

UNITED STATES GOVERNMENT  
MEMORANDUM

January 29, 2026

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

Control # - S-08191  
Type - Supplemental Development Operations Coordinations Document  
Lease(s) - OCS-G00989 Block - 276 Eugene Island Area  
OCS-G24910 Block - 275 Eugene Island Area  
Operator - Arena Offshore, LP  
Description - Wells KD,KE & KF and bring forward wells K001,K002 & K003  
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.

Henry Emembolu  
Plan Coordinator

Site Type/Name	Botm Lse/Area/Blk	Surface Location	Surf Lse/Area/Blk
????/K		5687 FSL, 528 FEL	G24910/EI/275
WELL/K001	G00989/EI/276	5713 FSL, 530 FEL	G24910/EI/275
WELL/K002	G24910/EI/275	5710 FSL, 537 FEL	G24910/EI/275
WELL/K003	G24910/EI/275	5708 FSL, 544 FEL	G24910/EI/275
WELL/KD	G24910/EI/275	5687 FSL, 528 FEL	G24910/EI/275
WELL/KE	G24910/EI/275	5687 FSL, 528 FEL	G24910/EI/275
WELL/KF	G24910/EI/275	5687 FSL, 528 FEL	G24910/EI/275

## AMENDMENTS

Date	Section	Comments	Page No.
11/10/2025	OCS Plans Forms from Approved R-7151	Public Copy	Attachment A



Arena Offshore, LP  
2103 Research Forest Drive  
Suite 200  
The Woodlands, TX 77380  
281-681-9501  
281-681-9502 Fax

May 26, 2025

U.S. Department of the Interior  
Bureau of Ocean Energy Management  
Gulf of Mexico OCS Region  
1201 Elmwood Park Boulevard  
New Orleans, Louisiana 70123-2394

Attention: Michelle Uli-Picou  
Chief, Plans Section

RE: Supplemental Development Operations Coordination Document for Leases OCS-G 24910/00989, Eugene Island Blocks 275/276, OCS Federal Waters, Gulf of America, Offshore, Louisiana

Mrs. Picou:

In accordance with the provisions of Title 30 CFR 550, Subpart B and those certain Notice to Lessees (NTL) 2008-G04 and 2009-G27, Arena Offshore, LP (Arena) hereby submits for your review and approval a Supplemental Development Operations Coordination Document (Plan) for Leases OCS-G 24910/00989, Eugene Island Blocks 275/276, OCS Federal Waters, Gulf of America, Offshore, Louisiana.

Enclosed is a Proprietary Information copy and a Public Information copy of the Plan along with the applicable cost recovery fee.

Should you have questions or require additional information, please contact the undersigned at 281-210-3180 or [adeady@arenaoffshore.com](mailto:adeady@arenaoffshore.com).

Sincerely,

**Arena Offshore, LP**

*Aimee Deady*

Aimee P. Deady  
VP, Regulatory

:APD

Enclosures



Arena Offshore, LP  
2103 Research Forest Drive, Suite 200  
The Woodlands, Texas 77380

**Joint Supplemental  
Development Operations Coordination Document**

Eugene Island Blocks 275/276  
(Leases OCS-G24910/G00989)

Aimee Deady  
281-210-3180  
adeady@arenaoffshore.com

May 2025

***Public Information***



## TABLE OF CONTENTS

➤ <b>Section 1</b>	
○ <b>Plan Contents.....</b>	<b>Page 7</b>
▪ Plan Contents	
▪ Description and Objective	
▪ Plan Information Form	
▪ Location	
▪ Safety and Pollution Prevention Features	
▪ Storage Tanks & Production Vessels	
▪ Pollution Prevention Measures	
▪ Additional Safety and Pollution Prevention Measures	
➤ <b>Section 2</b>	
○ <b>General Information.....</b>	<b>Page 11</b>
▪ Applications and Permits	
▪ Drilling Fluids	
▪ Production	
▪ Oil Characteristics	
▪ New or Unusual Technology	
▪ Bonding Statement	
▪ Oil Spill Financial Responsibility	
▪ Deepwater Control statement	
▪ Suspension of Production	
▪ Blow out Scenario	
▪ Chemical Products	
➤ <b>Section 3</b>	
○ <b>Geological &amp; Geophysical .....</b>	<b>Page 17</b>
▪ Geological Description	
▪ Structure Contour Maps	
▪ Interpreted 3-D Seismic Lines	
▪ Geological Structure Cross Sections	
▪ Shallow Hazards Report	
▪ Shallow Hazards Assessment	
▪ High Resolutions Seismic Lines	
▪ Stratigraphic Column	
▪ Time vs. Depth Table	
▪ Geochemical Information	
▪ Future G&G Activities	
➤ <b>Section 4</b>	
○ <b>Hydrogen Sulfide Classification.....</b>	<b>Page 19</b>
▪ Hydrogen Sulfide Concentration	
▪ Hydrogen Sulfide Classification	
▪ Hydrogen Sulfide Contingency Plan	
▪ Hydrogen Sulfide Modeling Report	

➤ <b>Section 5</b>	
○ <b>Mineral Resource Conservation Information.....</b>	<b>Page 20</b>
▪ Technology and Reservoir Engineering Practices and Procedures	
▪ Technology and Recovery Practices and Procedures	
▪ Reservoir Development	
➤ <b>Section 6</b>	
○ <b>Biological, Physical, Socioeconomic Information.....</b>	<b>Page 21</b>
▪ High Density Deepwater Benthic Communities	
▪ Topographic Features Map	
▪ Topographic Features Statement (Shunting)	
▪ Live Bottoms (Pinnacle Trend) Map	
▪ Live Bottoms (Low Relief) Map	
▪ Potentially Sensitive Biological Features Map	
▪ Threatened or Endangered Species, Critical Habitat, and Marine Mammal Information	
▪ Archaeological Report	
▪ Air and Water Quality Information	
▪ Socioeconomic Information	
➤ <b>Section 7</b>	
○ <b>Waste and Discharge Information.....</b>	<b>Page 24</b>
▪ Projected Generated Wastes	
▪ Projected Ocean Discharges	
▪ Modeling Reports	
▪ NPDES Permits	
▪ Cooling Water Intakes	
➤ <b>Section 8</b>	
○ <b>Air Emissions Information.....</b>	<b>Page 25</b>
▪ Emissions Worksheets	
▪ Screening Questions	
▪ Emissions Reduction Measures	
▪ Verification of Non-Default Emission Factors	
▪ Non-Exempt Activities	
▪ Modeling Report	
➤ <b>Section 9</b>	
○ <b>Oil Spills Information.....</b>	<b>Page 26</b>
▪ Oil Spill Response Planning	
▪ Oil Spill Response Discussion	
▪ Modeling Report	
▪ NTL 2015-N01	
➤ <b>Section 10</b>	
○ <b>Environmental Monitoring Information.....</b>	<b>Page 29</b>
▪ Monitoring Systems	
▪ Incidental Takes	
▪ Flower Gardens Banks	

➤ <b>Section 11</b>	
○ <b><i>Lease Stipulations &amp; Special Conditions Information.....</i></b>	<b><i>Page 30</i></b>
▪ Marine Protected Species	
▪ Military Warning Area	
▪ Special Conditions	
➤ <b>Section 12</b>	
○ <b><i>Environmental Mitigation Measures Information.....</i></b>	<b><i>Page 32</i></b>
▪ Measures Taken to Avoid, Minimize, and Mitigate Impacts	
▪ Incidental Takes	
➤ <b>Section 13</b>	
○ <b><i>Decommissioning Information.....</i></b>	<b><i>Page 33</i></b>
➤ <b>Section 14</b>	
○ <b><i>Related Facilities &amp; Operations Information.....</i></b>	<b><i>Page 34</i></b>
▪ Related OCS Facilities and Operations	
▪ Transportation System	
▪ Produced Liquid Hydrocarbon Transportation Vessels	
➤ <b>Section 15</b>	
○ <b><i>Support Vessels and Aircraft Information.....</i></b>	<b><i>Page 35</i></b>
▪ General	
▪ Diesel Oil Supply Vessels	
▪ Drilling Fluid Transportation	
▪ Solid & Liquid Waste Transportation	
▪ Vicinity Map	
➤ <b>Section 16</b>	
○ <b><i>Onshore Support Facilities Information.....</i></b>	<b><i>Page 37</i></b>
▪ General	
▪ Support Base Construction or Expansion	
▪ Support Base Construction or Expansion Timetable	
▪ Waste Disposal	
▪ Air Emissions	
▪ Unusual Solid and Liquid Wastes	
➤ <b>Section 17</b>	
○ <b><i>Sulphur Operations Information.....</i></b>	<b><i>Page 38</i></b>
▪ Bleedwater	
▪ Subsidence	
➤ <b>Section 18</b>	
○ <b><i>Coastal Zone Management Information.....</i></b>	<b><i>Page 39</i></b>
▪ Consistency Certification	
▪ Other Information	
➤ <b>Section 19</b>	
○ <b><i>Environmental Impact Analysis.....</i></b>	<b><i>Page 40</i></b>
▪ Environmental Impact Analysis	
▪ Impacts on Proposed Activities	
▪ Environmental Hazards	
▪ Alternatives	

- Mitigation Measures
- Consultation
- Preparer
- References

➤ *Section 20*

○ *Administrative Information.....Page 57*

- Exempted Information for Public Information Copies
- Bibliography

## ATTACHMENTS

Data	Attachment
OCS Plans Forms	A
Well Location Plats	B
Bathymetry Map	C
Geological Description	D
Structure Contour Maps	E
Interpreted 2-D and/or Seismic Lines	F
Geological Structure Cross-Sections	G
Stratigraphic Column	H
NOAA Endangered Species List	I
Generated Waste and Discharge Tables	J
Projected Air Emissions Report	K
Oil Spill Response Discussion	L
Vicinity Map	M
Coastal Zone Management – State of Louisiana	N

## SECTION 1 - PLAN CONTENTS

### (30 CFR Part 550.241)

Arena Offshore, LP (Arena) is the designated operator of Lease OCS-G 24910 and OCS-G 00989, Eugene Island Blocks 275 & 276; with Record Title Interest as Arena Energy, LP 98.0% and Arena Offshore, LP 2.0%.

Arena Offshore, LP has submitted the following plans:

S-7831: Provided for the Sidetrack drilling, completion and production of K001 (ST00BP00), drilling, completion and production of K002 (ST00BP00) and K003 (ST00BP00), all surface and bottom hole locations in Lease OCS-G 24910, Eugene Island Block 275.

R-6696: Provided to change the bottom hole location of the previously approved sidetrack drilling, completion, and production of K001 (ST00BP00) to a bottom hole location in Lease OCS-G 00989, Eugene Island Block 276. Updated activity schedule for previously approved K002 and K003 (S-7831).

S-7940: Provided for the change in bottom hole location of the previously approved drilling, completion, and production of K003 (ST00BP00) to a bottom hole location in Lease OCS-G 00989, Eugene Island Block 276. The plan also provided to update the AQR activity schedule for the proposed operation and incorporated the previously approved K001 and K002 wells. The Wells K002 (ST00BP00) and K003 (ST00BP00) were sidetrack drilled, completed and produced in 2019.

R-7151: Provided for the sidetrack drilling and production of Wells K002 (ST01BP00) and K003 (ST01BP00) all surface and bottom hole locations in Lease OCS-G 24910, Eugene Island Block 275, updating the AQR activity schedule, and incorporating the previously approved Well No. K001 (ST01BP00), bottom hole location in Lease OCS-G 00989, Eugene Island Block 276.

This Supplemental DOCD provides for adding 3 new slots to Eugene Island Block 275, K (Complex ID 1808-1) for the drilling, completion, and production of three new wells (Locations KD, KE, and KF) all surface and bottomhole locations in Eugene Island Block 275, Lease OCS-G 24910. And bringing forward previously approved K001, K002, and K003 wells along with updating activity schedule (R-7151). For a total of 6 wells.

Proposed operations will be conducted with a typical jack-up rig (WFD 400 or 450) equipped with surface blowout preventers. WFD rigs do not utilize equipment (e.g. moon pool, flexible lines/ropes) with potential for entanglement or entrapment of sea turtles or other marine life. Arena does not propose to install new pipelines that will make landfall. ***Arena expects to commence these operations under this Plan as early as July 2026.***

New drill activities under this Plan will include pile-driving 24-48" drive pipe utilizing a hydraulic hammer to a depth of approximately 200-530 feet with an estimated 200-300 feet of penetration below mudline and a total of  $\pm 6$  hours of hammer run time. Arena does not anticipate the incidental taking of any species as a result of pile driving activities and will conduct operations in accordance with the National Marine Fisheries Service Biological Opinion issued on May 20, 2025.

## SECTION 1 - PLAN CONTENTS

### (30 CFR Part 550.241)

Mitigation measures for sea turtles will be in place with dedicated observers continuously monitoring a 152-meter visual radius around the rig during pile driving operations and will implement soft starts and shutdowns confirming no presence of sea turtles prior to continuing pile driving at recommended low energy and continue to monitor for presence of sea turtles during operations.

#### Details below describe pile driving activities:

Water Depth	240-feet
Substrate Type(s)	Silt/mud
Number of piles to be driven - New slot additions (three) - Size of piles (drive pipe) vary between 24 – 48 inches with sound source level for different steel pile size for each well)	Three slot additions (one pile per well)
Number of strikes per pile	~6,875 strikes
Number of days of pile driving /number of piles driven per day	.25 days/one pile
Number of strikes per foot to BML depth (or how many strikes it takes to drive to necessary depth BLM	Average 27 strikes/foot
Whether hammer is operating (dry) or below (wet) the surface	Dry
Radial distance to injury and behavioral thresholds (if known)	Unknown
Noise attenuation proposed for use, if any	None

#### 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.

A bathymetry map detailing the Eugene Island Block 275 Platform K surface location and is included as **Attachment C**.

#### 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

## SECTION 1 - PLAN CONTENTS

### (30 CFR Part 550.241)

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 (PINC) 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 BOEM/BSEE regulations and NTL's implemented by the above listed agencies and Arena will adhere to the requirements set forth in the following document, as applicable, to avoid or minimize impacts to any of the species listed in the Endangered Species Act (ESA) as a result of the operations proposed in this Plan:

- Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America

#### 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	700	4	2800	No. 2 Diesel
Production	Platform K	68	1	68	26°

#### 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 the following:

- 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).



## SECTION 1 - PLAN CONTENTS

### (30 CFR Part 550.241)

---

#### **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>
Applications 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
Structure Modification to Add Slots	BSEE Regional	Submitted

#### 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)	6100 bbls
Synthetic-based (internal, olefin, ester)	1700 bbls

#### C. Production

Arena estimates the combined life of reserves for the proposed development activity to 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 and Arena will adhere to the requirements set forth in the following document, as applicable, to avoid or minimize impacts to any of the species listed in the Endangered Species Act (ESA) as a result of operations proposed in this Plan:

## SECTION 2 - GENERAL INFORMATION

### (30 CFR Part 550.243)

- Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America

#### **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". 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 permitting phase.

#### **G. Oil Spill Financial Responsibility (OSFR)**

According to Title 30 CFR Part 553, and NTL 2008-N05, "Guidelines for Oil Spill Financial Responsibility for Covered Facilities."; Arena Offshore, LP (Company No. 02628) will ensure demonstration of oil spill financial responsibility for the operations proposed in this Plan prior to commencing operations.

#### **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 leases since they are either being maintained by ongoing production operations or within the primary term.

#### **J. Blowout Scenario**

Please note that Arena has determined that proposed Eugene Island Block 275, Well No. K002 (ST02BP00) submitted in S-7831 for 24,329 bbls with an anticipated gravity of 58° and accepted by BOEM is still valid and will continue to be the Worst-Case Discharge for these proposed activities within this Plan. Arena will drill to the objective sands outlined in Geological and Geophysical Section of this Plan utilizing a typical structural, conductor, surface, and production casing program. If mandated by wellbore conditions, an intermediate casing string will be set prior to drilling through the objective sands. In the event of a blowout during the course of drilling open hole in the objective sands 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 total of 1,459,740 barrels during that time span. See approved WCD in R-7831 for Case Studies.

## SECTION 2 - GENERAL INFORMATION

### (30 CFR Part 550.243)

---

#### **Relief Rig Availability:**

There are currently three (3) independent or mat cantilever jack up rigs currently marketed in the Gulf of America that are capable of drilling an open water relief well to the Eugene Island Block 275 Platform K. Should the jack-up rig be damaged during the initial loss of well control, there are no offset platforms in the area that would be able capable of utilizing a platform rig to reach the bottomhole locations of the subject wellbores. Arena does not anticipate any rig package constraints for this project.

#### **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.

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

- 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 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 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 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.

## SECTION 2 - GENERAL INFORMATION

### (30 CFR Part 550.243)

- Connections will be simulated while drilling into pressure transition areas to properly assess the current wellbore conditions.
- Mudloggers will be utilized during the drilling of the well 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.

#### **Blowout Intervention**

In the event of an uncontrolled flow of hydrocarbons from these proposed operations described in this Plan, Arena's Regional Oil Spill Response Plan (OSRP) also described in this Plan will be activated. In addition to the activation of this Plan, two scenarios of well intervention have been described 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 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.
- If the MODU and/or the wellbore are 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 to drill a relief well.

In the case of an uncontrolled flow of hydrocarbons, Arena would simultaneously pursue multiple wellbore intervention methods 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 D** are the details of the geological targets and associated trapping features for the proposed well locations.

#### **B. Structure Contour Maps**

Included as **Attachment E** 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 F** 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 G**.

#### **E. Shallow Hazards Report**

The activities proposed in this Plan will be conducted from a previously approved existing surface location, Eugene Island Block 275 Platform K (Plan Control No. N-8408), 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 a previously approved existing surface location, Eugene Island Block 275 Platform K (Plan Control No. N-8408), and therefore does not require additional shallow hazards assessment.

#### **G. High Resolution Seismic Lines**

The activities proposed in this Plan will be conducted from a previously approved existing surface location, Eugene Island Block 275 Platform K (Plan Control No. N-8408), and therefore does not require additional high-resolution seismic lines.

#### **H. Stratigraphic Column**

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

#### **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.



## **SECTION 3 - GEOLOGICAL & GEOPHYSICAL INFORMATION**

### **(30 CFR Part 550.244)**

---

#### **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 H<sub>2</sub>S above the 20-ppm atmospheric level while conducting the proposed development operations provided under this Plan as detailed on *Attachment D*.

#### **B. Classification**

In accordance with Title 30 CFR 250.490(c), Arena has received a classification of “H<sub>2</sub>S absent” from BOEM for the area in which proposed drilling activities are to be conducted.

#### **C. H<sub>2</sub>S 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 leases 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.

These leases 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.

## SECTION 6 - BIOLOGICAL, PHYSICAL & SOCIOECONOMIC INFORMATION (30 CFR Part 550.247)

---

The existing surface location in Eugene Island Block 275 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 275 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 275 is not located within 61 meters (200 feet) of potentially sensitive biological features; as such the biologically sensitive maps are not required.

### **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.

In accordance with Section 7 of the Endangered Species Act (ESA) and the Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America, 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.

## SECTION 6 - BIOLOGICAL, PHYSICAL & SOCIOECONOMIC INFORMATION (30 CFR Part 550.247)

---

Included as **Attachment I** 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 Endangered Species Act (ESA) and marine mammals protected under the Marine Mammal Protection Act (MMPA). However, Arena will adhere to the requirements set forth in the following document, as applicable, to avoid or minimize impacts to any of the species listed in the Endangered Species Act (ESA) because of the operations proposed in this Plan:

- Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America
- During pile driving activities mitigation measures for any sea turtles and other marine mammals will be in place with dedicated personnel continuously monitoring a 152-meter visual radius around the rig and will implement soft starts and shutdowns confirming no presence of sea turtles or other marine mammals prior to continuing pile driving at recommended low energy and continue to monitor for presence of sea turtles and other marine mammals during operations.

### **H. Archaeological Report**

In accordance with NTL's 2011-JOINT-G01 and 2005-G07, Eugene Island Block 275 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 were previously submitted to the BOEM which provided for the now existing surface location of Eugene Island Block 275 Platform K (Plan Control No. 8408).

### **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.

### **K. 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 J*. 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 J*. 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 K*, the worksheets were completed based on the proposed activities being greater than 25 miles from shore and 200 kilometers from 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 K*

#### **D. Non-Exempt Activities**

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

#### **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 and most recent biennial approved February 6, 2025, and an update approved May 13, 2025.

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

Primary Response Equipment Location	Pre-Planned Staging Location(s)
Leeville, Harvey, 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	Production > 10 miles from shore	Production > 10 miles from shore	Drilling > 10 miles from shore	Drilling > 10 miles from shore
Lease Number	OCS-G 00983	OCS-G 24910	OCS-G 05040	OCS-G 24910
Facility Location	EI 252	EI 275	EI 316	EI 275
Facility Designation	Platform L	Platform K	MODU/ EI 316, A004	MODU/EI 275, K002 (S-7831)
Distance to Nearest Shoreline (miles)	51	53	68.8	53
Storage Tanks (total)	31	68	317	0
Lease Pipelines	164	19	NA	0
Uncontrolled Blowout (bbls)	10,957	375	74,119	24,329
Total Volume (bbls)	11,152	462	74,436	24,329
Type of Oil	Oil	Condensate	Condensate	Condensate
API Gravity	32°	31°	51°	58°



## 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 recent in-compliance on February 6, 2025 and updated May 13, 2025, and 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 Houston, Texas.

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.

Arena does not propose or anticipate New or Unusual Technology for oil spill detection, control or clean-up for operations proposed in this Plan.

Included as **Attachment L** is the oil spill response discussion, equipment deployment, and containment for the proposed development operations showing the capacity to respond to an oil spill during these operations.

#### **C. 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)**

---

#### **D. NTL 2015-N01**

The required NTL 2015-N01 Worst Case Discharge (WCD) Data that was submitted and approved by BOEM under Plan Control No. S-7831 for Lease OCS-G 24910, Eugene Island Block 275 does not supersede the proposed operations in this Plan. The WCD volume of 24,329 bbls remains the WCD amongst the two leases covered in this Plan, Eugene Island Block 275 and Eugene Island Block 276. Therefore, Arena agrees that the worst case discharge volume from S-7831 is still valid for this supplemental plan.

## 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 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 regulations in Title 30 CFR Part 550, Subpart B and the Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America, 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 because of the proposed activities. However, Arena will adhere to the requirements set forth in the following documents, as applicable, to avoid or minimize impacts to any of the species listed in the Endangered Species Act (ESA) because of the operations proposed in this Plan:

- Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America
- BSEE's Notice to Lessees NTL 2015-G03 "Marine Trash and Debris Awareness and Elimination", and the recent National Marine Fisheries Service Biological Opinion issued on March 13, 2020, and updated in 2021, 2022 and re-issued on May 20, 2025
- BOEM Notice to Lessees NTL 2016-G01 "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting"
- BOEM Notice to Lessees NTL 2016-G02 "Implementation of Seismic Mitigation Measures and Protected Species Observer Program"

## 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 and the Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America

The existing surface location in Eugene Island Block 275 (Lease OCS-G 24910) is subject to the following lease stipulations and special conditions:

- **Marine Protected Species**

The BOEM regulations in Title 30 CFR Part 550, Subpart B and the Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America 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. However, Arena will adhere to the requirements as set forth in the following documents, as applicable, to avoid or minimize impacts to any of the species listed in the Endangered Species Act (ESA) as a result of the operations proposed in this Plan:

- Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America
- BSEE's Notice to Lessees NTL 2015-G03 "Marine Trash and Debris Awareness and Elimination", and the recent National Marine Fisheries Service Biological Opinion issued on March 13, 2020 and updated in 2021, 2022, and re-issued on May 20, 2025
- BOEM Notice to Lessees NTL 2016-G01 "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting"
- BOEM Notice to Lessees NTL 2016-G02 "Implementation of Seismic Mitigation Measures and Protected Species Observer Program"

## SECTION 11 - LEASE STIPULATIONS/SPECIAL CONDITIONS INFORMATION (30 CFR Part 550.253)

---

- **Military Warning Area**

The Military Area Stipulation reduces potential impacts, particularly regarding 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 275 is located within Military Warning Area W-59A. Therefore, in accordance with the requirements of the referenced stipulation, Arena will contact the Naval Air Station to coordinate and control the electromagnetic emissions during the proposed operations.

- **Archaeological Resources**

In accordance with NTL's 2011-JOINT-G01 and 2005-G07, Eugene Island Block 275 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 were previously submitted to the BOEM which provided for the now existing surface location of Eugene Island Block 275 Platform K.

- **Special Conditions**

The proposed surface disturbance activity in Eugene Island Block 275 Platform K 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 regulations in Title 30 CFR Part 550, Subpart B and the Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America, 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 because of the proposed activities. However, Arena will adhere to the requirements set forth in the following documents, as applicable, to avoid or minimize impacts to any of the species listed in the Endangered Species Act (ESA) because of the operations proposed in this Plan:

- Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America
- BSEE's Notice to Lessees NTL 2015-G03 "Marine Trash and Debris Awareness and Elimination", and the recent National Marine Fisheries Service Biological Opinion issued on March 13, 2020, updated in 2021 and re-issued on May 20, 2025
- BOEM Notice to Lessees NTL 2016-G01 "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting"
- BOEM Notice to Lessees NTL 2016-G02 "Implementation of Seismic Mitigation Measures and Protected Species Observer Program"

## **SECTION 13 - DECOMMISSIONING INFORMATION**

### **(30 CFR Part 550.255)**

---

The information at Title 30 CFR Part 550.255 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 275 K Platform was installed in 2006 and consists of 4-decks, 3-well slots, heliport and boat landing, and located in a water depth of 182 feet. The well test facilities consists of a well manifold, test separator and fuel/instrument gas system. The wells will be individually tested on the Eugene Island Block 275 K Platform and will depart the structure via existing 6-inch oil (Segment No. 19107) and 6-inch bi-directional gas (Segment No. 19085) lease pipelines to termination points at the Arena-operated Eugene Island Block 276 F Platform. The separated and measured gas production will be delivered into Operations System No. 24.0/XWO, and the liquid hydrocarbons into Operations System No. 26.0 or Operations System No. 36.0 with an emergency back-up route to 20.0/BB0.

**B. Transportation System**

Arena does not anticipate installation of any new and/or modified onshore facilities to accommodate the additional production from the proposed operations provided for in this Plan.

**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)

The rig, vessels, and supply boats utilized for proposed activities under this Plan will not transit the Rice's whale moratoria area as noted within the National Marine Fisheries Service Biological Opinion issued March 13, 2020, updated in 2021, 2022, and re-issued on May 20, 2025.

#### 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
Tugboats	3,000 bbls	1	Rig Mobilization
Supply Boats	500 bbls	1	Three trips per week
Crew Boat	500 bbls	1	Four 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 Fourchon, LA to EI 275

#### 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 J* 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.



## SECTION 15 - SUPPORT VESSELS AND AIRCRAFT INFORMATION

### (30 CFR Part 550.257)

---

#### E. Vicinity Map

A Vicinity Plat detailing the surface location in Eugene Island Block 275 relative to the shoreline and onshore base is included as *Attachment M*.

## SECTION 16 - ONSHORE SUPPORT FACILITIES INFORMATION

### (30 CFR Part 550.258)

---

#### A. General

The existing surface disturbance in Eugene Island Block 275 is located approximately 53 miles from the nearest Louisiana shoreline and 58 miles to the support base located in Fourchon, LA. Arena will utilize the onshore Westwind helipad located in New Iberia, Louisiana, if needed (approximately 113 miles).

Arena will utilize the existing shorebase located in Fourchon, LA during routine operations proposed in this Plan to accomplish the following:

- 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 J* 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**

The proposed operation will require Coastal Zone Management Consistency for the State of Louisiana; included as *Attachment N*.

#### **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 emplacement, etc.)	Wastes sent to shore for treatment or disposal	Accidents (e.g. oil spills, chemical spills, H <sub>2</sub> S release)	Other IPFs you identify
<i><b>Site Specific at Offshore Location</b></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><b>Vicinity of Offshore Location</b></i>						
Essential fish habitat					(6)	
Marine and pelagic birds						
Public health and safety					(5)	
<i><b>Coastal &amp; Onshore</b></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 H<sub>2</sub>S 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

BOEM regulations in Title 30 CFR Part 550, Subpart B 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.

In accordance with Section 7 of the Endangered Species Act (ESA) and the Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America, 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.

Endangered or Threatened species that may occur at the site-specific offshore location and/or along the northern Gulf of Mexico coast are listed in ***Attachment I*** of this Plan.

Endangered or Threatened species listed under the Endangered Species Act (ESA), includes marine mammal species in the northern Gulf of Mexico region which are protected under the Marine Mammal Protection Act (MMPA) and fall under the National Marine Fisheries Service (NMFS) jurisdiction for ESA-listed marine mammals (cetaceans), sea turtles in the marine environment, fish and invertebrate species.

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 Endangered Species Act (ESA) and marine mammals protected under the Marine Mammal Protection Act (MMPA) listed in ***Attachment I***. However, Arena will adhere to the requirements set forth in the following document, as applicable, to avoid encounters or minimize impacts to any of the species listed in the Endangered Species Act (ESA) as a result of the operations proposed in this Plan:

- Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America
- **Designation Topographic Features**

There are no anticipated emissions, effluents, physical disturbances to the seafloor, waste transported to shore, and/or accidents from the proposed activities that could cause impacts to topographic features. The surface disturbance within Eugene Island Block 275 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.

## SECTION 19 – ENVIRONMENTAL IMPACT ANALYSIS

### (30 CFR Part 550.261)

---

- **Pinnacle Trend Area Live Bottoms**

There are no anticipated emissions, effluents, physical disturbances to the seafloor, waste 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 275 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, physical disturbances to the seafloor, waste 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 275 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 275 is approximately 182 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.

- **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.



## SECTION 19 – ENVIRONMENTAL IMPACT ANALYSIS

### (30 CFR Part 550.261)

Accidental oil spill releases 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.

- **General Underwater Noise**

The proposed activities for this Plan will be completed utilizing a Jack-up rig, support vessels and helicopters. Underwater noise levels produced by rig equipment and support vessel activity transmits directly to the water during drilling and maintenance operations but is a temporary disturbance. As a result, these sound sources are insignificant and not likely to adversely affect the endangered or threatened species that are known to occur in the Gulf of Mexico.

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

Arena does not anticipate that proposed activities in the Plan will occur in the presence of federally listed threatened or endangered species and critical habitat designated under the Endangered Species Act (ESA) and marine mammals protected under the Marine Mammal Protection Act (MMPA). However, Arena will adhere to the requirements set forth in the following document, as applicable, to avoid or minimize impacts to any of the species listed in the Endangered Species Act (ESA) as a result of operations proposed in this Plan:

- Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America

- **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.

## SECTION 19 – ENVIRONMENTAL IMPACT ANALYSIS

### (30 CFR Part 550.261)

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, and Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America. As such, it is not anticipated these discharges will cause significant adverse impacts to water quality.

#### **Threatened Fish Species**

As a result of the proposed offshore activities the following threatened and endangered fish species may be adversely impacted by emissions, effluents, waste sent to shore, noise, and/or accidents.

##### **Giant Manta Ray –**

The giant manta ray inhabits tropical, subtropical and temperate waters. Commercial fishing is the primary threat to giant manta rays which is caught as a bycatch. Offshore activities such as vessel presence and rig equipment noise can produce sounds at a frequency and intensity that could cause a behavioral change to the giant manta ray which has an approximate hearing frequency of 20 Hz. However, because of limited propagation distances of high SPL from proposed activities, impacts would be limited, and no population level impacts are expected.

##### **Oceanic Whitetip Shark –**

Oceanic whitetip sharks are found worldwide in offshore waters and is only occasionally reported in the Gulf of Mexico. Commercial fishing pressure is the primary threat to the shark. Offshore activities such as vessel presence and rig equipment noise can produce sounds at a frequency and intensity that could cause a behavioral change to the oceanic whitetip shark which has an approximate hearing frequency of 20 Hz. However, because of limited propagation distances of high SPL from proposed activities, impacts would be limited, and no population level impacts are expected.

##### **Gulf Sturgeon –**

The gulf sturgeon resides primarily in inland estuaries and rivers from Louisiana to Florida and a small population of the species enters the Gulf of Mexico seasonally in western Florida. The gulf sturgeon population has been depleted by fishing and shoreline development. Proposed offshore activities that could cause impacts to the gulf sturgeon include accidents (oil spills) and discarded trash and debris. It is unlikely that an accidental oil spill release would occur from proposed activities. In the event of such a release, Arena does not anticipate the effects from oil spills will diminish the value of the gulf sturgeon critical habitat; the proposed activities will be covered by Arena's Regional OSRP.

## SECTION 19 – ENVIRONMENTAL IMPACT ANALYSIS

### (30 CFR Part 550.261)

---

Trash and debris are not expected to impact the gulf sturgeon from proposed activities. Arena will operate in accordance with the regulations, agency guidance, Section 7 of NMFS Endangered Species Act (ESA) and the Biological Opinion, and to the requirements set forth in BSEE's Notice to Lessees NTL 2015-G03 "Marine Trash and Debris Awareness and Elimination".

#### **Nassau Grouper –**

The Nassau grouper is one of the most common fish species in the coastal waters of the United States and has been subject to overfishing. The Nassau grouper is typically found in the shallow tropical waters of eastern Florida and the Florida Keys. There has been one confirmed sighting of Nassau grouper from the Flower Garden Banks in the Gulf of Mexico and three additional reports from mooring buoys and the coral cap region of West Flower Garden flats. Proposed offshore activities that could cause impacts to the Nassau grouper include accidents (oil spills). It is unlikely that an accidental oil spill release would occur from proposed offshore activities. However, in the event of such a release Arena does not anticipate the effects from oil spills will diminish the value of the Nassau grouper critical habitat; the proposed activities will be covered by Arena's Regional OSRP.

#### **Smalltooth Sawfish –**

The smalltooth sawfish live in shallow coastal waters in the Gulf of Mexico, primarily in southwest Florida where several areas of critical habitat have been designated. Proposed offshore activities that could cause impacts to the smalltooth sawfish include accidents (oil spills). It is unlikely that an accidental oil spill release would occur from proposed offshore activities. However, in the event of such a release Arena does not anticipate the effects from oil spills will diminish the value of the smalltooth sawfish critical habitat; the proposed activities will be covered by Arena's Regional OSRP.

#### **Invertebrate Species –**

There are seven known threatened coral species within the northern Gulf of Mexico: rough cactus coral, pillar coral, lobed star coral, mountainous star coral, boulder star coral, staghorn coral, and elkhorn coral. None of these threatened species are expected to be present within the proposed offshore activities area, therefore should not be adversely affected by routine activities or accidental events.

- **Marine Mammals**

As a result of the proposed activities, marine mammals may be adversely impacted by emissions, effluents, noise, 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.

## SECTION 19 – ENVIRONMENTAL IMPACT ANALYSIS

### (30 CFR Part 550.261)

---

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.

Exposure to sound during rig pile activities could result in a temporary hearing loss or other behavioral responses in marine mammals, which could include local displacement from the area while pile driving activities occur. The Endangered Species Act (ESA) Biological Opinion concluded that potential impacts of this type of exposure are not anticipated to have adverse effects as whales are expected to be moving and less likely to remain stationary during pile driving activities.

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, and Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America. 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 the result of the proposed activities. The proposed activities will be conducted by our company and its contractors and will adhere to the requirements set forth in the following documents, as applicable, to avoid or minimize impacts to any of the species listed in the Endangered Species Act (ESA) as a result of the operations proposed in this Plan:

- Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America.  
BSEE's Notice to Lessees NTL 2015-G03 "Marine Trash and Debris Awareness and Elimination", and the recent National Marine Fisheries Service Biological Opinion issued on March 13, 2020, updated in 2021, 2022 and re-issued on May 20, 2025.



## SECTION 19 – ENVIRONMENTAL IMPACT ANALYSIS

### (30 CFR Part 550.261)

- BOEM Notice to Lessees NTL 2016-G01 “Vessel Strike Avoidance and Injured/Dead Protected Species Reporting”
- BOEM Notice to Lessees NTL 2016-G02 “Implementation of Seismic Mitigation Measures and Protected Species Observer Program”

- **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.

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.

Exposure to sound during pile driving activities could result in a temporary hearing loss or other behavioral responses in sea turtles, which could include local displacement from the area while pile driving activities occur. The Endangered Species Act (ESA) Biological Opinion concluded that potential impacts of this type of exposure are not anticipated to be significant for adult sea turtles as noise from pile driving activities should provide warning to avoid the immediate area. However, juvenile sea turtles could be motivated to remain with the habitat and not leave the area, which could lead to hearing loss and adversely affected by being displaced from the habitat. It also states the annual total of predicted disturbances for juveniles is low. Arena’s contractors and company representatives will provide mitigation measures with dedicated personnel to continuously monitor a visual radius around the rig and will implement soft starts and shutdowns during pile driving operations to help avoid encounters or minimize impacts.

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, and Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement’s Oil and Gas Program Activities in the Gulf of America.

## SECTION 19 – ENVIRONMENTAL IMPACT ANALYSIS

### (30 CFR Part 550.261)

---

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 the result of the proposed activities. The proposed activities will be conducted by our company and its contractors and will adhere to the requirements set forth in the following documents, as applicable, to avoid or minimize impacts to any of the species listed in the Endangered Species Act (ESA) as a result of the operations proposed in this Plan:

- Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America
- BSEE's Notice to Lessees NTL 2015-G03 "Marine Trash and Debris Awareness and Elimination", and the recent National Marine Fisheries Service Biological Opinion issued on March 13, 2020, updated in 2021, 2022 and re-issued on May 20, 2025
- BOEM Notice to Lessees NTL 2016-G01 "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting"
- BOEM Notice to Lessees NTL 2016-G02 "Implementation of Seismic Mitigation Measures and Protected Species Observer Program"
- During pile driving activities mitigation measures for sea turtles will be in place with dedicated personnel continuously monitoring a visual radius around the rig and will implement soft starts and shutdowns confirming no presence of sea turtles prior to continuing pile driving at recommended low energy and continue to monitor for presence of sea turtles during operations

- **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.

- **Shipwreck 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 received BOEM approval classifying the Eugene Island Block 316 area as absent of hydrogen sulfide per previous Plan approvals.

## SECTION 19 – ENVIRONMENTAL IMPACT ANALYSIS

### (30 CFR Part 550.261)

#### 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 53 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 53 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.

- **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 53 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.



## SECTION 19 – ENVIRONMENTAL IMPACT ANALYSIS

### (30 CFR Part 550.261)

---

- **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 53 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 53 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.

#### **D. Environmental Hazards**

Eugene Island Block 275 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

## SECTION 19 – ENVIRONMENTAL IMPACT ANALYSIS

### (30 CFR Part 550.261)

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 be 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 Deady  
Arena Offshore, LP  
2103 Research Forest Drive, Suite 200  
The Woodlands, Texas 77380  
281-210-3180 (Direct)  
[adeady@arenaoffshore.com](mailto:adeady@arenaoffshore.com)

#### **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>
NTL 2005-G07 "Archaeological Resource Surveys and Reports"	Bureau of Ocean Energy Management	2005
Environmental Impact Statement Report No. 2007-003	Bureau of Ocean Energy Management	2007
NTL 2008-G05 "Shallow Hazards Program"	Bureau of Ocean Energy Management	2008

**SECTION 19 – ENVIRONMENTAL IMPACT ANALYSIS**  
**(30 CFR Part 550.261)**

Document	Author	Dated
NTL 2008-N05 “Guidelines for Oil Spill Financial Responsibility (OSFR) for Covered Facilities	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 Safety and Environmental Enforcement	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 2009-G39 “Biologically-Sensitive Underwater Features and Areas”	Bureau of Ocean Energy Management	2010
NTL 2011-G01-JOINT “Revision to the List of OCS Lease Blocks Requiring Archaeological Resource Surveys and Reports”	Bureau of Ocean Energy Management/Bureau of Safety and Environmental Enforcement	2011
BSEE NTL 2015-G03 “Marine Trash & Debris Awareness & Elimination”	Bureau of Safety and Environmental Enforcement	2015
NTL 2014-G04 “Military Warning and Water Test Areas	Bureau of Ocean Energy Management	2014

**SECTION 19 – ENVIRONMENTAL IMPACT ANALYSIS**  
**(30 CFR Part 550.261)**

Document	Author	Dated
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	Reissued 2019
NTL 2016-G02 “Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program”	Bureau of Ocean Energy Management	Reissued 2019
NPDES General Permit GMG290000	EPA – Region VI	2022
Title 30 CFR Part 550	Bureau of Ocean Energy Management	2024
Title 30 CFR Part 250	Bureau of Safety and Environmental Enforcement	2024
Regional Oil Spill Response Plan	J. Connor Consulting	2025
Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement’s Oil and Gas Program Activities in the Gulf of America	Office of Protected Resources, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce	2025

## 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

### B. Bibliography

The following documents were utilized in preparing the Plan:

<i>Document</i>	<i>Author</i>	<i>Dated</i>
Regional Oil Spill Response Plan (Arena Offshore, LP)	J. Connor Consulting	2023
Revised DOCD (Plan Control No. R-7151)	Arena Offshore, LP	2021
Supplemental DOCD (Plan Control No. S-7940)	Arena Offshore, LP	2019
Revised DOCD (Plan Control No. R-6696)	Arena Offshore, LP	2018
Supplemental DOCD (Plan Control No. S-7831)	Arena Offshore, LP	2017
Initial DOCD (Plan Control No. 8408)	Pogo Producing Company	2005
Shallow Hazards Survey Report	Fugro Services	2004

**Eugene Island Blocks 275/276  
(Leases OCS-G 24910/00989)**

**OCS Plan Information Form**

**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 Deady					
2103 Research Forest Drive, Suite 200				Phone Number: 281-210-3180					
The Woodlands, Texas 77380				E-Mail Address: adeady@arenaoffshore.com					
If a service fee is required under 30 CFR 550.125(a), provide the				Amount paid		\$16,695		Receipt No. 270CRLEA	
Project and Worst Case Discharge (WCD) Information									
Lease(s): G24910/00989		Area: E1 275/276		Block(s):		Project Name (If Applicable):			
Objective(s)		X Oil X Gas		Sulphur		Salt		Onshore Support Base(s): Fourchon, Louisiana	
Platform/Well Name: K/K Wells		Total Volume of WCD: 24,329 bbls				API Gravity: 58°			
Distance to Closest Land (Miles): 53				Volume from uncontrolled blowout: 24,329 bbls					
Have you previously provided information to verify the calculations and assumptions for your WCD?						X		Yes 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?								Yes X No	
Do you propose to use a vessel with anchors to install or modify a structure?								Yes X No	
Do you propose any facility that will serve as a host facility for deepwater subsea development?								Yes X 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			07/01/2026		12/31/2031		360 total drilling days		
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			8/15/2026		12/31/2035		10 years		
Other (Specify and attach description)									
Description of Drilling Rig				Description of Structure					
X Jackup		Drillship		Caisson		Tension leg platform			
Gorilla Jackup		Platform rig		X Fixed platform		Compliant tower			
Semisubmersible		Submersible		Spar		Guyed tower			
DP Semisubmersible		Other (Attach Description)		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 K				Previously reviewed under an approved EP or DOCD?		<input checked="" type="checkbox"/>	Yes	No	
Is this an existing well or structure?		<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	If this is an existing well or structure, list the Complex ID or API No.			
						1808-1			
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?						<input checked="" type="checkbox"/>	Yes	No	
<b>WCD info</b>		For wells, volume of uncontrolled blowout (Bbls/day):			For structures, volume of all storage and pipelines (Bbls): 87 bbls			API Gravity of fluid	
								31°	
<b>Surface Location</b>				<b>Bottom-Hole Location (For Wells)</b>			<b>Completion (For multiple completions, enter separate lines)</b>		
<b>Lease No.</b>		OCS G 24910			OCS			OCS OCS	
<b>Area Name</b>		Eugene Island							
<b>Block No.</b>		275							
<b>Blockline Departures (in feet)</b>		N/S Departure: F___ L			N/S Departure: F___ L			N/S Departure: F___ L	
		5687.95'						N/S Departure: F___ L	
		E/W Departure: F___ L			E/W Departure: F___ L			E/W Departure: F___ L	
		528.86'						E/W Departure: F___ L	
<b>Lambert X-Y coordinates</b>		X:			X:			X:	
		1,954,404.66'						X:	
		Y:			Y:			Y:	
		-86,883.97'						Y:	
<b>Latitude/Longitude</b>		Latitude			Latitude			Latitude	
		28° 25' 39.6832" N						Latitude	
		Longitude			Longitude			Longitude	
		91° 28' 30.5099" W						Longitude	
Water Depth (Feet): 182'				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 =					
			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): Location KD				Previously reviewed under an approved EP or DOCD?		Yes		No	
Is this an existing well or structure?		Yes		No		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		No	
<b>WCD info</b>		For wells, volume of uncontrolled blowout (Bbls/day): 24,329 bbls (S-7831)		For structures, volume of all storage and pipelines (Bbls):		API Gravity of fluid		58°	
<b>Surface Location</b>		<b>Bottom-Hole Location (For Wells)</b>		<b>Completion (For multiple completions, enter separate lines)</b>					
Lease No.		OCS G 24910		OCS		OCS OCS			
Area Name		Eugene Island							
Block No.		275							
Blockline Departures (in feet)		N/S Departure: F <u>  </u> L		N/S Departure: F <u>  </u> L		N/S Departure: F <u>  </u> L			
		5687.95'				N/S Departure: F <u>  </u> L			
		E/W Departure: F <u>  </u> L		E/W Departure: F <u>  </u> L		E/W Departure: F <u>  </u> L			
		528.86'				E/W Departure: F <u>  </u> L			
Lambert X-Y coordinates		X: 1,954,404.66'		X:		X:			
		Y: -86,883.97'		Y:		Y:			
Latitude/Longitude		Latitude 28° 25' 39.6832" N		Latitude		Latitude			
		Longitude 91° 28' 30.5099" W		Longitude		Longitude			
Water Depth (Feet): 182'		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 =					
			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): Location KE				Previously reviewed under an approved EP or DOCD?		Yes		No	
Is this an existing well or structure?		Yes		No		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		No	
<b>WCD info</b>		For wells, volume of uncontrolled blowout (Bbbls/day): 24,329 bbls (S-7831)		For structures, volume of all storage and pipelines (Bbbls):		API Gravity of fluid		58°	
<b>Surface Location</b>		<b>Bottom-Hole Location (For Wells)</b>		<b>Completion (For multiple completions, enter separate lines)</b>					
Lease No.		OCS G 24910		OCS		OCS OCS			
Area Name		Eugene Island							
Block No.		275							
Blockline Departures (in feet)		N/S Departure: F___ L		N/S Departure: F___ L		N/S Departure: F___ L			
		5687.95'				N/S Departure: F___ L			
		E/W Departure: F___ L		E/W Departure: F___ L		E/W Departure: F___ L			
		528.86'				E/W Departure: F___ L			
Lambert X-Y coordinates		X:		X:		X:			
		1,954,404.66'				X:			
		Y:		Y:		Y:			
		-86,883.97'				Y:			
Latitude/Longitude		Latitude		Latitude		Latitude			
		28° 25' 39.6832" N				Latitude			
		Longitude		Longitude		Longitude			
		91° 28' 30.5099" W				Longitude			
Water Depth (Feet):		MD (Feet):		TVD (Feet):		MD (Feet):		TVD (Feet):	
182'						MD (Feet):		TVD (Feet):	
Anchor Radius (if applicable) in feet:						MD (Feet):		TVD (Feet):	
<b>Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)</b>									
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 =					
			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): Location KF				Previously reviewed under an approved EP or DOCD?		Yes		No	
Is this an existing well or structure?		Yes		No		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		No	
<b>WCD info</b>		For wells, volume of uncontrolled blowout (Bbls/day): 24,329 bbls (S-7831)		For structures, volume of all storage and pipelines (Bbls):		API Gravity of fluid		58°	
<b>Surface Location</b>		<b>Bottom-Hole Location (For Wells)</b>		<b>Completion (For multiple completions, enter separate lines)</b>					
<b>Lease No.</b>		OCS G 24910		OCS		OCS OCS			
<b>Area Name</b>		Eugene Island							
<b>Block No.</b>		275							
<b>Blockline Departures (in feet)</b>		N/S Departure: F___ L		N/S Departure: F___ L		N/S Departure: F___ L			
		5687.95'				N/S Departure: F___ L			
		E/W Departure: F___ L		E/W Departure: F___ L		E/W Departure: F___ L			
		528.86'				E/W Departure: F___ L			
<b>Lambert X-Y coordinates</b>		X: 1,954,404.66'		X:		X:			
		Y: -86,883.97'		Y:		Y:			
<b>Latitude/Longitude</b>		Latitude 28° 25' 39.6832" N		Latitude		Latitude			
		Longitude 91° 28' 30.5099" W		Longitude		Longitude			
Water Depth (Feet): 182'		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 =					
			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): K001 (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.		17-710-41595-00	
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
<b>WCD info</b>	For wells, volume of uncontrolled blowout (Bbls/day): 24,329 bbls(S-7831)			For structures, volume of all storage and pipelines (Bbls):			API Gravity of fluid		58°
	<b>Surface Location</b>			<b>Bottom-Hole Location (For Wells)</b>			<b>Completion (For multiple completions, enter separate lines)</b>		
<b>Lease No.</b>	OCS G24910			OCS			OCS OCS		
<b>Area Name</b>	Eugene Island								
<b>Block No.</b>	275								
<b>Blockline Departures (in feet)</b>	N/S Departure: F <u>  s  </u> L 5712.77'			N/S Departure: F <u>      </u> L			N/S Departure: F <u>      </u> L N/S Departure: F <u>      </u> L N/S Departure: F <u>      </u> L		
	E/W Departure: F <u>  E  </u> L 530.16'			E/W Departure: F <u>      </u> L			E/W Departure: F <u>      </u> L E/W Departure: F <u>      </u> L E/W Departure: F <u>      </u> L		
<b>Lambert X-Y coordinates</b>	X: 1,954,403.36			X:			X: X: X:		
	Y: -86,859.15			Y:			Y: Y: Y:		
<b>Latitude/ Longitude</b>	Latitude 28° 25' 39.9289"N			Latitude			Latitude Latitude Latitude		
	Longitude 91° 28' 30.5248"W			Longitude			Longitude Longitude Longitude		
Water Depth (Feet): 182'				MD (Feet):		TVD (Feet):		MD (Feet): MD (Feet): MD (Feet):	
Anchor Radius (if applicable) in feet:				NA				TVD (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 =					
			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): K002 (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 type="checkbox"/>	No	If this is an existing well or structure, list the Complex ID or API No.		17-710-41690-00	
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
<b>WCD info</b>	For wells, volume of uncontrolled blowout (Bbls/day): 24,329 bbls(S-7831)			For structures, volume of all storage and pipelines (Bbls):			API Gravity of fluid		58°
	<b>Surface Location</b>			<b>Bottom-Hole Location (For Wells)</b>			<b>Completion (For multiple completions, enter separate lines)</b>		
<b>Lease No.</b>	OCS G24910			OCS			OCS OCS		
<b>Area Name</b>	Eugene Island								
<b>Block No.</b>	275								
<b>Blockline Departures (in feet)</b>	N/S Departure: F <u>  s  </u> L 5710.14'			N/S Departure: F <u>      </u> L			N/S Departure: F <u>      </u> L N/S Departure: F <u>      </u> L N/S Departure: F <u>      </u> L		
	E/W Departure: F <u>  E  </u> L 537.18'			E/W Departure: F <u>      </u> L			E/W Departure: F <u>      </u> L E/W Departure: F <u>      </u> L E/W Departure: F <u>      </u> L		
<b>Lambert X-Y coordinates</b>	X: 1,954,396.34			X:			X: X: X:		
	Y: -86,861.78			Y:			Y: Y: Y:		
<b>Latitude/ Longitude</b>	Latitude 28° 25' 39.9027"N			Latitude			Latitude Latitude Latitude		
	Longitude 91° 28' 30.6034"W			Longitude			Longitude Longitude Longitude		
Water Depth (Feet): 182'				MD (Feet):		TVD (Feet):		MD (Feet): MD (Feet): MD (Feet):	
Anchor Radius (if applicable) in feet:				NA				TVD (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 =					
			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): K003 (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 type="checkbox"/>	No	If this is an existing well or structure, list the Complex ID or API No.		17-710-41691-00	
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
<b>WCD info</b>	For wells, volume of uncontrolled blowout (Bbls/day): 24,329 bbls(S-7831)			For structures, volume of all storage and pipelines (Bbls):		API Gravity of fluid		58°	
	<b>Surface Location</b>			<b>Bottom-Hole Location (For Wells)</b>		<b>Completion (For multiple completions, enter separate lines)</b>			
<b>Lease No.</b>	OCS G24910			OCS		OCS OCS			
<b>Area Name</b>	Eugene Island								
<b>Block No.</b>	275								
<b>Blockline Departures (in feet)</b>	N/S Departure: F <u>  s  </u> L 5707.51'			N/S Departure: F <u>      </u> L		N/S Departure: F <u>      </u> L N/S Departure: F <u>      </u> L N/S Departure: F <u>      </u> L			
	E/W Departure: F <u>  E  </u> L 544.20'			E/W Departure: F <u>      </u> L		E/W Departure: F <u>      </u> L E/W Departure: F <u>      </u> L E/W Departure: F <u>      </u> L			
<b>Lambert X-Y coordinates</b>	X: 1,954,389.32			X:		X: X: X:			
	Y: -86,864.41			Y:		Y: Y: Y:			
<b>Latitude/ Longitude</b>	Latitude 28° 25' 39.8766"N			Latitude		Latitude Latitude Latitude			
	Longitude 91° 28' 30.6820"W			Longitude		Longitude Longitude Longitude			
Water Depth (Feet): 182'				MD (Feet):		TVD (Feet):		MD (Feet): MD (Feet): MD (Feet):	
Anchor Radius (if applicable) in feet:				NA				TVD (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 =					
			X =	Y =					

**Eugene Island Blocks 275/276  
(Leases OCS-G 24910/00989)**

**Well Location Plat**

**Attachment B  
(Public Information)**

EI260



EI275  
OCS-G-24910  
Arena, Cox

1 B/AUX

K1  
KD/KE/KF

PROPOSED LOCATIONS NAD27 LOUISIANA SOUTH						
LOCATION	CALLNS	CALLEW	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
Structure "K"	5,687.95' FSL	528.86' FEL	1,954,404.66'	-86.883.97'	28°25'39.6832"N	91°28'30.5099"W
KD Surf.	5,687.95' FSL	528.86' FEL	1,954,404.66'	-86.883.97'	28°25'39.6832"N	91°28'30.5099"W
KE Surf.	5,687.95' FSL	528.86' FEL	1,954,404.66'	-86.883.97'	28°25'39.6832"N	91°28'30.5099"W
KF Surf.	5,687.95' FSL	528.86' FEL	1,954,404.66'	-86.883.97'	28°25'39.6832"N	91°28'30.5099"W

EI282



DEVELOPMENT OPERATIONS  
COORDINATION DOCUMENT  
OCS-G-24910  
BLOCK 275 EUGENE ISLAND AREA  
GULF OF AMERICA

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

SCALE 0 2000  
1:24000 FEET

**FUGRO** FUGRO USA MARINE, INC.  
13501 Katy Freeway Suite 1050  
Houston, Texas 77079 USA  
(713) 346-3700

Job No.: 25000222 Date: 5/20/2025 Drwn: EA Chart: 1 Of: 1  
DWG File: 25000222\_EI275\_K\_KD-KE-KF\_DOC.DWG 5/20/2025

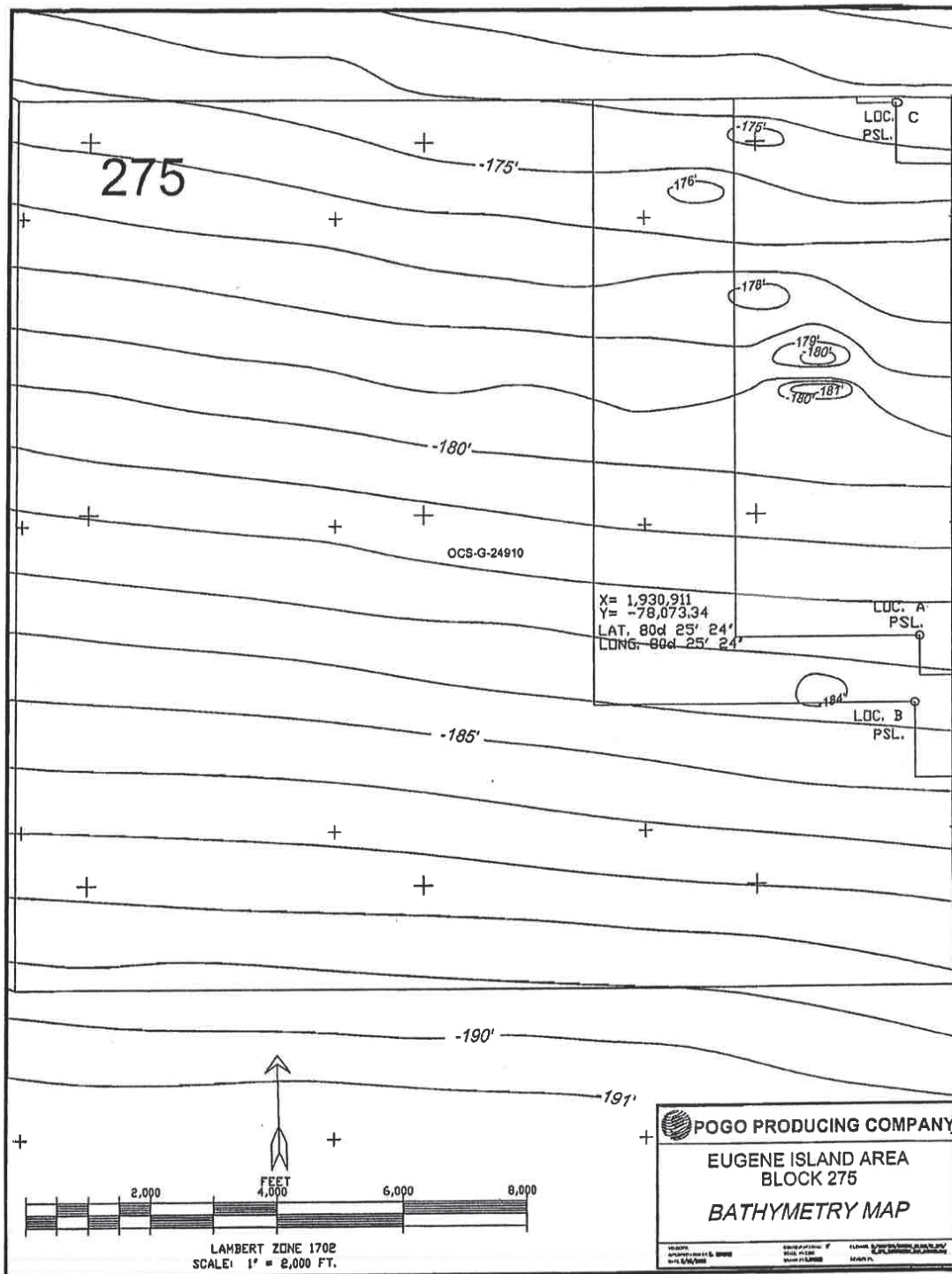
PUBLIC  
INFORMATION



**Eugene Island Blocks 275/276  
(Leases OCS-G 24910/00989)**

**Bathymetry Map**

**Attachment C  
(Public Information)**



**Eugene Island Blocks 275/276  
(Leases OCS-G 24910/00989)**

**Geological Description**

**Attachment D  
(Proprietary Information)**

**Eugene Island Blocks 275/276  
(Leases OCS-G 24910/00989)**

**Structure Maps**

**Attachment E  
(Proprietary Information)**

**Eugene Island Blocks 275/276  
(Leases OCS-G 24910/00989)**

**Deep Seismic Lines**

**Attachment F  
(Proprietary Information)**

**Eugene Island Blocks 275/276  
(Leases OCS-G 24910/00989)**

**Cross Section Maps**

**Attachment G  
(Proprietary Information)**

**Eugene Island Blocks 275/276  
(Leases OCS-G 24910/00989)**

**Stratigraphic Columns**

**Attachment H  
(Proprietary Information)**



**Eugene Island Blocks 275/276  
(Leases OCS-G 24910/00989)**

**NOAA Threatened/Endangered Species**

**Attachment I  
(Public Information)**



# NOAA FISHERIES

Southeast Region

Protected Resources Division

## Gulf of Mexico's Threatened and Endangered Species

For more information on listed species please visit:

<http://www.nmfs.noaa.gov/pr/species/esa/listed.htm>

[http://sero.nmfs.noaa.gov/protected\\_resources/index.html](http://sero.nmfs.noaa.gov/protected_resources/index.html)

### Marine Mammal Species

	Scientific Name	Status
fin whale	<i>Balaenoptera physalus</i>	Endangered
sei whale	<i>Balaenoptera borealis</i>	Endangered
sperm whale	<i>Physeter macrocephalus</i>	Endangered
Gulf of Mexico Bryde's whale	<i>Balaenoptera edeni</i> - subspecies	Proposed - Endangered

### Sea Turtle Species

green sea turtle	<i>Chelonia mydas</i>	Threatened <sup>1</sup>
hawksbill sea turtle	<i>Eretmochelys imbricata</i>	Endangered
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	Endangered
leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered
loggerhead sea turtle	<i>Caretta caretta</i>	Threatened <sup>2</sup>

### Fish Species

Gulf sturgeon	<i>Acipenser oxyrinchus desotoi</i>	Threatened
Nassau grouper	<i>Epinephelus striatus</i>	Threatened
smalltooth sawfish	<i>Pristis pectinata</i>	Endangered <sup>3</sup>
oceanic whitetip shark	<i>Carcharhinus longimanus</i>	Threatened
giant manta ray	<i>Manta birostris</i>	Threatened

### Invertebrate Species

rough cactus coral	<i>Mycetophyllia ferox</i>	Threatened <sup>4</sup>
pillar coral	<i>Dendrogyra cylindrus</i>	Threatened <sup>4</sup>
lobed star coral	<i>Orbicella annularis</i>	Threatened
mountainous star coral	<i>Orbicella faveolata</i>	Threatened
boulder star coral	<i>Orbicella franksi</i>	Threatened
staghorn coral	<i>Acropora cervicornis</i>	Threatened <sup>4</sup>
elkhorn coral	<i>Acropora palmata</i>	Threatened <sup>5</sup>

<sup>1</sup> North Atlantic and South Atlantic Distinct Population Segments.

<sup>2</sup> Northwest Atlantic Distinct Population Segment.

<sup>3</sup> U.S. Distinct Population Segment

<sup>4</sup> Colonies located at Dry Tortugas National Park.

<sup>5</sup> Colonies located at Flower Garden Banks National Marine Sanctuary and Dry Tortugas National Park.



# NOAA FISHERIES

## Southeast Region

### Protected Resources Division

## Critical Habitat Designations

For final rules, maps, and GIS data please visit:

[http://sero.nmfs.noaa.gov/maps\\_gis\\_data/protected\\_resources/critical\\_habitat/index.html](http://sero.nmfs.noaa.gov/maps_gis_data/protected_resources/critical_habitat/index.html)

**Loggerhead sea turtle:** There are 38 designated marine areas that occur throughout the Southeast Region.

**Gulf sturgeon:** There are 14 marine and estuarine units located in Northwest Florida, Alabama, Mississippi, and eastern Louisiana.

**Smalltooth sawfish:** There are two habitat units located in Charlotte Harbor and in the Ten Thousand Islands/Everglades, Florida.

## Species Proposed for Listing Under the Endangered Species Act

Federal action agencies are encouraged to include species proposed for listing under the Endangered Species Act (ESA) in their Section 7 consultation requests. Species that are proposed for listing are those which have been found to warrant federal protection under the ESA, but a final rule formally listing the species has not yet published. By including these species in your Section 7 consultation, reinitiating consultation after the ESA listing is finalized may not be necessary.

For more information on species proposed for listing under the ESA, please visit:

<http://www.nmfs.noaa.gov/pr/species/esa/candidate.htm#proposed>

**Eugene Island Blocks 275/276  
(Leases OCS-G 24910/00989)**

**Waste Tables**

**Attachment J  
(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
<b>Will drilling occur ? If yes, you should list muds and cuttings</b>					
Water-based drilling fluid	barite, additives	6100 bbls/well	500 bbls/day/well	discharge overboard	No
Cuttings wetted with water-based fluid	water-based fluids	1700 bbls/well	220 bbls/day/well	discharge overboard	No
Cuttings wetted with synthetic-based fluid	Cuttings generated while using synthetic based drilling fluid.	830 bbls/well	90 bbls/day/well	Shunt through downpipe	No
Brine	Brine	10,000 bbls total	<1000 bbl/hr	discharge overboard	
<b>Will humans be there? If yes, expect conventional waste</b>					
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
<b>Is there a deck? If yes, there will be Deck Drainage</b>					
Deck Drainage	wash water and rainwater	1000 bbl (dependent on rainfall)	15 bbl/hr	discharge overboard	No
<b>Will you conduct well treatment, completion, or workover?</b>					
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
<b>Miscellaneous discharges. If yes, only fill in those associated with your activity.</b>					
Desalinization 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
<b>Will you produce hydrocarbons? If yes fill in for produced water.</b>					
Produced water	formation water	None Discharged	NA	NA	No
<b>Will you be covered by an individual or general NPDES permit ?</b>			GENERAL PERMIT	GMC290269	

**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	170 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

**Eugene Island Blocks 275/276  
(Leases OCS-G 24910/00989)**

**Air Quality Emissions Report**

**Attachment K  
(Public Information)**



COMPANY	Arena Offshore, LP
AREA	Eugene Island
BLOCK	275
LEASE	G24910
FACILITY	K
WELL	Wells K001-K003, KD, KE, KF
COMPANY CONTACT	Aimee Deady
TELEPHONE NO.	281-210-3180
REMARKS	

LEASE TERM PIPELINE CONSTRUCTION INFORMATION:		
YEAR	NUMBER OF PIPELINES	TOTAL NUMBER OF CONSTRUCTION DAYS
2024		
2025		
2026		
2027		
2028		
2029		
2030		
2031		
2032		
2033		

**AIR EMISSIONS COMPUTATION FACTORS**

Fuel Usage Conversion Factors		Natural Gas Turbines		Natural Gas Engines		Diesel Recip. Engine		Diesel Turbines			
		SCF/hp-hr	5.524			SCF/hp-hr	7.143			GAL/hp-hr	0.0514
Equipment/Emission Factors	units	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3	REF.
Natural Gas Turbine	g/hp-hr		0.0089	0.0088	0.0026	1.4515	0.0095	N/A	0.3719	N/A	AP42 3.1-1 & 3.1-2a
RECIP. 2 Cycle Lean Natural Gas	g/hp-hr	0.1293	0.1293	0.1293	6.5595	0.4082	N/A	1.2009	N/A		AP42 3.1-1
RECIP. 4 Cycle Lean Natural Gas	g/hp-hr	0.0002	0.0002	0.0002	2.8814	0.4014	N/A	1.8949	N/A		AP42 3.2-2
RECIP. 4 Cycle Rich Natural Gas	g/hp-hr	0.0323	0.0323	0.0323	0.0020	7.7224	0.1021	N/A	11.9403	N/A	AP42 3.2-3
Diesel Recip. < 600 hp	g/hp-hr	1	1	1	0.0279	14.1	1.04	N/A	3.03	N/A	AP42 3.3-1
Diesel Recip. > 600 hp	g/hp-hr	0.32	0.125	0.178	0.0055	10.9	0.25	N/A	2.9	N/A	AP42 3.1-1 & 3.1-2
Diesel Boiler	lbs/bbl	0.0840	0.0420	0.0105	0.0089	1.0080	0.0084	5.14E-05	0.2100	0.0338	AP42 1.3-1, 1.3-2, and 1.3-3 (see 2014)
Diesel Turbine	g/hp-hr	0.0381	0.0137	0.0137	0.0048	2.7941	0.0013	4.45E-05	0.0105	N/A	AP42 3.1-1 & 3.1-2a
Dual Fuel Turbine	g/hp-hr	0.0381	0.0137	0.0137	0.0048	2.7941	0.0095	4.45E-05	0.3719	0.0000	AP42 3.1-1 & 3.1-2a; AP42 3.1-1 & 3.1-2b
Vessels - Propulsion	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.8659	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI/TSP refer to Diesel Recip. > 600 hp reference
Vessels - Drilling Prime Engine, Auxiliary	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.8659	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI/TSP refer to Diesel Recip. > 600 hp reference
Vessels - Diesel Boiler	g/hp-hr	0.0466	0.1491	0.1417	0.4400	1.4914	0.0820	3.73E-05	0.1491	0.0003	USEPA 2017 NEI/TSP (units converted) refer to Diesel Boiler Reference
Vessels - Well Stimulation	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.8659	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI/TSP refer to Diesel Recip. > 600 hp reference
Natural Gas Heater/Boiler/Burner	lbs/MMscf	7.60	1.90	1.90	0.60	190.00	5.50	5.00E-04	84.00	3.2	AP42 1.4-1 & 1.4-2; Pb and NH3 - vessel FIRE (08/2018)
Combustion Flare (no smoke)	lbs/MMscf	0.60	0.60	0.60	0.67	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2
Combustion Flare (light smoke)	lbs/MMscf	2.10	2.10	2.10	0.67	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2
Combustion Flare (medium smoke)	lbs/MMscf	10.50	10.50	10.50	0.67	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2
Combustion Flare (heavy smoke)	lbs/MMscf	21.00	21.00	21.00	0.67	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2
Liquid Flaring	lbs/bbl	0.42	0.0959	0.0951	5.964	0.84	0.01423	5.14E-05	0.21	0.0335	AP42 1.3-1 through 1.3-3 and 1.3-8
Storage Tank	tons/yrtank						4.300				2014 Gulfwide inventory, Avg. emissions (upper bound of 95% CI)
Fugitives	lbs/hr/component						0.0005				API Study
Glycol Dehydrator	tons/y/dehydrator						19.240				2011 Gulfwide inventory, Avg. emissions (upper bound of 95% CI)
Cold Vent	tons/y/vent						44.747				2014 Gulfwide inventory, Avg. emissions (upper bound of 95% CI)
Waste Incinerator	lb/ton		15.0	15.0	2.5	2.0	N/A	N/A	20.0	N/A	AP 42 2.1-12
On-ice - Loader	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 hp reference
On-ice - Other Construction Equipment	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 hp reference
On-ice - Other Survey Equipment	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 hp reference
On-ice - Tractor	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 hp reference
On-ice - Truck (for gravel island)	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 hp reference
On-ice - Truck (for surveys)	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 hp reference
Man Camp - Operation (max people/day)	tons/person/day		0.0004	0.0004	0.0004	0.006	0.001	N/A	0.001	N/A	BOEM 2014-1001
Vessel - Ice Management Diesel	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.8659	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI/TSP refer to Diesel Recip. > 600 hp reference
Vessel - Hovercraft Diesel	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.8659	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI/TSP refer to Diesel Recip. > 600 hp reference

Sulfur Content Source	Value	Units
Fuel Gas	3.38	ppm
Diesel Fuel	0.0015	% weight
Produced Gas (Flare)	3.38	ppm
Produced Oil (Liquid Flaring)	1	% weight

Density and Heat Value of Diesel	
Density	7.05 lbs/gal
Heat Value	19,300 Btu/lb

Heat Value of Natural Gas	
Heat Value	1,050 MMBtu/MMscf

Natural Gas Flare Parameters	Value	Units
VOC Content of Flare Gas	0.6816	lb VOC/lb-mol gas
Natural Gas Flare Efficiency	98	%

AIR EMISSIONS CALCULATIONS - 1ST YEAR

COMPANY NAME OF VESSEL / OPERATIONS	EQUIPMENT ID	RATING HP	LEADS GAL/HR	FACILITY ACT FUEL GAL/HR	WELLS ACT FUEL GAL/HR	CONTRACTS ACT FUEL GAL/HR	PHONE	REMARKS	ESTIMATED TONS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
									MAXIMUM POUNDS PER HOUR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
									SOX	NOX	VOC	PM	CO	NH3	TPP	PM10	PM2.5	SOX	NOX	VOC	PM	CO	NH3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
DRILLING	VESSELS - Drilling - Population Engine - 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

COUNTRY	AUSA	EXPENSE NAME	EQUIPMENT ID	EST. QUANTITY	UNIT PRICE	ACT. FUEL	NON-FUEL	FORM DATA	STATION CODE	PHONE	REMARKS																	
SITE GROUP OF OPERATIONS	EXPENSE NAME	EQUIPMENT ID	EST. QUANTITY	UNIT PRICE	ACT. FUEL	NON-FUEL	MAX FUEL PMT10	MAX POWER PMT2.5	MAXIMUM POLYNE PER HOUR										ESTIMATED TOX									
									SOX	NOX	VOC	CO	Pd	CO	NH3	TSP	PM10	PM2.5	SOX	NOK	VOC	Pd	CO	NH3				
DRILLING	VESSELS-Drilling -Production Engine- Diesel	8500	352.748	10689.40	24	183	6.21	3.76	3.63	0.09	126.74	4.28	0.00	23.33	0.04	13.63	8.25	7.99	0.00	326.64	9.39	0.00	51.23	0.10				
WFD 400-450	VESSELS-Chilling -Production Engine- 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	VESSELS-Chilling -Production Engine- 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	VESSELS-Chilling -Production Engine- 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	Vessels - Diesel Boiler	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	Vessels - Drilling Prime Engine, Auxiliary	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
PIPELINE INSTALLATION	VESSELS - Pipeline Laying 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	VESSELS - Pipeline Burying - 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
FACILITY INSTALLATION	VESSELs - Heavy Lift Vessel Demark Sance 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
PRODUCTION	RECIP-4600hp Diesel (crane)	CR-01	200	10.2892	248.94	24	366	0.44	0.44	0.44	0.01	6.22	0.46	--	1.34	--	1.93	1.93	1.93	0.08	27.23	2.01	--	5.85	--			
	RECIP-4600hp Diesel (backup generator)	GE-01	145	7.45997	179.03	24	365	0.32	0.32	0.32	0.01	4.51	0.33	--	0.97	--	1.40	1.40	1.40	0.04	19.74	1.46	--	4.24	--			
	RECIP-4600hp Diesel	0	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	VESSELS - Shuttle Tankers	0	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	VESSELS - Wind Stirrulation	0	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	Natural Gas Turbine	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	0.00	0.00	0.00	0.00				
	Diesel Turbine	0	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	0.00	0.00	0.00				
	Dual Fuel Turbine	0	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	0.00	0.00	0.00				
	RECIP 2 Cycle Lean Natural 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	0.00	0.00	0.00	0.00				
	RECIP 4 Cycle Lean Natural 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	0.00	0.00	0.00	0.00				
	RECIP 4 Cycle Rich Natural Gas (generator)	GE-02	145	1035.7143	24857.14	24	365	0.01	0.01	0.01	4.47	0.01	--	0.97	--	1.40	1.40	1.40	0.04	19.74	1.46	--	4.24	--				
	Diesel Boiler	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	Natural Gas Heater/Boiler(Burner, glycol heaters)	GR-01	0.25	238	574.29	24	365	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	MISC	BPD	SCF/HR	COUNT	0	0	0	0	0	0.00	0.00	0.00	0.00	--	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
	STORAGE TANK	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
	COMBUSTION FLARE - no smoke	0	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
	COMBUSTION FLARE - light smoke	0	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
	COMBUSTION FLARE - medium smoke	0	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
	COMBUSTION FLARE - heavy smoke	0	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
	FLUENTIES	HPVENT-1, LPVENT-1	24	1776	24	365	--	--	--	--	20.43	--	--	--	--	--	--	--	--	--	89.49	--	--	--	--			
	COLD VENT	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	0.00	0.00	0.00	0.00	0.00	0.00			
	WASTE INCINERATOR	GV-01	1	24	365	--	--	--	--	--	3.59	--	--	--	--	--	--	--	--	--	3.59	--	--	--	--			
	GLYCOL DEHYDRATOR	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	0.00	0.00	0.00	0.00	0.00	0.00			
DRILLING	WASTE INCINERATOR	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	0.00	0.00	0.00	0.00	0.00	0.00			
WELL TEST	Liquid Flaring	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	0.00	0.00	0.00	0.00	0.00	0.00			
	COMBUSTION FLARE - no smoke	0	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
	COMBUSTION FLARE - light smoke	0	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
	COMBUSTION FLARE - medium smoke	0	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
	COMBUSTION FLARE - heavy smoke	0	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
ALASKA-SPECIFIC SOURCES	VESSEL 8	KW	0	0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
2025	VESSELS - Ho Management Diesel	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES	53.1	0	0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
DRILLING	VESSELS - Crew Diesel	2600	133.7996	3210.23	8	104	1.83	1.11	1.07	0.03	43.95	1.26	0.00	6.89	0.01	0.76	0.46	0.45	0.01	18.28	1.73	0.00	2.87	0.01				
	VESSELS - Supply Diesel	2600	133.7996	3210.33	8	78	1.83	1.07	1.03	0.03	43.95	1.26	0.00	6.89	0.01	0.87	0.35	0.33	0.01	17.71	1.39	0.00	2.87	0.01				
	VESSELS - Tugs Diesel	4600	236.6516	5679.64	12	2	3.25	1.96	1.90	0.05	77.78	2.24	0.00	12.20	0.02	0.04	0.02	0.02	0.00	0.93	0.03	0.00	0.15	0.00				
PIPELINE INSTALLATION	VESSELS - Support Diesel, Laying	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	VESSELS - Support Diesel, Burying	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	VESSELS - Crew 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	VESSELS - Supply 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
FACILITY INSTALLATION	VESSELS - 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	VESSELS - Crew 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	VESSELS - Supply 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
PRODUCTION	VESSELS - Support Diesel (creek boat)	2285	116.52519	2796.60	6	156	1.80	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	0.76	0.45	0.44	0.01	17.92	0.82	0.00	2.81	0.01				
	VESSELS - Support Diesel (supply boat)	2285	116.52519	2796.60	10	156	1.80	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	1.26	0.76	0.73	0.02	29.96	0.96	0.00	4.66	0.01				
ALASKA-SPECIFIC SOURCES	On-Isle Equipment																											
	Man Camp - Operation (maximum people per day)	PEOPLE/DAY	0	0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
	VESSEL 8	KW	0	0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
	On-Isle - Ladder	0	0	0.00	0	0	0.00	0.00	0.00																			



[illegible]

## AIR EMISSIONS CALCULATIONS - 4TH YEAR

[illegible]

[illegible]



AIR EMISSIONS CALCULATIONS - 6TH YEAR

COMPANY	ALASKA	EQUIPMENT ID	EQUIPMENT	EQUIPMENT ID	BLOCK	LEAKS	FACILITY	WELL	MAXIMUM POUNDS PER HOUR	PHONE	REMARKS	ESTIMATED TONS																	
												12/1-12/31/10																	
												CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub>	SO <sub>2</sub>	NO <sub>x</sub>	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>x</sub>	NO <sub>x</sub>	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>x</sub>	NO <sub>x</sub>	VOC		
OPERATIONS	Net Gas Engines	MMBTU/HR	SCF/HR	SCF/D	HR/D	DYR	YSP	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>x</sub>	NO <sub>x</sub>	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>x</sub>	NO <sub>x</sub>	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>x</sub>	NO <sub>x</sub>	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>x</sub>	NO <sub>x</sub>	VOC		
DRILLING	VESSELS - Drilling - Production Engine - Diesel	8800	452.7248	10885.40	24	365	8.21	3.75	3.83	0.09	148.74	4.28	0.00	23.33	0.02	28.32	16.18	15.10	0.39	542.29	16.28	0.00	100.79	0.19					
WFO 400/450	VESSELS - Drilling - Production Engine - 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS - Drilling - Production Engine - 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS - Drilling - Production Engine - 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS - Drilling - Production Engine - 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS - Diesel Boiler	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Vessels - Drilling Prime Engine, Auxiliary	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PIPELINE	VESSELS - Pipeline Laying 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
INSTALLATION	VESSELS - Pipeline Burying - 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FACILITY INSTALLATION	VESSELS - heavy Lift Vessel/Derrick Sance 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP - 4000hp Diesel (crane)	200	10.2892	248.84	24	365	0.44	0.44	0.44	0.01	6.22	0.48	--	1.34	--	1.93	1.93	1.93	0.05	27.23	2.01	--	5.85	--					
GE-01	RECIP - 4000hp Diesel (backup generator)	145	7.45967	179.03	24	365	0.32	0.32	0.32	0.01	4.51	0.33	--	0.97	--	1.40	1.40	1.40	0.04	19.74	1.48	--	4.24	--					
	RECIP - 4000hp 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS - Shuttle Tankers	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS - Well Stimulation	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Natural Gas Turbine	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Diesel Turbine	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Dual Fuel Turbine	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP - 2 Cycle Lean Natural 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP - 4 Cycle Lean Natural 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP - 4 Cycle Rich Natural Gas (generator)	145	1035.7143	24857.14	24	365	--	--	0.01	0.01	0.00	2.47	0.03	--	0.97	--	--	0.05	0.05	0.00	10.81	0.14	--	4.24	--				
	Diesel Boiler	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Natural Gas Heater/Boiler/Burner (cyclot boiler)	GR-01	0.25	238	5714.29	24	365	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	MISC	BPO	SCF/HR	COUNT																									
	STORAGE TANK	COMBUSTION FLARE - no smoke	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--				
	HP-VENT-1, LP-VENT-1	COMBUSTION FLARE - light smoke	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	0.00	0.00	0.00	--	0.00	--				
COMBUSTION FLARE - medium smoke		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	0.00	0.00	0.00	--	0.00	--					
COMBUSTION FLARE - heavy smoke		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	0.00	0.00	0.00	--	0.00	--					
COLD VENT		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	0.00	0.00	0.00	--	0.00	--					
FUGITIVES		0	2	1776	24	365	--	--	--	--	--	0.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GV-01	GLYCOL DEHYDRATOR	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	0.00	0.00	0.00	--	0.00	--					
	WASTE INCINERATOR	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	0.00	0.00	0.00	--	0.00	--					
	Liquid Flaming	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	0.00	0.00	0.00	--	0.00	--					
	COMBUSTION FLARE - no smoke	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	0.00	0.00	0.00	--	0.00	--					
	COMBUSTION FLARE - light smoke	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	0.00	0.00	0.00	--	0.00	--					
DRILLING WELL TEST	COMBUSTION FLARE - medium smoke	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	0.00	0.00	0.00	--	0.00	--					
	COMBUSTION FLARE - heavy smoke	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	0.00	0.00	0.00	--	0.00	--					
	COMBUSTION FLARE - heavy smoke	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	0.00	0.00	0.00	--	0.00	--					
	COMBUSTION FLARE - heavy smoke	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	0.00	0.00	0.00	--	0.00	--					
	COMBUSTION FLARE - heavy smoke	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	0.00	0.00	0.00	--	0.00	--					
ALASKA-SPECIFIC SOURCES	VESSELS - Ice Management Diesel	KW			HR/D	DYR																							
2050	Facility Total Emissions	0	0	0	0	0	6.97	4.52	4.40	6.11	161.58	30.81	0.60	26.62	0.04	30.16	19.56	19.07	0.49	700.56	154.71	0.00	115.21	6.19					
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES	53.4																											
DRILLING	VESSELS - Crew Diesel	2600	133.7996	3210.23	8	264	1.83	1.11	1.07	0.03	43.98	1.26	0.00	8.99	0.01	1.10	0.90	0.86	0.02	33.98	1.03	0.00	5.62	0.01					
WFO 400/450	VESSELS - Supply Diesel	2600	133.7996	3210.23	8	193	1.83	1.11	1.07	0.03	43.95	1.26	0.00	8.99	0.01	1.12	0.68	0.86	0.02	33.80	0.77	0.00	4.22	0.01					
	VESSELS - Tug Diesel	4600	236.6516	5679.64	12	2	3.25	1.96	1.90	0.05	77.75	2.24	0.00	12.20	0.02	0.04	0.02	0.02	0.00	0.93	0.03	0.00	0.15	0.00					
	VESSELS - Support Diesel, Laying	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS - Support Diesel, Burying	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS - Crew 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PIPELINE	VESSELS - Support 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
INSTALLATION	VESSELS - Crew 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	0.00	0.00											

## AIR EMISSIONS CALCULATIONS - 7TH YEAR

[illegible]

## AIR EMISSIONS CALCULATIONS - 8TH YEAR

COMPANY	AREA	SUPPORT VESSEL	EQUIPMENT	EQUIPMENT ID	BUDGET	LEADS	FACILITY	WELL	CONTACT										FINANCIAL										REMARKS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
									SUPPORT VESSEL										FINANCIAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
									SUPPORT VESSEL										FINANCIAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
									SUPPORT VESSEL										FINANCIAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
DRILLING	PIPELINE	INSTALLATION	PRODUCTION	ALASKA-SPECIFIC SOURCES	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	2999	3000	3001	3002	3003	3004	3005	3006	3007	3008	3009	3010	3011	3012	3013	3014	3015	3016	3017	3018	3019	3020	3021	3022	3023	3024	3025	3026	3027	3028	3029	3030	3031	3032	3033	3034	3035	3036	3037	3038	3039	3040	3041	3042	3043	3044	3045	3046	3047	3048	3049	3050	3051	3052	3053	3054	3055	3056	3057	3058	3059	3060	3061	3062	3063	3064	3065	3066	3067	3068	3069	3070	3071	3072	3073	3074	3075	3076	3077	3078	3079	3080	3081	3082	3083	3084	3085	3086	3087	3088	3089	3090	3091	3092	3093	3094	3095	3096	3097	3098	3099	3100	3101	3102	3103	3104	3105	3106	3107	3108	3109	3110	3111	3112	3113	3114	3115	3116	3117	3118	3119	3120	3121	3122	3123	3124	3125	3126	3127	3128	3129	3130	3131	3132	3133	3134	3135	3136	3137	3138	3139	3140	3141	3142	3143	3144	3145	3146	3147	3148	3149	3150	3151	3152	3153	3154	3155	3156	3157	3158	3159	3160	3161	3162	3163	3164	3165	3166	3167	3168	3169	3170	3171	3172	3173	3174	3175	3176	3177	3178	3179	3180	3181	3182	3183	3184	3185	3186	3187	3188	3189	3190	3191	3192	3193	3194	3195	3196	3197	3198	3199	3200	3201	3202	3203	3204	3205	3206	3207	3208	3209	3210	3211	3212	3213	3214	3215	3216	3217	3218	3219	3220	3221	3222	3223	3224	3225	3226	3227	3228	3229	3230	3231	3232	3233	3234	3235	3236	3237	3238	3239	3240	3241	3242	3243	3244	3245	3246	3247	3248	3249	3250	3251	3252	3253	3254	3255	3256	3257	3258	3259	3260	3261	3262	3263	3264	3265	3266	3267	3268	3269	3270	3271	3272	3273	3274	3275	3276	3277	3278	3279	3280	3281	3282	3283	3284	3285	3286	3287	3288	3289	3290	3291	3292	3293	3294	3295	3296	3297	3298	3299	3300	3301	3302	3303	3304	3305	3306	3307	3308	3309	3310	3311	3312	3313	3314	3315	3316	3317	3318	3319	3320	3321	3322	3323	3324	3325	3326	3327	3328	3329	3330	3331	3332	3333	3334	3335	3336	3337	3338	3339	3340	3341	3342	3343	3344	3345	3346	3347	3348	3349	3350	3351	3352	3353	3354	3355	3356	3357	3358	3359	3360	3361	3362	3363	3364	3365	3366	3367	3368



## AIR EMISSIONS CALCULATIONS - 9TH YEAR

COMPANY	OFFICE OF OPERATIONS	EQUIPMENT	EQUIPMENT ID	RUCK		LEADS		FACILITY		WELL		CONTRACT		FINING		REMARKS		ESTIMATED TONS																								
				RTR	RATNG	MAX FUEL	ZLY FUEL	MAX FUEL	ZLY FUEL	NUN TIME	MAXIMUM POUNDS PER HOUR																ESTIMATED TONS															
											N/A 125-155 (SEE COL. 17)																															
											HP	HP	HP	HP	HP	HP	SOX	NOX	VOC	Pb	CO	NH3	TSP	PM10	PM2.5	SOX	NOX	VOC	Pb	CO	NH3											
MMBTU/HR	SCFH/R	SCFD	HR/D	D/YR	TSP	PM10	PM2.5	SOX	NOX	VOC	Pb	CO	NH3	TSP	PM10	PM2.5	SOX	NOX	VOC	Pb	CO	NH3																				
DRILLING	VESSELS - Drilling - Propulsion Engine - 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
	VESSELS - Drilling - Propulsion Engine - 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
	VESSELS - Drilling - Propulsion Engine - 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
	VESSELS - Drilling - Propulsion Engine - 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
	Vessels - Diesel Bore	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
Vessels - Drilling Prime Engine, Auxiliary	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
PIPELINE INSTALLATION	VESSELS - Pipeline Layin 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
	VESSELS - Pipeline Burying - 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
FACILITY INSTALLATION		VESSELS - Heavy Lift Vessel Derrick Sarge 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	0.00	0.00	0.00	0.00	0.00	0.00																			
PRODUCTION	RECIP - 600hp Diesel (orane)	CR-01	200	10,2892	246.94	24	365	0.44	0.44	0.44	0.01	6.22	0.46	--	1.34	--	1.93	1.93	1.93	0.05	27.23	2.01	--	5.85	--																	
	RECIP - 600hp Diesel (backup generator)	GE-01	145	7,45957	179.03	24	365	0.32	0.32	0.32	0.01	4.51	0.33	--	0.97	--	1.40	1.40	1.40	0.04	19.74	1.48	--	4.24	--																	
	VESSELS - Shute Tankers		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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																		
	VESSELS - Well Stimulation		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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																		
	Natural Gas Turbine		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	--	0.00	--																		
	Diesel Turbine		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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																		
	Dual Fuel Turbine		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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																		
	RECIP - 2 Cycle Lean Natural 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																		
	RECIP - 4 Cycle Lean Natural 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																		
	RECIP - 2 Cycle Rich Natural Gas (generator)	GE-02	145	1035.7143	24857.14	24	365	--	0.01	0.01	0.00	2.47	0.03	--	0.97	--	--	0.05	0.05	0.00	10.31	0.14	--	4.24	--																	
	Diesel Bore		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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																		
	Natural Gas Heater/Bore/Burner (cyclic heater)	GA-01	0.25	238	5714.29	24	365	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00																		
	MISC	BDF	SCFH/R	COUNT																																						
	STORAGE TANK			0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	--	--	--	--	0.00	--	--	--	--	--																	
	COMBUSTION FLARE - no smoke			0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	--	0.00	--																	
	COMBUSTION FLARE - light smoke			0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	--	0.00	--																	
	COMBUSTION FLARE - medium smoke			0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	--	0.00	--																	
	COMBUSTION FLARE - heavy smoke			0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	--	0.00	--																	
	COLD VENT			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	0.00	0.00	--	0.00	--																	
	FLUORIDES			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	0.00	0.00	--	0.00	--																	
	GLYCOL DEHYDRATOR		GV-01	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	0.00	0.00	--	0.00	--																	
	WASTE INCINERATOR			0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	--	0.00	--																	
	Liquid Flaring			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	0.00	0.00	--	0.00	--																	
	COMBUSTION FLARE - no smoke			0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	--	0.00	--																	
	COMBUSTION FLARE - light smoke			0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	--	0.00	--																	
COMBUSTION FLARE - medium smoke			0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	--	0.00	--																		
COMBUSTION FLARE - heavy smoke			0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	--	0.00	--																		
VESSELS		KW					HR/D	D/YR																																		
VESSELS - Ice Management 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	0.00	0.00	--	0.00	--																		
2023 Facility Total Emissions					6.76	0.77	0.77	0.82	13.34	26.54	0.00	0.29	0.30	0.34	3.38	0.39	57.36	116.24	0.00	14.42	0.00																					
EXEMPTION CALCULATION		DISTANCE FROM LAND IN MILES	53.4											1,779.56			1,779.56	1,779.56	1,779.56				48,234.53																			
DRILLING	VESSELS - Crew 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
	VESSELS - Supply 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
	VESSELS - Tugs 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
	VESSELS - Support Diesel, Layin	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
	VESSELS - Support Diesel, Buryin	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
PIPELINE INSTALLATION	VESSELS - Crew 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
	VESSELS - Supply 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
FACILITY INSTALLATION	VESSELS - 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
	VESSELS - Crew 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
PRODUCTION	VESSELS - Supply 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00																			
	VESSELS - Support Diesel (crew boat)	2265	116.52519	2796.60	6	186	1.60	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	0.75	0.45	0.44	0.01	17.62	0.52	0.00	2.81	0.01																		
VESSELS - Support Diesel (support boat)	2265	116.52519	2796.60	10	186	1.60	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	1.28	0.78	0.73	0.02	29.86	0.86	0.00	4.68	0.01																			
ALASKA-SPECIFIC SOURCES		On-ice Equipment	GALL/R	GAL/D																																						
		Max Camp - Operations (maximum people per day)	PROPEL/DAY																																							
VESSELS		KW					HR/D	D/YR																																		
On-ice - Loader		0	0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00																		
On-ice - Other Construction Equipment		0	0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00																		
On-ice - Other Survey Equipment		0	0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00																		
On-ice - Tractor		0	0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00																		
On-ice - Truck (for gravel island)		0	0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00																			



# AIR EMISSIONS CALCULATIONS

COMPANY	AREA	BLOCK	LEASE	FACILITY	WELL				
Arena Offshore, LP	Eugene Island	275	G24910	K					
Year	Facility Emitted Substance								
	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3
2025	3.34	3.38	3.38	0.10	57.98	116.24	0.00	14.42	0.00
2026	16.97	11.60	11.36	0.29	384.62	125.63	0.00	65.66	0.10
2027	30.16	19.56	19.07	0.49	700.56	134.71	0.00	115.21	0.19
2028	30.16	19.56	19.07	0.49	700.56	134.71	0.00	115.21	0.19
2029	30.16	19.56	19.07	0.49	700.56	134.71	0.00	115.21	0.19
2030	30.16	19.56	19.07	0.49	700.56	134.71	0.00	115.21	0.19
2031	30.16	19.56	19.07	0.49	700.56	134.71	0.00	115.21	0.19
2032	3.34	3.38	3.38	0.10	57.98	116.24	0.00	14.42	0.00
2033	3.34	3.38	3.38	0.10	57.98	116.24	0.00	14.42	0.00
2034	3.34	3.38	3.38	0.10	57.98	116.24	0.00	14.42	0.00
Allowable	1779.36			1779.36	1779.36	1779.36		48234.53	

**Eugene Island Blocks 275/276  
(Leases OCS-G 24910/00989)**

**Oil Spill Response Discussion**

**Attachment L  
(Public Information)**



## SPILL RESPONSE DISCUSSION

For the purpose of NEPA and Coastal Zone Management Act analysis, the largest spill volume originating from the proposed activity would be a well blowout during drilling operations, estimated to be 24,329 barrels of condensate with an API gravity of 58°.

### Land Segment and Resource Identification

Trajectories of a spill and the probability of it impacting a land segment have been projected utilizing information in the BOEM Oil Spill Risk Analysis Model (OSRAM) for the Central and Western Gulf of Mexico available on the BOEM website. The results are shown in **Figure 1**. The BOEM OSRAM identifies a 3% probability of impact to the shorelines of Cameron Parish, Louisiana within 10 days. Cameron Parish includes the east side of Sabine Lake, Sabine National Wildlife Refuge, Calcasieu Lake, Lacassine National Wildlife Refuge (inland) and Grand Lake. Cameron Parish also includes the area along the coastline from Sabine Pass to Big Constance Lake in Rockefeller Wildlife Refuge. This region is composed of open public beaches, marshlands and swamps. It serves as a habitat for numerous birds, finfish and other animals, including several rare, threatened and endangered species.

### Response

Arena Offshore, LP will make every effort to respond to the Worst Case Discharge as effectively as practicable. A description of the response equipment under contract to contain and recover the Worst Case Discharge is shown in **Figure 2**.

Using the estimated chemical and physical characteristics of condensate, an ADIOS weathering model was run on a similar product from the ADIOS oil database. The results indicate 76% or approximately 18,490 barrels of condensate would be evaporated/dispersed within 24 hours, with approximately 5,839 barrels remaining.

Spill Response EI 275, Well No. K002	Barrels of Oil
WCD Volume	24,329
Less 76% natural evaporation/dispersion	18,490
Remaining volume	5,839

**Figure 2** outlines equipment, personnel, materials and support vessels as well as temporary storage equipment available to respond to the worst case discharge. The volume accounts for the amount remaining after evaporation/dispersion at 24 hours. The list estimates individual times needed for procurement, load out, travel time to the site and deployment. **Figure 2** also indicates how operations will be supported.

Arena Offshore, LP's Oil Spill Response Plan includes alternative response technologies such as dispersants. Strategies will be decided by Unified Command based on a safety analysis, the size of the spill, weather and potential impacts. Although unlikely, if aerial dispersants are utilized, 8

sorties (9,600 gallons) from two of the DC-3 aircrafts and 4 sorties (8,000 gallons) from the Basler aircraft would provide a daily dispersant capability of 7,540 barrels. Slick containment boom and sorbent boom would be immediately called out and on-scene as soon as possible. Offshore response strategies may include collection of condensate with sorbent boom (inside hard boom), attempting to skim utilizing CGA spill response equipment, with a total derated skimming capacity of 99,170 barrels. Temporary storage associated with skimming equipment equals 4,249 barrels. If additional storage is needed, three 20,000 barrel storage barges and two 23,000 barrel storage barges may be mobilized and centrally located to provide temporary storage and minimize off-loading time. **Safety is first priority. Air monitoring will be accomplished and operations deemed safe prior to any containment/skimming attempts.**

If the spill went unabated, shoreline impact in Cameron Parish, Louisiana would depend upon existing environmental conditions. Shoreline protection would include the use of CGA's near shore and shallow water skimmers with a totaled derated skimming capacity of 23,837 barrels. Temporary storage associated with skimming equipment equals 485 barrels. If additional storage is needed, a 25,000 barrel storage barge may be mobilized and centrally located to provide temporary storage allowing the skimmers to stay in the area of operations as much as possible. Onshore response may include the deployment of shoreline boom on beach areas, or protection and sorbent boom on vegetated areas. A Master Service Agreement with AMPOL will ensure access to 94,650 feet of 18" shoreline protection boom. **Figure 2** outlines individual times needed for procurement, load out, travel time to the site and deployment. Strategies would be based upon surveillance and real time trajectories that depict areas of potential impact given actual sea and weather conditions. Applicable Area Contingency Plans (ACPs), Geographic Response Plans (GRPs), and Unified Command (UC) will be consulted to ensure that environmental and special economic resources are correctly identified and prioritized to ensure optimal protection. Shoreline protection strategies depict the protection response modes applicable for oil spill clean-up operations. As a secondary resource, the State of Louisiana Initial Oil Spill Response Plan will be consulted as appropriate to provide detailed shoreline protection strategies and describe necessary action to keep the oil spill from entering Louisiana's coastal wetlands. The UC should take into consideration all appropriate items detailed in Tactics discussion of this Appendix. The UC and their personnel have the option to modify the deployment and operation of equipment to allow for a more effective response to site-specific circumstances. Arena Offshore, LP's contract Spill Management Team has access to the applicable ACP(s) and GRP(s).

Based on the anticipated worst case discharge scenario, Arena Offshore, LP can be onsite with contracted oil spill recovery equipment with adequate response capacity to contain and recover surface hydrocarbons, and prevent land impact, to the maximum extent practicable, within an estimated 60 hours (based on the equipment's Effective Daily Recovery Capacity (EDRC)).

### **Initial Response Considerations**

Actual actions taken during an oil spill response will be based on many factors to include but not be limited to:

- Weather
- Equipment and materials availability
- Ocean currents and tides
- Location of the spill
- Product spilled
- Amount spilled
- Environmental risk assessments
- Trajectory and product analysis
- Well status, i.e., shut in or continual release

Arena Offshore, LP will take action to provide a safe, aggressive response to contain and recover as much of the spilled oil as quickly as it is safe to do so. In an effort to protect the environment, response actions will be designed to provide an “in-depth” protection strategy meant to recover as much oil as possible as far from environmentally sensitive areas as possible. Safety will take precedence over all other considerations during these operations.

Coordination of response assets will be supervised by the designation of a SIMOPS group as necessary for close quarter vessel response activities. Most often, this group will be used during source control events that require a significant number of large vessels operating independently, but in coordination to complete a common objective, in a small area and in close coordination and support of each other. This group must also monitor the subsurface activities of each vessel (ROV, dispersant application, well control support, etc.). The SIMOPS group leader reports to the Source Control Section Chief.

In addition, these activities will be monitored by the spill management team (SMT) and Unified Command via a structured Common Operating Picture (COP) established to track resource and slick movement in real time.

Upon notification of a spill, the following actions will be taken:

- Information will be confirmed
- An assessment will be made and initial objectives set
- OSROs and appropriate agencies will be notified
- ICS 201, Initial Report Form completed
- Initial Safety plan will be written and published
- Unified Command will be established
  - Overall safety plan developed to reflect the operational situation and coordinated objectives
  - Areas of responsibility established for Source Control and each surface operational site
  - On-site command and control established

## **Offshore Response Actions**

### **Equipment Deployment**

#### *Surveillance*

- Surveillance Aircraft: within two hours of QI notification, or at first light
- Provide trained observer to provide on site status reports
- Provide command and control platform at the site if needed
- Continual surveillance of oil movement by remote sensing systems, aerial photography and visual confirmation
- Continual monitoring of vessel assets using vessel monitoring systems

#### *Dispersant application assets*

- Put ASI on standby
- With the FOSC, conduct analysis to determine appropriateness of dispersant application (refer to Section 18)
- Gain FOSC approval for use of dispersants on the surface
- Deploy aircraft in accordance with a plan developed for the actual situation
- Coordinate movement of dispersants, aircraft, and support equipment and personnel
- Confirm dispersant availability for current and long range operations
- Start ordering dispersant stocks required for expected operations

#### *Containment boom*

- Call out early and expedite deployment to be on scene ASAP
- Ensure boom handling and mooring equipment is deployed with boom
- Provide continuing reports to vessels to expedite their arrival at sites that will provide for their most effective containment
- Use Vessels of Opportunity (VOO) to deploy and maintain boom

#### *Oceangoing Boom Barge*

- Containment at the source
- Increased/enhanced skimmer encounter rate
- Protection booming

#### *In-situ Burn assets*

- Determine appropriateness of in-situ burn operation in coordination with the FOSC and affected SOSC
- Determine availability of fire boom and selected ignition systems
- Start ordering fire boom stocks required for expected operations
- Contact boom manufacturer to provide training & tech support for operations, if required
- Determine assets to perform on water operation
- Build operations into safety plan
- Conduct operations in accordance with an approved plan
- Initial test burn to ensure effectiveness

### *Dedicated off-shore skimming systems*

#### *General*

- Deployed to the highest concentration of oil
- Assets deployed at safe distance from aerial dispersant and in-situ burn operations

#### *CGA HOSS Barge*

- Use in areas with heaviest oil concentrations
- Consider for use in areas of known debris (seaweed, and other floating materials)

#### *CGA 95' Fast Response Vessels (FRVs)*

- Designed to be a first vessel on scene
- Capable of maintaining the initial Command and Control function for on water recovery operations
- 24 hour oil spill detection capability
- Highly mobile and efficient skimming capability
- Use as far off-shore as safely possible

#### *CGA FRUs*

- To the area of the thickest oil
- Use as far off-shore as allowed
- VOOs 140' – 180' in length
- VOOs with minimum of 18' x 38' or 23' x 50' of optimum deck space
- VOOs in shallow water should have a draft of <10 feet when fully loaded

#### *T&T Koseq Skimming Systems*

- To the area of the thickest oil
- Use as far off-shore as allowed
- VOOs with a minimum of 2,000 bbls storage capacity
- VOOs at least 200' in length
- VOOs with deck space of 100' x 40' to provide space for arms, tanks, and crane
- VOOs for shallow water should be deck barges with a draft of <10 feet when fully loaded

#### *Storage Vessels*

- Establish availability of CGA contracted assets (See Appendix E)
- Early call out (to allow for tug boat acquisition and deployment speeds)
- Phase mobilization to allow storage vessels to arrive at the same time as skimming systems
- Position as closely as possible to skimming assets to minimize offloading time



#### *Vessels of Opportunity (VOO)*

- Use Arena Offshore, LP's contracted resources as applicable
- Industry vessels are ideal for deployment of Vessel of Opportunity Skimming Systems (VOSS)
- Acquire additional resources as needed
- Consider use of local assets, i.e. fishing and pleasure craft for ISB operations or boom tending
- Expect mission specific and safety training to be required
- Plan with the US Coast Guard for vessel inspections
- Place VOOs in Division or Groups as needed
- Use organic on-board storage if appropriate
- Maximize non-organic storage appropriate to vessel limitations
- Decant as appropriate after approval to do so has been granted
- Assign bulk storage barges to each Division/Group
- Position bulk storage barges as close to skimming units as possible
- Utilize large skimming vessel (e.g. barges) storage for smaller vessel offloading
- Maximize skimming area (swath) to the optimum width given sea conditions and available equipment
- Maximize use of oleophilic skimmers in all operations, but especially offshore
- Nearshore, use shallow water barges and shuttle to skimming units to minimize offloading time
- Plan and equip to use all offloading capabilities of the storage vessel to minimize offloading time

#### *Adverse Weather Operations:*

In adverse weather, when seas are  $\geq 3$  feet, the use of larger recovery and storage vessels, oleophilic skimmers, and large offshore boom will be maximized. KOSEQ Arm systems are built for rough conditions, and they should be used until their operational limit (9.8' seas) is met. Safety will be the overriding factor in all operations and will cease at the order of the Unified Command, vessel captain, or in an emergency, "stop work" may be directed by any crew member.

#### **Surface Oil Recovery Considerations and Tactics (Offshore and Near-shore Operations)**

##### *Maximization of skimmer-oil encounter rate*

- Place barges in skimming task forces, groups, etc., to reduce recovered oil offloading time
- Place barges alongside skimming systems for immediate offloading of recovered oil when practicable
- Use two vessels, each with heavy sea boom, in an open-ended "V" configuration to funnel surface oil into a trailing skimming unit's organic, V-shaped boom and skimmer (see page 7, *CGA Equipment Guide Book and Tactic Manual (CGATM)*)

- Use secondary vessels and heavy sea boom to widen boom swath beyond normal skimming system limits (see page 15, CGATM)
- Consider night-time operations, first considering safety issues
- Utilize all available advanced technology systems ( IR, X-Band Radar, etc.) to determine the location of, and move to, recoverable oil
- Confirm the presence of recoverable oil prior to moving to a new location

#### *Maximize skimmer system efficiency*

- Place weir skimming systems in areas of calm seas and thick oil
- Maximize the use of oleophilic skimming systems in heavier seas
- Place less mobile, high EDRC skimming systems (e.g. HOSS Barge) in the largest pockets of the heaviest oil
- Maximize onboard recovered oil storage for vessels.
- Obtain authorization for decanting of recovered water as soon as possible
- Use smaller, more agile skimming systems to recover streamers of oil normally found farther from the source. Place recovered oil barges nearby

#### *Recovered Oil Storage*

- Smaller barges in larger quantities will increase flexibility for multi-location skimming operations
- Place barges in skimming task forces, groups, etc., to reduce recovered oil offloading time
- Procure and deploy the maximum number of portable tanks to support Vessel of Opportunity Skimming Systems if onboard storage is not available
- Maximize use of the organic recovered oil storage capacity of the skimming vessel

#### *Command, Control, and Communications (C<sup>3</sup>)*

- Publish, implement, and fully test an appropriate communications plan
- Design an operational scheme, maintaining a manageable span of control
- Designate and mark C<sup>3</sup> vessels for easy aerial identification
- Designate and employ C<sup>3</sup> aircraft for task forces, groups, etc.
- Use reconnaissance air craft and Rapid Response Teams (RAT) to confirm the presence of recoverable oil



### **On Water Recovery Group**

When the first skimming vessel arrives on scene, a complete site assessment will be conducted before recovery operations begin. Once it is confirmed that the air monitoring readings for O<sub>2</sub>, LEL, H<sub>2</sub>S, CO, VOC, and Benzene are all within the permissible limits, oil recovery operations may begin.

As skimming vessels arrive, they will be organized to work in areas that allow for the most efficient vessel operation and free vessel movement in the recovery of oil. Vessel groups will vary in structure as determined by the Operations Section of the Unified Command, but will generally consist, at a minimum, of the following dedicated assets:

- 3 to 5 – Offshore skimming vessels (recovery)
- 1 – Tank barge (temporary storage)
- 1 – Air asset (tactical direction)
- 2 – Support vessels (crew/utility for supply)
- 6 to 10 – Boom vessels (enhanced booming )

***Example (Note: Actual organization of TFs will be dependent on several factors including, asset availability, weather, spilled oil migration, currents, etc.)***

The 95' FRV Breton Island out of Venice arrives on scene and conducts an initial site assessment. Air monitoring levels are acceptable and no other visual threats have been observed. The area is cleared for safe skimming operations. The Breton Island assumes command and control (CoC) of on-water recovery operations until a dedicated non-skimming vessel arrives to relieve it of those duties.

A second 95' FRV arrives and begins recovery operations alongside the Breton Island. Several more vessels begin to arrive, including a third 95' FRV out of Galveston, the HOSS Barge (High Volume Open Sea Skimming System) out of Harvey, a boom barge (CGA 300) with 25,000' of 42" auto boom out of Leeville, and 9 Fast Response Units (FRUs) from the load-out location at C-Port in Port Fourchon.

As these vessels set up and begin skimming, they are grouped into task forces (TFs) as directed by the Operations Section of the Unified Command located at the command post.

Initial set-up and potential actions:

- A 1,000 meter safety zone has been established around the incident location for vessels involved in Source Control
- The HOSS Barge is positioned facing the incident location just outside of this safety zone or at the point where the freshest oil is reaching the surface
- The HOSS Barge engages its Oil Spill Detection (OSD) system to locate the heaviest oil and maintains that ability for 24-hour operations

- The HOSS Barge deploys 1,320' of 67" Sea Sentry boom on each side, creating a swath width of 800'
- The Breton Island and H.I. Rich skim nearby, utilizing the same OSD systems as the HOSS Barge to locate and recover oil
- Two FRUs join this group and it becomes TF1
- The remaining 7 FRUs are split into a 2 and 3 vessel task force numbered TF2 and TF3
- A 95' FRV is placed in each TF
- The boom barge (CGA 300) is positioned nearby and begins deploying auto boom in sections between two utility vessels (1,000' to 3,000' of boom, depending on conditions) with chain-link gates in the middle to funnel oil to the skimmers
- The initial boom support vessels position in front of TF2 and TF3
- A 100,000+ barrel offshore tank barge is placed with each task force as necessary to facilitate the immediate offload of skimming vessels

The initial task forces (36 hours in) may be structured as follows:

#### **TF 1**

- 1 – 95' FRV
- 1 – HOSS Barge with 3 tugs
- 2 – FRUs
- 1 – 100,000+ barrel tank barge and associated tug(s)
- 1 – Dedicated air asset for tactical direction
- 8 – 500' sections of auto boom with gates
- 8 – Boom-towing vessels
- 2 – Support vessels (crew/utility)

#### **TF 2**

- 1 – 95' FRV
- 4 – FRUs
- 1 – 100,000+ barrel tank barge and associated tug(s)
- 1 – Dedicated air asset for tactical direction
- 10 – 500' sections of auto boom with gates
- 10 – Boom-towing vessels
- 2 – Support vessels (crew/utility)

#### **TF 3**

- 1 – 95' FRV
- 3 – FRUs
- 1 – 100,000+ barrel tank barge and associated tug(s)
- 1 – Dedicated air asset for tactical direction
- 8 – 500' sections of auto boom with gates
- 8 – Boom-towing vessels
- 2 – Support vessels (crew/utility)

Offshore skimming equipment continues to arrive in accordance with the ETA data listed in figure H.3a; this equipment includes 2 AquaGuard skimmers and 11 sets of Koseq Rigid Skimming Arms. These high volume heavy weather capable systems will be divided into functional groups and assigned to specific areas by the Operations Section of the Unified Command.

At this point of the response, the additional TFs may assume the following configurations:

**TF 4**

- 2 – Sets of Koseq Rigid Skimming Arms w/ associated 200'+ PIDVs
- 1 – AquaGuard Skimmer
- 1 – 100,000+ barrel tank barge and associated tug(s)
- 1 – Dedicated air asset for tactical direction
- 2 – Support vessels (crew/utility)
- 6 – 500' sections of auto boom with gates
- 6 – Boom-towing vessels

**TF 5**

- 3 – Sets of Koseq Rigid Skimming Arms w/ associated 200'+ PIDVs
- 1 – AquaGuard Skimmer
- 1 – 100,000+ barrel tank barge and associated tug(s)
- 1 – Dedicated air asset for tactical direction
- 2 – Support vessels (crew/utility)
- 8 – 500' sections of auto boom with gates
- 8 – Boom-towing vessels

**TF 6**

- 3 – Sets of Koseq Rigid Skimming Arms w/ associated 200'+ PIDVs
- 1 – 100,000+ barrel tank barge and associated tug(s)
- 1 – Dedicated air asset for tactical direction
- 2 – Support vessels (crew/utility)
- 6 – 500' sections of auto boom with gates
- 6 – Boom-towing vessels

**TF 7**

- 3 – Sets of Koseq Rigid Skimming Arms w/ associated 200'+ PIDVs
- 1 – 100,000+ barrel tank barge and associated tug(s)
- 1 – Dedicated air asset for tactical direction
- 2 – Support vessels (crew/utility)
- 6 – 500' sections of auto boom with gates
- 6 – Boom-towing vessels

**CGA Minimum Acceptable Capabilities for Vessels of Opportunity (VOO)**

Minimum acceptable capabilities of Petroleum Industry Designed Vessels (PIDV) for conducting Vessel of Opportunity (VOO) skimming operations are shown in the table below. PIDVs are “purpose-built” to provide normal support to offshore oil and gas operators. They include but are not limited to utility boats, offshore supply vessels, etc. They become VOOs when tasked with oil spill response duties.

Capability	FRU	KOSEQ	AquaGuard
Type of Vessel	Utility Boat	Offshore Supply Vessel	Utility Boat
Operating parameters			
Sea State	3-5 ft max	9.8 ft max	3-5 ft max
Skimming speed	≤1 kt	≤3 kts	≤1 kt
Vessel size			
Minimum Length	100 ft	200 ft	100 ft
Deck space for: <ul style="list-style-type: none"><li>• Tank(s)</li><li>• Crane(s)</li><li>• Boom Reels</li><li>• Hydraulic Power Units</li><li>• Equipment Boxes</li></ul>	18x32 ft	100x40 ft	18x32 ft
Communication Assets	Marine Band Radio	Marine Band Radio	Marine Band Radio

**Tactical use of Vessels of Opportunity (VOO):** Arena Offshore, LP will take all possible measures to maximize the oil-to-skimmer encounter rate of all skimming systems, to include VOOs, as discussed in this section. VOOs will normally be placed within an On-water recovery unit as shown in figures below.

**Skimming Operations:** PIDVs are the preferred VOO skimming platform. OSROs are more versed in operating on these platforms and the vessels are generally large enough with crews more likely versed in spill response operations. They also have a greater possibility of having on-board storage capacity and the most likely vessels to be under contract, and therefore more readily available to the operator. These vessels would normally be assigned to an on-water recovery group/division (see figure below) and outfitted with a VOSS suited for their size and capabilities. Specific tactics used for skimming operations would be dependent upon many parameters which include, but are not limited to, safety concerns, weather, type VOSS on board, product being recovered, and area of oil coverage. Planners would deploy these assets with the objective of safely maximizing oil- to-skimmer encounter rate by taking actions to minimize non-skimming time and maximizing boom swath. Specific tactical configurations are shown in figures below.

**The Fast Response Unit (FRU):** A self-contained, skid based, skimming system that is deployed from the right side of a vessel of opportunity (VOO). An outrigger holds a 75' long section of air inflatable boom in place that directs oil to an apex for recovery via a Foilex 250 weir skimmer. The outrigger creates roughly a 40' swath width dependent on the VOO beam. The lip of the collection bowl on the skimmer is placed as close to the oil and water interface as possible to maximize oil recovery and minimize water retention. The skimmer then pumps all fluids recovered to the storage tank where it is allowed to settle, and with the approval of the Coast Guard, the water is decanted from the bottom of the tank back into the water ahead of the containment boom to be recycled through the system. Once the tank is full of as much pure recovered oil as possible it is offloaded to a storage barge for disposal in accordance with an approved disposal plan. A second 100 barrel storage tank can be added if the appropriate amount of deck space is available to use as secondary storage.

### **Tactical Overview**

*Mechanical Recovery* – The FRU is designed to provide fast response skimming capability in the offshore and nearshore environment in a stationary or advancing mode. It provides a rated daily recovery capacity of 4,100 barrels. An additional boom reel with 440' of offshore boom can be deployed along with the FRU, and a second support vessel for boom towing, to extend the swath width when attached to the end of the fixed boom. The range and sustainability offshore is dependent on the VOO that the unit is placed on, but generally these can stay offshore for extended periods. The FRU works well independently or assigned with other on-water recovery assets in a task force. In either case, it is most effective when a designated aircraft is assigned to provide tactical direction to ensure the best placement in recoverable oil.

*Maximum Sea Conditions* – Under most circumstances the FRU can maintain standard oil spill recovery operations in 2' to 4' seas. Ultimately, the Coast Guard licensed Captain in charge of the VOO (with input from the CGAS Supervisor assigned) will be responsible to determine when the sea conditions have surpassed the vessel's safe operating capabilities.

### **Possible Task Force Configuration** (Multiple VOOs can be deployed in a task force)

- 1 – VOO (100' to 165' Utility or Supply Vessel)
- 1 – Boom reel w/support vessel for towing
- 1 – Tank barge (offshore) for temporary storage
- 1 – Utility/Crewboat (supply)
- 1 – Designated spotter aircraft





The VOSS (yellow) is being deployed and connected to an out-rigged arm. This is suitable for collection in both large pockets of oil and for recovery of streaming oil. The oil-to-skimmer encounter rate is limited by the length of the arm. Skimming pace is  $\leq 1$  knot.



Through the use of an additional VOO, and using extended sea boom, the swath of the VOSS is increased therefore maximizing the oil-to-skimmer encounter rate. Skimming pace is  $\leq 1$  knot.

**The Koseq Rigid Sweeping Arm:** A skimming system deployed on a vessel of opportunity. It requires a large Offshore or Platform Supply Vessel (OSV/PSV), greater than 200' with at least 100' x 50' of free deck space. On each side of the vessel, a 50' long rigid framed Arm is deployed that consists of pontoon chambers to provide buoyancy, a smooth nylon face, and a hydraulically adjustable mounted weir skimmer. The Arm floats independently of the vessel and is attached by a tow bridle and a lead line. The movement of the vessel forward draws the rubber end seal of the arm against the hull to create a collection point for free oil directed to the weir by the Arm face. The collection weir is adjusted to keep the lip as close to the oil water interface as possible to maximize oil recovery while attempting to minimize excess water collection. A transfer pump (combination of positive displacement, screw type and centrifuge suited for highly viscous oils) pump the recovered liquid to portable tanks and/or dedicated fixed storage tanks onboard the vessel. After being allowed to sit and separate, with approval from the Coast Guard, the water can be decanted (pumped off) in front of the collection arm to be reprocessed through the system. Once full with as much pure recovered oil as possible, the oil is transferred to a temporary storage barge where it can be disposed of in accordance with an approved disposal plan.

### **Tactical Overview**

*Mechanical Recovery* – Deployed on large vessels of opportunity (VOO) the Koseq Rigid Sweeping Arms are high volume surge capacity deployed to increase recovery capacity at the source of a large oil spill in the offshore and outer nearshore environment of the Gulf of Mexico. They are highly mobile and sustainable in rougher sea conditions than normal skimming vessels (9.8' seas). The large Offshore Supply Vessels (OSV) required to deploy the Arms are able to remain on scene for extended periods, even when sea conditions pick up. Temporary storage on deck in portable tanks usually provides between 1,000 and 3,000 bbls. In most cases, the OSV will be able to pump 20% of its deadweight into the liquid mud tanks in accordance with the vessels Certificate of Inspection (COI). All storage can be offloaded utilizing the vessels liquid transfer system.

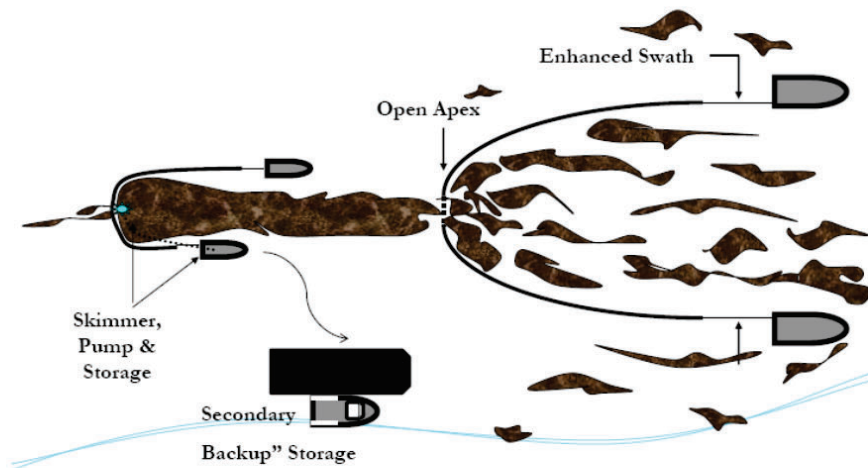
*Maximum Sea Conditions* - Under most circumstances the larger OSVs are capable of remaining on scene well past the Skimming Arms maximum sea state of 9.8'. Ultimately it will be the decision of the VOO Captain, with input from the T&T Supervisor onboard, to determine when the sea conditions have exceeded the safe operating conditions of the vessel.

*Command and Control* – The large OSVs in many cases have state of the art communication and electronic systems, as well as the accommodations to support the function of directing all skimming operations offshore and reporting back to the command post.

**Possible Task Force Configuration** (Multiple Koseq VOOs can be deployed in a task force)

- 1 –  $\geq$  200' Offshore Supply Vessels (OSV) with set of Koseq Arms
- 2 to 4 portable storage tanks (500 bbl)
- 1 – Modular Crane Pedestal System set (MCPS) or 30 cherry picker (crane) for deployment
- 1 – Tank barge (offshore) for temporary storage
- 1 – Utility/Crewboat (supply)
- 1 – Designated spotter aircraft
- 4 – Personnel (4 T&T OSRO)





Scattered oil is “caught” by two VOO and collected at the apex of the towed sea boom. The oil moves through a “gate” at that apex, forming a larger stream of oil which moves into the boom of the skimming vessel. Operations are paced at  $>1$ . A recovered oil barge stationed nearby to minimize time taken to offload recovered oil.



This is a depiction of the same operation as above but using KOSEQ Arms. In this configuration, the collecting boom speed dictates the operational pace at  $\geq 1$  knot to minimize entrainment of the oil.

**Clean Gulf Associates (CGA) Procedure for Accessing Member-Contracted and other Vessels of Opportunity (VOOs) for Spill Response**

- CGA has procedures in place for CGA member companies to acquire vessels of opportunity (VOOs) from an existing CGA member's contracted fleet or other sources for the deployment of CGA portable skimming equipment including Koseq Arms, Fast Response Units (FRUs) and any other portable skimming system(s) deemed appropriate for the response for a potential or actual oil spill, WCD oil spill or a Spill of National Significance (SONS).
- CGA uses Port Vision, a web-based vessel and terminal interface that empowers CGA to track vessels through Automatic Identification System (AIS) and terminal activities using a Geographic Information System (GIS). It provides live AIS/GIS views of waterways showing current vessel positions, terminals, created vessel fleets, and points-of-interest. Through this system, CGA has the ability to get instant snapshots of the location and status of all vessels contracted to CGA members, day or night, from any web-enabled PC.

## Near Shore Response Actions

### *Timing*

- Put near shore assets on standby and deployment in accordance with planning based on the actual situation, actual trajectories and oil budgets
- VOO identification and training in advance of spill nearing shoreline if possible
- Outfitting of VOOs for specific missions
- Deployment of assets based on actual movement of oil

### *Considerations*

- Water depth, vessel draft
- Shoreline gradient
- State of the oil
- Use of VOOs
- Distance of surf zone from shoreline

### *Surveillance*

- Provide trained observer to direct skimming operations
- Continual surveillance of oil movement by remote sensing systems, aerial photography and visual confirmation
- Continual monitoring of vessel assets

### *Dispersant Use*

- Generally will not be approved within 3 miles of shore or with less than 10 meters of water depth
- Approval would be at Regional Response Team level (Region 6)

### *Dedicated Near Shore skimming systems*

- FRVs
- Egmpol and Marco SWS
- Operate with aerial spotter directing systems to observed oil slicks

### *VOO*

- Use Arena Offshore, LP's contracted resources as applicable
- Industry vessel are usually best for deployment of Vessel of Opportunity Skimming Systems (VOSS)
- Acquire additional resources as needed
- Consider use of local assets, i.e. fishing and pleasure craft
- Expect mission specific and safety training to be required
- Plan with the US Coast Guard for vessel inspections
- Operate with aerial spotter directing systems to oil patches

## Shoreline Protection Operations

### *Response Planning Considerations*

- Review appropriate Area Contingency Plan(s)
- Locate and review appropriate Geographic Response and Site Specific Plans
- Refer to appropriate Environmentally Sensitive Area Maps
- Capability for continual analysis of trajectories run periodically during the response
- Environmental risk assessments (ERA) to determine priorities for area protection
- Time to acquire personnel and equipment and their availability
- Refer to the State of Louisiana Initial Oil Spill Response Plan, Deep Water Horizon, dated 2 May 2010, as a secondary reference
- Aerial surveillance of oil movement
- Pre-impact beach cleaning and debris removal
- Shoreline Cleanup Assessment Team (SCAT) operations and reporting procedures
- Boom type, size and length requirements and availability
- Possibility of need for In-situ burning in near shore areas
- Current wildlife situation, especially status of migratory birds and endangered species in the area
- Check for Archeological sites and arrange assistance for the appropriate state agency when planning operations that may impact these areas

### *Placement of boom*

- Position boom in accordance with the information gained from references listed above and based on the actual situation
- Determine areas of natural collection and develop booming strategies to move oil into those areas
- Assess timing of boom placement based on the most current trajectory analysis and the availability of each type of boom needed. Determine an overall booming priority and conduct booming operations accordingly. Consider:
  - Trajectories
  - Weather forecast
  - Oil Impact forecast
  - Verified spill movement
  - Boom, manpower and vessel (shallow draft) availability
  - Near shore boom and support material, (stakes, anchors, line)

### *Beach Preparation - Considerations and Actions*

- Use of a 10 mile go/no go line to determine timing of beach cleaning
- SCAT reports and recommendations
- Determination of archeological sites and gaining authority to enter
- Monitoring of tide tables and weather to determine extent of high tides
- Pre cleaning of beaches by moving waste above high tide lines to minimize waste
- Determination of logistical requirements and arranging of waste removal and disposal

- Staging of equipment and housing of response personnel as close to the job site as possible to maximize on-site work time
- Boom tending, repair, replacement and security (use of local assets may be advantageous)
- Constant awareness of weather and oil movement for resource re-deployment as necessary
- Earthen berms and shoreline protection boom may be considered to protect sensitive inland areas
- Requisitioning of earth moving equipment
- Plan for efficient and safe use of personnel, ensuring:
  - A continual supply of the proper Personal Protective Equipment
  - Heating or cooling areas when needed
  - Medical coverage
  - Command and control systems (i.e. communications)
  - Personnel accountability measures
- Remediation requirements, i.e., replacement of sands, rip rap, etc.
- Availability of surface washing agents and associated protocol requirements for their use (see National Contingency Plan Product Schedule for list of possible agents)
- Discussions with all stakeholders, i.e., land owners, refuge/park managers, and others as appropriate, covering the following:
  - Access to areas
  - Possible response measures and impact of property and ongoing operations
  - Determination of any specific safety concerns
  - Any special requirements or prohibitions
  - Area security requirements
  - Handling of waste
  - Remediation expectations
  - Vehicle traffic control
  - Domestic animal safety concerns
  - Wildlife or exotic game concerns/issues

#### *Inland and Coastal Marsh Protection and Response*

##### *Considerations and Actions*

- All considered response methods will be weighed against the possible damage they may do to the marsh. Methods will be approved by the Unified Command only after discussions with local Stakeholder, as identified above.
  - In-situ burn may be considered when marshes have been impacted
- Passive clean up of marshes should be considered and appropriate stocks of sorbent boom and/or sweep obtained.
- Response personnel must be briefed on methods to traverse the marsh, i.e.,
  - use of appropriate vessel
  - use of temporary walkways or road ways
- Discuss and gain approval prior to cutting or moving vessels through vegetation
- Discuss use of vessels that may disturb wildlife, i.e., airboats
- Safe movement of vessels through narrow cuts and blind curves

- Consider the possibility that no response in a marsh may be best
- In the deployment of any response asset, actions will be taken to ensure the safest, most efficient operations possible. This includes, but is not limited to:
  - Placement of recovered oil or waste storage as near to vessels or beach cleanup crews as possible.
  - Planning for stockage of high use items for expeditious replacement
  - Housing of personnel as close to the work site as possible to minimize travel time
  - Use of shallow water craft
  - Use of communication systems appropriate ensure command and control of assets
  - Use of appropriate boom in areas that I can offer effective protection
  - Planning of waste collection and removal to maximize cleanup efficiency
- Consideration or on-site remediation of contaminated soils to minimize replacement operations and impact on the area

**Decanting Strategy**

Recovered oil and water mixtures will typically separate into distinct phases when left in a quiescent state. When separation occurs, the relatively clean water phase can be siphoned or decanted back to the recovery point with minimal, if any, impact. Decanting therefore increases the effective on-site oil storage capacity and equipment operating time. FOSC/SOSC approval will be requested prior to decanting operations. This practice is routinely used for oil spill recovery.

**CGA Equipment Limitations**

The capability for any spill response equipment, whether a dedicated or portable system, to operate in differing weather conditions will be directly in relation to the capabilities of the vessel the system is placed on. Most importantly, however, the decision to operate will be based on the judgment of the Unified Command and/or the Captain of the vessel, who will ultimately have the final say in terminating operations. Skimming equipment listed below may have operational limits which exceed those safety thresholds. As was seen in the Deepwater Horizon (DWH) oil spill response, vessel skimming operations ceased when seas reached 5-6 feet and vessels were often recalled to port when those conditions were exceeded. Systems below are some of the most up-to-date systems available and were employed during the DWH spill.

Boom	3 foot seas, 20 knot winds
Dispersants	Winds more than 25 knots Visibility less than 3 nautical miles Ceiling less than 1,000 feet.
FRU	8 foot seas
HOSS Barge/OSRB	8 foot seas
Koseq Arms	8 foot seas
OSRV	4 foot seas



**Environmental Conditions in the GOM**

Louisiana is situated between the easterly and westerly wind belts, and therefore, experiences westerly winds during the winter and easterly winds in the summer. Average wind speed is generally 14-15 mph along the coast. Wave heights average 4 and 5 feet. However, during hurricane season, Louisiana has recorded wave heights ranging from 40 to 50 feet high and winds reaching speeds of 100 mph. Because much of southern Louisiana lies below sea level, flooding is prominent.

Surface water temperature ranges between 70 and 80 °F during the summer months. During the winter, the average temperature will range from 50 and 60 °F.

The Atlantic and Gulf of Mexico hurricane season is officially from 1 June to 30 November. 97% of all tropical activity occurs within this window. The Atlantic basin shows a very peaked season from August through October, with 78% of the tropical storm days, 87% of the minor (Saffir-Simpson Scale categories 1 and 2) hurricane days, and 96% of the major (Saffir-Simpson categories 3, 4 and 5) hurricane days occurring then. Maximum activity is in early to mid September. Once in a few years there may be a hurricane occurring "out of season" - primarily in May or December. Globally, September is the most active month and May is the least active month.

**FIGURE 1**  
**TRAJECTORY BY LAND SEGMENT**

Trajectory of a spill and the probability of it impacting a land segment have been projected utilizing Arena Offshore, LP's WCD and information in the BOEM Oil Spill Risk Analysis Model (OSRAM) for the Central and Western Gulf of Mexico available on the BOEM website using 10 day impact. The results are tabulated below.

Area/Block	OCS-G	Launch Area	Land Segment and/or Resource	Conditional Probability (%) within 10 days
Exploratory Drilling  <b>EI 275, Well No. K002</b>  <i>53 miles from shore</i>	G24910	C40	Jefferson, TX <b>Cameron, LA</b> Vermilion, LA Terrebonne, LA	1 <b>3</b> 1 2

**WCD Scenario– BASED ON WELL BLOWOUT DURING DRILLING OPERATIONS (53 miles from shore)**  
5,839 bbls of condensate (Volume considering natural weathering)  
API Gravity 58°

**FIGURE 2 – Equipment Response Time to EI 275, Well No. K002**

*Dispersants/Surveillance*

Dispersant/Surveillance	Dispersant Capacity (gal)	Persons Req.	From	Hrs to Procure	Hrs to Loadout	Travel to site	Total Hrs
ASI							
Basler 67T	2000	2	Houma	2	2	0.5	4.5
DC 3	1200	2	Houma	2	2	0.6	4.6
DC 3	1200	2	Houma	2	2	0.6	4.6
Aero Commander	NA	2	Houma	2	2	0.5	4.5

*Offshore Response*

Offshore Equipment No Staging	EDRC	Storage Capacity	VOO	Persons Required	From	Hrs to Procure	Hrs to Loadout	Hrs to GOM	Travel to Spill Site	Hrs to Deploy	Total Hrs
CGA											
HOSS Barge	76285	4000	3 Tugs	8	Harvey	7	0	8	8.1	1	24.1
95' FRV	22885	249	NA	6	Vermilion	2	0	2	3	0	7
Boom Barge (CGA-300) 42" Auto Boom (25000')	NA	NA	1 Tug 50 Crew	4 (Barge) 2 (Per Crew)	Leeville	4	0	6	13	2	25
Recovered Oil Storage No Staging	EDRC	Storage Capacity	VOO	Persons Required	From	Hrs to Procure	Hrs to Loadout	Hrs to GOM	Travel to Spill Site	Hrs to Deploy	Total Hrs
Enterprise Marine Services LLC (available through contract with CGA)											
CTCo 2604	NA	20000	1 Tug	6	Amelia	35	12	4	8	1	60
CTCo 2605	NA	20000	1 Tug	6	Amelia	35	12	4	8	1	60
CTCo 2606	NA	20000	1 Tug	6	Amelia	35	12	4	8	1	60
CTCo 2607	NA	23000	1 Tug	6	Amelia	35	12	4	8	1	60
CTCo 2608	NA	23000	1 Tug	6	Amelia	35	12	4	8	1	60

*Nearshore Response*

Nearshore Equipment	EDRC	Storage Capacity	VOO	Persons Req.	From	Hrs to Procure	Hrs to Loadout	Hrs to GOM	Travel to Staging	Hrs to Deploy	Total Hrs
CGA											
46' FRV	15257	65	NA	4	Lake Charles	2	0	2	2	0	6
Enterprise Marine (available through contract with CGA)											
CTCo 2605	NA	25000	1 Tug	6	Amelia	28	12	4	15	1	60

**Staging Area: Cameron**

Nearshore Equipment With Staging	EDRC	Storage Capacity	VOO	Persons Req.	From	Hrs to Procure	Hrs to Load Out	Travel to Staging	Travel to Deployment	Hrs to Deploy	Total Hrs
CGA											
SWS Egmopol	1810	100	NA	3	Galveston	2	2	3.6	2	0	9.6
SWS Marco	3588	20	NA	3	Lake Charles	2	2	1.5	2	0	7.5
Foilex Skim Package (TDS 150)	1131	50	NA	3	Lake Charles	2	2	1.5	2	0	7.5
Foilex Skim Package (TDS 150)	1131	50	NA	3	Galveston	2	2	3.6	2	0	9.6
4 Drum Skimmer (Magnum 100)	680	100	1 Crew	3	Lake Charles	2	2	1.5	2	0	7.5
2 Drum Skimmer (TDS 118)	240	100	1 Crew	3	Lake Charles	2	2	1.5	2	0	7.5

*Shoreline Protection*

**Staging Area: Cameron**

Shoreline Protection Boom	VOO	Persons Req.	Storage/Warehouse Location	Hrs to Procure	Hrs to Loadout	Travel to Staging	Travel to Deployment Site	Hrs to Deploy	Total Hrs
AMPOL (available through MSA)									
34,050' 18" Boom	13 Crew	26	New Iberia, LA	2	2	3.5	2	12	21.5
12,000' 18" Boom	7 Crew	14	Chalmette, LA	2	2	7.5	2	6	19.5
900' 18" Boom	1 Crew	2	Morgan City, LA	2	2	5	2	2	13
30,000' 18" Boom	13 Crew	26	Harvey, LA	2	2	7.5	2	12	25.5
1,700' 18" Boom	2 Crew	4	Venice, LA	2	2	9	2	2	17
16,000' 18" Boom	7 Crew	14	Port Arthur, TX	2	2	1.5	2	6	13.5

Wildlife Response	EDRC	Storage Capacity	VOO	Persons Req.	From	Hrs to Procure	Hrs to Loadout	Travel to Staging	Travel to Deployment	Hrs to Deploy	Total Hrs
CGA											
Wildlife Support Trailer	NA	NA	NA	2	Harvey	2	2	7	1	2	14
Bird Scare Guns (24)	NA	NA	NA	2	Harvey	2	2	7	1	2	14
Bird Scare Guns (12)	NA	NA	NA	2	Galveston	2	2	3.6	1	2	10.6
Bird Scare Guns (12)	NA	NA	NA	2	Aransas Pass	2	2	9.9	1	2	16.9
Bird Scare Guns (48)	NA	NA	NA	2	Lake Charles	2	2	1.5	1	2	8.5
Bird Scare Guns (24)	NA	NA	NA	2	Leeville	2	2	6.8	1	2	13.8

Response Asset	Total
Offshore EDRC	99,170
Offshore Recovered Oil Storage	110,249
Nearshore / Shallow Water EDRC	23,837
Nearshore / Shallow Water Recovered Oil Storage	25,485

**Eugene Island Blocks 275/276  
(Leases OCS-G 24910/00989)**

**Vicinity Map**

**Attachment M  
(Public Information)**



## Vicinity Map

Eugene Island Block 275, Platform K

## Legend

- Distance to Heliport (New Iberia, LA) = 113 miles
- ✳ Distance to LA Shore = 53 miles
- Distance to shorebase (Port Fourchon, LA = 58 miles
- 📍 EI 275, K
- 📏 Rice's Whale Core Distribution Area

28° 25' 39.6832" N 91° 28' 30.5099" W

Google Earth

Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Image Landsat / Copernicus

Image NOAA

N

90 mi

**Eugene Island Blocks 275/276  
(Leases OCS-G 24910/00989)**

**CZM Statement -  
State of Louisiana**

**Attachment N  
(Public Information)**

**COASTAL ZONE MANAGEMENT CONSISTENCY CERTIFICATION**

**SUPPLEMENTAL DEVELOPMENT OPERATIONS COORDINATION  
DOCUMENT**

**Eugene Island Blocks 275/276**

**Leases OCS-G 24910/00989**

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: *Aimee Deady*

Dated: 05/23/2025