

UNITED STATES GOVERNMENT
MEMORANDUM

February 8, 2019

To: Public Information (MS 5030)
From: Plan Coordinator, FO, Plans Section (MS 5231)
Subject: Public Information copy of plan

Control # - S-07930
Type - Supplemental Development Operations Coordinations Document
Lease(s) - OCS-G00989 Block - 276 Eugene Island Area
Operator - Arena Offshore, LP
Description - Wells E001, E002, E004, E005, E006, E007, E008, E009, E010, E011, E012 and revise air emissions for Platform E
Rig Type - Not Found

Attached is a copy of the subject plan.

It has been deemed submitted as of this date and is under review for approval.

Madonna Montz
Plan Coordinator

Site Type/Name	Botm Lse/Area/Blk	Surface Location	Surf Lse/Area/Blk
FIXED/E		6672 FSL, 5776 FEL	G00989/EI/276
WELL/E001	G00989/EI/276	6687 FSL, 5788 FEL	G00989/EI/276
WELL/E002	G00989/EI/276	6687 FSL, 5780 FEL	G00989/EI/276
WELL/E004	G00989/EI/276	6694 FSL, 5788 FEL	G00989/EI/276
WELL/E005	G00989/EI/276	6702 FSL, 5781 FEL	G00989/EI/276
WELL/E006	G00989/EI/276	6695 FSL, 5781 FEL	G00989/EI/276
WELL/E007	G00989/EI/276	6695 FSL, 5773 FEL	G00989/EI/276
WELL/E008	G00989/EI/276	6703 FSL, 5774 FEL	G00989/EI/276
WELL/E009	G00989/EI/276	6702 FSL, 5789 FEL	G00989/EI/276
WELL/E010	G00989/EI/276	6709 FSL, 5789 FEL	G00989/EI/276
WELL/E011	G00989/EI/276	6709 FSL, 5789 FEL	G00989/EI/276
WELL/E012	G00989/EI/276	6709 FSL, 5789 FEL	G00989/EI/276



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**Supplemental Revised Development Operations
Coordination Document**

Eugene Island Block 276
(Lease OCS-G 00989)

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December 2018

Public Information

Amendments

Dated	Section	Comments	Amended Pages
12/18/2018	1 (Proprietary/Public)	Correct typo regarding open slots to read E009-E012	8
12/18/2018	2 (Proprietary)	Correct production gas peak and average rates	11
12/18/2018	Attachment A (Proprietary)	Submit OCS Plan Information Forms for wells E009 and E011	62, 64

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Section 1 - Plan Contents (30 CFR Part 550.241)

Lease OCS-G 00989, Eugene Island Block 276 was originally acquired by Breton Resources Company at the Central Gulf of Mexico Lease Sale No. 9 held on March 13, 1962. This lease was issued an effective date of June 1, 1962 and a primary term ending date of May 31, 1967.

Eugene Island Block 276 has been explored and developed over many years by Union Oil Company of California who was designated operator by Breton Resources Company in August 30, 1985.

Effective October 06, 2016, Arena Offshore, LP was designated operator of Lease OCS-G 00989. Effective October 25, 2016, assignment of record title interest was transferred to Arena Energy, LP and Arena Offshore, LP.

This proposed Supplemental Revised Joint Development Operations Coordination Document (Plan) provides for the sidetrack drilling, completion, and production of existing Wells No. E001, E002, E004 - E008 and the drilling, completion, and production of open slots E009 – E012, all from the existing surface location of Lease OCS-G 00989, Eugene Island Block 276, Platform E (Complex ID No. 22677), as described below:

Proposed Well Name	Bottom hole Location	API No.
E001 (ST01BP00)	Eugene Island Block 276	17-710-40461-00
E002 (ST03BP00)	Eugene Island Block 276	17-710-40462-02
E004 (ST02BP00)	Eugene Island Block 276	17-710-41015-01
E005 (ST01BP00)	Eugene Island Block 276	17-710-41021-00
E006 (ST02BP00)	Eugene Island Block 276	17-710-41026-01
E007 (ST02BP00)	Eugene Island Block 276	17-710-40996-01
E008 (ST01BP00)	Eugene Island Block 276	17-710-41389-00
E009 (ST00BP00)	Eugene Island Block 276	New well
E010 (ST00BP00)	Eugene Island Block 276	New well
E011 (ST00BP00)	Eugene Island Block 276	New well
E012 (ST00BP00)	Eugene Island Block 276	New well

The proposed well operations will be conducted by a typical jack-up rig, either White Fleet Drilling 250, 300, or 350 using surface BOP's.

A. Plan Information Form

Included as **Attachment A** is Form BOEM 137 "OCS Plan Information Form" which provides information concerning the activities proposed under this Plan.

B. Location

Included as **Attachment B** is a location plat detailing the existing surface and proposed bottomhole locations as required by NTL 2008-G04.

Section 1 - Plan Contents (30 CFR Part 550.241)

A bathymetry map detailing the Eugene Island Block 276, E Platform surface location for the proposed activity was previously provided in Plan Control No. R-06273

C. Safety and Pollution Prevention Features

Safety of personnel and protection of the environment during the proposed operations is of primary concern with Arena, and mandates regulatory compliance with the contractors and vendors associated with the proposed operations as follows:

The offices of the Bureau of Ocean Energy Management (BOEM) and Bureau of Safety and Environmental Enforcement (BSEE) mandate the operations in this Plan comply with well control, pollution prevention, construction, welding procedures, safety and environmental related issue, et al; as described in various Subparts of Titles 30 CFR Parts 250 and 550; and as further clarified by applicable Notices to Lessees (NTL's). BSEE conducts periodic announced and unannounced onsite inspections of offshore facilities to confirm operators are complying with lease stipulations, operating regulations, approved plans, and other conditions; as well as to assure safety and pollution prevention requirements are being met. The National Potential Incident of Noncompliance (PINIC) List serves as the baseline for these inspections.

U. S. Coast Guard regulations contained in Title 33 CFR mandate the appropriate life rafts, life jackets, ring buoys, etc., be maintained on the facility at all times.

U. S. Environmental Protection Agency regulations contained in the NPDES General Permit GMG290000 mandate that supervisory and certain designated personnel on-board the facility be familiar with the effluent limitations and guidelines for overboard discharges into the receiving waters.

Arena's activities in this Plan will comply with the existing regulations and NTL's implemented by the above listed agencies.

D. Storage Tanks and Production Vessels

The following table details the storage tanks and/or production vessels that will store oil (capacity greater than 25 bbls. or more) and be used to support the proposed activities:

Type of Storage Tank	Type of Facility	Tank Capacity (bbls)	Number of Tanks	Total Capacity (bbls)	Fluid Gravity (API)
Fuel Oil	MODU	500	4	2800	No. 2 Diesel

E. Pollution Prevention Measures

Additional measures initiated by Arena beyond those measures required by Title 30 CFR Part 250 may include any and/or all of the following:

Section 1 - Plan Contents (30 CFR Part 550.241)

- A preliminary facility inspection by a contractor to ensure facility meets current regulatory requirements prior to commencement of operations
- Obtain historical performance history of the drill rig and/or production facility (if applicable).

F. **Additional Measures**

- Obtain historical performance history of the drilling and/or production contractor (if applicable).
- Safety and Environmental Briefings with offshore employee and contractor personnel to facility orientation and briefings on current operations.
- Review of Oil Spill Response Plan to ensure personnel are aware of the initial notifications and reporting requirements.
- Review of EPA NPDES General Permit with applicable personnel to ensure awareness of permit effluent limitations and reporting requirements.
- Pre-Spud and/or Pre-Production Start-Up Meetings with field personnel and contractors to discuss regulatory, environmental issues.
- SEMS Contractor Evaluations
- Safety Orientation Meetings
- Job Safety Analyses
- Management of Change Process

Section 2 - General Information (30 CFR Part 550.243)

A. Application and Permits

The following Federal/State applications will be submitted for the activities provided for in this Plan exclusive of EPA and COE general permits.

<i>Application/Permit</i>	<i>Issuing Agency</i>	<i>Status</i>
Application for Permit to Sidetrack	BSEE District	Pending
Applications for Permit to Drill	BSEE District	Pending
Rig Move Reports	USCG and NGA	Pending
Surface Safety System Modification	BSEE District	Pending
Commingling/Measurement Modification	BSEE Regional	Pending

B. Drilling Fluids

Arena plans to use the following drilling fluids for the operations proposed under this Plan:

<i>Drilling Fluid Type</i>	<i>Estimated Volume of Drilling Fluid to be used Per Well</i>
Water-based (seawater, freshwater, barite)	3150 bbls
Synthetic-based (internal, olefin, ester)	1200 bbls

C. Production

Arena estimates the combined life of reserves for the proposed development activity as follows:

<i>Hydrocarbon Type</i>	<i>Peak Production Rate</i>	<i>Average Production Rate</i>	<i>Life of Reservoir</i>

D. Oils Characteristics

According to NTL 2008-G04, oil characteristics information is not required for the proposed activities addressed in this Plan.

E. New or Unusual Technology

Arena does not plan or anticipate using any new or unusual technology as defined in Title 30 CFR 250.200 during the proposed activities addressed in this Plan. However, the best available and safest technologies (BAST), as currently referenced in Title 30 CFR Part 250 will be incorporated as a standard operational procedure.

Section 2 - General Information (30 CFR Part 550.243)

F. Bonding Statement

The general bond requirements for the activities and facilities proposed in this Plan are satisfied by an Areawide Development Bond, furnished and maintained according to Title 30 CFR Part 556, Subpart I; NTL No. 2015-N04, "General Financial Assurance". Additional decommissioning liability assessments are currently under review per the recently issued NTL 2016-N01 "Requiring Additional Security". Arena is currently in the process of reviewing all lease, right of use and easements, and right-of-way pipelines for any associated disputes on ownership issues associated with BOEM's data; as well as decommissioning liability assessments by BSEE. Arena will continue to coordinate and respond to remaining deadlines detailed in this same NTL. Additionally, BOEM has recently changed an internal policy and will no longer require additional security prior to the approval of Exploration and Development Plans; and will assess same at the actual well permitting phase.

G. Oil Spill Financial Responsibility (OSFR)

In accordance with Title 30 CFR Part 553, and NTL 2008-N05, "Guidelines for Oil Spill Financial Responsibility for Covered Facilities", Lease OCS-G 00989, Eugene Island Block 276 will be covered under Arena Offshore, LP (Company No. 02628) existing Oil Spill Financial Responsibility Certification before the proposed operations begin.

H. Deepwater Well Control Statement

According to NTL 2008-G04, a deepwater well control statement is not required for the activities proposed in this Plan.

I. Suspensions of Production

Arena does not anticipate a need to file a suspension of production for the subject lease since both are maintained by ongoing drilling and/or production operations.

J. Blowout Scenario

Arena has determined that the previously approved worst case discharge submitted in Arena's Plan Control No. S-7831 with a rate of 24,329 BOP/D and an anticipated gravity of 58°F will still continue to be the Worst Case Discharge for these proposed operations in Eugene Island Block 276. The wellbore would most likely bridge over in less than 1 day. Arena would immediately activate its Regional Oil Spill Response Plan and Spill Management Team to initiate potential recovery of liquid hydrocarbons on the receiving water and review potential well intervention options. In the event a relief well is initiated, Arena does not anticipate any delays in acquiring a jack-up type rig to conduct the proposed operations. Dependent upon the interval the well was drilled to, and potential interval for bridging over and surface intervention; if required, it could take at least 14 days to mobilize equipment and/or a rig to the field and perform a surface intervention or drill the relief well. Based on well intervention outlined in the potential worse-case discharge scenarios, the potential for drilling a relief well and a rig not being immediately available would be a total of 60 days and a potential of 1,459,740 barrels during that time span.

Section 2 - General Information (30 CFR Part 550.243)

- Case I. ***Bridging Over*** – The sand that will be encountered in the EI 275, K002 is unconsolidated. Productive zones require gravel packs for sand control. All offset MP-1 Sand completions were gravel packed. It is anticipated that the severe drawdown resulting from a loss of well control will result in the hole bridging over in a matter of hours. (Less than 1 day)
- Case II. ***Conventional Surface Intervention*** – It is assumed that a loss of well control from the surface will result in mobilizing 3rd party well control equipment to the rig. It is assumed that the BOP's are compromised, that the rig has not caught fire and is capable of supporting well control efforts with the assistance of a support vessel. As an example, the intervention would consist of top killing the well with kill weight mud or possibly replacing BOP's with another set to contain flow from the breached equipment. (Approximately 14 days)
- Case III. ***Relief Well Intervention*** – It is assumed that a jack-up rig is immediately available to mobilize to location to commence drilling a relief well. The mobilization and estimated time to drill the relief well is based upon the actual drilling performance of offset wells drilled in this field development. (Approximately 50 days)
- Case IV. ***Relief Well Intervention*** – It is assumed that a jack-up rig is not immediately available to mobilize to location to commence drilling a relief well. The estimated mobilization time of a rig to location incorporates the suspension of activities by an Operator before the rig can be released for relief well operations. The time to drill the relief well is based upon the actual drilling performance of offset wells drilled in this field development.

Assess well condition:	2 days
Suspend current operations:	10 days
Mobilize Rig:	3 days
Drill relief well:	<u>45 days</u>
Total:	60 days

Relief Rig Availability:

There are currently 8 rigs currently marketed in the Gulf of Mexico that are capable of drilling an open water relief well in 175' of water to the Eugene Island Block 276, E Platform.

Blowout Prevention Measures:

The purpose of this document is to describe measures that Arena will take, above and beyond what is detailed in BSEE Title 30 CFR Part 250, to enhance its ability to prevent a blowout, to reduce the likelihood of a blowout, and conduct effective and early intervention in the event of a blowout on the proposed well locations.

Section 2 - General Information (30 CFR Part 550.243)

The following measures will be taken in attempt to ensure the proposed well locations are kept under control at all times:

- An Arena onsite representative will witness and review all BOP tests, casing tests and formation integrity tests.
- An Arena Superintendent in the office will review all FIT tests prior to moving forward with drilling operations
- Prior to commencing cementing operations on any casing string, a minimum of 1½ bottoms up will be circulated with drilling mud, so long as full returns are maintained, in order enhance the ability of achieving a successful cement job.
- A liner top packer, in addition to cement, will be utilized in order to ensure the pressure integrity of the liner lap of any liner run in the well.
- All production casing strings will be centralized across hydrocarbon bearing zones in order to ensure the proper isolation of individual pay sands by cementation and to prevent the transmission of hydrocarbons up the annulus behind the production casing.
- The proposed well will be drilled on a mud weight schedule utilizing extensive offset data from offset wells in the field. Proposed drilling mud weights will allow for at a minimum, the known hydrostatic pressures required to drill the known hydrocarbon zones encountered in the original development of the field.
- Lost circulation material in the form of properly distributed particle sized mud additives (PSDs) will be added to the mud system in the form of sweeps while drilling both the intermediate and production hole sections. PSD additives will be utilized to prevent uncontrolled mud losses in the case that lower than anticipated pore pressures or fracture gradients are encountered.
- Wiper trips will be performed as hole conditions dictate in order to quantify the stability of the wellbore and determine if sufficient mud weights are being utilized to prevent influx of formation fluids, prevent swabbing of wellbore fluids while pulling pipe and prevent losses of wellbore fluids to the formation.
- Connections will be simulated while drilling into pressure transition areas in order to properly assess the current wellbore conditions.
- Mudloggers will be utilized during the drilling of the well in order to specifically evaluate wellbore conditions including, but not limited to weights of returning drilling fluids as compared to that of the fluid entering the hole, gas content of mud returns, formation characteristics and abnormalities of cuttings and estimated paleo aging of cuttings.
- Logging while drilling tools (LWD) will be utilized to evaluate and estimate lithology, formation pressures and fluid content from surface casing point to wellbore total depth. This will enable the real time identification of any changes in anticipated formation pressures and assist in the picking of intermediate casing points and wellbore total depth, potentially eliminating the possibility of drilling into unexpected formations that could cause dangerous well control situations. Log data will be regularly provided to the office for evaluation.
- Pressure While Drilling (PWD) data will be utilized to ensure the stability of, and to maintain constant monitoring of hydrostatic pressures applied to, the wellbore.

Section 2 - General Information (30 CFR Part 550.243)

Blowout Intervention:

In the event of an uncontrolled flow of hydrocarbons Arena's Regional Oil Spill Response Plan (OSRP) as described in this Plan will be activated. In addition to the activation of this Plan, two scenarios of well intervention have been described in the Worst Case Discharge Packet (Plan Control No. S-7831) and current availability of equipment to enact both well intervention scenarios identified:

- Assuming in an uncontrolled flow situation, the MODU is intact and not sufficiently damaged, along with the wellbore and surface equipment, wellbore intervention would be performed from the MODU itself, or a barge mobilized nearby. Master Service Agreements (MSAs) have been established with Cudd Pressure Control and Wild Well Control in order to expedite response in the case of an uncontrolled flow situation. As an example, flow could be controlled from either a "top kill" method or from the removal of the surface BOP stack and subsequent replacement of the stack and the wellbore shut in.
- In the event that the MODU and/or the wellbore is irreparably damaged during a blowout scenario, wellbore intervention would be performed by contracting an additional MODU, mobilizing it to location and the subsequent spudding and drilling of a relief well. Arena currently has in place established contracts with all contractors that operate jack-up rigs in the Gulf of Mexico. Such contracts would be utilized to expedite the contracting of a rig in order to drill a relief well.

In the case of an uncontrolled flow of hydrocarbons, Arena would simultaneously pursue multiple wellbore intervention methods in an attempt to mitigate and terminate the spill, until the wellbore is brought under control.

K. Chemical Products

According to NTL 2008-G04 information regarding products is not required to accompany EP's and DOCD's in the Gulf of Mexico.

Section 3 - Geological & Geophysical Information (30 CFR Part 550.244)

A. Geological Description

Included as *Attachment C* are the details of the geological targets and associated trapping features for the proposed well locations.

B. Structure Contour Maps

Included as *Attachment D* are current structure maps depicting the proposed bottomhole locations and applicable geological cross sections for the proposed well locations.

C. Interpreted 2-D and/or Seismic Lines

Included as *Attachment E* are deep seismic lines depicting the proposed well locations.

D. Geological Structure Cross-Sections

Interpreted geological cross sections depicting the proposed well locations and depths are included *Attachment F*.

E. Shallow Hazards Report

Fugro Geoservices, Inc. conducted a high resolution geophysical survey for Eugene Island Block 276 during June, 2007. Copies of this report was sent in by Chevron U.S.A. Inc. (Plan Control No. Unknown). The activities proposed in this Plan will be conducted from the existing Eugene Island Block 276, E Platform and therefore does not require an additional shallow hazards survey and report.

F. Shallow Hazards Assessment

The activities proposed in this Plan will be conducted from the existing Eugene Island Block 276, E Platform (Plan Control No. Unknown), and therefore does not require additional shallow hazards assessment.

G. High Resolution Seismic Lines

The activities proposed in this Plan will be conducted from the existing Eugene Island Block 276, E Platform (Plan Control No. Unknown), and therefore does not require additional high resolution seismic lines.

H. Stratigraphic Column

Included as *Attachment G* are generalized biostratigraphic/lithostratigraphic columns depicting the proposed well locations from the seafloor to total depth with each objective horizon labeled.

Section 3 - Geological & Geophysical Information **(30 CFR Part 550.244)**

I. Time vs. Depth Tables

Arena feels there is sufficient well control data for the target sand objectives provided for in this Plan; as such seismic time vs. depth tables are not required.

J. Geochemical Information

According to NTL 2008-G04, this Section of the Plan is not applicable to the proposed operations.

K. Future G&G Activities

According to NTL 2008-G04, this Section of the Plan is not applicable to the proposed operations.

Section 4 - Hydrogen Sulfide Information (30 CFR Part 550.245)

A. Concentration

Arena does not anticipate encountering H₂S above the 20 ppm atmospheric level while conducting the proposed development operations provided under this Plan as detailed on *Attachment C*.

B. Classification

In accordance with Title 30 CFR 250.490(c), Arena requests the activities in this Plan for Eugene Island Block 276 be classified as an area where the absence of hydrogen sulfide has been confirmed based on the following correlative wells which were drilled to the stratigraphic equivalent of the wells proposed in this Plan and detailed on *Attachment C*.

C. H₂S Contingency Plan

According to NTL 2008-G04, this Section of the Plan is not applicable to the proposed operations.

D. Modeling Report

According to NTL 2008-G04, this Section of the Plan is not applicable to the proposed operations.

Section 5 - Mineral Resource Conservation Information
(30 CFR Part 550.246)

A. Technology and Reservoir Engineering Practices and Procedures

Proprietary Information

B. Technology and Recovery Practices and Procedures

Proprietary Information

C. Reservoir Development

Proprietary Information

Section 6 - Biological, Physical & Socioeconomic Information (30 CFR Part 550.247)

A. High Density Deepwater Benthic Communities Information

NTL 2009-G40 broadened the scope of a chemosynthetic communities report to cover all high density deepwater benthic communities, changed the definition of deepwater from 400 meters (1312 feet) to 300 meters (984 feet), increased the separation distance from muds and cuttings discharge locations from 1500 feet to 200 feet, and provided for an additional 1000 feet buffer area beyond the maximum anchor areas.

The activities proposed in this Plan do not disturb seafloor areas in water depths greater than 300 meters (984 feet); therefore chemosynthetic information is not required.

B. Topographic Features Map

BOEM and the National Marine Fisheries Service (NMFS) have entered into a programmatic consultation agreement for Essential Fish Habitat that requires that no bottom disturbing activities (including rig placement, and rig or construction base use of anchors, chains, cables, and wire ropes) within 305 meters (1000 feet) of a “No-Activity Zone” of a topographic feature.

If such proposed bottom disturbing activities are within 1000 feet of a no activity zone, the BOEM is required to consult with the NMFS.

The activities proposed in this Plan are not affected by a topographic feature.

C. Topographic Features Statement (Shunting)

The activities proposed in this Plan are not affected by a topographic feature; therefore, Arena is not required to shunt drill cuttings and drill fluids.

D. Live Bottoms (Pinnacle Trend) Map

Certain lease are located in areas characterized by the existence of live bottoms. Live bottom (Pinnacle trend features) are small, isolated, low to moderate relief carbonate reef features or outcrops of unknown origin or hard substrates exposed by erosion that provide surface area for the growth of sessile invertebrates and attract large number of fish. Known features occur in an area of topographic relief in the northeastern portion of the western Gulf of Mexico.

Section 6 - Biological, Physical & Socioeconomic Information **(30 CFR Part 550.247)**

This lease would contain a Live Bottom Stipulation to ensure that impacts from nearby oil and gas activities on these live bottom areas are mitigated to the greatest extent possible.

For each affected lease, the Live Bottom Stipulation requires that you prepare a live bottom survey report containing a bathymetry map prepared by using remote sensing techniques. This report must be submitted to the BOEM Gulf of Mexico OCS Region (GOMR) before you may conduct any drilling activities or install any structure, including lease term pipelines in accordance with NTL 2009-G39.

The existing surface location in Eugene Island Block 276 is not located within 200 feet of any pinnacle trend feature with vertical relief equal to or greater than 8 feet; as such live bottom information is not required.

E. Live Bottoms (Low Relief) Map

Certain leases are located in areas characterized by the existence of live bottoms. Live bottom (Low relief features) are sea grass communities; those areas that contain biological assemblages consisting of sessile invertebrates living upon and attached to naturally occurring hard or rocky formations with rough, broken, or smooth topography; and areas where a hard substrate and vertical relief may favor the accumulation of turtles, fishes or other fauna. These features occur in the Eastern Planning Area of the Gulf of Mexico.

The existing surface location in Eugene Island Block 276 is not located within 200 feet of any pinnacle trend feature with vertical relief equal to or greater than 8 feet; as such live bottom (low relief) maps are not required.

F. Potentially Sensitive Biological Features Map

Oil and gas operations and transportation activities in the vicinity of potentially sensitive biological features may cause deleterious impacts to the sessile and pelagic communities associated with those habitats. Adverse impacts to the communities could be caused by mechanical damage from drilling rigs, platforms, pipelines and anchor employment.

The existing surface location in Eugene Island Block 276 is not located within 61 meters (200 feet) of potentially sensitive biological features; as such the biologically sensitive maps are not required.

Section 6 - Biological, Physical & Socioeconomic Information (30 CFR Part 550.247)

G. Threatened or Endangered Species, Critical Habitat, and Marine Mammal Information

The BOEM revised Title 30 CFR Part 550, Subpart B to require lessees/operators to address the federally listed species with designated critical habitat as well as marine mammals which may be impacted by the proposed activities addressed under this Plan.

Section 7 of the Endangered Species Act (ESA) all federal agencies must ensure that any actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species, or destroy or adversely modify its designated critical habitat.

Included as *Attachment H* is a listing of the species under the jurisdiction of NOAA fisheries that are known to occur in the Gulf of Mexico that may be affected by the proposed action.

Arena does not anticipate that the proposed activities will occur in the presence of federally listed threatened or endangered species and critical habitat designated under the ESA and marine mammals protected under the Marine Mammal Protection Act (MMPA) based on the information in the referenced attachment.

H. Archaeological Report

In accordance with NTL's 2011-JOINT-G01 and 2005-G07, Eugene Island Block 276 is located within an area requiring a 300-meter spacing survey.

This requirement provides protection of prehistoric and historic archaeological resources by requiring remote sensing surveys in areas designated to have a high probability for archaeological resources.

Copies of these reports have been previously submitted to the BOEM under separate cover (Plan Control No. Unknown) which provided for the now existing surface location of Eugene Island Block 276 E Platform.

I. Air and Water Quality Information

According to NTL 2008-G04, air and water quality information is not required as the proposed activities provided for in this Plan do not impact the State of Florida.

J. Socioeconomic Information

According to NTL 2008-G04, socioeconomic information is not required as the proposed activities provided for in this Plan do not impact the State of Florida.

Section 7 - Wastes and Discharges Information (30 CFR Part 550.248)

A. Projected Generated Wastes

All projected solid and liquid wastes likely to be generated by our proposed activities are included in *Attachment I*. This attachment includes both operational wastes permitted by the appropriate NPDES General Permit GMG290269 and any other identified wastes.

Arena does not plan to treat, store or dispose of any of the above wastes down hole at our existing location.

B. Projected Ocean Discharges

All projected solid and liquid wastes likely to be generated by our proposed activities are included in *Attachment I*. This attachment includes both operational wastes permitted by the appropriate NPDES General Permit GMG290269 and any other identified wastes.

C. Modeling Report

According to NTL 2008-G04, a modeling report is not required for the operations proposed in this Plan.

D. NPDES Permits

According to NTL 2008-G04 information regarding NPDES permits is not required to accompany EP's or DOCD's in the Gulf of Mexico.

E. Cooling Water Intakes

According to NTL 2008-G04 information regarding cooling water intakes is not required to accompany EP's or DOCD's in the Gulf of Mexico.

Section 8 - Air Emissions Information (30 CFR Parts 550.249)

A. Emissions Worksheets and Screening Questions

The Projected Air Quality Emissions Report (Form BOEM-139) addresses the proposed drilling, completion and production activities proposed in this Plan.

As evidenced by *Attachment J*, the worksheets were completed based on the proposed activities being greater than 25 miles from shore and greater than 200 kilometers of the Breton Wilderness Area.

B. Emissions Reduction Measures

The projected air emissions are within the exemption level; however, Arena utilizes ultra-low sulphur fuel which is considered an emission reduction measure and the factor has been adjusted in the worksheets.

C. Verification of Non-default Emission Factors

Arena has elected to use the default emission factors as provided in *Attachment J*.

D. Non-Exempt Activities

The proposed activities are within the exemption amount as detailed in *Attachment J*.

E. Modeling Report

According to NTL 2008-G04, this Section of the Plan is not applicable to the proposed operations.

Section 9 - Oil Spills Information (30 CFR Part 550.250)

A. Oil Spill Response Planning

All the proposed activities and facilities in this Plan will be covered by the Regional Oil Spill Response Plan filed by Arena Offshore, LP (BOEM Company No. 02628) in accordance with Title 30 CFR Part 254 approved on February 2, 2018 and an update acknowledged to be in compliance on August 6, 2018.

The following locations will be used in the event and oil spill occurs as a result of the proposed activities.

Primary Response Equipment Location	Pre-Planned Staging Location(s)
Leeville, LA; Harvey, LA; Houma, LA	Fourchon, LA

Arena utilizes Clean Gulf Associates (CGA) as its primary provider for equipment, which is an industry cooperative owning an inventory of oil spill clean-up equipment. CGA is supported by the Marine Spill Response Corporation's (MSRC), which is responsible for storing, inspecting, maintaining and dispatching CGA's equipment. The MSRC STARS network provides for the closest available personnel, as well as an MSRC supervisor to operate the equipment.

Category	Regional OSRP WCD	DOCD WCD	Regional OSRP WCD	DOCD WCD
Type of Activity	Drilling	Drilling	Production	Production
Lease Number	OCS 00463	OCS-G 00989	OCS-G 02118	OCS-G 00989
Facility Location	South Timbalier Block 151	Eugene Island Block 275	Eugene Island Block 338	Eugene Island Blocks 276
Facility Designation	Well Location B	Well No. K002 (S-7831)	Platform K	Platform E
Distance to Nearest Shoreline (miles)	30	53	65	52
Storage Tanks (total)	0	0	3000	14
Lease Pipelines	NA	NA	NA	NA
Uncontrolled Blowout (bbls)	26,156 bbls	24,329 bbls	15,514 bbls	8 bbls
Total Volume (bbls)	26,156 bbls	24,329 bbls	18,514 bbls	22 bbls
Type of Oil	Crude Oil	Oil	Crude Oil	Oil
API Gravity	27.5° F	58° F	25.1° F	46° F

Section 9 - Oil Spills Information

(30 CFR Part 550.250)

Since Arena has the capability to respond to the appropriate worst-case spill scenario included in its Regional OSRP most recently approved revision on February 2, 2018 and an update acknowledged to be in compliance on August 6, 2018. Since the worst-case scenarios determined for our Plan does not replace the worst-case scenarios in our Regional OSRP, I hereby certify that Arena has the capability to respond, to the maximum extent practicable, to a worst-case discharge, or a substantial threat of such a discharge, resulting from the activities proposed in our DOCD.

B. Oil Spill Response Discussion

In the event of an uncontrolled spill release resulting from the activities proposed in this Plan, Arena's Person-In-Charge on the platform/rig or the Shorebase Dispatcher would most likely be the initial individuals to contact the Qualified Individual (QI) or our Spill Management Team (SMT) detailed in the Regional OSRP. The QI would immediately activate the SMT to ascertain the severity of the spill incident. Arena's SMT Incident Command Center is located at O'Brien's Response Management, Inc.'s office in Slidell, Louisiana.

Dependent upon the severity of the spill incident, a trajectory analysis would be conducted utilizing the BOEM Oil Spill Risk Analysis Model (OSRAM) as referenced in our approved Regional OSRP. This trajectory would provide the required information on percentage and timing of potential impact to the shoreline impact areas. The SMT would then identify the areas of sensitivities at potential landfall segment(s), so additional planning may be conducted for shoreline protection strategies. If surveillance indicates a potential threat to shoreline; the appropriate equipment and personnel would be deployed, as outlined in our Regional OSRP.

An overflight may be conducted to determine the extent and dissipation rate of the spill, with potential sampling of the spill release. Mechanical recovery equipment may also be dispatched to the leading edge of the spill, as outlined in our Regional OSRP. If additional offshore response is required, the SMT would initiate the Dispersant Use Plan of the Regional OSRP and utilize the services of Airborne Support Inc.'s aircraft and personnel.

C. Modeling Report

According to NTL 2008-G04, this Section of the Plan is not applicable to the proposed operations.

D. NTL 2015-N01

The required NTL 2015-N01 Worst Case Discharge Data that was submitted and approved under Plan Control No. S-7831 for Lease OCS-G 24910, Eugene Island Block 275. The Worst Case Discharge of 24,329 BOPD and 58°F does not supersede the proposed operations in this Plan. Therefore, Arena agrees that the worst case discharge volume from Plan S-7831 (stated above) is still valid for these proposed operations.

Section 10 - Environmental Monitoring Information (30 CFR Part 550.252)

A. Monitoring Systems

Arena subscribes to StormGeo Inc. Weather Service which provides access to real-time weather conditions, and provides periodic updates on impending inclement weather conditions such as tropical depressions, storms and/or hurricanes entering the Gulf of Mexico.

Arena also relies on the National Weather Service to support the aforementioned subscribed service. During impending inclement weather conditions, Arena closely coordinates the activity with our contractors and field personnel to ensure the safety of people for evacuation; measures to prepare the facility for evacuation to ensure protection of the environment and the facility/equipment.

B. Incidental Takes

The BOEM revised regulations in Title 30 CFR Part 550, Subpart B to require lessees/operators to provide for monitoring systems if the activities provided for in this Plan have the potential to result in an incidental take of any federally listed species and/or marine mammals.

Arena does not anticipate the incidental taking of any species as a result of the proposed activities based on the implementation of, and adherence to the BOEM Notice to Lessees NTL 2016-G02 “Implementation of Seismic Mitigation Measures and Protected Species Observer Program”, BOEM Notice to Lessees NTL 2016-G01 and BSEE’s corresponding Notice to Lessees NTL 2012-BSEE-G01 “Vessel Strike Avoidance and Injured/Dead Protected Species Reporting”; and BSEE’s Notice to Lessees NTL 2015-G03 “Marine Trash and Debris Awareness and Elimination”.

Section 11 - Lease Stipulations/Special Conditions Information **(30 CFR Part 550.253)**

Under the Outer Continental Shelf Lands Act, both BOEM and BSEE are charged with the responsibility of managing and regulating the exploration and development on the OCS.

As part of the regulatory process, an Environmental Impact Statement (EIS) is prepared for each lease sale, at which time mitigation measures are addressed in the form of lease stipulations, which then become part of the oil and gas lease terms and are therefore enforceable as part of that lease.

As part of this process, the designated operator proposing to conduct related exploratory and development activities, must review the applicable lease stipulations, as well as other special conditions, which may be imposed by the BOEM, and other governing agencies.

The existing surface location in Eugene Island Block 276 (Leases OCS-G 00989) is subject to the following lease stipulations and special conditions:

- **Marine Protected Species**

The BOEM revised regulations in Title 30 CFR Part 550, Subpart B to require lessees/operators to provide for monitoring systems if the activities provided for in this Plan have the potential to result in an incidental take of any federally listed species and/or marine mammals.

Arena does not anticipate the incidental taking of any species as a result of the proposed activities based on the implementation of, and adherence to the BOEM Notice to Lessees NTL 2016-G02 “Implementation of Seismic Mitigation Measures and Protected Species Observer Program”, BOEM Notice to Lessees NTL 2016-G01 and BSEE’s corresponding Notice to Lessees NTL 2012-G01 “Vessel Strike Avoidance and Injured/Dead Protected Species Reporting”; and BSEE’s Notice to Lessees NTL 2015-G03 “Marine Trash and Debris Awareness and Elimination”.

- **Military Warning Area**

The Military Areas Stipulation reduces potential impacts, particularly in regards to safety, but does not reduce or eliminate the actual physical presence of oil and gas operations in areas where military operations are conducted. As detailed in NTL 2014-G04, the existing surface disturbance in Eugene Island Block 276 is located within Military Warning Area W-59. Therefore, in accordance with the requirements of the referenced stipulation, Arena will contact the Naval Air Station in order to coordinate and control the electromagnetic emissions during the proposed operations.

- **Special Conditions**

The proposed surface disturbance activity in Eugene Island Blocks 276 will not be affected by any special conditions and/or multiple uses, such as designated shipping/anchorage areas, lightering zones, rigs-to-reef zone, and ordnance disposal zones.

Section 12 - Environmental Mitigation Measures Information (30 CFR Part 550.254)

A. Measures Taken to Avoid, Minimize, and Mitigate Impacts

The activities proposed in this Plan do not have an impact on the State of Florida; as such this section is not applicable.

B. Incidental Takes

BOEM revised regulations in Title 30 CFR Part 550, Subpart B to require lessees/operators to provide for monitoring systems if the activities provided for in this Plan have the potential to result in an incidental take of any federally listed species and/or marine mammals.

Arena does not anticipate the incidental taking of any species as a result of the proposed activities based on the implementation of, and adherence to the:

- NTL 2015-G03 “Marine Trash and Debris Awareness Training and Elimination”
- NTL 2016-G01 and NTL 2012-G01 “Vessel Strike Avoidance and Injured/Dead Protected Species Reporting”.
- NTL 2016-G02 “Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program”.

Section 13 - Decommissioning Information (30 CFR Part 550.255)

The information at Title 30 CFR Part 250.255 regarding decommissioning is not required to accompany EP's and DOCD's submitted for the Gulf of Mexico.

Section 14 - Related Facilities & Operation Information **(30 CFR Part 550.256)**

A. Related OCS Facilities and Operations

The existing Eugene Island Block 276 Platform E structure was installed in 2008 in a water depth of 175 feet. The well test facilities on this structure consists of well manifolds and separators with the wells individually tested every 60 days. Production from Platform E will be commingled with production from Lease OCS-G 24910 and will flow via a 10-inch pipeline (Segment No. 17103) to the Eugene Island Block 252, Platform I. The measured liquid hydrocarbons will depart Eugene Island Block 252, Platform I via the 8-inch (Segment No. 19901) and will be transported to a subsea tie-in with the 14" pipeline (Segment No. 19785) in Eugene Island Block 253 for ultimate delivery into Operations System No. 26.0.

The separated gas production will flow to Eugene Island Block 238, Platform H via a 8-inch pipeline (Segment No. 6572) with a portion flowing to Eugene Island Block 251, A via an 8-inch bidirectional pipeline (Segment No. 19863; ultimately flowing through a SSTI with SeaRobin's 24-inch (Segment No. 3330) for delivery to shore to Operations System No. 20.2/BB0.

B. Transportation System

Arena does not anticipate installation of any new and/or modified onshore facilities to accommodate the additional production from the Eugene Island Block 276 lease.

C. Produced Liquid Hydrocarbon Transportation Vessels

According to NTL 2008-G04, this Section of the Plan is not applicable to the proposed operations.

Section 15 - Support Vessels and Aircraft Information (30 CFR Part 550.257)

A. General

Personnel involved in the proposed operations will typically use their own vehicles as transportation to and from the selected onshore base; whereas the selected vendors will transport the equipment by a combination of trucks, boats and/or helicopters to the onshore base. The personnel and equipment will then be transported to the platform/rig taking the most direct route feasible as mandated by weather and traffic conditions. The table below provides for the maximum capacities, numbers and trip frequency used during the construction, drilling and production phases:

Type	Maximum Fuel Tank Storage Capacity	Maximum No. in Area at Any Time	Trip Frequency or Duration
Tug Boats	3,000 bbls	2	Mobilization on/off during platform install and drilling
Supply Boats	500 bbls	1	Four trips per week
Crew Boat	500 bbls	1	Three trips per week
Aircraft	330 gals.	1	As needed

B. Diesel Oil Supply Vessels

The following table details the vessels to be used for purposes other than fuel (i.e., corrosion control):

Size of Fuel Supply Vessel	Capacity of Fuel Supply Vessel	Frequency of Fuel Transfers	Route Fuel Supply Vessel Will Take
180' feet	1,500 bbls	Weekly	From the shorebase in Port Fourchon, LA to EI 276

C. Drilling Fluids Transportation

According to NTL 2008-G04, this Section of the Plan is not applicable to the proposed operations.

D. Solid and Liquid Wastes Transportation

Included as *Attachment I* is a listing of the solid and liquid wastes associated with the proposed activities in this Plan, detailing the types of waste and approximate composition, total amount, name and location, rate and transport method.

E. Vicinity Map

A Vicinity Plat detailing the surface location in Eugene Island Block 276 relative to the shoreline and onshore base is included as *Attachment K*

Section 16 - Onshore Support Facilities Information (30 CFR Part 550.258)

A. General

The existing surface disturbance in Eugene Island Block 276 is located approximately 52 miles from the nearest Louisiana shoreline and approximately 88 miles to the support base located in Port Fourchon, LA. Arena will utilize an existing helipad 112 miles away from Platform E, Bristow, in New Iberia, LA on an as-needed basis.

Arena will utilize the existing Grande Isle Shipyard (GIS) located in Port Fourchon, LA to accomplish the following routine operations:

- Loading/Offloading point for equipment supporting the offshore operations,
- Dispatching personnel and equipment, and does not anticipate the need for any expansion of the selected facilities as a result of the activities proposed in this Plan,
- Temporary storage for materials and equipment
- 24-Hour Dispatcher

B. Support Base Construction or Expansion

The proposed operations do not require any immediate action to acquire additional land or to expand existing base facilities.

C. Support Base Construction or Expansion Timetable

According to NTL 2008-G04, this Section of the Plan is not applicable to the proposed operations.

D. Waste Disposal

Included as *Attachment I* is a listing of waste disposal facilities to be utilized as part of the associated activities in this Plan; detailing the types of waste, amount, rate and disposal method to be sent to shore.

E. Air Emissions

According to NTL 2008-G04 information regarding air emissions generated by onshore support facilities is not required to accompany EP's and DOCD's for the Gulf of Mexico.

F. Unusual Solid and Liquid Wastes

According to NTL 2008-G04 information regarding unusual solid and liquid wastes generated by onshore support facilities is not required to accompany EP's and DOCD's for the Gulf of Mexico.

Section 17 - Sulphur Operations Information (30 CFR Part 550.259)

A. Bleedwater

Arena does not propose any sulphur related operations during the activities proposed in this Plan.

B. Subsidence

Arena does not propose any sulphur related operations during the activities proposed in this Plan.

Section 18 - Coastal Zone Management Information (30 CFR Part 550.260)

Under direction of the Coastal Zone Management Act (CZMA), the States of Alabama, Florida, Louisiana, Mississippi and Texas developed Coastal Zone Management Programs (CZMP) to allow for the supervision of significant land and water use activities that take place within or that could significantly impact their respective coastal zones.

A. Consistency Certification

Included in this submittal as *Attachment L* is the Coastal Zone Management Consistency Certification for the State of Louisiana.

B. Other Information

According to NTL 2008-G04, this Section of the Plan is not applicable to the proposed operations.

Section 19 – Environmental Impact Analysis (30 CFR Part 550.261)

A. Impact Producing Factors (IPF's) From Proposed Activities

The following matrix is utilized to identify the affected environments that could be impacted by these IPF's. An "x" has been marked for each IPF category that Arena has determined may impact a particular environment as a result of the proposed activities. For those cells which are footnoted, a statement is provided as to the applicability of the proposed activities, and where there may be an effect, an analysis of the effect is provided.

Environmental Resources	Impact Producing Factors (IPFs)					
	Emissions (air, noise, light, etc.)	Effluents (muds, cuttings, other discharges to the water column or seafloor)	Physical disturbances to the seafloor (rig or anchor placement, etc.)	Wastes sent to shore for treatment or disposal	Accidents (e.g. oil spills, chemical spills, H ₂ S release)	Other IPFs you identify
<i>Site Specific at Offshore Location</i>						
Designated topographic features		(1)	(1)		(1)	
Pinnacle Trend area live bottoms		(2)	(2)		(2)	
Eastern Gulf live bottoms		(3)	(3)		(3)	
Chemosynthetic communities			(4)			
Water quality						
Fisheries						
Marine mammals	(8)				(8)	
Sea turtles	(8)				(8)	
Air quality	(9)					
Shipwreck sites (known or potential)			(7)			
Prehistoric archaeological sites			(7)			
<i>Vicinity of Offshore Location</i>						
Essential fish habitat					(6)	
Marine and pelagic birds						
Public health and safety					(5)	

Section 19 – Environmental Impact Analysis (30 CFR Part 550.261)

Environmental Resources	Impact Producing Factors (IPFs)					
	Emissions (air, noise, light, etc.)	Effluents (muds, cuttings, other discharges to the water column or seafloor)	Physical disturbances to the seafloor (rig or anchor placement, etc.)	Wastes sent to shore for treatment or disposal	Accidents (e.g. oil spills, chemical spills, H ₂ S release)	Other IPFs you identify
<i>Coastal & Onshore</i>						
Beaches					(6)	
Wetlands					(6)	
Shorebirds and coastal nesting birds					(6)	
Coastal wildlife refuges						
Wilderness areas						

Section 19 – Environmental Impact Analysis (30 CFR Part 550.261)

Footnotes for Environmental Impact Analysis Matrix

1. Activities that may affect a marine sanctuary or topographic feature. Specifically, if the well or platform site or any anchors will be on the seafloor within the:
 - (a) 4-mile zone of the Flower Gardens Banks, or the 3-mile zone of Stetson Bank;
 - (b) 1000-m, 1-mile or 3-mile zone of any topographic feature (submarine bank) protected by the Topographic Features Stipulation attached to an OCS lease;
 - (c) Essential Fish Habitat (EFH) criteria of 500 ft from any no-activity zone; or
 - (d) Proximity of any submarine bank (500 ft buffer zone) with relief greater than 2 meters that is not protected by the Topographic Stipulation attached to an OCS lease.
2. Activities with any bottom disturbance within an OCS lease block protected through the Live Bottom (Pinnacle Trend) Stipulation attached to an OCS lease.
3. Activities within any Eastern Gulf OCS block where seafloor habitats are protected by the Live Bottom (Low-Relief) Stipulation attached to an OCS lease.
4. Activities on blocks designated by the BOEM as being in water depths 300 meters or greater.
5. Exploration or production activities where H₂S concentrations greater than 500 ppm might be encountered.
6. All activities that could result in an accidental spill of produced liquid hydrocarbons or diesel fuel that you determine would impact these environmental resources. If the proposed action is located a sufficient distance from a resource that no impact would occur, the EIA can note that in a sentence or two.
7. All activities that involve seafloor disturbances, including anchor emplacements, in any OCS block designated by the BOEM as having high-probability for the occurrence of shipwrecks or prehistoric sites, including such blocks that will be affected that are adjacent to the lease block in which your planned activity will occur. If the proposed activities are located a sufficient distance from a shipwreck or prehistoric site that no impact would occur, the EIA can note that in a sentence or two.
8. All activities that you determine might have an adverse effect on endangered or threatened marine mammals or sea turtles or their critical habitats.
9. Production activities that involve transportation of produced fluids to shore using shuttle tankers or barges.

Section 19 – Environmental Impact Analysis (30 CFR Part 550.261)

B. Impact Analysis

Site Specific at Offshore Location

- **Designation Topographic Features**

There are no anticipated emissions, effluents, physical disturbances to the seafloor, wastes transported to shore, and/or accidents from the proposed activities that could cause impacts to topographic features. The surface disturbance within Eugene Island Block 276 is located approximately 25 miles away from the Fishnet Bank. The crests of designated topographic features in the northern Gulf are found below 10 m. In the event of an accidental oil spill from the proposed activities, the gravity of such oil (high gravity condensate and/or diesel fuel) would rise to the surface, quickly dissipate, and/or be swept clear by the currents moving around the bank; thereby avoiding the sessile biota.

- **Pinnacle Trend Area Live Bottoms**

There are no anticipated emissions, effluents, physical disturbances to the seafloor, wastes sent to shore, and/or accidents from the proposed activities that could cause impacts to a pinnacle trend area. The proposed surface disturbance within Eugene Island Block 276 is located a significant distance (> 100 miles) from the closest pinnacle trend live bottom stipulated block. The crests of the pinnacle trend area are much deeper than 20 m. In the event of an accidental oil spill from the proposed activities, the gravity of such oil (high gravity condensate and/or diesel fuel) would rise to the surface, quickly dissipate, and/or be swept clear by currents moving around the bank; and thus not impacting the pinnacles.

- **Eastern Gulf Live Bottoms**

There are no anticipated emissions, effluents, emissions physical disturbances to the seafloor, wastes sent to shore, and/or accidents from the proposed activities that could cause impacts to Eastern Gulf live bottoms. The proposed surface disturbance within Eugene Island Block 276 is located a significant distance (>100 miles) from the closest pinnacle Eastern Gulf live bottom stipulated block. In the event of an accidental oil spill from the proposed activities, the gravity of such oil (high gravity condensate and/or diesel fuel) would rise to the surface, quickly dissipate, and/or be swept clear by currents moving around the bank; and would not be expected to cause adverse impacts to Eastern Gulf live bottoms because of the depth of the features and dilutions of spills.

- **Chemosynthetic Communities**

Water depths at the surface location in Eugene Island Block 276 is approximately 180 feet. Therefore, the proposed activities are not located within the vicinity of any known chemosynthetic communities, which typically occur in water depths greater than 300 meters. Based on the water depth, there are no anticipated emissions, effluents, emissions physical disturbances to seafloor, wastes sent to shore, and/or accidents from the proposed activities that could impact these types of communities.

Section 19 – Environmental Impact Analysis (30 CFR Part 550.261)

- **Water Quality**

Routine operational discharges authorized by EPA's Region VI NPDES General Permit GMG290000 are regulated based on volume discharge rate limitations, and certain testing requirements for oil and grease and toxicity limitations. As such, it is not anticipated these discharges will cause significant adverse impacts to water quality.

Accidental oil spill release from the proposed activities, and cumulative similar discharge activity within the vicinity could potentially cause impacts to water quality. It is unlikely that an accidental oil spill release would occur from the proposed activities. In the event of such a release, the water quality would be temporarily affected by the dissolved components and small droplets. Currents and microbial degradation would remove the oil from the water column or dilute the constituents to background levels.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which addresses available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

- **Fisheries**

Accidental oil spill release from the proposed activities, and cumulative similar discharge activity within the vicinity may potentially cause some detrimental effects on fisheries. It is unlikely a spill would occur; however, such a release in open waters closed to mobile adult finfish or shellfish would likely be sub-lethal and the extent of damage would be reduced to the capability of adult fish and shellfish to avoid a spill, to metabolize hydrocarbons, and to excrete both metabolites and parent compounds.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which addresses available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

Arena will conduct the proposed activities under EPA's Region VI NPDES General Permit GMG290000 which authorizes the discharge of certain effluents, subject to certain limitations, prohibitions and recordkeeping requirements. As such, it is not anticipated these discharges will cause significant adverse impacts to water quality.

Section 19 – Environmental Impact Analysis (30 CFR Part 550.261)

- **Marine Mammals**

As a result of the proposed activities, marine mammals may be adversely impacted by emissions, effluents, waste sent to shore, and/or accidents.

Chronic and sporadic sub-lethal effects could occur that may stress and/or weaken individuals of a local group or population and make them more susceptible to infection from natural or anthropogenic sources. Few lethal effects are expected from accidental oil spill, chance collisions with service vessels and ingestion of plastic material.

The net results of any disturbance would depend on the size and percentage of the population affected, ecological importance of the disturbed area, environmental and biological parameters that influence an animal's sensitivity to disturbance and stress, and the accommodation time in response to prolonged disturbance (Geraci and St. Aubin, 1980). Collisions between cetaceans and ship could cause serious injury or death (Laist et al., 2001).

Sperm whales are one of 11 whale species that are hit commonly by ships (Laist et al., 2001). Collisions between OCS vessels and cetaceans within the project area are expected to be unusual events.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which addresses available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

Arena will conduct the proposed activities under EPA's Region VI NPDES General Permit GMG290000 which authorizes the discharge of certain effluents, subject to certain limitations, prohibitions and recordkeeping requirements. As such, it is not anticipated these discharges will cause significant adverse impacts to water quality.

Additionally, Arena does not anticipate the incidental taking of any marine mammals as a result of the proposed activities. The proposed activities will be conducted by our company and its contractors under the additional criteria addressed by the BOEM Notice to Lessees NTL 2016-G02 "Implementation of Seismic Mitigation Measures and Protected Species Observer Program", BOEM Notice to Lessees NTL 2016-G01 and BSEE's corresponding Notice to Lessees NTL 2012-G01 "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting"; and BSEE's Notice to Lessees NTL 2015-G03 "Marine Trash and Debris Awareness and Elimination".

- **Sea Turtles**

As a result of the proposed activities, sea turtles may be adversely impacted by emissions, effluents, waste sent to shore, and/or accidents.

Section 19 – Environmental Impact Analysis (30 CFR Part 550.261)

Small numbers of turtles could be killed or injured by chance collision with service vessels or by eating indigestible trash, particularly plastic items accidentally lost from drilling rigs, production facilities and service vessels. Drilling rigs and project vessels (construction barges) produce noise that could disrupt normal behavior patterns and create some stress to sea turtles, making them more susceptible to disease. Accidental oil spill release are potential threats which could have lethal effects on turtles. Contact and/or consumption of this released material could seriously affect individual sea turtles. Most OCS related impacts on sea turtles are expected to be sub-lethal. Chronic and/or avoidance of effected areas could cause declines in survival or productivity, resulting in gradual population declines. In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which addresses available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

Arena will conduct the proposed activities under EPA's Region VI NPDES General Permit GMG290000 which authorizes the discharge of certain effluents, subject to certain limitations, prohibitions and recordkeeping requirements. As such, it is not anticipated these discharges will cause significant adverse impacts to water quality.

Additionally, Arena does not anticipate the incidental taking of any sea turtles as a result of the proposed activities. The proposed activities will be conducted by our company and its contractors under the additional criteria addressed by the BOEM Notice to Lessees NTL 2016-G02 "Implementation of Seismic Mitigation Measures and Protected Species Observer Program", BOEM Notice to Lessees NTL 2016-G01 and BSEE's corresponding Notice to Lessees NTL 2012-G01 "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting"; and BSEE's Notice to Lessees NTL 2015-G03 "Marine Trash and Debris Awareness and Elimination".

- **Air Quality**

The proposed activities are located approximately 53 miles to the nearest Louisiana shoreline. There would be a limited degree of air quality degradation in the immediate vicinity of the proposed activities. Air quality analyses of the proposed activities are below the BOEM exemption level. As such, Arena does not anticipate any IPF's as a result of the proposed activities.

- **Ship Wreck Sites (Known or Potential)**

There are no physical disturbances to the seafloor which could impact known or potential shipwreck sites, as the review of high resolution shallow hazards data indicate there are no known or potential shipwreck sites located within the surveyed area. As such, Arena does not anticipate any IPF's as a result of the proposed activities.

Section 19 – Environmental Impact Analysis (30 CFR Part 550.261)

- **Prehistoric Archaeological Sites**

There are no physical disturbances to the seafloor which could cause impacts to prehistoric archaeological sites, as the review of high resolution shallow hazards data and supporting studies did not reflect the occurrence of prehistoric archaeological sites. As such, Arena does not anticipate any IPF's as a result of the proposed activities.

Vicinity of Offshore Location

- **Essential Fish Habitat**

As a result of the proposed activities, essential fish habitat may be adversely impacted by effluents and/or accidents.

An accidental oil spill that may occur as a result of the proposed activities has potential to cause some detrimental effects on essential fish habitat. It is unlikely that an accidental oil spill release would occur; however, if a spill were to occur in close proximity to finfish or shellfish, the effects would likely be sub-lethal and the extent of damage would be reduced to the capability of adult fish and shellfish to avoid a spill, to metabolize hydrocarbons, and to excrete both metabolites and parent compounds.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which addresses available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

- **Marine and Pelagic Birds**

As a result of the proposed activities, marine and pelagic birds may be adversely impacted by an accidental oil spill, by the birds coming into contact with the released oil. It is unlikely that an accidental oil spill release would occur.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which addresses available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

- **Public Health and Safety**

There are no anticipated emissions, effluents, wastes sent to shore, and/or accidents from the proposed activities that could cause impacts to the public health and safety. Arena has requested BOEM approval to classify the proposed objective area as absent of hydrogen sulfide.

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Coastal and Onshore

- **Beaches**

As a result of the proposed activities, beaches may be adversely impacted by an accidental oil spill. However, due to the distance from shore (approximately 52 miles to nearest Louisiana shoreline), and the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA BOEM 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which addresses available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

- **Wetlands**

As a result of the proposed activities, wetlands may be adversely impacted by an accidental oil spill. However, due to the distance from shore (approximately 52 miles to the nearest Louisiana shoreline) and the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA BOEM 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which addresses available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which addresses available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

- **Shore Birds and Coastal Nesting Birds**

As a result of the proposed activities, shore birds and coastal nesting birds may be adversely impacted by an accidental oil spill. However, due to the distance from shore (approximately 52 miles to the nearest Louisiana shoreline) and the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA BOEM 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

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In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena’s Regional Oil Spill Response Plan which addresses available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

- **Coastal Wildlife Refuges**

As a result of the proposed activities, coastal wildlife refuges may be adversely impacted by an accidental oil spill. However, due to the distance from shore (approximately 52 miles to the nearest Louisiana shoreline) and the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA BOEM 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena’s Regional Oil Spill Response Plan which addresses available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

- **Wilderness Areas**

As a result of the proposed activities, wilderness areas may be adversely impacted by an accidental oil spill. However, due to the distance to the nearest area (approximately 52 miles to the nearest Louisiana shoreline) and the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA BOEM 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena’s Regional Oil Spill Response Plan which addresses available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

Other Resources Identified

Arena has not identified any other environmental resources other than those addressed above.

C. Impacts on Proposed Activities

Arena does not anticipate any impacts on the offshore site specific locations, offshore vicinity, and/or coastal and onshore environmental conditions.

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D. Environmental Hazards

Eugene Island Block 276 is not located within a geographic area impacted by strong environmental phenomena, other than potential hurricanes in the Gulf of Mexico. The permanent structure has been designed to meet the current regulations and design criteria for these hurricane events. To mitigate potential impacts to the facility and/or wells during impending hurricanes, Arena will take precautionary measures to secure the facility, shutting in the wells and evacuating personnel for evacuation as further detailed in our U.S. Coast Guard Emergency Evacuation Plan.

E. Alternatives

There are no alternatives other than those required by regulation to the considered to reduce the environmental impacts of the activities proposed in this Plan.

F. Mitigation Measures

No mitigation measures other than those required by regulations will be considered to avoid, lessen or eliminate potential impacts on environmental resources.

G. Consultation

Arena has not contacted any agencies or persons for consultation regarding potential impacts associated with the proposed activities. Therefore, a list of such entities is not being provided.

H. Preparer

Questions or requests for additional information should be made to Arena's authorized representative/preparer of this Plan:

Aimee P. Deady
Arena Offshore, LP
4200 Research Forest Drive, Suite 230
The Woodlands, Texas 77381
281-210-3180 (Phone)
aimee@arenaoffshore.com

Section 19 - Environmental Impact Analysis (30 CFR Part 550.261)

I. References

The following documents were utilized in preparing the Environmental Impact Assessment (though not necessarily cited in the document):

<i>Document</i>	<i>Author</i>	<i>Dated</i>
Shallow Hazards Survey Report	Fugro Services	2007
Environmental Impact Statement Report No. 2007-003	Bureau of Ocean Energy Management	2007
Title 30 CFR Part 550	Bureau of Ocean Energy Management	2018
Title 30 CFR Part 250	Bureau of Safety and Environmental Enforcement	2018
OCS EIA/EA BOEM 2002-052	Bureau of Ocean Energy Management	2002
NPDES General Permit GMG290000	EPA – Region VI	2017
Regional Oil Spill Response Plan	J. Connor Consulting	2018
NTL 2005-G07 “Archaeological Resource Surveys and Reports”	Bureau of Ocean Energy Management	2005
NTL 2008-G05 “Shallow Hazards Program”	Bureau of Ocean Energy Management	2008
NTL 2009-G04 “Significant OCS Sediment Resources in the Gulf of Mexico	Bureau of Ocean Energy Management	2009
NTL 2009-N11 “Air Quality Jurisdiction on the OCS”	Bureau of Ocean Energy Management	2009
NTL 2009-G26 “U.S. Air Force Communication Towers”	Bureau of Ocean Energy Management	2009
NTL 2009-G27 “Submitting Exploration Plans and Development Operations Coordination Documents”	Bureau of Ocean Energy Management	2009
NTL 2009-G29 “Implementation Plan for Transition from North American Datum 27 to North American Datum 83	Bureau of Ocean Energy Management	2009
NTL 2009-G31 “Hydrogen Sulfide”	Bureau of Ocean Energy Management	2009
NTL 2009-G34 “Ancillary Activities”	Bureau of Ocean Energy Management	2009
NTL 2009-G40 “Deepwater Benthic Communities”	Bureau of Ocean Energy Management	2009
NTL 2011-G01 “Revision to the List of OCS Lease Blocks Requiring Archaeological Resource Surveys and Reports”	Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement	2011
BSEE NTL 2012-G01 “Marine Trash & Debris Awareness & Elimination”	Bureau of Safety and Environmental Enforcement	2012

**Section 19 - Environmental Impact Analysis
(30 CFR Part 550.261)**

<i>Document</i>	<i>Author</i>	<i>Dated</i>
NTL 2012-G02 “Implementation of Seismic Mitigation Measures & Protected Species Observer Program”	Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement	2012
NTL 2012-G01 “Drilling Windows, Eastern Gulf of Mexico”	Bureau of Ocean Energy Management	2012
NTL 2014-G04 “Military Warning and Water Test Areas	Bureau of Ocean Energy Management	2014
NTL 2015-N01 “Information Requirements for Exploration Plans, Development & Production Plans, and Development Operations Coordination Documents on the OCS for Worst Case Discharge and Blowout Scenarios”	Bureau of Ocean Energy Management	2015
NTL 2015-N04 “General Financial Assurance”	Bureau of Ocean Energy Management	2015
NTL 2015-N06 “Procedures and Requirements for Right-of-Use and Easement Requests for Platforms, Artificial Island, Installations and Other Devices Attached to the Seabed”	Bureau of Ocean Energy Management	2015
NTL 2016-N01 – Requiring Additional Security	Bureau of Ocean Energy Management	2016
NTL 2016-G01 “Vessel Strike Avoidance and Injured/Dead Protected Species Reporting”	Bureau of Ocean Energy Management	2016

Section 20 - Administrative Information (30 CFR Part 550.262)

A. Exempted Information Description (Public Information Copies Only)

Excluded from the Public Information copies are the following:

- a. Proposed bottomhole location information
- b. Proposed total well depths (measured and true vertical depth)
- c. Production Rates and Life of Reserves
- d. New and Unusual Technology
- e. Mineral Resource Conservation Information
- f. Geological and Geophysical Attachments
- g. Correlative well information used to justify H2S classification request

B. Bibliography

The following documents were utilized in preparing the Plan:

<i>Document</i>	<i>Author</i>	<i>Dated</i>
BOEM Environmental Impact Statement Report No. 2007-003	BOEM	2007
Revised Development Operations Coordination Document (Plan Control No. R-6273)	Chevron U.S.A. Inc.	2015
Supplemental Development Operations Coordination Document (Plan Control No. S- 7831)	Arena Offshore, LLC	2017
Regional Oil Spill Response Plan	J. Connor Consulting	2018

OCS Plan Information Forms

**Attachment A
(Public Information)**

OCS PLAN INFORMATION FORM

General Information									
Type of OCS Plan:	Exploration Plan (EP)		Development Operations Coordination Document (DOCD)					X	
Company Name: Arena Offshore, LP			BOEM Operator Number: 02628						
Address:			Contact Person: Aimee P. Deady						
4200 Research Forest Drive, Suite 230			Phone Number: 281-210-3180						
The Woodlands, Texas 77381			E-Mail Address: aimee@arenaoffshore.com						
If a service fee is required under 30 CFR 550.125(a), provide the				Amount paid	\$16,952.00	Receipt No.		26DV4TSI	
Project and Worst Case Discharge (WCD) Information									
Lease(s): OCS-G 00989		Area: EI 276	Block(s):	Project Name (If Applicable): NA					
Objective(s)	<input checked="" type="checkbox"/> Oil	<input checked="" type="checkbox"/> Gas	<input type="checkbox"/> Sulphur	<input type="checkbox"/> Salt	Onshore Support Base(s): Port Fourchon, Louisiana				
Platform/Well Name: E / E Wells		Total Volume of WCD: 24,329 bbls				API Gravity: 58°			
Distance to Closest Land (Miles): 52			Volume from uncontrolled blowout: 24,329 bbls						
Have you previously provided information to verify the calculations and assumptions for your WCD?							<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
If so, provide the Control Number of the EP or DOCD with which this information was provided							S-7831		
Do you propose to use new or unusual technology to conduct your activities?							<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Do you propose to use a vessel with anchors to install or modify a structure?							<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Do you propose any facility that will serve as a host facility for deepwater subsea development?							<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Description of Proposed Activities and Tentative Schedule (Mark all that apply)									
Proposed Activity			Start Date	End Date	No. of Days				
Exploration drilling									
Development drilling			05/01/2019	12/31/2021	840 days (total)				
Well completion			included in above	included in above					
Well test flaring (for more than 48 hours)									
Installation or modification of structure									
Installation of production facilities									
Installation of subsea wellheads and/or manifolds									
Installation of lease term pipelines									
Commence production			07/01/2019	12/31/2030	11.6 years				
Other (Specify and attach description)									
Description of Drilling Rig				Description of Structure					
<input checked="" type="checkbox"/>	Jackup		Drillship	<input type="checkbox"/>	Caisson		Tension leg platform		
<input type="checkbox"/>	Gorilla Jackup		Platform rig	<input checked="" type="checkbox"/>	Fixed platform		Compliant tower		
<input type="checkbox"/>	Semisubmersible		Submersible	<input type="checkbox"/>	Spar		Guyed tower		
<input type="checkbox"/>	DP Semisubmersible		Other (Attach Description)	<input type="checkbox"/>	Floating production system		Other (Attach Description)		
Drilling Rig Name (If Known):									
Description of Lease Term Pipelines									
From (Facility/Area/Block)		To (Facility/Area/Block)		Diameter (Inches)			Length (Feet)		

OCS PLAN INFORMATION FORM (CONTINUED)
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location									
Well or Structure Name/Number (If renaming well or structure, reference previous name): Platform E				Previously reviewed under an approved EP or DOCD?		<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
Is this an existing well or structure?		<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	If this is an existing well or structure, list the Complex ID or API No.		22677	
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?						<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
WCD info	For wells, volume of uncontrolled blowout (Bbls/day): NA			For structures, volume of all storage and pipelines (Bbls): 31			API Gravity of fluid		46°
Surface Location				Bottom-Hole Location (For Wells)			Completion (For multiple completions, enter separate lines)		
Lease No.	OCS G 00989			OCS			OCS OCS		
Area Name	Eugene Island								
Block No.	276								
Blockline Departures (in feet)	N/S Departure: F_s_L			N/S Departure: F__L			N/S Departure: F__L		
	6671.92'						N/S Departure: F__L		
	E/W Departure: F__L			E/W Departure: F__L			E/W Departure: F__L		
	5775.70'						E/W Departure: F__L		
Lambert X-Y coordinates	X: 1,964,179.98'			X:			X:		
	Y: -85,900.00'			Y:			Y:		
Latitude/ Longitude	Latitude 28° 25' 49.5297" N			Latitude			Latitude		
	Longitude 91° 26' 41.0710" W			Longitude			Longitude		
Water Depth (Feet): 180'				MD (Feet):		TVD (Feet):		MD (Feet):	
Anchor Radius (if applicable) in feet:								TVD (Feet):	
								MD (Feet):	
								TVD (Feet):	
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)									
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor				
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					

OCS PLAN INFORMATION FORM (CONTINUED)
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location									
Well or Structure Name/Number (If renaming well or structure, reference previous name): E001 (ST00BP00)				Previously reviewed under an approved EP or DOCD?		<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
Is this an existing well or structure?		<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	If this is an existing well or structure, list the Complex ID or API No.			17-710-40461-00
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?						<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
WCD info	For wells, volume of uncontrolled blowout (Bbls/day): 24,329 bbls (S-7831)			For structures, volume of all storage and pipelines (Bbls): NA			API Gravity of fluid		58°
Surface Location				Bottom-Hole Location (For Wells)			Completion (For multiple completions, enter separate lines)		
Lease No.	OCS G 00989 (E001 ST01BP00)			OCS			OCS OCS		
Area Name	Eugene Island								
Block No.	276								
Blockline Departures (in feet)	N/S Departure: F_s_L			N/S Departure: F__L			N/S Departure: F__L		
	6686.80'						N/S Departure: F__L		
	E/W Departure: F__L			E/W Departure: F__L			E/W Departure: F__L		
	5787.84'						E/W Departure: F__L		
Lambert X-Y coordinates	X: 1,964,167.84'			X:			X:		
	Y: -85,885.12'			Y:			Y: Y: Y:		
Latitude/ Longitude	Latitude 28° 25' 49.6769" N			Latitude			Latitude Latitude Latitude		
	Longitude 91° 26' 41.2071" W			Longitude			Longitude Longitude Longitude		
Water Depth (Feet): 180'				MD (Feet):		TVD (Feet):		MD (Feet): MD (Feet):	
Anchor Radius (if applicable) in feet:								TVD (Feet): TVD (Feet):	
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)									
Anchor Name or No.	Area	Block	X Coordinate		Y Coordinate		Length of Anchor Chain on Seafloor		
			X =		Y =				
			X =		Y =				
			X =		Y =				
			X =		Y =				
			X =		Y =				
			X =		Y =				
			X =		Y =				

OCS PLAN INFORMATION FORM (CONTINUED)
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location									
Well or Structure Name/Number (If renaming well or structure, reference previous name): E002 (ST02BP00)				Previously reviewed under an approved EP or DOCD?		<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
Is this an existing well or structure?		<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	If this is an existing well or structure, list the Complex ID or API No.		17-710-40462-02	
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?						<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
WCD info	For wells, volume of uncontrolled blowout (Bbls/day): 24,329 bbls (S-7831)			For structures, volume of all storage and pipelines (Bbls): NA			API Gravity of fluid		58°
Surface Location				Bottom-Hole Location (For Wells)			Completion (For multiple completions, enter separate lines)		
Lease No.	OCS G 00989 (E002 ST03BP00)			OCS			OCS OCS		
Area Name	Eugene Island								
Block No.	276								
Blockline Departures (in feet)	N/S Departure: F <u> </u> s <u> </u> L			N/S Departure: F <u> </u> <u> </u> L			N/S Departure: F <u> </u> <u> </u> L		
	6687.24'						N/S Departure: F <u> </u> <u> </u> L		
	E/W Departure: F <u> </u> <u> </u> E <u> </u> L			E/W Departure: F <u> </u> <u> </u> L			E/W Departure: F <u> </u> <u> </u> L		
	5780.36'						E/W Departure: F <u> </u> <u> </u> L		
Lambert X-Y coordinates	X: 1,964,175.32'			X:			X:		
	Y: -85,884.68'			Y:			Y:		
Latitude/ Longitude	Latitude 28° 25' 49.6813" N			Latitude			Latitude		
	Longitude 91° 26' 41.1233" W			Longitude			Longitude		
Water Depth (Feet): 180'				MD (Feet):		TVD (Feet):		MD (Feet):	
Anchor Radius (if applicable) in feet:								TVD (Feet):	
								MD (Feet):	
								TVD (Feet):	
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)									
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor				
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					

OCS PLAN INFORMATION FORM (CONTINUED)
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location									
Well or Structure Name/Number (If renaming well or structure, reference previous name): E004 (ST01BP00)				Previously reviewed under an approved EP or DOCD?		<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
Is this an existing well or structure?		<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	If this is an existing well or structure, list the Complex ID or API No.			17-710-41015-01
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?						<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
WCD info	For wells, volume of uncontrolled blowout (Bbls/day): 24,329 bbls (S-7831)			For structures, volume of all storage and pipelines (Bbls): NA			API Gravity of fluid		58°
Surface Location				Bottom-Hole Location (For Wells)			Completion (For multiple completions, enter separate lines)		
Lease No.	OCS G 00989 (E004 ST02BP00)			OCS			OCS OCS		
Area Name	Eugene Island								
Block No.	276								
Blockline Departures (in feet)	N/S Departure: F_s_L			N/S Departure: F__L			N/S Departure: F__L		
	6694.29'						N/S Departure: F__L		
	E/W Departure: F__L			E/W Departure: F__L			E/W Departure: F__L		
	5788.28'						E/W Departure: F__L		
Lambert X-Y coordinates	X: 1,964,167.40'			X:			X:		
	Y: -85,877.63'			Y:			Y: Y: Y:		
Latitude/ Longitude	Latitude 28° 25' 49.7510" N			Latitude			Latitude Latitude Latitude		
	Longitude 91° 26' 41.2121" W			Longitude			Longitude Longitude Longitude		
Water Depth (Feet): 180'				MD (Feet):		TVD (Feet):		MD (Feet): MD (Feet):	
Anchor Radius (if applicable) in feet:								TVD (Feet): TVD (Feet):	
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)									
Anchor Name or No.	Area	Block	X Coordinate		Y Coordinate		Length of Anchor Chain on Seafloor		
			X =		Y =				
			X =		Y =				
			X =		Y =				
			X =		Y =				
			X =		Y =				
			X =		Y =				
			X =		Y =				

OCS PLAN INFORMATION FORM (CONTINUED)
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location									
Well or Structure Name/Number (If renaming well or structure, reference previous name): E005 (ST00BP01)				Previously reviewed under an approved EP or DOCD?		<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
Is this an existing well or structure?		<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	If this is an existing well or structure, list the Complex ID or API No.			17-710-41021-00
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?						<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
WCD info	For wells, volume of uncontrolled blowout (Bbls/day): 24,329 bbls (S-7831)			For structures, volume of all storage and pipelines (Bbls): NA			API Gravity of fluid		58°
Surface Location				Bottom-Hole Location (For Wells)			Completion (For multiple completions, enter separate lines)		
Lease No.	OCS G 00989 (E005 ST01BP00)			OCS			OCS OCS		
Area Name	Eugene Island								
Block No.	276								
Blockline Departures (in feet)	N/S Departure: F_s_L			N/S Departure: F__L			N/S Departure: F__L		
	6702.21'								
	E/W Departure: F__L			E/W Departure: F__L			E/W Departure: F__L		
	5781.24'								
Lambert X-Y coordinates	X: 1,964,174.44'			X:			X:		
	Y: -85,869.71'			Y:			Y: Y: Y:		
Latitude/ Longitude	Latitude 28° 25' 49.8295" N			Latitude			Latitude Latitude Latitude		
	Longitude 91° 26' 41.1333" W			Longitude			Longitude Longitude Longitude		
Water Depth (Feet): 180'				MD (Feet):		TVD (Feet):		MD (Feet): MD (Feet):	
Anchor Radius (if applicable) in feet:								TVD (Feet): TVD (Feet):	
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)									
Anchor Name or No.	Area	Block	X Coordinate		Y Coordinate		Length of Anchor Chain on Seafloor		
			X =		Y =				
			X =		Y =				
			X =		Y =				
			X =		Y =				
			X =		Y =				
			X =		Y =				
			X =		Y =				

OCS PLAN INFORMATION FORM (CONTINUED)
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location									
Well or Structure Name/Number (If renaming well or structure, reference previous name): E006 (ST01BP01)				Previously reviewed under an approved EP or DOCD?		<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
Is this an existing well or structure?		<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	If this is an existing well or structure, list the Complex ID or API No.		17-710-41026-01	
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?						<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
WCD info	For wells, volume of uncontrolled blowout (Bbls/day): 24,329 bbls (S-7831)			For structures, volume of all storage and pipelines (Bbls): NA			API Gravity of fluid		58°
Surface Location				Bottom-Hole Location (For Wells)			Completion (For multiple completions, enter separate lines)		
Lease No.	OCS G 00989 (E006 ST02BP00)			OCS			OCS OCS		
Area Name	Eugene Island								
Block No.	276								
Blockline Departures (in feet)	N/S Departure: F_s_L			N/S Departure: F__L			N/S Departure: F__L		
	6694.73'						N/S Departure: F__L		
	E/W Departure: F__L			E/W Departure: F__L			E/W Departure: F__L		
	5780.80'						E/W Departure: F__L		
Lambert X-Y coordinates	X: 1,964,174.88'			X:			X:		
	Y: -85,877.19'			Y:			Y:		
Latitude/ Longitude	Latitude 28° 25' 49.7555" N			Latitude			Latitude		
	Longitude 91° 26' 41.1283" W			Longitude			Longitude		
Water Depth (Feet): 180'				MD (Feet):		TVD (Feet):		MD (Feet):	
Anchor Radius (if applicable) in feet:								TVD (Feet):	
								MD (Feet):	
								TVD (Feet):	
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)									
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor				
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					

OCS PLAN INFORMATION FORM (CONTINUED)
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location										
Well or Structure Name/Number (If renaming well or structure, reference previous name): E007 (ST01BP00)				Previously reviewed under an approved EP or DOCD?		<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	
Is this an existing well or structure?		<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	If this is an existing well or structure, list the Complex ID or API No.			17-710-40996-01	
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?							<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
WCD info	For wells, volume of uncontrolled blowout (Bbls/day): 24,329 bbls (S-7831)			For structures, volume of all storage and pipelines (Bbls): NA			API Gravity of fluid		58°	
Surface Location				Bottom-Hole Location (For Wells)			Completion (For multiple completions, enter separate lines)			
Lease No.	OCS G 00989 (E007 ST02BP00)			OCS			OCS OCS			
Area Name	Eugene Island									
Block No.	276									
Blockline Departures (in feet)	N/S Departure: F_s_L			N/S Departure: F__L			N/S Departure: F__L			
	6695.17'						N/S Departure: F__L			
	E/W Departure: F__L			E/W Departure: F__L			E/W Departure: F__L			
	5773.31'						E/W Departure: F__L			
Lambert X-Y coordinates	X: 1,964,182.37'			X:			X:			
	Y: -85,876.75'			Y:			Y:			
Latitude/Longitude	Latitude 28° 25' 49.7599" N			Latitude			Latitude			
	Longitude 91° 26' 41.0445" W			Longitude			Longitude			
Water Depth (Feet): 180'				MD (Feet):		TVD (Feet):		MD (Feet):		TVD (Feet):
Anchor Radius (if applicable) in feet:								MD (Feet):		TVD (Feet):
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)										
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor					
			X =	Y =						
			X =	Y =						
			X =	Y =						
			X =	Y =						
			X =	Y =						
			X =	Y =						
			X =	Y =						

OCS PLAN INFORMATION FORM (CONTINUED)
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location									
Well or Structure Name/Number (If renaming well or structure, reference previous name): E008 (ST00BP00)				Previously reviewed under an approved EP or DOCD?		<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
Is this an existing well or structure?		<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	If this is an existing well or structure, list the Complex ID or API No.		17-710-41389-01	
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?						<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
WCD info	For wells, volume of uncontrolled blowout (Bbls/day): 24,329 bbls (S-7831)			For structures, volume of all storage and pipelines (Bbls): NA			API Gravity of fluid		58°
Surface Location				Bottom-Hole Location (For Wells)			Completion (For multiple completions, enter separate lines)		
Lease No.	OCS G 00989 (E008 ST01BP00)			OCS			OCS OCS		
Area Name	Eugene Island								
Block No.	276								
Blockline Departures (in feet)	N/S Departure: F_s_L			N/S Departure: F__L			N/S Departure: F__L		
	6702.65'						N/S Departure: F__L		
	E/W Departure: F__L			E/W Departure: F__L			E/W Departure: F__L		
	5773.75'						E/W Departure: F__L		
Lambert X-Y coordinates	X: 1,964,181.93'			X:			X:		
	Y: -85,869.27'			Y:			Y: Y: Y:		
Latitude/ Longitude	Latitude 28° 25' 49.8339" N			Latitude			Latitude Latitude Latitude		
	Longitude 91° 26' 41.0495" W			Longitude			Longitude Longitude Longitude		
Water Depth (Feet): 180'				MD (Feet):		TVD (Feet):		MD (Feet): MD (Feet):	
Anchor Radius (if applicable) in feet:								TVD (Feet): TVD (Feet):	
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)									
Anchor Name or No.	Area	Block	X Coordinate		Y Coordinate		Length of Anchor Chain on Seafloor		
			X =		Y =				
			X =		Y =				
			X =		Y =				
			X =		Y =				
			X =		Y =				
			X =		Y =				
			X =		Y =				

OCS PLAN INFORMATION FORM (CONTINUED)
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location										
Well or Structure Name/Number (If renaming well or structure, reference previous name): E009 (ST00BP00)				Previously reviewed under an approved EP or DOCD?			Yes	<input checked="" type="checkbox"/>	No	
Is this an existing well or structure?		Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	If this is an existing well or structure, list the Complex ID or API No.				
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?						Yes	<input checked="" type="checkbox"/>	No		
WCD info	For wells, volume of uncontrolled blowout (Bbls/day): 24,329 bbls (S-7831)			For structures, volume of all storage and pipelines (Bbls): NA			API Gravity of fluid		58°	
Surface Location				Bottom-Hole Location (For Wells)			Completion (For multiple completions, enter separate lines)			
Lease No.	OCS G 00989 (E009 ST00BP00)			OCS			OCS OCS			
Area Name	Eugene Island									
Block No.	276									
Blockline Departures (in feet)	N/S Departure: F <u> </u> s <u> </u> L <u> </u> 6701.77'			N/S Departure: F <u> </u> L <u> </u>			N/S Departure: F <u> </u> L <u> </u> N/S Departure: F <u> </u> L <u> </u> N/S Departure: F <u> </u> L <u> </u>			
	E/W Departure: F <u> </u> E <u> </u> L <u> </u> 5788.72'			E/W Departure: F <u> </u> L <u> </u>			E/W Departure: F <u> </u> L <u> </u> E/W Departure: F <u> </u> L <u> </u> E/W Departure: F <u> </u> L <u> </u>			
Lambert X-Y coordinates	X: 1,964,166.96'			X:			X: X: X:			
	Y: -85,870.15'			Y:			Y: Y: Y:			
Latitude/ Longitude	Latitude 28° 25' 49.8251" N			Latitude			Latitude Latitude Latitude			
	Longitude 91° 26' 41.2171" W			Longitude			Longitude Longitude Longitude			
Water Depth (Feet): 180'				MD (Feet):		TVD (Feet):		MD (Feet):		TVD (Feet):
Anchor Radius (if applicable) in feet:								MD (Feet):		TVD (Feet):
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)										
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor					
			X =	Y =						
			X =	Y =						
			X =	Y =						
			X =	Y =						
			X =	Y =						
			X =	Y =						
			X =	Y =						

OCS PLAN INFORMATION FORM (CONTINUED)
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location									
Well or Structure Name/Number (If renaming well or structure, reference previous name): E010 (ST00BP00)				Previously reviewed under an approved EP or DOCD?		Yes	<input checked="" type="checkbox"/>	No	
Is this an existing well or structure?		Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	If this is an existing well or structure, list the Complex ID or API No.			
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?						Yes	<input checked="" type="checkbox"/>	No	
WCD info	For wells, volume of uncontrolled blowout (Bbls/day): 24,329 bbls (S-7831)			For structures, volume of all storage and pipelines (Bbls): NA			API Gravity of fluid		58°
Surface Location				Bottom-Hole Location (For Wells)			Completion (For multiple completions, enter separate lines)		
Lease No.	OCS G 00989 (E010 ST00BP00)			OCS			OCS OCS		
Area Name	Eugene Island								
Block No.	276								
Blockline Departures (in feet)	N/S Departure: F_s_L			N/S Departure: F__L			N/S Departure: F__L		
	6709.26'						N/S Departure: F__L		
	E/W Departure: F__L			E/W Departure: F__L			E/W Departure: F__L		
	5789.16'						E/W Departure: F__L		
Lambert X-Y coordinates	X: 1,964,166.52'			X:			X:		
	Y: -85,862.66'			Y:			Y:		
Latitude/Longitude	Latitude 28° 25' 49.8992" N			Latitude			Latitude		
	Longitude 91° 26' 41.2221" W			Longitude			Longitude		
Water Depth (Feet): 180'				MD (Feet):		TVD (Feet):		MD (Feet):	
Anchor Radius (if applicable) in feet:								TVD (Feet):	
								MD (Feet):	
								TVD (Feet):	
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)									
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor				
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					

OCS PLAN INFORMATION FORM (CONTINUED)
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location									
Well or Structure Name/Number (If renaming well or structure, reference previous name): E011 (ST00BP00)				Previously reviewed under an approved EP or DOCD?		Yes	<input checked="" type="checkbox"/>	No	
Is this an existing well or structure?		Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	If this is an existing well or structure, list the Complex ID or API No.			
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?						Yes	<input checked="" type="checkbox"/>	No	
WCD info	For wells, volume of uncontrolled blowout (Bbls/day): 24,329 bbls (S-7831)			For structures, volume of all storage and pipelines (Bbls): NA			API Gravity of fluid		58°
Surface Location				Bottom-Hole Location (For Wells)			Completion (For multiple completions, enter separate lines)		
Lease No.	OCS G 00989 (E011 ST00BP00)			OCS			OCS OCS		
Area Name	Eugene Island								
Block No.	276								
Blockline Departures (in feet)	N/S Departure: F_s_L			N/S Departure: F__L			N/S Departure: F__L		
	6709.26'						N/S Departure: F__L		
	E/W Departure: F__L			E/W Departure: F__L			E/W Departure: F__L		
	5789.16'						E/W Departure: F__L		
Lambert X-Y coordinates	X: 1,964,166.52'			X:			X:		
	Y: -85,862.66'			Y:			Y:		
Latitude/ Longitude	Latitude 28° 25' 49.8992" N			Latitude			Latitude		
	Longitude 91° 26' 41.2221" W			Longitude			Longitude		
Water Depth (Feet): 180'				MD (Feet):		TVD (Feet):		MD (Feet):	
Anchor Radius (if applicable) in feet:								TVD (Feet):	
								MD (Feet):	
								TVD (Feet):	
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)									
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor				
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					

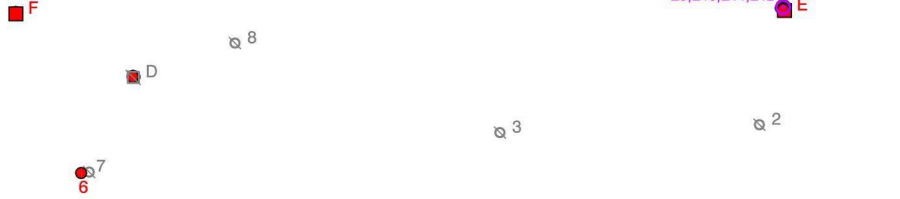
OCS PLAN INFORMATION FORM (CONTINUED)
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location									
Well or Structure Name/Number (If renaming well or structure, reference previous name): E012 (ST00BP00)				Previously reviewed under an approved EP or DOCD?		Yes	<input checked="" type="checkbox"/>	No	
Is this an existing well or structure?		Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	If this is an existing well or structure, list the Complex ID or API No.			
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?						Yes	<input checked="" type="checkbox"/>	No	
WCD info	For wells, volume of uncontrolled blowout (Bbls/day): 24,329 bbls (S-7831)			For structures, volume of all storage and pipelines (Bbls): NA			API Gravity of fluid		58°
Surface Location				Bottom-Hole Location (For Wells)			Completion (For multiple completions, enter separate lines)		
Lease No.	OCS G 00989 (E012 ST00BP00)			OCS			OCS OCS		
Area Name	Eugene Island								
Block No.	276								
Blockline Departures (in feet)	N/S Departure: F_s_L			N/S Departure: F__L			N/S Departure: F__L		
	6709.26'						N/S Departure: F__L		
	E/W Departure: F__L			E/W Departure: F__L			E/W Departure: F__L		
	5789.16'						E/W Departure: F__L		
Lambert X-Y coordinates	X: 1,964,166.52'			X:			X:		
	Y: -85,862.66'			Y:			Y:		
Latitude/ Longitude	Latitude 28° 25' 49.8992" N			Latitude			Latitude		
	Longitude 91° 26' 41.2221" W			Longitude			Longitude		
Water Depth (Feet): 180'				MD (Feet):		TVD (Feet):		MD (Feet):	
Anchor Radius (if applicable) in feet:								TVD (Feet):	
								MD (Feet):	
								TVD (Feet):	
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)									
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor				
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					
			X =	Y =					

Well Location Plat

**Attachment B
(Public Information)**

EI276
OCS-G-00989
Arena



PROPOSED LOCATIONS NAD27 LOUISIANA SOUTH							
LOCATION	CALLNS	CALLEW	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE	WD
Structure E	6671.92' FSL	5775.70' FEL	1,964,179.98'	-85,900.00'	28°25'49.5297"N	91°26'41.0710"W	180'
E1 Surf. Cond. J	6686.80' FSL	5787.84' FEL	1,964,167.84'	-85,885.12'	28°25'49.6769"N	91°26'41.2071"W	180'
E2 Surf. Cond. K	6687.24' FSL	5780.36' FEL	1,964,175.32'	-85,884.68'	28°25'49.6813"N	91°26'41.1233"W	180'
E4 Surf. Cond. G	6694.29' FSL	5788.28' FEL	1,964,167.40'	-85,877.63'	28°25'49.7510"N	91°26'41.2121"W	180'
E5 Surf. Cond. E	6702.21' FSL	5781.24' FEL	1,964,174.44'	-85,869.71'	28°25'49.8295"N	91°26'41.1333"W	180'
E6 Surf. Cond. H	6694.73' FSL	5780.80' FEL	1,964,174.88'	-85,877.19'	28°25'49.7555"N	91°26'41.1283"W	180'
E7 Surf. Cond. I	6695.17' FSL	5773.31' FEL	1,964,182.37'	-85,876.75'	28°25'49.7599"N	91°26'41.0445"W	180'
E8 Surf. Cond. F	6702.65' FSL	5773.75' FEL	1,964,181.93'	-85,869.27'	28°25'49.8339"N	91°26'41.0495"W	180'
E9 Prop. Surf.	6701.77' FSL	5788.72' FEL	1,964,166.96'	-85,870.15'	28°25'49.8251"N	91°26'41.2171"W	180'
E10 Prop. Surf.	6709.26' FSL	5789.16' FEL	1,964,166.52'	-85,862.66'	28°25'49.8992"N	91°26'41.2221"W	180'
E11 Prop. Surf.	6709.26' FSL	5789.16' FEL	1,964,166.52'	-85,862.66'	28°25'49.8992"N	91°26'41.2221"W	180'
E12 Prop. Surf.	6709.26' FSL	5789.16' FEL	1,964,166.52'	-85,862.66'	28°25'49.8992"N	91°26'41.2221"W	180'

B



**DEVELOPMENT OPERATIONS
COORDINATION DOCUMENT**
OCS-G-00989 BLOCK 276
EUGENE ISLAND AREA
GULF OF MEXICO

Geodetic Datum: NAD27
Projection: LOUISIANA SOUTH
Grid Units: US SURVEY FEET



**PUBLIC
INFORMATION**

Geological Description

**Attachment C
(Proprietary Information)**

Structure Contour Maps

**Attachment D
(Proprietary Information)**

Deep Seismic Lines

**Attachment E
(Proprietary Information)**

Geological Structure Cross-Section Maps

**Attachment F
(Proprietary Information)**

Stratigraphic Column

**Attachment G
(Proprietary Information)**

NOAA Threatened/Endangered Species List

**Attachment H
(Public Information)**



Endangered and Threatened Species and Critical Habitats
under the Jurisdiction of the NOAA Fisheries Service



Gulf of Mexico

Listed Species	Scientific Name	Status	Date Listed
Marine Mammals			
blue whale	<i>Balaenoptera musculus</i>	Endangered	12/02/70
finback whale	<i>Balaenoptera physalus</i>	Endangered	12/02/70
humpback whale	<i>Megaptera novaengliae</i>	Endangered	12/02/70
sei whale	<i>Balaenoptera borealis</i>	Endangered	12/02/70
sperm whale	<i>Physeter macrocephalus</i>	Endangered	12/02/70
Turtles			
green sea turtle	<i>Chelonia mydas</i>	Threatened ¹	07/28/78
hawksbill sea turtle	<i>Eretmochelys imbricata</i>	Endangered	06/02/70
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	Endangered	12/02/70
leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered	06/02/70
loggerhead sea turtle	<i>Caretta caretta</i>	Threatened	07/28/78
Fish			
Gulf sturgeon	<i>Acipenser oxyrinchus desotoi</i>	Threatened	09/30/91
smalltooth sawfish	<i>Pristis pectinata</i>	Endangered	04/01/03
Invertebrates			
elkhorn coral	<i>Acropora palmata</i>	Threatened	5/9/06
staghorn coral	<i>Acropora cervicornis</i>	Threatened	5/9/06

Designated Critical Habitat

Gulf Sturgeon: A final rule designating Gulf sturgeon critical habitat was published on March 19, 2003 (68 FR 13370) and 14 geographic areas (units) among the Gulf of Mexico rivers and tributaries were identified. Maps and details regarding the final rule can be found at alabama.fws.gov/gs

Species Proposed for Listing

None

Proposed Critical Habitat

None

¹ Green turtles are listed as threatened, except for breeding populations of green turtles in Florida and on the Pacific Coast of Mexico, which are listed as endangered.



Gulf of Mexico

Candidate Species ²	Scientific Name
None	

Species of Concern ³	Scientific Name
Fish	
Alabama shad	<i>Alosa alabamae</i>
dusky shark	<i>Carcharhinus obscurus</i>
largetooth sawfish	<i>Pristis pristis</i>
night shark	<i>Carcharhinus signatus</i>
saltmarsh topminnow	<i>Fundulus jenkinsi</i>
sand tiger shark	<i>Carcharias taurus</i>
speckled hind	<i>Epinephelus drummondhayi</i>
Warsaw grouper	<i>Epinephelus nigritus</i>
white marlin	<i>Tetrapturus albidus</i>
Invertebrates	
ivory bush coral	<i>Oculina varicosa</i>

² The Candidate Species List has been renamed the Species of Concern List. The term “candidate species” is limited to species that are the subject of a petition to list and for which NOAA Fisheries Service has determined that listing may be warranted (69 FR 19975).

³ Species of Concern are not protected under the Endangered Species Act, but concerns about their status indicate that they may warrant listing in the future. Federal agencies and the public are encouraged to consider these species during project planning so that future listings may be avoided.

Generated Waste and Discharge Tables

**Attachment I
(Public Information)**

TABLE 1. WASTES YOU WILL GENERATE, TREAT AND DOWNHOLE DISPOSE OR DISCHARGE TO THE GOM

please specify if the amount reported is a total or per well amount

Projected generated waste			Projected ocean discharges		Projected Downhole Disposal
Type of Waste and Composition	Composition	Projected Amount	Discharge rate	Discharge Method	Answer yes or no
Will drilling occur ? If yes, you should list muds and cuttings					
Water-based drilling fluid	barite, additives	3150 bbls/well	1000 bbls/day/well	discharge overboard	No
Cuttings wetted with water-based fluid	water-based fluids	2000 bbls/well	200 bbls/day/well	discharge overboard	No
Cuttings wetted with synthetic-based fluid	Cuttings generated while using synthetic based drilling fluid.	1100 bbls/well	50 bbls/day/well	Shunt through downpipe	No
Brine	Brine	10,000 bbls total	<1000 bbl/hr	discharge overboard	
Will humans be there? If yes, expect conventional waste					
Domestic waste (kitchen water, shower water)	grey water	30 gal/person/day	NA	Remove floating solids and discharge	No
Sanitary waste (toilet water)	treated sanitary waste	20 gal/person/day	NA	Chlorinate and discharge	No
Is there a deck? If yes, there will be Deck Drainage					
Deck Drainage	wash water and rainwater	1000 bbl (dependent on rainfall)	15 bbl/hr	discharge overboard	No
Will you conduct well treatment, completion, or workover?					
well treatment fluids	NA	NA	NA	NA	NA
well completion fluids	Calcium Chloride	200 bbls/well	25 bbls/hr (1 day per well)	NA	NA
workover fluids	NA	NA	NA	NA	NA
Miscellaneous discharges. If yes, only fill in those associated with your activity.					
Desalination unit discharge	NA	NA	NA	NA	NA
Blowout prevent fluid	NA	NA	NA	NA	NA
Ballast water	NA	NA	NA	NA	NA
Bilge water	NA	NA	NA	NA	NA
Excess cement at seafloor	NA	NA	NA	NA	NA
Fire water	NA	NA	NA	NA	NA
Cooling water	NA	NA	NA	NA	NA
Will you produce hydrocarbons? If yes fill in for produced water.					
Produced water	formation water	None Discharged	NA	NA	No
Will you be covered by an individual or general NPDES permit ?			GENERAL PERMIT	GMG290269	

TABLE 2. WASTES YOU WILL TRANSPORT AND /OR DISPOSE OF ONSHORE

please specify whether the amount reported is a total or per well

Projected generated waste		Solid and Liquid Wastes transportation	Waste Disposal		
Type of Waste	Composition	Transport Method	Name/Location of Facility	Amount	Disposal Method
Will drilling occur ? If yes, fill in the muds and cuttings.					
Oil-based drilling fluid or mud	NA	NA	NA	NA	NA
Synthetic-based drilling fluid or mud	used SBF and additives	cuttings boxes on supply boat	Newpark Environmental in Fourchon, LA	35 bbls/well	Recycled
Cuttings wetted with Water-based fluid	NA	NA	NA	NA	NA
Cuttings wetted with Synthetic-based fluid	NA	NA	NA	NA	NA
Cuttings wetted with oil-based fluids	NA	NA	NA	NA	NA
Will you produce hydrocarbons? If yes fill in for produced sand.					
Produced sand	NA	NA	NA	NA	NA
Will you have additional wastes that are not permitted for discharge? If yes, fill in the appropriate rows.					
trash and debris	trash and debris	storage bins on supply boat	Grand Isle Shipyard, Port Fourchon, LA	500 cu ft total	landfill
used oil	NA	drums on supply boat	NA	NA	NA
wash water	NA	NA	NA	NA	NA
chemical product wastes	NA	NA	NA	NA	NA

Projected Air Emissions Report

**Attachment J
(Public Information)**

DOCD AIR QUALITY SCREENING CHECKLIST

OMB Control No. 1010-0151
OMB Approval Expires: 06/30/2021

COMPANY	Arena Offshore, LP	
AREA	Eugene Island	
BLOCK	276	
LEASE	OCS-G 00989	
PLATFORM	E	
WELL	E001, E002, E004 - E012	
COMPANY CONTACT	Aimee Deady	
TELEPHONE NO.	281-210-3180	
REMARKS	Sidetrack drill, complete, and produce Wells E001, E002, E004 - E008; drill, complete, and produce Wells E009 - E012	
LEASE TERM PIPELINE CONSTRUCTION INFORMATION:		
YEAR	NUMBER OF PIPELINES	TOTAL NUMBER OF CONSTRUCTION DAYS
2019		None
2020		
2021		
2022		
2023		
2024		
2025		
2026		
2027		
2028		
2029		
2030		

DOCD AIR QUALITY SCREENING CHECKLIST

OMB Control No. 1010-0151
OMB Approval Expires: 06/30/2021

Fuel Usage Conversion Factors	Natural Gas Turbines		Natural Gas Engines		Diesel Recip. Engine		REF.	DATE
	SCF/hp-hr	9.524	SCF/hp-hr	7.143	GAL/hp-hr	0.0483	AP42 3.2-1	4/76 & 8/84

Equipment/Emission Factors	units	PM	SOx	NOx	VOC	CO	REF.	DATE
NG Turbines	gms/hp-hr		0.00247	1.3	0.01	0.83	AP42 3.2-1& 3.1-1	10/96
NG 2-cycle lean	gms/hp-hr		0.00185	10.9	0.43	1.5	AP42 3.2-1	10/96
NG 4-cycle lean	gms/hp-hr		0.00185	11.8	0.72	1.6	AP42 3.2-1	10/96
NG 4-cycle rich	gms/hp-hr		0.00185	10	0.14	8.6	AP42 3.2-1	10/96
Diesel Recip. < 600 hp.	gms/hp-hr	1	0.1835	14	1.12	3.03	AP42 3.3-1	10/96
Diesel Recip. > 600 hp.	gms/hp-hr	0.32	0.1835	11	0.33	2.4	AP42 3.4-1	10/96
Diesel Boiler	lbs/bbl	0.084	0.3025	0.84	0.008	0.21	AP42 1.3-12,14	9/98
NG Heaters/Boilers/Burners	lbs/mmscf	7.6	0.593	100	5.5	84	AP42 1.4-1, 14-2, & 14	7/98
NG Flares	lbs/mmscf		0.593	71.4	60.3	388.5	AP42 11.5-1	9/91
Liquid Flaring	lbs/bbl	0.42	6.83	2	0.01	0.21	AP42 1.3-1 & 1.3-3	9/98
Tank Vapors	lbs/bbl				0.03		E&P Forum	1/93
Fugitives	lbs/hr/comp.				0.0005		API Study	12/93
Glycol Dehydrator Vent	lbs/mmscf				6.6		La. DEQ	1991
Gas Venting	lbs/scf				0.0034			

Sulphur Content Source	Value	Units
Fuel Gas	3.33	ppm
Diesel Fuel	0.05	% weight
Produced Gas(Flares)	3.33	ppm
Produced Oil (Liquid Flaring)	1	% weight

DOCD AIR QUALITY SCREENING CHECKLIST

OMB Control No. 1010-0151
OMB Approval Expires: 06/30/2021

Screening Questions for DOCD's	Yes	No
Is any calculated Complex Total (CT) Emission amount (in tons associated with your proposed exploration activities more than 90% of the amounts calculated using the following formulas: $CT = 3400D^{2/3}$ for CO, and $CT = 33.3D$ for the other air pollutants (where D = distance to shore in miles)?		X
Does your emission calculations include any emission reduction measures or modified emission factors?		X
Does or will the facility complex associated with your proposed development and production activities process production from eight or more wells?	X	
Do you expect to encounter H ₂ S at concentrations greater than 20 parts per million (ppm)?		X
Do you propose to flare or vent natural gas in excess of the criteria set forth under 250.1105(a)(2) and (3)?		X
Do you propose to burn produced hydrocarbon liquids?		X
Are your proposed development and production activities located within 25 miles from shore?		X
Are your proposed development and production activities located within 200 kilometers of the Breton Wilderness Area?		X

Air Pollutant	Plan Emission Amounts ¹ (tons)	Calculated Exemption Amounts ² (tons)	Calculated Complex Total Emission Amounts ³ (tons)
Carbon monoxide (CO)	254.74	47972.92	254.74
Particulate matter (PM)	34.08	1764.9	34.08
Sulphur dioxide (SO ₂)	19.47	1764.9	19.47
Nitrogen oxides (NOx)	1167.58	1764.9	1167.58
Volatile organic compounds (VOC)	36.26	1764.9	36.26

¹ For activities proposed in your EP or DOCD, list the projected emissions calculated from the worksheets.

² List the exemption amounts in your proposed activities calculated using the formulas in 30 CFR 250.303(d).

³ List the complex total emissions associated with your proposed activities calculated from the worksheets.

DOCD AIR QUALITY SCREENING CHECKLIST

OMB Control No. 1010-0151
OMB Approval Expires: 06/30/2021

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL	CONTACT	PHONE	REMARKS									
Arena Offshore, LP	Eugene Island	276	OCS-G 00989	E	E001, E002, E004 - E012	Aimee Deady	281-210-3180	#REF1									
OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT. FUEL	RUN TIME		MAXIMUM POUNDS PER HOUR					ESTIMATED TONS					
	Diesel Engines	HP	GAL/HR	GAL/D													
	Nat. Gas Engines	HP	SCF/HR	SCF/D													
	Burners	MMBTU/HR	SCF/HR	SCF/D	HR/D	D/YR	PM	SOx	NOx	VOC	CO	PM	SOx	NOx	VOC	CO	
DRILLING WFD 250, 300, or 350	PRIME MOVER>600hp diesel	8800	425.04	10200.96	24	244	6.20	3.56	213.22	6.40	46.52	18.16	10.41	624.30	18.73	136.21	
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	BURNER diesel	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	AUXILIARY EQUIP<600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(crew)	2600	125.58	3013.92	8	105	1.83	1.05	63.00	1.89	13.74	0.77	0.44	26.46	0.79	5.77	
	VESSELS>600hp diesel(supply)	2600	125.58	3013.92	8	140	1.83	1.05	63.00	1.89	13.74	1.03	0.59	35.28	1.06	7.70	
	VESSELS>600hp diesel(tugs)	4600	222.18	5332.32	12	2	3.24	1.86	111.45	3.34	24.32	0.04	0.02	1.34	0.04	0.29	
PIPELINE INSTALLATION	PIPELINE LAY BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	SUPPORT VESSEL diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	PIPELINE BURY BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	SUPPORT VESSEL diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FACILITY INSTALLATION	DERRICK BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	MATERIAL TUG diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP.<600hp diesel (Crane)	119	5.7477	137.94	4	365	0.26	0.05	3.67	0.29	0.79	0.19	0.04	2.68	0.21	0.58	
	RECIP.<600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP.>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	SUPPORT VESSEL diesel	2600	125.58	3013.92	12	365	1.83	1.05	63.00	1.89	13.74	4.01	2.30	137.96	4.14	30.10	
	TURBINE nat gas	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP. 2 cycle lean nat gas	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP. 4 cycle lean nat gas	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP. 4 cycle rich nat gas	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	BURNER nat gas	0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	MISC.	BPD	SCF/HR	COUNT													
	TANK-	0			0	0				0.00	0.00				0.00	0.00	
	FLARE-		0		0	0			0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	PROCESS VENT-		0		0	0					0.00				0.00	0.00	
	FUGITIVES-			500.0		365					0.25				1.10		
GLYCOL STILL VENT-		0		0	0					0.00				0.00			
DRILLING WELL TEST	OIL BURN	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	GAS FLARE		0		0	0			0.00	0.00				0.00	0.00		
2019 YEAR TOTAL							15.20	8.62	517.33	15.95	112.86	24.20	13.80	828.01	26.07	180.65	
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES											1731.60	1731.60	1731.60	1731.60	47367.57	

DOCD AIR QUALITY SCREENING CHECKLIST

OMB Control No. 1010-0151
OMB Approval Expires: 06/30/2021

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL	CONTACT	PHONE	REMARKS									
Arena Offshore, LP	Eugene Island	276	OCS-G 00989	E	E001, E002, E004 - E012	Aimee Deady	281-210-3180	#REF!									
OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT. FUEL	RUN TIME		MAXIMUM POUNDS PER HOUR					ESTIMATED TONS					
	Diesel Engines	HP	GAL/HR	GAL/D													
	Nat. Gas Engines	HP	SCF/HR	SCF/D													
	Burners	MMBTU/HR	SCF/HR	SCF/D	HR/D	D/YR	PM	SOx	NOx	VOC	CO	PM	SOx	NOx	VOC	CO	
DRILLING	PRIME MOVER>600hp diesel	8800	425.04	10200.96	24	365	6.20	3.56	213.22	6.40	46.52	27.17	15.58	933.89	28.02	203.76	
WFD 250, 300, or 350	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	BURNER diesel	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	AUXILIARY EQUIP<600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(crew)	2600	125.58	3013.92	8	156	1.83	1.05	63.00	1.89	13.74	1.14	0.66	39.31	1.18	8.58	
	VESSELS>600hp diesel(supply)	2600	125.58	3013.92	8	208	1.83	1.05	63.00	1.89	13.74	1.52	0.87	52.41	1.57	11.44	
	VESSELS>600hp diesel(tugs)	4600	222.18	5332.32	12	2	3.24	1.86	111.45	3.34	24.32	0.04	0.02	1.34	0.04	0.29	
PIPELINE INSTALLATION	PIPELINE LAY BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	SUPPORT VESSEL diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	PIPELINE BURY BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	SUPPORT VESSEL diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FACILITY INSTALLATION	DERRICK BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	MATERIAL TUG diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP.<600hp diesel (Crane)	119	5.7477	137.94	4	365	0.26	0.05	3.67	0.29	0.79	0.19	0.04	2.68	0.21	0.58	
	RECIP.<600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP.>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	SUPPORT VESSEL diesel	2600	125.58	3013.92	12	365	1.83	1.05	63.00	1.89	13.74	4.01	2.30	137.96	4.14	30.10	
	TURBINE nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
	RECIP.2 cycle lean nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
	RECIP.4 cycle lean nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
	RECIP.4 cycle rich nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
	BURNER nat gas	0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	MISC.	BPD	SCF/HR	COUNT													
	TANK-	0			0	0				0.00	0.00				0.00	0.00	
	FLARE-		0		0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
	PROCESS VENT-		0		0	0				0.00	0.00				0.00	0.00	
	FUGITIVES-			500.0		365				0.25					1.10		
	GLYCOL STILL VENT-		0		0	0				0.00					0.00		
DRILLING	OIL BURN	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WELL TEST	GAS FLARE		0		0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
2020 YEAR TOTAL							15.20	8.62	517.33	15.95	112.86	34.08	19.47	1167.58	36.26	254.74	
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES											1731.60	1731.60	1731.60	1731.60	47367.57	
	52.0																

DOCD AIR QUALITY SCREENING CHECKLIST

OMB Control No. 1010-0151
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COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL	CONTACT	PHONE	REMARKS									
Arena Offshore, LP	Eugene Island	276	OCS-G 00989	E	E001, E002, E004 - E012	Aimee Deady	281-210-3180	#REF!									
OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT. FUEL	RUN TIME		MAXIMUM POUNDS PER HOUR					ESTIMATED TONS					
	Diesel Engines	HP	GAL/HR	GAL/D													
	Nat. Gas Engines	HP	SCF/HR	SCF/D													
	Burners	MMBTU/HR	SCF/HR	SCF/D	HR/D	D/YR	PM	SOx	NOx	VOC	CO	PM	SOx	NOx	VOC	CO	
DRILLING WFD 250, 300, or 350	PRIME MOVER>600hp diesel	8800	425.04	10200.96	24	365	6.20	3.56	213.22	6.40	46.52	27.17	15.58	933.89	28.02	203.76	
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	BURNER diesel	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	AUXILIARY EQUIP<600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(crew)	2600	125.58	3013.92	8	156	1.83	1.05	63.00	1.89	13.74	1.14	0.66	39.31	1.18	8.58	
	VESSELS>600hp diesel(supply)	2600	125.58	3013.92	8	208	1.83	1.05	63.00	1.89	13.74	1.52	0.87	52.41	1.57	11.44	
VESSELS>600hp diesel(tugs)	4600	222.18	5332.32	12	2	3.24	1.86	111.45	3.34	24.32	0.04	0.02	1.34	0.04	0.29		
PIPELINE INSTALLATION	PIPELINE LAY BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	SUPPORT VESSEL diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	PIPELINE BURY BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	SUPPORT VESSEL diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FACILITY INSTALLATION	DERRICK BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	MATERIAL TUG diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP.<600hp diesel (Crane)	119	5.7477	137.94	4	365	0.26	0.05	3.67	0.29	0.79	0.19	0.04	2.68	0.21	0.58	
	RECIP.<600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP.>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	SUPPORT VESSEL diesel	2600	125.58	3013.92	6	365	1.83	1.05	63.00	1.89	13.74	2.01	1.15	68.98	2.07	15.05	
	TURBINE nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
	RECIP.2 cycle lean nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
	RECIP.4 cycle lean nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
	RECIP.4 cycle rich nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
	BURNER nat gas	0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	MISC.	BPD	SCF/HR	COUNT													
	TANK-	0			0	0				0.00	0.00				0.00		0.00
	FLARE-		0		0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00		0.00
	PROCESS VENT-		0		0	0				0.00	0.00				0.00		0.00
	FUGITIVES-			500.0		365				0.25					1.10		0.00
GLYCOL STILL VENT-		0		0	0				0.00					0.00		0.00	
DRILLING WELL TEST	OIL BURN	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	GAS FLARE		0		0	0			0.00	0.00				0.00		0.00	
2021 YEAR TOTAL							15.20	8.62	517.33	15.95	112.86	32.07	18.32	1098.60	34.19	239.69	
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES												1731.60	1731.60	1731.60	1731.60	47367.57
	52.0																

DOCD AIR QUALITY SCREENING CHECKLIST

OMB Control No. 1010-0151
OMB Approval Expires: 06/30/2021

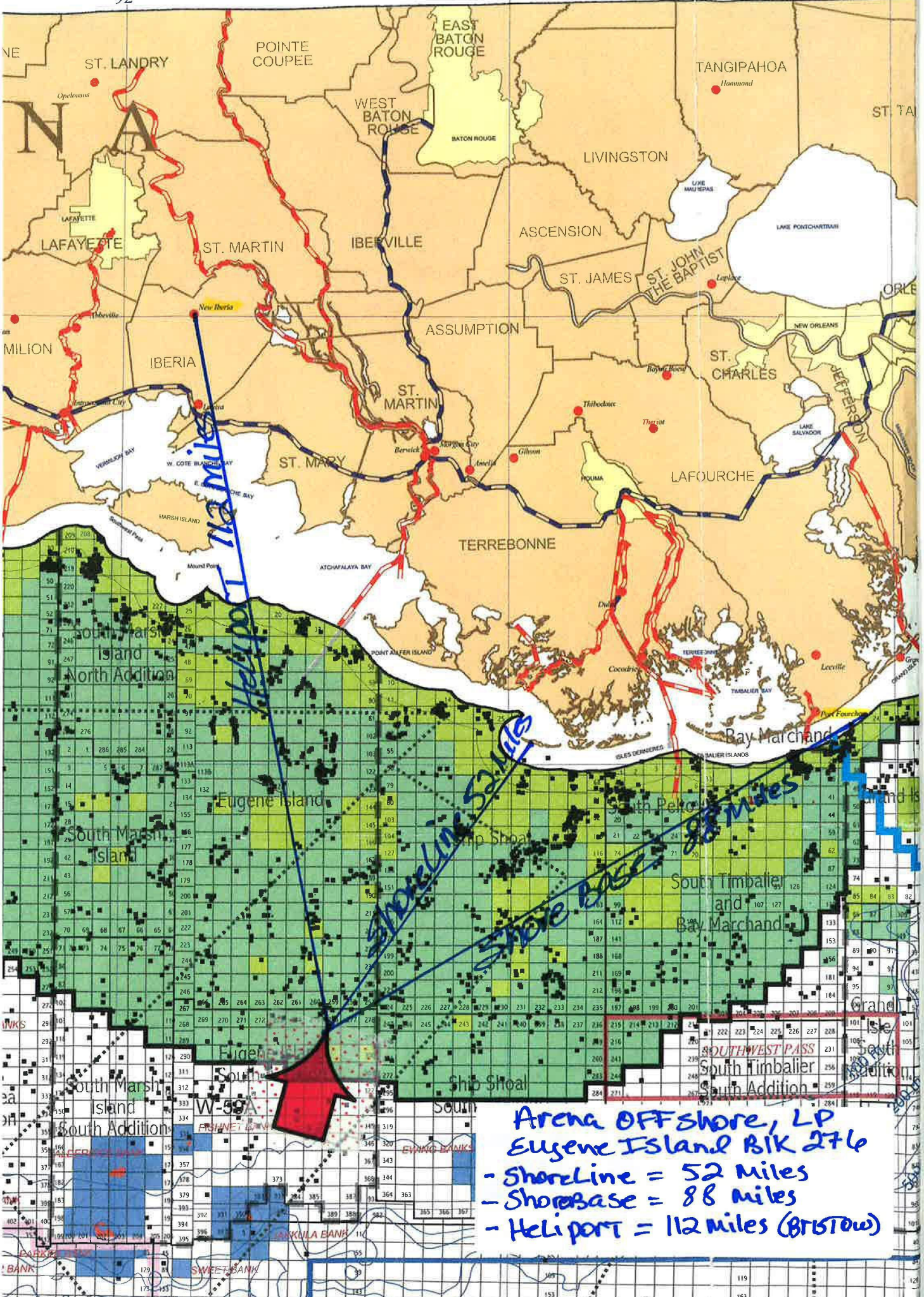
COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL	CONTACT	PHONE	REMARKS									
Arena Offshore, LP	Eugene Island	276	OCS-G 00989	E	E001, E002, E004 - E012	Aimee Deady	281-210-3180	#REF!									
OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT. FUEL	RUN TIME		MAXIMUM POUNDS PER HOUR					ESTIMATED TONS					
	Diesel Engines	HP	GAL/HR	GAL/D													
	Nat. Gas Engines	HP	SCF/HR	SCF/D													
	Burners	MMBTU/HR	SCF/HR	SCF/D	HR/D	D/YR	PM	SOx	NOx	VOC	CO	PM	SOx	NOx	VOC	CO	
DRILLING	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	BURNER diesel	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	AUXILIARY EQUIP<600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(tugs)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PIPELINE INSTALLATION	PIPELINE LAY BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	SUPPORT VESSEL diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	PIPELINE BURY BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	SUPPORT VESSEL diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FACILITY INSTALLATION	DERRICK BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	MATERIAL TUG diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP.<600hp diesel (Crane)	119	5.7477	137.94	4	365	0.26	0.05	3.67	0.29	0.79	0.19	0.04	2.68	0.21	0.58	
	RECIP.<600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP.>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	SUPPORT VESSEL diesel	2600	125.58	3013.92	6	365	1.83	1.05	63.00	1.89	13.74	2.01	1.15	68.98	2.07	15.05	
	TURBINE nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
	RECIP.2 cycle lean nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
	RECIP.4 cycle lean nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
	RECIP.4 cycle rich nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
	BURNER nat gas	0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	MISC.	BPD	SCF/HR	COUNT													
	TANK-	0			0	0				0.00	0.00				0.00	0.00	0.00
	FLARE-		0		0	0			0.00	0.00	0.00			0.00	0.00	0.00	0.00
	PROCESS VENT-		0		0	0					0.00				0.00	0.00	0.00
	FUGITIVES-			500.0		365					0.25				1.10		0.00
GLYCOL STILL VENT-		0		0	0					0.00				0.00		0.00	
DRILLING	OIL BURN	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WELL TEST	GAS FLARE		0		0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
2022 - 2030 YEAR TOTAL							2.09	1.10	66.67	2.43	14.54	2.20	1.19	71.66	3.38	15.63	
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES											1731.60	1731.60	1731.60	1731.60	47367.57	
	52.0																

AIR EMISSIONS CALCULATIONS

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL
Arena Offshore,	Eugene Island	276	OCS-G 00989	E	E001, E002, E004 - E0
Year	Emitted Substance				
	PM	SOx	NOx	VOC	CO
2019	24.20	13.80	828.01	26.07	180.65
2020	34.08	19.47	1167.58	36.26	254.74
2021	32.07	18.32	1098.60	34.19	239.69
2022	2.20	1.19	71.66	3.38	15.63
2023	2.20	1.19	71.66	3.38	15.63
2024	2.20	1.19	71.66	3.38	15.63
2025	2.20	1.19	71.66	3.38	15.63
2026	2.20	1.19	71.66	3.38	15.63
2027	2.20	1.19	71.66	3.38	15.63
2028	2.20	1.19	71.66	3.38	15.63
Allowable	1731.60	1731.60	1731.60	1731.60	47367.57

Vicinity Plat

**Attachment K
(Public Information)**



- Arena OFFshore, LP
Eugene Island BIK 276**
- ShoreLine = 52 Miles
 - ShoreBase = 88 Miles
 - Heliport = 112 Miles (Bristow)

CZM Statement

**Attachment L
(Public Information)**

COASTAL ZONE MANAGEMENT CONSISTENCY CERTIFICATION

**SUPPLEMENTAL DEVELOPMENT OPERATIONS COORDINATION
DOCUMENT**

EUGENE ISLAND BLOCK 276

LEASE OCS-G 00989

The proposed activities described in detail in the enclosed Plan comply with Louisiana's approved Coastal Zone Management Program and will be conducted in a manner consistent with such Program.

By: Arena Offshore, LP

Signed By: *Dumeznil*

Dated: 12/7/2018