a written source test plan to the District for approval at least thirty (30) calendar days prior to initiation of each source test. The source test plan shall be prepared consistent with the District's *Source Test Procedures Manual* (revised May 1990 and any subsequent revisions). The facility shall obtain written District approval of the source test plan prior to commencement of source testing. The District shall be notified at least ten (10) calendar days prior to the start of source testing activity to arrange for a mutually agreeable source test date when District personnel may observe the test.

(iii) A source test for an item of equipment shall be performed on the scheduled day of testing (the test day mutually agreed to) unless circumstances beyond the control of the operator prevent completion of the test on the scheduled day. Such circumstances include mechanical malfunction of the equipment to be tested, malfunction of the source test equipment, delays in source test contractor arrival and/or set-up, or unsafe conditions on site. Except in cases of an emergency, the operator shall seek and obtain District approval before deferring or discontinuing a scheduled test, or performing maintenance on the equipment item on the scheduled test day. Once the sample probe has been inserted into

the exhaust stream of the equipment unit to be tested (or extraction of the sample has begun), the test shall proceed in accordance with the approved source test plan. In no case shall a test run be aborted except in the case of an emergency or unless approval is first obtained from the District. If the test cannot be completed on the scheduled day, then the test shall be rescheduled for another time with prior authorization by the District. Failing to perform the source test of an equipment item on the scheduled test day without a valid reason and without District's prior authorization, except in the case of an emergency, shall constitute a violation of this permit. If a test is postponed due to an emergency, written documentation of the emergency event shall be submitted to the District by the close of the business day following the scheduled test day.

(iv) Source test results shall be submitted to the District within forty-five (45) calendar days following the date of source test completion and shall be consistent with the requirements approved within the source test plan. Source test results shall demonstrate compliance with emission rates in Section 5 and applicable permit conditions. All District costs associated with the review and approval of all plans and reports and the witnessing of tests shall be paid by the facility as provided for by District Rule 210. The timelines in (ii), (iii), and (iv) above may be extended for good cause provided a written request is submitted to the District at least three (3) days in advance of the deadline, and approval for the extension is granted by the District.
[*Reference: PTO 9108, 40 CFR 70.6(a)(3)*]

C.17 **Recordkeeping.** All records and logs required by this permit and any applicable District, State or Federal rule or regulation shall be maintained for a minimum of five calendar years from the date of information collection and log entry at the platform. These records or logs shall be readily accessible and be made available to the District upon request. [*Re: District Rule 1303, PTO 9108, 40 CFR 70.6*]

C.18 **Notification of Non-Compliance.** Owners or operators who have determined that they are operating their stationary diesel-fueled engine in violation of the requirements specified in the ATCM and this permit shall notify the District immediately upon detection of the violation and shall be subject to District enforcement action.

C.19 **Notification of Loss of Exemption.** Owners or operators of in-use stationary diesel-fueled CI engines, who are subject to an exemption specified in the ATCM from all or part of the requirements of the ATCM, shall notify the District immediately after they become aware that the exemption no longer applies and shall demonstrate compliance within 180 days after notifying the District.

C.20 **Semi-Annual Compliance Verification Reports.** Twice a year, the facility shall submit a compliance verification report to the District. Each report shall be used to verify compliance with the prior two calendar quarters. The first report shall cover calendar quarters 1 and 2 (January through June) and shall be submitted no later than September 1st. The second report shall cover calendar quarters 3 and 4 (July through December) and shall be submitted no later than March 1st. Each report shall contain information necessary to verify compliance with the emission limits and other requirements of this permit (if applicable for that quarter). These reports shall be in a format approved by the District, and shall be submitted in both hard-copy and electronic (PDF) format. All logs and other basic source data not included in the report shall be available to the District upon request. The second report shall also include an annual report for the prior four quarters. Pursuant to Rule 212, the annual report shall include a completed *District Annual Emissions Inventory* questionnaire. The report shall include the following information:

(a) *Internal Combustion Engines.*

(1) The daily and annual 'computed' fuel use for each pedestal crane engine in units of gallons [Ref: Condition 9.C.1.(c) (iv)].

(2) The monthly and cumulative annual hours of operation for the emergency firewater pump, the emergency power generators, and the South Crane engine (by ID numbers or Serial Numbers).

(3) For the portable crane, the hours of operation and days of operation each month including the location where the engine operated and the cumulative total annual hours of operation at the Stationary Source and The amount of fuel combusted in the engine each month.

(4) All records of required biennial fuel meter calibrations.

(5) Results of the Rule 333 portable NO_X analyzer readings.

(6) A statement that all fuel delivered to the boats or the platform was ultra-low sulfur diesel. The District may request the records per condition 9.C.1.(c)(v).

(7) On an annual basis, the heating value of all diesel fuel, in units of Btu/gal.

(8) Summary results of the most recent compliance emission source testing performed.

(9) A log for any engine subject to 40 CFR 63 Subpart ZZZZ that had a malfunction. The log shall include the date, number, duration, and a brief description for each type of malfunction which occurred and what caused or may have caused any applicable emission limitation to be exceeded. The log must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63 Subpart ZZZZ §63.6605(b), including actions taken to correct a malfunction.

(10) Records of maintenance conducted pursuant to 40 CFR 63 Subpart ZZZZ.

(11) For the portable crane, the records of each engine inspection per the *IC Engine Inspection and Maintenance Plan and* IC engine operations logs, including inspection results, consistent with the requirements of Rule 333.J.

(b) *Fugitive Hydrocarbons*.

[*Rule 331 fugitive hydrocarbon I&M program data (summarized on a quarterly basis)]:*

(1) Inspection summary.

(2) Record of leaking components.

(3) Record of leaks from critical components.

(4) Record of leaks from components that incur five repair actions within a continuous 12-month period.

(5) Record of component repair actions including dates of component re-inspections.

(6) An updated FHC I&M inventory due to change in component list or diagrams.

(7) Listing of components installed as BACT under District Rule 331 as approved by the District.

(c) *Crew and Supply Boats*.

(1) Daily, quarterly and annual fuel use for the crew boat main engines and auxiliary engines while operating within 25 miles of Platform Hogan, itemized by controlled boat usage and uncontrolled boat usage.

(2) Daily, quarterly and annual fuel use for the supply boat main engines and auxiliary engines (including the bow thruster engine) while operating within 25 miles of Platform Hogan, itemized by controlled boat usage and uncontrolled boat usage.

(3) The sulfur content of diesel fuel used by the crew and/or supply boats (the latest dealer certification will be acceptable).

(4) Information regarding any new project boats servicing the platforms as detailed in Permit Condition 9.C.3(c) above.

(5) Maintenance log summaries including details on injector type and timing, setting adjustments, major engine overhauls, and routine engine tune-ups. For spot charters this shall be provided as available.

(6) Summary results of all compliance emission source testing performed.

(7) Any helicopter trips (by type and trip segments with emission calculations) to transport the facility personnel assisting the facility operations.

(8) Fuel Use by 'spot charter' crew/supply boats and this number as a percentage compared to the stationary source's total crew and supply boat fuel use.

(d) *Pigging.*

(1) For each pig receiver and launcher, the number of pigging events per day, quarter and year.

(e) *Tanks/Sumps/Separators*.

(1) On a monthly basis, the crude oil, produced water and produced gas production along with the number of days per month of production.

(2) Process stream analyses data as required by the *Process Stream Sampling and Analysis* permit condition 9.C.14 above (see also Section 4.12.2 of the permit).

(f) *Production Flare*.

(1) The volumes of gas combusted and resultant mass emissions for each flare category (i.e., pilot, planned – other, or unplanned), shall be presented as a cumulative summary for each quarter and year.

(2) The hydrogen sulfide concentration for each flare event lasting more than one hour.

(g) *Solvent Usage*.

(1) On a monthly basis: the amount of solvent used; the percentage of ROC by weight (as applied); the solvent density; the amount of solvent reclaimed; whether the solvent is photochemically reactive; and, the resulting emissions of ROC and photochemically reactive solvents to the atmosphere in units of pounds per month.

(h) *General Reporting Requirements*.

(1) On quarterly basis, the emissions from each permitted emission unit for each criteria pollutant.

(2) On quarterly basis, the emissions from each exempt emission unit for each criteria pollutant.

(3) A summary of each and every occurrence of non-compliance with the provisions of this permit, District rules, and any other applicable requirement.

(4) Breakdowns and variances reported/obtained per Regulation V along with the excess emissions that accompanied each occurrence.

(5) On an annual basis, the ROC and NO_X emissions from all permit exempt activities.

(6) Tons per quarter totals of all pollutants (by each emission unit). The third/fourth quarter report shall include tons per year totals for all pollutants (by each emission unit).

(7) A copy of the Rule 202 De Minimis Log for the stationary source, summarized bi-annually.

[*Re: District Rules 212, 40 CFR 70.6, PTO 9108, PTO 9108-01, ATC 9556, ATC 10367-02*]

C.21 **Permitted Equipment.** Only those equipment items listed in Attachment 10.4 are covered by the requirements of this permit and District Rule 201.B. [*Re: District Rule 1303, PTO 9108*]

C.22 **Mass Emission Limitations.** Mass emissions for the entire facility shall not exceed the total limits listed in Table 5.2. [*Re: District Rule 1303, PTO 9108, ATC 10357-02, 40 CFR 70.6*]

C.23 **Documents Incorporated by Reference.** The documents listed below, including any District-approved updates thereof, are incorporated herein and shall have the full force and effect of a permit condition for this operating permit:

(a) *Boat Monitoring and Reporting Plan for Platform Hogan* (updated and approved September 2023).

(b) *Flare Minimization Plan* (approved February 21, 2014).

(c) *Flare Process Monitor Calibration Plan* (submitted February 21, 2014).

(d) *Diesel ICE Particulate Matter Operation and Maintenance Plan* (submitted May 22, 2002).

(e) *Fuel Use Monitoring Plan* (submitted May 22, 2002).

(f) *Fugitive Emission Monitoring Plan* (approved February 3, 1999)

(g) *Rule 333 Inspection and Maintenance Plan* (approved October 21, 2014)

(h) *Rule 333, Section F – Inspection and Maintenance Plan* (approved June 2009)

(i) *Process Monitor Calibration and Maintenance Plan* (approved July 2002)

(j) *Data Reporting Protocol for Crew /Supply Boat Activity Monitoring* (approved July 2002)

9.D District-Only Conditions

The following section lists permit conditions that are not enforceable by the USEPA or the public. However, these conditions are enforceable by the District and the State of California. These conditions are issued pursuant to District Rule 206 (*Conditional Approval of Authority to Construct or Permit to Operate*), which states that the Control Officer may issue an operating permit subject to specified conditions. Permit conditions have been determined as being necessary for this permit to ensure that operation of the facility complies with all applicable local and state air quality rules, regulations and laws. Failure to comply with any condition specified pursuant to the provisions of Rule 206 shall be a violation of that rule, this permit, as well as any applicable section of the California Health & Safety Code.

D.1 **California Administrative Code Title 17 Section 93118.5**: The Airborne Toxic Control Measure (ATCM) for Diesel Engines on Commercial Harbor Craft Operated within California Waters and 24 Nautical Miles of the California Baseline specifies emission standards and operational requirements for new and in-use engines. The crew and supply boat engines shall comply with the following ATCM requirements:

(1) Only CARB ultra-low sulfur (0.0015%) diesel shall be burned in the engines onboard the vessel.

(2) Hour meters shall be installed and operated on each diesel engine.

In addition, the ATCM requires that all newly acquired engines on the crew and supply vessels, or any newly acquired crew or supply vessels, shall adhere to the Tier standards as specified in the California Code of Regulations Section 9.118.5 Airborne Toxic Control Measure for Commercial Harbor Craft.

D.2 **External Combustion Units - Permits Required.**

(1) An ATC/PTO permit shall be obtained prior to installation of any grouping of Rule 360 applicable boilers or hot water heaters whose combined system design heat input rating exceeds 2.000 MMBtu/hr.

(2) An ATC permit shall be obtained prior to installation, replacement, or modification of any existing Rule 361 applicable boiler or water heater rated over 2.000 MMBtu/hr.

(3) An ATC shall be obtained for any size boiler or water heater if the unit is not fired on natural gas or propane except as provided for by District Rule 202.L.15 and L.16.

AIR POLLUTION CONTROL OFFICER

_____

_____
Date

NOTES:

1. This permit supersedes PTO 9108-R4, Trn O/O 9108-01, ATC 15893 & PTO 15893, ATC 15928 & PTO 15928, ATC 16054 & PTO 16054 and PTO-Mod 9108-04
2. Reevaluation Due Date: February 2027

RECOMMENDATION

It is recommended that this PTO be issued with the conditions as specified in the permit.

J. Menno	1/2/2024		2/6/2024
AQ Engineer		Engineering Supervisor	

\\sbcapcd.org\shares\Groups\ENGR\WP\Oil&Gas\Major Sources\SSID 08001 Pacific Operators - Carpinteria\Hogan\Reevals\Hogan Reeval (2020)

10.0 Attachments

10.1 Emission Calculation Documentation

10.2 BACT Analysis

10.3 Fee Calculations

10.4 IDS Database Emission Tables

10.5 Equipment List

10.6 Insignificant Activities List

10.7 Comments on Draft Permit

10.1 EMISSION CALCULATION DOCUMENTATION - PLATFORM HOGAN:

This attachment contains all relevant emission calculation documentation used for the emission tables in Section 5. Refer to Section 4 for the general equations. Detailed calculation spreadsheets are attached in Section 10.2, where necessary. The letters A-H refer to Tables 5.1-1, 5.4-1, and 5.1-2.

Reference A - Combustion Engines

- The maximum operating schedule is in units of hours

- The default diesel fuel #2 characteristics are:
  density = 7.043 lb./gal (36°API)
  LHV = 18,753 Btu/lb. (132,075 Btu/gal)
  HHV = 19,878 Btu/lb. (140,000 Btu/gal)

- BSFC = 7,180 Btu/bhp-hr (230 bhp North Crane engine)
  energy based value-using LHV
  Detroit Diesel 6-71 engine specification basis = 0.390 lb./bhp-hr

- BSFC = 7,272 Btu/bhp-hr (318 bhp Well Kill Pump engine)
  energy based value using LHV
  Detroit Diesel 8-71 engine specification basis = 0.395 lb./bhp-hr

- BSFC = 7,548 Btu/bhp-hr (99 bhp South Crane engine)
  energy based value using LHV
  Detroit Diesel 3-71 (N-60) engine specification basis = 0.410 lb./bhp-hr

- BSFC = 8581 Btu/bhp-hr (510 bhp emergency generator engine)
  energy based value using LHV
  Caterpillar D-379 engine specification basis = 0.466 lb./bhp-hr

- BSFC = 8,382 Btu/bhp-hr (110 bhp fire water pump engine)
  energy based value using LHV
  Caterpillar D-330 engine specification basis = 0.455 lb./bhp-hr

- BSFC = 8,162 Btu/bhp-hr (400 bhp Well Service Rig engine)
  energy based value using LHV
  Detroit Diesel 8VF 00734 engine specification basis = 0.443 lb./bhp-hr

- Emission factors units (lb./MMBtu) are based on HHV.

- FCF (LHV to HHV) value of 6% used for diesel

- NO_X emission factors for North Crane engine and Well Service Rig engine are based on Rule 333 emission limit of 700 ppmv or 8.4 g/bhp-hr. This emission limit will be lowered, and CO and ROC emission factors will be added, on November 21, 2010.

- NO_X emission factors for all other IC engines based on USEPA AP-42, table 3.3-1 (7/93).

- Similarly, ROC, CO and PM emission factors based on USEPA AP-42, table 3.3-1 (7/93)

- SO_X emissions based on mass balance
  SO_X (as SO_2) = (%S) × (ρ_{oil}) × (20,000) ÷ (HHV)

- PM_{10}:PM ratio = 0.96; PM_{10}:$PM_{2.5}$ ratio = 1.0; ROC:TOC ratio = 1.0

- North Crane engine operational limits: General Equation

  Q = (BSFC) × (bhp) × (LCF) × (hours/time period) ÷ (HHV, Btu/gal)

  North Crane Engine
  Q= (7,180 Btu/bhp-hr) × (230 bhp) × (1.06) × (16 hours/day) ÷ (140,000 Btu/gal)
  = 200.06 gallons per day

  Q = (7,180 Btu/bhp-hr) × (230 bhp) × (1.06) × (1000 hours/yr.) ÷ (140,000 Btu/gal)
  = 12,503 gallons per year

- All IC engines, *except the North Crane engine and the Well Service Rig engine*, are restricted to 199 hours/year.

Reference B - Fugitive Components

- The maximum operating schedule is in units of hours

- All safe to monitor components are credited an 80% control efficiency. Unsafe to monitor components (as defined in Rule 331) are considered uncontrolled,

- The component leak path definition differs from the Rule 331 definition of a component. A typical leak path count for a valve would be equal to 4 (one valve stem, a bonnet connection and two flanges).

- Leak path counts are provided by applicant. The total count has been verified to be accurate within 5% of the District's P&ID and platform review/site checks.

- Emission factors based on the District/Tecolote Report, *Modeling of Fugitive Hydrocarbon Emissions, Model B* (1/86).

Reference C - Supply Boat

- The maximum operating schedule is in units of hours

- Supply boat engine data based on the *M/V Rebekah C (primary boat)*

- Four 1,800 bhp main engines (i.e., 7,200 bhp), two 230 bhp auxiliary engines (i.e., 460 bhp) and one 250 bhp bow thruster engine are utilized

- Main engine load factor based on District *Crew and Supply Boat* study (6/87)

- Supply boat bow thruster engine only operates during maneuver mode

- Supply boat generator engines provide half of total rated load, either with one engine at full load or both engines at half load

- The District has standardized the total time a supply boat operates (per trip) within 25 miles of platform is 11 hours. A trip includes time to, from, and at the platform. This is based on a typical trip consisting of: 8 hours cruise, 2 hours maneuver and 1 hour idle. Annual supply boat usage time is based 425 hours per year as requested by the applicant. Spot charter trips add 75 hours per year to the PTE.

- Main engine emission factors are based only on cruise mode values.

- Supply boat main engines achieve a controlled NO_X emission rate of 8.4 g/bhp-hr through the use of turbo-charging, enhanced inter-cooling, sea water scrubbing and 4^o timing retard. This emission factor equates to 337 lb/1000 gallons.

  EF_{NOx} = (6.73 g/bhp-hr) ÷ (0.055 gal/bhp-hr) × (453.6 g/lb.) × (1000)

- Spot charter supply boat usage limited to 75 hours per year.

- Spot charter and Emergency Response vessels are uncontrolled for NO_X.

- Uncontrolled ROC and CO emission factors for the main engines are based on USEPA AP-42, Volume II, Table II-3.3 (1/75) {cruise factor, 1500 bhp engine}

- Uncontrolled NO_X emissions from spot charter supply and emergency response boat main engines based on an emission rate of 14 g/bhp-hr. This emission factor equates to 561 lb/1000gallons:

  EF_{NOx} = (14 g/bhp-hr) ÷ (0.055 gal/bhp-hr) ÷ (453.6 g/lb.) × (1000)

- PM emission factors for the main engines are based on *Kelly, et. al.* (1981)

- For uncontrolled engines: PM_{10}:PM ratio = 0.96; PM_{10}:$PM_{2.5}$ ratio = 1.0; ROC:TOC ratio = 1.0

- For controlled engines: PM_{10}:PM ratio = 1.0; PM_{10}:$PM_{2.5}$ ratio = 1.0; ROC:TOC ratio = 1.0

- All SO_x emissions based on mass balance

  SO_X (as SO_2) = (%S) × (ρ_{oil}) × (20,000) ÷ (HHV)

- Auxiliary and bow thruster engine emission factors (uncontrolled) are based on USEPA AP-42, Table 3.3-1 (7/93). Table emission factors converted to fuel basis using:

  $EF_{lb/1000\ gal}$ = ($EF_{lb/MMBtu}$) ÷ (19,300 Btu/lb.) × (7.05 lb./gal) × (1000)

- Spot charter main engine set-up assumed to be two 1,125 bhp engines (i.e., 2,250 bhp total). Spot charter auxiliary and bow thruster engines set-up assumed to be equal to the main supply boat.

- Emergency response vessel is permanently assigned to Platforms Henry, Hillhouse, A, B, C, Houchin, Hogan, Habitat, Hondo, Heritage, and Harmony. Vessel total bhp is 1,770 bhp. Short-term emissions from this vessel are not assessed. Long-term emissions are assessed equally amongst the eleven affected platforms.

- Emergency response vessel emissions calculated as an aggregate (main and auxiliary engines) using the uncontrolled supply boat emission factors. The long term hours of operating are back-calculated based on the fuel usage allocation for this platform of 4,546 gallons per year (50,000 gal/yr. basis).

  T_{yr} = {(4,546 gal/yr.) ÷ (0.055 gal/bhp-hr ÷ 1770 bhp ÷ 0.65)} = 72 hr/yr.

- Main and auxiliary engine operational limits: General Equation

  Q = (BSFC) × (bhp) × (hours/time period) × (load factor)

  Main Engines - Controlled

  Q = (0.055 gal/bhp-hr) × (7200 bhp) × (5.5 hours/day) × (0.65)
  = 1,416 gallons per day

  Q =(0.055 gal/bhp-hr) × (7200 bhp) × (425 hours/qtr) × (0.65)
  =120,335 gallons per quarter

  Q =(0.055 gal/bhp-hr) × (7200 bhp) × (425 hours/yr.) × (0.65)
  = 120,335 gallons per year

Main Engines - Uncontrolled

Q = (0.055 gal/bhp-hr) × (2250 bhp) × (11 hours/day) × (0.65)
= 885 gallons per day

Q =(0.055 gal/bhp-hr) × (2250 bhp) × (22 hours/qtr) × (0.65)
=1,947 gallons per quarter

Q =(0.055 gal/bhp-hr) × (2250 bhp) × (75 hours/yr.) × (0.65)
= 6,636 gallons per year

Auxiliary Engines - Generators

Q = (0.055 gal/bhp-hr) × (460 bhp) × (11 hours/day) × (0.50)
= 139 gallons per day

Q =(0.055 gal/bhp-hr) × (460 bhp) × (425 hours/qtr) × (0.50)
= 5,914 gallons per quarter

Q =(0.055 gal/bhp-hr) × (460 bhp) × (425 hours/yr.) × (0.50)
= 5,914 gallons per year

Auxiliary Engines - Bow Thruster

Q = (0.055 gal/bhp-hr) × (250 bhp) × (2 hours/day)
= 28 gallons per day

Q =(0.055 gal/bhp-hr) × (250 bhp) × (35 hours/qtr)
= 529 gallons per quarter

Q =(0.055 gal/bhp-hr) × (250 bhp) × (138 hours/yr.)
=2,087 gallons per year

Reference D - Crew Boat

- The maximum operating schedule is in units of hours
- Tier 3 main engine crew boat data based on the *M/V Ryan T (primary boat)*
- Tier 2 main engine crew boat data based on the *M/V Matthew*
- Tier 3 Main Engines – Controlled: Four 575 bhp main engines (i.e., 2,300 bhp)
- Tier 2 Main Engines – Controlled: Three 600 bhp main engines (i.e., 1,800 bhp)
- Auxiliary Engines: Two 99 bhp generators (i.e., 198 bhp)
- Main engine load factor based on District *Crew and Supply Boat* study
- Crew boat auxiliary engine provides half of the total rated load
- The total time a crew boat operates (per trip) is 2.0 hours. A trip includes time to, from, and at the platform. This is based on a typical trip consisting of: 1 hour cruise, 0.5 hour maneuver, and 0.5 hour idle. Annual crew boat usage time is based on 760 trips at 2.0 hrs/trip for a total of 1,520 hours per year. Tier 2 main engine crew boat usage is based on 10 hrs/day, 380 hrs/qtr, 1,520 hrs/year. Tier 3 main engine crew boat usage is based on 7.85 hrs/day, 722.2 hrs/qtr, 1,649 hrs/year. Spot charter (uncontrolled) adds 152 hours per year to the PTE.
- Crew boat Tier 3 main engines achieve a controlled NO_X emission rate of 4.22 g/bhp-hr through the use of turbo-charging, enhanced inter-cooling, sea-water scrubbing and 4º timing retard. This emission factor equates to 169.17 lb/1000 gallons:

  EF_{NOx} = (4.22 g/bhp-hr) ÷ (0.055 gal/bhp-hr) ÷ (453.6 g/lb.) × (1000)
- Crew boat Tier 2 main engines achieve a controlled NO_X emission rate of 5.85 g/bhp-hr through the use of turbo-charging, enhanced inter-cooling, sea-water scrubbing and 4º timing retard. This emission factor equates to 234.50 lb/1000 gallons:

  EF_{NOx} = (5.85 g/bhp-hr) ÷ (0.055 gal/bhp-hr) ÷ (453.6 g/lb.) × (1000)
- Uncontrolled ROC and CO emission factors for the main engines are based on USEPA AP-42, Volume II, Table II-3.3 (1/75) {cruise factor, 500 bhp engine}
- Uncontrolled NO_X emissions from spot charter crew boat main engines based on an emission rate of 14 g/bhp-hr. This emission factor equates to 561 lb/1000gallons:

  EF_{NOx} = (14 g/bhp-hr) ÷ (0.055 gal/bhp-hr) ÷ (453.6 g/lb.) × (1000)
- PM emission factors for the main engines are based on *Kelly, et. al.* (1981)
- For uncontrolled engines: PM_{10}:PM ratio = 0.96; PM_{10}:$PM_{2.5}$ ratio = 1.0; ROC:TOC ratio = 1.0
- For controlled engines: PM_{10}:PM ratio = 1.0; PM_{10}:$PM_{2.5}$ ratio = 1.0; ROC:TOC ratio = 1.0

- All SO_X emissions based on mass balance

  SO_X (as SO_2) = (%S) × (ρ_{oil}) × (20,000) ÷ (HHV)

- Auxiliary engine emission factors (uncontrolled) are based on USEPA AP-42, Table 3.3-1 (7/93). Table emission factors converted to fuel basis using:

  $EF_{lb/1000\ gal}$ = ($EF_{lb/MMBtu}$) ÷ (19,300 Btu/lb.) × (7.05 lb./gal) × (1000)

- Main and auxiliary engine operational limits: General Equation

  Q = (BSFC) × (bhp) × (hours/time period) × (load factor)

  Main Engines – Tier 3 Controlled

  Q = (0.055 gal/bhp-hr) × (2300 bhp) × (7.85 hours/day) × (0.85)
  = 844 gallons per day

  Q =(0.055 gal/bhp-hr) × (2300 bhp) × (722.2 hours/qtr) × (0.85)
  =85,420 gallons per quarter

  Q =(0.055 gal/bhp-hr) × (2300 bhp) × (1,649 hours/yr.) × (0.85)
  = 195,040 gallons per year

  Main Engines – Tier 2 Controlled

  Q = (0.055 gal/bhp-hr) × (1800 bhp) × (10 hours/day) × (0.85)
  = 842 gallons per day

  Q =(0.055 gal/bhp-hr) × (1800 bhp) × (380 hours/qtr) × (0.85)
  =35,175 gallons per quarter

  Q =(0.055 gal/bhp-hr) × (1800 bhp) × (1,520 hours/yr.) × (0.85)
  = 140,699 gallons per year

Main Engines – Uncontrolled

Q = (0.055 gal/bhp-hr) × (1530 bhp) × (10 hours/day) × (0.85)
= 715 gallons per day

Q =(0.055 gal/bhp-hr) × (1530 bhp) × (38 hours/qtr) × (0.85)
=2,990 gallons per quarter

Q =(0.055 gal/bhp-hr) × (1530 bhp) × (152 hours/yr.) × (0.85)
= 11,959 gallons per year

Auxiliary engines - Generators

Q = (0.055 gal/bhp-hr) × (198 bhp) × (10 hours/day) × (0.50)
= 54 gallons per day

Q =(0.055 gal/bhp-hr) × (198 bhp) × (680 hours/qtr) × (0.50)
= 4,073 gallons per quarter

Q =(0.055 gal/bhp-hr) × (198 bhp) × (1520 hours/yr.) × (0.50)
= 9,104 gallons per year

<u>Reference E - Pigging Equipment</u>

- Maximum operating schedule is in units of events (e.g., thrice/week for launcher)
- Gas launcher is locked out of service. Only the oil line launcher operates.
- Pressure and temperature are assumed to be 5 psig and 100°F
- All gas in launcher blown down back into the process per the facility operating procedures prior to opening the pig launcher unit.
- The MW_{oil} = 50 lb./lb.-mol for oil. (*Reference*: *District file data*)
- Average ROC weight percent is = 88.5 % for oil launchers [*Reference: CARB VOC Speciation Profile 297 (storage tanks) for ROC/TOC ratio of 0.885*];
- Pig vessel volume is 5 acf, as indicated in Table 5.1-1 in the PTO
- Density ρ = (pressure x MW) ÷ (R x T), density of vapor remaining in the vessel (lbs. VOC/acf)
- Site-specific pigging emission factor EF = (ρ x ROC weight %), in (lb. ROC/acf-event) units
- ρ_{oil} = (20.7 ×50) ÷ (10.73×560) = 0.1722 lb./cu.ft, density of THC vapor remaining in vessel i.e., 0.1722 lb./cubic feet TOC for oil launchers;
- EF (oil) = 0.1722 × 0.885 = 0.1524 lb. of ROC/acf-event for oil launchers.

Reference F - Sumps/Tanks/Separators

- Maximum operating schedule is in units of hours

- There are no oil/water separators (Wemco) on Platform Hogan

- Emission calculation methodology based on the CARB/KVB report *Emissions Characteristics of Crude Oil Production Operations in California* (1/83).

- Calculations are based on surface area of emissions unit as supplied by the applicant. A control efficiency of 85% is allowed since the vessels are equipped with covers.

    - All non-oil/water separator emission units are classified as secondary production and heavy oil service

Reference G - Production Flaring:

- The maximum operating schedule for production flare is in units of volume of gas flared. These maximum volumes are:

  Daily: 0.850 MMscf/day (planned)

  Daily: 0.850 MMscf/day (unplanned)

  Annual: 3.760 MMscf/yr (planned)

  Annual: 8.500 MMscf/yr. (unplanned)

Emission Factors	**lb/MMBtu**	**Reference**
NO_X	0.0680	AP-42, Table 13.5-1
ROC	0.0570	AP-42, Tables 13.5-1 & 13.5-2/District
SO_X	0.0370	Mass Balance Calculation
CO	0.3700	AP-42, Table 13.5-1
PM	0.0200	District
PM_{10}	0.0200	District
$PM_{2.5}$	0.0200	District

Reference G - Paints/thinners/degreasing solvents

- Solvents are used for daily operations such as wipe cleaning or cold solvent degreasing. A low VOC cleaner, D-5, is used. Solvents used to thin surface coatings are not included in this equipment category.

- To compute ROC emissions from paints and thinners under the *worst-case scenario*, the maximum allowable ROC content in such paints/thinners (420 g/l) has been used as the emission factor for the entire group of chemicals.

- In the absence of specific permit conditions, the annual estimated use of 1,500 gallons is assumed to consist of paints and thinners alone — as the *worst-case scenario*.

- The annual use has been extrapolated to daily use numbers; thus, **the daily emissions are estimates only.**

10.2 BACT Analysis

1. Pollutant(s): NO_x

2. Emission Unit: Portable Crane Engine - Cummins QSB6.7 Internal Combustion Engine, 310 bhp, Emission Controls include a turbocharger and a diesel oxidation catalyst. EPA Tier 4 Final certified.

3. BACT Determination Summary:

   Technology: EPA Tier 4 certified engine
   Performance Standard: 0.30 g/bhp-hr (34 ppmvd) for NO_x (based on NTE EF)

4. Level of Stringency: [x] Achieved in Practice
   [ ] Technologically Feasible
   [ ] RACT, BARCT, NSPS, NESHAPS, MACT

5. BACT Selection Process Discussion: A Tier 4 engine the highest Tier standard available for an engine in this horsepower range and therefore satisfies BACT.

6. BACT Effectiveness: BACT is expected to be effective over all operating loads. The engine is certified by the manufacturer to meet Tier 4 emission standards.

7. BACT During Non-Standard Operations: The applicant did not identify non-standard operations.

8. Operating Constraints: All emission control systems associated with the Tier 4 Final engine shall be maintained and operated in accordance with manufacturer operating procedures. Any reagent used by the Selective Catalytic Reduction (SCR) system shall be maintained above the minimum required level necessary to control emissions when the engine is operating.

9. Continuously Monitored BACT: CEMS is not required for this project. NO_x from the engine will be monitored once per quarter with a portable analyzer.

10. Source Testing Requirement: Source testing of the engine shall be performed if portable analyzer reading exceed 34 ppmvd NOx and retest does not show compliance within 14 days.

11. Compliance Averaging Times: The concentration limits shall be enforced based on the approved source test procedures (the average of three 40-minute runs).

12. Multi-Phase Projects: This is not a multi-year project.

13. PSD BACT: Not Applicable.

10.3 Fee Calculations

All work performed with respect to implementing the requirements of the Part 70 Operating Permit program and District permit reevaluation are also assessed on a "cost reimbursement basis" pursuant to District Rules 1304.D.11 and 210.I.C.

10.4 IDS Database Emission Tables

Table 1
Permitted Potential to Emit (PPTE)

Hogan	NO_X	ROC	CO	SO_X	PM	PM_{10}	$PM_{2.5}$	GHG
lb./day	1177.79	111.52	353.61	0.71	95.09	92.61	92.61	63703.1
tons/year	76.94	16.77	29.41	0.34	8.06	7.84	7.84	6389.2

Reference: Table 5.2

Table 2
Facility Potential to Emit (FPTE)

Hogan	NO_X	ROC	CO	SO_X	PM	PM_{10}	$PM_{2.5}$	GHG
lb./day	1177.79	111.52	353.61	0.71	95.09	92.61	92.61	63703.1
tons/year	76.94	16.77	29.41	0.34	8.06	7.84	7.84	6389.2

Reference: Table 5.2

Table 3
Federal Potential to Emit

Hogan	NO_X	ROC	CO	SO_X	PM	PM_{10}	$PM_{2.5}$
lb./day	1181.49	82.40	353.61	0.71	95.09	92.61	92.61
tons/year	76.94	8.50	24.98	0.33	3.32	3.25	3.25

Reference: Table 5.3

Table 4
Exempt Emissions

Hogan	NO_X	ROC	CO	SO_X	TSP	PM	$PM_{2.5/10}$
lb./day	_--	0.10	_--	_--	_--	_--	_--
tons/year	--	0.00	--	--	--	--	--

Reference: Table 5.4

Table 5
Stationary Source Potential to Emit (FPTE)

	NO_X	ROC	CO	SO_X	PM	PM_{10}	$PM_{2.5}$	GHG
OCS Platform Hogan								
lb./day	1177.79	111.52	353.61	0.71	95.09	92.61	92.61	63703.10
tons/year	76.94	16.77	29.41	0.34	8.06	7.84	7.80	6389.20
OCS Platform Houchin								
lb./day	1504.11	149.94	445.32	0.80	125.02	122.06	122.06	100767.20
tons/year	93.72	18.79	41.48	0.36	8.94	8.97	8.97	10592.10
Carpinteria Field – South County Stationary Source Total								
lbs./day	2681.90	261.46	798.93	1.51	220.11	214.67	214.67	164470.30
tons/year	170.66	35.56	70.89	0.70	17.00	16.81	16.77	16981.30

Reference: Table 5.5

10.5 Equipment List

PT-70/Reeval 09108 R5 / FID: 08001 Platform Hogan / SSID: 08001

A PERMITTED EQUIPMENT

1 Stationary Internal Combustion Engines

1.1 North Crane Engine

Device ID #	**004849**	***Device Name***	**North Crane Engine**
Rated Heat Input		*Physical Size*	230.00 Brake Horsepower
Manufacturer	Detroit Diesel	*Operator ID*	
Model	6-71	*Serial Number*	6A168663
Location Note	Platform Hogan north drill deck		
Device Description	Operating hours limited to 24 hr/day, 365 hr/quarter, 1460 hr/yr. No emissions controls.		

1.2 South Crane Engine

Device ID #	**004848**	***Device Name***	**South Crane Engine**
Rated Heat Input		*Physical Size*	99.00 Btu/bhp-hr
Manufacturer	Detroit Diesel	*Operator ID*	
Model	3-71 (N-60)	*Serial Number*	3A68303
Location Note	Platform Hogan, South Drill Deck		
Device Description	Rated bhp at 2100 rpm. Operating hours limited to 24 hr/day, 50 hr/quarter, 200 hr/yr. No emissions controls used.		

1.3 Auxiliary Fire Water Pump

Device ID #	**004851**	***Device Name***	**Auxiliary Fire Water Pump**
Rated Heat Input		*Physical Size*	110.00 Brake Horsepower
Manufacturer	Caterpillar	*Operator ID*	
Model	D-330	*Serial Number*	85B1492
Location Note	Platform Hogan, South Production Deck		
Device Description	Rated bhp at 2000 rpm. Operating hours limited to 24 hr/day, <50 hr/quarter, <200 hr/year. No emissions controls used.		

1.4 Cementline Unit (Drilling Activity) # 1

Device ID #	**105796**	***Device Name***	**Cementline Unit (Drilling Activity) # 1**
Rated Heat Input	1.030 MMBtu/Hour	*Physical Size*	140.00 Brake Horsepower
Manufacturer	Caterpillar	*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan		
Device Description	This device is used solely in drilling operations; its emissions are tracked separately		

1.5 Mud Pump (Drilling Rig Activity) #2

Device ID #	**105795**	***Device Name***	**Mud Pump (Drilling Rig Activity) #2**
Rated Heat Input	4.260 MMBtu/Hour	*Physical Size*	575.00 Brake Horsepower
Manufacturer	Detroit Diesel	*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	This mud pump is used solely for drilling rig (construction) activity; its emissions are tracked separately		

1.6 Well Service Rig Engine

Device ID #	**007107**	***Device Name***	**Well Service Rig Engine**
Rated Heat Input		*Physical Size*	400.00 Brake Horsepower
Manufacturer	Detroit Diesel	*Operator ID*	
Model	8VF 09351	*Serial Number*	9087-7899
Location Note	Platform Hogan drill deck		
Device Description	Rated BHP at 2100 rpm. Operating hours limited to 24 hr/day, 300 hr/quarter, 1200 hr/yr. No emissions controls used.		

1.7 Mud Pump (Drilling rig activity) #1

Device ID #	**105794**	***Device Name***	**Mud Pump (Drilling rig activity) #1**
Rated Heat Input	4.260 MMBtu/Hour	*Physical Size*	575.00 Brake Horsepower
Manufacturer	Detroit-Diesel	*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan		
Device Description	This mud pump is used in drilling rig activity only and its emissions are tracked separately		

1.8 Well Kill (Mud) Pump Engine

Device ID #	**004856**	***Device Name***	**Well Kill (Mud) Pump Engine**
Rated Heat Input		*Physical Size*	318.00 Brake Horsepower
Manufacturer	Detroit Diesel	*Operator ID*	
Model	8-71	*Serial Number*	7083-7200
Location Note	Platform Hogan center drill deck		
Device Description	Rated BHP at 2100 rpm. Operating hours limited to 24 hr/day, 50 hr/quarter, 200 hr/yr. No emissions controls used.		

1.9 Portable Crane (Hogan/Houchin)

Device ID #	397999	*Maximum Rated BHP*	310.00
Device Name	Portable Crane (Hogan/Houchin)	*Serial Number*	74670307
Engine Use	Mechanical Work	*EPA Engine Family Name*	LCEXL06.7AAL
Manufacturer	Cummins	*Operator ID*	
Model Year	2020	*Fuel Type*	CARB Diesel - ULSD
Model	QSB6.7		
DRP/ISC?	No	*Healthcare Facility?*	No
Daily Hours	12.00	*Annual Hours*	4380
Location Note	Shared use between Platforms Hogan and Houchin		
Device Description	Certified Tier 4 final engine equipped with a turbocharger and a diesel oxidation catalyst		

1.10 Emergency Backup Generator

Device ID #	**004850**	***Device Name***	**Emergency Backup Generator**
Rated Heat Input		*Physical Size*	510.00 Brake Horsepower
Manufacturer	Caterpillar	*Operator ID*	
Model	D-379	*Serial Number*	76B298
Location Note	Platform Hogan, East Drill Deck		
Device Description	Rated bhp at 1200 rpm. Operating hours limited to 24 hr/day, <50 hr/quarter, <200 hr/yr. No emissions controls used.		

2 Flare System

2.1 Flare Gas Metering System

Device ID #	**111372**	***Device Name***	**Flare Gas Metering System**
Rated Heat Input		*Physical Size*	
Manufacturer	General Electric	*Operator ID*	
Model	DigitalFlow GF868	*Serial Number*	2683
Location Note	Platform Hogan		
Device Description	Mass flow and density meter, equipped with an Emerson Micro Motion Series 1000 transmitter and an Emersion Micro Motion Model 3711 Gas Flow computer.		

2.2 Production Flare

Device ID #	**111371**	***Device Name***	**Production Flare**
Rated Heat Input	87.500 MMBtu/Hour	*Physical Size*	87.50 MMBtu/Hour
Manufacturer	John Zink	*Operator ID*	
Model	KMI 8-1	*Serial Number*	
Location Note	Platform Hogan		
Device Description	Equipped with a flare ionization monitoring system and an electronic ignition system.		

3 Supply Boat

3.1 Supply Boat - Main Engines - Controlled

Device ID #	**398041**	***Device Name***	**Supply Boat - Main Engines - Controlled**
Rated Heat Input		*Physical Size*	7200.00 Brake Horsepower
Manufacturer	Cummins	*Operator ID*	
Model	QDK 50 m3	*Serial Number*	
Location Note	Platform Hogan		
Device Description	Basis: M/V Rebekah C Total Main Engine Brake Horsepower: 7,200 HP Four Main Engines x 1,800 HP each. Load factor is 0.65 each.		

3.2 Supply Boat - Main Engines - Uncontrolled

Device ID #	**105136**	***Device Name***	**Supply Boat - Main Engines - Uncontrolled**
Rated Heat Input		*Physical Size*	2940.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan		
Device Description	Main engine horsepower 2250 bhp, uncontrolled for NOx. Generator engine horsepower 460 bhp, uncontrolled for NOx. Bow thruster engine horse-power 230 bhp, uncontrolled for NOx.		

3.3 Supply Boat - Auxiliary Engines

Device ID #	**005464**	***Device Name***	**Supply Boat - Auxiliary Engines**
Rated Heat Input		*Physical Size*	460.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan		
Device Description	2 generator engines at 230 bhp each, uncontrolled for NOx. load factor = 0.50 for this project's emissio0n calculation.		

3.4 Supply Boat - Bow Thruster

Device ID #	**398043**	***Device Name***	**Supply Boat - Bow Thruster**
Rated Heat Input		*Physical Size*	250.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan		
Device Description	Basis: M/V Rebekah C One bow thruster engine at 250 bhp. Load factor is 1.0.		

4 Crew Boats

4.1 Crew Boat - Main Engines - Tier 2 Controlled

Device ID #	**385117**	***Device Name***	**Crew Boat - Main Engines - Tier 2 Controlled**
Rated Heat Input		*Physical Size*	600.00 Brake Horsepower
Manufacturer	Detroit Diesel	*Operator ID*	
Model	Series 60	*Serial Number*	
Location Note	Platform Hogan		
Device Description	Engine Family BDDXW14.0MLK 3 Crew Main Engines Duplicate of Device 113881 from ATC 13671		

4.2 Crew Boat - Main Engines - Tier 3 Controlled

Device ID #	**398039**	***Device Name***	**Crew Boat - Main Engines - Tier 3 Controlled**
Rated Heat Input		*Physical Size*	2300.00 Brake Horsepower
Manufacturer	John Deere	*Operator ID*	
Model	6135AFM85	*Serial Number*	
Location Note	Platform Hogan		
Device Description	Basis: Ryan T Total Main Engine Brake Horsepower: 2,300 HP Four Main Engines x 575 HP each. Load factor is 0.85 each.		

4.3 Crew Boat - Main Engines - Uncontrolled

Device ID #	**105137**	***Device Name***	**Crew Boat - Main Engines - Uncontrolled**
Rated Heat Input		*Physical Size*	1620.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan		
Device Description	Main engine horsepower 1530 bhp, uncontrolled for NOx. Generator engine horsepower 90 bhp, uncontrolled for NOx.		

4.4 Crew Boat - Auxiliary Engines

Device ID #	**398040**	***Device Name***	**Crew Boat - Auxiliary Engines**
Rated Heat Input		*Physical Size*	198.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan		
Device Description	Basis: Ryan T Total Generator Engine Brake Horsepower: 198 HP Two Generator Engines x 99 HP each. Load factor of 0.5 each.		

5 Auxiliary Engine for ER Boat

Device ID #	**105797**	***Device Name***	**Auxiliary Engine for ER Boat**
Rated Heat Input	7.730 MMBtu/Hour	*Physical Size*	1005.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description			

6 Emergency Response Boat Engines

Device ID #	**005466**	***Device Name***	**Emergency Response Boat Engines**
Rated Heat Input		*Physical Size*	1770.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Pacific OCS		
Device Description	Total engine horsepower 1770 bhp, uncontrolled for NOx.		

7 Fixed Roof Storage Tanks

7.1 Settling Tank

Device ID #	**102666**	***Device Name***	**Settling Tank**
Rated Heat Input		*Physical Size*	160.00 Square Feet Surface Area
Manufacturer	Rheem Superior	*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan production deck (south side of well bay)		
Device Description	In storm/spill recovery service, this covered secondary vessel is not connected to vapor recovery. Surface area 8' x 20'.		

7.2 Surge Tank #1

Device ID #	**102655**	***Device Name***	**Surge Tank #1**
Rated Heat Input		*Physical Size*	
Manufacturer	Rheem Superior	*Operator ID*	
Model		*Serial Number*	6475
Location Note	Platform Hogan prod. deck		
Device Description	Horizontal separator in pump suction service. D Diameter 6 feet, length 15 feet, operating pressure 80-20 psig; MAWP 125 psig. Operating temperature 65 deg F (max. temp is 600 deg F.) Connected to gas gathering or vapor recovery; PSVs do not release to atmosphere.		

7.3 Surge Tank #2

Device ID #	**102656**	***Device Name***	**Surge Tank #2**
Rated Heat Input		*Physical Size*	
Manufacturer	Rheem Superior	*Operator ID*	
Model		*Serial Number*	6473
Location Note	Platform Hogan prod. deck		
Device Description	Horizontal separator in pump suction service. Diameter 6 feet, length 15 feet. Operating pressure 80-20 psig, MAWP 125 psig. Operating temperature 65 deg F (max temp is 600 deg F.) Connected to gas gathering or vapor recovery; PSVs do not release to atmosphere.		

8 Vapor Recovery

8.1 V.R. Scrubber – Suction on IR Compressor

Device ID #	**102659**	***Device Name***	**V.R. Scrubber – Suction on IR Compressor**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan production deck		
Device Description	In compressor suction service, diameter 1.33 feet, length 4 feet. Operating pressure 40 psig. Connected to gas gathering or vapor recovery; PSVs do not release to atmosphere.		

8.2 Vapor Recovery - Sales Gas

Device ID #	**102641**	***Device Name***	**Vapor Recovery - Sales Gas**
Rated Heat Input		*Physical Size*	100.00 Horsepower (Electric Motor)
Manufacturer	I-R	*Operator ID*	
Model	B 8x7-2	*Serial Number*	76871
Location Note	Platform Hogan mezzanine deck		
Device Description	In sales gas vapor recovery service, rated capacity 833 scfm. Powered by 100 hp electric motor; housing/seals not connected to vapor recovery.		

9 Pumps

9.1 Pipeline Pump

Device ID #	**102647**	***Device Name***	**Pipeline Pump**
Rated Heat Input		*Physical Size*	100.00 Horsepower (Electric Motor)
Manufacturer	Gaso	*Operator ID*	#2
Model	1743	*Serial Number*	33189
Location Note	Platform Hogan production		
Device Description	Pumps oil/water, rated capacity 337 gpm, powered by 100 hp electric motor, utilizes dual seals.		

9.2 Pipeline Shipping Pump

Device ID #	**102648**	***Device Name***	**Pipeline Shipping Pump**
Rated Heat Input		*Physical Size*	40.00 Horsepower (Electric Motor)
Manufacturer	Gaso	*Operator ID*	#3
Model	1742	*Serial Number*	33188
Location Note	Platform Hogan production		
Device Description	Pumps oil/water, rated capacity 128 gpm, powered by 40 hp electric motor, utilizes dual seals.		

9.3 Pipeline Pump

Device ID #	**102646**	***Device Name***	**Pipeline Pump**
Rated Heat Input		*Physical Size*	100.00 Horsepower (Electric Motor)
Manufacturer	Gaso	*Operator ID*	#1
Model	1743	*Serial Number*	34200
Location Note	Platform Hogan production		
Device Description	Pumps oil/water, rated capacity 175 gpm, powered by 100 hp electric motor, utilizes dual seals.		

9.4 Sump Pump

Device ID #	**102643**	***Device Name***	**Sump Pump**
Rated Heat Input		*Physical Size*	20.00 Horsepower (Electric Motor)
Manufacturer	Roper	*Operator ID*	
Model	4521	*Serial Number*	
Location Note	Platform Hogan well bay		
Device Description	In transfer pump service, submersible pump pumps oil/water, rated capacity 100 gpm, powered by 20 hp electric motor.		

9.5 Sump Pump

Device ID #	**102642**	***Device Name***	**Sump Pump**
Rated Heat Input		*Physical Size*	5.00 Horsepower (Electric Motor)
Manufacturer	Crane Deming	*Operator ID*	
Model	4521	*Serial Number*	
Location Note	Platform Hogan production deck		
Device Description	Submersible pump pumps oil/water, rated capacity 100 gpm, powered by 5 hp electric motor.		

10 Pigging Equipment

10.1 Produced Water Receiver

Device ID #	**102650**	***Device Name***	**Produced Water Receiver**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan		
Device Description	Pig receiver (from La Conchita) in produced water service; diameter of pig unit 0.33 feet.		

10.2 Pig O/W Launcher

Device ID #	**102649**	***Device Name***	**Pig O/W Launcher**
Rated Heat Input		*Physical Size*	6.10 Cubic Feet
Manufacturer	McDermott	*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan E. Prod. Deck (Mezzanine)		
Device Description	Oil/water service, diameter 0.83 feet, length 8 feet, diameter of attached pipe 0.83 feet, length of attached pipe 3.38 feet. Not connected to gas gathering or vapor recovery. De-pressurized to 5 psig before gas release to atmosphere.		

11 Pressure Vessels

11.1 Production Separator #1

Device ID #	**102651**	***Device Name***	**Production Separator #1**
Rated Heat Input		*Physical Size*	
Manufacturer	Rheem Superior	*Operator ID*	
Model		*Serial Number*	6471
Location Note	Platform Hogan Prod. deck east		
Device Description	Horizontal separator in production service, diameter 6 feet, length 15 feet, operating pressure 160-40 psig, operating temperature 65 deg F. Connected to gas gathering or vapor recovery; PSVs release to atmosphere.		

11.2 Production Separator #2

Device ID #	**102652**	***Device Name***	**Production Separator #2**
Rated Heat Input		*Physical Size*	
Manufacturer	Rheem Superior	*Operator ID*	
Model		*Serial Number*	6472
Location Note	Platform Hogan Prod. deck east		
Device Description	Horizontal separator in production service, diameter 6 feet, length 15 feet, operating pressure 160 - 40 psig, MAWP 230 psig. Operating temperature 65 deg F. Connected to gas gathering or vapor recovery; PSVs release to atmosphere.		

11.3 Two-Phase Separator

Device ID #	**102660**	***Device Name***	**Two-Phase Separator**
Rated Heat Input		*Physical Size*	
Manufacturer	Rheem Superior	*Operator ID*	
Model		*Serial Number*	6477
Location Note	Platform Hogan production deck mezzanine		
Device Description	Horizontal separator in vapor service, diameter 3 feet, operating pressure 160-40 psig, MAWP 1200 psig. Operating temperature 65 deg F. Connected to gas gathering or vapor recovery; PSVs release to atmosphere.		

11.4 Production Test Separator

Device ID #	**102653**	***Device Name***	**Production Test Separator**
Rated Heat Input		*Physical Size*	
Manufacturer	Rheem Superior	*Operator ID*	
Model		*Serial Number*	L49904
Location Note	Platform Hogan Prod. deck east		
Device Description	Horizontal separator in test service, currently out-of-service. Diameter 3 feet, length 8 feet, operating pressure 160- 40 psig, MAWP = 230 psig, operating temperature 65 deg F. Connected to gas gathering or vapor recovery; PSVs release to atmosphere.		

11.5 Clean Up Test

Device ID #	**102654**	***Device Name***	**Clean Up Test**
Rated Heat Input		*Physical Size*	
Manufacturer	Rheem Superior	*Operator ID*	
Model	NSA-455-8	*Serial Number*	6474
Location Note	Platform Hogan prod. deck		
Device Description	Horizontal type separator in test/clean-up service, diameter 4 feet, length 15 feet. Operating pressure 160-40 psig, MAWP = 230 psig. Operating temperature 65 deg F (max. temp. = 230 deg.) Connected to gas gathering or vapor recovery.		

12 Fugitive HC Components - CLP

12.1 Fugitive Hydrocarbons Components - Gas Service

Device ID #	**111373**	***Device Name***	**Fugitive Hydrocarbons Components - Gas Service**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan		
Device Description	355 clps		

12.2 Gas/Condensate Service Components - Controlled

Device ID #	**004854**	***Device Name***	**Gas/Condensate Service Components - Controlled**
Rated Heat Input		*Physical Size*	1276.00 Component Leakpath
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan		
Device Description	Safe-to-monitor gas and light liquid components, controlled by the I&M Program		

12.3 Gas/Condensate Service Components - Unsafe to Monitor

Device ID #	**105139**	***Device Name***	**Gas/Condensate Service Components - Unsafe to Monitor**
Rated Heat Input		*Physical Size*	0.00 Component Leakpath
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan		
Device Description	Unsafe-to- monitor units, and thus uncontrolled		

12.4 Oil Service Components - Controlled

Device ID #	**004853**	***Device Name***	**Oil Service Components - Controlled**
Rated Heat Input		*Physical Size*	4402.00 Component Leakpath
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan		
Device Description	Safe-to-monitor components controlled under the I&M program		

12.5 Oil Service Components - Unsafe to Monitor

Device ID #	**102663**	***Device Name***	**Oil Service Components - Unsafe to Monitor**
Rated Heat Input		*Physical Size*	268.00 Component Leakpath
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan		
Device Description	Unsafe-to-monitor components not regulated under the I&M program		

13 Wellheads

13.1 Wellhead

Device ID #	**102664**	***Device Name***	**Wellhead**
Rated Heat Input		*Physical Size*	36.00 Active Wells
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan		
Device Description	32 oil and gas wells : A-1, A-2, A-3, A-4, A-6, A-7, A-9, A-11, A-14, A-16A, A-18, A-19, A-21, A-22, A-23, A-26, A-28, A-30, A-36, A-40, AG-41, A-43, A-44, A-45, AG-46, A-47, A-48, A-49, A-51, A-52, A-53, A-50, AG-51, AG-53, A-27 14 plugged and abandoned wells : A-5, A-8, A-11, A-13, A-14, A-16, A-22, A-24, A-26, A-29, A-30, A-31, A-32 (water inj.) 1 gas injection wells : AG-27. 3 water disposal (injection) wells : AD-25, AD-31, AD-32.		

14 Sumps and Wastewater Tanks

14.1 Deck Sump

Device ID #	**102665**	***Device Name***	**Deck Sump**
Rated Heat Input		*Physical Size*	30.00 Square Feet Sump Area
Manufacturer	Custom	*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan below prod. deck		
Device Description	In deck drainage service, this covered secondary vessel is not connected to vapor recovery. Surface area 3' x 10'.		

15 Maintenance Activities

15.1 Maintenance Supply

Device ID #	**102676**	***Device Name***	**Maintenance Supply**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan		
Device Description	Coating/solvent brand name D-5 DEGREASE Application Wipe Clean Annual usage (gal per year)<500 Regulatory VOC content (g/l) none ROC emission factor (lb/gal) none Emission controls used? yes Emission controls description none.		

16 Oxidation Catalyst

Device ID #	**386671**	***Device Name***	**Oxidation Catalyst**
Rated Heat Input		*Physical Size*	
Manufacturer	Inline	*Operator ID*	
Model	IC-8-500	*Serial Number*	
Location Note			
Device Description	Reduces carbon monoxide emissions from well rig engine, 8,000 to 12,000 engine hour estimated lifespan		

17 Closed Crankcase Ventilation System

Device ID #	**386673**	***Device Name***	**Closed Crankcase Ventilation System**
Rated Heat Input		*Physical Size*	
Manufacturer	Parker	*Operator ID*	
Model	CCV4500	*Serial Number*	
Location Note	Platform Hogan		
Device Description	Installed on the well rig engine to comply with RICE NESHAP Subpart ZZZZ regulations.		

18 Solvent Storage Cabinet

Device ID #	**102638**	***Device Name***	**Solvent Storage Cabinet**
Rated Heat Input		*Physical Size*	0.00 kgal Of Solvent Consumed
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Platform Hogan Production deck		
Device Description	Enclosed storage for paints and thinners.		

B EXEMPT EQUIPMENT

1 Diesel Fuel Tank

Device ID #	**102635**	***Device Name***	**Diesel Fuel Tank**
Rated Heat Input		*Physical Size*	10400.00 Gallons
Manufacturer	McDermott	*Operator ID*	
Model		*Serial Number*	No. crane pedestal
Part 70 Insig?	No	*District Rule Exemption:*	202.V.2 Storage Of Refined Fuel Oil W/Grav <=40 Api
Location Note	Platform Hogan no crane pedestal PRODUCTION DECK		
Device Description	Tank diameter 10 feet, unheated dome roof tank, shell height 24 feet, roof height 1 foot, average liquid height 4 feet.		

2 Maintenance Supply

Device ID #	**102673**	***Device Name***	**Maintenance Supply**
Rated Heat Input		*Physical Size*	Tons of Solvent In Coating
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.D.8 Routine Repair and Maintenance	
Location Note	Platform Hogan		
Device Description	Coating/solvent brand name DuPont Coating Application Architectural Annual usage (gal per year)100 Regulatory VOC content (g/l) 340 ROC emission factor (lb/gal) 3 Emission controls used? yes Emission controls description HVLP/Airless or Electrostatic Coating/solvent brand name DuPont Act Application Architectural Annual usage (gal per year)100 Regulatory VOC content (g/l) 340 ROC emission factor (lb/gal) 5.5 Emission controls used? yes Emission controls description HVLP/Airless or Electrostatic Coating/solvent brand name DuPont Primer Application Architectural Annual usage (gal per year)50 Regulatory VOC content (g/l) 350 ROC emission factor (lb/gal) 5.5 Emission controls used? yes Emission controls description HVLP/Airless or Electrostatic		

3 Diesel Day Tank

Device ID #	**102636**	***Device Name***	**Diesel Day Tank**
Rated Heat Input		*Physical Size*	Gallons
Manufacturer	Custom	*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.V.2 Storage Of Refined Fuel Oil W/Grav <=40 Api	
Location Note	Platform Hogan Drill deck		
Device Description	Tank diameter (feet) 3' X 10' Tank capacity (gallons) <10,000		

4 Maintenance Supply

Device ID #	**102674**	***Device Name***	**Maintenance Supply**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.D.8 Routine Repair and Maintenance	
Location Note	Platform Hogan		
Device Description	Coating/solvent brand name DuPont Act Application Architectural Annual usage (gal per year)100 Regulatory VOC content (g/l) 340 ROC emission factor (lb/gal) 5.5 Emission controls used? yes Emission controls description HVLP/Airless or Electrostatic		

5 Maintenance Supply

Device ID #	**102675**	***Device Name***	**Maintenance Supply**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.D.8 Routine Repair and Maintenance	
Location Note	Platform Hogan		
Device Description	Coating/solvent brand name DuPont Primer Application Architectural Annual usage (gal per year)50 Regulatory VOC content (g/l) 350 ROC emission factor (lb/gal) 5.5 Emission controls used? yes Emission controls description HVLP/Airless or Electrostatic		

6 Potable Water Tank

Device ID #	**102637**	***Device Name***	**Potable Water Tank**
Rated Heat Input		*Physical Size*	10400.00 Gallons
Manufacturer	McDermott	*Operator ID*	
Model		*Serial Number*	So. crane pedestal
Part 70 Insig?	No	*District Rule Exemption:* 201.A No Potential To Emit Air Contaminants	
Location Note	Platform Hogan south crane pedestal		
Device Description	Fixed roof tank type for potable water storage.		

7 Diesel Transfer

Device ID #	**102644**	***Device Name***	**Diesel Transfer**
Rated Heat Input		*Physical Size*	2.00 Horsepower (Electric Motor)
Manufacturer	Viking	*Operator ID*	
Model	H4124	*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:*	202.V.2 Storage Of Refined Fuel Oil W/Grav <=40 Api
Location Note	Platform Hogan lower deck		
Device Description	Pumps diesel fuel, rated capacity 9 gpm, powered by 2 hp electric motor, utilizes dual seals.		

8 Diesel Day Tank

Device ID #	**102639**	***Device Name***	**Diesel Day Tank**
Rated Heat Input		*Physical Size*	500.00 Gallons
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:*	202.V.2 Storage Of Refined Fuel Oil W/Grav <=40 Api
Location Note	Platform Hogan Drill deck		
Device Description			

9 Diesel Transfer

Device ID #	**102645**	***Device Name***	**Diesel Transfer**
Rated Heat Input		*Physical Size*	2.00 Horsepower (Electric Motor)
Manufacturer	Viking	*Operator ID*	
Model	H4124	*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:*	202.V.2 Storage Of Refined Fuel Oil W/Grav <=40 Api
Location Note	Platform Hogan lower deck		
Device Description	Pumps diesel, rated capacity 9 gpm, powered by 2 hp electric motor, utilizes dual seals.		

E DE-PERMITTED EQUIPMENT

1 Crew Boat

2 Auxiliary Engine #1

Device ID #	**385118**	***Device Name***	**Auxiliary Engine #1**
Rated Heat Input		*Physical Size*	39.00 Brake Horsepower
Manufacturer	Alaska Diesel Electric	*Operator ID*	
Model	M944W3	*Serial Number*	
Depermitted Device	Tier 3	*Facility Transfer*	
Description	Duplicate of Device 113882 from ATC 13671		

3 Auxiliary Engine #2

Device ID #	**385119**	***Device Name***	**Auxiliary Engine #2**
Rated Heat Input		*Physical Size*	48.00 Brake Horsepower
Manufacturer	Alaska Diesel Electric	*Operator ID*	
Model	M33C	*Serial Number*	
Depermitted Device	Tier 2	*Facility Transfer*	
Description	Duplicate of Device 113883 from ATC 13671		

4 Main Engines

Device ID #	**005463**	***Device Name***	**Main Engines**
Rated Heat Input		*Physical Size*	2250.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted Device		*Facility Transfer*	
Description	2 main engines at 1,125 bhp each. load factor is 0.65 for this project's emission calculation.		

5 Bow Thruster Engine

Device ID #	**005465**	***Device Name***	**Bow Thruster Engine**
Rated Heat Input		*Physical Size*	230.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	1 bow thruster engine 230 bhp, uncontrolled for NOx. Load factor = 1.0 for this project's emission calculation.		

6 Kickoff

Device ID #	**102640**	***Device Name***	**Kickoff**
Rated Heat Input		*Physical Size*	40.00 Horsepower (Electric Motor)
Manufacturer	Joy	*Operator ID*	
Model	B 8x7-2	*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	In booster service, rated capacity 168 scfm, powered by 40 hp electric motor. Housing/seals not connected to vapor recovery.		

7 Knockout Scrubber

Device ID #	**102658**	***Device Name***	**Knockout Scrubber**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	In compressor suction service, currently out-of-service, diameter 3 feet, length 10 feet, operating pressure 1000 psig, operating temperature ambient, connected to vapor recovery.		

8 Automatic Well Tester

Device ID #	**102657**	***Device Name***	**Automatic Well Tester**
Rated Heat Input		*Physical Size*	
Manufacturer	Roy Hanson Jr., Manufacturing	*Operator ID*	
Model		*Serial Number*	224990
Depermitted		*Facility Transfer*	
Device Description	Diameter 3.5 feet, length 10 feet, operating pressure MAWP = 150 psig. Operating temperature 65 deg F. PSVs do not release to atmosphere.		

9 Main Engines

Device ID #	**102671**	***Device Name***	**Main Engines**
Rated Heat Input		*Physical Size*	1530.00 Brake Horsepower
Manufacturer	Detroit Diesel	*Operator ID*	
Model	12V71TI	*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	3 main engines at 510 bhp each. Load factor is 0.85 for this project's emission calculation		

10 Generator Engines

Device ID #	**102672**	***Device Name***	**Generator Engines**
Rated Heat Input		*Physical Size*	90.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	2 auxiliary engines at 45 bhp each, uncontrolled for NOx.		

10.5 **Insignificant Emissions Units/Activities**:

Table 10.5 below lists insignificant emission units at Platform Hogan that fall under the federal category of "insignificant emissions units/activities."

Table 10.5 List of Insignificant Emission Units and Applicable Requirements

EMISSION UNITS ***Maintenance Activities***	**Rule 303**	**Rule 317**	**Rule 321**	**Rule 323**	**Rule 324**	**Rule 505**	**Reg. XIII**
Surface Coating: facility-wide, for equipment maintenance and for structural coating. Including solvents used for thinning and cleanup.	√	√	√	√	√	√	√

10.6 Draft Comments and District Responses

Beacon West provided several comments to the draft PT-70 permit via tracked-changes. With the exception of the comment addressed below, all other requested changes were made and involved minor modifications to wording in order to convey that the Platform has ceased active oil and gas operations.

a. Comment #1 - Beacon West requested to identify ConcoPhillips and Beacon West as "Maintenance/Monitoring Operators" rather than as "Operators" in the draft permit.

   District Response – The term "Maintenance/Monitoring Operator" is not defined nor used in any District Rule or Regulations. The District identifies ConcoPhillips and Beacon West as the current platform operators. The requested changes have not been made.