UNITED STATES GOVERNMENT MEMORANDUM

October 15, 2025

To: Public Information

From: Plan Coordinator, FO, Plans section (MS 5231)

Subject: Public information copy of plan

Control # S08199

Type Supplemental Development Operations Coordinations Document

Lease(s) - OCS-G02115 Block - 330 Eugene Island Area OCS-G37171 Block - 337 Eugene Island Area

Operator - Arena Offshore, LP

Description - Sidetrack drill, slot recover, or drill from an existing

open slot, complete, and produce from platforms B & D

Rig Type - Not Found

Attached is a copy of the subject plan.

It has been deemed submitted and is under review for approval.

Henry Emembolu Plan Coordinator



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

September 10, 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

02115/37171, Eugene Island Blocks 330/337, 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 02115/37171, Eugene Island Blocks 330/337, 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.

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 330/337 Leases OCS-G 02115/37171

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

September 2025

Public Information

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Eugene Island Block 330, Lease OCS-G 02115 was acquired jointly by Texas Production Company, Mobil Oil Corporation, Mesa Petroleum Co. and Pennzoil Offshore Gas Operators, Inc. at the Gulf of Mexico Lease Sale No. 22 held on December 15, 1970. The Lease was issued with an effective date of January 1, 1971, and a primary term ending date of December 31, 1975. The lease has had many designated operators with the last being GOM Shelf LLC, Apache Shelf Exploration LLC and Energy XXI GOM, LLC in August 2022. As of December 1, 2022, Arena Offshore, LP became the Designated Operator of all Lease OCS-G 02115.

The previous operators performed development activities on Lease OCS-G 02115, including setting Platforms B and D, Complex ID No. 21580-1 and 23240-1, respectively, and drilling 18 wells from Platform B and 20 wells from Platform D. Most recent Development Plans:

• R-7221 – Revised DOCD - Operator name change from GOM Shelf, LLC to Arena Offshore, LP for Platforms B (Complex ID 21580) and D (Complex ID 23240) and all associated wells. Installation of a new lease term pipeline.

Lease OCS-G 37171, Eugene Island Block 337 was issued with an effective date of October 01, 2022, and primary term ending date of September 30, 2027, with Arena Energy, LLC as lessee of record. Effective October 1, 2022, Arena Energy, LLC designated Arena Offshore, LP as the designated operator of subject lease. Most recent Development Plans:

• I-10223 – Joint Initial DOCD – Request to transfer Platform A (Complex ID 22679) and all associated wells in EI 337 to newly acquired lease G 37171; accounting for any adjacent bottomhole locations in EI 354 transferring to newly acquired lease G37176.

Lease OCS-G 02115 is a producing lease and Lease OCS-G 37171 is in its primary term.

Arena submits this Supplemental DOCD (Plan) to sidetrack drill, slot recover, or drill from an existing open slot, complete, and produce the following locations from Platform B (Complex ID 21580) and Platform D (23240) in surface location Lease OCS-G 02115 with 2 bottomhole locations in adjacent Lease OCS-G 37171 as described below.

<u>Platform B (Complex ID 21580)</u> – All current bottomhole locations are in surface Lease OCS-G 02115. Arena is proposing to sidetrack drill or perform slot recoveries, complete, and produce fourteen (14) bottomhole locations in surface location Lease OCS-G 02115 (12 wells) and adjacent Lease OCS-G 37171 (2 wells) all from Platform B in OCS-G 02115:

BHL	Proposed	Surface Location	Well API
	BHL Lease	Well Name	
Location BA	EI 330, G02115	B009 (ST01BP00)	17-710-40463-01
Location BB	EI 337, G37171	B014 (ST01BP00)	17-710-40274-01
Location BC	EI 330, G02115	B016 (ST01BP00)	17-710-40302-01
Location BD	EI 337, G37171	B006 (ST03BP00)	17-710-40105-03
Location BE	EI 330, G02115	B011 (ST00BP00)	17-710-40252-00

BHL	Proposed	Surface Location	Well API
	BHL Lease	Well Name	
Location BF	EI 330, G02115	B001 (ST01BP00)	17-710-40043-01
Location BG	EI 330, G02115	B004 (ST01BP00)	17-710-40087-01
Location BH	EI 330, G02115	B008 (ST01BP00)	17-710-40130-01
Location BI	EI 330, G02115	B012 (ST01BP00)	17-710-40210-01
Location BJ	EI 330, G02115	B002 (ST01BP00)	17-710-40044-01
Location BK	EI 330, G02115	B013 (ST00BP00)	17-710-40237-00
Location BL	EI 330, G02115	B003 (ST01BP00)	17-710-40080-01
		B007 (ST01BP00)	17-710-40116-01
Location BM	EI 330, G02115	B010 (ST01BP00)	17-710-40171-01
		B018 (ST00BP00)	17-710-40312-00
Location BO	EI 330, G02115	B005 (ST02BP00)	17-710-40092-02
		B015 (ST01BP00)	17-710-40286-01
		B017 (ST00BP00)	17-710-40304-00

<u>Platform D (Complex ID 23240)</u> – All current bottomhole locations are in surface Lease OCS-G 02115. Arena is proposing to sidetrack drill or perform slot recoveries or drill from existing open slots, complete, and produce six (6) bottomhole locations in surface Lease OCS-G 02115 (6 wells) all from Platform D in OCS-G 02115:

BHL	Proposed	Surface Location	Well API
	BHL Lease	Well Name	
Location DA	EI 330, G02115	D002 (ST00BP00)	17-710-41169-00
		D006 (ST01BP01)	17-710-41191-02
		D009 (ST01BP00)	17-710-41382-01
		D020 (ST00BP00)	17-710-41653-00
Location DB	EI 330, G02115	D012 (ST01BP00)	17-710-41388-01
		D019 (ST00BP00)	17-710-41652-00
		Open-1	TBD
Location DD	EI 330, G02115	D011 (ST00BP00)	17-710-41387-00
		D016 (ST00BP02)	17-710-41647-02
		D018 (ST00BP01)	17-710-41651-01
		Open-2	TBD
Location DE	EI 330, G02115	D003 (ST02BP00)	17-710-41178-02
		D004 (ST00BP00)	17-710-41184-00
		D005 (ST01BP01)	17-710-41187-02
		Open-3	TBD
Location DH	EI 330, G02115	D007 (ST00BP00)	17-710-41379-00
		D008 (ST02BP00)	17-710-41196-02
		D013 (ST00BP01)	17-710-41643-01
		D014 (ST00BP01)	17-710-41644-01
		D015 (ST00BP00)	17-710-41645-00
Location DJ	EI 330, G02115	D001 (ST00BP00)	17-710-41056-00
		D010 (ST01BP00)	17-710-41386-01
		D017 (ST00BP00)	17-710-41648-00
		Open-4	TBD

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 February 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 ±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 March 13, 2020, updated 2021, 2022, and 2025. Mitigation measures for sea turtles will be in place with dedicated observers continuously monitoring a 157-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	~248-feet
Substrate Type(s)	Silt/mud
Number of piles to be driven	Eleven (11) slot
- Slot recoveries (7)	recoveries and/or
- Open slots (4)	open slots (one pile
- Size of piles (drive pipe) vary between 24 – 48 inches with sound	per well)
source level for different steel pile size for each well (Reference:	
Biological Opinion, Section 8.5.4.1, Table 92)	
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	Average 27
to drive to necessary depth BLM	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 330 Platforms B and D 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 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 Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America Appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program.

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 B	NA	0	NA	NA
Production	Platform D	590/150	2	740	31°

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).

F. Additional Measures

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

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.

Application/Permit	Issuing Agency	Status
Applications for Permit to Sidetrack	BSEE District	Pending
Application for Permit to Drill	BSEE District	Pending
Surface Safety System Modification	BSEE District	Pending
Surface Commingling/Measurement Modification	BSEE Regional	Pending

B. Drilling Fluids

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

	Estimated Volume of Drilling
Drilling Fluid Type – Platform B	Fluid to be used Per Well
Water-based (seawater, freshwater, barite)	4800 bbls
Synthetic-based (internal, olefin, ester)	2025 bbls

	Estimated Volume of Drilling	
Drilling Fluid Type – Platform D	Fluid to be used Per Well	
Water-based (seawater, freshwater, barite)	1200 bbls	
Synthetic-based (internal, olefin, ester)	575 bbls	

C. Production

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

Platform B:

Hydrocarbon Type	Peak Production Rate	Average Production Rate	Life of Reservoir

Platform D:

Hydrocarbon	Peak Production Rate	Average	Life of
Type		Production Rate	Reservoir

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:

 Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America Appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program.

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 330 submitted under S-7504, submitted by Apache for 12,700 bbls with an anticipated gravity of 30° 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 50 days and a potential total of 635,000 barrels during that time span. See approved WCD in S-7504 for Case Studies.

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 330 Platforms B and D. 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 order 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.
- 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 is irreparably damaged during a blowout scenario, wellbore intervention would be performed by contracting an additional MODU, mobilizing it to location and the subsequent spudding and drilling of a relief well. Arena currently has in place established contracts with all contractors that operate jack-up rigs in the Gulf of America. 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 America.

Arena Offshore, LP Eugene Island Blocks 330/337

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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 previously approved existing surface locations in Eugene Island Block 330 (Plan Control No. S-1666) 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 previously approved existing surface locations in Eugene Island Block 330 (Plan Control No. S-1666 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 330 Platform A (Plan Control No. S-1666), 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 H2S 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), previous operators have received a classification of "H2S absent" from BOEM for the area in which proposed drilling activities are to be conducted.

C. H2S Contingency Plan

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

D. Modeling Report

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

SECTION 5 - MINERAL RESOURCE CONSERVATION INFORMATION

(30 CFR Part 550.246)

A. Technology and Reservoir Engineering Practices and Procedures

Proprietary Information

B. Technology and Recovery Practices and Procedures

Proprietary Information

C. Reservoir Development

Proprietary Information

SECTION 6 - BIOLOGICAL, PHYSICAL & SOCIOECONOMIC INFORMATION

(30 CFR Part 550.247)

A. High Density Deepwater Benthic Communities Information

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

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

B. Topographic Features Map

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

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

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

C. Topographic Features Statement (Shunting)

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

D. Live Bottoms (Pinnacle Trend) Map

Certain 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 America.

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 America 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 330 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 America.

The existing surface location in Eugene Island Block 330 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 330 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 Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America, appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program", Appendices A, B, C and J, 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 America 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 Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America Appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program.
- During pile driving activities mitigation measures for sea turtles will be in place with dedicated personnel continuously monitoring a 157-meter 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.

H. Archaeological Report

In accordance with NTL's 2011-JOINT-G01 and 2005-G07, Eugene Island Block 330 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 locations of Eugene Island Block 330 Platforms B and D.

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 America.

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 America.

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, Venice, Vermilion LA	Fourchon or Cameron, 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
Type of neuvity	illies from shore	miles from shore	illies from shore	illies from shore
Lease Number	OCS-G 00983	OCS-G 02115	OCS-G 05040	OCS-G 02115
Facility Location	EI 252	EI 330	EI 316	EI 330
Facility			MODU/	
Designation	Platform L	Platform D	EI 316, A004	MODU S-7504
Distance to				
Nearest				
Shoreline (miles)	51	72	68.8	72
Storage Tanks				
(total)	31	740	317	740
Lease Pipelines	164	12	NA	12
Uncontrolled				
Blowout (bbls)	10,957	313	74,119	12,700
Total Volume				
(bbls)	11,152	1065	74,436	13,452
Type of Oil	Oil	Oil	Condensate	Oil
API Gravity	32°	31°	51°	30°

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 activity proposed in this Plan does not supersede the previously approved NTL 2015-N01 data submitted and approved for Eugene Island Block 330, Lease OCS-G 02115, under Plan Control No. S-7504, submitted by Apache.

Arena has determined the Worst-Case Discharge Volume submitted in Plan S-7504 for 12,700 bbls, and accepted by BOEM for Eugene Island Block 330, Lease OCS-G 02115, is still valid and will continue to be the Worst-Case Discharge for the proposed activities in this 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 America.

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 Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America, appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program", Appendices A, B, C and J, 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 Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America Appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program.
- 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 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 Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America, appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program", Appendices A, B, C and J.

The existing surface location in Eugene Island Block 330 (Lease OCS-G 02115) 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 Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America, appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program", Appendices A, B, C and J, 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 Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America Appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program.
- 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 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 330 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 330 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 330 Platform A.

• Special Conditions

The proposed surface disturbance activity in Eugene Island Block 330 Platform A 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.

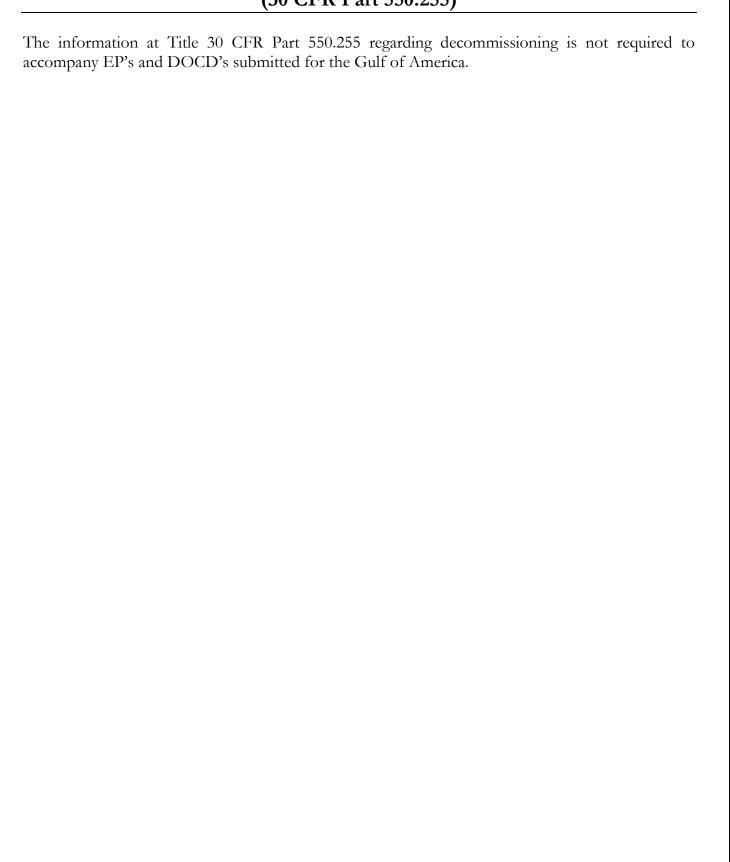
B. Incidental Takes

BOEM regulations in Title 30 CFR Part 550, Subpart B and the Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America, appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program", Appendices A, B, C and J, 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 Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America Appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program.
- 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 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)



SECTION 14 - RELATED FACILITIES & OPERATION INFORMATION

(30 CFR Part 550.256)

A. Related OCS Facilities and Operations

The existing Eugene Island Block 330 Platforms B and D were installed in 1971 and 1986, respectively and consists of 2-decks, 18-22-well slots, heliport and boat landing located in a water depth of ~248 feet. The well test facilities consist of a well manifold, test separator and fuel/instrument gas system. Wells produced in Eugene Island Block 330 are individually tested on the Eugene Island Block 330 Platforms B and D.

Liquids: Full stream lease production and off lease production from the B Wells on Eugene Island Block 330 B are combined into a common header on B and then flow over to the host facility, Eugene Island Block 330, D. Additionally, the proposed wells in this Plan from off lease production will be tested separately once every 30-60 days. Full stream lease production from the D Wells on Eugene Island Block 330 D will be combined with flow from Platform B and combined prior to existing the host facility via existing 6-inch pipeline (Segment No. 7361) to a series of existing pipelines for ultimate delivery to Operations System 36.0 or Operations System 26.0.

Gas: All combined gas production will be combined with Leases EI 330, EI 338, EI 341, EI 315, and EI 316 will be exported through various pipelines for ultimate delivery into Operation Systems 20.0 or 24.0. All production will be allocated back by individual meters and buy-back meters.

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 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:

Туре	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	Two 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 Abbeville, LA to EI 330

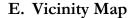
C. Drilling Fluids Transportation

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)



A Vicinity Plat detailing the surface location in Eugene Island Block 330 relative to the shoreline and onshore base is included as *Attachment M*.

Arena Offshore, LP Eugene Island Blocks 330/337

SECTION 16 - ONSHORE SUPPORT FACILITIES INFORMATION (30 CFR Part 550.258)

A. General

The existing surface disturbance in Eugene Island Block 330 is located approximately 72 miles from the nearest Louisiana shoreline and 122 miles to the support base located in Abbeville, LA. Arena will utilize the onshore Westwind helipad located in New Iberia, Louisiana, if needed (approximately 135 miles).

Arena will utilize the existing shorebase located in Abbeville, 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 America.

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 America.

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.

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	Impact Producing Factors (IPFs)											
Resources												
	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 ₂ S release)	Other IPFs you identify						
Site Specific at Offshore Location												
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)									
Vicinity of Offshore												
Location												
Essential fish habitat			_		(6)							
Marine and pelagic birds			_									
Public health and safety					(5)							
Coastal & Onshore												
Beaches					(6)							
Wetlands					(6)	1						
Shorebirds and coastal nesting birds					(6)							
Coastal wildlife refuges												
Wilderness areas												

Arena Offshore, LP Eugene Island Blocks 330/337

Footnotes for Environmental Impact Analysis Matrix

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

Arena Offshore, LP Eugene Island Blocks 330/337

B. <u>Impact Analysis</u>

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 Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America, appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program", Appendices A, B, C and J, 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 America 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 America 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 Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America Appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program.

• Designation Topographic Features

There are no anticipated emissions, effluents, physical disturbances to the seafloor, wastes transported to shore, and/or accidents from the proposed activities that could cause impacts to topographic features. The surface disturbance within Eugene Island Block 330 is located approximately 5 miles away from the Fishnet Bank. The crests of designated topographic features in the northern Gulf are found below 10 m. In the event of an accidental oil spill from the proposed activities, the gravity of such oil (high gravity condensate and/or diesel fuel) would rise to the

surface, quickly dissipate, and/or be swept clear by the currents moving around the bank; thereby avoiding the sessile biota.

• Pinnacle Trend Area Live Bottoms

There are no anticipated emissions, effluents, physical disturbances to the seafloor, wastes sent to shore, and/or accidents from the proposed activities that could cause impacts to a pinnacle trend area. The proposed surface disturbance within Eugene Island Block 330 is located a significant distance (> 100 miles) from the closest pinnacle trend live bottom stipulated block. The crests of the pinnacle trend area are much deeper than 20 m. In the event of an accidental oil spill from the proposed activities, the gravity of such oil (high gravity condensate and/or diesel fuel) would rise to the surface, quickly dissipate, and/or be swept clear by currents moving around the bank; and thus not impacting the pinnacles.

• Eastern Gulf Live Bottoms

There are no anticipated emissions, effluents, emissions physical disturbances to the seafloor, wastes sent to shore, and/or accidents from the proposed activities that could cause impacts to Eastern Gulf live bottoms. The proposed surface disturbance within Eugene Island Block 330 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 depth at the surface location in Eugene Island Block 330 is approximately 248 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.

Accidental oil spill released 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 America.

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 America 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 Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America Appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program.

Fisheries

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

avoid a spill, to metabolize hydrocarbons, and to excrete both metabolites and parent compounds.

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

Arena will conduct the proposed activities under EPA's Region VI NPDES General Permit GMG290000 which authorizes the discharge of certain effluents, subject to certain limitations, prohibitions and recordkeeping requirements, and Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America, appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program", Appendices A, B, C and J. 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 America. 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 America 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. Trash and debris are not expected to impact the gulf sturgeon from proposed activities. Arena will operate in accordance with the regulations, agency guidance, Appendix "B" Section 7 of NMFS Endangered Species Act (ESA) 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 America 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 America, 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 America: 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, waste sent to shore, and/or accidents.

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

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

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

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

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. Section 7 of 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 Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America, appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program", Appendices A, B, C and J. 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 Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America Appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program.
- 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 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"

• 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 sublethal.

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. Section 7 of 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. Section 7 also states the annual total of predicted disturbances for juveniles is low. Arena's contractors and company representative 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 Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America, appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program", Appendices A, B, C and J. 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 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 Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of America Appendices to the Programmatic Biological Opinion on the Gulf of America Oil and Gas Program.
- 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 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 72 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.

• 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 330 area as absent of hydrogen sulfide per previous Plan approvals.

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 72 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 72 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 72 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.

• 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 72 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 72 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. <u>Impacts on Proposed Activities</u>

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

D. <u>Environmental Hazards</u>

Eugene Island Block 330 is not located within a geographic area impacted by strong environmental phenomena, other than potential hurricanes in the Gulf of America. The permanent structure has been designed to meet the current regulations and design criteria for these hurricane events. To mitigate potential impacts to the facility and/or wells during impending hurricanes, Arena will take precautionary measures to secure the facility, shutting in the wells and evacuating personnel for evacuation as further detailed in our U.S. Coast Guard Emergency Evacuation Plan.

E. Alternatives

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

F. <u>Mitigation Measures</u>

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 Office) adeady@arenaoffshore.com

I. References

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

Document	Author	Dated
NTL 2005-G07 "Archaeological Resource Surveys	Bureau of Ocean Energy	
and Reports"	Management	2005
	Bureau of Ocean Energy	
NTL 2008-G05 "Shallow Hazards Program"	Management	2008
	-	
NTL 2008-N05 "Guidelines for Oil Spill Financial	Bureau of Ocean Energy	
Responsibility (OSFR) for Covered Facilities	Management	2008
	-	
NTL 2009-G04 "Significant OCS Sediment	Bureau of Ocean Energy	
Resources in the Gulf of America	Management	2009
NTL 2009-N11 "Air Quality Jurisdiction on the	Bureau of Ocean Energy	
OCS"	Management	2009
NTL 2009-G26 "U.S. Air Force Communication	Bureau of Ocean Energy	
Towers"	Management	2009
NTL 2009-G27 "Submitting Exploration Plans		
and Development Operations Coordination	Bureau of Ocean Energy	
Documents"	Management	2009

Document	Author	Dated
NTL 2009-G29 "Implementation Plan for	140 1101	Dated
Transition from North American Datum 27 to	Bureau of Ocean Energy	
North American Datum 83	Management	2009
	Bureau of Safety and	
NTL 2009-G31 "Hydrogen Sulfide"	Environmental Enforcement	2009
, 0	Bureau of Ocean Energy	
NTL 2009-G34 "Ancillary Activities"	Management	2009
•		
NTL 2009-G40 "Deepwater Benthic	Bureau of Ocean Energy	
Communities"	Management	2009
NTL 2009-G39 "Biologically-Sensitive Underwater	Bureau of Ocean Energy	
Features and Areas"	Management	2010
	Bureau of Ocean Energy	
NTL 2011-G01-JOINT "Revision to the List of	Management/Bureau of Safety	
OCS Lease Blocks Requiring Archaeological	and Environmental	
Resource Surveys and Reports"	Enforcement	2011
BSEE NTL 2015-G03 "Marine Trash & Debris	Bureau of Safety and	
Awareness & Elimination"	Environmental Enforcement	2015
NTL 2014-G04 "Military Warning and Water Test	Bureau of Ocean Energy	
Areas	Management	2014
NTL 2015-N01 "Information Requirements for		
Exploration Plans, Development & Production	Bureau of Ocean Energy	2015
Plans, and Development Operations Coordination	Management	2013
Documents on the OCS for Worst Case Discharge		
and Blowout Scenarios"		
	Bureau of Ocean Energy	
NTL 2015-N04 "General Financial Assurance"	Management	2015
NTL 2015-N06 "Procedures and Requirements for	Bureau of Ocean Energy	
Right-of-Use and Easement Requests for	Management	2015
Platforms, Artificial Island, Installations and Other	ivianagement	
Devices Attached to the Seabed"		
	Bureau of Ocean Energy	
NTL 2016-N01 – Requiring Additional Security	Management	2016
NTL 2016-G01 – Vessel Strike Avoidance and	Bureau of Ocean Energy	Reissued
Injured/Dead Protected Species Reporting	Management	2019

Arena Offshore, LP Eugene Island Blocks 330/337

Document	Author	Dated
NTL 2016-G02 "Implementation of Seismic		
Survey Mitigation Measures and Protected Species	Bureau of Ocean Energy	Reissued
Observer Program"	Management	2019
NPDES General Permit GMG290000	EPA – Region VI	2023
	Bureau of Ocean Energy	
Title 30 CFR Part 550	Management	2025
	Bureau of Safety and	
Title 30 CFR Part 250	Environmental Enforcement	2025
Regional Oil Spill Response Plan	J. Connor Consulting	2025
	Office of Protected Resources,	
	National Marine Fisheries	2020,
Biological Opinion on the Federally Regulated Oil	Service, National Oceanic and	2021,
and Gas Program Activities in the Gulf of America	Atmospheric Administration,	2022,
(FPR-2017-9234)	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:

Document	Author	Dated
Revised DOCD		
(Plan Control No. R-7221)	Arena Offshore, LP	2023
Initial DOCD		
(Plan Control No. I-10223)	Arena Offshore, LP	2023
Supplemental DOCD		
(Plan Control No. S-7504)	Apache Corporation	2011
Supplemental DOCD	Pennzoil Exploration	
(Plan Control No. S-1666)	Production Company	1985
Regional Oil Spill Response Plan	J. Connor Consulting	2025

Arena Offshore, LP Eugene Island Blocks 330/337 Eugene Island Blocks 330 and 337 (Leases OCS-G 02115/37171) **OCS Plan Information Form** Attachment A (Public Information)

OMB Control Number: 1010-0151 OMB Approval Expires: 10/31/2027

OCS PLAN INFORMATION FORM

					General	Inform	ma	ation					
	of OCS Plan:		ration Plan (EP)	Dev				Coordination Docume	ent (D	OCD)			X
Comp	oany Name: Arena Off	shore, LP						umber: 02628					
Addre	ess:				Contact P	Contact Person: Aimee Deady							
	2103 Research F	orest Driv	e, Suite 200		Phone Number: 281-210-3180								
	The Woodlar	ds, Texa	s 77380		E-Mail Address: adeady@arenaoffshore.com								
If a se	ervice fee is required u	nder 30 CF	R 550.125(a), pro	ovide t	he A	Amount	pa	\$38,955	Rece	ipt N	0.	27	NRCIUD & 27R95PE
			Project and	Wor				ge (WCD) Informa	ation				
Lease	(s): OCS-G 02115/371	71	Area: El 330/337	Block				(If Applicable):					
_	ctive(s) X Oil X	Gas	Sulphur Total Volume of	Salt			rt E	Base(s): Abbeville, Lo					
	rm/Well Name: B/B Wells			API G	avity:	30°							
	nce to Closest Land (M							l blowout: 12,700 bbl	ls				
Have	you previously provid	ed informa	tion to verify the	calcul	ations and a	ssumpti	ior	ns for your WCD?		Χ	Yes		No
If so,	provide the Control Nu	ımber of tl	ie EP or DOCD v	vith wl	nich this inf	ormatio	י ח	was provided		S-75	04		
Do yo	ou propose to use new	or unusual	technology to co	nduct y	our activiti	es?					Yes	X	No
Do yo	ou propose to use a ves	sel with an	chors to install or	modi	fy a structui	re?					Yes	Х	No
Do yo	ou propose any facility	lity fo	r deepwater subsea development?						Yes	Х	No		
	De	scription	of Proposed	Activ	vities and	Tenta	ati	ive Schedule (Ma	rk al	l tha	t apply	7)	
	Propo	sed Activit	ty		Star	rt Date		End Da	te			N	o. of Days
Explo	ration drilling												
Deve	opment drilling				02/01/2026 12/31/2031				31			120	0 total days
	completion				included in above included in abo				above)			
Well	test flaring (for more th	an 48 hou	rs)										
Instal	lation or modification	of structure	2										
Instal	lation of production fa	cilities											
Instal	lation of subsea wellhe	ads and/or	manifolds										
Instal	lation of lease term pip	elines											
Comr	nence production				03/1	5/2026	3	12/31/20	39				13 years
Other	(Specify and attach de	scription)											
	Descri	ption of	Drilling Rig					Desci	riptio		Struct		
X	Jackup		Drillship					Caisson		- 20	Tension		
	Gorilla Jackup		Platform rig			X		Fixed platform			Complia		ver
	Semisubmersible		Submersible	:			1	Spar		- 11	Guyed to		
	DP Semisubmersible	h Des	cription)			Floating production system			Other (A	ttach	Description)		
Drilli	ng Rig Name (If Know	n):						ayatem					
						ease T	Ге	erm Pipelines					
Fro	m (Facility/Area/Bloo	k)	To (Facility/A	rea/B	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 Previously reviewed under an approved EP or Yes No X structure, reference previous name): Platform B DOCD? Is this an existing well If this is an existing well or structure, list the 21580-1 or structure? Complex ID or API No. Х Yes Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities? No For structures, volume of all storage and For wells, volume of uncontrolled API Gravity of blowout (Bbls/day): pipelines (Bbls): NA Completion (For multiple completions, **Surface Location Bottom-Hole Location (For Wells)** enter separate lines) OCS OCS Lease No. G 02115 **OCS** Area Name Eugene Island Block No. 330 Blockline N/S Departure: Fs L N/S Departure: N/S Departure: L Departures N/S Departure: L 3881.86' (in feet) N/S Departure: L E/W Departure: E/W Departure: E/W Departure: L Fw L E/W Departure: L 3974.13' E/W Departure: L X: X: Lambert X-X: 1,883,796.85' coordinates X: Y: Y: Y: 161,182.96' Y: Latitude Latitude Latitude/ Latitude Longitude 28° 13' 22.7419" N Latitude Longitude Longitude Longitude Longitude 91° 41' 38.4508" W Longitude Water Depth (Feet): MD (Feet): TVD (Feet): MD (Feet): TVD (Feet): MD (Feet): TVD (Feet): TVD (Feet): Anchor Radius (if applicable) in feet: MD (Feet): Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary) X Coordinate Length of Anchor Chain on Seafloor Anchor Name Area Block Y Coordinate or No. X = Y = Y = X = Y =X = Y =X = X = Y =

Proposed Well/Structure Location Well or Structure Name/Number (If renaming well or Previously reviewed under an approved EP or Yes No structure, reference previous name): B001 (ST01BP00) DOCD? If this is an existing well or structure, list the Is this an existing well Yes 17-710-40043-01 Complex ID or API No. or structure? Х Yes No Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities? API Gravity of For structures, volume of all storage and For wells, volume of uncontrolled 30° blowout (Bbls/day): 12,700 bbls (S-7504) fluid pipelines (Bbls): Completion (For multiple completions, **Bottom-Hole Location (For Wells) Surface Location** enter separate lines) OCS OCS Lease No. G 02115 OCS Area Name Eugene Island Block No. 330 N/S Departure: L Blockline N/S Departure: Fs_L N/S Departure: N/S Departure: L **Departures** 3926.84' N/S Departure: L (in feet) E/W Departure: E/W Departure: E/W Departure: L Fw_L E/W Departure: L 3971.47' E/W Departure: L X: Lambert X-X: 1,883,794.19' coordinates X: Y: Y: Y: 161,137.98' Y: Latitude Latitude Latitude/ Latitude Longitude 28° 13' 23.1870" N Latitude Longitude Longitude Longitude Longitude 91° 41' 38.4821" W Longitude TVD (Feet): MD (Feet): MD (Feet): Water Depth (Feet): TVD (Feet): MD (Feet): TVD (Feet): 248' MD (Feet): TVD (Feet): Anchor Radius (if applicable) in feet: Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary) Length of Anchor Chain on Seafloor Block X Coordinate Y Coordinate **Anchor Name** Area or No. Y = X = X = Y = Y = X = Y = X = Y = X = Y = X = Y =X =Υ =

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 Previously reviewed under an approved EP or Yes No structure, reference previous name): B002 (ST01BP00) DOCD? If this is an existing well or structure, list the Is this an existing well Yes 17-710-40044-01 Complex ID or API No. or structure? Yes No Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities? API Gravity of For structures, volume of all storage and For wells, volume of uncontrolled 30° blowout (Bbls/day): 12,700 bbls (S-7504) fluid pipelines (Bbls): Completion (For multiple completions, **Bottom-Hole Location (For Wells) Surface Location** enter separate lines) Lease No. OCS OCS G 02115 OCS Area Name Eugene Island Block No. 330 N/S Departure: L Blockline N/S Departure: Fs L N/S Departure: N/S Departure: L Departures 3910.49' N/S Departure: L (in feet) E/W Departure: L E/W Departure: E/W Departure: Fw L E/W Departure: L 3961.58 E/W Departure: L X: Lambert X-X: 1,883,784.30' coordinates X: Y: Y: Y: 161,154.33' Y: Latitude Latitude Latitude/ Latitude Longitude 28° 13' 23.0249" N Latitude Longitude Longitude Longitude Longitude 91° 41' 38.5921" W Longitude TVD (Feet): MD (Feet): TVD (Feet): Water Depth (Feet): MD (Feet): MD (Feet): TVD (Feet): 248' MD (Feet): TVD (Feet): Anchor Radius (if applicable) in feet: Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary) Length of Anchor Chain on Seafloor Block X Coordinate Y Coordinate Anchor Name Area or No. X = Y = X = Y = Y = X = X = Y = X = Y =Y = X =X = Y =

	Proposed Well/Structure Location												
Well or Structu structure, refere	re Name/Nur ence previous	mber (If res s name): B	naming well or 003 (ST01BP00)	Previ DOC	-	under an approved	EP or	X	Yes		No		
Is this an existi or structure?	ng well	Ye			existing well o D or API No.	r structure, list the	17-710-40080-01						
Do you plan to	use a subsea	BOP or a	surface BOP on a floa	ting facility to conduct your proposed activities?					Ye	5]	x No		
WCD info	For wells, v blowout (Bl	olume of u bls/day): 12			etures, volume o s (Bbls):	f all storage and		API Gravity of fluid 30°					
	Surface Lo	cation		Bottom-Hole Location (For Wells)					Completion (For multiple completions, enter separate lines)				
Lease No.	OCS G 02115			ocs				OCS OCS					
Area Name		Eugene	Island										
Block No.		33	0										
Blockline	N/S Departi	ıre:	F <u>s</u> L	N/S I	Departure:	F_	L		Departı Departu		FL FL		
Departures (in feet)	3913.1	13'							Departu Departu		FL		
	E/W Depart	ure:	F <u>w</u> L	E/W	Departure:	F_	L		Depart Departi		F L F L		
	3974.3	31'							Departi Departi		FL		
Lambert X-	X:			X:				X: X:					
Y coordinates	1,883	,797.0	03'										
	Y:		_	Y:									
	161,1	51.69)										
Latitude/ Longitude	Latitude			Latitude					ude ide				
Longitude	28° 13	3' 23.	0514" N					Latitude					
	Longitude			Longi	tude			Longitude Longitude					
	91° 4′	1' 38.4	4499" W					Longitude					
Water Depth (I 244'	eet):			MD (Feet):	TVD (Feet):			(Feet): (Feet):		TVD (Feet): TVD (Feet):		
Anchor Radius	(if applicabl	e) in feet:		1				1	(Feet):		TVD (Feet):		
	1. 6	TO 1111	D' C	4' D	(70 1					`			
Anchor Name			Rig or Construc	tion B	Y Coordinate						on Seafloor		
or No.	Alea	Block	A Coordinate		Coordinate		Leng	tii OI 2	thenor	Chain	on Scarioon		
			X =		Y =								
			X =		Y =						i i		
			X =		Y =								
			X =		Y =								
			X =		Y =								
			X = X =	Y = Y =									
			X =		Y =		-						
			Λ =		1								

Proposed Well/Structure Location														
			enaming well or		iously reviewed	under an appr	oved EP or	X	Yes		No			
			es No Ift	DOC										
Is this an existing or structure?	ng well				his is an existing well or structure, list the mplex ID or API No.					7-710-40087-01				
Do you plan to	use a subse	a BOP or a	surface BOP on a floa	ating fac	ting facility to conduct your proposed activities?					Yes x No				
WCD info					or structures, volume of all storage and ipelines (Bbls):					API Gravity of fluid 30°				
	Surface Lo	ocation		Botto	Bottom-Hole Location (For Wells)					Completion (For multiple completions, enter separate lines)				
Lease No.	OCS G 02115			ocs				OCS OCS						
Area Name		Eugene	e Island											
Block No.		33	30											
Blockline	N/S Depart	ure:	F <u>s</u> L	N/S I	Departure:		F L		Departi			FL F L		
Departures (in feet)	3,917.							N/S I	Departu Departu	re:		FL		
	E/W Depar		F <u>w</u> L	E/W	Departure:		FL		Depart Departi			FL F L		
	3,960.	16'						E/W	Departi			FL		
Lambert X-	X:		0.01	X:					X; X:					
coordinates	1,883	,782.	88'											
	Y:			Ys					Y: Y:					
	161,1	47.47	71											
Latitude/	Latitude			Latitude					tude					
Longitude	28° 1:	3' 23.	0927" N						Latitude Latitude					
	Longitude			Longitude					Longitude					
	91° 4	1' 38.	6082" W					Longitude Longitude						
Water Depth (Feet):			MD (Feet):	TVD (Feet):			(Feet):			(Feet):		
244' Anchor Radius	(if applicab	le) in feet:							(Feet): (Feet):			(Feet): (Feet):		
N .			g Rig or Construc	tion E										
Anchor Name or No.	Area	Block	X Coordinate		Y Coordinat	e	Leng	th of A	Anchor	Chain	on Sea	floor		
			X =		Y =									
			X =		Y =									
			X =		Ϋ́=									
			X =		Y =									
	III.		X =		Υ =									
			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 Previously reviewed under an approved EP or No structure, reference previous name): B005 (ST02BP00) DOCD? If this is an existing well or structure, list the Is this an existing well Yes 17-710-40095-02 Complex ID or API No. or structure? Х Yes No Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities? API Gravity of For structures, volume of all storage and For wells, volume of uncontrolled 30° blowout (Bbls/day): 12,700 bbls (S-7504) fluid pipelines (Bbls): Bottom-Hole Location (For Wells) Completion (For multiple completions, Surface Location enter separate lines) OCS Lease No. G 02115 OCS Area Name Eugene Island Block No. 330 N/S Departure: Blockline N/S Departure: Fs L N/S Departure: L N/S Departure: L Departures 3,904.95' N/S Departure: L (in feet) E/W Departure: E/W Departure: L Fw L E/W Departure: E/W Departure: L 3,969.36' E/W Departure: L X: X: Lambert X-X: 1,883,792.08' X: coordinates Y: **Y**: Y: 161,159.87' Y: Latitude Latitude Latitude/ Latitude Longitude 28° 13' 22.9703" N Latitude Longitude Longitude Longitude Longitude 91° 41' 38.5049" W Longitude TVD (Feet): Water Depth (Feet): MD (Feet): TVD (Feet): MD (Feet): TVD (Feet): MD (Feet): 244' TVD (Feet): MD (Feet): Anchor Radius (if applicable) in feet: Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary) X Coordinate Y Coordinate Length of Anchor Chain on Seafloor Anchor Name Area Block or No. Y =X = X = Y = Y = X = Υ = X = Y = X = X = Y = X = Y =

Proposed Well/Structure Location Previously reviewed under an approved EP or Yes No Well or Structure Name/Number (If renaming well or structure, reference previous name): B006 (ST03BP00) DOCD? If this is an existing well or structure, list the Is this an existing well Yes 17-710-40105-03 or structure? Complex ID or API No. Х No Yes Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities? For structures, volume of all storage and API Gravity of WCD info For wells, volume of uncontrolled 30° blowout (Bbls/day): 12,700 bbls (S-7504) fluid pipelines (Bbls): Bottom-Hole Location (For Wells) Completion (For multiple completions, **Surface Location** enter separate lines) OCS Lease No. G 02115 **OCS** Area Name Eugene Island Block No. 330 N/S Departure: L Blockline N/S Departure: Fs L N/S Departure: N/S Departure: L Departures 3,924.20' N/S Departure: L (in feet) E/W Departure: E/W Departure: E/W Departure: L Fw_L E/W Departure: L 3,958.74' E/W Departure: L X: X: Lambert X-X: 1,883,781.46' coordinates X: Y: Y: Y: 161,140.62' Y: Latitude Latitude Latitude/ Latitude Longitude 28° 13' 23.1605" N Latitude Longitude Longitude Longitude Longitude 91° 41' 38.6243" W Longitude TVD (Feet): MD (Feet): TVD (Feet): MD (Feet): Water Depth (Feet): TVD (Feet): MD (Feet): 248' TVD (Feet): MD (Feet): Anchor Radius (if applicable) in feet: Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary) X Coordinate Y Coordinate Length of Anchor Chain on Seafloor Anchor Name Area Block or No. X = X = Y = X = Y =X = Y = X = Y =X =

Proposed Well/Structure Location															
			naming well or 007 (ST01BP00)	Prev	iously reviewed CD?	under an appro	ved EP or	X	Yes		No				
Is this an existi	ing well				nis is an existing well or structure, list the nplex ID or API No.					17-710-40116-01					
	use a subsea				ting facility to conduct your proposed activities?					s	x	No			
WCD info					or structures, volume of all storage and ipelines (Bbls):					API Gravity of fluid 30°					
	Surface Lo	cation		Botto	Bottom-Hole Location (For Wells)					Completion (For multiple completions, enter separate lines)					
Lease No.	OCS G 02115			OCS G 021	115 (Location BL	.)		OCS OCS							
Area Name		Eugene	sland												
Block No.		33	30												
Blockline Departures (in feet)	N/S Departs 3,906.		F <u>s</u> L	N/S I	Departure:		FL	N/S I	Departi Departu Departu	re:		FL FL FL			
	E/W Depart 3,975.		F <u>w</u> L	E/W	Departure:		F <u>w</u> L								
Lambert X- Y coordinates	x: 1,883	,798.	45'	X:		X: X: X:									
	Y: 161,1	58.55	5'	Y:	Y:					Y: Y: Y:					
Latitude/ Longitude	Latitude 28° 13	3' 22.	9836" N	Latitude					Latitude Latitude Latitude						
	Longitude 91° 4′	1' 38.	4338" W	Long	itude		Longitude Longitude Longitude								
Water Depth (I 244'	Feet):			MD (Feet):	TVD (Feet):			(Feet): (Feet):			(Feet): (Feet):			
Anchor Radius	s (if applicabl	e) in feet:							(Feet):			(Feet):			
Anchor Lo	cations for	Drilling	Rig or Construc	ction E	Barge (If anche	or radius supp	lied above	, not n	ecessai	гу)	-				
Anchor Name or No.	e Area	Block	X Coordinate		Y Coordinate	;	Leng	th of A	nchor	Chair	n on Sea	ifloor			
			X =		Y =										
			X =		Y =										
			X =		Y =										
			X =		Y =										
			X =		Y =										
			X =		Y =										
			X =	Y =											
			X =		Y=										

Proposed Well/Structure Location Well or Structure Name/Number (If renaming well or Previously reviewed under an approved EP or Yes No structure, reference previous name): B008 (ST01BP00) DOCD? If this is an existing well or structure, list the Is this an existing well Yes 17-710-40130-01 or structure? Complex ID or API No. Yes No Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities? API Gravity of For structures, volume of all storage and For wells, volume of uncontrolled 30° blowout (Bbls/day): 12,700 bbls (S-7504) fluid pipelines (Bbls): Completion (For multiple completions, **Bottom-Hole Location (For Wells) Surface Location** enter separate lines) Lease No. OCS G 02115 OCS Area Name Eugene Island Block No. 330 N/S Departure: L Blockline N/S Departure: Fs L N/S Departure: N/S Departure: L Departures 3,918.66' N/S Departure: L (in feet) E/W Departure: E/W Departure: L E/W Departure: Fw L E/W Departure: L 3.966.52' E/W Departure: L X: Lambert X-X: X: 1,883,789.24' coordinates X: Y: Y: Y: 161,146.16' Y: Latitude Latitude Latitude/ Latitude Longitude 28° 13' 23.1059" N Latitude Longitude Longitude Longitude Longitude 91° 41' 38.5371" W Longitude TVD (Feet): MD (Feet): TVD (Feet): Water Depth (Feet): MD (Feet): MD (Feet): TVD (Feet): 248' MD (Feet): TVD (Feet): Anchor Radius (if applicable) in feet: Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary) Length of Anchor Chain on Seafloor Block X Coordinate Y Coordinate Anchor Name Area or No. X = Y = X = Y = Y = X = Y = X = Y = X = Y =Y =X =Y = X =

Proposed Well/Structure Location															
Well or Structustructure, refere			naming well or 009 (ST01BP00)	Previ		under an approved	d EP or	X	Yes]	No				
Is this an existi	ng well	Yo			existing well on the control of the	17-710-40163-01									
Do you plan to	use a subsea	BOP or a	surface BOP on a flo			ivities?		Yes	,	No					
WCD info	For wells, v blowout (Bl	olume of u bls/day): 12			for structures, volume of all storage and ipelines (Bbls):					API Gravity of fluid 30°					
	Surface Lo	cation		Botto	Bottom-Hole Location (For Wells)					Completion (For multiple completions, enter separate lines)					
Lease No.	OCS G 02115			OCS				OCS OCS							
Area Name		Eugene	Island												
Block No.		33													
Blockline Departures	N/S Departi 3,931.		F <u>s</u> L	N/S I	Departure:	F_	L	N/S I	Departur Departur	e:	F L F L				
(in feet)	E/W Depart		F <u>w</u> L	E/W	Departure:	F_	L	E/W	Departure Departu	ire:	FL FL				
	3,957.	32'						E/W Departure: FL E/W Departure: FL							
Lambert X- Y	X:	700 (الم	X:	X:					X: X:					
coordinates	1,883	,700.	J 4	177.	Y:					X: Y:					
	Y: 161,13	33.77	•	Υ:											
Latitude/ Longitude	Latitude			Latitu	de	Latit Latit									
Longitude	28° 13	3' 23.	2283" N					Latitude							
	Longitude	41.00	0.4.0.4.11.1.8.7	Longi	tude			Longitude Longitude							
	A.c.	1' 38.	6404" W					Longitude							
Water Depth (I 248'	Feet):			MD (Feet):	TVD (Feet):			(Feet): (Feet):		TVD (Feet): TVD (Feet):				
Anchor Radius	(if applicable	e) in feet:		•		,J		MD ((Feet):		TVD (Feet):				
Anchor Lo	cations for	Drilling	Rig or Construc	ction B	Barge (If anch	or radius supplied	dabove	, not n	ecessary	y)					
Anchor Name or No.	Area	Block	X Coordinate		Y Coordinate	e	Leng	th of A	Anchor (Chain	on Seafloor				
			X =		Y =										
			X =		Y =										
			X =		Y =										
			X =	Y =											
			X =	Y =											
			X =		Y =										
			X =		Y =										
			X =		Y =										

Proposed Well/Structure Location Well or Structure Name/Number (If renaming well or Previously reviewed under an approved EP or Yes No structure, reference previous name): B010 (ST01BP00) DOCD? If this is an existing well or structure, list the Is this an existing well Yes 17-710-40171-01 Complex ID or API No. or structure? Х Yes No Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities? API Gravity of For structures, volume of all storage and For wells, volume of uncontrolled 30° blowout (Bbls/day): 12,700 bbls (S-7504) fluid pipelines (Bbls): **Bottom-Hole Location (For Wells)** Completion (For multiple completions, **Surface Location** enter separate lines) OCS OCS Lease No. G 02115 OCS Area Name Eugene Island Block No. 330 N/S Departure: L Blockline N/S Departure: Fs_L N/S Departure: N/S Departure: L **Departures** 3,903.64' N/S Departure: Ι. (in feet) E/W Departure: E/W Departure: E/W Departure: L Fw L E/W Departure: L 3,963.00' E/W Departure: L X: X: Lambert X-X: 1,883,785.72' coordinates X: Y: Y: Y: 161,161.18 Y: Latitude Latitude Latitude/ Latitude Longitude 28° 13' 22.9571" N Latitude Longitude Longitude Longitude Longitude 91° 41' 38.5760" W Longitude TVD (Feet): Water Depth (Feet): MD (Feet): TVD (Feet): MD (Feet): TVD (Feet): MD (Feet): TVD (Feet): MD (Feet): Anchor Radius (if applicable) in feet: Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary) Block X Coordinate Y Coordinate Length of Anchor Chain on Seafloor Anchor Name Area or No. X = Y = X = Y = Y = X = X = Y = X = Y = X = X = Y = X = Y =

Proposed Well/Structure Location Well or Structure Name/Number (If renaming well or Previously reviewed under an approved EP or No structure, reference previous name): B011 (ST00BP00) DOCD? If this is an existing well or structure, list the Is this an existing well Yes 17-710-40252-00 Complex ID or API No. or structure? Х Yes No Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities? API Gravity of For structures, volume of all storage and For wells, volume of uncontrolled 30° blowout (Bbls/day): 12,700 bbls (S-7504) fluid pipelines (Bbls): **Bottom-Hole Location (For Wells)** Completion (For multiple completions, **Surface Location** enter separate lines) Lease No. OCS G 02115 OCS Area Name Eugene Island Block No. 330 N/S Departure: Blockline N/S Departure: Fs L N/S Departure: L N/S Departure: L Departures 3,925.52' N/S Departure: I. (in feet) E/W Departure: L E/W Departure: E/W Departure: Fw L E/W Departure: L 3,965.10' E/W Departure: L X: X: Lambert X-X: 1,883,787.82' coordinates X: Y: Y: Y: 161,139.30' Y: Latitude Latitude Latitude/ Latitude Longitude 28° 13' 23.1737" N Latitude Longitude Longitude Longitude Longitude 91° 41' 38.5532" W Longitude MD (Feet): TVD (Feet): Water Depth (Feet): MD (Feet): TVD (Feet): MD (Feet): TVD (Feet): 248' MD (Feet): TVD (Feet): Anchor Radius (if applicable) in feet: Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary) Length of Anchor Chain on Seafloor Block X Coordinate Y Coordinate Anchor Name Area or No. X= Y = X = Y = Y = X = X = Y = Y = X = Y = Y = X =X =V =

Proposed Well/Structure Location Previously reviewed under an approved EP or Well or Structure Name/Number (If renaming well or Yes No structure, reference previous name): B012 (ST01BP00) DOCD? If this is an existing well or structure, list the Is this an existing well Yes 17-710-40210-01 Complex ID or API No. Х or structure? Yes Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities? API Gravity of For structures, volume of all storage and For wells, volume of uncontrolled 30° blowout (Bbls/day): 12,700 bbls (S-7504) pipelines (Bbls): Completion (For multiple completions, **Bottom-Hole Location (For Wells) Surface Location** enter separate lines) Lease No. OCS OCS G 02115 OCS Area Name Eugene Island Block No. 330 N/S Departure: L N/S Departure: Blockline N/S Departure: Fs L N/S Departure: L Departures 3,919.98' N/S Departure: L (in feet) E/W Departure: L E/W Departure: E/W Departure: Fw L E/W Departure: L 3,972.89' E/W Departure: L X: Lambert X-X: 1,883,795.61' X: coordinates Y: Y: Y: 161,144.84' Y: Latitude Latitude Latitude/ Latitude Longitude 28° 13' 23.1192" N Latitude Longitude Longitude Longitude Longitude 91° 41' 38.4660" W Longitude MD (Feet): TVD (Feet): MD (Feet): TVD (Feet): Water Depth (Feet): MD (Feet): TVD (Feet): 248' MD (Feet): TVD (Feet): Anchor Radius (if applicable) in feet: Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary) Y Coordinate Length of Anchor Chain on Seafloor **Anchor Name** Block X Coordinate Area or No. X = Y = X = Y = X = Y = X = Y = Y = Y =X =

			Prop	osed '	Well/Structu	re Location	n				
			enaming well or 013 (ST00BP00)	Prev DOC	iously reviewed CD?	under an app	roved EP or	X	Yes		No
Is this an existi	ng well				n existing well o	or structure, lis	st the	7-7	10-4	023	37-00
H.	use a subse		surface BOP on a flo			your propose	d activities	7	Ye	s	x No
WCD info	For wells, blowout (I	volume of Bbls/day): 1			ctures, volume o s (Bbls):	of all storage a	nd	API C	Gravity	of	30°
	Surface L	ocation		Botto	om-Hole Locati	on (For Wells	s)		pletion separa		multiple completions, es)
Lease No.	OCS G 02115			OCS				OCS OCS			
Area Name		Eugene	sland								
Block No.		33	30								
Blockline Departures (in feet)	N/S Depar 3,911		F <u>s</u> L	N/S	Departure:		FL	N/S	Departu Departu Departu	ire:	F L F L F L
	E/W Depa 3,967		F <u>w</u> L	E/W	Departure:		F L	E/W	Depart Depart Depart	ure:	FL FL FL
Lambert X- Y coordinates	x: 1,883	3,790.	66'	X:				X: X: X:			
	Y: 161, 1	53.0	ľ	Y:				Y: Y: Y:			
Latitude/ Longitude	Latitude 28° 1	3' 23.	0381" N	Latitu	ıde			Latit Latit Latit	ude		
	Longitude 91° 4		5210" W	Long	itude			Long	gitude gitude gitude		
Water Depth (I 248'	Feet):			MD ((Feet):	TVD (Feet)			(Feet): (Feet):		TVD (Feet): TVD (Feet):
Anchor Radius	(if applicat	ole) in feet:		4					(Feet):		TVD (Feet):
Anchor Lo	cations fo	r Drillin	g Rig or Constru	ction E	Barge (If anch	or radius sup	plied above	e, not n	ecessa	ry)	
Anchor Name or No.		Block	X Coordinate		Y Coordinat						n on Seafloor
			X =		Y =					_	
			X =		Y =						
			X =		Υ =						
			X =		Y =						
			X =		Y =						
			X =		Y =						
			X =		Y =						
			X =		Y =						

			Prop	osed V	Well/Struct	ure Location					
			naming well or 014 (ST01BP00)	DOC	D?	ed under an appr		r X	Yes		No
Is this an existi or structure?	ing well	Y			n existing well D or API No.	or structure, list	t the	17-7	10-4	027	' 4-01
Do you plan to	use a subsea	BOP or a	surface BOP on a floa	ting fac	cility to condu	ct your proposed	d activities	?	Yes	s	x No
WCD info	For wells, v			ipelines	s (Bbls):	of all storage ar		fluid	ravity o		30°
	Surface Lo	cation		Botto	m-Hole Loca	tion (For Wells)		pletion : separa		multiple completions, es)
Lease No.	OCS G 02115			OCS				OCS OCS			
Area Name		Eugene	sland								
Block No.		33	30								
Blockline Departures (in feet)	N/S Departs 3,932.		F <u>s</u> L	N/S I	Departure:		F I	N/S	Departi Departu Departu	re:	FL FL FL
(2335)	E/W Depart 3,963.		F <u>w</u> L	E/W	Departure:		F I	E/W	Depart Depart Depart	ıre:	FL FL FL
Lambert X- Y coordinates	x: 1,883	,786.	40'	X:				X: X: X:			
	Y: 161,1	32.45	5'	Y:				Y: Y: Y:			
Latitude/ Longitude	Latitude 28° 13	3' 23.	2415" N	Latitu	ıde			Lati Latit Latit			
	Longitude 91° 4°	1' 38.	5693" W	Long	itude			Long	gitude gitude gitude		
Water Depth (1 244'	Feet):			MD (Feet):	TVD (Feet):			(Feet): (Feet):		TVD (Feet): TVD (Feet):
Anchor Radius	s (if applicabl	le) in feet:		1					(Feet):		TVD (Feet):
Anchor I o	cations for	r Drilling	g Rig or Construc	tion F	Parge (If and	hor radius sun	plied abov	e, not	necessar	ry)	
Anchor Name			X Coordinate		Y Coordin						n on Seafloor
			X =		Y =			_			
			X =		Y =						
			X =		Y =						
	1/		X =		Y =						
			X =		Y =						
	-		X =		Y =						
			X =		Y =						
			X =		Y=						

						Well/Structu						
Well or Structustructure, refere	re Name/Nur ence previous	mber (If re s name): B	naming w 015 (ST0	vell or 1BP00)	Previ	iously reviewed D?	under an appro	oved EP or	X	Yes		No
Is this an existi or structure?	ng well	Y				existing well on the control of the	or structure, list	the 1	7-7			36-01
Do you plan to	use a subsea	BOP or a	surface B	SOP on a flo	ating fac	cility to conduct	your proposed	activities?		Ye	5	x No
WCD info	For wells, ve blowout (Bl				For struc pipelines	ctures, volume o s (Bbls):	f all storage an		fluid	ravity (30°
	Surface Lo	cation			Botto	m-Hole Location	on (For Wells)			pletion separa		multiple completions, les)
Lease No.	OCS G 02115				ocs				OCS OCS			
Area Name		Eugene	Island	b								
Block No.		33	30									
Blockline	N/S Departi			Fs_L	N/S I	Departure:		FL		Departı Departu		FL F L
Departures (in feet)	3,899.								N/S I	Departu	re:	FL
	E/W Depart			F <u>w</u> L	E/W	Departure:		FL		Depart Departi		FL FL
	3,977.	14							E/W	Departi		FL
Lambert X- Y	X:	700	0.01		X:				X: X:			
coordinates	1,883	,799.	86.						X:			
	Y: 161,10	65.40)'		Y:				Y: Y: Y:			
Latitude/	Latitude				Latitu	de			Latit	tude		
Longitude	28° 13	3' 22.	9158	8" N					Latiti Latiti			
	Longitude				Longi	itude				gitude		
	91° 4′	1' 38.	4177	" W					Long Long			
Water Depth (I 248'	Feet):				MD (Feet):	TVD (Feet):			(Feet): (Feet):		TVD (Feet): TVD (Feet):
Anchor Radius	(if applicable	e) in feet:					1.			(Feet):		TVD (Feet):
Anghan I a	nations for	Drilling	Dia on	Constru	ction D	Barge (If anch	or radine curr	lied above	not n	PCP2201	w)	
Anchor Name		Block			ction D	Y Coordinate						n on Seafloor
or No.												
			X =			Y =						
			X = X =			Y = Y =						
			X =			Y =		-				
			X =			Y =						
			X =			Y =						
			X =			Y =						
			X =			Y =						

Proposed Well/Structure Location No Well or Structure Name/Number (If renaming well or Previously reviewed under an approved EP or Yes structure, reference previous name): B016 (ST01BP00) DOCD? If this is an existing well or structure, list the Is this an existing well 17-710-40302-01 or structure? Χ 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 For structures, volume of all storage and For wells, volume of uncontrolled API Gravity of WCD info 30° blowout (Bbls/day): 12,700 bbls (S-7504) fluid pipelines (Bbls): Completion (For multiple completions, **Bottom-Hole Location (For Wells)** Surface Location enter separate lines) OCS OCS Lease No. G 02115 OCS Area Name Eugene Island Block No. 330 Blockline N/S Departure: Fs L N/S Departure: N/S Departure: L Departures N/S Departure: L 3.933.69' (in feet) N/S Departure: L E/W Departure: E/W Departure: E/W Departure: L Fw L E/W Departure: L 3,970.05' E/W Departure: X: X: Lambert X-X: 1,883,792.77 coordinates X: Y: Y: Y: 161,131.13' Y: Latitude Latitude Latitude/ Latitude Longitude 28° 13' 23.2548" N Latitude Longitude Longitude Longitude Longitude 91° 41' 38.4982" W Longitude TVD (Feet): MD (Feet): TVD (Feet): Water Depth (Feet): MD (Feet): MD (Feet): TVD (Feet): TVD (Feet): MD (Feet): Anchor Radius (if applicable) in feet: Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary) Length of Anchor Chain on Seafloor Anchor Name Area Block X Coordinate Y Coordinate or No. Y = X = Y = X = Y = X = Y = X = Y = Y =

			Ancie				- Prince Person		e Location					
Well or Structu structure, refere	re Name/Nu	umber (If re us name): E	naming 1017 (ST	well o	or 200)	Previ		wed 1	ınder an appro	ved EP or	X	Yes		No
Is this an existing or structure?	ng well		es X				existing w D or API N		structure, list	the	17-7	10-4	103	04-00
Do you plan to	use a subse	a BOP or a	surface	BOP	on a floa	ating fac	ility to con	duct	your proposed	activities	?	Ye	es	x No
WCD info	For wells, blowout (E	volume of Bbls/day): 1					tures, volu (Bbls):	me of	all storage and	d	fluid	Gravity		30°
	Surface L	ocation				Botto	m-Hole Lo	catio	n (For Wells)			pletior r separ		r multiple completions, ines)
Lease No.	OCS G 02115					OCS					OCS OCS			
Area Name		Eugene	e Islar	nd										
Block No.	1	33	30											
Blockline Departures (in feet)	N/S Depar 3,898			Fs	L	N/S I	Departure:			FL	N/S	Depart Depart Depart	ure:	FL FL FL
(E/W Depa 3,970			F <u>w</u>	L	E/W	Departure:			FL	E/W	Depar Depar Depar	ture:	: FL FL FL
Lambert X- Y coordinates	x: 1,883	3,793.	50'			X:					X: X: X:			
	Y: 161,1	166.72	2'			Y:					Y: Y: Y:			
Latitude/ Longitude	Latitude 28° 1	3' 22.	902	:5"	N	Latitu	de				Lati	itude tude tude		
	Longitude 91° 4	1' 38.	488	8"	W	Long	itude				Lon	igitude gitude gitude		
Water Depth (I 248'	Feet):					MD (Feet):		TVD (Feet):			(Feet)		TVD (Feet): TVD (Feet):
Anchor Radius	(if applicat	ole) in feet:										(Feet):		TVD (Feet):
Anchor Loc	rations fo	r Drillin	σ Riσ 4	or C	onstru	ction F	arge (If:	ancho	or radius sunr	lied abov	e, not	necessa	ary)	
Anchor Name							Y Coord							ain on Seafloor
51 110			X =				Y =							
			X =				Y =							
			X =				Y =							
			X =				Y =							
			X =				Y =							
			X =				Y =							
			X =				Y =							
	-		X =				Y =							

			Prop	osed V	Well/Struct	ure Location				
Well or Structu structure, refere	re Name/Nut	mber (If res s name): B	018 (ST00BP00)	DOC	D?	d under an appro		X	es	No
Is this an existing or structure?	ng well	Ye			existing well D or API No.	or structure, list	the 1	7-710)-403	12-00
	use a subsea		surface BOP on a floa			ct your proposed	activities?		Yes	x No
WCD info	For wells, v blowout (Bl			ipelines	s (Bbls):	of all storage and		API Grav		30°
	Surface Lo	cation		Botto	m-Hole Loca	tion (For Wells)			etion (For eparate li	r multiple completions, nes)
Lease No.	OCS G 02115			ocs				OCS OCS		
Area Name		Eugene	Island							
Block No.		33	30							
Blockline Departures	N/S Departs 3,896.		F <u>s</u> L	N/S I	Departure:		FL	N/S De		FL FL
(in feet)	E/W Depart		F <u>w</u> L	E/W	Departure:		FL		eparture:	FL FL FL
	3,964.	41'							eparture: eparture:	FL
Lambert X- Y coordinates	x: 1,883	,787.	13'	X:				X: X: X:		
000141111100	Y:			Y:				Y: Y:		
	161,1	68.04	."					Y:		
Latitude/ Longitude	Latitude 28° 13	3' 22.	8893" N	Latitu	ıde			Latitud Latitud	e	
	Longitude	1' 38	5599" W	Longi	itude			Longitu	ıde	
Water Depth (I	4	1 30.	3333 VV	MD (Feet):	TVD (Feet):		Longitu MD (F		TVD (Feet):
248'								MD (F		TVD (Feet): TVD (Feet):
Anchor Radius										1.2 (2.000).
			g Rig or Construc	ction B						
Anchor Name or No.	Area	Block	X Coordinate		Y Coordin	ate	Leng	gtn of An	cnor Ch	ain on Seafloor
			X =		Y =					
			X =		Y =					
			X =		Y =					
			X =		Y = Y =					
			X = X =		Y =					
			X = X =		Y =					
			X = X =		Y =					
					1					

Proposed Well/Structure Location Well or Structure Name/Number (If renaming well or Previously reviewed under an approved EP or Yes No X structure, reference previous name): Platform D DOCD? If this is an existing well or structure, list the Is this an existing well Yes 23240-1 or structure? Х Complex ID or API No. Yes No Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities? API Gravity of For structures, volume of all storage and For wells, volume of uncontrolled 31° fluid blowout (Bbls/day): pipelines (Bbls): 752 bbls Surface Location **Bottom-Hole Location (For Wells)** Completion (For multiple completions, enter separate lines) Lease No. OCS G 02115 OCS Area Name Eugene Island Block No. 330 N/S Departure: L Blockline N/S Departure: FN L N/S Departure: N/S Departure: L Departures 3770.78 N/S Departure: L (in feet) E/W Departure: E/W Departure: E/W Departure: L FE_L E/W Departure: L 4150.06 E/W Departure: X: X: Lambert X-X: 1,890,594.82' coordinates X: Y: Y: Y: 154,267.02' Y: Latitude Latitude Latitude/ Latitude Longitude 28° 14' 31.3988" N Latitude Longitude Longitude Longitude Longitude 91° 40' 22.7200" W Longitude TVD (Feet): Water Depth (Feet): MD (Feet): TVD (Feet): MD (Feet): TVD (Feet): MD (Feet): 250' TVD (Feet): MD (Feet): Anchor Radius (if applicable) in feet: Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary) Block X Coordinate Y Coordinate Length of Anchor Chain on Seafloor Anchor Name Area or No. X = ¥ = X = Y = Y = X = X = Y = Y = X = X = Y =Y =X =Y = X =

										re Locati							
Well or Structu structure, refere	re Name/Nu ence previou	mber (If res s name): C	enamir 0001 (ng wo	ell or 0BP0		Prev DO0	-	eviewed	under an a	pproved	EP or	X	Yes		No	
Is this an existi	ng well		es X		N		this is a			r structure,	list the	1	7-7	10-4	10	56-00	
Do you plan to	use a subse	a BOP or a	surfa	ce B	ОР о		-			your propo	sed acti	vities?		Ye	s	x No	
WCD info	For wells, v						oipeline	s (Bbls)	:	f all storag			fluid	ravity		30°	
	Surface Lo	ocation					Botto	m-Hol	e Locatio	on (For W	ells)			pletion separa		multiple completiones)	ns,
Lease No.	OCS G 02115						ocs						OCS OCS				
Area Name		Eugene	e Isla	and													
Block No.		33	30														
Blockline	N/S Depart	ure:		I	F_N_	L	N/S	Departu	re:		F_	_L		Depart		F L F L	
Departures (in feet)	3653.7	78'												Departu Departu		FL	
	E/W Depar			I	FE	_L	E/W	Departi	ıre:		F_	_L		Depart Depart		FI F I	
	4263.8	33'											E/W	Depart		FL	
Lambert X- Y coordinates	x: 1,890	,581.	05'				X:						X: X: X:				
coordinates	Y:	,				_	Y:						Y:				
	154,2	20.02	2'										Y: Y:				
Latitude/	Latitude						Latitu	ıde					Latit				
Longitude	28° 1	4' 31.	863	35	"	1							Latit				
	Longitude						Long	itude						gitude itude			
	91° 4	0' 22.	87	55	" V	V							Long	itude			
Water Depth (F 248'	Feet):						MD ((Feet):		TVD (Fee	et):			(Feet): (Feet):		TVD (Feet): TVD (Feet):	
Anchor Radius	(if applicab	le) in feet:											MD	(Feet):		TVD (Feet):	
Anchor Loc	cations for	r Drillin	g Rig	or	Cor	stru	ction I	Barge	(If anch	or radius s	upplied	above,	not n	ecessa	ry)		
Anchor Name or No.	Area	Block	XC	coord	dina	ie		Y Co	ordinat	9		Lengt	th of A	Anchor	Chai	in on Seafloor	
			X =	=				Y =									
			X =					Y =									
			X =					Y =									
			X =					Y =									
			X =					Y = Y =					_				
			X					Y=			_						
			X					Y =							_		
		J															

			Prop	posed V	Well/Struct	ure Locat	ion				
Well or Structustructure, refere	re Name/Nur ence previous	mber (If re s name): D	naming well or 002 (ST00BP00)	Previ	iously reviewe CD?	ed under an a	ipproved E	P or X	Yes	N	No
Is this an existi or structure?	ng well	Ye			n existing well D or API No.	or structure,	, list the	17-7	10-41	1169	9-00
Do you plan to	use a subsea	BOP or a	surface BOP on a flo	ating fac	cility to condu	ct your propo	osed activit	ties?	Yes	×	No
WCD info	For wells, velowout (Bb	olume of u ols/day): 12		For struc	ctures, volume s (Bbls):	of all storag	ge and	API G	ravity o	f (30°
	Surface Lo	cation		Botto	m-Hole Loca	tion (For W	ells)		pletion (separat		nultiple completions, s)
Lease No.	OCS G 02115			ocs				OCS OCS			
Area Name		Eugene	Island								
Block No.		33									
Blockline Departures (in feet)	N/S Departu 3665.1	1'	F <u>n</u> L		Departure:		F	N/S I N/S I	Departu Departur Departur	e: e:	FL FL FL
	E/W Depart 4252.7		F <u>E</u> L	E/W	Departure:		F	E/W E/W	Departu Departu Departu	re:	FL FL FL
Lambert X- Y coordinates	x: 1,890,	,592.	18'	X:				X: X: X:			
	Y: 154,23	31.35) '	Y:				Y: Y: Y:			
Latitude/ Longitude	Latitude 28° 14	1' 31.	7517" N	Latitu	ıde			Latit Latiti Latiti	ıde		
	Longitude 91° 40)' 22.	7507" W	Longi	itude			Long Long Long			
Water Depth (F 247'	eet):			MD (Feet):	TVD (Fe	et):		(Feet): (Feet):		TVD (Feet): TVD (Feet):
Anchor Radius	(if applicable	e) in feet:						MD	(Feet):		TVD (Feet):
Anchor Loc	cations for	Drilling	Rig or Constru	ction B	Barge (If and	hor radius s	supplied al	bove, not n	ecessar	y)	
Anchor Name or No.	Area	Block	X Coordinate		Y Coordina	ite	I	Length of A	Anchor (Chain	on Seafloor
			X =		Y =						
			X =		Y =						
1			X =		Y =						
			X =		Y =						
			X =		Y =						
			X =		Y =						
			X =		Y =						
			X =		Y =						

			Prop	osed V	Well/Structu	re Locatio	1					
Well or Structu structure, refer	ire Name/Nu ence previous	mber (If re s name): D	naming well or 003 (ST02BP00)	Prev	iously reviewed CD?	under an app	roved EP or	X	Yes	N	lo .	
Is this an existi or structure?	ing well	Y			n existing well o D or API No.	r structure, lis	st the 1	7-71	0-41	178	3-02	
Do you plan to	use a subsea	BOP or a	surface BOP on a floa	ating fac	cility to conduct	your propose	d activities?		Yes	x	1	No
WCD info	For wells, v blowout (Bl				ctures, volume o s (Bbls):	f all storage a	nd	fluid	avity of		30°	
	Surface Lo	cation		Botto	m-Hole Location	on (For Wells	s)		letion (I separate			completions,
Lease No.	OCS G 02115			ocs				OCS OCS				
Area Name		Eugene	sland									
Block No.		33	30									
Blockline Departures	N/S Departs 3662.6		F_N L	N/S I	Departure:		FL	N/S D	Departure Jeparture Jeparture	:		FL FL FL
(in feet)	E/W Depart	ture:	F <u>e</u> L	E/W	Departure:		F L	E/W I	Departur Departure Departure	re:		F L F L F L
Lambert X- Y coordinates	x: 1,890	,575.	82'	X:				X: X: X:				
	Y: 154,2	28.85	5'	Y:				Y: Y: Y:				
Latitude/ Longitude	Latitude 28° 14	4' 31.	7760" N	Latitu	ide			Latitu Latitu Latitu	de			
	Longitude 91° 40	D' 22.	9336" W	Longi	itude			Long Longi Longi	tude			
Water Depth (1 247'	Feet):			MD (Feet):	TVD (Feet)		MD (TVD (
Anchor Radius	s (if applicabl	e) in feet:		1				MD (I			TVD (
Anchor Lo	cations for	Drilling	Rig or Construc	tion B	Sarge (If anch	or radius sup	plied above	e, not ne	ecessary)		
Anchor Name or No.	e Area	Block	X Coordinate		Y Coordinate		Leng	gth of A	nchor C	hain	on Seaf	loor
			X =		Y =							
			X =		Y =							
			X =		Y =							
			X =		Y =							
			X =		Y =							
			X =		Y =							
			X =		Y =							
			X =		Y =							

										re Location					
Well or Structustructure, refere)	Previ DOC	-	viewed	under an appro	oved EP or	X	Yes		No
Is this an existi or structure?			Yes X		No	Cor	nplex I	D or AP	l No.	r structure, list	- 4				84-00
Do you plan to	use a subse	ea BOP o	r a surfa	ace B	OP on	a floa	ting fac	ility to c	onduct	your proposed	activities?		Υe	S	x No
WCD info	For wells, blowout (I							tures, vo (Bbls):	lume o	f all storage an	d	fluid	Gravity		30°
	Surface L	ocation					Botto	m-Hole	Locatio	on (For Wells)		ente	r separ		multiple completions, nes)
Lease No.	OCS G 02115						ocs					OCS OCS			
Area Name		Eugei	ne Isl	and											
Block No.			330												
Blockline	N/S Depar	ture:			FN	L	N/S I	Departur	e:		FL		Depart		FL
Departures (in feet)	3660.	50'											Departi Departi		FL FL
	E/W Depa	rture:			F <u>E</u>	L	E/W I	Departur	e:		FL		Depar Depart		FL F L
	4261.	87'											Depart		FL
Lambert X- Y	X:						X:					X: X:			
coordinates	1,890),583	3.01	•								X:			
	Y:		7 4 1				Y:					Y: Y:			
	154,2	226.7	4'									Y:			
Latitude/ Longitude	Latitude	41.04	. 70	71	U KI		Latitu	de				Lati Latit			
	28° 1		1.79	71	. IA							Latit			
	Longitude		0.5	22	II \ A	,	Longi	tude					gitude gitude		
	91° 4	0 22	2.00	SS	VV) (D) (I			TTIP (T. 1)			gitude		TVD (F4).
Water Depth (F 247'	·eet):						MD (I	reet):		TVD (Feet):			(Feet):		TVD (Feet): TVD (Feet):
Anchor Radius	(if applical	ole) in fee	et:									MD	(Feet):		TVD (Feet):
Anchor Loc	cations fo	r Drilli	ng Ri	g or	Cons	truc	tion B	arge (l	f ancho	or radius supp	lied above	, not r	iecessa	ry)	
Anchor Name or No.	Area	Block	X	Coor	dinate			Y Coo	rdinate		Leng	th of A	Anchor	Chai	in on Seafloor
			X	=				Y =							
			X	=				Y =							
			X					Y =							
			X					Y =							
			X					Y =							
			X					Y = Y =							
			X					Y =							
			^					1 -							

			Pro	posed V	Vell/Structu	re Location					
Well or Structu structure, refere	re Name/Nu ence previou	ımber (If rei is name): D	005 (ST01BP01)	DOC	D?	under an approved		X	Yes	N	No
Is this an existing or structure?	ng well	Ye			existing well or D or API No.	structure, list the	1	7-71	0-41	187	7-02
Do you plan to	use a subse	a BOP or a	surface BOP on a fl	oating fac	ility to conduct	your proposed act	tivities?		Yes	×	No
WCD info		volume of u Bbls/day): 1:	ncontrolled 2,700 bbls (S-7504)	pipelines	(Bbls):	f all storage and		fluid	avity of		30°
	Surface L	ocation		Botto	m-Hole Locatio	on (For Wells)			letion (separat		nultiple completions, s)
Lease No.	OCS G 02115			OCS				OCS OCS			
Area Name		Eugene	Island								
Block No.		33	0								
Blockline	N/S Depar	ture:	F _N _L	N/S I	Departure:	F_	L		Departur epartur		F L F L
Departures (in feet)	3655.	89'						N/S D	eparture	e:	FL
	E/W Depar		F <u>e</u> L	E/W 1	Departure:	F_	L		Departu Departur		FL F L
	4271.	03'					_	E/W I	Departur		FL
Lambert X-	X:			X:				X: X:			
Y coordinates	1,890),573.8	35'					X:			
	Y:	00.40		Y:				Y: Y:			
	154,2	222.13						Y:			
Latitude/ Longitude	Latitude	41.04	0.40.4" N	Latitu	de			Latitu Latitu			
Longitude		4 31.	8424" N					Latitu			
	Longitude	01.00	05501114	Longi	tude			Long Longi			
		0 22.	9558" W			Lorento (D. 1)		Longi			TUD (F-A)
Water Depth (I 247'	Feet):			MD (Feet):	TVD (Feet):		MD (,		TVD (Feet): TVD (Feet):
Anchor Radius	(if applicab	ole) in feet:					1	MD (l	Feet):		TVD (Feet):
Anchor Lo	cations fo	r Drilling	Rig or Constr	uction B	arge (If anche	or radius supplied	d above	, not no	ecessar	y)	
Anchor Name			X Coordinate		Y Coordinate						on Seafloor
			X =		Y =						
			X =		Y =						
			X =		Y =						
			X =		Y =						
			X =		Y =						
			X =		Y =						
			X =		Y = Y =		-				
			X =		1 -						

					4.4			ure Location					
Well or Structu structure, refere					1)	Previo	-	d under an approv	ed EP or	X	Yes		No
Is this an existing or structure?			Yes X	No	Con	nplex II	or API No.	or structure, list th	14	7-7		_	91-02
Do you plan to	use a subsea	BOP or a	a surface	BOP on	a float	ting fac	ility to conduc	t your proposed a	ctivities?		Ye	S	x No
WCD info	For wells, v	olume of ols/day):	uncontro 12,700 bb	lled Is (S-750		pelines	(Bbls):	of all storage and	f	fluid	ravity (30°
	Surface Lo	cation				Botto	n-Hole Locat	ion (For Wells)			pletion separa	•	multiple completions, les)
Lease No.	OCS G 02115					ocs				OCS OCS			
Area Name		Eugen	e Islar	ıd									
Block No.		3	30										
Blockline Departures	N/S Departu			F_N	L	N/S D	eparture:	l	FL		Departı Departu		FL FL
(in feet)	3651.6					EAVI		1			Departu Depart		F L F L
	E/W Depart 4256 .6			F <u>E</u>	L	E/W I	Departure:			E/W	Departi	ıre:	F L
T. I. A.W.	4230.C) J				X:				E/W X:	Departi	ıre:	F L
Lambert X- Y coordinates	1,890	,588.	.25'			Α.				X: X:			
	Y:					Y:				Y:			
	154,2	17.92	2'							Y: Y:			
Latitude/	Latitude					Latitue	de			Latit Latit			
Longitude	28° 14	4' 31.	.884	6" N						Latitu	ıde		
	Longitude	21.00	705	4 II 3 A		Longi	tude			Long	gitude itude		
	91° 40	J' 22.	.795	1" V\	/					Long	itude		Lawre or .
Water Depth (F 274'	Feet):					MD (I	Feet):	TVD (Feet):			(Feet): (Feet):		TVD (Feet): TVD (Feet):
Anchor Radius	(if applicabl	e) in feet:						•		MD	(Feet):		TVD (Feet):
Anchor Loc	eations for	Drillin	g Rig o	r Con	struc	tion B	arge (If and	hor radius suppli	ied above,	not n	ecessa	гу)	
Anchor Name or No.	Агеа	Block	X Co	ordinate			Y Coordina	te	Lengt	h of A	Anchor	Chai	in on Seafloor
			X =				Y =						
			X =				Y =						
			X =				Y =						
			X =				Y =						
			X =				Y =						
			X =				Y = Y =						
			X = X =				Y =						
			A -				,						

			Prop	osed V	Vell/Structu	re Location						
Well or Structu structure, refere	re Name/Nu ence previous	mber (If ren s name): Do	naming well or 007 (ST00BP00)	Previo DOC	ously reviewed D?	under an appro	oved EP or	X	Yes		No	
Is this an existing or structure?	ng well	Ye			existing well on or API No.	or structure, list	the 1	7-7	10-4	137	9-00	
Do you plan to	use a subsea	BOP or a	surface BOP on a flo	ating faci	ility to conduct	your proposed	activities?		Ye	s	х	No
WCD info	For wells, v blowout (B			pipelines				fluid	Gravity (30°	
	Surface Lo	cation		Bottor	m-Hole Locati	on (For Wells)		pletion r separa			e completions,
Lease No.	OCS G 02115			OCS				OCS OCS				
Area Name		Eugene	Island									
Block No.		33	0									
Blockline Departures (in feet)	N/S Depart 3669.3		F <u>N</u> _L	N/S D	Departure:		FL	N/S N/S	Departi Departu Departu	ire: ire:		FL FL FL
	E/W Depar 4267.		F <u>E</u> L	E/W I	Departure:		FL	E/W	Depart Depart Depart	ure:		FL FL FL
Lambert X- Y coordinates	x: 1,890	,577.	78'	X:				X: X: X:				
	Y: 154,2	35.57	71	Y:				Y: Y: Y:				
Latitude/ Longitude	Latitude 28° 14	4' 31.	7096" N	Latitu	de			Lati	itude tude tude			
	Longitude 91° 4	0' 22.	9114" W	Longi	tude			Lon	ngitude gitude gitude			
Water Depth (Feet):			MD (Feet):	TVD (Feet):			(Feet):			(Feet): (Feet):
Anchor Radius	s (if applicab	le) in feet:							(Feet):		TVD	(Feet):
Anchor Lo	cations fo	r Drilling	Rig or Constru	ction B	Barge (If ancl	nor radius sup	plied abov	e, not	necessa	ry)		
Anchor Namor No.		Block	X Coordinate		Y Coordina						in on Se	afloor
			X =		Y =							
			X =		Y =							
			X =		Y =							
			X =		Y =							
			X =		Υ =							
			X =		Y =							
			X =		Y =							
	7/1		X =		Y =							
		-										

Proposed Well/Structure Location Well or Structure Name/Number (If renaming well or Previously reviewed under an approved EP or Yes No structure, reference previous name): D008 (ST02BP00) DOCD? Is this an existing well If this is an existing well or structure, list the 17-710-41196-02 or structure? Х 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? No For structures, volume of all storage and API Gravity of WCD info For wells, volume of uncontrolled 30° blowout (Bbls/day): 12,700 bbls (S-7504) pipelines (Bbls): fluid **Bottom-Hole Location (For Wells)** Completion (For multiple completions, **Surface Location** enter separate lines) OCS OCS Lease No. OCS G 02115 **OCS** Area Name Eugene Island Block No. 330 N/S Departure: N/S Departure: N/S Departure: Blockline Fn L F___L N/S Departure: **Departures** 3658.39' N/S Departure: (in feet) L E/W Departure: FE L E/W Departure: E/W Departure: E/W Departure: L 4254.67' E/W Departure: X: X: X: Lambert X-X: 1,890,590.21' X: coordinates Y: Y: Y: 154,224.63' Y: Latitude Latitude/ Latitude Latitude Longitude 28° 14' 31.8181" N Latitude Longitude Longitude Longitude Longitude 91° 40' 22.7729" W Longitude TVD (Feet): MD (Feet): MD (Feet): TVD (Feet): Water Depth (Feet): MD (Feet): TVD (Feet): TVD (Feet): MD (Feet): Anchor Radius (if applicable) in feet: Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary) X Coordinate Y Coordinate Length of Anchor Chain on Seafloor Anchor Name Area Block or No. X = Υ = X = X =Y = Y = X = X= X =Y =Y = Y =X =

Proposed Well/Structure Location														
Well or Structustructure, refere						Previ DOC	•	wed u	nder an appro	ved EP o	X	Yes		No
Is this an existi or structure?	ng well	Ye		No			existing we or API No		structure, list	the	17-7	10-4	13	82-01
Do you plan to	use a subsea	BOP or a	surface I	3OP on a	float	ting fac	ility to cond	luct y	our proposed	activities	?	Ye	s	x No
WCD info	For wells, ve blowout (Bb					or struc		ne of	all storage and	d	fluid	Gravity		30°
	Surface Lo	cation				Botto	m-Hole Loc	cation	ı (For Wells)			pletion r separ		r multiple completions, nes)
Lease No.	OCS G 02115					ocs					OCS OCS			
Area Name		Eugene	Islan	d										
Block No.		33	0											
Blockline	N/S Departi	ıre:		F _N _L	,	N/S D	eparture:			FL		Depart Departi		F L F L
Departures (in feet)	3667.2	22'										Departi Departi		FL
	E/W Depart			F <u>E</u> L	,	E/W I	Departure:			FI		Depar Depart		FL F L
	4259.9	90'										Depart		FL
Lambert X-	X:					X:					X: X:			
Y coordinates	1,890	,584.	98'								X:			
	Y;					Y:					Y: Y:			
	154,2	33.46									Y:			
Latitude/ Longitude	Latitude					Latitude						tude ude		
Longitude	28° 14	1' 31.	7306	5" N								ude		
	Longitude					Longi	tude					igitude gitude		
	91° 40)' 22.	331	1" W							Lon	gitude		
Water Depth () 247'	Feet):					MD (Feet):		TVD (Feet):			(Feet): (Feet)		TVD (Feet): TVD (Feet):
Anchor Radius	(if applicabl	e) in feet:										(Feet):		TVD (Feet):
Anchor Lo	cations for	Drilling	Dig o	r Const	ruc	tion R	arge (If a	neho	r radius sunr	lied abov	e not	necessa	rv)	
Anchor Name		Block			iuc	tion D	Y Coordi		radius supp					ain on Seafloor
or No.														
			X =				Y =							
			X =				Y = Y =						_	
			X =				Y =							
			X =				Y =							
			X =				Y =							
			X =				Y =							
		X = X =					Y =							

Proposed Well/Structure Location													
Well or Structu structure, refere					Previ DOC	•	ed under an a	ipproved E	P or	X	Yes		No
Is this an existing or structure?	ng well	Ye				existing wel O or API No.	l or structure,	, list the	17	7-71	10-4	138	86-01
Do you plan to	use a subsea	a BOP or a	surface BC	P on a floa	ting fac	ility to condu	ict your propo	osed activi	ties?		Yes	5	x No
WCD info	For wells, v	olume of u bls/day): 1	ncontrolle 2,700 bbls (S	d S-7504) p	or struc		e of all storag	e and		API Gi luid	ravity o	of	30°
	Surface Lo	cation			Botto	m-Hole Loca	tion (For W	ells)			oletion separa		multiple completions, es)
Lease No.	OCS G 02115				OCS					OCS OCS			
Area Name		Eugene	Island										
Block No.		33	80										
Blockline	N/S Depart	ure:	F	N L	N/S E	eparture:		F			Departi		FL
Departures (in feet)	3673.9	94'		,						N/S E	Departu Departu	re:	FL FL
	E/W Depar	ture:	F	E L	E/W I	Departure:		F			Depart		FL
	4257.9	93'								E/W 1	Departı Departı		FL FL
Lambert X-	X:				X:					X:			
Y coordinates	1,890	,586.	95'							X: X:			
	Y:				Y:					Y: Y:			
	154,2	40.18	3'							Y:			
Latitude/	Latitude				Latitu	de				Latit Latitu			
Longitude	28° 1	4' 31.	6642'	' N					- 4	Latitu	ıde		
	Longitude				Longi	tude					gitude		
	91° 4	0' 22.	8089'	' W						Long Long			
Water Depth (1	Feet):				MD (Feet):	TVD (Fe	eet):		MD	(Feet):		TVD (Feet):
242'	/'C 1' -1	1.) : 64-									(Feet): Feet):		TVD (Feet): TVD (Feet):
Anchor Radius	(II applicab	ie) in feet:								IVID (i corj.		TVB (1 cct).
Anchor Lo	cations fo				tion B							_	
Anchor Name or No.	Area	Block	X Coord	linate		Y Coordin	ate		Lengt	h of A	Anchor	Chai	n on Seafloor
			X =			Y =							
			X =			Y =							
	1117		X =			Y =							
			X =			Y =							
			X =			Y =							
			X=			Y =							
	X =					Y =							
			X =			Y =							

Proposed Well/Structure Location Well or Structure Name/Number (If renaming well or Previously reviewed under an approved EP or Yes No													
Well or Structu structure, refere	re Name/Nu ence previous	mber (If res s name): D	011 (ST00BP00)	DOC	D?	l under an approved		X	Yes		No		
Is this an existi or structure?	ng well	Ye			existing well D or API No.	or structure, list the	1	7-7	10-4	138	37-00		
	use a subsea		surface BOP on a flo			t your proposed act	tivities?		Ye	s	x No		
WCD info	For wells, v			pipelines	(Bbls):	of all storage and		fluid	ravity (30°		
	Surface Lo	cation		Botto	m-Hole Locat	ion (For Wells)			pletion separa		multiple completions, es)		
Lease No.	OCS G 02115			OCS				OCS OCS					
Area Name		Eugene	Island										
Block No.		33	0										
Blockline	N/S Depart	ure:	F _N L	N/S I	Departure:	F_	L		Departi		FL		
Departures (in feet)	3671.8	33'							Departu Departu		FL FL		
	E/W Depar		F _E L	E/W	Departure:	F_	L		Depart Departi		FL F L		
	4250.7	73'						E/W	Departi		FL		
Lambert X-	X:	504	4 = 1	X:				X:					
coordinates	1,890	,594.	15'	1				X:					
	Y:	20.07	71	Y:				Y: Y:					
	154,2	30.07		7	1			Y:					
Latitude/ Longitude	Latitude	A! 24	6853" N	Latitu	ide			Latit Latit					
	Longitude	+ 51.	0033 14	Longi	ituda			Latitu	ude gitude				
	_	מי יח	7285" W	Long	itude			Long	itude				
Water Depth (1		0 22.	7200 VV	MD (Feet):	TVD (Feet):			(Feet):		TVD (Feet):		
247'				,,,,		(11.7)		MD	(Feet):		TVD (Feet):		
Anchor Radius	(if applicab	le) in feet:						MD	(Feet):		TVD (Feet):		
Anchor Lo	cations for	r Drilling	Rig or Constru	ction B	Barge (If anc	hor radius supplie	d above	, not n	ecessa	ry)			
Anchor Name or No.	Area	Block	X Coordinate		Y Coordina	te	Leng	th of A	Anchor	Chai	n on Seafloor		
			X =		Y =								
			X =		Y =								
			X =		Y =								
			X =		Y =								
			X =		Y = Y =								
			X =		Y = Y =								
			X = X =		Y =								
			A -		1								

Proposed Well/Structure Location													
			naming well or 012 (ST01BP00)	Prev		d under an approve	d EP or	X	Yes]	No		
Is this an existi or structure?	ing well				n existing well D or API No.	or structure, list the	1	7-71	0-4	138	8-01		
Do you plan to	use a subse	a BOP or a	surface BOP on a floa	ting fac	cility to conduc	ct your proposed ac	tivities?		Yes	,	x No		
WCD info					ctures, volume s (Bbls):	of all storage and		fluid	ravity o		30°		
	Surface Lo	cation		Botto	m-Hole Locat	ion (For Wells)			letion (multiple completions, es)		
Lease No.	OCS G 02115			OCS				OCS OCS					
Area Name		Eugene	sIsland										
Block No.		33											
Blockline Departures	N/S Depart 3676.0		<u>F_N</u> L	N/S I	Departure:	F	L	N/S D	Departu Departur	e:	F L F L		
(in feet)	E/W Depar		F <u>E</u> L	E/W	Departure:	F	L	E/W	epartur Departu	ıre:	FL FL		
	4265.	13'						E/W I	Departu Departu		FL FL		
Lambert X- Y coordinates	1,890	,579.	75'	X:				X: X: X:			7.4		
	154,2	42.28	3'	Y:				Y: Y: Y:					
Latitude/ Longitude	Latitude 28° 14	4' 31.	6431" N	Latitu	ıde		Latitu Latitu Latitu	de					
	Longitude 91° 4	0' 22.	8892" W	Long	itude			Long Long Long					
Water Depth (Feet):			MD (Feet):	TVD (Feet):			(Feet): (Feet):		TVD (Feet): TVD (Feet):		
Anchor Radius	s (if applicab	le) in feet:						MD (TVD (Feet):		
Anchor Lo	cations for	r Drilling	g Rig or Construc	tion E	Barge (If and	hor radius supplie	d above	, not n	ecessar	y)			
Anchor Name or No.	e Area	Block	X Coordinate		Y Coordina	te	Leng	th of A	nchor	Chain	on Seafloor		
			X =		Y =								
			X =	Y =									
	7		X =	Y =									
			X =		Y =								
			X =	Y =									
			X =		Y =								
			X =	Y =									
			X =	Y=									

Proposed Well/Structure Location													
			naming well or 013 (ST00BP01)	Prev DOC	-	d under an appro	oved EP or	X	Yes	No			
Is this an existing or structure?	ng well				n existing well D or API No.	or structure, list	the 1	7-7	10-41	643-	01		
Do you plan to	use a subsea	a BOP or a	surface BOP on a floa			t your proposed	activities?		Yes	x	No		
WCD info					ctures, volume s (Bbls):	of all storage and	d	fluid	ravity of	30			
	Surface Lo	cation		Botto	m-Hole Locat	ion (For Wells)			pletion (F separate		iple completions,		
Lease No.	OCS G 02115			OCS				OCS OCS					
Area Name		Eugene	sland										
Block No.	\-	33	30										
Blockline Departures (in feet)	N/S Departs 3687.3		F _N _L	N/S I	Departure:		FL	N/S I	Departure Departure: Departure:		FL FL FL		
	E/W Depart		F <u>E</u> L	E/W	Departure:		FL	E/W	Departure Departure Departure	: :	FL FL FL		
Lambert X- Y coordinates	x: 1,890	,590.	88'	X:				X: X: X:					
	Y: 154,2	53.61	•	Y:				Y: Y: Y:					
Latitude/ Longitude	Latitude 28° 14	4' 31.	5313" N	Latitu	ıde		Latit Latit	ıde					
	Longitude 91° 40	0' 22.	7645" W	Long	itude			Long	gitude itude itude				
Water Depth (F 248'	Feet):			MD (Feet):	TVD (Feet):			(Feet): (Feet):		VD (Feet): VD (Feet):		
Anchor Radius	(if applicabl	le) in feet:							(Feet):		VD (Feet):		
Anchor Loc	cations for	r Drilling	Rig or Construc	ction E	Barge (If and	hor radius supp	lied above	e, not n	ecessary)				
Anchor Name or No.		Block	X Coordinate		Y Coordina				Anchor C		Seafloor		
			X =		Y =								
			X =	Y =									
		17	X =	Y =									
			X =	Y =									
			X =	Y =									
			X =		Y=								
			X =	Y =					-				
			X =	Y =									
L.													

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 tructure, reference previous name): D014 (ST00BP01) Previously reviewed under an approved EP or DOCD? Yes No													
Well or Structurestructure, refere	re Name/Nu ence previous	mber (If ren s name): Do	naming well or 014 (ST00BP01)	Previo DOCI	-	l under an app	roved EP or	X	Yes	No				
Is this an existing or structure?		Ye	Co	mplex ID	existing well or API No.				0-416	644-01				
Do you plan to	use a subsea	BOP or a	surface BOP on a floa	ating faci	lity to conduc	t your propose	d activities?		Yes	x No				
WCD info	For wells, v	olume of u bls/day): 12		or struct	ures, volume (Bbls):	of all storage a	nd	API Gra	vity of	30°				
	Surface Lo	cation		Botton	n-Hole Locat	ion (For Wells	s)		etion (Fo	or multiple completions, lines)				
Lease No.	OCS G 02115			OCS				OCS OCS						
Area Name		Eugene	Island											
Block No.		33	0											
Blockline Departures (in feet)	N/S Depart 3682.7	76'	F <u>N</u> L		eparture:		F L	N/S De	eparture: eparture: eparture:	FL FL				
	E/W Depar 4263 .		F <u>e</u> L		Departure:		FL	E/W D E/W D	Departure eparture: eparture:	FL				
Lambert X- Y coordinates	x: 1,890	,581.	72'	X:				X: X: X:						
	154,2	49.00)'	Y:				Y: Y: Y:						
Latitude/ Longitude	Latitude 28° 14	4' 31.	5767" N	Latitud	de			Latitu Latitud Latitud	le					
	Longitude 91° 4	0' 22.	8670" W	Longit	tude			Longi Longit Longit	ude					
Water Depth (I 274'	Feet):			MD (F	Feet):	TVD (Feet)):	MD (I		TVD (Feet): TVD (Feet):				
Anchor Radius	(if applicab	le) in feet:						MD (F	eet):	TVD (Feet):				
Anchor Lo	cations fo	r Drilling	Rig or Constru	ction B	arge (If and	hor radius suj	pplied abov	e, not ne	cessary)					
Anchor Name or No.	Area	Block	X Coordinate		Y Coordina	te	Len	gth of A	nchor Cl	hain on Seafloor				
			X =		Y =									
			X =		Υ =									
			X =		Υ =									
			X =		Y =									
			X =		Υ =									
X =					Y =									
			X =	Y =										
			X =	Y =										
			1											

Proposed Well/Structure Location													
Well or Structu structure, refere	ire Name/Nu ence previou	mber (If re s name): D	naming well or 015 (ST00BP00)	DOC	CD?	ed under an ap		EP or	X	Yes		No	
Is this an existi or structure?	ng well	Y			n existing we D or API No	ll or structure,	list the	17	7-7	10-4	164	45-0C)
Do you plan to	use a subse	a BOP or a	surface BOP on a flo	ating fac	cility to cond	uct your propo	sed activ	ities?		Ye	s	х	No
WCD info				For struc		e of all storage	e and		luid	ravity		30°	
	Surface Lo	cation		Botto	m-Hole Loc	ation (For We	ells)			pletion separ			e completions,
Lease No.	OCS G 02115			ocs					OCS OCS				
Area Name		Eugene	Island										
Block No.		33	30										
Blockline Departures	N/S Depart		F <u>n</u> L	N/S I	Departure:		F	_L		Depart Departi			F L F L
(in feet)	3689.4 E/W Depar		FE L	F/W	Departure:		F	L		Departi Depar			FL FL
	4261.2						-1-		E/W	Depart Depart	ure:		FL FL
Lambert X-	X:			X:					X: X:				
Y coordinates	1,890	,583.	68'						X:				
	Y: 154,2	55 72)'	Y:					Y: Y:				
Latitude/	Latitude	.00.72		Latitu	ıde				Y: Latit	ude			
Longitude		4' 31.	5103" N					Latit	ıde				
	Longitude			Long	itude				Lon	gitude			
	91° 4	0' 22.	8448" W						Long Long	itude itude			
Water Depth (1 274'	Feet):			MD (Feet):	TVD (Fee	et):			(Feet): (Feet):			(Feet): (Feet):
Anchor Radius	s (if applicab	le) in feet:								(Feet):			(Feet):
Anchor Lo	cations fo	r Drilling	Rig or Constru	ction E	Barge (If an	chor radius s	supplied :	above,	not n	ecessa	ry)		
Anchor Name		Block	X Coordinate		Y Coordin							in on Se	afloor
			X =		Y =								
			X =		Y =								
			X =		Y =								
			X =		Y =								
			X =		Y =								
			X =		Y =								
			X =		Y =								
			X =		Y =								

Proposed Well/Structure Location													
Well or Structu structure, refere			naming well or 016 (ST00BP02)	Previ DOC	-	d under an approve	ed EP or	X	Yes		No		
Is this an existing or structure?	ng well	Ye			existing well D or API No.	or structure, list th	e 1	7-7	10-4	164	7-02		
	use a subsea		surface BOP on a floa			t your proposed ac	ctivities?		Yes	5	x No		
WCD info	For wells, v	olume of u bls/day): 12		or struc		of all storage and		API G	ravity o	f	30°		
	Surface Lo	cation		Botto	m-Hole Locat	ion (For Wells)			pletion separa		nultiple completions, es)		
Lease No.	OCS G 02115			ocs				OCS OCS					
Area Name		Eugene	Island										
Block No.		33	0										
Blockline Departures (in feet)	N/S Depart 3685.2	27'	F <u>n</u> L		Departure:	F		N/S 1 N/S 1	Departu Departui Departui	re: re:	F L F L F L		
	E/W Depar 4246.8		F <u></u> E L		Departure:	F	L	E/W E/W	Departu Departu Departu	ıre:	F L F L F L		
Lambert X- Y coordinates	x: 1,890	,598.0	08'	X:				X: X: X:					
	154,2	51.51	•	Y:			Y: Y: Y:						
Latitude/ Longitude	Latitude 28° 14	4' 31.	5524" N	Latitu	de		Latit Latit Latit	ude					
	Longitude 91° 40	0' 22.	6841" W	Longi	tude			Long	gitude gitude gitude				
Water Depth (I	Feet):			MD (Feet):	TVD (Feet):			(Feet):		TVD (Feet): TVD (Feet):		
Anchor Radius	(if applicab	le) in feet:				-1-			(Feet):		TVD (Feet):		
Anchor Loc	cations for	r Drilling	Rig or Construc	tion B	Sarge (If and	hor radius suppli	ed above	, not n	iecessar	y)			
Anchor Name or No.	Area	Block	X Coordinate		Y Coordina	te	Leng	th of A	Anchor	Chair	on Seafloor		
			X =		Y =								
			X =		Y =								
			X =		Y =								
			X =		Y =								
			X =		Y =								
			X =	Y=									
		-	X =	Y = Y =									
			X =		1 -								

Proposed Well/Structure Location Well or Structure Name/Number (If renaming well or Previously reviewed under an approved EP or Yes No structure, reference previous name): D017 (ST00BP00) If this is an existing well or structure, list the Yes Is this an existing well 17-710-41648-00 Complex ID or API No. Х or structure? Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities? No For structures, volume of all storage and API Gravity of WCD info For wells, volume of uncontrolled 30° fluid blowout (Bbls/day): 12,700 bbls (S-7504) pipelines (Bbls): Bottom-Hole Location (For Wells) Completion (For multiple completions, Surface Location enter separate lines) OCS OCS OCS Lease No. G 02115 **OCS** Area Name Eugene Island Block No. 330 N/S Departure: N/S Departure: N/S Departure: FN L Blockline L N/S Departure: Departures 3680.66 N/S Departure: (in feet) L E/W Departure; E/W Departure: E/W Departure: FE L E/W Departure: L 4255.97' E/W Departure: X: X: Lambert X-X: 1,890,588.91' X: coordinates Y: Y: Y: 154,246.89' Y: Latitude Latitude Latitude Latitude/ Latitude Longitude 28° 14' 31.5978" N Latitude Longitude Longitude Longitude Longitude 91° 40' 22.7867" W Longitude MD (Feet): TVD (Feet): MD (Feet): TVD (Feet): Water Depth (Feet): TVD (Feet): MD (Feet): MD (Feet): TVD (Feet): Anchor Radius (if applicable) in feet: Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary) Length of Anchor Chain on Seafloor X Coordinate Y Coordinate Block **Anchor Name** Area or No. X = Y = X = Y = Y = X = X = Y = X =Y = X = Y =X = Y =

r X Yes No
17-710-41651-01
? Yes x No
API Gravity of fluid 30°
Completion (For multiple completions, enter separate lines)
OCS OCS
N/S Departure: FL
N/S Departure: F L E/W Departure: F L
E/W Departure: F L E/W Departure: F L
X: X: X:
Y: Y: Y:
Latitude Latitude Latitude
Longitude Longitude Longitude
MD (Feet): TVD (Feet): TVD (Feet):
MD (Feet): TVD (Feet):
ve, not necessary)
ngth of Anchor Chain on Seafloor

Proposed Well/Structure Location Well or Structure Name/Number (If renaming well or Previously reviewed under an approved EP or Yes No													
Well or Structustructure, refere	re Name/Nur ence previous	mber (If rer s name): Do	naming well or 019 (ST00BP0	0)	Previ DOC	•	under an appr	oved EP or	X	Yes		No	
Is this an existi or structure?	ng well	Ye				existing well o O or API No.	r structure, lis	t the	7-7	10-4	165	52-00	
Do you plan to	use a subsea	BOP or a	surface BOP o	n a floa	ting fac	ility to conduct	your proposed	d activities	?	Ye	s	x No	
WCD info	For wells, v		ncontrolled 2,700 bbls (S-75		or struc	tures, volume o (Bbls):	f all storage ar	nd	API C	ravity o	of	30°	
	Surface Lo	cation			Botto	m-Hole Locatio	on (For Wells)		pletion separa		multiple completions, es)	
Lease No.	OCS G 02115				ocs				OCS OCS				
Area Name		Eugene	Island										
Block No.		33	0										
Blockline	N/S Departi	ure:	FN	L	N/S D	eparture:		FL		Departi		F L	
Departures (in feet)	3694.0								N/S 1	Departu Departu	re:	FL FL	
	E/W Depart		F_E	_L	E/W I	Departure:		FL		Depart Departi		FL F L	
	4252.0)3'								Departi		FL	
Lambert X- Y	X:				X:				X: X:				
coordinates	1,890	,592.8	35'						X:				
	Y:	00.00			Y:				Y: Y:				
	154,2	60.33							Y:				
Latitude/ Longitude	Latitude		4040"		Latitu	de		Latit					
Longitude	28° 14	4' 31.4	4649" N	1					Latit				
	Longitude				Longi	tude				gitude situde			
	91° 40	0' 22.7	7423" V	V						itude			
Water Depth (I	Feet):				MD (I	Feet):	TVD (Feet):			(Feet):		TVD (Feet): TVD (Feet):	
274' Anchor Radius	(if applicabl	e) in feet:			l				-	(Feet): (Feet):		TVD (Feet):	
					tion B	arge (If ancho							
Anchor Name or No.	Area	Block	X Coordinat	e		Y Coordinate		Len	gth of A	Anchor	Chai	n on Seafloor	
			X =			Y =							
			X =			Y =							
			X =			Y =							
			X =		6	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 Previously reviewed under an approved EP or No structure, reference previous name): D020 (ST00BP00) DOCD? Is this an existing well If this is an existing well or structure, list the 17-710-41653-00 or structure? Х 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? For structures, volume of all storage and API Gravity of WCD info For wells, volume of uncontrolled 30° blowout (Bbls/day): 12,700 bbls (S-7504) pipelines (Bbls): fluid **Bottom-Hole Location (For Wells)** Completion (For multiple completions, **Surface Location** enter separate lines) OCS OCS Lease No. OCS G 02115 **OCS** Area Name Eugene Island Block No. 330 N/S Departure: N/S Departure: N/S Departure: Blockline FN L N/S Departure: L Departures 3696.20' N/S Departure: (in feet) L L E/W Departure: FE L E/W Departure: E/W Departure: E/W Departure: L 4259.23' E/W Departure: X: X: X: Lambert X-X: 1,890,585.65' coordinates X: Y: Y: Y: 154,262.44' Y: Latitude/ Latitude Latitude Latitude Longitude 28° 14' 31.4438" N Latitude Longitude Longitude Longitude Longitude 91° 40' 22.8226" W Longitude MD (Feet): TVD (Feet): MD (Feet): TVD (Feet): Water Depth (Feet): TVD (Feet): MD (Feet): 274' MD (Feet): TVD (Feet): Anchor Radius (if applicable) in feet: Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary) Length of Anchor Chain on Seafloor Anchor Name Block X Coordinate Y Coordinate Area or No. Y = X = X = Y = Y = X = Y = X =Y = X =X =Y =

X =

Y =

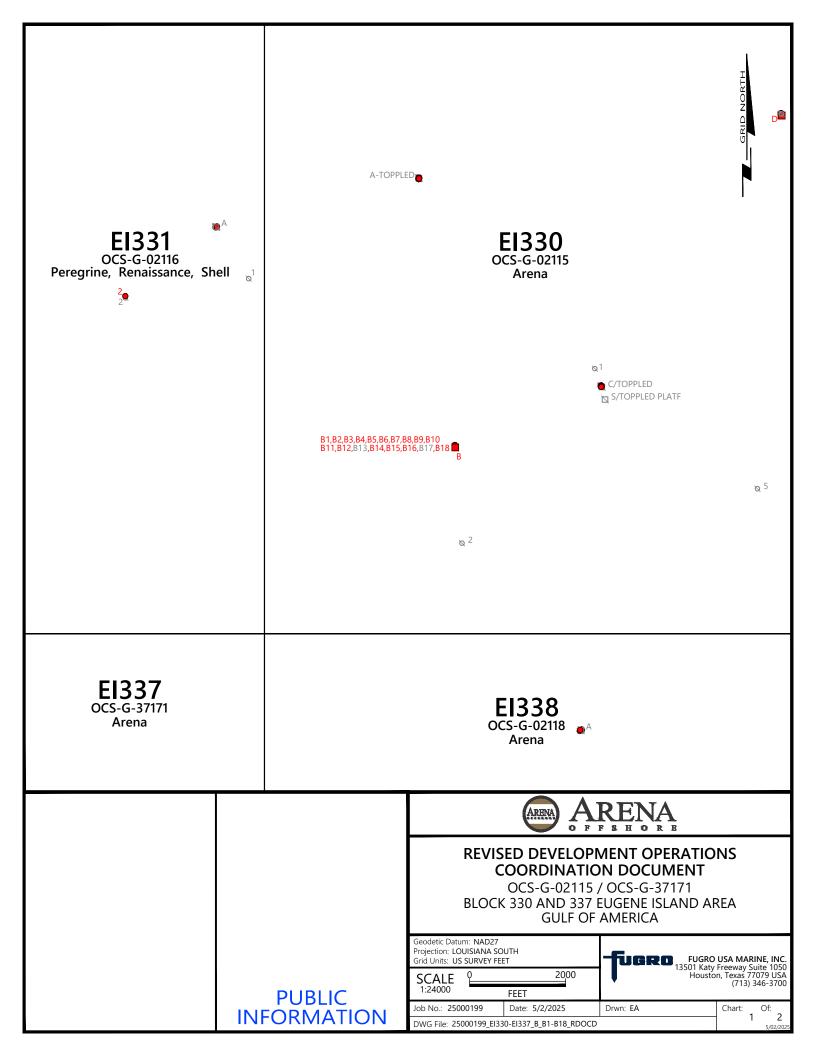
Proposed Well/Structure Location Well or Structure Name/Number (If renaming well or Previously reviewed under an approved EP or Yes No structure, reference previous name): Open-1 DOCD? If this is an existing well or structure, list the Is this an existing well Complex ID or API No. or structure? Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities? Yes No For structures, volume of all storage and API Gravity of WCD info For wells, volume of uncontrolled 30° blowout (Bbls/day): 12,700 bbls (S-7504) pipelines (Bbls): Completion (For multiple completions, Bottom-Hole Location (For Wells) **Surface Location** enter separate lines) OCS OCS Lease No. OCS G 02115 **OCS** Area Name Eugene Island Block No. 330 N/S Departure: N/S Departure: N/S Departure: Blockline FN L N/S Departure: L **Departures** 3700.78 N/S Departure: (in feet) E/W Departure: FE L E/W Departure: E/W Departure: E/W Departure: L 4250.06' E/W Departure: X: X: Lambert X-X: 1,890,594.82' X: coordinates Y: Y: Y: 154,267.02 Y: Latitude Latitude Latitude/ Latitude Longitude 28° 14' 31.3988" N Latitude Longitude Longitude Longitude Longitude 91° 40' 22.7200" W Longitude MD (Feet): TVD (Feet): TVD (Feet): Water Depth (Feet): MD (Feet): TVD (Feet): MD (Feet): TVD (Feet): MD (Feet): Anchor Radius (if applicable) in feet: Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary) X Coordinate Y Coordinate Length of Anchor Chain on Seafloor Block Anchor Name Area or No. X= X = γ= X = Y = X = Y = X = Y = X= Y =X =Y =

Well or Structure Name/Number (If renaming well or Previously reviewed under an approved EP or Yes No														
Well or Structu structure, refere				or	Previ		ed under an ap	proved I	EP or		Yes	X	No	
Is this an existi or structure?				X Cor	mplex I	D or API No.	or structure, l							
Do you plan to	use a subse	a BOP or a	surface BOI	P on a floa	ting fac	cility to condu	ct your propos	sed activi	ities?		Ye	es	х	No
WCD info			incontrolled 2,700 bbls (S-		ipelines	s (Bbls):	of all storage		f	luid	ravity		30°	
	Surface Lo	ocation			Botto	m-Hole Loca	tion (For Wel	lls)			pletion separ			le completions,
Lease No.	OCS G 02115				OCS					OCS OCS				
Area Name		Eugene	sland											
Block No.		33	30											
Blockline Departures	N/S Depart 3700.		F_1	<u>N</u> L	N/S I	Departure:		F		N/S I	Depart Departi	ıre:		FL FL
(in feet)	E/W Depar		F	E L	E/W	Departure:		F			Departu Depar			F L F L
	4250.0		-			•				E/W	Depart Depart	ure:		F L F L
Lambert X- Y	x: 1,890	504	g2'		X:					X: X:				
coordinates	1,090 Y:	,534.	02		Y:					X: Y:				
	154,2	67.02	2'							Y: Y:				
Latitude/ Longitude	Latitude	41.04	0000		Latitu	ide				Latit				
Dongatude		4' 31.	3988"	N							ıde			
	Longitude 91° 4	0' 22.	7200"	W	Longi	itude				Long				
Water Depth (MD (Feet):	TVD (Feet	t):		Long MD	(Feet):		TVI) (Feet):
250'					Ì						(Feet):			(Feet):
Anchor Radius	s (if applicab	le) in feet:								мр (Feet):		1 1 1) (Feet):
Anchor Lo	cations fo	r Drilling	g Rig or C	Construc	tion B			applied a	above,	not n	ecessa	ry)		
Anchor Name or No.	Area	Block	X Coordi	nate		Y Coordina	ate		Lengt	h of A	nchor	· Cha	in on Se	eafloor
			X =			Y =								
			X =			Y =								
			X =			Y =								
			X =			Y =								
			X =		Y =									
	Tiple of		X =		Y =									
			X =			Y =								
			X =			Y =								

Proposed Well/Structure Location Well or Structure Name/Number (If renaming well or Previously reviewed under an approved EP or Yes No														
Well or Structu structure, refere				ll or	Previ DOC	ously reviewed D?	under an appr	oved EP o	or	Y	es .	X	No	
Is this an existing or structure?		Ye		X Co	mplex II	existing well o O or API No.								
Do you plan to	use a subsea	BOP or a	surface BO	P on a floa	ating fac	ility to conduct	your proposed	d activities	3?		Yes		x	No
WCD info	For wells, v blowout (Bl				or struc	tures, volume o (Bbls):	f all storage a	nd	flui				30°	
	Surface Lo	cation			Botto	n-Hole Locatio	on (For Wells	5)		omple ter se				e completions,
Lease No.	OCS G 02115				OCS					CS CS				
Area Name		Eugene	Island											
Block No.		33	0											
Blockline	N/S Departi	ure:	F	N_L	N/S D	eparture:		FI		/S De				F L F L
Departures (in feet)	3700.7								N/	'S Dep 'S Dep	arture	e:		FL FL
	E/W Depart		F_	E_L	E/W I	Departure:		FI		/W De				FL FL
	4250.0)6'								W De				FL
Lambert X-	X:				X:				X					
Y coordinates	1,890	,594.8	32'						X					
	Y;				Y:				Y					
	154,2	67.02							Y					
Latitude/	Latitude				Latitu	de				atitud atitude				
Longitude	28° 14	4' 31.3	3988"	' N					- 1	atitude				
	Longitude				Longi	tude				ongitu				
	91° 40	o' 22.	7200"	' W	U					ongitu ongitu				
Water Depth (I	Feet):				MD (I	Feet):	TVD (Feet):		М	D (Fe	eet):			(Feet):
250' Anchor Radius	(if annlicabl	a) in fact:								D (Fe				(Feet): (Feet):
									1					· /
					ction B	arge (If anch								
Anchor Name or No.	Area	Block	X Coord	inate		Y Coordinate	e	Le	ngth (of And	chor (Chair	ı on Se	afloor
			X =			Y =								
			X =			Y =								
			X =			Y =								
			X =			Υ =								
			X =			Y =								
		X =				Y =								
			X =			Y =								
			X =			Y =								

Proposed Well/Structure Location Previously reviewed under an approved EP or Well or Structure Name/Number (If renaming well or Yes No structure, reference previous name): Open-4 DOCD? If this is an existing well or structure, list the Is this an existing well or structure? 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? No For structures, volume of all storage and API Gravity of WCD info For wells, volume of uncontrolled 30° blowout (Bbls/day): 12,700 bbls (S-7504) pipelines (Bbls): fluid Completion (For multiple completions, **Bottom-Hole Location (For Wells)** Surface Location enter separate lines) OCS OCS OCS Lease No. G 02115 **OCS** Area Name Eugene Island Block No. 330 N/S Departure: N/S Departure: N/S Departure: FN L Blockline N/S Departure: L Departures 3700.78 N/S Departure: (in feet) E/W Departure: E/W Departure: L E/W Departure: FE_L L E/W Departure: 4250.06' E/W Departure: X: X: Lambert X-X: 1,890,594.82' X: coordinates Y: Y: Y: 154,267.02 Y: Latitude Latitude Latitude/ Latitude Longitude 28° 14' 31.3988" N Latitude Longitude Longitude Longitude Longitude 91° 40' 22.7200" W Longitude TVD (Feet): Water Depth (Feet): MD (Feet): TVD (Feet): MD (Feet): TVD (Feet): MD (Feet): 250' TVD (Feet): MD (Feet): Anchor Radius (if applicable) in feet: Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary) Length of Anchor Chain on Seafloor X Coordinate Y Coordinate Block Anchor Name Area or No. Y = X = Y = X = Y = X = Y = X =Y = Y = X =X = Y =X =

Eugene Island Blocks 330 and 337 (Leases OCS-G 02115/37171) **Well Location Plat Attachment B** (Public Information)



	EXISTING LOCATIONS NAD27 LOUISIANA SOUTH											
LOCATION	COND.	CALLNS	CALLEW	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE	WD				
Structure "B"		3,881.86' FSL	3,974.13' FWL	1,883,796.85'	-161,182.96'	28°13'22.7419"N	91°41'38.4508"W	246'				
B1 Surf.	2	3,926.84' FSL	3,971.47' FWL	1,883,794.19'	-161,137.98'	28°13'23.1870"N	91°41'38.4821"W	248'				
B2 Surf.	16	3,910.49' FSL	3,961.58' FWL	1,883,784.30'	-161,154.33'	28°13'23.0249"N	91°41'38.5921"W	248'				
B3 Surf.	4	3,913.13' FSL	3,974.31' FWL	1,883,797.03'	-161,151.69'	28°13'23.0514"N	91°41'38.4499"W	244'				
B4 Surf.	15	3,917.35' FSL	3,960.16' FWL	1,883,782.88'	-161,147.47'	28°13'23.0927"N	91°41'38.6082"W	244'				
B5 Surf.	11	3,904.95' FSL	3,969.36' FWL	1,883,792.08'	-161,159.87'	28°13'22.9703"N	91°41'38.5049"W	244'				
B6 Surf.	14	3,924.20' FSL	3,958.74' FWL	1,883,781.46'	-161,140.62'	28°13'23.1605"N	91°41'38.6243"W	248'				
B7 Surf.	5	3,906.27' FSL	3,975.73' FWL	1,883,798.45'	-161,158.55'	28°13'22.9836"N	91°41'38.4338"W	244'				
B8 Surf.	9	3,918.66' FSL	3,966.52' FWL	1,883,789.24'	-161,146.16'	28°13'23.1059"N	91°41'38.5371"W	248'				
B9 Surf.	13	3,931.05' FSL	3,957.32' FWL	1,883,780.04'	-161,133.77'	28°13'23.2283"N	91°41'38.6404"W	248'				
B10 Surf.	17	3,903.64' FSL	3,963.00' FWL	1,883,785.72'	-161,161.18'	28°13'22.9571"N	91°41'38.5760"W	248'				
B11 Surf.	8	3,925.52' FSL	3,965.10' FWL	1,883,787.82'	-161,139.30'	28°13'23.1737"N	91°41'38.5532"W	248'				
B12 Surf.	3	3,919.98' FSL	3,972.89' FWL	1,883,795.61'	-161,144.84'	28°13'23.1192"N	91°41'38.4660"W	248'				
B13 Surf.	10	3,911.81' FSL	3,967.94' FWL	1,883,790.66'	-161,153.01'	28°13'23.0381"N	91°41'38.5210"W	248'				
B14 Surf.	7	3,932.37' FSL	3,963.69' FWL	1,883,786.40'	-161,132.45'	28°13'23.2415"N	91°41'38.5693"W	244'				
B15 Surf.	6	3,899.42' FSL	3,977.14' FWL	1,883,799.86'	-161,165.40'	28°13'22.9158"N	91°41'38.4177"W	248'				
B16 Surf.	1	3,933.69' FSL	3,970.05' FWL	1,883,792.77'	-161,131.13'	28°13'23.2548"N	91°41'38.4982"W	248'				
B17 Surf.	12	3,898.10' FSL	3,970.78' FWL	1,883,793.50'	-161,166.72'	28°13'22.9025"N	91°41'38.4888"W	248'				
B18 Surf.	18	3,896.78' FSL	3,964.41' FWL	1,883,787.13'	-161,168.04'	28°13'22.8893"N	91°41'38.5599"W	248'				



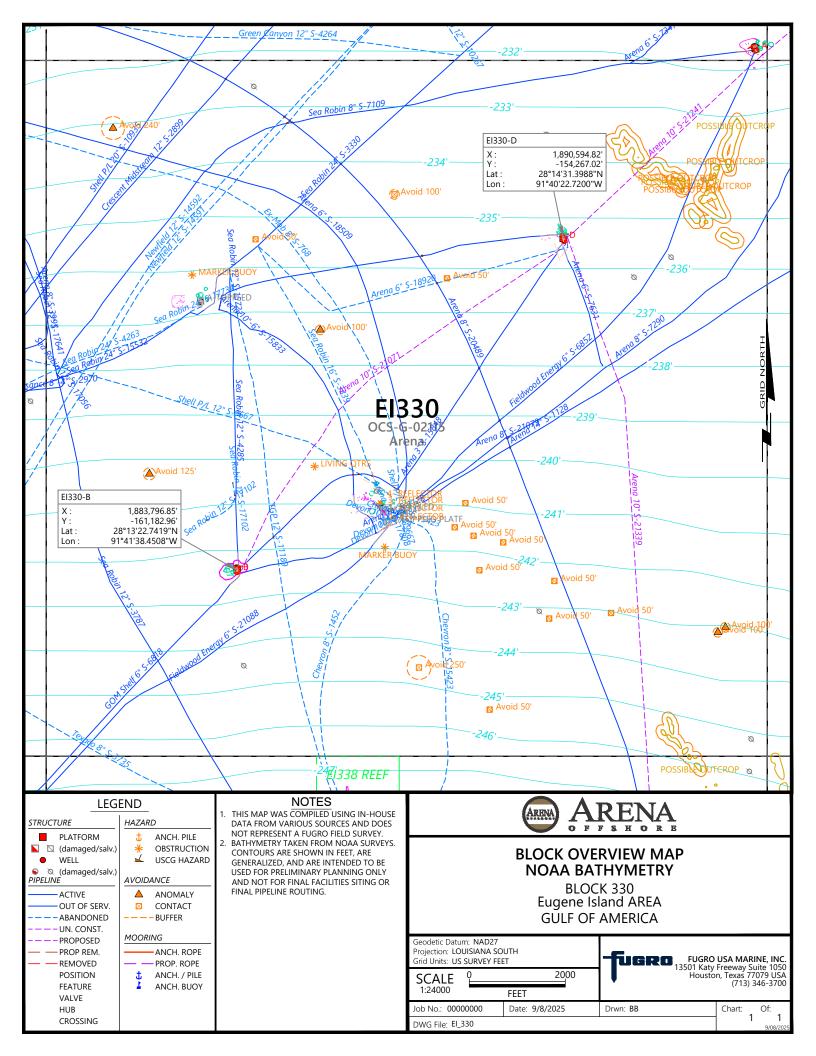
REVISED DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

OCS-G-02115 / OCS-G-37171 BLOCK 330 AND 337 EUGENE ISLAND AREA GULF OF AMERICA

Geodetic Datum: NAD27 Projection: LOUISIANA SO Grid Units: US SURVEY FEE		-fuero FUGRO	USA MARINE, INC.
SCALE 1:24000	2000 FEET	Housto	Freeway Suite 1050 n, Texas 77079 USA (713) 346-3700
Job No.: 25000199	Date: 5/2/2025	Drwn: EA	Chart: Of:
DWG File: 25000199_EI33	80-EI337_B_B1-B18_RDOCD		2 Z 5/02/2025

Bathymetry Map

Attachment C (Public Information)



Geological Description

Attachment D (Proprietary Information)

Structure Maps

Attachment E (Proprietary Information)

Deep Seismic Lines

Attachment F (Proprietary Information)

Cross Section Maps

Attachment G (Proprietary Information)

Stratigraphic Columns

Attachment H (Proprietary Information)

NOAA Threatened/Endangered Species

Attachment I (Public Information)



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

Marine Mammal Species	Scientific Name	Status
fin whale	Balaenoptera physalus	Endangered
sei whale	Balaenoptera borealis	Endangered
sperm whale	Physeter macrocephalus	Endangered
Gulf of Mexico Bryde's whale	Balaenoptera edeni - subspecies	Proposed - Endangered
Sea Turtle Species		
green sea turtle	Chelonia mydas	Threatened ¹
hawksbill sea turtle	Eretmochelys imbricata	Endangered
Kemp's ridley sea turtle	Lepidochelys kempii	Endangered
leatherback sea turtle	Dermochelys coriacea	Endangered
loggerhead sea turtle	Caretta caretta	Threatened ²
Fish Species		
Gulf sturgeon	Acipenser oxyrinchus desotoi	Threatened
Nassau grouper	Epinephelus striatus	Threatened
smalltooth sawfish	Pristis pectinata	Endangered ³
oceanic whitetip shark	Carcharhinus longimanus	Threatened
giant manta ray	Manta birostris	Threatened
Invertebrate Species		
rough cactus coral	Mycetophyllia ferox	Threatened ⁴
pillar coral	Dendrogyra cylindrus	Threatened ⁴
lobed star coral	Orbicella annularis	Threatened
mountainous star coral	Orbicella faveolata	Threatened
boulder star coral	Orbicella franksi	Threatened
staghorn coral	Acropora cervicornis	Threatened ⁴
elkhorn coral	Acropora palmata	Threatened ⁵

¹ North Atlantic and South Atlantic Distinct Population Segments.

² Northwest Atlantic Distinct Population Segment.

³U.S. Distinct Population Segment

⁴Colonies located at Dry Tortugas National Park.

⁵ Colonies located at Flower Garden Banks National Marine Sanctuary and Dry Tortugas National Park.



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

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

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 El 330, Platform B

						Projected
						Downhole
	Projected as	nerated waste	Projected occ	Disposal		
	1 10,0000 90	1	110,00000000000000000000000000000000000		2.00000	
	Type of Waste and Composition	Composition	Projected Amount	Discharge rate	Discharge Method	Answer yes or no
Wil	I drilling occur ? If yes, you should list muds and cutting					
	Water-based drilling fluid	barite, additives	4800 bbls/well	1025 bbls/day/well	discharge overboard	No
	Cuttings wetted with water-based fluid	water-based fluids	2100 bbls/well	525 bbls/day/well	discharge overboard	No
		Cuttings generated while using synthetic based drilling				
	Cuttings wetted with synthetic-based fluid	fluid.	2025 bbls/well	225 bbls/day/well	Shunt through downpipe	No
	Brine	Brine	0 bbls total	0 bbl/hr	discharge overboard	
Wil	I humans be there? If yes, expect conventional waste					
	Describe weeks (kitchen weter above weter)		20 mallone/nemen/des	NIA.	Remove floating solids and	No
	Domestic waste (kitchen water, shower water)	grey water	30 gallons/person/day	NA NA	discharge	No No
	Sanitary waste (toilet water)	treated sanitary waste	20 gallons/person/day	NA	Chlorinate and discharge	NO
le t	here a deck? If yes, there will be Deck Drainage					
15 (Deck Drainage	wash water and rainwater	1000 bbl (dependent on rainfall)	15 bbl/hr	discharge overboard	No
Wil	I you conduct well treatment, completion, or workover					
	well treatment fluids	INA	NA	NA	NA	NA
	well completion fluids	Calcium or Sodium Chloride	200 bbls/well	25 bbls/he (1 day per well)	NA	NA
	workover fluids	NA	NA	NA	NA	NA
Mis	scellaneous discharges. If yes, only fill in those associa	ited with your activity.				
	Desalinization unit discharge	Seawater	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	Seawater	NA	NA	NA	NA
	Cooling water	Seawater	NA	NA	NA	NA
Wil	I you produce hydrocarbons? If yes fill in for produced	1				
	Produced water	formation water	100 bbls	None	discharge overboard	No
10/:	I you he covered by an individual or general NDDEC no	rmit 2		GENERAL PERMIT	GMG290269	
VVII	I you be covered by an individual or general NPDES pe	mil f		GENERAL PERIIII	GIVIG29U209	

TABLE 2. WASTES YOU WILL TRANSPORT AND /OR DISPOSE OF ONSHORE please specify whether the amount reported is a total or per well

			Solid and Liquid Wastes				
	Projected generate	d waste	transportation		Wa	aste Dispos	al
					Name/Location of		
	Type of Waste	Composition	Transport Method		Facility	Amount	Disposal Method
Wi	I 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	use SBF and additives	cutting boxes on supply boat		Newpark Environmental in Abbeville, LA	2025 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
Wi	I you produce hydrocarbons? If yes fill in for	produced sand.					
	Produced sand	NA	NA		NA	NA	NA
	I you have additional wastes that are not per in the appropriate rows.	mitted for discharge? If yes,					
	trash and debris	trash and debris	storage bins on supply boat		EPS Dock Abbeville, LA	500 cu ft total	landfill
	used oil	NA	drums on supply boats		NA	NA	NA
	wash water	NA	NA		NA	NA	NA
	chemical product wastes	NA	NA		NA	NA	NA

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 El 330, Platform D

						Projected
						Downhole
	Projected ge	nerated waste	Projected oce	Disposal		
	Type of Waste and Composition	Composition	Projected Amount	Discharge rate	Discharge Method	Answer yes or no
Wi	II drilling occur? If yes, you should list muds and cuttin	. Z				
	Water-based drilling fluid	barite, additives	1200 bbls/well	300 bbls/day/well	discharge overboard	No
	Cuttings wetted with water-based fluid	water-based fluids	400 bbls/well	125 bbls/day/well	discharge overboard	No
		Cuttings generated while using synthetic based drilling				
	Cuttings wetted with synthetic-based fluid	fluid.	575 bbls/well	50 bbls/day/well	Shunt through downpipe	No
	Brine	Brine	0 bbls total	0 bbl/hr	discharge overboard	
Wi	Il humans be there? If yes, expect conventional waste					
					Remove floating solids and	
	Domestic waste (kitchen water, shower water)	grey water	30 gallons/person/day	NA	discharge	No
	Sanitary waste (toilet water)	treated sanitary waste	20 gallons/person/day	NA	Chlorinate and discharge	No
Is 1	there a deck? If yes, there will be Deck Drainage					
	Deck Drainage	wash water and rainwater	1000 bbl (dependent on rainfall)	15 bbl/hr	discharge overboard	No
Wi	Il you conduct well treatment, completion, or workover?					
	well treatment fluids	NA	NA	NA	NA	NA
	well completion fluids	Calcium or Sodium Chloride	200 bbls/well	/	NA	NA
	workover fluids	NA	NA	NA	NA	NA
Mis	scellaneous discharges. If yes, only fill in those associa	ted with your activity.				
	Desalinization unit discharge	Seawater	NA	NA	NA	NA
	Blowout prevent fluid	NA	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	Seawater	NA	NA	NA	NA
	Cooling water	Seawater	NA	NA	NA	NA
Wi	Il you produce hydrocarbons? If yes fill in for produced	water.				
	Produced water	formation water	100 bbls	None	discharge overboard	No
					011000000	
Wi	Il you be covered by an individual or general NPDES pe	rmit ?		GENERAL PERMIT	GMG290269	

TABLE 2. WASTES YOU WILL TRANSPORT AND /OR DISPOSE OF ONSHORE please specify whether the amount reported is a total or per well

			Solid and Liquid Wastes					
	Projected generate	d waste	transportation		Waste Disposal			
					Name/Location of			
	Type of Waste	Composition	Transport Method		Facility	Amount	Disposal Method	
w	Il 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	use SBF and additives	cutting boxes on supply boat		Newpark Environmental in Abbeville, LA	575 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	
W	Il you produce hydrocarbons? If yes fill in for	produced sand.						
	Produced sand	NA	NA		NA	NA	NA	
	Il you have additional wastes that are not per in the appropriate rows.	mitted for discharge? If yes,						
	trash and debris	trash and debris	storage bins on supply boat		EPS Dock Abbeville, LA	500 cu ft total	landfill	
	used oil	NA	drums on supply boats		NA	NA	NA	
	wash water	NA	NA		NA	NA	NA	
	chemical product wastes	NA	NA		NA	NA	NA	
1			·					

Air Quality Emissions Report

Attachment K (Public Information)

COMPANY	Arena Offshore, LP
AREA	Eugene Island
BLOCK	330
LEASE	G02115
FACILITY	B (Complex ID #21580)
WELL	
COMPANY CONTACT	Aimee Deady
TELEPHONE NO.	281-210-3180
REMARKS	

LEASE TERI	LEASE TERM PIPELINE CONSTRUCTION INFORMATION:										
YEAR	NUMBER OF	TOTAL NUMBER OF CONSTRUCTION DAYS									
	PIPELINES										
2025											
2026											
2027											
2028											
2029											
2030											
2031											
2032											
2033											
2034											

AIR EMISSIONS COMPUTATION FACTORS

Fuel Usage Conversion Factors	Natural Ga	s Turbines			Natural G	as Engines	Diesel Re	cip. Engine	Diesel "	Turbines				
-	SCF/hp-hr	9.524			SCF/hp-hr	7.143	GAL/hp-hr	0.0514	GAL/hp-hr	0.0514				
Equipment/Emission Factors	units	TSP	PM10	PM2.5	SOx	NOx	voc	Pb	CO	NH3	REF.	DATE	Reference Links	
Natural Cas Turkins	g/hp-hr		0.0086	0.0086	0.0026	1.4515	0.0095	N/A	0.3719	N/A	AP42.3.1-18.3.1-2a	4/00	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03s01.pdf	
Natural Gas Turbine RECIP. 2 Cycle Lean Natural Gas	g/np-nr g/hp-hr		0.0086	0.0086	0.0026	6.5998	0.4082	N/A N/A	1.2009	N/A N/A	AP42 3.1-1& 3.1-28 AP42 3.2-1	7/00	https://www3.epa.gov/ttncnie1/ap42/ch03/final/c03s01.pdf https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s02.pdf	
RECIP. 4 Cycle Lean Natural Gas	g/hp-hr		0.0002	0.0002	0.0020	2.8814	0.4014	N/A	1.8949	N/A	AP42 3.2-2	7/00	https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s02.pdf	
RECIP. 4 Cycle Elean Natural Gas	g/hp-hr		0.0323	0.0323	0.0020	7.7224	0.1021	N/A	11.9408	N/A	AP42 3.2-3	7/00	https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s02.pdf	
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	10/96	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03s03.pdf	
Diesel Recip. < 600 hp	g/hp-hr	0.32	0.182	0.178	0.0279	10.9	0.29	N/A N/A	2.5	N/A	AP42 3.4-1 & 3.4-2	10/96	https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s03.pdf	
Diesel Boiler	lbs/bbl	0.0840	0.0420	0.0105	0.0089	1.0080	0.0084	5.14E-05	0.2100	0.0336	AP42 1.3-6; Pb and NH3: WebFIRE (08/2018)	9/98 and 5/10	https://wwwo.epa.gov/ttrichie/rap4z/cho1/hinal/co1505.pdi	
Diesel Turbine	g/hp-hr	0.0381	0.0137	0.0137	0.0003	2.7941	0.0004	4.45F-05	0.0105	0.0330 N/A	AP42 3.1-1 & 3.1-2a	4/00	https://cfpub.epa.gov/webfire/ https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03s01.pdf	
Dual Fuel Turbine	g/hp-hr	0.0381	0.0137	0.0137	0.0048	2.7941	0.0013	4.45E-05 4.45E-05	0.0105	0.0000	AP42 3.1-1 & 3.1-2a AP42 3.1-1 & 3.1-2a AP42 3.1-1 & 3.1-2a	4/00	https://cfp.ih.epa.gov/wehfire/	
	* '												III(IIS://CIDID.ED8.00V/Weblife/	
Vessels – Propulsion	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI;TSP refer to Diesel Recip. > 600 hp reference	3/19		
Vessels – Drilling Prime Engine, Auxiliary	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI;TSP refer to Diesel Recip. > 600 hp reference	3/19	https://www.epa.gov/air-emissions-inventories/2017-national-emissions-	
/essels - 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	3/19	inventory-nei-data	
Vessels – Well Stimulation	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI;TSP refer to Diesel Recip. > 600 hp reference	3/19		
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: WebFIRE (08/2018)	7/98 and 8/18	https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s04.pdf	
Combustion Flare (no smoke)	lbs/MMscf	0.00	0.00	0.00	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	hithe-licinin and Anvillantiral	
Combustion Flare (light smoke)	lbs/MMscf	2.10	2.10	2.10	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	https://www3.epa.gov/ttn/chief/ap42/ch13/final/C13S05 02-05-18.pdf	
Combustion Flare (medium smoke)	lbs/MMscf	10.50	10.50	10.50	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	https://wwws.epa.gov/ttn/chiel/ap42/ch15/hinal/C15505_02-05-16.pui	
Combustion Flare (heavy smoke)	lbs/MMscf	21.00	21.00	21.00	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18		
iquid Flaring	lbs/bbl	0.42	0.0966	0.0651	5.964	0.84	0.01428	5.14E-05	0.21	0.0336	AP42 1.3-1 through 1.3-3 and 1.3-5	5/10	https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s03.pdf	
Storage Tank	tons/vr/tank											2017	https://www.boem.gov/environment/environmental-studies/2014-gulfwid	
otorage rank	toriaryirtarik						4.300				2014 Gulfwide Inventory; Avg emiss (upper bound of 95% CI)	2017	emission-inventory	
Fugitives	lbs/hr/component						0.0005				API Study	12/93	https://www.apiwebstore.org/publications/item.cgi?9879d38a-8bc0-4abe	
	· ·												bb5c-9b623870125d	
Glycol Dehydrator	tons/yr/dehydrator						19.240				2011 Gulfwide Inventory; Avg emiss (upper bound of 95% CI)	2014	https://www.boem.gov/environment/environmental-studies/2011-gulfwidenission-inventory	
							13.240				2011 Guilwide lilveritory, Avg eritiss (appel bound of 35 % Ci)		https://www.boem.gov/environment/environmental-studies/2014-gulfwide	
Cold Vent	tons/yr/vent						44.747				2014 Gulfwide Inventory; Avg emiss (upper bound of 95% CI)	2017	emission-inventory	
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	10/96	https://www3.epa.gov/ttnchie1/ap42/ch02/final/c02s01.pdf	
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	2009	https://www.cpa.gov/thchie/rap+2/cho2/ilifal/co2301.pdf	
Oll-Ice - Loadel	ibs/gai	0.043	0.043	0.043	0.040	0.004	0.043	IN/A	0.130	0.003	reference	2009		
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	2009		
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	2009		
On-ice - Other Survey Equipment	ibs/gai	0.043	0.043	0.043	0.040	0.004	0.043	IN/A	0.130	0.003	reference	2009	https://www.epa.gov/moves/nonroad2008a-installation-and-updates	
On-lce - 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	2009		
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	2009		
Office - Truck (for graver Island)	ibə/gai	0.043	0.043	0.043	0.040	0.004	0.049	IN/A	0.130	0.003	reference	2009		
On-lce – 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 reference	2009		
					1						Ididiolica		https://www.boem.gov/sites/default/files/uploadedFiles/BOEM/BOEM_N	
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	2014	wsroom/Library/Publications/2014-1001.pdf	
nan Camp - Operation (max people/day)														
/essels - Ice Management Diesel	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI;TSP refer to Diesel Recip. > 600 hp reference	3/19	https://www.epa.gov/air-emissions-inventories/2017-national-emissions-	

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

Natural Gas Flare Parameters	Value	Units
VOC Content of Flare Gas	0.6816	lb VOC/lb-mol gas
Natural Gas Flare Efficiency	0.8	0/_

Density an	d Heat Val	ue of Diesel
	Fuel	
Density	7.05	lbs/gal
Heat Value	19,300	Btu/lb

H	leat Value o	f Natural Gas
Heat Value	1.050	MMRtu/MMscf

COMPANY	AREA		BLOCK	LEASE	FACILITY	WELL					CONTACT		PHONE		REMARKS										
Arena Offshore, LP OPERATIONS	Eugene Island EQUIPMENT	EQUIPMENT ID	330 RATING	G02115 E	B (Complex ID #21580) ACT. FUEL	RUN	TIME				Aim	ee Deady M POUNDS PE		10-3180						EG	STIMATED TO	NC			
OPERATIONS	Diesel Engines	EQUIPMENT ID	HP	GAL/HR	GAL/D	KUN	IIIVIE				WIAXIIVIU	W POUNDS PE	K HOUK							E	STIMATED TO	NO .			
	Nat. Gas Engines Burners		HP MMBTU/HR	SCF/HR SCF/HR	SCF/D SCF/D	HR/D	D/VB	TSP	PM10	PM2.5	SOx	NOx	VOC	Ph	СО	NH3	TSP	PM10	PM2.5	SOx	NOx	VOC	Db.		NH3
DRILLING	VESSELS- Drilling - Propulsion Engine - Diesel Vessels - Diesel Boiler Vessels - Dirilling Prime Engine, Awdilary		0 0 0 0 0 0	0 0 0 0 0	0.00 0.00 0.00 0.00 0.00	0 0 0 0 0 0	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 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	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 VESSELS - Pipeline Burying - Diesel		0 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 0.00	0.00 0.00	0.00 0.00	0.00 0.00	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	N VESSELS - Heavy Lift Vessel/Derrick Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	RECIP.<600hp Diesel (east crane) RECIP.<600hp Diesel (west crane) RECIP.<600hp Diesel (firewater pump) RECIP.<600hp Diesel (hackup generator) RECIP.<600hp Diesel (backup generator) RECIP.<600hp Diesel VESSELS - Shuttle Tankers VESSELS - Well Stimulation Natural Gas Turbine Diesel Turbine Dual Fuel Turbine RECIP. 2 Cycle Lean Natural Gas RECIP. 4 Cycle Rich Natural Gas RECIP. 4 Cycle Rich Natural Gas (compressor #1) RECIP. 4 Cycle Rich Natural Gas (compressor #2) RECIP. 4 Cycle Rich Natural Gas (generator #1) RECIP. 4 Cycle Rich Natural Gas (generator #1) RECIP. 4 Cycle Rich Natural Gas (generator #2) Diesel Boiler Natural Gas Heater/Boiler/Burner	E-CRANE W-CRANE FW PUMP ZAN-2800 CAE-1000 CAE-1050 CAN-2750 CAN-2750	238 238 300 465 0 0 0 0 0 0 0 0 0 0 1478 1680 310 310	12.244148 12.244148 15.4338 23.92239 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 20 214.2857 2214.2857	293.86 293.86 370.41 574.14 0.00 0.00 0.00 0.00 0.00 0.00 0.00	24 24 24 0 0 0 0 0 0 0 0 0 0 0 0 0 2 2 4 2 4	365 365 365 365 0 0 0 0 0 0 0 0 365 365 365 365 365	0.52 0.52 0.66 1.03 0.00 0.00 0.00 0.00 0.00 	0.52 0.52 0.66 1.03 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.52 0.62 0.66 1.03 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.01 0.01 0.02 0.03 0.00 0.00 0.00 0.00 0.00 0.00	7.40 7.40 9.33 14.45 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.55 0.55 0.69 1.07 0.00 0.00 0.00 0.00 0.00 0.00 0.00		1.59 1.59 2.00 3.11 0.00 0.00 0.00 0.00 0.00 0.00 0	 0.00 0.00 0.00 0.00 0.00	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00 0.00	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00 0	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00 0	0.06 0.08 0.13 0.00 0.00 0.00 0.00 0.00 0.00 0.00	32.40 32.40 40.85 63.31 0.00 0.00 0.00 0.00 0.00 0.00 110.21 125.28 23.12 23.12 0.00	2.39 2.39 3.01 4.67 0.00 0.00 0.00 0.00 0.00 0.00 0.00 1.46 1.66 0.31 0.31 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	6.96 6.96 8.78 13.61 0.00 0.00 0.00 0.00 0.00 0.00 0.00 170.42 193.71 35.74 35.74	 0.00 0.00 0.00 0.00 0.00
DRILLING WELL TEST	MISC. STORAGE TANK COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - heavy smoke COLD VENT FUGITIVES GLYCOL DEHYDRATOR UAGIT FLARE - no smoke COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke	VNTSCRB	0 0	0 0 0 0 0 0	1 5574 0	0 0 0 0 0 24 24 0 0 0	0 0 0 0 0 365 365 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 10.22 2.79 0.00 0.00 0.00	 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	 0.00	0.00 0.00 0.00 0.00 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 0.00 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 44.75 12.21 0.00 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	COMBUSTION FLARE - heavy smoke VESSELS		kW	0		HR/D	D/YR	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	-
SOURCES	VESSELS - Ice Management Diesel		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
202	5 Facility Total Emissions		0			0	0	2.74	3.01	3.01	0.09	102.90	16.70	0.00	107.75	0.00	11.98	13.16	13.16	0.41	450.69	73.14	0.00	471.93	0.00
EXEMPTION	DISTANCE FROM LAND IN MILES																0.404.00							F0 000 07	
CALCULATION	72.7																2,421.30			2,421.30	2,421.30	2,421.30		59,230.97	+
DRILLING PIPELINE	VESSELS - Crew Diesel VESSELS - Supply Diesel VESSELS - Tugs Diesel VESSELS - Support Diesel, Laying		0 0 0	0 0 0	0.00 0.00 0.00 0.00	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	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	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 - Support Diesel, Burying VESSELS - Crew Diesel		0	0	0.00 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 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	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	VESSELS - Supply Diesel 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
INSTALLATION	VESSELS - Crew Diesel VESSELS - Supply Diesel		0	0	0.00 0.00	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	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	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 (crew boat) VESSELS - Support Diesel (supply boat)		2265 2265	116.52519 116.52519	2796.60 2796.60	6 10	156 156	1.60 1.60	0.96 0.96	0.94 0.94	0.02 0.02	38.28 38.28	1.10 1.10	0.00	6.00 6.00	0.01 0.01	0.75 1.25	0.45 0.75	0.44 0.73	0.01 0.02	17.92 29.86	0.52 0.86	0.00 0.00	2.81 4.68	0.01 0.01
ALASKA-SPECIFIC SOURCES	On-Ice Equipment			GAL/HR	GAL/D																				
	Man Camp - Operation (maximum people per day) VESSELS		PEOPLE/DAY			HR/D	D/YR																		\perp
	On-Ice – Loader On-Ice – Other Construction Equipment On-Ice – Other Survey Equipment On-Ice – Tractor On-Ice – Truck (for gravel island) On-Ice – Truck (for surveys) Man Camp - Operation VESSELS - Howercraft Diesel		0 0	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0.00 0.00 0.00 0.00 0.00 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 0.0	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 0.0	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 0.0	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 0.0	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 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00
202	5 Non-Facility Total Emissions							3.20	1.93	1.87	0.05	76.57	2.20	0.00	12.01	0.02	1.99	1.20	1.17	0.03	47.78	1.37	0.00	7.49	0.01

AIR EMISSIONS CALCULATIONS - 2ND YEAR

COMPANY	AREA		BLOCK	LEASE	FACILITY	WELL					CONTACT	Bt-	PHONE 281-2	40.0400	REMARKS										
Arena Offshore, LP OPERATIONS	Eugene Island EQUIPMENT	EQUIPMENT ID	330 RATING	G02115 MAX. FUEL	ACT. FUEL	RUN	TIME				MAXIMU	ee Deady M POUNDS PE		10-3180			1			ES	STIMATED TO	ONS			
	Diesel Engines		HP	GAL/HR	GAL/D																				
	Nat. Gas Engines Burners		HP MMBTU/HR	SCF/HR SCF/HR	SCF/D SCF/D	HR/D	D/YR	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	СО	NH3	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	СО	NH3
DRILLING	VESSELS- Drilling - Propulsion Engine - Diesel		8800	452.7248	10865.40	24	333	6.21	3.75	3.63	0.09	148.74	4.28	0.00	23.33	0.04	24.81	14.97	14.52	0.36	594.38	17.09	0.00	93.23	0.17
WED 400/450	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	0.00
WFD 400/450	VESSELS- Drilling - Propulsion Engine - Diesel 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	0.00
	Vessels - Diesel Boiler		0			Ö	Ö	0.00	0.00	0.00	0.00	0.00	0.00	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	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
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
FACILITY INSTALLATION	VESSELS - Heavy Lift Vessel/Derrick Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION		E-CRANE	000	12.244148	202.00	04	205	0.50	0.50	0.50		7.40	0.55				0.00	0.00		0.00	20.40	0.00		0.00	
	RECIP.<600hp Diesel (east crane) RECIP.<600hp Diesel (west crane)	W-CRANE	238 238	12.244148	293.86 293.86	24	365 365	0.52 0.52	0.52 0.52	0.52 0.52	0.01 0.01	7.40 7.40	0.55 0.55	-	1.59 1.59		2.30 2.30	2.30 2.30	2.30 2.30	0.06 0.06	32.40 32.40	2.39 2.39		6.96 6.96	
	RECIP.<600hp Diesel (firewater pump)	FW PUMP	300	15.4338	370.41	24	365	0.66	0.66	0.66	0.02	9.33	0.69	-	2.00		2.90	2.90	2.90	0.08	40.85	3.01		8.78	
	RECIP.<600hp Diesel (backup generator) RECIP.>600hp Diesel	ZAN-2800	465	23.92239	574.14 0.00	24	365	1.03 0.00	1.03 0.00	1.03 0.00	0.03	14.45 0.00	1.07 0.00	_	3.11 0.00		4.49 0.00	4.49 0.00	4.49 0.00	0.13 0.00	63.31 0.00	4.67 0.00	-	13.61 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
	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
	Natural Gas Turbine 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	-
	Dual Fuel Turbine		0	Ō	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
	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	
	RECIP. 4 Cycle Lean Natural Gas RECIP. 4 Cycle Rich Natural Gas (compressor #1)	CAE-1000	1478	10557.143	0.00 253371.43	24	365		0.00 0.11	0.00 0.11	0.00 0.01	0.00 25.16	0.00 0.33	_	0.00 38.91			0.00 0.46	0.00 0.46	0.00	0.00 110.21	0.00 1.46		0.00 170.42	
	RECIP. 4 Cycle Rich Natural Gas (compressor #2)	CAE-1050	1680	12000	288000.00	24	365	-	0.12	0.12	0.01	28.60	0.38	-	44.23			0.52	0.52	0.03	125.28	1.66		193.71	
	RECIP. 4 Cycle Rich Natural Gas (generator #1)	ZAN-2700 ZAN-2750	310 310	2214.2857 2214.2857	53142.86 53142.86	24 24	365 365	-	0.02 0.02	0.02 0.02	0.00	5.28 5.28	0.07 0.07	-	8.16 8.16			0.10 0.10	0.10 0.10	0.01 0.01	23.12 23.12	0.31 0.31		35.74 35.74	
	RECIP. 4 Cycle Rich Natural Gas (generator #2) Diesel Boiler	ZAIN-2750	310	2214.2037	33142.00	0	0	0.00	0.02	0.02	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00
	Natural Gas Heater/Boiler/Burner		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
	MISC. STORAGE TANK		BPD	SCF/HR	COUNT	0	0	_	-	_		-	0.00	-	-		_		_		_	0.00		-	_
	COMBUSTION FLARE - no smoke			0	U	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	0.00	0.00	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 COMBUSTION FLARE - heavy smoke			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	0.00 0.00	0.00 0.00	0.00		0.00	
	COLD VENT	VNTSCRB		-	1	24	365						10.22									44.75			
	FUGITIVES				5574	24 0	365 0	-					2.79						-	-	-	12.21			
	GLYCOL DEHYDRATOR 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	
DRILLING	Liquid Flaring		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	0.00	0.00
WELL TEST	COMBUSTION FLARE - no smoke			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	0.00	0.00	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 COMBUSTION FLARE - heavy smoke			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	
ALASKA-SPECIFIC	VESSELS			U		HR/D	D/YR	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	
SOURCES			kW			0	D/TR	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
2026	VESSELS - Ice Management Diesel Facility Total Emissions		0			0	0	0.00 8.94	0.00 6.75	0.00 6.64	0.00 0.18	251.64	20.98	0.00	131.08	0.00 0.04	0.00 36.79	0.00 28.13	27.68	0.00 0.77	0.00 1,045.07	0.00 90.23	0.00	0.00 565.15	0.00 0.17
EXEMPTION	DISTANCE FROM LAND IN MILES																								
CALCULATION	72.7																2,421.30			2,421.30	2,421.30	2,421.30		59,230.97	
DRILLING	VESSELS- Crew Diesel		2265	116.52519	2796.60	24	191	1.60	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	3.66	2.21	2.14	0.05	87.75	2.52	0.00	13.76	0.03
	VESSELS - Supply Diesel VESSELS - Tugs Diesel		2265 4600	116.52519 236.6516	2796.60 5679.64	24 12	143	1.60 3.25	0.96 1.96	0.94 1.90	0.02 0.05	38.28 77.75	1.10	0.00	6.00 12.20	0.01	2.74	1.65	1.60	0.04	65.70 0.93	1.89	0.00	10.30 0.15	0.02
PIPELINE	VESSELS - Tugs Diesel VESSELS - Support Diesel, Laying		0	0	0.00	0	0	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.02	0.04	0.02	0.02	0.00	0.93	0.00	0.00	0.00	0.00
INSTALLATION	VESSELS - Support Diesel, Burying		0	Ö	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 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	VESSELS - Supply Diesel 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
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	0.00
PRODUCTION	VESSELS - Supply Diesel VESSELS - Support Diesel (crew boat)		0 2265	0 116.52519	0.00 2796.60	6	0 156	0.00 1.60	0.00 0.96	0.00 0.94	0.00	0.00 38.28	0.00 1.10	0.00	0.00 6.00	0.00	0.00	0.00 0.45	0.00 0.44	0.00	0.00 17.92	0.00 0.52	0.00	0.00 2.81	0.00
	VESSELS - Support Diesel (supply boat)		2265	116.52519	2796.60	10	156	1.60	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	1.25	0.45	0.73	0.02	29.86	0.86	0.00	4.68	0.01
ALASKA-SPECIFIC SOURCES	On-Ice Equipment			GAL/HR	GAL/D																				
COUNCLO	Man Camp - Operation (maximum people per day)	<u></u>	PEOPLE/DAY												<u> </u>										<u> </u>
	VESSELS		kW		6.0	HR/D	D/YR	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	6.00	0.00	0.00	0.00		0.00	0.00
	On-Ice – Loader On-Ice – Other Construction Equipment			0	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	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	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) On-Ice – Truck (for surveys)			0	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	0.00		0.00	0.00
	Man Camp - Operation		0		5.0	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 - Hovercraft Diesel		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	0.00	0.00
2026	Non-Facility Total Emissions							9.64	5.81	5.64	0.14	230.89	6.64	0.00	36.21	0.07	8.44	5.09	4.94	0.12	202.16	5.81	0.00	31.71	0.06

AIR EMISSIONS CALCULATIONS - 3RD YEAR

COMPANY	AREA		BLOCK	LEASE	FACILITY	WELL					CONTACT		PHONE		REMARKS										
Arena Offshore, LP OPERATIONS	Eugene Island EQUIPMENT	EQUIPMENT ID	330 RATING	G02115	ACT. FUEL	RUN TIME					Aime	ee Deady M POUNDS PE	281-21	10-3180			11			EC	STIMATED TO	Me			
OPERATIONS	Diesel Engines	EQUIPMENTID	HP	GAL/HR	GAL/D	KON TIME					WIAXIWU	W FOUNDS FE	K HOOK							ES	STIMATEDIC	JNO			
	Nat. Gas Engines Burners		HP MMBTU/HR	SCF/HR SCF/HR	SCF/D SCF/D	HR/D D	AVD.	TSP	PM10	PM2.5	SOx	NOx	Voc	DI-	СО	NH3	TSP	PM10	PM2.5	SOx	NOx	VOC	Ph	CO	NH3
DRILLING	VESSELS- Drilling - Propulsion Engine - Diesel		8800	452.7248	10865.40	24 3	71R 865	6.21	3.75	3.63	0.09	148.74	4.28	0.00	23.33	0.04	27.19	16.41	15.91	0.40	651.50	18.73	0.00	102.19	0.19
WED 400 450	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	0.00
WFD 400 or 450	VESSELS- Drilling - Propulsion Engine - Diesel 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	0.00
	Vessels - Diesel Boiler		ő			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	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
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
FACILITY INSTALLATION	VESSELS - Heavy Lift Vessel/Derrick Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	RECIP.<600hp Diesel (east crane)	E-CRANE	238	12.244148	293.86	24 3	865	0.52	0.52	0.52	0.01	7.40	0.55	-	1.59		2.30	2.30	2.30	0.06	32.40	2.39		6.96	
	RECIP.<600hp Diesel (west crane)	W-CRANE	238	12.244148	293.86		865	0.52	0.52	0.52	0.01	7.40	0.55	-	1.59		2.30	2.30	2.30	0.06	32.40	2.39		6.96	
	RECIP.<600hp Diesel (firewater pump) RECIP.<600hp Diesel (backup generator)	FW PUMP ZAN-2800	300 465	15.4338 23.92239	370.41 574.14		865 865	0.66 1.03	0.66 1.03	0.66 1.03	0.02	9.33 14.45	0.69 1.07	-	2.00 3.11		2.90 4.49	2.90 4.49	2.90 4.49	0.08 0.13	40.85 63.31	3.01 4.67		8.78 13.61	
	RECIP.>600hp Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	
	VESSELS - Shuttle Tankers 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	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
	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	/ -
	Dual Fuel Turbine 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
	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	
	RECIP. 4 Cycle Rich Natural Gas (compressor #1)	CAE-1000	1478	10557.143	253371.43		865		0.11	0.11	0.01	25.16	0.33		38.91			0.46	0.46	0.03	110.21	1.46		170.42	
	RECIP. 4 Cycle Rich Natural Gas (compressor #2) RECIP. 4 Cycle Rich Natural Gas (generator #1)	CAE-1050 ZAN-2700	1680 310	12000 2214.2857	288000.00 53142.86		865 865	-	0.12	0.12 0.02	0.01	28.60 5.28	0.38	-	44.23 8.16			0.52 0.10	0.52 0.10	0.03 0.01	125.28 23.12	1.66 0.31		193.71 35.74	
	RECIP. 4 Cycle Rich Natural Gas (generator #1)	ZAN-2750	310	2214.2857	53142.86		865		0.02	0.02	0.00	5.28	0.07	_	8.16			0.10	0.10	0.01	23.12	0.31		35.74	
	Diesel Boiler		_			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 MISC.		BPD	0 SCF/HR	0.00 COUNT	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
	STORAGE TANK		51.5	001711110	0	0	0						0.00	-								0.00			
	COMBUSTION FLARE - no smoke			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 COMBUSTION FLARE - medium smoke			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		0.00	/
	COMBUSTION FLARE - heavy smoke			0		ő	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 FUGITIVES	VNTSCRB			1		865						10.22						-			44.75			
	GLYCOL DEHYDRATOR				5574 0	24 3	865 0	-					2.79 0.00						-			12.21 0.00			
	WASTE INCINERATOR		0			0	0		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	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
	COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke			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		0.00	0.00	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	0.00	0.00	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	VESSELS		kW			HR/D D	/YR																		
SOURCES	VESSELS - Ice Management Diesel		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
2027 EXEMPTION	Facility Total Emissions							8.94	6.75	6.64	0.18	251.64	20.98	0.00	131.08	0.04	39.18	29.57	29.08	0.80	1,102.19	91.87	0.00	574.11	0.19
CALCULATION	DISTANCE FROM LAND IN MILES 72.7																2,421.30			2,421.30	2,421.30	2,421.30		59,230.97	
DRILLING	VESSELS- Crew Diesel		2265	116.52519	2796.60		208	1.60	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	3.99	2.41	2.33	0.06	95.56	2.75	0.00	14.99	0.03
	VESSELS - Supply Diesel		2265	116.52519	2796.60		56	1.60	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	2.99	1.80	1.75	0.04	71.67	2.06	0.00	11.24	0.02
PIPELINE	VESSELS - Tugs Diesel VESSELS - Support Diesel, Laying		4600	236.6516	5679.64 0.00	12	0	3.25 0.00	1.96 0.00	1.90 0.00	0.05	77.75 0.00	2.24 0.00	0.00	12.20 0.00	0.02	0.04 0.00	0.02	0.02	0.00	0.93	0.03	0.00	0.15 0.00	0.00
INSTALLATION	VESSELS - Support Diesel, Earling 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
FACILITY	VESSELS - Supply Diesel 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
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	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 (crew boat) VESSELS - Support Diesel (supply boat)		2265 2265	116.52519 116.52519	2796.60 2796.60	6 1 10 1	56 56	1.60 1.60	0.96 0.96	0.94 0.94	0.02 0.02	38.28 38.28	1.10 1.10	0.00 0.00	6.00 6.00	0.01 0.01	0.75 1.25	0.45 0.75	0.44 0.73	0.01 0.02	17.92 29.86	0.52 0.86	0.00 0.00	2.81 4.68	0.01 0.01
ALASKA-SPECIFIC SOURCES	On-Ice Equipment			GAL/HR	GAL/D																				
	Man Camp - Operation (maximum people per day)		PEOPLE/DAY			UD/P	(MD																		
	VESSELS On-lce – Loader		kW	0	0.0	HR/D D	/YR 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	Ö	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		0.00	0.00	0.00	0.00	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-lce – Tractor On-lce – Truck (for gravel island)			0	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	0.00	0.00	0.00 0.00		0.00 0.00	0.00
	On-lce – Truck (for surveys)			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
	Man Camp - Operation		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	0.00	0.00
2027	VESSELS - Hovercraft Diesel Non-Facility Total Emissions		0			U	U	0.00 9.64	0.00 5.81		0.00 0.14	0.00 230.89	0.00 6.64		0.00 36.21	0.00	9.01	0.00 5.44				0.00 6.21	0.00	0.00 33.87	0.00
2021	, roun Ennouville								0.0.	U.U.		200.00	0.0.	0.00		V.V.		V	· · · · · ·		2.0.07	V	0.00		0.00

AIR EMISSIONS CALCULATIONS - 4TH YEAR

COMPANY	AREA	I	BLOCK	LEASE	FACILITY	WELL					CONTACT		PHONE		REMARKS										$\overline{}$
Arena Offshore, LP OPERATIONS	Eugene Island EQUIPMENT	EQUIPMENT ID	330 RATING	G02115 MAX. FUEL	Complex ID #21 ACT. FUEL		TIME				Aime	e Deady M POUNDS PE	281-21	10-3180			r			F0*	TIMATED TO	10			
OPERATIONS	Diesel Engines	EQUIPMENTID	HP	GAL/HR	GAL/D	KUN	TIME				WIAXIWU	N POUNDS PE	K HOUK							ES	TIMATED TO	NO			
	Nat. Gas Engines Burners		HP MMBTU/HR	SCF/HR SCF/HR	SCF/D SCF/D	LID/D	D/YR	TSP	PM10	PM2.5	SOx	NOx	VOC	DI-	СО	NH3	TSP	PM10	PM2.5	SOx	NOx	voc	DI.	CO	NH3
DRILLING WFD 400 or 450	VESSELS- Drilling - Propulsion Engine - Diesel Vessels - Diesel Boiler Vessels - Diesel Boiler Vessels - Drilling Prime Engine, Auxiliary		8800 0 0 0 0 0	452.7248 0 0 0	10865.40 0.00 0.00 0.00 0.00	24 0 0 0 0 0	365 0 0 0 0	6.21 0.00 0.00 0.00 0.00 0.00	3.75 0.00 0.00 0.00 0.00 0.00	3.63 0.00 0.00 0.00 0.00 0.00	0.09 0.00 0.00 0.00 0.00 0.00	148.74 0.00 0.00 0.00 0.00 0.00	4.28 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	23.33 0.00 0.00 0.00 0.00 0.00	0.04 0.00 0.00 0.00 0.00 0.00	27.19 0.00 0.00 0.00 0.00 0.00	16.41 0.00 0.00 0.00 0.00 0.00	15.91 0.00 0.00 0.00 0.00 0.00	0.40 0.00 0.00 0.00 0.00 0.00	651.50 0.00 0.00 0.00 0.00 0.00	18.73 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	102.19 0.00 0.00 0.00 0.00 0.00	0.19 0.00 0.00 0.00 0.00 0.00
PIPELINE INSTALLATION	VESSELS - Pipeline Laying Vessel - Diesel VESSELS - Pipeline Burying - 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 0.00	0.00 0.00	0.00 0.00	0.00 0.00	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 Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	RECIP.<600hp Diesel (east crane) RECIP.<600hp Diesel (west crane) RECIP.<600hp Diesel (fivewater pump) RECIP.<600hp Diesel (fivewater pump) RECIP.<600hp Diesel (backup generator) RECIP.<600hp Diesel VESSELS - Well Stimulation Natural Gas Turbine Diesel Turbine Diesel Turbine Diesel Turbine RECIP.	E-CRANE W-CRANE FW PUMP ZAN-2800 CAE-1000 CAE-1050 ZAN-2700 ZAN-2750	238 238 300 465 0 0 0 0 0 0 0 0 1478 1680 310	12.244148 12.244148 15.4338 23.92239 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	293.86 293.86 370.41 574.14 0.00 0.00 0.00 0.00 0.00 0.00 0.00	24 24 24 24 0 0 0 0 0 0 0 0 0 0 0 24 24 24 24 24 24 0 0 0 0	365 365 365 365 0 0 0 0 0 0 0 0 365 365 365 365	0.52 0.52 0.66 1.03 0.00 0.00 	0.52 0.52 0.66 1.03 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.11 0.12 0.02 0.02 0.02	0.52 0.52 0.66 1.03 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.01 0.01 0.02 0.03 0.00 0.00 0.00 0.00 0.00 0.00	7.40 7.40 9.33 14.45 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.55 0.55 0.69 1.07 0.00 0.00 0.00 0.00 0.00 0.00 0.00		1.59 1.59 2.00 3.11 0.00 0.00 0.00 0.00 0.00 0.00 0	 0.00 0.00 0.00 0.00	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00 0	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00 0	0.06 0.06 0.08 0.13 0.00 0.00 0.00 0.00 0.00 0.00 0.00	32.40 32.40 40.85 63.31 0.00 0.00 0.00 0.00 0.00 0.00 110.21 125.28 23.12 0.00	2.39 2.39 3.01 4.67 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	 0.00 0.00 0.00 0.00 0.00	6.96 6.96 8.78 13.61 0.00 0.00 0.00 0.00 0.00 0.00 0.00 170.42 193.71 35.74 0.00	 0.00 0.00 0.00 0.00
DRILLING WELL TEST	MISC. STORAGE TANK COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - heavy smoke COLD VENT FUGITIVES GLYCOL DEHYDRATOR Liquid Flaring COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke	VNTSCRB	BPD 0	SCF/HR 0 0 0 0 0 0 0	0 1 5574 0	0 0 0 0 0 24 24 0 0	0 0 0 0 0 365 365 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 10.22 2.79 0.00 0.00 0.00		 0.00 0.00 0.00 0.00 0.00 0.00		 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 44.75 12.21 0.00 	 	 0.00 0.00 0.00 0.00 0.00 0.00 0.00	
ALASKA-SPECIFIC SOURCES	COMBUSTION FLARE - medium smoke COMBUSTION FLARE - heavy smoke VESSELS		kW	0		0 HR/D	0 D/YR	0.00 0.00	0.00 0.00	0.00 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 - Ice Management Diesel		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	Facility Total Emissions							8.94	6.75	6.64	0.18	251.64	20.98	0.00	131.08	0.04	39.18	29.57	29.08	0.80	1,102.19	91.87	0.00	574.11	0.19
CALCULATION	DISTANCE FROM LAND IN MILES																2,421.30			2,421.30	2,421.30	2,421.30		59,230.97	
	72.7		05	440	076		0.55		0	0.5	0.53	00		0		0							0.5		0.55
DRILLING	VESSELS- Crew Diesel VESSELS - Supply Diesel		2265 2265	116.52519 116.52519	2796.60 2796.60	24 24	208 156	1.60 1.60	0.96 0.96	0.94 0.94	0.02	38.28 38.28	1.10 1.10	0.00	6.00 6.00	0.01 0.01	3.99 2.99	1.80	2.33 1.75	0.06 0.04	95.56 71.67	2.75 2.06	0.00	14.99 11.24	0.03
PIPELINE INSTALLATION	VESSELS - Tugs Diesel VESSELS - Support Diesel, Laying VESSELS - Support Diesel, Burying VESSELS - Crew Diesel VESSELS - Supply Diesel		4600 0 0 0 0	236.6516 0 0 0 0	5679.64 0.00 0.00 0.00 0.00	12 0 0 0 0	0 0 0 0	3.25 0.00 0.00 0.00 0.00	1.96 0.00 0.00 0.00 0.00	1.90 0.00 0.00 0.00 0.00	0.05 0.00 0.00 0.00 0.00	77.75 0.00 0.00 0.00 0.00	2.24 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	12.20 0.00 0.00 0.00 0.00 0.00	0.02 0.00 0.00 0.00 0.00	0.04 0.00 0.00 0.00 0.00	0.02 0.00 0.00 0.00 0.00	0.02 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.93 0.00 0.00 0.00 0.00	0.03 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.15 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
FACILITY INSTALLATION	VESSELS - Material Tug Diesel VESSELS - Crew Diesel		0	0	0.00 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 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00	0.00 0.00 0.00	0.00 0.00	0.00 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 (crew boat)		2265 2265	116.52519 116.52519	2796.60	6 10	156 156	0.00 1.60 1.60	0.00 0.96 0.96	0.00 0.94 0.94	0.02	0.00 38.28 38.28	1.10 1.10	0.00 0.00 0.00	6.00 6.00	0.00 0.01 0.01	0.00 0.75 1.25	0.00 0.45 0.75	0.00 0.44 0.73	0.00 0.01 0.02	17.92 29.86	0.00 0.52 0.86	0.00	0.00 2.81 4.68	0.00 0.01 0.01
ALASKA-SPECIFIC SOURCES	VESSELS - Support Diesel (supply boat) On-Ice Equipment		2265	116.52519 GAL/HR	2796.60 GAL/D	10	156	1.60	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	1.25	0.75	0.73	0.02	29.86	0.86	0.00	4.08	0.01
33011020	Man Camp - Operation (maximum people per day)		PEOPLE/DAY			UD/E	DAVD																		
2028	VESSELS On-loe – Loader On-loe – Other Construction Equipment On-loe – Other Survey Equipment On-loe – Tractor On-loe – Tractor On-loe – Truck (for gravel island) On-loe – Truck (for surveys) Man Camp - Operation VESSELS – Hovercraft Diesel Non-Facility Total Emissions		0 0	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 0 0 0 0	D/YR 0 0 0 0 0 0 0 0 0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00	0.00 0.00 0.00 0.00 0.00 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 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00
2028	aomity Total Elifooloilo							J.04	U.U I	0.04	V.14	200.03	0.04	0.00	JV.21	0.01	J.01	V.44	V.Z1	V. 10	£10.34	V.Z I	0.00	00.01	0.00

AIR EMISSIONS CALCULATIONS - 5TH YEAR

COMPANY	AREA		BLOCK	LEASE	FACILITY	WELL					CONTACT		PHONE		REMARKS										
Arena Offshore, LP OPERATIONS	Eugene Island EQUIPMENT	EQUIPMENT ID	330 RATING	G02115	ACT. FUEL	RUN TIME					Aim	ee Deady M POUNDS PE	281-21	10-3180			1			EC	STIMATED TO	Me			
OPERATIONS	Diesel Engines	EQUIPMENTID	HP	GAL/HR	GAL/D	RONTIME					WIAXIWIO	W FOUNDS FE	K HOOK							ES	STIMATED IC	JNO			
	Nat. Gas Engines Burners		HP MMBTU/HR	SCF/HR SCF/HR	SCF/D SCF/D	HR/D D/	ND .	TSP	PM10	PM2.5	SOx	NOx	Voc	DI-	СО	NH3	TSP	PM10	PM2.5	SOx	NOx	VOC	Ph	CO	NH3
DRILLING	VESSELS- Drilling - Propulsion Engine - Diesel		8800	452.7248	10865.40	24 3	65	6.21	3.75	3.63	0.09	148.74	4.28	0.00	23.33	0.04	27.19	16.41	15.91	0.40	651.50	18.73	0.00	102.19	0.19
	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	0.00
WFD 400 or 450	VESSELS- Drilling - Propulsion Engine - Diesel VESSELS- Drilling - Propulsion Engine - Diesel		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	0.00	0.00
	Vessels - Diesel Boiler		ő			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	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
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
FACILITY INSTALLATION	VESSELS - Heavy Lift Vessel/Derrick Barge Diesel		0	0	0.00	0	0 (0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	RECIP.<600hp Diesel (east crane)	E-CRANE	238	12.244148	293.86	24 3	65 (0.52	0.52	0.52	0.01	7.40	0.55	-	1.59		2.30	2.30	2.30	0.06	32.40	2.39		6.96	-
	RECIP.<600hp Diesel (west crane)	W-CRANE	238	12.244148	293.86			0.52	0.52	0.52	0.01	7.40	0.55	-	1.59		2.30	2.30	2.30	0.06	32.40	2.39		6.96	
	RECIP.<600hp Diesel (firewater pump) RECIP.<600hp Diesel (backup generator)	FW PUMP ZAN-2800	300 465	15.4338 23.92239	370.41 574.14			0.66 1.03	0.66 1.03	0.66 1.03	0.02	9.33 14.45	0.69 1.07	-	2.00 3.11		2.90 4.49	2.90 4.49	2.90 4.49	0.08 0.13	40.85 63.31	3.01 4.67		8.78 13.61	
	RECIP.>600hp Diesel		0	0	0.00	0	0 (0.00	0.00	0.00	0.00	0.00	0.00	-	0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	
	VESSELS - Shuttle Tankers VESSELS - Well Stimulation		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	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	
	Diesel Turbine		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	
	Dual Fuel Turbine 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
	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	
	RECIP. 4 Cycle Rich Natural Gas (compressor #1)	CAE-1000	1478	10557.143	253371.43			-	0.11	0.11	0.01	25.16	0.33		38.91			0.46	0.46	0.03	110.21	1.46		170.42	
	RECIP. 4 Cycle Rich Natural Gas (compressor #2) RECIP. 4 Cycle Rich Natural Gas (generator #1)	CAE-1050 ZAN-2700	1680 310	12000 2214.2857	288000.00 53142.86			-	0.12	0.12 0.02	0.01	28.60 5.28	0.38	_	44.23 8.16			0.52 0.10	0.52 0.10	0.03 0.01	125.28 23.12	1.66 0.31		193.71 35.74	
	RECIP. 4 Cycle Rich Natural Gas (generator #2)	ZAN-2750	310	2214.2857	53142.86		65		0.02	0.02	0.00	5.28	0.07	_	8.16			0.10	0.10	0.01	23.12	0.31		35.74	
	Diesel Boiler		_			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 MISC.		BPD	0 SCF/HR	0.00 COUNT	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
	STORAGE TANK		51.5	001711110	0	0	0						0.00	-								0.00			
	COMBUSTION FLARE - no smoke			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 COMBUSTION FLARE - medium smoke			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	
	COMBUSTION FLARE - heavy smoke			0		o o		0.00	0.00	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 FUGITIVES	VNTSCRB			1		65	-		-			10.22						-			44.75			
	GLYCOL DEHYDRATOR				5574 0	24 3		-		-			2.79 0.00		_				-			12.21 0.00			
	WASTE INCINERATOR		0			0	0	-	0.00	0.00	0.00	0.00		-	0.00			0.00	0.00	0.00	0.00			0.00	
DRILLING WELL TEST	Liquid Flaring		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	0.00	0.00
WELL IEST	COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke			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	0.00	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	0.00	0.00	0.00	0.00	-	0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	
ALASKA-SPECIFIC	VESSELS		kW			HR/D D/	YR																		
SOURCES	VESSELS - Ice Management Diesel		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
2029 EXEMPTION	Facility Total Emissions							8.94	6.75	6.64	0.18	251.64	20.98	0.00	131.08	0.04	39.18	29.57	29.08	0.80	1,102.19	91.87	0.00	574.11	0.19
CALCULATION	DISTANCE FROM LAND IN MILES 72.7																2,421.30			2,421.30	2,421.30	2,421.30		59,230.97	
DRILLING	VESSELS- Crew Diesel		2265	116.52519	2796.60	24 2		1.60	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	3.99	2.41	2.33	0.06	95.56	2.75	0.00	14.99	0.03
	VESSELS - Supply Diesel		2265	116.52519	2796.60			1.60	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	2.99	1.80	1.75	0.04	71.67	2.06	0.00	11.24	0.02
PIPELINE	VESSELS - Tugs Diesel VESSELS - Support Diesel, Laying		4600 0	236.6516	5679.64 0.00	12		3.25 0.00	1.96 0.00	1.90 0.00	0.05	77.75 0.00	2.24 0.00	0.00	12.20 0.00	0.02	0.04	0.02	0.02	0.00	0.93	0.03	0.00	0.15 0.00	0.00
INSTALLATION	VESSELS - Support Diesel, Burying		ő	0	0.00	ő	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		0.00	0.00	0.00	0.00	0.00	0.00	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	VESSELS - Supply Diesel VESSELS - Material Tug Diesel		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	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	0.00	0.00	0.00	0.00	0.00	0.00
DRODUCTION	VESSELS - Supply Diesel		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	0.00	0.00
PRODUCTION	VESSELS - Support Diesel (crew boat) VESSELS - Support Diesel (supply boat)		2265 2265	116.52519 116.52519	2796.60 2796.60	6 1: 10 1:		1.60 1.60	0.96 0.96	0.94 0.94	0.02 0.02	38.28 38.28	1.10 1.10	0.00 0.00	6.00 6.00	0.01 0.01	0.75 1.25	0.45 0.75	0.44 0.73	0.01 0.02	17.92 29.86	0.52 0.86	0.00 0.00	2.81 4.68	0.01 0.01
ALASKA-SPECIFIC SOURCES	On-Ice Equipment			GAL/HR	GAL/D																				
	Man Camp - Operation (maximum people per day) VESSELS		PEOPLE/DAY			HR/D D/	(VB					-													\perp
	On-lice – Loader		kW	0	0.0	0 D/	YR 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 (0.00	0.00	0.00	0.00	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		0.00	0.00	0.00	0.00	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-lce – Tractor On-lce – 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	0.00	0.00	0.00 0.00		0.00 0.00	0.00
	On-Ice – Truck (for surveys)			0	0.0	ő	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
	Man Camp - Operation		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
2029	VESSELS - Hovercraft Diesel Non-Facility Total Emissions		0			U		9.64	0.00 5.81		0.00 0.14	0.00 230.89	0.00 6.64		0.00 36.21	0.00 0.07	9.01	0.00 5.44				0.00 6.21	0.00	0.00 33.87	0.00
LULJ	, Total Elinopiono							/	J.V.	U.U.,	· · · · ·		0.01	0.00	VV.2.	V.V.	0.0.	, U				V	0.00		0.00

AIR EMISSIONS CALCULATIONS - 6TH YEAR

COMPANY	AREA	1	BLOCK	LEASE	FACILITY	WELL					CONTACT		PHONE		REMARKS										$\overline{}$
Arena Offshore, LP OPERATIONS	Eugene Island EQUIPMENT	FOUIDMENT ID	330 RATING	G02115 MAX. FUEL	Complex ID #21						Aime	e Deady M POUNDS PE	281-21	10-3180			r			F0*	TIMATED TO	10			
OPERATIONS	Diesel Engines	EQUIPMENT ID	HP	GAL/HR	ACT. FUEL GAL/D	KUN	TIME				WIAXIWU	N POUNDS PE	K HOUK							ES	TIMATED TO	NS			
	Nat. Gas Engines		HP MMBTU/HR	SCF/HR SCF/HR	SCF/D SCF/D		D/YR	TSP	PM10	PM2.5	SOx	NOx	voc		СО	NH3	TSP	PM10	PM2.5	SOx	NOx	voc		CO	NH3
DRILLING WFD 400 or 450	Burners VESSELS- Drilling - Propulsion Engine - Diesel Vessels - Diesel Boiler Vessels - Diesel Boiler Vessels - Drilling Prime Engine, Auxiliary		8800 0 0 0 0 0	452.7248 0 0 0	10865.40 0.00 0.00 0.00	24 0 0 0 0 0	365 0 0 0 0	6.21 0.00 0.00 0.00 0.00 0.00	3.75 0.00 0.00 0.00 0.00 0.00	3.63 0.00 0.00 0.00 0.00 0.00	0.09 0.00 0.00 0.00 0.00 0.00	148.74 0.00 0.00 0.00 0.00 0.00	4.28 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	23.33 0.00 0.00 0.00 0.00 0.00	0.04 0.00 0.00 0.00 0.00 0.00	27.19 0.00 0.00 0.00 0.00 0.00	16.41 0.00 0.00 0.00 0.00 0.00	15.91 0.00 0.00 0.00 0.00 0.00	0.40 0.00 0.00 0.00 0.00 0.00	651.50 0.00 0.00 0.00 0.00 0.00	18.73 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	102.19 0.00 0.00 0.00 0.00 0.00	0.19 0.00 0.00 0.00 0.00 0.00
PIPELINE INSTALLATION	VESSELS - Pipeline Laying Vessel - Diesel VESSELS - Pipeline Burying - 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	0.00 0.00	0.00 0.00	0.00 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 Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	RECIP <600hp Diesel (east crane) RECIP <600hp Diesel (west crane) RECIP <600hp Diesel (fivewater pump) RECIP <600hp Diesel (backup generator) RECIP <600hp Diesel (backup generator) RECIP <600hp Diesel VESSELS - Well Stimulation Natural Gas Turbine Diesel Turbine Diesel Turbine Diesel Turbine RECIP <6 Cycle Lean Natural Gas RECIP <6 Cycle Rich Natural Gas (compressor #1) RECIP <6 Cycle Rich Natural Gas (compressor #2) RECIP <6 Cycle Rich Natural Gas (generator #1) RECIP <6 Cycle Rich Natural Gas (generator #1) RECIP <6 Cycle Rich Natural Gas (generator #2) Diesel Boiler Natural Gas Heater/Boiler/Burner	E-CRANE W-CRANE FW PUMP ZAN-2800 CAE-1000 CAE-1050 ZAN-2700 ZAN-2750	238 238 300 465 0 0 0 0 0 0 0 0 1478 1680 310	12.244148 12.244148 15.4338 23.92239 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	293.86 293.86 370.41 574.14 0.00 0.00 0.00 0.00 0.00 0.00 0.00	24 24 24 24 0 0 0 0 0 0 0 0 0 0 0 24 24 24 24 24 24 24	365 365 365 0 0 0 0 0 0 0 0 0 0 365 365 365	0.52 0.52 0.66 1.03 0.00 0.00 0.00 	0.52 0.52 0.66 1.03 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.52 0.52 0.66 1.03 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.01 0.01 0.02 0.03 0.00 0.00 0.00 0.00 0.00 0.00	7.40 7.40 9.33 14.45 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.55 0.55 0.69 1.07 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00	1.59 1.59 2.00 3.11 0.00 0.00 0.00 0.00 0.00 0.00 0	 0.00 0.00 0.00 	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00 0	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00 0	0.06 0.06 0.08 0.13 0.00 0.00 0.00 0.00 0.00 0.00 0.00	32.40 32.40 40.85 63.31 0.00 0.00 0.00 0.00 0.00 0.00 0.00	2.39 2.39 3.01 4.67 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	 0.00 0.00 0.00 0.00 0.00	6.96 6.96 8.78 13.61 0.00 0.00 0.00 0.00 0.00 0.00 0.00 170.42 193.71 35.74 0.00	 0.00 0.00 0.00 0.00
DRILLING WELL TEST	MISC. STORAGE TANK COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - heavy smoke COLD VENT FUGITIVES GLYCOL DEHYDRATOR WASTE INCINERATOR Liquid Flaring COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke	VNTSCRB	BPD 0 0	0 0 0 0 0 0	0 1 5574 0	0 0 0 0 0 0 24 24 24 0 0	0 0 0 0 0 365 365 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	 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 10.22 2.79 0.00 0.00 0.00				 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 44.75 12.21 0.00 0.00 0.00 0.00			
ALASKA-SPECIFIC	COMBUSTION FLARE - heavy smoke VESSELS		kW	0		HR/D	D/YR	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	
SOURCES	VESSELS - Ice Management Diesel		NVV O			0	D/TK	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
2030	Facility Total Emissions		0			0	0	8.94	6.75	6.64	0.00	251.64	20.98	0.00	131.08	0.00	39.18	29.57	29.08	0.80	1,102.19	91.87	0.00	574.11	0.00
EXEMPTION	DISTANCE FROM LAND IN MILES																0.404.00			0.401.00	0.404.00	0.404.00		F0 000 07	
CALCULATION	72.7	1			 	1					 				-		2,421.30			2,421.30	2,421.30	2,421.30		59,230.97	
DRILLING	VESSELS- Crew Diesel VESSELS - Supply Diesel VESSELS - Tugs Diesel		2265 2265 4600	116.52519 116.52519 236.6516	2796.60 2796.60 5679.64	24 24 12	208 156 2	1.60 1.60 3.25	0.96 0.96 1.96	0.94 0.94 1.90	0.02 0.02 0.05	38.28 38.28 77.75	1.10 1.10 2.24	0.00 0.00 0.00	6.00 6.00 12.20	0.01 0.01 0.02	3.99 2.99 0.04	2.41 1.80 0.02	2.33 1.75 0.02	0.06 0.04 0.00	95.56 71.67 0.93	2.75 2.06 0.03	0.00 0.00 0.00	14.99 11.24 0.15	0.03 0.02 0.00
PIPELINE INSTALLATION	VESSELS - Support Diesel, Laying VESSELS - Support Diesel, Burying VESSELS - Crew Diesel VESSELS - Supply Diesel		0 0 0 0	0 0 0	0.00 0.00 0.00 0.00	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	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	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 VESSELS - Crew Diesel VESSELS - Supply Diesel		0 0 0	0 0	0.00 0.00 0.00	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 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	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 (crew boat) VESSELS - Support Diesel (supply boat)		2265 2265	116.52519 116.52519	2796.60 2796.60	6 10	156 156	1.60 1.60	0.96 0.96	0.94 0.94	0.02 0.02	38.28 38.28	1.10 1.10	0.00 0.00	6.00 6.00	0.01 0.01	0.75 1.25	0.45 0.75	0.44 0.73	0.01 0.02	17.92 29.86	0.52 0.86	0.00 0.00	2.81 4.68	0.01 0.01
ALASKA-SPECIFIC SOURCES	On-Ice Equipment			GAL/HR	GAL/D																				
	Man Camp - Operation (maximum people per day) VESSELS		PEOPLE/DAY			HR/D	D/YR										-								-
	On-lice - Loader On-lice - Other Construction Equipment On-lice - Other Survey Equipment On-lice - Tractor On-lice - Tractor On-lice - Truck (for gravel island) On-lice - Truck (for surveys) Man Camp - Operation VESSELS - Hovercraft Diesel		0 0	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 0 0	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 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00	0.00 0.00 0.00 0.00 0.00 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 0.0	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 0.0	0.00 0.00 0.00 0.00 0.00 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 0.0	 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00
2030	Non-Facility Total Emissions							9.64	5.81	5.64	0.14	230.89	6.64	0.00	36.21	0.07	9.01	5.44	5.27	0.13	215.94	6.21	0.00	33.87	0.06

AIR EMISSIONS CALCULATIONS - 7TH YEAR

COMPANY	AREA	I	BLOCK	LEASE	FACILITY	WELL					CONTACT		PHONE		REMARKS										$\overline{}$
Arena Offshore, LP OPERATIONS	Eugene Island EQUIPMENT	EQUIPMENT ID	330 RATING	G02115 MAX. FUEL	ACT. FUEL		TIME				Aime	e Deady M POUNDS PE	281-21	10-3180			r			F0*	TIMATED TO	NO			
OPERATIONS	Diesel Engines	EQUIPMENTID	HP	GAL/HR	GAL/D	KUN	TIME				WIAXIWU	N POUNDS PE	K HOUK							ES	IIWATED TO	NS			
	Nat. Gas Engines Burners		HP MMBTU/HR	SCF/HR SCF/HR	SCF/D SCF/D	UD/D	D/YR	TSP	PM10	PM2.5	SOx	NOx	VOC	DI-	СО	NH3	TSP	PM10	PM2.5	SOx	NOx	voc	DI.	CO	NH3
DRILLING WFD 400 or 450	VESSELS- Drilling - Propulsion Engine - Diesel Vessels - Diesel Boiler Vessels - Drilling Prime Engine, Auxiliary		8800 0 0 0 0 0	452.7248 0 0 0	10865.40 0.00 0.00 0.00	24 0 0 0 0 0	365 0 0 0 0	6.21 0.00 0.00 0.00 0.00 0.00	3.75 0.00 0.00 0.00 0.00 0.00	3.63 0.00 0.00 0.00 0.00 0.00	0.09 0.00 0.00 0.00 0.00 0.00	148.74 0.00 0.00 0.00 0.00 0.00	4.28 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	23.33 0.00 0.00 0.00 0.00 0.00	0.04 0.00 0.00 0.00 0.00 0.00	27.19 0.00 0.00 0.00 0.00 0.00	16.41 0.00 0.00 0.00 0.00 0.00	15.91 0.00 0.00 0.00 0.00 0.00	0.40 0.00 0.00 0.00 0.00 0.00	651.50 0.00 0.00 0.00 0.00 0.00	18.73 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	102.19 0.00 0.00 0.00 0.00 0.00	0.19 0.00 0.00 0.00 0.00 0.00
PIPELINE INSTALLATION	VESSELS - Pipeline Laying Vessel - Diesel VESSELS - Pipeline Burying - Diesel		0 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	0.00 0.00	0.00 0.00	0.00 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 Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	RECIP.<600hp Diesel (east crane) RECIP.<600hp Diesel (west crane) RECIP.<600hp Diesel (fivewater pump) RECIP.<600hp Diesel (fivewater pump) RECIP.<600hp Diesel (backup generator) RECIP.<600hp Diesel VESSELS - Well Stimulation Natural Gas Turbine Diesel Turbine Diesel Turbine Diesel Turbine RECIP.	E-CRANE W-CRANE FW PUMP ZAN-2800 CAE-1000 CAE-1050 ZAN-2700 ZAN-2750	238 238 300 465 0 0 0 0 0 0 0 0 1478 1680 310	12.244148 12.244148 15.4338 23.92239 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	293.86 293.86 370.41 574.14 0.00 0.00 0.00 0.00 0.00 0.00 0.00	24 24 24 24 0 0 0 0 0 0 0 0 0 0 0 24 24 24 24 0 0 0 0	365 365 365 365 0 0 0 0 0 0 0 0 0 365 365 365 365	0.52 0.52 0.66 1.03 0.00 0.00 	0.52 0.52 0.66 1.03 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.11 0.12 0.02 0.02 0.02	0.52 0.52 0.66 1.03 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.01 0.01 0.02 0.03 0.00 0.00 0.00 0.00 0.00 0.00	7.40 7.40 9.33 14.45 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.55 0.55 0.69 1.07 0.00 0.00 0.00 0.00 0.00 0.00 0.00		1.59 1.59 2.00 3.11 0.00 0.00 0.00 0.00 0.00 0.00 0	 0.00 0.00 0.00 0.00	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00 0	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00 0	0.06 0.06 0.08 0.13 0.00 0.00 0.00 0.00 0.00 0.00 0.00	32.40 32.40 40.85 63.31 0.00 0.00 0.00 0.00 0.00 0.00 110.21 125.28 23.12 0.00	2.39 2.39 3.01 4.67 0.00 0.00 0.00 0.00 0.00 0.00 0.00 1.46 1.66 0.31 0.31 0.00	 0.00 0.00 0.00 0.00 0.00	6.96 6.96 8.78 13.61 0.00 0.00 0.00 0.00 0.00 0.00 0.00 170.42 193.71 35.74 0.00	
DRILLING WELL TEST	MISC. STORAGE TANK COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - heavy smoke COLD VENT FUGITIVES GLYCOL DEHYDRATOR Liquid Flaring COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke	VNTSCRB	BPD O O	0 0 0 0 0 0	0 1 5574 0	0 0 0 0 0 0 0 24 24 24 0 0	0 0 0 0 0 365 365 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 10.22 2.79 0.00 0.00 0.00			 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 44.75 12.21 0.00 	 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	
ALASKA-SPECIFIC SOURCES	COMBUSTION FLARE - medium smoke COMBUSTION FLARE - heavy smoke VESSELS		kW	0		0 HR/D	0 D/YR	0.00	0.00 0.00	0.00	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 - Ice Management Diesel		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	Facility Total Emissions							8.94	6.75	6.64	0.18	251.64	20.98	0.00	131.08	0.04	39.18	29.57	29.08	0.80	1,102.19	91.87	0.00	574.11	0.19
CALCULATION	DISTANCE FROM LAND IN MILES																2,421.30			2,421.30	2,421.30	2,421.30		59,230.97	igsquare
DRILLING PIPELINE INSTALLATION	72.7 VESSELS- Crew Diesel VESSELS - Supply Diesel VESSELS - Tugs Diesel VESSELS - Support Diesel, Laying VESSELS - Support Diesel, Burying VESSELS - Crew Diesel		2265 2265 4600 0 0	116.52519 116.52519 236.6516 0 0	2796.60 2796.60 5679.64 0.00 0.00 0.00	24 24 12 0 0	208 156 2 0 0	1.60 1.60 3.25 0.00 0.00 0.00	0.96 0.96 1.96 0.00 0.00 0.00	0.94 0.94 1.90 0.00 0.00 0.00	0.02 0.02 0.05 0.00 0.00 0.00	38.28 38.28 77.75 0.00 0.00 0.00	1.10 1.10 2.24 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	6.00 6.00 12.20 0.00 0.00 0.00	0.01 0.01 0.02 0.00 0.00 0.00	3.99 2.99 0.04 0.00 0.00 0.00	2.41 1.80 0.02 0.00 0.00 0.00	2.33 1.75 0.02 0.00 0.00 0.00	0.06 0.04 0.00 0.00 0.00 0.00	95.56 71.67 0.93 0.00 0.00 0.00	2.75 2.06 0.03 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	14.99 11.24 0.15 0.00 0.00 0.00	0.03 0.02 0.00 0.00 0.00 0.00
FACILITY INSTALLATION	VESSELS - Supply Diesel VESSELS - Material Tug Diesel VESSELS - Crew Diesel VESSELS - Supply Diesel		0 0 0	0 0 0	0.00 0.00 0.00 0.00	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	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	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 (crew boat)		2265 2265	116.52519	2796.60	6	156	1.60	0.96 0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	0.75	0.45	0.44	0.01	17.92	0.52 0.86	0.00	2.81	0.01
ALASKA-SPECIFIC SOURCES	VESSELS - Support Diesel (supply boat) On-Ice Equipment		LLGG	116.52519 GAL/HR	2796.60 GAL/D	10	156	1.60	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	1.25	0.75	0.73	0.02	29.86	0.86	0.00	4.68	0.01
	Man Camp - Operation (maximum people per day) VESSELS	 	PEOPLE/DAY			HR/D	D/YR										-			1			1		$\vdash \vdash \vdash$
2024	On-lice - Loader On-lice - Other Construction Equipment On-lice - Other Survey Equipment On-lice - Tractor On-lice - Tractor On-lice - Truck (for gravel island) On-lice - Truck (for surveys) Man Camp - Operation VESSELS - Hovercraft Diesel		0 0	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 0 0	0 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 0.0	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 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 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 0.00 0.00 0.00 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 0.0	0.00 0.00 0.00 0.00 0.00 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 0.0	 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00
2031	Non-Facility Total Emissions							9.64	5.81	5.64	0.14	230.89	6.64	0.00	36.21	0.07	9.01	5.44	5.27	0.13	215.94	6.21	0.00	33.87	0.06

AIR EMISSIONS CALCULATIONS - 8TH YEAR

SOURCES Man Camp - Operation (maximum people per day) PEOPLE/DAY HR/D D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/YR D/Y	COMPANY	AREA		BLOCK	LEASE	FACILITY	WELL					CONTACT		PHONE		REMARKS										$\overline{}$
Part	Arena Offshore, LP		EQUIDMENT ID	330 BATING		Complex ID #215	DUN TIM	_				Aime	e Deady	281-21	10-3180			1			EO	TIMATED TO	Me			
Septiminal Property of the Control o	OPERATIONS		EQUIPMENT ID		GAL/HR	GAL/D	RUNTIM	E				WIAXIWU	W POUNDS PE	K HOUK							ES	TIMATED IC	DNS			
STATE OF THE PART							110/0	20/2	700	D1440	D110.5			1/00				700		B.10 F						
SEMELLING SOUTH APPEALS OF THE PARTY NAMES OF THE P	DRILLING	VESSELS- Drilling - Propulsion Engine - Diesel Vessels - Diesel Boller		0 0 0 0	0 0 0 0	0.00 0.00 0.00 0.00	0 0 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 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
Part					0		0	0																		
Control Cont	FACILITY INSTALLATION	VESSELS - Heavy Lift Vessel/Derrick Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SCHARLE MAKE SC	PRODUCTION	RECIP600hp Diesel (west crane) RECIP600hp Diesel (firewater pump) RECIP600hp Diesel (backup generator) RECIP500hp Diesel VESSELS - Well Stimulation Natural Gas Turbine Diesel Turbine Diesel Turbine Dual Fuel Turbine RECIP. 2 Cycle Lean Natural Gas RECIP. 4 Cycle Lean Natural Gas RECIP. 4 Cycle Rich Natural Gas (compressor #1) RECIP. 4 Cycle Rich Natural Gas (compressor #2) RECIP. 4 Cycle Rich Natural Gas (generator #1) RECIP. 4 Cycle Rich Natural Gas (generator #1) RECIP. 4 Cycle Rich Natural Gas (generator #2) Diesel Boiler	W-CRANE FW PUMP ZAN-2800 CAE-1000 CAE-1050 ZAN-2700	238 300 465 0 0 0 0 0 0 0 0 1478 1680 310 310	12.244148 15.4338 23.92239 0 0 0 0 0 0 0 0 0 10557.143 12000 2214.2857 2214.2857	293.86 370.41 574.14 0.00 0.00 0.00 0.00 0.00 0.00 0.00	24 24 0 0 0 0 0 0 0 0 0 0 0 2 4 24 24	365 365 0 0 0 0 0 0 0 0 0 0 365 365 365	0.52 0.66 1.03 0.00 0.00 0.00 0.00 0.00 0.00	0.52 0.66 1.03 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.52 0.66 1.03 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.01 0.02 0.03 0.00 0.00 0.00 0.00 0.00 0.00	7.40 9.33 14.45 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.55 0.69 1.07 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 	1.59 2.00 3.11 0.00 0.00 0.00 0.00 0.00 0.00 0	 0.00 0.00 0.00 	2.90 4.49 0.00 0.00 0.00 0.00 0.00	2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00 0	2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00 0	0.06 0.08 0.13 0.00 0.00 0.00 0.00 0.00 0.00 0.00	32.40 40.85 63.31 0.00 0.00 0.00 0.00 0.00 0.00 0.00	2.39 3.01 4.67 0.00 0.00 0.00 0.00 0.00 0.00 0.00 1.46 1.66 0.31 0.31	 0.00 0.00 0.00 0.00 0.00	8.78 13.61 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	 0.00 0.00 0.00
VESSELS - too Management Device 0 0 0 0 0 0 0 0 0	WELL TEST	STORAGE TANK COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - medium smoke COLD VENT FUGITIVES GLYCOL DEHYDRATOR WASTE INCINERATOR Liquid Flaring COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke	VNTSCRB		0 0 0	1	0 0 0 24 24 24 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.	0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.	0.00 0.00 0.00 0.00 10.22 2.79 0.00 0.00 0.00 0.00	0.00	0.00 0.00 0.00 0.00 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 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 44.75 12.21 0.00 0.00 0.00 0.00	 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.0	- - - - -
Second Column Second Colum	ALASKA-SPECIFIC SOURCES	VESSELS		kW			HR/D C	D/YR																		
DETAILOR DISTANCE FROM LAND N MILES DETAIL DETAIL DETAIL DESTRUCTION DISTANCE FROM LAND N MILES DESTRUCTION DISTANCE FROM LAND N MILES DESTRUCTION D				0			0	0					0.00		-							0.00				
CALCILATION DISTANCE FROM LINKIN IN MILES T.7.7 TO INDIANA TO I		· ·							2.74	3.01	3.01	0.09	102.90	16.70	0.00	107.75	0.00	11.98	13.16	13.16	0.41	450.69	73.14	0.00	471.93	0.00
DRILLING VESSELS - Crew Diesel 0 0 0 0.00 0.00 0.00 0.00 0.00 0.00																		2,421.30			2,421.30	2,421.30	2,421.30		59,230.97	
FACILITY VESSELS - Order	PIPELINE	VESSELS- Crew Diesel VESSELS - Supply Diesel VESSELS - Tugs Diesel VESSELS - Support Diesel, Laying VESSELS - Support Diesel, Burying VESSELS - Crew Diesel		0 0 0 0	0 0 0 0 0	0.00 0.00 0.00 0.00 0.00	0 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 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 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 (crew boat) VESSELS - Support Diesel (supply boat) 2265 116,52519 2796.60 6 156 1.60 0.96 0.94 0.02 38.28 1.10 0.00 6.00 0.01 0.75 0.45 0.47 0.02 29.86 0.52 0.00 2.81 0.01		VESSELS - Material Tug Diesel VESSELS - Crew Diesel			0 0 0	0.00	0 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	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 Man Camp - Operation (maximum people per day) PEOPLE/DAY VESSELS NW On-loe - Loader On-loe - Coller Survey Equipment On-loe - Other Construction Equipment On-loe - Other Survey Equipment On-loe - Tractor On-loe - Tr	PRODUCTION	VESSELS - Support Diesel (crew boat)					6	156 156			0.94															
VESSELS	ALASKA-SPECIFIC SOURCES	On-Ice Equipment		2200	110.02010	2700.00	10	130	1.00	0.96	0.94	0.02	30.28	1.10	0.00	0.00	0.01	1.20	0.75	0.73	0.02	29.80	0.86	0.00	4.08	0.01
On-loe - Loader 0 0.0 0 0.0 0 0.0 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0		VESSELS (maximum people per day)	1				HR/D D	D/YR			 	 								1	1	-				\vdash
	0000	On-ice – Loader On-ice – Other Construction Equipment On-ice – Other Survey Equipment On-ice – Tractor On-ice – Truck (for gravel island) On-ice – Truck (for surveys) Man Camp - Operation VESSELS - Hovercraft Diesel		0	0 0 0 0 0	0.0 0.0 0.0 0.0	0 0 0 0	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 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00		0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 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 - 9TH YEAR

COMPANY	AREA	I	BLOCK	LEASE	FACILITY	WELL					CONTACT		PHONE		REMARKS										
Arena Offshore, LP OPERATIONS	Eugene Island EQUIPMENT	EQUIPMENT ID	330 RATING	G02115 MAX. FUEL	Complex ID #21 ACT. FUEL		TIME				Aime	e Deady M POUNDS PE	281-21	10-3180			1			E0	TIMATED TO	NC			
OPERATIONS	Diesel Engines	EQUIPMENTID	HP	GAL/HR	GAL/D	KUN	TIME				WIAXIWU	N POUNDS PE	K HOUK							ES	IIWATED TO	NS			
	Nat. Gas Engines		HP MMBTU/HR	SCF/HR SCF/HR	SCF/D SCF/D	LID/D	D/YR	TSP	PM10	PM2.5	SOx	NOx	VOC	DI-	СО	NH3	TSP	PM10	PM2.5	SOx	NOx	voc	DI.	CO	NH3
DRILLING	Burners VESSELS- Drilling - Propulsion Engine - Diesel Vessels - Diesel Boiler Vessels - Drilling Prime Engine, Auxiliary		0 0 0 0 0 0	0 0 0 0 0	0.00 0.00 0.00 0.00 0.00	0 0 0 0 0 0	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 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 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 VESSELS - Pipeline Burying - Diesel		0 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 0.00	0.00 0.00	0.00 0.00	0.00 0.00	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 Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	RECIP < 600hp Diesel (east crane) RECIP < 600hp Diesel (west crane) RECIP < 600hp Diesel (firewater pump) RECIP < 600hp Diesel (firewater pump) RECIP < 600hp Diesel (backup generator) RECIP < 600hp Diesel VESSELS - Well Stimulation Natural Gas Turbine Diesel Turbine Diesel Turbine Diesel Turbine RECIP < 2 Cycle Lean Natural Gas RECIP < 4 Cycle Lean Natural Gas RECIP < 4 Cycle Rich Natural Gas (compressor #1) RECIP < 4 Cycle Rich Natural Gas (compressor #2) RECIP < 4 Cycle Rich Natural Gas (generator #1) RECIP < 4 Cycle Rich Natural Gas (generator #1) RECIP < 4 Cycle Rich Natural Gas (generator #2) Diesel Boiler Natural Gas Heater/Boiler/Burner	E-CRANE W-CRANE FW PUMP ZAN-2800 CAE-1000 CAE-1050 ZAN-2700 ZAN-2750	238 238 300 465 0 0 0 0 0 0 0 0 0 1478 1680 310	12.244148 12.244148 15.4338 23.92239 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 20 214.2857 2214.2857	293.86 293.86 293.86 370.41 574.14 0.00 0.00 0.00 0.00 0.00 0.00 0.00	24 24 24 24 0 0 0 0 0 0 0 0 0 0 0 0 24 24 24 0 0 0 0	365 365 365 365 0 0 0 0 0 0 0 0 0 365 365 365 365	0.52 0.52 0.66 1.03 0.00 0.00 0.00 	0.52 0.52 0.66 1.03 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.52 0.52 0.66 1.03 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.01 0.01 0.02 0.03 0.00 0.00 0.00 0.00 0.00 0.00	7.40 7.40 9.33 14.45 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.55 0.55 0.69 1.07 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 -	1.59 1.59 2.00 3.11 0.00 0.00 0.00 0.00 0.00 0.00 0	 0.00 0.00 0.00 0.00	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00 0	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00 0	0.06 0.08 0.13 0.00 0.00 0.00 0.00 0.00 0.00 0.00	32.40 32.40 40.85 63.31 0.00 0.00 0.00 0.00 0.00 0.00 110.21 125.28 23.12 0.00	2.39 2.39 3.01 4.67 0.00 0.00 0.00 0.00 0.00 0.00 0.00 1.46 1.66 0.31 0.31 0.00	 0.00 0.00 0.00 0.00 0.00	6.96 6.96 8.78 13.61 0.00 0.00 0.00 0.00 0.00 0.00 170.42 193.71 35.74 0.00	 0.00 0.00 0.00 0.00
DRILLING WELL TEST	MISC. STORAGE TANK COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - heavy smoke FUGITIVES FUGI	VNTSCRB	8PD 0 0	SCF/HR 0 0 0 0 0	COUNT 0 1 5574 0	0 0 0 0 0 0 24 24 0 0	0 0 0 0 0 365 365 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 10.22 2.79 0.00 	 0.00		 	 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 44.75 12.21 0.00	 	 0.00 0.00 0.00 0.00 0.00	
ALASKA-SPECIFIC	COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - heavy smoke			0 0 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	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	 	0.00 0.00 0.00 0.00	 	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	- - -	0.00 0.00 0.00 0.00	
SOURCES	VESSELS VESSELS - Ice Management Diesel		kW 0			HR/D	D/YR	0.00	0.00	0.00	0.00	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 Total Emissions						Ü	2.74	3.01	3.01	0.09	102.90	16.70	0.00	107.75	0.00	11.98	13.16	13.16	0.41	450.69	73.14	0.00	471.93	0.00
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES																2,421.30			2,421.30	2,421.30	2,421.30		59,230.97	
	72.7	<u> </u>															2,421.30							33,230.31	
DRILLING	VESSELS- Crew Diesel VESSELS - Supply Diesel VESSELS - Tugs Diesel		0 0 0	0 0 0	0.00 0.00 0.00	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 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	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 - Support Diesel, Laying VESSELS - Support Diesel, Burying VESSELS - Crew Diesel VESSELS - Supply Diesel		0 0 0 0	0 0 0	0.00 0.00 0.00 0.00	0 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	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	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 VESSELS - Crew Diesel VESSELS - Supply Diesel		0 0 0	0 0 0	0.00 0.00 0.00	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 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	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 (crew boat) VESSELS - Support Diesel (supply boat)		2265 2265	116.52519 116.52519	2796.60 2796.60	6 10	156 156	1.60 1.60	0.96 0.96	0.94 0.94	0.02 0.02	38.28 38.28	1.10 1.10	0.00	6.00 6.00	0.01 0.01	0.75 1.25	0.45 0.75	0.44 0.73	0.01 0.02	17.92 29.86	0.52 0.86	0.00	2.81 4.68	0.01 0.01
ALASKA-SPECIFIC SOURCES	On-Ice Equipment		LLGG	GAL/HR	GAL/D	10	.50	00	0.00	0.04	0.02	55.20	0	0.00	0.00	0.01	1.20	0.70	5.75	0.02	20.00	0.00	0.50	50	0.01
	Man Camp - Operation (maximum people per day) VESSELS	 	PEOPLE/DAY			HR/D	D/YR										-			1			1		\vdash
2023	On-lice - Loader On-lice - Other Construction Equipment On-lice - Other Survey Equipment On-lice - Tractor On-lice - Tractor On-lice - Truck (for gravel island) On-lice - Truck (for surveys) Man Camp - Operation VESSELS - Hovercraft Diesel		0 0	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 0 0	0 0 0 0 0 0 0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00	0.00 0.00 0.00 0.00 0.00 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 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00
2033	Non-Facility Total Emissions							3.20	1.93	1.87	0.05	/0.5/	2.20	0.00	12.01	0.02	1.99	1.20	1.17	0.03	41./8	1.3/	0.00	7.49	U.U1

AIR EMISSIONS CALCULATIONS - 10TH YEAR

Arena Offshore, LP OPERATIONS DRILLING	Eugene Island EQUIPMENT Diesel Engines Nat. Gas Engines Nat. Gas Engines Burners VESSELS- Drilling - Propulsion Engine - Diesel VESSELS- Drilling - Propulsion Engine - Diesel	EQUIPMENT ID	330 RATING HP	G02115 MAX. FUEL GAL/HR	ACT. FUEL	RUNT	TIME				Aime	ee Deady	281-21	10-3180											
DRILLING \	Diesel Engines Nat. Gas Engines Burners VESSELS- Drilling - Propulsion Engine - Diesel	EQUIPMENTID	HP			KUNI					BAAVIBALII	M POUNDS PE	D HOLLD							Ec.	TIMATED TO	MIC			
	Nat. Gas Engines Burners VESSELS- Drilling - Propulsion Engine - Diesel			GAL/FIK	GAL/D						WIAXIWU	M POUNDS PE	K HOUK							E3	IIWATED TO	JNS			
	VESSELS- Drilling - Propulsion Engine - Diesel		HP MMBTU/HR	SCF/HR SCF/HR	SCF/D SCF/D	HR/D	D.0/D	TSP	PM10	PM2.5	SOx	NOx	Voc		СО	NH3	TSP	PM10	PM2.5	SOx	NOx	Voc	Ph	CO	NH3
\ \ \	VESSELS- Drilling - Propulsion Engine - Diesel VESSELS- Drilling - Propulsion Engine - Diesel VESSELS- Drilling - Propulsion Engine - Diesel Vessels - Diesel Boiler Vessels - Drilling Prime Engine, Auxiliary		0 0 0 0 0 0	0 0 0 0 0	0.00 0.00 0.00 0.00 0.00	0 0 0 0 0 0	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 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	Pb 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 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 Laying Vessel - Diesel VESSELS - Pipeline Burying - 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 0.00	0.00 0.00	0.00 0.00	0.00 0.00	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 Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP660hp Diesel (east crane) RECIP660hp Diesel (west crane) RECIP600hp Diesel (firewater pump) RECIP600hp Diesel (firewater pump) RECIP600hp Diesel (backup generator) RECIP600hp Diesel (backup generator) RECIP800hp Diesel VESSELS - Shuttle Tankers VESSELS - Suttle Tankers VESSELS - Well Stimulation Natural Gas Turbine Diesel Turbine Diesel Turbine RECIP. 2 Cycle Lean Natural Gas RECIP. 4 Cycle Lean Natural Gas RECIP. 4 Cycle Rich Natural Gas (compressor #1) RECIP. 4 Cycle Rich Natural Gas (compressor #2) RECIP. 4 Cycle Rich Natural Gas (generator #1) RECIP. 4 Cycle Rich Natural Gas (generator #2) Diesel Boiler Natural Gas Heater/Boiler/Burner	E-CRANE W-CRANE FW PUMP ZAN-2800 CAE-1000 CAE-1050 ZAN-2750	238 238 300 465 0 0 0 0 0 0 0 0 0 1478 1680 310 310	12.244148 12.244148 15.4338 23.92239 0 0 0 0 0 0 0 0 0 10557.143 12000 2214.2857 2214.2857	293.86 293.86 370.41 574.14 0.00 0.00 0.00 0.00 0.00 0.00 0.00	24 24 24 24 0 0 0 0 0 0 0 0 0 0 0 24 24 24 24 24	365 365 365 365 0 0 0 0 0 0 0 365 365 365 365 365	0.52 0.52 0.66 1.03 0.00 0.00 0.00 0.00 0.00 0.00	0.52 0.52 0.66 1.03 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.52 0.52 0.66 1.03 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.01 0.01 0.02 0.03 0.00 0.00 0.00 0.00 0.00 0.00	7.40 7.40 9.33 14.45 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.55 0.55 0.69 1.07 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	1.59 1.59 2.00 3.11 0.00 0.00 0.00 0.00 0.00 0.00 0	 0.00 0.00 0.00 0.00	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00 0	2.30 2.30 2.90 4.49 0.00 0.00 0.00 0.00 0.00 0.00 0	0.06 0.08 0.13 0.00 0.00 0.00 0.00 0.00 0.00 0.00	32.40 32.40 40.85 63.31 0.00 0.00 0.00 0.00 0.00 0.00 110.21 125.28 23.12 23.12 0.00	2.39 2.39 3.01 4.67 0.00 0.00 0.00 0.00 0.00 0.00 0.00 1.46 1.66 0.31 0.31 0.00		6.96 6.96 8.78 13.61 0.00 0.00 0.00 0.00 0.00 0.00 0.00 170.42 193.71 35.74 35.74 0.00	
DRILLING L WELL TEST	MISC. STORAGE TANK COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - heavy smoke COLD VENT FUGITIVES GLYCOL DEHYDRATOR WASTE INCINERATOR Liquid Flaring COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - medium smoke	VNTSCRB	0 0	0 0 0 0 0 0	1 5574 0	0 0 0 0 0 0 24 24 0 0 0	0 0 0 0 365 365 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 10.22 2.79 0.00 0.00 0.00 0.00	0.00		0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00		0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00		0.00 0.00 0.00 0.00 0.00 44.75 12.21 0.00 0.00 0.00 0.00			
ALASKA-SPECIFIC SOURCES	VESSELS		kW			HR/D	D/YR																		
1	VESSELS - Ice Management Diesel		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	Facility Total Emissions							2.74	3.01	3.01	0.09	102.90	16.70	0.00	107.75	0.00	11.98	13.16	13.16	0.41	450.69	73.14	0.00	471.93	0.00
CALCULATION	DISTANCE FROM LAND IN MILES																2,421.30			2,421.30	2,421.30	2,421.30		59,230.97	
PIPELINE INSTALLATION	72.7 VESSELS- Crew Diesel VESSELS - Supply Diesel VESSELS - Tugs Diesel VESSELS - Tugs Diesel VESSELS - Support Diesel, Laying VESSELS - Support Diesel, Burying VESSELS - Support Diesel VESSELS - Supply Diesel		0 0 0 0 0 0	0 0 0 0 0	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0 0 0 0 0	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 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 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 - Material Tug Diesel VESSELS - Crew Diesel VESSELS - Supply Diesel		0 0 0	0 0 0	0.00 0.00 0.00	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 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	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 (crew boat) VESSELS - Support Diesel (supply boat)		2265 2265	116.52519 116.52519	2796.60 2796.60	6 10	156 156	1.60 1.60	0.96 0.96	0.94 0.94	0.02 0.02	38.28 38.28	1.10 1.10	0.00	6.00 6.00	0.01 0.01	0.75 1.25	0.45 0.75	0.44 0.73	0.01 0.02	17.92 29.86	0.52 0.86	0.00 0.00	2.81 4.68	0.01 0.01
ALASKA-SPECIFIC SOURCES	On-Ice Equipment		LLOU	GAL/HR	GAL/D		.50	50	2.30	2.01	2.32			2.50	5.00			0	2.10	5.02		5.00	2.00		5.51
l.	Man Camp - Operation (maximum people per day) VESSELS	-	PEOPLE/DAY kW			HR/D	D/YR				+		\vdash												\vdash
	On-loe – Loader On-loe – Other Construction Equipment On-loe – Other Survey Equipment On-loe – Tractor On-loe – Tractor On-loe – Truck (for gravel Island) On-loe – Truck (for surveys) Man Camp - Operation VESSELS - Hovercraft Diesel Non-Facility Total Emissions		0 0	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00	0.00 0.00 0.00 0.00 0.00 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 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00

AIR EMISSIONS CALCULATIONS

COM	PANY	AREA	BLOCK	LEASE	FACILITY	WELL			
Arena Off	shore, LP	Eugene Island	330	G02115	B (Complex ID #21580)				
Year					Facility Emitted Substance				
	TSP	PM10	PM2.5	SOx	NOx	voc	Pb	СО	NH3
2025	11.98	13.16	13.16	0.41	450.69	73.14	0.00	471.93	0.00
2026	36.79	28.13	27.68	0.77	1045.07	90.23	0.00	565.15	0.17
2027	39.18	29.57	29.08	0.80	1102.19	91.87	0.00	574.11	0.19
2028	39.18	29.57	29.08	0.80	1102.19	91.87	0.00	574.11	0.19
2029	39.18	29.57	29.08	0.80	1102.19	91.87	0.00	574.11	0.19
2030	39.18	29.57	29.08	0.80	1102.19	91.87	0.00	574.11	0.19
2031	39.18	29.57	29.08	0.80	1102.19	91.87	0.00	574.11	0.19
2032	11.98	13.16	13.16	0.41	450.69	73.14	0.00	471.93	0.00
2033	11.98	13.16	13.16	0.41	450.69	73.14	0.00	471.93	0.00
2034	11.98	13.16	13.16	0.41	450.69	73.14	0.00	471.93	0.00
Allowable	2421.30			2421.30	2421.30	2421.30		59230.97	

COMPANY	Arena Offshore, LP
AREA	Eugene Island
BLOCK	330
LEASE	G02115
FACILITY	D (Complex ID #23240)
WELL	
COMPANY CONTACT	Aimee Deady
TELEPHONE NO.	281-210-3180
REMARKS	

LEASE TERI	M PIPELINE CO	ONSTRUCTION INFORMATION:
YEAR	NUMBER OF PIPELINES	TOTAL NUMBER OF CONSTRUCTION DAYS
2025		
2026		
2027		
2028		
2029		
2030		
2031		
2032		
2033		
2034		

AIR EMISSIONS COMPUTATION FACTORS

Fuel Usage Conversion Factors	Natural Ga	s Turbines			Natural G	as Engines	Diesel Re	cip. Engine	Diesel "	Turbines			
-	SCF/hp-hr	9.524			SCF/hp-hr	7.143	GAL/hp-hr	0.0514	GAL/hp-hr	0.0514			
Equipment/Emission Factors	units	TSP	PM10	PM2.5	SOx	NOx	voc	Pb	CO	NH3	REF.	DATE	Reference Links
Natural Cas Turkins	g/hp-hr		0.0086	0.0086	0.0026	1.4515	0.0095	N/A	0.3719	N/A	AP42.3.1-18.3.1-2a	4/00	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03s01.pdf
Natural Gas Turbine RECIP. 2 Cycle Lean Natural Gas	g/np-nr g/hp-hr		0.0086	0.0086	0.0026	6.5998	0.4082	N/A N/A	1.2009	N/A N/A	AP42 3.1-1& 3.1-28 AP42 3.2-1	7/00	https://www3.epa.gov/ttncnie1/ap42/ch03/final/c03s01.pdf https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s02.pdf
RECIP. 4 Cycle Lean Natural Gas	g/hp-hr		0.0002	0.0002	0.0020	2.8814	0.4014	N/A	1.8949	N/A	AP42 3.2-2	7/00	https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s02.pdf
RECIP. 4 Cycle Elean Natural Gas	g/hp-hr		0.0323	0.0323	0.0020	7.7224	0.1021	N/A	11.9408	N/A	AP42 3.2-3	7/00	https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s02.pdf
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	10/96	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03s03.pdf
Diesel Recip. < 600 hp	g/hp-hr	0.32	0.182	0.178	0.0279	10.9	0.29	N/A N/A	2.5	N/A	AP42 3.4-1 & 3.4-2	10/96	https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s03.pdf
Diesel Boiler	lbs/bbl	0.0840	0.0420	0.0105	0.0089	1.0080	0.0084	5.14E-05	0.2100	0.0336	AP42 1.3-6; Pb and NH3: WebFIRE (08/2018)	9/98 and 5/10	https://wwwo.epa.gov/ttrichie/rap4z/cho1/hinal/co1505.pdi
Diesel Turbine	g/hp-hr	0.0381	0.0137	0.0137	0.0003	2.7941	0.0004	4.45F-05	0.0105	0.0330 N/A	AP42 3.1-1 & 3.1-2a	4/00	https://cfpub.epa.gov/webfire/ https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03s01.pdf
Dual Fuel Turbine	g/hp-hr	0.0381	0.0137	0.0137	0.0048	2.7941	0.0013	4.45E-05 4.45E-05	0.0105	0.0000	AP42 3.1-1 & 3.1-2a AP42 3.1-1 & 3.1-2a AP42 3.1-1 & 3.1-2a	4/00	https://cfpub.epa.gov/webfire/
	* '												III(IIS://CIDID.ED8.00V/Weblife/
Vessels – Propulsion	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI;TSP refer to Diesel Recip. > 600 hp reference	3/19	
Vessels – Drilling Prime Engine, Auxiliary	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI;TSP refer to Diesel Recip. > 600 hp reference	3/19	https://www.epa.gov/air-emissions-inventories/2017-national-emissions-
/essels - 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	3/19	inventory-nei-data
Vessels – Well Stimulation	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI;TSP refer to Diesel Recip. > 600 hp reference	3/19	
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: WebFIRE (08/2018)	7/98 and 8/18	https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s04.pdf
Combustion Flare (no smoke)	lbs/MMscf	0.00	0.00	0.00	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	hithe-licinin and Anvillantiral
Combustion Flare (light smoke)	lbs/MMscf	2.10	2.10	2.10	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	https://www3.epa.gov/ttn/chief/ap42/ch13/final/C13S05 02-05-18.pdf
Combustion Flare (medium smoke)	lbs/MMscf	10.50	10.50	10.50	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	https://wwws.epa.gov/ttn/chiel/ap42/ch15/hinal/C15505_02-05-16.pui
Combustion Flare (heavy smoke)	lbs/MMscf	21.00	21.00	21.00	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	
iquid Flaring	lbs/bbl	0.42	0.0966	0.0651	5.964	0.84	0.01428	5.14E-05	0.21	0.0336	AP42 1.3-1 through 1.3-3 and 1.3-5	5/10	https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s03.pdf
Storage Tank	tons/vr/tank											2017	https://www.boem.gov/environment/environmental-studies/2014-gulfwid
otorage rank	toriaryirtarik						4.300				2014 Gulfwide Inventory; Avg emiss (upper bound of 95% CI)	2017	emission-inventory
Fugitives	lbs/hr/component						0.0005				API Study	12/93	https://www.apiwebstore.org/publications/item.cgi?9879d38a-8bc0-4abe
	· ·												bb5c-9b623870125d
Glycol Dehydrator	tons/yr/dehydrator						19.240				2011 Gulfwide Inventory; Avg emiss (upper bound of 95% CI)	2014	https://www.boem.gov/environment/environmental-studies/2011-gulfwidenission-inventory
							13.240				2011 Guilwide lilveritory, Avg eritiss (appel bound of 35 % Ci)		https://www.boem.gov/environment/environmental-studies/2014-gulfwide
Cold Vent	tons/yr/vent						44.747				2014 Gulfwide Inventory; Avg emiss (upper bound of 95% CI)	2017	emission-inventory
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	10/96	https://www3.epa.gov/ttnchie1/ap42/ch02/final/c02s01.pdf
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	2009	https://www.cpa.gov/thchie/rap+2/cho2/ilifal/co2301.pdf
Oll-Ice - Loadel	ibs/gai	0.043	0.043	0.043	0.040	0.004	0.043	IN/A	0.130	0.003	reference	2009	
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	2009	
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	2009	
On-ice - Other Survey Equipment	ibs/gai	0.043	0.043	0.043	0.040	0.004	0.043	IN/A	0.130	0.003	reference	2009	https://www.epa.gov/moves/nonroad2008a-installation-and-updates
On-lce - 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	2009	
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	2009	
Office - Truck (for graver Island)	ibə/gai	0.043	0.043	0.043	0.040	0.004	0.049	IN/A	0.130	0.003	reference	2009	
On-lce – 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 reference	2009	
					1						Ididiolica		https://www.boem.gov/sites/default/files/uploadedFiles/BOEM/BOEM_N
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	2014	wsroom/Library/Publications/2014-1001.pdf
nan Camp - Operation (max people/day)													
/essels - Ice Management Diesel	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI;TSP refer to Diesel Recip. > 600 hp reference	3/19	https://www.epa.gov/air-emissions-inventories/2017-national-emissions-

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

Natural Gas Flare Parameters	Value	Units
VOC Content of Flare Gas	0.6816	lb VOC/lb-mol gas
Natural Gas Flare Efficiency	0.8	0/_

Density and Heat Value of Diesel														
Fuel														
Density														
Heat Value 19,300 Btu/lb														

H	leat Value o	f Natural Gas
Heat Value	1.050	MMRtu/MMscf

COMPANY	AREA	BLOCK LEASE FACILITY WELL								CONTACT															
Arena Offshore, LP OPERATIONS	Eugene Island EQUIPMENT	EQUIPMENT ID	330 RATING	G02115 MAX. FUEL	ACT. FUEL	RUN	TIME					ee Deady M POUNDS PE		10-3180			1			E\$	TIMATED TO	NS			
	Diesel Engines		HP HP	GAL/HR SCF/HR	GAL/D SCF/D																				
	Nat. Gas Engines Burners		MMBTU/HR	SCF/HR SCF/HR	SCF/D SCF/D	HR/D	D/YR	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	СО	NH3	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	СО	NH3
DRILLING	VESSELS- Drilling - Propulsion Engine - Diesel Vessels - Drilling - Propulsion Engine - Diesel Vessels - Drilling - Prime Engine, Auxiliary		0 0 0 0 0	0 0 0 0	0.00 0.00 0.00 0.00	0 0 0 0 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 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	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 VESSELS - Pipeline Burying - 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	0.00 0.00	0.00 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			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.<600hp Diesel (crane) RECIP.<600hp Diesel (backup generator) RECIP.Solohp Diesel VESSELS - Shuttle Tankers VESSELS - Shuttle Tankers VESSELS - Well Stimulation Natural Gas Turbine Diesel Turbine Dual Fuel Turbine RECIP. 2 Cycle Lean Natural Gas RECIP. 4 Cycle Rich Natural Gas (compressor) RECIP. 4 Cycle Rich Natural Gas (generator #1) RECIP. 4 Cycle Rich Natural Gas (generator #2) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #1) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #1) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #2) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #3) Diesel Bolier Natural Gas Heater/Boiler/Burner (heater treater 1A)	CRANE DIE-GEN CAE-7000 ZAN-6000 ZAN-6500 PAX-4100 PAX-4200 PAX-4300 EAW-5650	160 425 0 0 0 0 0 0 0 0 0 0 0 1340 512 400 400	8.23136 21.86455 0 0 0 0 0 0 0 9571.4286 3657.1429 2857.1429 2857.1429 2857.1429	197.55 524.75 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	24 24 0 0 0 0 0 0 0 0 0 0 0 24 24 24 24 24 24 24	365 365 0 0 0 0 0 0 0 0 365 365 365 365 365 365	0.35 0.94 0.00 0.00 0.00 0.00 0.00 	0.35 0.94 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.35 0.94 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.01 0.03 0.00 0.00 0.00 0.00 0.00 0.00	4.97 13.21 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	0.37 0.97 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.30 0.12 0.12 0.12 0.09 0.09 0.09	 0.00 0.00 0.00 0.00	1.07 2.84 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	 0.00 0.00 0.00 0.00 0.01	1.55 4.10 0.00 0.00 0.00 0.00 0.00 0.00 0.07	1.55 4.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00	1.55 4.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.04 0.11 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.01 0.01 0.01 0.01 0.01 0.01	21.78 57.87 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 99.92 38.18 38.18 29.83 29.83 29.83 0.00 1.82	1.61 4.27 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	 0.00 0.00 0.00 0.00 0.00 0.00	4.68 12.43 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	
DRILLING WELL TEST	Natural Gas Heater/Boiler/Burner (heater treater 1B) MISC. STORAGE TANK COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - heavy smoke COMBUSTION FLARE - heavy smoke COMBUSTION FLARE - heavy smoke COLD VENT (ATM, LP, HP) FUGITIVES GLYCOL DEHYDRATOR WASTE INCINERATOR Liquid Flaring COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - heavy smoke	EAW-5660 ABJ-7410	2.3 BPD	2190 SCF/HR 0 0 0 0 0	\$2571.43 COUNT 1 3 6218 0	24 0 0 0 0 0 24 24 24 0 0	365 0 0 0 0 365 365 0 0 0	0.02 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 	0.00 	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.42	0.01 0.98 0.00 0.00 0.00 0.00 30.65 3.11 0.00 0.00 0.00 0.00 0.00 0.00 0.	0.00	0.18 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.01	0.07 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.02 0.00 0.00 0.00 0.00 0.00	0.02 0.00 0.00 0.00 0.00 0.00	0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	1.82 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.05 4.30 0.00 0.00 0.00 0.00 134.24 13.62 0.00 0.00 0.00 0.00 0.00 0.00	0.00	0.81 0.00 0.00 0.00 0.00 0.00 0.00	0.03
ALASKA-SPECIFIC SOURCES	VESSELS		kW			HR/D	D/YR																		
SOURCES	VESSELS - Ice Management Diesel		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
	5 Facility Total Emissions							1.32	1.55	1.55	0.05	79.69	36.91	0.00	98.10	0.01	5.79	6.80	6.80	0.24	349.06	161.65	0.00	429.67	0.06
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES																2,360.48			2,360.48	2,360.48	2,360.48		58,234.77	
DRILLING PIPELINE INSTALLATION FACILITY	70.9 VESSELS- Crew Diesel VESSELS - Supply Diesel VESSELS - Tugs Diesel VESSELS - Support Diesel, Laying VESSELS - Support Diesel, Burying VESSELS - Crew Diesel VESSELS - Supply Diesel VESSELS - Supply Diesel		0 0 0 0 0 0	0 0 0 0 0 0 0	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0 0 0 0 0 0	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 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 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 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 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 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 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	0.00	0.00 0.00
PRODUCTION	VESSELS - Support Diesel (crew boat) VESSELS - Support Diesel (supply boat)		2265 2265	116.52519 116.52519	2796.60 2796.60	6	156 156	1.60 1.60	0.96 0.96	0.94 0.94	0.02 0.02	38.28 38.28	1.10 1.10	0.00	6.00 6.00	0.00 0.01 0.01	0.75 1.25	0.45 0.75	0.44 0.73	0.01 0.02	17.92 29.86	0.52 0.86	0.00	2.81 4.68	0.00 0.01 0.01
ALASKA-SPECIFIC SOURCES	On-Ice Equipment			GAL/HR	GAL/D				3.00	2.0		55120		5.00	5.00	2.01			50	3.02	23.00	2.00	2.00		
	Man Camp - Operation (maximum people per day)		PEOPLE/DAY			LUD /F	D.04D																		
	VESSELS On-loce - Loader On-loce - Other Construction Equipment On-loce - Other Survey Equipment On-loce - Tractor On-loce - Truck (for gravel island) On-loce - Truck (for surveys) Man Camp - Operation VESSELS - Howercraft Diesel		0 0	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0	HR/D 0 0 0 0 0 0 0	0 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 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 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 0.00 0.00 0.00 0.00 	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
202	5 Non-Facility Total Emissions					Ĭ	, ,	3.20	1.93	1.87	0.05	76.57	2.20		12.01	0.02	1.99	1.20					0.00	7.49	0.01

AIR EMISSIONS CALCULATIONS - 2ND YEAR

COMPANY	AREA BLOCK LEASE FACILITY WELL CONTACT PHONE REMARKS									REMARKS									$\overline{}$						
Arena Offshore, LP	Eugene Island		330	G02115	Complex ID #232						Aime	ee Deady	281-21	10-3180											
OPERATIONS	EQUIPMENT Diesel Engines	EQUIPMENT ID	RATING HP	MAX. FUEL GAL/HR	GAL/D	RUN TI	IME				MAXIMUI	M POUNDS PE	R HOUR							ES	STIMATED TO)NS			
	Nat. Gas Engines		HP	SCF/HR	SCF/D								1												
DRILLING	Burners VESSELS- Drilling - Propulsion Engine - Diesel		MMBTU/HR 8800	452,7248	10865.40	HR/D	333	TSP 6.21	PM10 3.75	PM2.5 3.63	SOx 0.09	NOx 148.74	VOC 4.28	0.00	CO 23.33	NH3 0.04	TSP 24.81	PM10 14.97	PM2.5 14.52	SOx 0.36	NOx 594.38	VOC 17.09	Pb 0.00	93.23	NH3 0.17
	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	0.00
WFD 400 or 450	VESSELS- Drilling - Propulsion Engine - Diesel 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	0.00	0.00	0.00
	Vessels - Diesel Boiler		ő			ő	ő	0.00	0.00	0.00	0.00	0.00	0.00	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	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
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
FACILITY INSTALLATION	VESSELS - Heavy Lift Vessel/Derrick Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	RECIP.<600hp Diesel (crane)	CRANE	160	8.23136	197.55	24	365	0.35	0.35	0.35	0.01	4.97	0.37	-	1.07		1.55	1.55	1.55	0.04	21.78	1.61		4.68	
	RECIP.<600hp Diesel (backup generator)	DIE-GEN	425	21.86455	524.75	24	365	0.94	0.94	0.94	0.03	13.21	0.97	-	2.84		4.10	4.10	4.10	0.11	57.87	4.27		12.43	
	RECIP.>600hp Diesel 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
	VESSELS - Well Stimulation		Ö	Ō	0.00	0	ō	0.00	0.00	0.00	0.00	0.00	0.00	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 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	
	Dual Fuel Turbine		ő	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
	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	
	RECIP. 4 Cycle Lean Natural Gas RECIP. 4 Cycle Rich Natural Gas (compressor)	CAE-7000	0 1340	9571.4286	0.00 229714.29	0 24	365	_	0.00 0.10	0.00 0.10	0.00 0.01	0.00 22.81	0.00 0.30	-	0.00 35.28			0.00 0.42	0.00 0.42	0.00	0.00 99.92	0.00 1.32		0.00 154.51	
	RECIP. 4 Cycle Rich Natural Gas (generator #1)	ZAN-6000	512	3657.1429	87771.43	24	365	-	0.04	0.04	0.00	8.72	0.12	-	13.48			0.16	0.16	0.01	38.18	0.50		59.04	
	RECIP. 4 Cycle Rich Natural Gas (generator #2) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #1)	ZAN-6500 PAX-4100	512 400	3657.1429 2857.1429	87771.43 68571.43	24 24	365 365		0.04 0.03	0.04 0.03	0.00	8.72 6.81	0.12 0.09		13.48 10.53			0.16 0.12	0.16 0.12	0.01 0.01	38.18 29.83	0.50 0.39		59.04 46.12	-
	RECIP. 4 Cycle Rich Natural Gas (pipeline pump #1) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #2)	PAX-4100 PAX-4200	400	2857.1429	68571.43	24	365	_	0.03	0.03	0.00	6.81	0.09	_	10.53			0.12	0.12	0.01	29.83	0.39		46.12	
	RECIP. 4 Cycle Rich Natural Gas (pipeline pump #3)	PAX-4300	400	2857.1429	68571.43	24	365		0.03	0.03	0.00	6.81	0.09	-	10.53			0.12	0.12	0.01	29.83	0.39	- '	46.12	
	Diesel Boiler Natural Gas Heater/Boiler/Burner (heater treater 1A)	EAW-5650	2.3	2190	52571.43	0 24	0 365	0.00 0.02	0.00 0.00	0.00 0.00	0.00	0.00 0.42	0.00 0.01	0.00	0.00 0.18	0.00 0.01	0.00 0.07	0.00 0.02	0.00 0.02	0.00 0.01	0.00 1.82	0.00 0.05	0.00	0.00 0.81	0.00 0.03
	Natural Gas Heater/Boiler/Burner (heater treater 1A)	EAW-5660	2.3	2190	52571.43	24	365	0.02	0.00	0.00	0.00	0.42	0.01	0.00	0.18	0.01	0.07	0.02	0.02	0.01	1.82	0.05	0.00	0.81	0.03
	MISC. STORAGE TANK	ABJ-7410	BPD	SCF/HR	COUNT	04	205						0.98									4.00			
	COMBUSTION FLARE - no smoke	ABJ-7410		0	1	0	0	0.00	0.00	0.00	0.00	0.00	0.98	-	0.00		0.00	0.00	0.00	0.00	0.00	4.30 0.00		0.00	
	COMBUSTION FLARE - light smoke			0		0	ō	0.00	0.00	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 COMBUSTION FLARE - heavy smoke			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	
	COLD VENT (ATM, LP, HP)			- 0	3	24	365	0.00	0.00	0.00			30.65	_								134.24		0.00	
	FUGITIVES				6218	24	365	-					3.11	-	-				-		-	13.62		- 1	
	GLYCOL DEHYDRATOR 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	
DRILLING	Liquid Flaring		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	0.00	0.00
WELL TEST	COMBUSTION FLARE - no smoke			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 COMBUSTION FLARE - medium smoke			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 COMBUSTION FLARE - heavy smoke			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	
ALASKA-SPECIFIC	VESSELS		kW	- U		HR/D	D/YR	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	
SOURCES	VESSELS - Ice Management Diesel		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
	Facility Total Emissions		-					7.53	5.30	5.19	0.14	228.44	41.18	0.00	121.43		30.60				943.44	178.74	0.00	522.90	
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES																2,360.48			2.360.48	2.360.48	2,360.48		58.234.77	
	70.9		0005	440 50540	0700.00	0.4	101	4.00	0.00	0.04	0.00	00.00		0.00		0.04		0.04	0.44	0.05	07.75			40.70	1
DRILLING	VESSELS- Crew Diesel VESSELS - Supply Diesel		2265 2265	116.52519 116.52519	2796.60 2796.60	24 24	191 143	1.60 1.60	0.96 0.96	0.94 0.94	0.02 0.02	38.28 38.28	1.10 1.10	0.00	6.00 6.00	0.01 0.01	3.66 2.74	2.21 1.65	2.14 1.60	0.05 0.04	87.75 65.70	2.52 1.89	0.00	13.76 10.30	0.03 0.02
	VESSELS - Tugs 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
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
INSTALLATION	VESSELS - Support Diesel, Burying 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	Ö	0.00	Ö	ō	0.00	0.00	0.00	0.00	0.00	0.00	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 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
INSTALLATION	VESSELS - Crew Diesel 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 (crew boat)		2265 2265	116.52519 116.52519	2796.60 2796.60	6 10	156 156	1.60 1.60	0.96 0.96	0.94 0.94	0.02 0.02	38.28 38.28	1.10 1.10	0.00	6.00 6.00	0.01 0.01	0.75 1.25	0.45 0.75	0.44 0.73	0.01 0.02	17.92 29.86	0.52 0.86	0.00	2.81 4.68	0.01 0.01
ALASKA-SPECIFIC	VESSELS - Support Diesel (supply boat)		2200			10	156	1.60	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	1.25	0.75	0.73	0.02	29.86	0.86	0.00	4.08	0.01
SOURCES	On-Ice Equipment		DEOD	GAL/HR	GAL/D					ļ											ļ		 	⊢—	
	Man Camp - Operation (maximum people per day) VESSELS	1	PEOPLE/DAY kW			HR/D	D/YR			 	-				-			 	 	-	 		 		+
	On-lce – Loader			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	0.00	0.00	0.00	0.00	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 On-Ice – Tractor			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-lce – Truck (for gravel island)			Ö	0.0	Ō	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-lce – Truck (for surveys) Man Camp - Operation		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	0.00
	VESSELS - Hovercraft Diesel		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	0.00	0.00
2026	Non-Facility Total Emissions							9.64	5.81	5.64	0.14	230.89	6.64	0.00	36.21	0.07	8.44	5.09	4.94	0.12		5.81	0.00	31.71	0.06

AIR EMISSIONS CALCULATIONS - 3RD YEAR

COMPANY	AREA	BLOCK LEASE FACILITY WELL 330 G07115 Dameler ID #23															iks								
Arena Offshore, LP OPERATIONS	Eugene Island EQUIPMENT	EQUIPMENT ID	RATING	G02115 MAX. FUEL	Dompiex ID III	RUN	TIME					ee Deady M POUNDS PE		10-3180			1			ES	TIMATED TO	NS			
O. E.W.IIONO	Diesel Engines	E QUI III EIT IB	HP	GAL/HR	GAL/D						mi otimo		in nioon												
	Nat. Gas Engines		HP MMBTU/HR	SCF/HR SCF/HR	SCF/D SCF/D	LID/D	D/YR	TSP	PM10	DM0.5		No.	V00	Ph	СО	NH3	TSP	PM10	PM2.5	00	No.	1/00	Pb	CO	NH3
DRILLING	Burners VESSELS- Drilling - Propulsion Engine - Diesel		8800	452.7248	10865 40	24	365	6.21	3.75	PM2.5 3.63	SOx 0.09	NOx 148.74	VOC 4.28	0.00	23.33	0.04	27 19	16.41	15 91	SOx 0.40	NOx 651.50	VOC 18.73	0.00	102.19	0.19
DIVILLENIO	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	0.00
WFD 400 or 450	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	0.00
	VESSELS- Drilling - Propulsion Engine - Diesel 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
	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 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
			· ·	Ü	0.00	U	U	0.00		0.00	0.00	0.00	0.00	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 Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	RECIP.<600hp Diesel (crane)	CRANE	160	8.23136	197.55	24	365	0.35	0.35	0.35	0.01	4.97	0.37		1.07		1.55	1.55	1.55	0.04	21.78	1.61		4.68	
	RECIP.<600hp Diesel (backup generator)	DIE-GEN	425	21.86455	524.75	24	365	0.94	0.94	0.94	0.03	13.21	0.97		2.84		4.10	4.10	4.10	0.11	57.87	4.27		12.43	
	RECIP.>600hp Diesel 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
	VESSELS - Well Stimulation		ő	ő	0.00	ő	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 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	
	Diesel Turbine 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 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
	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	
	RECIP. 4 Cycle Rich Natural Gas (compressor)	CAE-7000	1340	9571.4286	229714.29	24	365	-	0.10	0.10	0.01	22.81	0.30	-	35.28		-	0.42	0.42	0.03	99.92	1.32		154.51	
	RECIP. 4 Cycle Rich Natural Gas (generator #1) RECIP. 4 Cycle Rich Natural Gas (generator #2)	ZAN-6000 ZAN-6500	512 512	3657.1429 3657.1429	87771.43 87771.43	24 24	365 365		0.04 0.04	0.04 0.04	0.00	8.72 8.72	0.12 0.12	-	13.48 13.48		-	0.16 0.16	0.16 0.16	0.01 0.01	38.18 38.18	0.50 0.50		59.04 59.04	
	RECIP. 4 Cycle Rich Natural Gas (generator #2) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #1)	PAX-4100	400	2857.1429	68571.43	24	365	_	0.04	0.04	0.00	6.81	0.12		10.53			0.16	0.16	0.01	29.83	0.39		46.12	-
	RECIP. 4 Cycle Rich Natural Gas (pipeline pump #2)	PAX-4200	400	2857.1429	68571.43	24	365		0.03	0.03	0.00	6.81	0.09	-	10.53		-	0.12	0.12	0.01	29.83	0.39		46.12	
	RECIP. 4 Cycle Rich Natural Gas (pipeline pump #3)	PAX-4300	400	2857.1429	68571.43	24	365		0.03	0.03	0.00	6.81	0.09	_=_	10.53			0.12	0.12	0.01	29.83	0.39		46.12	
	Diesel Boiler Natural Gas Heater/Boiler/Burner (heater treater 1A)	FAW-5650	2.3	2190	52571.43	24	0 365	0.00 0.02	0.00	0.00	0.00	0.00 0.42	0.00 0.01	0.00	0.00 0.18	0.00 0.01	0.00	0.00 0.02	0.00 0.02	0.00 0.01	0.00 1.82	0.00 0.05	0.00	0.00 0.81	0.00 0.03
	Natural Gas Heater/Boiler/Burner (heater treater 1A)	EAW-5660	2.3	2190	52571.43	24	365	0.02	0.00	0.00	0.00	0.42	0.01	0.00	0.18	0.01	0.07	0.02	0.02	0.01	1.82	0.05	0.00	0.81	0.03
	MISC.		BPD	SCF/HR	COUNT																				
	STORAGE TANK COMBUSTION FLARE - no smoke	ABJ-7410		0	1	24	365	0.00	0.00	0.00	0.00	0.00	0.98	-	0.00		0.00	0.00	0.00	0.00	0.00	4.30 0.00		0.00	
	COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke			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			ő		ő	Ö	0.00	0.00	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	0.00	0.00	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 (ATM, LP, HP) FUGITIVES				3 6218	24 24	365						30.65 3.11						_		-	134.24 13.62			
	GLYCOL DEHYDRATOR				0218	0	365 0	_					0.00	_								0.00		_	
	WASTE INCINERATOR		0			0	0		0.00	0.00	0.00	0.00	_		0.00			0.00	0.00	0.00	0.00			0.00	
DRILLING	Liquid Flaring		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	0.00	0.00
WELL TEST	COMBUSTION FLARE - no smoke			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	0.00	0.00	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 COMBUSTION FLARE - heavy smoke			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	
ALASKA-SPECIFIC	,			U		110/0	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	-
SOURCES	VESSELS VESSELS - Ice Management Diesel		kW			HR/D	D/YR	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
2027	Facility Total Emissions		0			U	U	7.53	5.30	5.19	0.00	228.44	41.18	0.00	121.43	0.06	32.99	23.20	22.71		1,000.56		0.00	531.86	0.00
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES																2,360.48			2,360.48	2,360.48	2,360.48		58,234.77	
	70.9																2,300.40			2,300.40	2,300.40	2,300.40			
DRILLING	VESSELS- Crew Diesel		2265	116.52519	2796.60	24	208	1.60	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	3.99	2.41	2.33	0.06	95.56	2.75	0.00	14.99	0.03
	VESSELS - Supply Diesel VESSELS - Tugs Diesel		2265 4600	116.52519 236.6516	2796.60 5679.64	24	156	1.60 3.25	0.96 1.96	0.94 1.90	0.02	38.28 77.75	1.10 2.24	0.00	6.00 12.20	0.01	2.99 0.04	1.80 0.02	1.75 0.02	0.04 0.00	71.67 0.93	2.06	0.00	11.24 0.15	0.02 0.00
PIPELINE	VESSELS - Tugs Diesel 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	0.02	0.04	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00
INSTALLATION	VESSELS - Support Diesel, Burying		0	Ö	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
FACILITY	VESSELS - Supply Diesel 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
INSTALLATION	VESSELS - Material rug 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 (crew boat) VESSELS - Support Diesel (supply boat)		2265 2265	116.52519 116.52519	2796.60 2796.60	6 10	156 156	1.60 1.60	0.96 0.96	0.94 0.94	0.02 0.02	38.28 38.28	1.10	0.00	6.00 6.00	0.01 0.01	0.75 1.25	0.45 0.75	0.44 0.73	0.01 0.02	17.92 29.86	0.52	0.00	2.81 4.68	0.01 0.01
ALASKA-SPECIFIC	On-lice Equipment		2203	GAL/HR	GAL/D	10	130	1.00	0.90	0.94	0.02	30.20	1.10	0.00	0.00	0.01	1.20	0.75	0.13	0.02	25.00	0.00	0.00	4.00	0.01
SOURCES	Man Camp - Operation (maximum people per day)		PEOPLE/DAY	GALITIK	GALID															-					
	VESSELS		kW			HR/D	D/YR				1		1				1		1	1	1	-			
	On-Ice – Loader			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	0.00	0.00	0.00	0.00	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-loc - Other Survey Equipment			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-lce – Tractor On-lce – Truck (for gravel island)			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	0.00		0.00	0.00
	On-Ice – Truck (for surveys)			0	0.0	ő	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
	Man Camp - Operation		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	
2027	VESSELS - Hovercraft Diesel Non-Facility Total Emissions		0			0	0	0.00 9.64	0.00 5.81	0.00 5.64	0.00 0.14	0.00 230.89	0.00 6.64	0.00	0.00 36.21	0.00 0.07	0.00 9.01	0.00 5.44	0.00 5.27	0.00 0.13	0.00	0.00	0.00	0.00 33.87	0.00
2021	HOIT GOINLY TOTAL EMISSIONS							5.04	J.01	J.04	0.14	230.03	0.04	0.00	JU.Z I	0.07	J.U1	J.44	J.21	0.13	213.94	U.Z I	0.00	JJ.01	0.00

AIR EMISSIONS CALCULATIONS - 4TH YEAR

COMPANY	AREA	1	BLOCK	LEASE	FACILITY	WFII	WELL CONTACT PHONE REMARKS																		
Arena Offshore, LP	Eugene Island		330	G02115	Complex ID #23						Aime	e Deady	281-21	10-3180	KEMAKKO										
OPERATIONS	EQUIPMENT Diesel Engines	EQUIPMENT ID	RATING HP	MAX. FUEL GAL/HR	ACT. FUEL GAL/D	RUN	TIME				MAXIMU	I POUNDS PE	R HOUR							ES	TIMATED TO	NS			
	Nat. Gas Engines		HP	SCF/HR	SCF/D																				
DRILLING WFD 400 or 450	Burners VESSELS- Drilling - Propulsion Engine - Diesel Vessels - Diesel Boiler Vessels - Drilling Prime Engine, Auxiliary		8800 0 0 0 0 0	SCF/HR 452.7248 0 0 0	SCF/D 10865.40 0.00 0.00 0.00	HR/D 24 0 0 0 0	0/YR 365 0 0 0 0	TSP 6.21 0.00 0.00 0.00 0.00 0.00	PM10 3.75 0.00 0.00 0.00 0.00 0.00	PM2.5 3.63 0.00 0.00 0.00 0.00 0.00	SOx 0.09 0.00 0.00 0.00 0.00 0.00	NOx 148.74 0.00 0.00 0.00 0.00 0.00	4.28 0.00 0.00 0.00 0.00 0.00	Pb 0.00 0.00 0.00 0.00 0.00 0.00	23.33 0.00 0.00 0.00 0.00 0.00	NH3 0.04 0.00 0.00 0.00 0.00 0.00	TSP 27.19 0.00 0.00 0.00 0.00 0.00	PM10 16.41 0.00 0.00 0.00 0.00 0.00	PM2.5 15.91 0.00 0.00 0.00 0.00 0.00	0.40 0.00 0.00 0.00 0.00 0.00	NOx 651.50 0.00 0.00 0.00 0.00 0.00	VOC 18.73 0.00 0.00 0.00 0.00 0.00	Pb 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	NH3 0.19 0.00 0.00 0.00 0.00 0.00
PIPELINE INSTALLATION	VESSELS - Pipeline Laying Vessel - Diesel VESSELS - Pipeline Burying - 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 0.00	0.00 0.00	0.00 0.00	0.00 0.00	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 Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP.<600hp Diesel (crane) RECIP.<600hp Diesel (backup generator) RECIP.<600hp Diesel VESSELS - Shuttle Tankers VESSELS - Shuttle Tankers VESSELS - Well Stimulation Natural Gas Turbine Diesel Turbine Diesel Turbine BECIP. 2 Cycle Lean Natural Gas RECIP. 4 Cycle Rich Natural Gas RECIP. 4 Cycle Rich Natural Gas (compressor) RECIP. 4 Cycle Rich Natural Gas (generator #1) RECIP. 4 Cycle Rich Natural Gas (generator #2) RECIP. 4 Cycle Rich Natural Gas (generator #2) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #3) Diesel Boiler Natural Gas Heater/Boiler/Burner (heater treater 1A) Natural Gas Heater/Boiler/Burner (heater treater 1B) MISC.	CRANE DIE-GEN CAE-7000 ZAN-6000 ZAN-6500 PAX-4100 PAX-4200 PAX-4300 EAW-5650 EAW-5660	160 425 0 0 0 0 0 0 0 0 1340 512 400 400 2.3 2.3 BPPD	8.23136 21.86455 0 0 0 0 0 0 0 0 0 9571.4286 3657.1429 2857.1429 2857.1429 2857.1429 2857.1429	197.55 524.75 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	24 24 0 0 0 0 0 0 0 0 0 24 24 24 24 24 24 24 24 24 24	365 365 0 0 0 0 0 0 0 0 0 365 365 365 365 365 365 365 365	0.35 0.94 0.00 0.00 0.00 0.00 0.00 0.02	0.35 0.94 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.35 0.94 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.01 0.03 0.00 0.00 0.00 0.00 0.00 0.00	4.97 13.21 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	0.37 0.97 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00 0.00 0.00 0.00 0.00 0.00	1.07 2.84 0.00 0.00 0.00 0.00 0.00 0.00 0.00 35,28 13,48 13,48 10,53 10,53 10,53 0.00 0.18		1.55 4.10 0.00 0.00 0.00 0.00 0.00 0.00 0.07	1.55 4.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00	1.55 4.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.04 0.11 0.00 0.00 0.00 0.00 0.00 0.00	21.78 57.87 0.00 0.00 0.00 0.00 0.00 0.00 0.00	1.61 4.27 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0		4.68 12.43 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	
DRILLING WELL TEST	STORAGE TANK COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - medium smoke COLD VENT (ATM, LP, HP) FUGITIVES GLYCOL DEHYDRATOR WASTE INCINERATOR LIQUID FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - medium smoke	ABJ-7410	0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 6218 0	24 0 0 0 0 24 24 0 0 0	365 0 0 0 365 365 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	0.98 0.00 0.00 0.00 30.65 3.11 0.00 0.00 0.00 0.00	0.00	 0.00 0.00 0.00 0.00 0.00 0.00		 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00		 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	4.30 0.00 0.00 0.00 0.00 134.24 13.62 0.00 0.00 0.00 0.00 0.00			
ALASKA-SPECIFIC SOURCES	VESSELS		kW			HR/D	D/YR																		
	VESSELS - Ice Management Diesel		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	Facility Total Emissions							7.53	5.30	5.19	0.14	228.44	41.18	0.00	121.43	0.06	32.99	23.20	22.71	0.63	1,000.56	180.38	0.00	531.86	0.25
CALCULATION	DISTANCE FROM LAND IN MILES																2,360.48			2,360.48	2,360.48	2,360.48		58,234.77	
DRILLING PIPELINE INSTALLATION	VESSELS - Crew Diesel VESSELS - Supply Diesel VESSELS - Tugs Diesel VESSELS - Support Diesel, Laying VESSELS - Support Diesel, Burying VESSELS - Crew Diesel VESSELS - Support Diesel		2265 2265 4600 0 0 0	116.52519 116.52519 236.6516 0 0 0	2796.60 2796.60 5679.64 0.00 0.00 0.00 0.00	24 24 12 0 0 0	208 156 2 0 0 0	1.60 1.60 3.25 0.00 0.00 0.00 0.00	0.96 0.96 1.96 0.00 0.00 0.00	0.94 0.94 1.90 0.00 0.00 0.00 0.00	0.02 0.02 0.05 0.00 0.00 0.00 0.00	38.28 38.28 77.75 0.00 0.00 0.00 0.00	1.10 1.10 2.24 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	6.00 6.00 12.20 0.00 0.00 0.00 0.00	0.01 0.01 0.02 0.00 0.00 0.00 0.00	3.99 2.99 0.04 0.00 0.00 0.00 0.00	2.41 1.80 0.02 0.00 0.00 0.00 0.00	2.33 1.75 0.02 0.00 0.00 0.00 0.00	0.06 0.04 0.00 0.00 0.00 0.00 0.00	95.56 71.67 0.93 0.00 0.00 0.00 0.00	2.75 2.06 0.03 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	14.99 11.24 0.15 0.00 0.00 0.00 0.00	0.03 0.02 0.00 0.00 0.00 0.00 0.00
FACILITY INSTALLATION	VESSELS - Material Tug Diesel 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	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 (crew boat) VESSELS - Support Diesel (supply boat)		2265 2265	116.52519 116.52519	2796.60 2796.60	6 10	156 156	1.60 1.60	0.96 0.96	0.94 0.94	0.02 0.02	38.28 38.28	1.10 1.10	0.00 0.00	6.00 6.00	0.01 0.01	0.75 1.25	0.45 0.75	0.44 0.73	0.01 0.02	17.92 29.86	0.52 0.86	0.00	2.81 4.68	0.01 0.01
ALASKA-SPECIFIC SOURCES	On-Ice Equipment Man Camp - Operation (maximum people per day) VFSSEIS		PEOPLE/DAY	GAL/HR	GAL/D	UB/F	D/YR																		
2028	VESSELS On-lice - Loader On-lice - Other Construction Equipment On-lice - Other Survey Equipment On-lice - Tractor On-lice - Tractor On-lice - Truck (for gravel island) On-lice - Truck (for surveys) Man Camp - Operation VESSELS - Hovercraft Diesel Non-Facility Total Emissions		0 0	0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00	0.00 0.00 0.00 0.00 0.00 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 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00

AIR EMISSIONS CALCULATIONS - 5TH YEAR

COMPANY	AREA		BLOCK	LEASE	FACILITY	WELL					CONTACT		PHONE		REMARKS										
Arena Offshore, LP	Eugene Island	EQUIPMENT ID	330 RATING	G02115 MAX. FUEL	Complex ID #23						Aime	ee Deady	281-2	10-3180			1				TIMATED TO				
OPERATIONS	EQUIPMENT Diesel Engines	EQUIPMENT ID	RATING HP	GAL/HR	GAL/D	RUN	TIME				MAXIMU	M POUNDS PE	R HOUR							ES	TIMATED TO	ONS			
	Nat. Gas Engines		HP	SCF/HR	SCF/D																				
DRILLING	Burners VESSELS- Drilling - Propulsion Engine - Diesel		MMBTU/HR 8800	SCF/HR 452.7248	SCF/D 10865.40	HR/D	D/YR 365	TSP 6.21	PM10 3.75	PM2.5 3.63	SOx 0.09	NOx 148.74	VOC 4.28	Pb 0.00	CO 23.33	NH3 0.04	TSP 27.19	PM10 16.41	PM2.5 15.91	SOx 0.40	NOx 651.50	VOC 18.73	Pb 0.00	CO 102.19	NH3 0.19
	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	0.00
WFD 400 or 450	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	0.00
	VESSELS- Drilling - Propulsion Engine - Diesel 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	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
INSTALLATION	VESSELS - Pipeline Burying - Diesel		0	0	0.00	Ō	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/Derrick Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	RECIP.<600hp Diesel (crane)	CRANE	160	8.23136	197.55	24	365	0.35	0.35	0.35	0.01	4.97	0.37	-	1.07		1.55	1.55	1.55	0.04	21.78	1.61		4.68	
1 RODOOTION	RECIP.<600hp Diesel (backup generator)	DIE-GEN	425	21.86455	524.75	24	365	0.94	0.94	0.94	0.03	13.21	0.97	-	2.84		4.10	4.10	4.10	0.11	57.87	4.27		12.43	
	RECIP.>600hp Diesel 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
	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
	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	
	Diesel Turbine 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	0.00	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	Ö	0.00	ō	Ö	-	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 RECIP. 4 Cycle Rich Natural Gas (compressor)	CAE-7000	0 1340	0 9571.4286	0.00	0 24	0 365	-	0.00	0.00	0.00	0.00 22.81	0.00	-	0.00 35.28			0.00	0.00	0.00	0.00 99.92	0.00 1.32		0.00 154.51	
	RECIP. 4 Cycle Rich Natural Gas (compressor) RECIP. 4 Cycle Rich Natural Gas (generator #1)	ZAN-6000	512	3657.1429	87771.43	24	365	-	0.10	0.10	0.00	8.72	0.30	-	13.48			0.42	0.42	0.03	38.18	0.50		59.04	
	RECIP. 4 Cycle Rich Natural Gas (generator #2)	ZAN-6500	512	3657.1429	87771.43	24	365	-	0.04	0.04	0.00	8.72	0.12		13.48			0.16	0.16	0.01	38.18	0.50		59.04	
	RECIP. 4 Cycle Rich Natural Gas (pipeline pump #1) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #2)	PAX-4100 PAX-4200	400 400	2857.1429 2857.1429	68571.43 68571.43	24 24	365 365	-	0.03	0.03	0.00	6.81 6.81	0.09	-	10.53 10.53			0.12 0.12	0.12 0.12	0.01	29.83 29.83	0.39		46.12 46.12	
	RECIP. 4 Cycle Rich Natural Gas (pipeline pump #2)	PAX-4200	400	2857.1429	68571.43	24	365	_	0.03	0.03	0.00	6.81	0.09	_	10.53			0.12	0.12	0.01	29.83	0.39		46.12	
	Diesel Boiler					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 (heater treater 1A) Natural Gas Heater/Boiler/Burner (heater treater 1B)	EAW-5650 EAW-5660	2.3	2190 2190	52571.43 52571.43	24	365 365	0.02 0.02	0.00	0.00 0.00	0.00	0.42 0.42	0.01 0.01	0.00	0.18 0.18	0.01 0.01	0.07 0.07	0.02 0.02	0.02 0.02	0.01 0.01	1.82 1.82	0.05 0.05	0.00	0.81 0.81	0.03 0.03
	MISC.		BPD	SCF/HR	COUNT		000	0.02	0.00	0.00	0.00	0.12		0.00	0.10	0.01	0.07	0.02	0.02	0.01	1.02		0.00	0.01	0.00
	STORAGE TANK	ABJ-7410		0	1	24	365						0.98 0.00	-		-	0.00	0.00	0.00		0.00	4.30		0.00	
	COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke			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 - medium smoke			Ö		Ö	Ö	0.00	0.00	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	2	0 24	0	0.00	0.00	0.00	0.00	0.00	0.00 30.65	-	0.00		0.00	0.00	0.00	0.00	0.00	0.00 134.24		0.00	
	COLD VENT (ATM, LP, HP) FUGITIVES				6218	24	365 365	_		_			30.65	-	_				-		_	134.24		-	
	GLYCOL DEHYDRATOR				0	0	0	-					0.00									0.00			
DRILLING	WASTE INCINERATOR		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	0.00	0.00
WELL TEST	COMBUSTION FLARE - no smoke		Ü	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	0.00	0.00	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	0.00	0.00	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	COMBUSTION FLARE - heavy smoke			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	
SOURCES	VESSELS		kW			HR/D	D/YR	0.00	0.00	0.00	0.00	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 - Ice Management Diesel Facility Total Emissions		U			0	U	0.00 7.53	0.00 5.30	0.00 5.19	0.00 0.14	0.00 228.44	0.00 41.18	0.00	0.00 121.43	0.00 0.06	32.99	0.00 23.20	0.00 22.71	0.00 0.63	0.00 1,000.56	0.00 180.38	0.00	531.86	0.00 0.25
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES																2,360.48			2,360.48	2,360.48	2,360.48		58,234.77	
DRILLING	70.9 VESSELS- Crew Diesel		2265	116.52519	2796.60	24	208	1.60	0.06	0.94	0.02	38.28	1.10	0.00	6.00	0.01	3.99	2.41	2.33	0.06	95.56	2.75	0.00	14.99	0.03
DRILLING	VESSELS - Supply Diesel		2265	116.52519	2796.60	24	156	1.60	0.96 0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	2.99	1.80	1.75	0.06	71.67	2.75	0.00	11.24	0.03
	VESSELS - Tugs 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
PIPELINE INSTALLATION	VESSELS - Support Diesel, Laying 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
INSTALLATION	VESSELS - Grew 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 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 (crew boat) VESSELS - Support Diesel (supply boat)		2265 2265	116.52519 116.52519	2796.60 2796.60	6 10	156 156	1.60 1.60	0.96 0.96	0.94 0.94	0.02 0.02	38.28 38.28	1.10 1.10	0.00 0.00	6.00 6.00	0.01 0.01	0.75 1.25	0.45 0.75	0.44 0.73	0.01 0.02	17.92 29.86	0.52 0.86	0.00 0.00	2.81 4.68	0.01 0.01
ALASKA-SPECIFIC	On-Ice Equipment		2200	GAL/HR	GAL/D	10	130	1.00	0.90	0.94	0.02	30.20	1.10	0.00	0.00	0.01	1.20	0.73	0.73	0.02	25.00	0.00	0.00	4.00	0.01
SOURCES	Man Camp - Operation (maximum people per day)	1	PEOPLE/DAY			ļ		.								ļ	ļ			1					
	VESSELS	<u> </u>	kW			HR/D	D/YR												<u> </u>	<u> </u>					<u> </u>
	On-Ice – Loader			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 On-Ice – Other Survey Equipment			0	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-lice - Other Survey Equipment On-lice - Tractor			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	0.00	0.00	0.00	0.00	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 surveys) Man Camp - Operation		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
	VESSELS - Hovercraft Diesel		ő			Ő	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
2029	Non-Facility Total Emissions							9.64	5.81	5.64	0.14	230.89	6.64	0.00	36.21	0.07	9.01	5.44	5.27	0.13	215.94	6.21	0.00	33.87	0.06

AIR EMISSIONS CALCULATIONS - 6TH YEAR

COMPANY	AREA		BLOCK	LEASE	FACILITY	WELL	I				CONTACT		PHONE		REMARKS										$\overline{}$
Arena Offshore, LP	Eugene Island		330	G02115	Complex ID #232						Aime	ee Deady	281-21	10-3180											
OPERATIONS	EQUIPMENT Diesel Engines	EQUIPMENT ID	RATING HP	MAX. FUEL GAL/HR	GAL/D	RUNT	IME				MAXIMUI	M POUNDS PE	R HOUR							ES	STIMATED TO	DNS			
	Nat. Gas Engines		HP	SCF/HR	SCF/D								1												
DRILLING	Burners VESSELS- Drilling - Propulsion Engine - Diesel		MMBTU/HR 8800	SCF/HR 452.7248	10865.40	HR/D 24	365	TSP 6.21	PM10 3.75	PM2.5 3.63	SOx 0.09	NOx 148.74	VOC 4.28	0.00	CO 23.33	NH3 0.04	TSP 27.19	PM10 16.41	PM2.5 15.91	SOx 0.40	NOx 651.50	VOC 18.73	0.00	CO 102.19	NH3 0.19
	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	0.00
WFD 400 or 450	VESSELS- Drilling - Propulsion Engine - Diesel 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	0.00	0.00	0.00
	Vessels - Diesel Boiler		ő			ő	ő	0.00	0.00	0.00	0.00	0.00	0.00	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	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
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
FACILITY INSTALLATION	VESSELS - Heavy Lift Vessel/Derrick Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	RECIP.<600hp Diesel (crane)	CRANE	160	8.23136	197.55	24	365	0.35	0.35	0.35	0.01	4.97	0.37	-	1.07		1.55	1.55	1.55	0.04	21.78	1.61		4.68	
	RECIP.<600hp Diesel (backup generator)	DIE-GEN	425	21.86455	524.75	24	365	0.94 0.00	0.94 0.00	0.94	0.03	13.21	0.97 0.00	-	2.84		4.10	4.10 0.00	4.10	0.11	57.87	4.27 0.00		12.43	
	RECIP.>600hp Diesel 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
	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
	Natural Gas Turbine 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	0.00	0.00	0.00	0.00 0.00	0.00	0.00	
	Dual Fuel Turbine		ő	Ö	0.00	0	ő	0.00	0.00	0.00	0.00	0.00	0.00	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 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	-
	RECIP. 4 Cycle Lean Natural Gas RECIP. 4 Cycle Rich Natural Gas (compressor)	CAE-7000	0 1340	9571.4286	229714.29	0 24	365	-	0.00	0.00	0.00	22.81	0.00	-	35.28			0.00	0.00	0.00	99.92	1.32		154.51	
	RECIP. 4 Cycle Rich Natural Gas (generator #1)	ZAN-6000	512	3657.1429	87771.43	24	365	-	0.04	0.04	0.00	8.72	0.12	-	13.48			0.16	0.16	0.01	38.18	0.50		59.04	
	RECIP. 4 Cycle Rich Natural Gas (generator #2) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #1)	ZAN-6500 PAX-4100	512 400	3657.1429 2857.1429	87771.43 68571.43	24 24	365 365	-	0.04 0.03	0.04 0.03	0.00	8.72 6.81	0.12 0.09		13.48 10.53			0.16 0.12	0.16 0.12	0.01 0.01	38.18 29.83	0.50 0.39		59.04 46.12	
	RECIP. 4 Cycle Rich Natural Gas (pipeline pump #1)	PAX-4100	400	2857.1429	68571.43	24	365	_	0.03	0.03	0.00	6.81	0.09	_	10.53		-	0.12	0.12	0.01	29.83	0.39	-	46.12	
	RECIP. 4 Cycle Rich Natural Gas (pipeline pump #3)	PAX-4300	400	2857.1429	68571.43	24	365	.=.	0.03	0.03	0.00	6.81	0.09	-	10.53			0.12	0.12	0.01	29.83	0.39		46.12	/ I
	Diesel Boiler Natural Gas Heater/Boiler/Burner (heater treater 1A)	EAW-5650	2.3	2190	52571.43	0 24	0 365	0.00 0.02	0.00 0.00	0.00 0.00	0.00	0.00 0.42	0.00 0.01	0.00	0.00 0.18	0.00 0.01	0.00 0.07	0.00 0.02	0.00 0.02	0.00 0.01	0.00 1.82	0.00 0.05	0.00 0.00	0.00 0.81	0.00 0.03
	Natural Gas Heater/Boiler/Burner (heater treater 1B)	EAW-5660	2.3	2190	52571.43	24	365	0.02	0.00	0.00	0.00	0.42	0.01	0.00	0.18	0.01	0.07	0.02	0.02	0.01	1.82	0.05	0.00	0.81	0.03
	MISC. STORAGE TANK	ABJ-7410	BPD	SCF/HR	COUNT	24	265						0.98									4.30		\vdash	
	COMBUSTION FLARE - no smoke	ABJ-7410		0	1	0	0	0.00	0.00	0.00	0.00	0.00	0.98	-	0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	
	COMBUSTION FLARE - light smoke			0		Ö	ō	0.00	0.00	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 COMBUSTION FLARE - heavy smoke			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	/ -
	COLD VENT (ATM, LP, HP)			- 0	3	24	365	0.00	0.00	0.00	0.00	0.00	30.65	_	0.00		0.00	0.00	0.00	0.00	0.00	134.24		0.00	
	FUGITIVES				6218	24	365						3.11	-								13.62		l - /	
	GLYCOL DEHYDRATOR 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	
DRILLING	Liquid Flaring		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	0.00	0.00
WELL TEST	COMBUSTION FLARE - no smoke			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	0.00	0.00	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 COMBUSTION FLARE - heavy smoke			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	
ALASKA-SPECIFIC	VESSELS		kW	Ŭ		HR/D	D/YR	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	
SOURCES	VESSELS - Ice Management Diesel		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
	Facility Total Emissions		-				Ū	7.53	5.30	5.19	0.14	228.44	41.18	0.00	121.43		32.99				1,000.56	180.38	0.00	531.86	
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES																2,360.48			2,360.48	2,360.48	2,360.48		58,234.77	
DRILLING	70.9 VESSELS- Crew Diesel		2265	116.52519	2796.60	24	208	1.60	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	3.99	2.41	2.33	0.06	95.56	2.75	0.00	14.99	0.03
DIVIELING	VESSELS - Supply Diesel		2265	116.52519	2796.60	24	156	1.60	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	2.99	1.80	1.75	0.06	71.67	2.75	0.00	11.24	0.03
	VESSELS - Tugs 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
PIPELINE INSTALLATION	VESSELS - Support Diesel, Laying 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
INSTALLATION	VESSELS - Gupport Diesel, Buryling 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 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 (crew boat) VESSELS - Support Diesel (supply boat)		2265 2265	116.52519 116.52519	2796.60 2796.60	6 10	156 156	1.60 1.60	0.96 0.96	0.94 0.94	0.02 0.02	38.28 38.28	1.10	0.00	6.00 6.00	0.01 0.01	0.75 1.25	0.45 0.75	0.44 0.73	0.01 0.02	17.92 29.86	0.52 0.86	0.00	2.81 4.68	0.01 0.01
ALASKA-SPECIFIC	On-Ice Equipment		2200	GAL/HR	GAL/D	10	100	1.00	0.90	0.94	0.02	30.20	1.10	0.00	0.00	0.01	1.20	0.75	0.73	0.02	23.00	0.00	0.00	4.00	0.01
SOURCES	• •	ļ	PEOPLE/DAY	JALIIN	CALID					<u> </u>											<u> </u>				├
	Man Camp - Operation (maximum people per day) VESSELS	1	kW			HR/D	D/YR			 									 	+	 	-			+
	On-Ice – Loader			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 On-Ice – Other Survey Equipment			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		0.00	0.00
	On-ice - Other Survey Equipment On-ice - Tractor			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-lce – Truck (for gravel island)			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-lce – Truck (for surveys) Man Camp - Operation		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	0.00
	VESSELS - Hovercraft Diesel		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	0.00	0.00
2030	Non-Facility Total Emissions							9.64	5.81	5.64	0.14	230.89	6.64	0.00	36.21	0.07	9.01	5.44	5.27	0.13	215.94	6.21	0.00	33.87	0.06

AIR EMISSIONS CALCULATIONS - 7TH YEAR

COMPANY	AREA		BLOCK	LEASE	FACILITY	WELL	I				CONTACT		PHONE		REMARKS										$\overline{}$
Arena Offshore, LP	Eugene Island		330	G02115	Complex ID #232						Aime	ee Deady	281-2	10-3180	KEMAKKO										
OPERATIONS	EQUIPMENT Diesel Engines	EQUIPMENT ID	RATING HP	MAX. FUEL GAL/HR	ACT. FUEL GAL/D	RUN TI	IME				MAXIMU	M POUNDS PE	R HOUR							ES	STIMATED TO	ONS			
	Nat. Gas Engines		HP	SCF/HR	SCF/D	up/p	D.04D	TSP	D1440								700	B1110	D.10.5						
DRILLING	Burners VESSELS- Drilling - Propulsion Engine - Diesel		MMBTU/HR 8800	SCF/HR 452.7248	SCF/D 10865.40	HR/D 24	365	6.21	PM10 3.75	PM2.5 3.63	SOx 0.09	NOx 148.74	VOC 4.28	0.00	23.33	NH3 0.04	TSP 27.19	PM10 16.41	PM2.5 15.91	SOx 0.40	NOx 651.50	VOC 18.73	Pb 0.00	CO 102.19	NH3 0.19
WED 400 450	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	0.00	0.00
WFD 400 or 450	VESSELS- Drilling - Propulsion Engine - Diesel VESSELS- Drilling - Propulsion Engine - 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	0.00	0.00	0.00	0.00	0.00
	Vessels - Diesel Boiler		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	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
INSTALLATION	VESSELS - Pipeline Burying - Diesel		-		0.00		U	0.00	0.00	0.00	0.00	0.00	0.00	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 Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	RECIP.<600hp Diesel (crane) RECIP.<600hp Diesel (backup generator)	CRANE DIE-GEN	160 425	8.23136 21.86455	197.55 524.75	24 24	365 365	0.35 0.94	0.35 0.94	0.35 0.94	0.01 0.03	4.97 13.21	0.37 0.97	_	1.07 2.84		1.55 4.10	1.55 4.10	1.55 4.10	0.04 0.11	21.78 57.87	1.61 4.27	-	4.68 12.43	-
	RECIP.>600hp Diesel	DIL-GLIN	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	
	VESSELS - Shuttle Tankers VESSELS - Well Stimulation		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	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	
	Diesel Turbine 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
	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	
	RECIP. 4 Cycle Lean Natural Gas	0.15 7000	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	
	RECIP. 4 Cycle Rich Natural Gas (compressor) RECIP. 4 Cycle Rich Natural Gas (generator #1)	CAE-7000 ZAN-6000	1340 512	9571.4286 3657.1429	229714.29 87771.43	24 24	365 365	-	0.10 0.04	0.10 0.04	0.01	22.81 8.72	0.30 0.12	-	35.28 13.48			0.42 0.16	0.42	0.03	99.92 38.18	1.32 0.50		154.51 59.04	
	RECIP. 4 Cycle Rich Natural Gas (generator #2)	ZAN-6500	512	3657.1429	87771.43	24	365	-	0.04	0.04	0.00	8.72	0.12		13.48			0.16	0.16	0.01	38.18	0.50		59.04	
	RECIP. 4 Cycle Rich Natural Gas (pipeline pump #1) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #2)	PAX-4100 PAX-4200	400 400	2857.1429 2857.1429	68571.43 68571.43	24 24	365 365	-	0.03 0.03	0.03 0.03	0.00	6.81 6.81	0.09 0.09	-	10.53 10.53			0.12 0.12	0.12 0.12	0.01 0.01	29.83 29.83	0.39 0.39		46.12 46.12	-
	RECIP. 4 Cycle Rich Natural Gas (pipeline pump #2)	PAX-4200 PAX-4300	400	2857.1429	68571.43	24	365	_	0.03	0.03	0.00	6.81	0.09	-	10.53			0.12	0.12	0.01	29.83	0.39		46.12	
	Diesel Boiler	5 AVV 5050	0.0	0400	50574 40	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 (heater treater 1A) Natural Gas Heater/Boiler/Burner (heater treater 1B)	EAW-5650 EAW-5660	2.3	2190 2190	52571.43 52571.43	24 24	365 365	0.02 0.02	0.00	0.00	0.00	0.42	0.01 0.01	0.00	0.18 0.18	0.01 0.01	0.07 0.07	0.02 0.02	0.02 0.02	0.01 0.01	1.82 1.82	0.05 0.05	0.00 0.00	0.81 0.81	0.03 0.03
	MISC.		BPD	SCF/HR	COUNT							***		****											
	STORAGE TANK COMBUSTION FLARE - no smoke	ABJ-7410		0	1	24	365	0.00	0.00	0.00	0.00	0.00	0.98	_	0.00		0.00	0.00	0.00	0.00	0.00	4.30 0.00		0.00	
	COMBUSTION FLARE - light smoke			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 COMBUSTION FLARE - heavy smoke			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	-
	COLD VENT (ATM, LP, HP)			- 0	3	0 24	365	0.00	0.00	0.00	0.00	0.00	30.65	_	0.00		0.00	0.00	0.00	0.00	0.00	134.24		0.00	
	FUGITIVES				6218	24	365						3.11									13.62			
	GLYCOL DEHYDRATOR 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	
DRILLING	Liquid Flaring		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	0.00	0.00
WELL TEST	COMBUSTION FLARE - no smoke			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	- 1
	COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke			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	0.00	0.00	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		kW			HR/D	D/YR																		
	VESSELS - Ice Management Diesel		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	Facility Total Emissions							7.53	5.30	5.19	0.14	228.44	41.18	0.00	121.43	0.06	32.99	23.20	22.71	0.63	1,000.56	180.38	0.00	531.86	0.25
CALCULATION	DISTANCE FROM LAND IN MILES																2,360.48			2,360.48	2,360.48	2,360.48		58,234.77	
DRILLING	VESSELS- Crew Diesel		2265	116.52519	2796.60	24	208	1.60	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	3.99	2.41	2.33	0.06	95.56	2.75	0.00	14.99	0.03
	VESSELS - Supply Diesel VESSELS - Tugs Diesel		2265 4600	116.52519 236.6516	2796.60 5679.64	24 12	156	1.60 3.25	0.96 1.96	0.94 1.90	0.02 0.05	38.28 77.75	1.10 2.24	0.00	6.00 12.20	0.01 0.02	2.99 0.04	1.80 0.02	1.75	0.04 0.00	71.67 0.93	2.06 0.03	0.00 0.00	11.24 0.15	0.02 0.00
PIPELINE	VESSELS - Tugs Diesel 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	0.02	0.04	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00
INSTALLATION	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 VESSELS - Supply 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	0.00	0.00	0.00	0.00	0.00
FACILITY	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
INSTALLATION	VESSELS - Crew Diesel 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 (crew boat)		2265	116.52519	2796.60	6	156 156	1.60	0.96 0.96	0.94 0.94	0.02 0.02	38.28	1.10	0.00	6.00	0.01	0.75	0.45	0.44 0.73	0.01	17.92	0.52	0.00	2.81	0.01
ALASKA-SPECIFIC	VESSELS - Support Diesel (supply boat)		2265	116.52519	2796.60	10	100	1.60	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	1.25	0.75	0.73	0.02	29.86	0.86	0.00	4.68	0.01
SOURCES	On-Ice Equipment		DEOD:	GAL/HR	GAL/D						\sqcup														
	Man Camp - Operation (maximum people per day) VESSELS	1	PEOPLE/DAY kW			HR/D	D/YR			+	++		-		-		 	-	}	+	}				++
	On-Ice – Loader			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 On-Ice – Other Survey Equipment			0	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	0.00	-	0.00	0.00
	On-ice – Other Survey Equipment On-ice – Tractor			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-lce – Truck (for gravel island)			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 surveys) Man Camp - Operation		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
	VESSELS - Hovercraft Diesel		0			ő	ő	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2031	Non-Facility Total Emissions							9.64	5.81	5.64	0.14	230.89	6.64	0.00	36.21	0.07	9.01	5.44	5.27	0.13	215.94	6.21	0.00	33.87	0.06

AIR EMISSIONS CALCULATIONS - 8TH YEAR

COMPANY	AREA	T .	BLOCK	LEASE	FACILITY	WELL					CONTACT		PHONE		REMARKS										
Arena Offshore, LP	Eugene Island		330	G02115	Complex ID #232						Aim	ee Deady	281-21	10-3180	KEMAKKO										
OPERATIONS	EQUIPMENT Diesel Engines	EQUIPMENT ID	RATING HP	GAL/HR	ACT. FUEL GAL/D	RUN TIN	ME				MAXIMU	M POUNDS PE	R HOUR							ES	STIMATED TO	ONS			
	Nat. Gas Engines		HP	SCF/HR	SCF/D																				
DRILLING	Burners VESSELS- Drilling - Propulsion Engine - Diesel Vessels - Diesel Boiler Vessels - Drilling Prime Engine, Auxiliary		MMBTU/HR 0 0 0 0 0 0	SCF/HR 0 0 0 0	0.00 0.00 0.00 0.00 0.00	HR/D 0 0 0 0 0	0 0 0 0 0 0 0	TSP 0.00 0.00 0.00 0.00 0.00 0.00	PM10 0.00 0.00 0.00 0.00 0.00 0.00	PM2.5 0.00 0.00 0.00 0.00 0.00 0.00	SOx 0.00 0.00 0.00 0.00 0.00 0.00	NOx 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	Pb 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	NH3 0.00 0.00 0.00 0.00 0.00 0.00	7SP 0.00 0.00 0.00 0.00 0.00 0.00	PM10 0.00 0.00 0.00 0.00 0.00 0.00	PM2.5 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	9b 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	NH3 0.00 0.00 0.00 0.00 0.00 0.00
PIPELINE INSTALLATION	VESSELS - Pipeline Laying Vessel - Diesel VESSELS - Pipeline Burying - Diesel		0 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 0.00	0.00 0.00	0.00 0.00	0.00 0.00	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 Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP.<600hp Diesel (crane) RECIP.<600hp Diesel (crane) RECIP.<600hp Diesel (backup generator) RECIP.<600hp Diesel VESSELS - Shuttle Tankers VESSELS - Well Stimulation Natural Gas Turbine Diesel Turbine Diesel Turbine Diesel Turbine RECIP. 2 Cycle Lean Natural Gas RECIP. 4 Cycle Lean Natural Gas RECIP. 4 Cycle Rich Natural Gas (compressor) RECIP. 4 Cycle Rich Natural Gas (generator #1) RECIP. 4 Cycle Rich Natural Gas (gienerator #2) RECIP. 4 Cycle Rich Natural Gas (gienerator #2) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #1) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #3) Diesel Boiler Natural Gas Heater/Boiler/Burner (heater treater 1A) Natural Gas Heater/Boiler/Burner (heater treater 1B) MISC.	CRANE DIE-GEN CAE-7000 ZAN-6000 ZAN-6500 PAX-4100 PAX-4200 PAX-4300 EAW-5660	160 425 0 0 0 0 0 0 0 0 1340 512 400 400 2.3 BPD	8.23136 21.86455 0 0 0 0 0 0 0 0 9571.4286 3657.1429 2857.1429 2857.1429 2857.1429 2857.1429 2857.1429	197.55 524.75 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	0 0 0 0 0 0 0 0 0 24 24 24 24 24 24 24	365 365 0 0 0 0 0 0 0 0 365 365 365 365 365 365 365 365 365 365	0.35 0.94 0.00 0.00 0.00 0.00 0.00 0.02	0.35 0.94 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.35 0.94 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.01 0.03 0.00 0.00 0.00 0.00 0.00 0.00	4.97 13.21 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	0.37 0.97 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00 0.00 0.00 0.00 0.00	1.07 2.84 0.00 0.00 0.00 0.00 0.00 0.00 0.00 35.28 13.48 13.48 10.53 10.53 10.53		1.55 4.10 0.00 0.00 0.00 	1.55 4.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00	1.55 4.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.04 0.11 0.00 0.00 0.00 0.00 0.00 0.00	21.78 57.87 0.00 0.00 0.00 0.00 0.00 0.00 0.00	1.61 4.27 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0		4.68 12.43 0.00 0.00 0.00 0.00 0.00 0.00 0.00 154.51 59.04 46.12 46.12 46.12 0.00 0.81	 0.00 0.00 0.00 0.00 0.03
DRILLING WELL TEST	STORAGE TANK COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - medium smoke COLD VENT (ATM, LP, HP) FUGITIVES GLYCOL DEHYDRATOR WASTE INCINERATOR Liquid Flaring COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - heavy smoke	ABJ-7410	0 0	0 0 0 0 0	3 6218 0	24 0 0 0 0 0 24 24 0 0 0 0	365 0 0 0 365 365 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 0.00 0.00 0.00 	0.98 0.00 0.00 0.00 0.00 30.65 3.11 0.00 0.00 0.00 0.00	0.00	 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 	 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	4.30 0.00 0.00 0.00 0.00 134.24 13.62 0.00 0.00 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		kW			HR/D	D/YR																		
	VESSELS - Ice Management Diesel		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	Facility Total Emissions DISTANCE FROM LAND IN MILES							1.32	1.55	1.55	0.05	79.69	36.91	0.00	98.10	0.01	5.79	6.80	6.80	0.24	349.06		0.00	429.67	0.06
CALCULATION	70.9	1		-		-					1		+ -				2,360.48		-	2,360.48	2,360.48	2,360.48		58,234.77	+
DRILLING PIPELINE INSTALLATION	VESSELS- Crew Diesel VESSELS - Supply Diesel VESSELS - Tugs Diesel VESSELS - Support Diesel, Laying VESSELS - Support Diesel, Burying VESSELS - Crew Diesel VESSELS - Support Diesel VESSELS - Supply Diesel		0 0 0 0 0 0	0 0 0 0 0 0	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0 0 0 0 0	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 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 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 VESSELS - Crew Diesel		0	0	0.00	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	0.00 0.00	0.00 0.00	0.00 0.00	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 VESSELS - Support Diesel (crew boat)		0 2265	0 116.52519	0.00 2796.60		156	0.00 1.60	0.00	0.00 0.94	0.00	0.00 38.28	0.00 1.10	0.00	6.00	0.00	0.00	0.00	0.00	0.00	0.00 17.92	0.00	0.00	0.00 2.81	0.00
ALASKA-SPECIFIC SOURCES	VESSELS - Support Diesel (supply boat) On-lee Equipment Man Camp - Operation (maximum people per day) VESSELS		2265 PEOPLE/DAY	116.52519 GAL/HR	2796.60 GAL/D	HR/D	156 D/YR	1.60	0.96	0.94	0.02	38.28	1.10	0.00	6.00	0.01	1.25	0.75	0.73	0.02	29.86	0.86	0.00	4.68	0.01
	On-lee – Loader On-lee – Other Construction Equipment On-lee – Other Survey Equipment On-lee – Tractor On-lee – Truck (for gravel island) On-lee – Truck (for surveys) Man Camp - Operation VESSELS - Hovercraft Diesel Non-Facility Total Emissions		0	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00	0.00 0.00 0.00 0.00 0.00 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 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00

AIR EMISSIONS CALCULATIONS - 9TH YEAR

COMPANY	AREA		BLOCK	LEASE	FACILITY	WELL					CONTACT		PHONE		REMARKS										
Arena Offshore, LP OPERATIONS	Eugene Island EQUIPMENT	EQUIPMENT ID	330 RATING	G02115 MAX. FUEL	ACT. FUEL	DIIN	TIME				Aime	e Deady I POUNDS PE	281-21	0-3180		1	1			EQ	TIMATED TO	Me			
OPERATIONS	Diesel Engines	EQUIPMENTID	HP	GAL/HR	GAL/D	KUN	IIIVIE				WIAXIWU	N FOUNDS FE	K HOUK							ES	TIMATED TO	MS .			
	Nat. Gas Engines Burners		HP MMBTU/HR	SCF/HR SCF/HR	SCF/D SCF/D	UD/D	D/YR	TSP	PM10	PM2.5	SOx	NOx	VOC	Dh	СО	NH3	TSP	PM10	PM2.5	SOx	NOx	VOC	l Dh	CO	NH3
DRILLING	VESSELS- Drilling - Propulsion Engine - Diesel VESSELS - Drilling - Propulsion Engine - Diesel Vessels - Diesel Boiler Vessels - Drilling Prime Engine, Auxiliary		0 0 0 0 0 0	0 0 0 0 0	0.00 0.00 0.00 0.00 0.00	0 0 0 0 0 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 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	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 VESSELS - Pipeline Burying - Diesel		0 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 0.00	0.00 0.00	0.00 0.00	0.00 0.00	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 Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	RECIP.<600hp Diesel (crane) RECIP.<600hp Diesel (backup generator) RECIP.<600hp Diesel VESSELS - Shuttle Tankers VESSELS - Shuttle Tankers VESSELS - Well Stimulation Natural Gas Turbine Diesel Turbine Diesel Turbine BECIP. 2 Cycle Lean Natural Gas RECIP. 4 Cycle Lean Natural Gas RECIP. 4 Cycle Lean Natural Gas (compressor) RECIP. 4 Cycle Rich Natural Gas (generator #1) RECIP. 4 Cycle Rich Natural Gas (generator #2) RECIP. 4 Cycle Rich Natural Gas (generator #2) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #1) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #3) Diesel Boiler Natural Gas Heater/Boiler/Burner (heater treater 1A) Natural Gas Heater/Boiler/Burner (heater treater 1B) MISC.	CRANE DIE-GEN CAE-7000 ZAN-6000 ZAN-6500 PAX-4100 PAX-4200 PAX-4300 EAW-5650 EAW-5660	160 425 0 0 0 0 0 0 0 0 1340 512 400 400 400 2.3 2.3 BPPD	8.23136 21.86455 0 0 0 0 0 0 0 0 9571.4286 3657.1429 2857.1429 2857.1429 2857.1429 2190 2190 2190	197.55 524.75 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	24 24 0 0 0 0 0 0 0 0 0 0 24 24 24 24 24 24 24 24 24 24	365 365 0 0 0 0 0 0 0 0 365 365 365 365 365 365 365	0.35 0.94 0.00 0.00 0.00 	0.35 0.94 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.35 0.94 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.01 0.03 0.00 0.00 0.00 0.00 0.00 0.00	4.97 13.21 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	0.37 0.97 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00 0.00 0.00 0.00 0.00 0.00	1.07 2.84 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0		1.55 4.10 0.00 0.00 0.00 0.00 0.00 0.00 0.07	1.55 4.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00	1.55 4.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.04 0.11 0.00 0.00 0.00 0.00 0.00 0.00	21.78 57.87 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 99.92 38.18 38.18 29.83 29.83 0.00 1.82 1.82	1.61 4.27 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	 0.00 0.00 0.00 0.00 0.00	4.68 12.43 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	
DRILLING WELL TEST	STORAGE TANK COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - medium smoke COLD VENT (ATM, LP, HP) FUGITIVES GLYCOL DEHYDRATOR WASTE INCINERATOR LIQUID FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - light smoke	ABJ-7410	0 0	0 0 0 0 0	3 6218 0	24 0 0 0 0 0 24 24 24 0 0 0	365 0 0 0 0 365 365 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	0.98 0.00 0.00 0.00 0.00 30.65 3.11 0.00 0.00 0.00		 0.00 0.00 0.00 0.00 0.00 0.00		 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	4.30 0.00 0.00 0.00 0.00 134.24 13.62 0.00 0.00 0.00 0.00		 0.00 0.00 0.00 0.00 0.00 0.00	
ALASKA-SPECIFIC	COMBUSTION FLARE - heavy smoke			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	
SOURCES	VESSELS VESSELS - Ice Management Diesel		kW 0			HR/D	D/YR	0.00	0.00	0.00	0.00	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 Total Emissions		U .			U	U	1.32	1.55	1.55	0.05	79.69	36.91	0.00	98.10		5.79	6.80	6.80		349.06		0.00	429.67	0.06
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES																2,360.48			2,360.48	2,360.48	2,360.48		58,234.77	
DRILLING	70.9 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 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	0.00
PIPELINE INSTALLATION	VESSELS - Support Diesel, Laying VESSELS - Support Diesel, Burying VESSELS - Crew Diesel VESSELS - Supply Diesel		0 0 0 0	0 0 0 0	0.00 0.00 0.00 0.00 0.00	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 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 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 VESSELS - Crew Diesel VESSELS - Supply Diesel		0 0 0	0 0 0	0.00 0.00 0.00	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 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	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 (crew boat) VESSELS - Support Diesel (supply boat)		2265 2265	116.52519 116.52519	2796.60 2796.60	6 10	156 156	1.60 1.60	0.96 0.96	0.94 0.94	0.02 0.02	38.28 38.28	1.10 1.10	0.00	6.00 6.00	0.01 0.01	0.75 1.25	0.45 0.75	0.44 0.73	0.01 0.02	17.92 29.86	0.52 0.86	0.00 0.00	2.81 4.68	0.01 0.01
ALASKA-SPECIFIC	On-Ice Equipment			GAL/HR	GAL/D	-										-									
SOURCES	Man Camp - Operation (maximum people per day)		PEOPLE/DAY																						
	VESSELS On-ice – Loader		kW	0	0.0	HR/D	D/YR	0.00	0.00	0.00	0.00	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 – Datater On-ice – Other Construction Equipment On-ice – Other Survey Equipment On-ice – Truck (if or gravel island) On-ice – Truck (if or surveys) Man Camp - Operation VESSELS - Hovercraft Diesel		0 0	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 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 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00	0.00 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 - 10TH YEAR

COMPANY	AREA	1	BLOCK	LEASE	FACILITY	WELL					CONTACT		PHONE		REMARKS										$\overline{}$
Arena Offshore, LP	Eugene Island	EQUIPMENT ID	330 RATING	G02115 MAX. FUEL	Complex ID #23						Aime	e Deady	281-21	10-3180		,	,				TIMATED TO				
OPERATIONS	EQUIPMENT Diesel Engines	EQUIPMENT ID	HP	GAL/HR	GAL/D	RUN	TIME				MAXIMUI	I POUNDS PE	K HOUK							ES	TIMATED TO	NS .			
	Nat. Gas Engines		HP	SCF/HR	SCF/D																				
DRILLING	Burners VESSELS- Drilling - Propulsion Engine - Diesel Vessels - Diesel Boiler Vessels - Drilling Prime Engine, Auxiliary		MMBTU/HR 0 0 0 0 0 0 0	0 0 0 0 0	0.00 0.00 0.00 0.00 0.00	0 0 0 0 0 0	D/YR 0 0 0 0 0	TSP 0.00 0.00 0.00 0.00 0.00 0.00	PM10 0.00 0.00 0.00 0.00 0.00 0.00	PM2.5 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	NOx 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	Pb 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	NH3 0.00 0.00 0.00 0.00 0.00 0.00	TSP 0.00 0.00 0.00 0.00 0.00 0.00	PM10 0.00 0.00 0.00 0.00 0.00 0.00	PM2.5 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	NOx 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 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 VESSELS - Pipeline Burying - Diesel		0 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	0.00 0.00	0.00 0.00	0.00 0.00	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 Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP.<600hp Diesel (crane) RECIP.<600hp Diesel (backup generator) RECIP.<600hp Diesel (backup generator) RECIP.<600hp Diesel VESSELS - Shuttle Tankers VESSELS - Shuttle Tankers VESSELS - Shuttle Tankers Diesel Turbine Diesel Turbine Diesel Turbine RECIP. 2 Cycle Lean Natural Gas RECIP. 4 Cycle Lean Natural Gas RECIP. 4 Cycle Rich Natural Gas (compressor) RECIP. 4 Cycle Rich Natural Gas (generator #1) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #1) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #2) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #2) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #2) RECIP. 4 Cycle Rich Natural Gas (pipeline pump #3) Diesel Boiler Natural Gas Heater/Boiler/Burner (heater treater 1A) Natural Gas Heater/Boiler/Burner (heater treater 1B)	CRANE DIE-GEN CAE-7000 ZAN-6000 PAX-4100 PAX-4200 PAX-4300 EAW-5660 EAW-5660	160 425 0 0 0 0 0 0 0 0 0 0 1340 512 400 400 400 2.3 2.3	8.23136 21.86455 0 0 0 0 0 0 0 9571.4286 3657.1429 2857.1429 2857.1429 2857.1429	197.55 524.75 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	24 24 0 0 0 0 0 0 0 0 0 0 24 24 24 24 24 24 24 24	365 365 0 0 0 0 0 0 0 0 365 365 365 365 365 0 0 365 365	0.35 0.94 0.00 0.00 0.00 0.00 0.00 0.02	0.35 0.94 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.35 0.94 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.01 0.03 0.00 0.00 0.00 0.00 0.00 0.00	4.97 13.21 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	0.37 0.97 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00 0.00 0.00 0.00 0.00 0.00 0.00	1.07 2.84 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	 0.00 0.00 0.00 -	1.55 4.10 0.00 0.00 0.00 0.00 0.00 0.07	1.55 4.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00	1.55 4.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.04 0.11 0.00 0.00 0.00 0.00 0.00 0.00	21.78 57.87 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 99.92 38.18 38.18 29.83 29.83 1.82	1.61 4.27 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	 0.00 0.00 0.00 0.00 0.00	4.68 12.43 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	
DRILLING WELL TEST	MISC. STORAGE TANK COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - heavy smoke COLD VENT (ATM, LP, HP) FUGITIVES GLYCOL DEHYDRATOR WASTE INCINERATOR Liquid Faring COMBUSTION FLARE - no smoke COMBUSTION FLARE - light smoke COMBUSTION FLARE - indit smoke COMBUSTION FLARE - medium smoke COMBUSTION FLARE - medium smoke	ABJ-7410	0 0	0 0 0 0 0 0	3 6218 0	24 0 0 0 0 24 24 0 0 0	365 0 0 0 0 365 365 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	0.98 0.00 0.00 0.00 0.00 30.65 3.11 0.00 0.00 0.00 0.00 0.00		 0.00 0.00 0.00 0.00 0.00 0.00		 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	 0.00 0.00 0.00 0.00 0.00 0.00	4.30 0.00 0.00 0.00 0.00 134.24 13.62 0.00 0.00 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		kW			HR/D	D/YR																		
	VESSELS - Ice Management Diesel		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	Facility Total Emissions DISTANCE FROM LAND IN MILES							1.32	1.55	1.55	0.05	79.69	36.91	0.00	98.10	0.01	5.79 2,360.48	6.80	6.80	2,360.48	349.06 2,360.48	161.65 2,360.48	0.00	429.67 58,234.77	0.06
DRILLING	70.9 VESSELS- Crew Diesel VESSELS - Supply Diesel VESSELS - Tugs Diesel		0 0 0	0 0 0	0.00 0.00 0.00	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 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	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 - Support Diesel, Laying VESSELS - Support Diesel, Burying VESSELS - Crew Diesel VESSELS - Supply Diesel		0 0 0 0	0 0 0 0	0.00 0.00 0.00 0.00	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	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	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 VESSELS - Crew Diesel VESSELS - Supply Diesel		0 0	0 0	0.00 0.00 0.00	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 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	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 (crew boat) VESSELS - Support Diesel (supply boat)		2265 2265	116.52519 116.52519	2796.60 2796.60	6 10	156 156	1.60 1.60	0.96 0.96	0.94 0.94	0.02 0.02	38.28 38.28	1.10 1.10	0.00 0.00	6.00 6.00	0.01 0.01	0.75 1.25	0.45 0.75	0.44 0.73	0.01 0.02	17.92 29.86	0.52 0.86	0.00 0.00	2.81 4.68	0.01 0.01
ALASKA-SPECIFIC SOURCES	On-Ice Equipment			GAL/HR	GAL/D																				
	Man Camp - Operation (maximum people per day) VESSELS		PEOPLE/DAY			HR/D	D/YR																		\vdash
2024	VESSELS On-loe – Loader On-loe – Charler Construction Equipment On-loe – Other Survey Equipment On-loe – Tractor On-loe – Tractor On-loe – Truck (for gravel island) On-loe – Truck (for surveys) Man Camp - Operation VESSELS - Hovercraft Diesel Non-Facility Total Emissions		0 0	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 0 0	0 0 0 0 0 0 0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00	0.00 0.00 0.00 0.00 0.00 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 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00
	,													2.00									2.00		

AIR EMISSIONS CALCULATIONS

COM	PANY	AREA	BLOCK	LEASE	FACILITY	WELL			
Arena Off	shore, LP	Eugene Island	330	G02115	D (Complex ID #23240)				
Year					Facility Emitted Substance)			
	TSP	PM10	PM2.5	SOx	NOx	voc	Pb	СО	NH3
2025	5.79	6.80	6.80	0.24	349.06	161.65	0.00	429.67	0.06
2026	30.60	21.76	21.32	0.60	943.44	178.74	0.00	522.90	0.23
2027	32.99	23.20	22.71	0.63	1000.56	180.38	0.00	531.86	0.25
2028	32.99	23.20	22.71	0.63	1000.56	180.38	0.00	531.86	0.25
2029	32.99	23.20	22.71	0.63	1000.56	180.38	0.00	531.86	0.25
2030	32.99	23.20	22.71	0.63	1000.56	180.38	0.00	531.86	0.25
2031	32.99	23.20	22.71	0.63	1000.56	180.38	0.00	531.86	0.25
2032	5.79	6.80	6.80	0.24	349.06	161.65	0.00	429.67	0.06
2033	5.79	6.80	6.80	0.24	349.06	161.65	0.00	429.67	0.06
2034	5.79	6.80	6.80	0.24	349.06	161.65	0.00	429.67	0.06
Allowable	2360.48			2360.48	2360.48	2360.48		58234.77	

Eugene Island Blocks 330 and 337 (Leases OCS-G 02115/37171)

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, inclusive of storage and pipeline, estimated to be 13,452 barrels of crude oil with an API gravity of 30°.

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 an 11% probability of impact to the shorelines of Cameron Parish, Louisiana within 30 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 crude oil, an ADIOS weathering model was run on a similar product from the ADIOS oil database.

Natural Weathering Data	Barrels of Oil
WCD Volume	13,452
Less 23% natural evaporation/dispersion	3,094
Remaining volume	10,358

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 and in-situ burn. Strategies will be decided by Unified Command based on an operations safety analysis, the size of the spill, weather and potential impacts. If aerial dispersants are utilized, 4 sorties (4,800 gallons) from the DC-3 aircraft and 4 sorties (8,000 gallons) from the Basler aircraft would provide a daily dispersant capability of 7,540 barrels. If

the conditions are favorable for in-situ burning, the proper approvals have been obtained and the proper planning is in place, in-situ burning of oil may be attempted. Slick containment boom would be immediately called out and on-scene as soon as possible. Offshore response strategies may include 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, various storage barges with a total capacity 130,000 bbls 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 22,433 barrels. Temporary storage associated with skimming equipment equals 119 barrels. If additional storage is needed, one storage barge with a total capacity 35,000 bbls may be mobilized and centrally located to provide temporary storage and minimize off-loading time. 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 81,450 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. 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 Incident 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 50 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 Incident Management Team (IMT) 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 ≥ 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^3)

- Publish, implement, and fully test an appropriate communications plan
- Design an operational scheme, maintaining a manageable span of control
- Designate and mark C³ vessels for easy aerial identification
- Designate and employ C³ 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 O2, LEL, H2S, 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: • Tank(s) • Crane(s) • Boom Reels • Hydraulic Power Units • Equipment Boxes	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 ≤ 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 ≤ 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

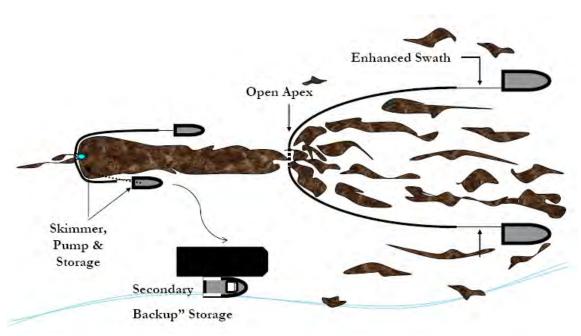
Mechanical Recovery – Deployed on large vessels of opportunity (VOO) the Koseq Rigid Sweeping Arms are high volume surge capacity deployed to increase recovery capacity at the source of a large oil spill in the offshore and outer nearshore environment of the Gulf of Mexico. They are highly mobile and 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)

- $1 \ge 200$ ' 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 thought 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 ≥ 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
- 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
- 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 the 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:
 - o Trajectories
 - Weather forecast
 - Oil Impact forecast
 - Verified spill movement
 - o Boom, manpower and vessel (shallow draft) availability
 - o 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 pf personnel, ensuring:
 - o A continual supply of the proper Personal Protective Equipment
 - o Heating or cooling areas when needed
 - Medical coverage
 - o Command and control systems (i.e. communications)
 - o 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
 - o Possible response measures and impact of property and ongoing operations
 - o Determination of any specific safety concerns
 - o Any special requirements or prohibitions
 - o Area security requirements
 - o Handling of waste
 - o Remediation expectations
 - Vehicle traffic control
 - o Domestic animal safety concerns
 - o 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.
 - o In-situ burn may be considered when marshes have been impacted
- Passive clean up of marshes should considered and appropriate stocks of sorbent boom and/or sweep obtained.
- Response personnel must be briefed on methods to traverse the marsh, i.e.,
 - o use of appropriate vessel
 - o use of temporary walkways or road ways
- Discuss and gain approval prior 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:
 - o Placement of recovered oil or waste storage as near to vessels or beach cleanup crews as possible.
 - o Planning for stockage of high use items for expeditious replacement
 - o Housing of personnel as close to the work site as possible to minimize travel time
 - o Use of shallow water craft
 - o Use of communication systems appropriate ensure command and control of assets
 - o Use of appropriate boom in areas that I can offer effective protection
 - o 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 in 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 30 day impact. The results are tabulated below.

Area/Block	OCS-G	Launch Area	Land Segment and/or Resource	Conditional Probability (%) within 30 days
EI 330, MODU S-7450 72 miles from shore	G02115	C40	Calhoun, TX Matagorda, TX Brazoria, TX Galveston, TX Jefferson, TX Cameron, LA Vermilion, LA Iberia, LA St. Mary, LA Terrebonne, LA Lafourche, LA Plaquemines, LA	1 3 1 5 5 5 11 4 2 1 4 1 2

WCD Scenario-BASED ON WELL BLOWOUT DURING DRILLING OPERATIONS (72 miles from shore)

10,358 bbls of crude oil (Volume considering natural weathering) API Gravity 30°

FIGURE 2 – Equipment Response Time to EI 330, MODU S-7150

Dispersants/Surveillance

Dispersant/Surveillance	Dispersant Capacity (gal)	Storage Capacity	Persons Req.	From	Hrs to Procure	Hrs to Loadout	Travel to site	Total Hrs
			AS	SI				
Basler 67T	2000	NA	2	Houma	2	2	0.5	4.5
DC 3	1200	NA	2	Houma	2	2	0.7	4.7
Aero Commander	NA	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	6	0	12	18	2	38
95' FRV	22885	249	NA	4	Leeville	2	0	2	5	1	10
Boom Barge (CGA-300) 42" Auto Boom (25000')	NA	NA	1 Tug 50 Crew	4 (Barge) 2 (Per Crew)	Leeville	8	0	4	15	2	29

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
Genesis Marine (available through contract with CGA)											
GM 6506	NA	65000	1 Tug	6	Houma	24	12	0	14	0	50
GM 6507	NA	65000	1 Tug	6	Houma	24	12	0	14	0	50

Staging Area: Fourchon

Offshore Equipment With Staging	EDRC	Storage Capacity	voo	Persons Req.	From	Hrs to Procure	Hrs to Load Out	Travel to Staging	Travel to Site	Hrs to Deploy	Total Hrs
CGA											
Hydro-Fire Boom	NA	NA	8 Utility	40	Harvey	0	24	3	9	6	42

Nearshore Response

Nearshore Recovered Oil Storage No Staging	EDRC	Storage Capacity	voo	Persons Required	From	Hrs to Procure	Hrs to Loadout	Hrs to GOM	Travel to Site	Hrs to Deploy	Total Hrs
CGA											
46' FRV	15257	65	NA	4	Vermilion	2	0	2	2	0	6
Kirby Offshore (available through contract with CGA)											
Chesapeake	NA	35000	1 Tug	6	Houston	24	12	0	4	0	40

Staging Area: Cameron

Near shore and Inland Skimmers 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 Marco	3588	20	NA	3	Vermilion	2	2	2.5	2	1	9.5
SWS Marco	3588	34	NA	3	Leeville	2	2	7	2	1	14

Shoreline Protection

Staging Area: Cameron

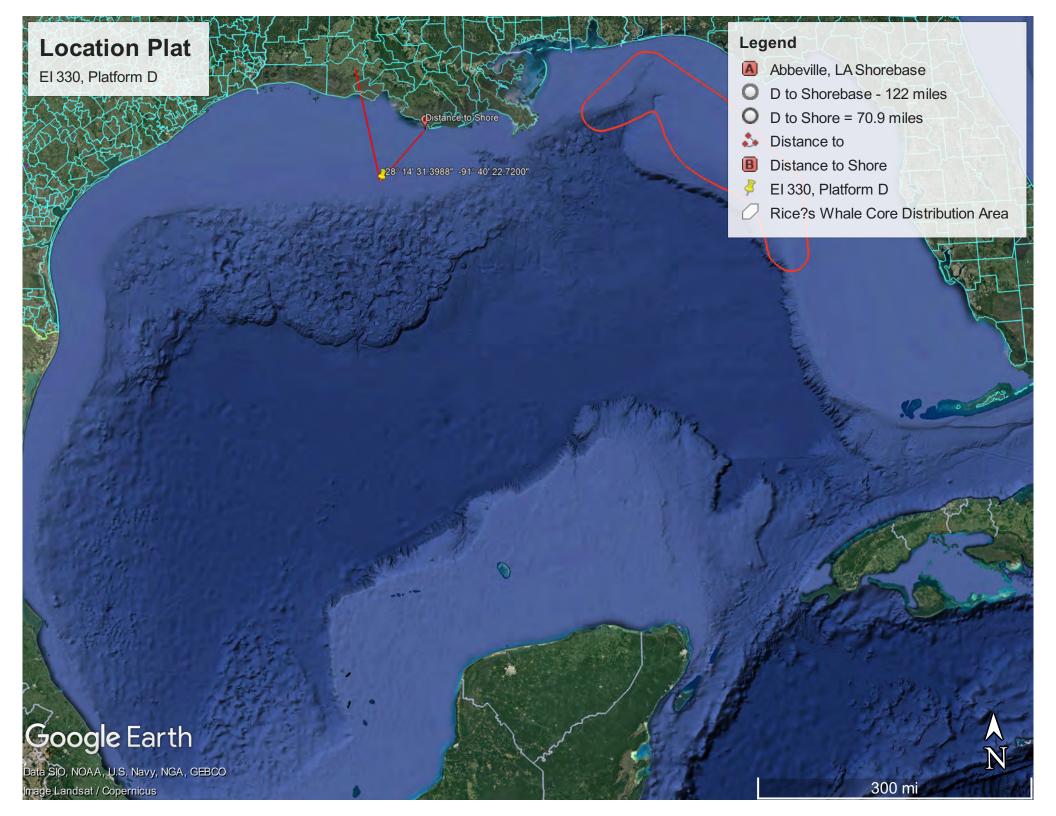
Shoreline Protection Boom	voo	Persons Req.	Storage/Warehouse Location	Hrs to Procure	Hrs to Loadout	Travel to Staging	Travel to Deployment	Hrs to Deploy	Total Hrs		
	AMPOL (available through MSA)										
34,050' 18" Boom	13 Crew	26	New Iberia, LA	2	2	3.5	2	12	21.5		
16,000' 18" Boom	7 Crew	14	Chalmette, LA	2	2	7.5	2	6	19.5		
900' 18" Boom	1 Crew	2	Morgan City, LA	2	2	5	2	2	13		
11,800' 18" Boom	5 Crew	10	Gonzales, 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		
2,700' 18" Boom	2 Crew	4	Decatur, GA	2	2	20	2	6	32		

Wildlife Response	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						
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	4	1	2	11
Bird Scare Guns (12)	NA	NA	NA	2	Aransas Pass	2	2	9.9	1	2	16.9
Bird Scare Guns (24)	NA	NA	NA	2	Vermilion	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	134,249
Nearshore / Shallow Water EDRC	22,433
Nearshore / Shallow Water Recovered Oil Storage	35,119

Eugene Island Blocks 330 and 337 (Leases OCS-G 02115/37171) Vicinity Map Attachment M (Public Information)





Eugene Island Blocks 330 and 337 (Leases OCS-G 02115/37171)

<u>CZM Statement -</u> <u>State of Louisiana</u>

Attachment N (Public Information)

COASTAL ZONE MANAGEMENT CONSISTENCY CERTIFICATION

SUPPLEMENTAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

Eugene Island Blocks 330/337

Leases OCS-G 02115/37171

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: Deady

Dated: 09/09/2025