

UNITED STATES GOVERNMENT
MEMORANDUM

May 13, 2020

To: Public Information
From: Plan Coordinator, OLP, Plans Section (GM235D)

Subject: Public Information Copy of Plan

Control # - S-8005
Type - Supplemental Exploration Plan
Lease(s) - OCS- 00184 - Block 72 East Cameron Area
Operator - EC Offshore Properties, Inc.
Description - Well and Well Protector No. 6

Attached is a copy of the subject plan.

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

Laura Christensen, Esq.
Plan Coordinator
Office of Leasing and Plans

Site Type/Name	Botm Lse/Area/Blk	Surface Location Surf	Lse/Area/Blk
WP/WP 6		450 FNL, 6910 FEL	00184/EC/72
WELL/006	00184/EC/72	450 FNL, 6910 FEL	00184/EC/72

EC OFFSHORE PROPERTIES, INC.

March 16, 2020

April 26, 2020 (Amended for NMFS 2020 BiOp)

Regional Supervisor for Leasing and Plans
U.S. Department of the Interior
Bureau of Ocean Energy Management
1201 Elmwood Park Boulevard
New Orleans, LA 70123-2394

ATTN: Plans Section (GM 235D)

RE: **Supplemental Exploration Plan (EP)
East Cameron Block 72, Lease OCS-00184
OCS Federal Waters, Gulf of Mexico, Louisiana**

To whom it may concern:

In accordance with the provisions of Title 30 CFR, Parts 250 and 550, Subpart B and further defined in Notice to Lessees (NTL) BOEM 2015-N01, 2009-G27 and 2008-G04 (extended by NTL BOEM 2015-N02), clarifying the information requirements for Exploration Plans and Development Operations Coordination Documents on the OCS, EC Offshore Properties, Inc. (herein referred to as 'ECOP') hereby submits for your review and approval a Supplemental Exploration Plan (SEP) for the above referenced lease.

Enclosed are two (2) hard copies of the SEP, one for Proprietary Data and one for Public Information. There are three (3) CDs in PDF format each for the BOEM Proprietary and Public copies and one (1) public copy for Louisiana CZM.

Under this Supplemental Exploration Plan, ECOP proposes to drill, complete and install a temporary caisson for one (1) well in East Cameron Area, Block 72, Lease OCS-00184.

Lease OCS-00184 is currently held by workover operations until August 7, 2020, therefore ECOP respectfully request this review be expedited.

Should additional information be required, please contact Kathy Camp at 713.201.9627 or via email to kathy.camp@kcampassociates.com.

Please forward all approval documents to the undersigned at davidstrassner@att.net.

Sincerely,

David Strassner

David Strassner
Operations Manager

DS:KC
Enclosures

600 Travis St., Suite 600
Houston, Texas 77002

PUBLIC INFORMATION

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Supplemental Exploration Plan
For
EC OFFSHORE PROPERTIES, INC.
East Cameron Area, Block 72
Lease OCS00184
Offshore Louisiana

SECTION 1 - CONTENTS OF PLAN

Under this Supplemental Exploration Plan, EC Offshore Properties, INC., Company No. 03147 (herein referred to as ECOP) is proposing to:

- Drill and complete Well No. 006 from a proposed surface location in East Cameron Area, Block 72, Lease OCS00184, which is located West of the 87.5°W longitude.
- Commence drilling operations by June 30, 2020.
- If productive, a temporary well protector caisson will be installed. The installation of this caisson will utilize a hydraulic impact hammer for pile-driving operations.
- There are no pipelines proposed in this Exploratory Plan.

Lease OCS00184, East Cameron Block 72 has been in effect since November 19, 1948 when acquired by Continental Oil Company et al. The lease is now operated by EC Offshore Properties, Inc. and is currently held by prior workover operations until August 7, 2020.

(a) Plan Information Form

An OCS Plan Information Form (BOEM-137) with details of the proposed drilling operation is included as **Attachment A**. The proposed operations are in approximately 52 feet of water.

ECOP will only use a typical Jackup rig and standard workboats for the proposed exploratory operations and will take all precautions necessary to ensure the protection of the ESA-listed species covered by the NMFS 2020 Biological Opinion (BiOp) issued on March 13, 2020.

There will be no anchors associated with the operations proposed in this Plan.

(b) Bathymetry Map and Location Plat

Included as **Attachments B and C** are the Well Location Plat and Bathymetry Maps. The plat shows the surface location of the proposed well. The proposed bottom hole location, proposed depth of the well (MD and TVD) and the associated water depth is provided. Please note, bottom hole location, MD & TVD depth is omitted from the Public Information Copy.

Since this well will be drilled with a typical Jackup rig there will be no anchors associated with the proposed drilling and production activities.

See **Attachment D** for temporary structure/caisson drawing.

(c) Safety and Pollution Prevention Features

ECOP plans to use a typical Jackup to drill the proposed well in this plan. Safety features on the MODU will include well control, pollution prevention, welding procedure, and blowout prevention equipment as described in the following Federal Register Notices, Notice to Lessees (NTL) and Subparts located in Title 30 CFR Part 250 and 550:

- Federal Register, Vol. 77, No. 163, August 22, 2012, Final Rule for Increased Safety Measures for Energy Development on the Outer Continental Shelf
- Federal Register, Vol. 75, No. 198, October 14, 2010, Final Rule for Increased Safety Measures for Energy Development on the Outer Continental Shelf
- BOEM 2015-N01 for Information Requirements for Exploration Plans, Development and Production Plans, and Development Operations Coordination Documents on the OCS for Worst Case Discharge and Blowout Scenarios
- NTL 2010-N10 for Statement of Compliance with Applicable Regulations and Evaluation of Information Demonstrating Adequate Spill Response and Well Containment Resources

These regulations may be further clarified by Safety Alerts, and current policy making invoked by the Bureau of Ocean Energy Management (BOEM), Environmental Protection Agency (EPA) and the U.S. Coast Guard (USCG).

In accordance with Title 30 CFR 250.1501, the goal of our training program is safe and clean OCS operations. To accomplish this, ECOP ensures that our employees and contractor personnel engaged in well control understand and can properly perform their duties.

Supervisory and certain designated personnel on-board the facility are to be familiar with the effluent limitations and guidelines for overboard discharges into the receiving waters, as outlined in the EPA's NPDES General Permit GMG290000. Some of these pollution prevention measures include installation of curbs, gutters, drip pans, and drains on drilling deck areas to collect all contaminants and debris.

All discharges related to the operations proposed in this Plan are covered under EPA Region 6's NPDES General Permit.

(d) Storage Tanks and Production Vessels

Tanks with a capacity of 25 Bbls or more of oil as defined at 30 CFR 254.6 are listed below:

Type of Storage Tank	Type of Facility	Tank Capacity (bbls)	Number of Tanks	Total Capacity (bbls)	Fluid Gravity (API)
Fuel Oil	MODU – JU	1000	2	2000	32.4°

(e) Service Fees

A copy of the receipt for payment is included as **Attachment E**.

(f) Pollution Prevention Measures

Supervisory and certain designated personnel on-board the MODU and/or the facility are to be familiar with the effluent limitations and guidelines for overboard discharges into the receiving waters, as outlined in EPA's NPDES General Permit GMG290000.

Some of these pollution prevention measures include installation of curbs, gutters, drip pans, and drains to collect all contaminants and debris to prevent the discharge of oils and greases from drilling rigs or platforms during rainfall and routine operations.

ECOP will ensure that our employees and contractor personnel engaged in our offshore drilling and production operations understand the state and federal regulations.

(g) Additional Measures

ECOP does not propose any additional safety, pollution prevention, and early spill detection measures beyond those required by 30 CFR Part 250 and 550. These are also addressed above in section (c) and (f).

SECTION 2 - GENERAL INFORMATION

(a) Applications and Permits

<u>Application / Permit</u>	<u>Issuing Agency</u>	<u>Status</u>
APD	BSEE District	To be submitted via eWell
eNOI	EPA Region 6	To be submitted via EPA website
Emergency Evacuation Plan	USCG	Pending
Temporary Well Protector	BSEE Region – OSTs	Pending

(b) Drilling Fluids

(1) The following table provides information on the types and amounts of the drilling fluids ECOP plans to use during drilling operations.

<u>Type of Drilling Fluid</u>	<u>Commercial Name (if applicable)</u>	<u>Estimated Volume of Drilling Fluid to be Used</u>
Water-based (SW, FW, Barite)	NA	9200 Bbls
Oil-based (diesel, mineral oil)	NA	NA
Synthetic-based (internal olefin, ester, etc)	NA	NA

(c) Peak Production Rates / Life of Reserves

Not applicable for exploration plans.

(d) Oil Characteristics

Not applicable for exploration plans.

(e) New or Unusual Technology

ECOP does not propose the use of any new or unusual technology in the exploration activities proposed under this plan.

(f) Bonding Information

The bond requirements for the activities and facilities proposed in this Initial Exploration Plan will be satisfied by the appropriate bond furnished and maintained according to 30 CFR Part 556.900, Subpart I and applicable NTL's.

(g) Oil Spill Financial Responsibility (OSFR)

ECOP (BOEM Operator No. 03147) will demonstrate oil spill financial responsibility for the facilities proposed in this Initial Exploration Plan in accordance with 30 CFR Part 553, and NTL No. 2008-N05, "Guidelines for Oil Spill Financial Responsibility for Covered Facilities".

(h) Deepwater Well Control Statement

The water depth at the surface location is 52 feet. A deepwater well control statement is not required for the location of the activities proposed in this plan.

(i) Suspensions of Production (SOP)

The lease is currently held by prior workover operations until August 7, 2020. A suspension of production is not required at this time.

(j) Blowout Scenario

For this proposed operation, the worst-case discharge is defined as an uncontrolled blowout through the drilling string during drilling operations.

The calculated WCD rate is 61,500 BCPD, 340 MMCFD and 0 BWPD. The gravity is expected to be 50.0° API. Total uncontrolled blowout volume is estimated at 2,082,000 bbls of condensate. Please see the WCD detail in **Attachment O**.

1. RELIEF WELL

Relief Rig Availability

In the event a relief well is initiated, ECOP does not anticipate any delays in acquiring a jack-up type rig to conduct the proposed operations.

Relief Rig Package Constraints

ECOP does not foresee any relief rig constraints in this water depth and location.

Relief Rig Timing (Contract) and Rig Mobilization

Many rig companies can suspend their operations and make rigs available to drill a relief well.

Duration of Relief Well Activity from Commencement

In the case that the well did not bridge over and conventional surface intervention was unsuccessful, the following table shows our estimation of the duration of relief well activity assuming a rig is readily available at that point in time.

<u>Days</u>	
10	Contract a rig
3	Mobilize to location
37	Spud & drill relief well
3	Casing to provide kill platform
53	Total Days

Location and Strategy of Relief Well

ECOP would propose to intersect the flowing well at the deepest casing point and perform kill and abandonment procedure as per submittal to BSEE District Office.

The optimal location for a relief well would be an “open water” location and not from an onshore location. There are no platforms in the vicinity with slots available to drill from.

2. BLOWOUT PREVENTION AND INTERVENTION

Summary of Prevention Measures

The following measures will be taken in attempt to ensure the EC 72 well is kept under control at all times: ECOP will incorporate Federal Register, Vol. 75, No. 198, October 14, 2010, and Vol. 77, No. 163, August 22, 2012, "Final Rules for Increased Safety Measures for Energy Development on the Outer Continental Shelf" into well operations. ECOP will operate under safe and prudent practices, including but not limited to BOP and Pit drills as required by BSEE, ensuring rig supervisors have current well control certification, taking and recording slow pump rates each tour, function testing TIW valves each tour, posting a kill sheet on the rig floor, updating the kill sheet each tour, updating the kill sheet when mud weight is changed. ECOP will ensure that rig supervisors will monitor proper hole fill up on trips in the open hole, maintain circulating swages on the rig floor while running casing, and the perform pre-job safety meetings. Rig availability and location will be monitored in case the need arises to drill a relief well.

Reduce the Likelihood of a Blowout

ECOP believes that proper well control training, proper well design and real time well monitoring reduces the likelihood of a blowout. Approved well kill operations if necessary, to eliminate chance of a blowout.

Likelihood for Surface Intervention to Stop the Blowout

ECOP believes that the likelihood for surface intervention to stop a blowout is 50%.

Plans for Effective and Early Intervention

If the BOPs are unable to actuate, resulting in a loss of well control from the surface, there is a very high probability that the well will bridge over within the first 12 hours. If the well does not bridge as expected and the rig has not caught fire and can support well control efforts, the initial intervention would consist of top killing the well with heavy mud or replacing the BOPs with functioning equipment. If the rig is on fire or otherwise unable to support well control efforts, a rig would be mobilized to commence drilling a relief well as discussed below.

Relief Well Arrangements

ECOP is prepared to locate rig providers and well control providers to have a Service Agreement in place prior to commencement of drilling the well.

Other Measures Taken

ECOP only purchases new tangible equipment for use in its wells and inspects the casing and tubing as per API 5 CT. ECOP also follows the guidelines established in the API RP 53 Third Edition regarding blowout preventers.

ECOP will utilize two barriers in their cementing operations on all strings. The conductor casing will utilize a double valve float shoe. The cement job will be planned to bring cement to surface. The surface casing will utilize a single valve float shoe and float collar. The cement for the surface string will be designed to bring cement to surface. The production casing will be designed to bring the top of cement to a minimum of 500' above the shallowest hydrocarbon bearing interval.

(k) Chemical Products

This information is not required for the activities proposed in this plan in the BOEM GOMR.

SECTION 3 - GEOLOGICAL AND GEOPHYSICAL INFORMATION

In accordance with 43 CFR, Part 2, those items considered proprietary have been omitted from the Public Information copy and have been referenced accordingly.

(a) **Geological Description**

PROPRIETARY INFORMATION ONLY

(b) **Structure Contour Maps**

PROPRIETARY INFORMATION ONLY

(c) **Interpreted 2-D or 3-D Seismic Lines**

PROPRIETARY INFORMATION ONLY

(d) **Geological Structure Cross-Sections**

PROPRIETARY INFORMATION ONLY

(e) **Shallow Hazards Report**

Gulf Ocean Services covered the proposed drilling location in an Archaeological and Hazard Geophysical survey of Blocks 71 and 72, East Cameron Area, on January 11th - 14th of 2004. The survey report is on file under BOEM Survey Number 21670, received date of May 4th, 2004.

(f) **Site Specific Shallow Hazards Assessment**

ECOP contracted Gulf Ocean Services to prepare a Shallow Hazard Analysis and Archaeological Assessment of the Area of Potential Effect (APE) which covered the proposed drilling location in an Archaeological and Hazard Geophysical survey of Blocks 71 and 72, East Cameron Area, on January 11th - 14th of 2004. The survey report is on file under BOEM Survey Number 21670, received date of May 4th, 2004.

A copy of this Shallow Hazards Assessment is included as **Attachment I**.

(g) **High Resolution Seismic Lines**

PROPRIETARY INFORMATION ONLY

(h) **Stratigraphic Column**

PROPRIETARY INFORMATION ONLY

(i) **Time Versus Depth Tables**

PROPRIETARY INFORMATION ONLY

(j) **Geochemical Information**

This information is not required for the activities proposed in this plan in the BOEM GOMR.

(k) **Future G&G Activities**

This information is not required for the activities proposed in this plan in the BOEM GOMR.

SECTION 4 - HYDROGEN SULFIDE INFORMATION

(a) Concentration

ECOP does not anticipate encountering H₂S while conducting our proposed exploration activities.

(b) Classification Request

In accordance with Title 30 CFR 250.490(c), ECOP requests the area of operations in EC Block 72, Lease OCS00184 be classified by the BOEM as an area where the “**absence**” of Hydrogen Sulfide has been confirmed based upon the following:

PROPRIETARY INFORMATION ONLY

(c) Contingency Plan

ECOP does not anticipate encountering H₂S while conducting our proposed exploration activities therefore a contingency plan is not required at this time.

(d) Modeling Report

ECOP does not anticipate encountering H₂S while conducting our proposed exploration activities therefore a modeling report is not required at this time.

SECTION 5 - MINERAL AND RESOURCE CONVERSATION INFORMATION

(a) **Technology and Reservoir Engineering Practices and Procedures**

Not required for exploration plans.

(b) **Technology and Recovery Practices and Procedures**

Not required for exploration plans.

(c) **Reservoir Development**

Not required for exploration plans.

SECTION 6 - BIOLOGICAL, PHYSICAL AND SOCIOECONOMIC INFORMATION

(a) Chemosynthetic Communities Report

The activities proposed in this Plan are in water depths less than 300 meters (984 feet); therefore, information as outlined in Attachment A of NTL No. 2009-G40, "Deepwater Benthic Communities," is not required.

(b) Topographic Features Map

The activities proposed in this Plan are in water depths less than 305 meters (1000 feet) of a topographic "No Activity Zone"; therefore, no map(s) are required per NTL No. 2009-G39, "Biologically Sensitive Underwater Features and Areas."

(c) Topographic Features Statement

The activities proposed under this EP will be conducted outside all Topographic Feature Protective Zones; therefore, shunting of drill cuttings and drilling fluids is not required per NTL No. 2009-G39, "Biologically Sensitive Underwater Features and Areas."

(d) Live Bottom (Pinnacle Trend) Map

The activities proposed in this plan are not affected by a live bottom (Pinnacle Trend) stipulation.

(e) Live Bottom (Low Relief) Map

The activities proposed in this plan are not affected by a live bottom (low relief) stipulation.

(f) Potentially Sensitive Biological Features

ECOP does not propose bottom-disturbing activities within 30 meters (100 feet) of potentially sensitive biological features; therefore, the map described in NTL No. 2009-G39 "Biologically Sensitive Underwater Features and Areas" is not required.

(g) ROV Monitoring Survey Plan

This information is no longer required.

(h) Threatened and Endangered Species Information

Congress passed the Endangered Species Act (ESA) on December 28, 1973, recognizing that the natural heritage of the United States was of "esthetic, ecological, educational, recreational, and scientific value to our Nation and its people." It was understood that, without protection, many of our nation's living resources would become extinct. The purpose of the ESA is to conserve threatened and endangered species and their ecosystems. There are more than 1,900 species listed under the ESA. A species is considered endangered if it is in danger of extinction throughout all or a significant portion of its range. A species is considered threatened if it is likely to become endangered in the future. The Interior Department's U.S. Fish and Wildlife Service (USFWS) and the Commerce Department's National Marine Fisheries Service (NMFS) share responsibility for implementing the ESA. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS for 94 marine species, from whales to sea turtles and salmon to Johnson's sea grass.

The Marine Mammal Protection Act (MMPA) of 1972 was written to maintain the health and stability of the marine ecosystem. Marine mammals were in danger of diminishing, some to the point of extinction, as a result of human activities. The MMPA protects all marine mammals within the waters of the United States.

Attachment L is a list of endangered and threatened species and critical habitats under the jurisdiction of NOAA Fisheries Service in the Gulf of Mexico, updated in March 2020.

ECOP is aware of the above referenced federal acts and will ensure that all offshore personnel, including contractors and other support services-related personnel understand the need to conserve marine mammals and the conservation of their ecosystems. Several NTLs were issued to address conservation measures to be taken by offshore operators and contractors. All vessels related to the proposed operations will not transit the Bryde's Whale area.

Further discussions on threatened and endangered species are included in Section 19 (EIA).

(i) Archaeological Report

ECOP contracted Gulf Ocean Services to prepare a Shallow Hazard Analysis and Archaeological Assessment of the Area of Potential Effect (APE) which covered the proposed drilling location in an Archaeological and Hazard Geophysical survey of Blocks 71 and 72, East Cameron Area, on January 11th - 14th of 2004. The survey report is on file under BOEM Survey Number 21670, received date of May 4th, 2004.

A copy of this Archaeological Assessment is included as **Attachment I**.

(j) Air and Water Quality Information

The State of Florida is not an affected State for the activities proposed in this plan; therefore, this information is not required.

(k) Socioeconomic Information

The State of Florida is not an affected State for the activities proposed in this plan; therefore, this information is not required.

SECTION 7 - WASTE AND DISCHARGE INFORMATION

(a) Projected Generated Wastes

All projected solid and liquid wastes likely to be generated by our proposed activities are included in **Attachment M (Table 1)** for a typical Jackup. This table includes both operational wastes permitted by the appropriate NPDES permit and any other identified wastes.

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

(b) Projected Ocean Discharges

All projected solid and liquid wastes likely to be discharged overboard during our proposed activities are included in **Attachment M (Table 1)** for a typical Jackup. This table includes both operational wastes permitted by the appropriate NPDES permit and any other identified wastes.

(c) Modeling Report

Not required by EPA under the OCS General Permit.

(d) NPDES Permits

This information is not required for the activities proposed in this plan in the BOEM GOMR.

(e) Cooling Water Intakes

This information is not required for the activities proposed in this plan in the BOEM GOMR.

SECTION 8 - AIR EMISSIONS INFORMATION

(a) Screening Checklist

Included in this section, (if applicable) are the Projected Air Emissions Worksheets prepared in accordance with NTLs 2009-G27 and 2008-G04, associated with the new proposed well location.

For this single well plan, the Complex Total Emissions will be the same as the Plan Emissions.

Screening Questions for EP	Yes	No
Is any calculated Complex Total (CT) Emission amount (in tons) associated with your proposed exploration activities more than 90% of the amounts calculated using the following formulas: CT = 3400D ^{2/3} for CO, and CT = 33.3D for other air pollutants (where D = distance to shore in miles)?		X
Do your emission calculations include any emission reduction measures or modified emission factors?		X
Are your proposed exploration activities located east of 87.5° W longitude?		X
Do you expect to encounter H ₂ S at concentrations greater than 20 parts per million (ppm)?		X
Do you propose to flare or vent natural gas for more than 48 continuous hours from any proposed well?		X
Do you propose to burn produced hydrocarbon liquids?		X

The following information was prepared by:

Kathy Camp
K. Camp & Associates
Phone : 713.201.9627
Email : Kathy.camp@kcampassociates.com

(b) Summary Table of Plan Emissions

<u>COMPANY</u>	<u>AREA</u>	<u>BLOCK(s)</u>	<u>LEASE(s)</u>	<u>PLATFORM</u>	<u>WELL(s)</u>
ECOP OFFSHORE LLC	East Cameron	72	00184	-	6
Year	Emitted Substance				
	PM	SO _x	NO _x	VOC	CO
2020	10.29	5.55	335.58	10.69	73.19
Allowable	499.50	499.50	499.50	499.50	20679.49

Detailed spreadsheets are included as **Attachment N**.

SECTION 9 - OIL SPILL INFORMATION

Oil Spill Response Planning

EC Offshore Properties, INC. (Company No. 03147) has a Regional Oil Spill Response Plan on file at BSEE (O-702) most recently approved on June 3, 2013 and most recent issued a letter of “In-compliance” on September 20, 2019.

The proposed activities in this Plan will be covered by the Oil Spill Response Plan approved on June 3, 2013 and most recent issued a letter of “In-compliance” on September 20, 2019 and any future revisions.

The calculated WCD for this Exploration Plan superseded the WCD in the approved OSRP. A revised OSRP was approved on April 9, 2020.

Spill Response Sites

<u>Primary Response Equipment Location</u>	<u>Preplanned Staging Location(s)</u>
Houma, LA Harvey, LA Leeville, LA	Houma, LA Harvey, LA Port Fourchon, LA

OSRO Information

ECOP’s primary equipment providers is Clean Gulf Associates (CGA). The Clean Gulf Associates Services, LLC (CGAS) will provide closest available personnel, as well as a CGAS supervisor to operate the equipment. **Witt O’Briens** has been contracted as the Spill Management Team by ECOP for the proposed activities.

Worst Case Scenario Determination

<u>Category</u>	<u>Regional OSRP WCD</u>	<u>Supplemental EP WCD</u>
Type of Activity	Drilling >10	Drilling >10
Facility Location (area/block)	EC 72	EC 72
Facility Designation ²	006	006
Distance to Nearest Shoreline (miles)	15	15
Volume ³		
Storage tanks & Flowlines	0	0
Lease term pipelines	0	0
Uncontrolled blowout	61,500	61,500
Total Volume	61,500	61,500
Type of Oil(s) (crude oil, condensate, diesel)	Condensate	Condensate
API Gravity(s) ⁴	50°	50°

Footnotes:

1. Types of activities include pipeline, platform, caisson, subsea completion or manifold, and mobile drilling rig.

2. E.g., Well No. 2, Platform JA, Pipeline Segment No. 6373.

3. Take your regional OSRP worst-case scenario volume from the appropriate section of your regional OSRP. For EP’s, the worst-case scenario volume is the daily volume possible from an uncontrolled blowout. Determine this volume using the provisions of 30 CFR 30 CFR 254.47(b). For DOCDs, determine the volume of your worst-case scenario using the provisions of 30 CFR 30 CFR 254.47(a) or (b), as appropriate.

4. Provide API gravity of all oils given under “Type of Oil(s)” above. Estimate for EPs.

*ECOP has the capability to respond to the appropriate worst-case spill scenario included in its regional OSRP approved on **June 13, 2013**. I hereby certify that ECOP has the capability to respond, to the maximum extent practicable, to a WCD, or a substantial threat of such a discharge, resulting from the activities proposed in our Supplemental Exploration Plan.*

NTL 2015-N01 – WCD Calculations Overview

ECOP has included the WCD calculations for East Cameron Block 72, Well 006 for information purposes in **Attachment O**.

(b) Oil Spill Response Discussion / NEPA Analysis

For the purpose of NEPA and Coastal Zone Management Act analysis, the largest spill volume originating from the proposed activity would be a well blowout during drilling operations, estimated to be **61,500 BCPD** and 340 MMCFD with an API gravity of 50°.

ECOP's detailed spill response discussion is included as **Attachment P**.

(c) Modeling Report

A modeling report for a potential oil or hazardous substance spill is not required for the activities proposed in this plan. In the event ECOP proposes to prepare such a report, we would contact the Regional Supervisor of the BOEM GOMR for guidance in preparing the report and the BOEM GOMR would be provided with two copies.

SECTION 10 - ENVIRONMENTAL MONITORING INFORMATION

(a) Monitoring Systems

This information is not required for the activities proposed in this plan in the BOEM GOMR. The proposed activities in this plan utilizes a typical jack-up rig, marine life will not be affected during the exploration operations.

(b) Incidental Takes

ECOP does not believe that any of the endangered species or marine mammals as listed in the ESA will be taken during the exploration activities proposed in this plan.

(c) Flower Garden Banks National Marine Sanctuary

ECOP's activity under this Plan is not located within the Protective Zones of the Flower Garden Banks or Stetson Bank and therefore is not required to monitor the impacts of an oil spill.

Addendum - National Marine Fisheries Service (NMFS)

ECOP is aware of the NMFS 2020 Biological Opinion (BiOp) on BOEM's Gulf of Mexico Oil and Gas Program and the protocols being implemented by BOEM and BSEE in complying with the ESA and the requirements found in Appendices A, B, C and J.

ECOP and its personnel and subcontractors, while undertaking activities authorized under this lease, must implement and comply with the most current measures, including but not limited to new or updated versions of the NTLs identified below, to protect any species listed in the Endangered Species Act (ESA):

- BOEM NTL No. 2016-G01 (Vessel Strike Avoidance and Injured/Dead Protected Species Reporting) and Appendix B (Gulf of Mexico Vessel Strike Avoidance and Injured/Dead Protected Species Reporting Protocols)

Addressed above

- BOEM NTL No. 2016-G02 (Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program) and Appendix A (Seismic Survey Mitigation and Protected Species Observer Protocols)

This is not applicable to the operations proposed in this exploratory operation

- BSEE NTL No. 2015-G03 (Marine Trash and Debris Awareness and Elimination) and Appendix B (Gulf of Mexico Marine Trash and Debris Awareness and Elimination Survey Protocols)

Addressed above

- Appendix J. Sea Turtle Handling and Resuscitation Guidelines refers to "Any sea turtles taken incidentally during the course of fishing or scientific research activities". ECOP does not intend to fish or conduct any scientific research activities during the operations proposed in our Exploration Plan.

SECTION 11 - LEASE STIPULATIONS INFORMATION

Although the Minerals Management Service did not invoke any stipulations for Lease OCS00184, ECOP and its operators, personnel, contractors, and subcontractors will be required to comply with the mitigation measures identified in current NTLs along with any additional measures in the conditions of approvals for their plans or permits.

BOEM and BSEE issue Notices to Lessees (NTLs) that more fully describe measures implemented to reduce the potential taking of marine protected species and to minimize the risk of vessel strikes to protected species, as well as measures identified by the U.S. Fish and Wildlife Service and NMFS arising from, among others, conservation recommendations, rulemakings pursuant to the MMPA, or consultation.

The lessee and its operators, personnel, contractors, and subcontractors, while undertaking activities authorized under this lease, must implement and comply with the specific mitigation measures outlined in **BOEM NTL No. 2016-G01** (Vessel Strike Avoidance and Injured/Dead Protected Species Reporting), **BOEM NTL No. 2016-G02** (Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program), and **BSEE NTL No. 2015-G03** (Marine Trash and Debris Awareness and Elimination).

SECTION 12 - ENVIRONMENTAL MITIGATION MEASURES INFORMATION

(a) Impacts to Marine and Coastal Environments and Habitats, Biota, and Threatened and Endangered Species

The State of Florida is **not** an affected State for the activities proposed in this plan; therefore, this information is not required.

(b) Incidental Takes

ECOP does not believe that any of the endangered species or marine mammals as listed in the ESA will be taken during the exploration activities proposed in this plan.

ECOP understands that the use of explosives or seismic devices may affect marine life in the vicinity. There are no operations proposed in this plan that will be using explosives or seismic instruments.

Addendum - National Marine Fisheries Service (NMFS)

ECOP is aware of the NMFS 2020 BiOp on BOEM's Gulf of Mexico Oil and Gas Program and the protocols being implemented by BOEM and BSEE in complying with the ESA and the requirements found in Appendices A, B, C and J.

ECOP and its personnel and subcontractors, while undertaking activities authorized under this lease, must implement and comply with the most current measures, including but not limited to new or updated versions of the NTLs identified below, to protect any species listed in the Endangered Species Act (ESA):

- BOEM NTL No. 2016-G01 (Vessel Strike Avoidance and Injured/Dead Protected Species Reporting) and **Appendix B** (Gulf of Mexico Vessel Strike Avoidance and Injured/Dead Protected Species Reporting Protocols)

Addressed above

- BOEM NTL No. 2016-G02 (Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program) and **Appendix A** (Seismic Survey Mitigation and Protected Species Observer Protocols)

This is not applicable to the operations proposed in this exploratory operation

- BSEE NTL No. 2015-G03 (Marine Trash and Debris Awareness and Elimination) and **Appendix B** (Gulf of Mexico Marine Trash and Debris Awareness and Elimination Survey Protocols)

Addressed above

- **Appendix J**. Sea Turtle Handling and Resuscitation Guidelines refers to "Any sea turtles taken incidentally during the course of fishing or scientific research activities". ECOP does not intend to fish or conduct any scientific research activities during the operations proposed in our Exploration Plan.

SECTION 13 - DECOMMISSIONING INFORMATION

This information is not required for plans submitted in the BOEM GOMR.

SECTION 14 - RELATED FACILITIES AND OPERATIONS INFORMATION

(a) **Related OCS Facilities and Operations**

This discussion is not required for Exploration Plans.

(b) **Transportation System**

This discussion is not required for Exploration Plans.

(c) **Produced Liquid Hydrocarbons Transportation Vessels**

Not applicable for the activities proposed in this plan.

SECTION 15 - SUPPORT VESSELS AND AIRCRAFT INFORMATION

(a) General

The following list provides information regarding the vessels and aircraft ECOP will use to support our proposed activities.

<u>Type of Vessel</u>	<u>Maximum Fuel Tank Storage Capacity</u>	<u>Maximum No. in Area at Any Time</u>	<u>Trip Frequency or Duration during Drilling</u>
Supply boat(s)	500-1000 bbls	1	3 times / week
Crew boat(s)	500-1000 bbls	1	3 times / week
Tugboat	450 bbls	2	1 day on / 1 day off
Helicopter	760 gals	1	As needed

ECOP's proposed operations are in the Gulf of Mexico west of 87.5° W longitude and will not utilize any rigs, vessels, supply boats, etc. that would transit the Bryde's whale area.

Vessels utilized by ECOP should not use equipment that has potential for entanglement or entrapment risk during these exploratory activities.

(b) Diesel Oil Supply Vessels

ECOP proposes to use the following vessel(s) to supply diesel oil to support the drilling operation in this Exploration Plan.

<u>Size of Fuel Supply Vessel</u>	<u>Capacity of Fuel Supply Vessel (in Bbls)</u>	<u>Frequency of Fuel Transfers</u>	<u>Route Fuel Supply Vessel will Take</u>
180 ft	1500 bbls	2x per week	The shortest / most direct route from the shore base to the MODU

(c) Drilling Fluids Transportation

The proposed exploration activities do not affect the State of Florida; therefore, information on the projected drilling fluids transportation is not required at this time.

(d) Solid and Liquid Wastes Transportation

All projected solid and liquid wastes likely to be transported during our proposed activities are included in **Attachment M (Table 2)**.

(e) Vicinity Map

The surface location in East Cameron Area Block 72 is located approximately 15 statute miles from the nearest Louisiana shoreline and approximately 48 statute miles from the onshore support base located in Cameron, Louisiana for drilling and completion operations.

A Vicinity Plat showing the location of the proposed exploration activities relative to the shoreline and the primary route (transit lines) of the vessels and aircraft utilized for traveling from Cameron, Louisiana (onshore support base) to the offshore drilling facility is included as **Attachment Q**.

SECTION 16 - ONSHORE SUPPORT FACILITIES INFORMATION

(a) General

ECOP proposes to utilize the following existing onshore base for vessel and helicopter support:

Name	Location	Existing, New or Modified
Newpark / EcoSource	Cameron, LA	Existing

(1) Support Base Construction or Expansion

The proposed operations do not mandate any immediate measures for land acquisition or expansion of the existing onshore base facilities.

(2) Support Base Construction or Expansion Timetable

The proposed operations do not mandate any immediate measures for land acquisition or expansion of the existing onshore base facilities; therefore, a timetable is not required.

(b) Air Emissions

Information regarding air emissions generated by onshore support facilities is not required to accompany plans submitted in the BOEM GOMR.

(c) Unusual Solid and Liquid Wastes

Information regarding unusual solid and liquid wastes generated by onshore support facilities is not required to accompany plans submitted in the BOEM GOMR.

(d) Waste Disposal

All projected solid and liquid wastes likely to be disposed of during and after our proposed activities are included in **Attachment M (Table 2)**.

SECTION 17 - SULPHUR OPERATIONS INFORMATION

ECOP is not proposing to conduct Sulphur operations in this plan.

SECTION 18 - COASTAL ZONE MANAGEMENT ACT (CZMA) INFORMATION

The States of Texas, Louisiana, Mississippi, Alabama and Florida have federally approved coastal zone management programs (CZMP). Applicants for an OCS plan submitted to the BOEM must provide a certification with necessary data and information for the affected State to determine that the proposed activity(s) complies with the enforceable policies of each States' approved program, and that such activity will be conducted in a manner consistent with the program.

(a) Consistency Certification

The Coastal Zone Management Consistency Certification from the State of Louisiana is required for the exploration activities proposed in this plan and is included as **Attachment R**.

(b) Other Information

State of Louisiana:

The enforceable policies of the State of Louisiana have been considered and will be complied with.

SECTION 19 - ENVIRONMENTAL IMPACT ANALYSIS (EIA)

(a) and (b) Impact Producing Factors (IPFs) from the Proposed Activities

ECOP has placed an “X” in each IPF category that we believe (by using good engineering judgment) would be impacted by the activity proposed in this plan.

Environmental Resources	Impact Producing Factors (IPFs) Categories and Examples					
	Emissions (air, noise, light, etc.)	Effluents (muds, cuttings, other discharges to the water column or seafloor)	Physical disturbances to the seafloor (rig or anchor emplacements, etc.)	Wastes sent to shore for treatment or disposal	Accidents (e.g., oil spills, chemical spills, H ₂ S releases)	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		X	X	X	X	
Fisheries		X	X		X	
Marine mammals	(8) X	X			(8) X	X
Sea turtles	(8) X	X			(8) X	X
Air quality	(9) X					
Shipwreck sites (known or potential)			(7)			
Prehistoric archaeological sites			(7) X			
Vicinity of Offshore Location						
Essential fish habitat		X	X		(6) X	
Marine and pelagic birds	X				X	X
Public health and safety					(5)	
Coastal and Onshore						
Beaches					(6) X	X
Wetlands					(6) X	
Shore birds and coastal nesting birds	X				(6) X	X
Coastal wildlife refuges					X	
Wilderness areas					X	
Other Resources You Identify						
None						

Footnotes for Environmental Impact Analysis Matrix

- 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:
 - 4-mile zone of the Flower Garden Banks, or the 3-mile zone of Stetson Bank,
 - 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;
 - Essential Fish Habitat (EFH) criteria of 500 ft from any no-activity zone; or
 - Proximity of any submarine bank (500 ft buffer zone) with relief greater than 2 meters that is not protected by the Topographic Features Stipulation attached to an OCS lease.
- Activities with any bottom disturbance within an OCS lease block protected through the Live Bottom (Pinnacle Trend) Stipulation attached to an OCS lease.
- 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 400 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 judge would impact these environmental resources. If the proposed action is located a sufficient distance from a resource that no impact would occur, the EIA can note that in a sentence or two.
7. All activities that involve seafloor disturbances, including anchor emplacements, in any OCS block designated by the BOEM as having high-probability for the occurrence of shipwrecks or prehistoric sites, including such blocks that will be affected that are adjacent to the lease block in which your planned activity will occur. If the proposed activities are located a sufficient distance from a shipwreck or prehistoric site that no impact would occur, the EIA can note that in a sentence or two.
8. All activities that you determine might have an adverse effect on endangered or threatened marine mammals or sea turtles or their critical habitats.
9. Production activities that involve transportation of produced fluids to shore using shuttle tankers or barges.

(c) ANALYSIS

Site-specific Offshore Location – EC 72, Lease OCS00184

1. Designated Topographic Features

The topographic features of the Central Gulf provide habitat for coral reef community organisms. Since 1973 stipulations have been made a part of leases on or near these biotic communities so that impacts from nearby oil and gas activities were mitigated to the greatest extent possible. This stipulation does not prevent the recovery of oil and gas resources but serves to protect valuable and sensitive biological resources.

There are no IPFs (including effluents, physical disturbances to the seafloor, and accidents) from the proposed activities in East Cameron Area Block 72 that could cause impacts to topographic features.

The activities proposed in this plan will be covered by our regional OSRP.

2. Pinnacle Trend Area Live Bottoms

A small portion of the Central Planning Area and the Eastern Gulf of Mexico OCS planning areas include portions of approximately 70 lease blocks that have been classified as being within the “pinnacle trend” area. The Department of the Interior, Bureau of Ocean Energy Management is the agency with jurisdiction over these leases.

The term “live bottom” is used to refer to the biological assemblages attached to hard substrates found interspersed between sand and mud bottoms of the continental shelf. These assemblages often consist of colorful sponges, corals, sea whips and sea fans rising from the benthic environment. Some of these features have extensive vertical relief rising far into the water column and serving as a reefal habitat for numerous commercially and recreationally important fish species.

A special “Live Bottom (Pinnacle Trend) Stipulation” is assigned to leases in those blocks intended to protect the pinnacle trend and associated hard-bottom communities from damage and, at the same time, provide for recovery of potential oil and gas resources. This stipulation was not invoked with the issuance of this lease.

The activities proposed in this plan will be covered by our regional OSRP.

3. Eastern Gulf Live Bottoms

A small portion of the Central Planning Area and the Eastern Gulf of Mexico OCS planning areas include portions of approximately 70 lease blocks that have been classified as being within the “pinnacle trend” area. The Department of the Interior, Bureau of Ocean Energy Management is the agency with jurisdiction over these leases.

The term “live bottom” is used to refer to the biological assemblages attached to hard substrates found interspersed between sand and mud bottoms of the continental shelf. These assemblages often consist of colorful sponges, corals, sea whips and sea fans rising from the benthic environment. Some of these features have extensive vertical relief rising far into the water column and serving as a reefal habitat for numerous commercially and recreationally important fish species.

A special “Live Bottom (Pinnacle Trend) Stipulation” is assigned to leases in those blocks intended to protect the pinnacle trend and associated hard-bottom communities from damage and, at the same time, provide for recovery of potential oil and gas resources. This stipulation was not invoked with the issuance of this lease.

There are no IPFs (including effluents, physical disturbances to the seafloor, and accidents) from the proposed activities in East Cameron Area Block 72 that could cause impacts to Eastern Gulf live bottoms. The site-specific offshore location of the proposed activity is over 100 miles from the eastern gulf live bottoms.

The activities proposed in this plan will be covered by our regional OSRP.

4. Chemosynthetic Communities

There are no IPFs (including effluents, physical disturbances to the seafloor, and accidents) from the proposed activities in East Cameron Area Block 72 that could cause impacts to Chemosynthetic Communities.

Chemosynthetic biologic communities that lie in water depths in excess of 300 meters (984 feet) are of concern for environmental protection measures. The water depth at the proposed location is approximately 52 feet.

5. Water Quality

Effluents, physical disturbances to the seafloor and accidents from the proposed activities in East Cameron Area Block 72 could potentially cause impacts to water quality. Routine impact-producing factors that could result in water quality degradation from offshore OCS oil and gas operations include rig / anchor emplacement, platform and pipeline installation and removal, and the discharge of operational wastes.

With regards to marine trash and debris, effective December 17,2015, BSEE issued *BSEE NTL No. 2015-G03* pursuant to 30 CFR 250.103 to provide guidance and assist the operators in preventing intentional and / or accidental introduction of trash and debris into the marine environment. With this assistance and with laws such as MARPOL-Annex V, the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies including the U.S. Coast Guard and the U.S. Environmental Protection Agency, our employees will ensure that all offshore personnel, including contractors and other support services-related personnel have complete understanding of the requirement that Operators be proactive in avoiding accidental loss of solid waste items on the OCS.

The major discharges from offshore oil and gas exploration and production activities include produced water, drilling fluids and cuttings, ballast water, and uncontaminated seawater. Minor discharges from the offshore oil and gas industry include drilling-waste chemicals, fracturing and acidifying fluids, and well completion and workover fluids; and from production operations, deck drainage, and miscellaneous well fluids (cement, BOP fluid); and other sanitary and domestic wastes, gas and oil processing wastes, and miscellaneous discharges. Since all discharges will be made in accordance with a general National Pollutant Discharge Elimination System (NPDES) permit issued by U.S. Environmental Protection Agency (USEPA), operational discharges are not expected to cause significant adverse impacts to water quality.

Offshore accidents, such as blowouts and spills could also occur and have the potential to alter offshore water quality. Sediment disturbance is expected to result in minor, localized, temporary increases in water-column turbidity in offshore waters. Given the low frequency of blowouts, minimum impacts on water quality due to re-suspension of sediments are expected.

Oil spills related to the proposed action are assumed to be mostly very small events (and for spills greater than 50 bbl) to occur very infrequently. It is unlikely that an accidental oil spill would occur from the proposed activities. If a spill were to occur, the dissolved components and small oil droplets would temporarily affect the water quality of marine waters. Dispersion by currents and microbial degradation would remove the oil from the water column or dilute the constituents to background levels.

The activities proposed in this plan will be covered by our Regional OSRP.

6. Fisheries

Effects on commercial fisheries from activities associated with this plan could come from emplacement of production platform(s), underwater OCS obstructions, oil spills, subsurface blowouts, pipeline installation and offshore discharges of drilling mud and produced waters (See Section 5, Water Quality above).

An accidental oil spill that may occur as a result of the proposed action has the potential to cause some detrimental effects to fisheries. However, it is unlikely that an accidental surface or subsurface oil spill would occur from the proposed activities. If a spill were to occur in open waters of the OCS proximate to mobile adult finfish or shellfish, the effects would likely be sublethal 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. The effect of oil spills on fisheries is expected to cause less than 1 percent decrease in commercial populations or in commercial fishing. At the expected level of effect, the resultant influence on Central Gulf fisheries is negligible and will be indistinguishable from natural population variations.

The activities proposed in this plan will be covered by our regional OSRP.

Drilling mud discharges contain chemicals toxic to marine fishes; however, this is only at concentrations 4 or 5 orders of magnitude higher than those found more than a few meters from the discharge point. Offshore discharges of drilling muds will dilute to background levels within 1000 meters of the discharge point and have a negligible effect on Central Gulf fisheries.

7. Marine Mammals

Marine mammals may be adversely impacted by several IPFs (including vessel traffic, noise, accidental oil spills, and loss of trash and debris), all of which could occur due to the proposed action in East Cameron Area Block 72. Chronic and sporadic sublethal 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 oil spills, chance collisions with service vessels and ingestion of plastic material. Oil spills of any size are estimated to be periodic events that may contact cetaceans. Disturbance (e.g., noise) may stress animals, weaken their immune systems, and make them more vulnerable to parasites and diseases that normally would not be fatal.

The net result 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 ships 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.

The activities proposed in this plan will be covered by our Regional OSRP.

BOEM issued *NTL No. 2016-G01* pursuant to 30 CFR 250.103, 550.103, 250.282 and 550.282 to explain how Operators must implement monitoring programs to minimize the risk of vessel strikes to protected species and report observations of injured or dead protected species effective January 1, 2012. We will ensure that our contract vessel operators are aware of their requirement to report sightings of any injured or dead protected species immediately to the BOEM Protected Species Biologist by telephone.

With regards to marine trash and debris, effective December 17, 2015, the Bureau of Safety and Environmental Enforcement issued BSEE NTL No. 2015-G03 pursuant to 30 CFR 250.103, and 250.300 to provide guidance and assist the operators in preventing intentional and / or accidental introduction of trash and debris into the marine environment. With this assistance and with laws such as MARPOL-Annex V, the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies including the U.S. Coast Guard and the U.S. Environmental Protection Agency, our employees will ensure that all offshore personnel, including contractors and other support services-related personnel have complete understanding of the requirement that Operators be proactive in avoiding accidental loss of solid waste items on the OCS.

8. Sea Turtles

IPFs that could impact sea turtles include vessel traffic, noise, trash and debris, and accidental oil spills. 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 drill rigs, production facilities, and service vessels. Drilling rigs and project vessels produce noise that could disrupt normal behavior patterns and create some stress potentially making sea turtles more susceptible to disease. Oil spills and oil-spill-response activities are potential threats that could have lethal effects on turtles. Contact with oil, consumption of oil particles, and oil-contaminated prey could seriously affect individual sea turtles. Oil-spill-response planning and the habitat protection requirements of the Oil Pollution Act of 1990 should mitigate these threats.

Most OCS-related impacts on sea turtles are expected to be sublethal. Chronic sublethal effects (e.g., stress) resulting in persistent physiological or behavioral changes and / or avoidance of affected areas could cause declines in survival or productivity, resulting in gradual population declines.

The activities proposed in this plan will be covered by our Regional OSRP.

BOEM issued *NTL No. 2016-G01* pursuant to 30 CFR 250.103, 550.103, 250.282 and 550.282 to explain how Operators must implement monitoring programs to minimize the risk of vessel strikes to protected species and report observations of injured or dead protected species effective January 1, 2012. We will ensure that our contract vessel operators are aware of their requirement to report sightings of any injured or dead protected species immediately to the BOEM Protected Species Biologist by telephone.

With regards to marine trash and debris, effective December 17, 2015, the Bureau of Safety and Environmental Enforcement issued BSEE NTL No. 2015-G03 pursuant to 30 CFR 250.103, and 250.300 to provide guidance and assist the operators in preventing intentional and / or accidental introduction of trash and debris into the marine environment. With this assistance and with laws such as MARPOL-Annex V, the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies including the U.S. Coast Guard and the U.S. Environmental Protection Agency, our employees will ensure that all offshore personnel, including contractors and other support services-related personnel have complete understanding of the requirement that Operators be proactive in avoiding accidental loss of solid waste items on the OCS.

9. Air Quality

The proposed drilling activities are located 15 miles from the nearest Louisiana shoreline.

Although the proposed operations are temporary in nature, there would be a limited degree of air quality degradation in the immediate vicinity. Emissions from drilling activities consist mainly of NO_x and CO. These emissions are temporary in nature. Emissions of pollutants into the atmosphere from the drilling operations proposed are not expected to have significant impacts on onshore air quality because of the prevailing atmospheric conditions, emission heights, emission rates, and the distance of these emissions from the coastline.

The Projected Air Quality Emissions Report indicates that the BOEM exemption level will not be exceeded during the operations proposed in the EP.

10. Shipwreck Sites (Known or Potential)

IPFs that could cause impacts to known or potential shipwreck sites from the proposed activities in East Cameron Area Block 72 include physical disturbances to the seafloor such as rig emplacement. A current review by Gulf Ocean Services of existing historical hazard and archaeological surveys performed on Lease OCS00184 did not highlight any obstructions or shipwrecks near the proposed well site. Analyses of available shipwreck sources indicate that no shipwrecks have been reported within the survey area. No sonar targets, magnetic anomalies, or other features on the geophysical data were recorded which were interpreted as possible shipwrecks within 1,000 feet of the proposed well location.

However, in the event items of significant cultural resource potential are discovered during the proposed operations, ECOP will immediately halt all operations and notify the appropriate department at the BOEM for further evaluation and assistance.

11. Prehistoric Archaeological Sites

IPFs that could cause impacts to known or potential prehistoric archaeological sites from the proposed activities include physical disturbances to the seafloor such as rig emplacement. A current review by Gulf Ocean Services of existing historical hazard and archaeological surveys performed on Lease OCS00184 did not identify any features of cultural significance near the proposed well site. No sonar targets, magnetic anomalies, or other features on the geophysical data were recorded which were interpreted as possible high probability areas for prehistoric habitation within 1,000 feet of the proposed well location.

However, in the event items of significant cultural resource potential are discovered during the proposed operations, ECOP will immediately halt all operations and notify the appropriate department at the BOEM for further evaluation and assistance.

Vicinity of Offshore Location:

1. Essential Fish Habitat

IPFs that could impact essential fish habitats as a result of the proposed operations in East Cameron Area Block 72 include effluents and accidents. The major effluent discharges from offshore oil and gas exploration and production activities include produced water, drilling fluids and cuttings, ballast water, and uncontaminated seawater (see Section 5, Water Quality, above). Minor discharges from the offshore oil and gas industry include drilling-waste chemicals, fracturing and acidifying fluids, and well completion and workover fluids; and from production operations, deck drainage, and miscellaneous well fluids (cement, BOP fluid); and other sanitary and domestic wastes, gas and oil processing wastes, and miscellaneous discharges.

Produced water will not be discharged during this operation.

The activities proposed in this plan will be covered by our regional OSRP.

2. Marine and Pelagic Birds

IPFs that could impact marine and pelagic birds as a result of the proposed operations in East Cameron Area Block 72 include air emissions, accidents and discarded trash and debris. Emissions of pollutant into the atmosphere from the activities associated with the proposed operations in this plan are not projected to have significant impacts on air quality that could harm marine and pelagic birds because of the prevailing atmospheric conditions, emission heights, emission rates and pollutant concentrations.

An accidental oil spill that may occur as a result of the proposed action has the potential to cause some detrimental effects on marine and pelagic birds. Some physical oiling could occur during dives, as well as secondary toxic effects through the uptake of prey. However, it is unlikely that an accidental surface or subsurface oil spill would occur from the proposed activities. The activities proposed in this plan will be covered by our regional OSRP.

With regards to marine trash and debris, coastal and marine birds can commonly become entangled and snared in discarded trash and debris. Effective December 17, 2015, BSEE issued *BSEE NTL No. 2015-G03* pursuant to 30 CFR 250.103, and 250.300 to provide guidance and assist the operators in preventing intentional and / or accidental introduction of trash and debris into the marine environment. With this assistance and with laws such as MARPOL-Annex V, the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies including the U.S. Coast Guard and the U.S. Environmental Protection Agency, our employees will ensure that all offshore personnel, including contractors and other support services-related personnel have complete understanding of the requirement that Operators be proactive in avoiding accidental loss of solid waste items on the OCS.

3. Public Health and Safety Due to Accidents

There are no IPFs (including an accidental H₂S releases) from the proposed activities that could cause impacts to public health and safety.

Further, in accordance with 30 CFR 250.490(c) and NTL's 2009-G27 and 2008-G04 we have submitted sufficient information to justify our request that the area of our proposed activities be classified by BOEM as H₂S absent.

Coastal and Onshore:

1. Beaches

Primary IPFs associated with offshore oil and gas exploration and development, and most widely recognized as major threats to the enjoyment and use of recreational beaches, are oil spills (accidents) and marine trash and debris. The operations proposed in this plan are not projected to have significant impacts on coastal beaches.

An accidental oil spill that may occur as a result of the proposed action has the potential to cause some detrimental effects to beaches, however, it is unlikely that an accidental surface or subsurface oil spill would occur from the proposed development activities in East Cameron Area Block 72. The level of response to a spill will be based on volume, weather, and the characteristics of the product spilled. ECOP's objectives for spill response are to ensure the safety of citizens and response personnel; control the source of the spill, have a coordinated response effort; maximize the protection of environmental sensitive areas; contain, recover and remove as much of the spill product as possible; recover and rehabilitate injured wildlife; minimize economic impacts; and keep the general public informed of the response activities.

The activities proposed in this plan will be covered by our regional OSRP.

With regards to marine trash and debris, December 17, 2015, BSEE issued *BSEE NTL No. 2015-G03* pursuant to 30 CFR 250.103, and 250.300 to provide guidance and assist the operators in preventing intentional and / or accidental introduction of trash and debris into the marine environment. With this assistance and with laws such as MARPOL-Annex V, the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies including the U.S. Coast Guard and the U.S. Environmental Protection Agency, our employees will ensure that all offshore personnel, including contractors and other support services-related personnel have complete understanding of the requirement that Operators be proactive in avoiding accidental loss of solid waste items on the OCS.

2. Wetlands

According to the U.S. Department of the Interior ((Dahl, 1990); Henfer et al., 1994), during the mid-1980's, 4.4 percent of Texas (3,083,860 ha) (Henfer et al., 1994), 28 percent of Louisiana (3,557,520 ha), 14 percent of Mississippi (17,678,730 ha) and 8 percent of Alabama (1,073,655 ha) were considered wetlands. More recent information indicates recent land change as a result of Hurricanes Katrina and Rita. The most notable was the 217-mi² of Louisiana's coastal lands that were transformed to water after Hurricanes Katrina and Rita (Barras, 2006). The primary IPF associated with offshore oil and gas exploration and development, and most widely recognized as major threats to the wetlands are oil spills (accidents). The operations proposed in this plan are not projected to have significant impacts on wetlands.

The activities proposed in this plan will be covered by our regional OSRP.

3. Shore Birds and Coastal Nesting Birds

The primary IPF associated with offshore oil and gas exploration and development, and most widely recognized as a major threat to the shore birds and coastal nesting birds is oil spills (accidents). The operations proposed in this plan are not projected to have significant impacts on shore birds and coastal nesting birds.

An accidental oil spill that may occur as a result of the proposed action has the potential to cause some detrimental effects to shore birds and coastal nesting birds, however, it is unlikely that an accidental surface or subsurface oil spill would occur from the proposed activities in East Cameron Area Block 72. The level of response to a spill will be based on volume, weather, and the characteristics of the product spilled. ECOP's objectives for spill response are to ensure the safety of citizens and response personnel; control the source of the spill, have a coordinated response effort; maximize the protection of environmental sensitive areas; contain, recover and remove as much of the spill product as possible; recover and rehabilitate injured wildlife; minimize economic impacts; and keep the general public informed of the response activities.

The activities proposed in this plan will be covered by our regional OSRP.

4. Coastal Wildlife Refuges

The primary IPF associated with offshore oil and gas exploration and development, and most widely recognized as a major threat to the coastal wildlife refuges is oil spills (accidents). The operations proposed in East Cameron Area Block 72 are not projected to have significant impacts on coastal wildlife refuges.

The activities proposed in this plan will be covered by our regional OSRP.

5. Wilderness Areas

The primary IPF associated with offshore oil and gas exploration and development, and most widely recognized as a major threat to wilderness areas is oil spills (accidents). The operations proposed in this plan are not projected to have significant impacts on wilderness areas.

The activities proposed in this plan will be covered by our regional OSRP.

Other Environmental Resources Identified: None

(d) Environmental Hazards

The site-specific environmental conditions have been taken into account for the proposed activities under this plan. Being located in the Gulf of Mexico, all oil and gas exploratory and development operations may at some time experience hurricane force winds, tropical storm activity and unusual surge and sea currents.

In accordance with requirements set forth in Title 33 CFR 146.140, an Emergency Evacuation Plan (EEP) is prepared and submitted to the appropriate USCG Marine Safety Office or Unit for review and ultimate approval. This plan provides descriptions to help define the type of storm based on the winds associated with it (i.e., major gulf storm, squall, tropical depression, tropical storm, gale warning, storm warning, hurricane, etc). Major hurricanes (storm having wind speeds in excess of 74 mph) in the Gulf normally form in the southern Gulf or Caribbean Sea. Tropical disturbances (storms having wind speeds greater than 40 mph but less than 74 mph) that originate near the facility do not provide much warning, but usually pass the rig or facility prior to attaining hurricane status.

Each tropical disturbance will be evaluated on its own merit and the operations modified accordingly. No impacts are expected on the proposed activities from site-specific environmental conditions.

(e) Alternatives

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

(f) Mitigation Measures

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

(g) Consultation

There were no outside agencies or persons consulted regarding the potential environmental impacts associated with the activities proposed under this EP.

(h) Preparer(s)

Kathy Camp
K. Camp & Associates
Phone: 713.201.9627
Email: Kathy.camp@kcampassociates.com

(i) References

Federal Register, Vol. 84, No. 94, May 15, 2019, *Final Rule for Oil and Gas and Sulfur Operations in the Outer Continental Shelf – Blowout Preventer Systems and Well Control Revisions*

Federal Register, Vol. 77, No. 163, August 22, 2012, *Final Rule for Increased Safety Measures for Energy Development on the Outer Continental Shelf*

BSEE NTL No. 2015-G03 effective December 17, 2015 for Marine Trash and Debris Awareness and Elimination

BOEM NTL No. 2016-G01 effective January 1, 2012 for Vessel Strike Avoidance and Injured / Dead Protected Species Reporting

BOEM NTL No. 2016-G02 (Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program)

BOEM NTL 2015-N01 effective January 14, 2015 for Information Requirements for Exploration Plans, Development and Production Plans, and Development Operations Coordination Documents on the OCS for Worst Case Discharge and Blowout Scenarios

NTL 2009-G40 effective January 27, 2010 for Deepwater Benthic Communities

NTL 2009-G39 effective January 27, 2010 for Biologically Sensitive Underwater Features and Areas

NTL 2009-G27 effective September 9, 2009 for Submitting Exploration Plans and Development Operations Coordination Documents

NTL 2008-G04 effective May 1, 2008 for Information Requirements for Exploration Plans and Development Operations Coordination Documents

Federal Register, Tuesday, August 30, 2005, 30 CFR Parts 250 and 282, Oil and Gas Sulphur Operations in the Outer Continental Shelf – Plans and Information; Final Rule effective September 29, 2005

Final NOS, Central Planning Area Lease Sale 231 Information

Marine Mammal Protection Act of 1972 (MMPA)

Endangered Species Act of 1973 (ESA)

Gulf of Mexico's Fisheries NOAA Website: <https://www.fisheries.noaa.gov/topic/endangered-species-conservation>

NOAA Fisheries – Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico Website - <https://www.fisheries.noaa.gov/resource/document/biological-opinion-federally-regulated-oil-and-gas-program-activities-gulf-mexico>

SECTION 20 - ADMINISTRATIVE INFORMATION

(a) Exempted Information Description (Public Information Copies Only)

In accordance with 43 CFR Part 2, the following information is exempt from disclosure and has been omitted from the Public Information copy of this plan:

- The geologic objectives, BHL, TVD, and MD information on form BOEM-137 (OCS Plan Information Form) in Attachment A
- All items under Geological and Geophysical Information, except for the non-proprietary version of shallow hazards assessment
- Correlative well information used to justify H₂S classification request under Hydrogen Sulfide Information
- Worst Case Discharge Calculations
- Mineral Resource Conservation

(b) Bibliography

Gulf Ocean Services Shallow Hazard Analysis and Archaeological Assessment of OCS00184 Block 72, East Cameron Area

Antoine and Associates Archaeological Reevaluation and Site-Specific Analysis on Block 72, Lease OCS00184 for Conoco, Inc.

OCS PLAN INFORMATION FORM

General Information											
Type of OCS Plan:		Exploration Plan (EP) X		Development Operations Coordination Document (DOCD)							
Company Name: EC Offshore Properties, Inc.				BOEM Operator Number: 03147							
Address: 600 Travis Street, Suite 600 Houston, Texas 77002				Contact Person: Kathy Camp							
				Phone Number: 713.201.9627							
				E-Mail Address: kathy.camp@kcampassociates.com							
If a service fee is required under 30 CFR 550.125(a), provide the				Amount paid		3673.00		Receipt No.		ID 2600SAIG ID 75974525959	
Project and Worst-Case Discharge (WCD) Information											
Lease(s): OCS00184			Area: EC		Block(s): 072		Project Name (If Applicable):				
Objective(s)	Oil	X	Gas	X	Sulphur	Salt	Onshore Support Base(s): CAMERON, LA				
Platform/Well Name: 006			Total Volume of WCD: 61,500 BCPD				API Gravity: 50.0				
Distance to Closest Land (Miles): 15			Volume from uncontrolled blowout: 2,082,000 BCPD								
Have you previously provided information to verify the calculations and assumptions for your WCD?								Yes	X	No	
If so, provide the Control Number of the EP or DOCD with which this information was provided											
Do you propose to use new or unusual technology to conduct your activities?								Yes	X	No	
Do you propose to use a vessel with anchors to install or modify a structure?								Yes	X	No	
Do you propose any facility that will serve as a host facility for deepwater subsea development?								Yes	X	No	
Description of Proposed Activities and Tentative Schedule (Mark all that apply)											
Proposed Activity				Start Date		End Date		No. of Days			
Exploration drilling				06/15/2020		07/20/2020		35			
Well Protector Caisson Install				07/06/2020		07/12/2020		6			
Initial Completion				07/13/2020		08/02/2020		20			
Description of Drilling Rig						Description of Structure					
X	Jackup		Drillship			X	Caisson		Tension leg platform		
	Gorilla Jackup		Platform rig				Fixed platform		Compliant tower		
	Semisubmersible		Submersible				Spar		Guyed tower		
	DP Semisubmersible		Other (Attach Description)				Floating production system		Other (Attach Description)		
Drilling Rig Name (If Known): TBD											
Description of Lease Term Pipelines											
From (Facility/Area/Block)			To (Facility/Area/Block)			Diameter (Inches)			Length (Feet)		
NA											

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

Proposed Well/Structure Location										
Well or Structure Name/Number (If renaming well or structure, reference previous name): Caisson 006					Previously reviewed under an approved EP or DOCD?			Yes	X	No
Is this an existing well or structure?		Yes	No	If this is an existing well or structure, list the Complex ID or API No.						
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?							Yes	No	X	
WCD info	For wells, volume of uncontrolled blowout (Bbls/day):			For structures, volume of all storage and pipelines (Bbls): 0			API Gravity of fluid			
	Surface Location			Bottom-Hole Location (For Wells)			Completion (For multiple completions, enter separate lines)			
Lease No.	OCS00184						OCS OCS			
Area Name	EAST CAMERON									
Block No.	072									
Blockline Departures (in feet)	N/S Departure: 449.66 FNL						N/S Departure: F__L			
	E/W Departure: 6910.34 FEL						N/S Departure: F__L E/W Departure: F__L E/W Departure: F__L			
Lambert X-Y coordinates	X: 1,576,396						X: X: X:			
	Y: 256,244						Y: Y: Y:			
Latitude/ Longitude	Latitude 29° 21' 52.392"						Latitude Latitude Latitude			
	Longitude 92° 39' 42.272"						Longitude Longitude Longitude			
Water Depth (Feet): 52				MD (Feet): 12,300		TVD (Feet): 10,843		MD (Feet):		TVD (Feet):
Anchor Radius (if applicable) in feet: NA								MD (Feet):		TVD (Feet):
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)										
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor					
			X =	Y =						
			X =	Y =						
			X =	Y =						
			X =	Y =						
			X =	Y =						
			X =	Y =						

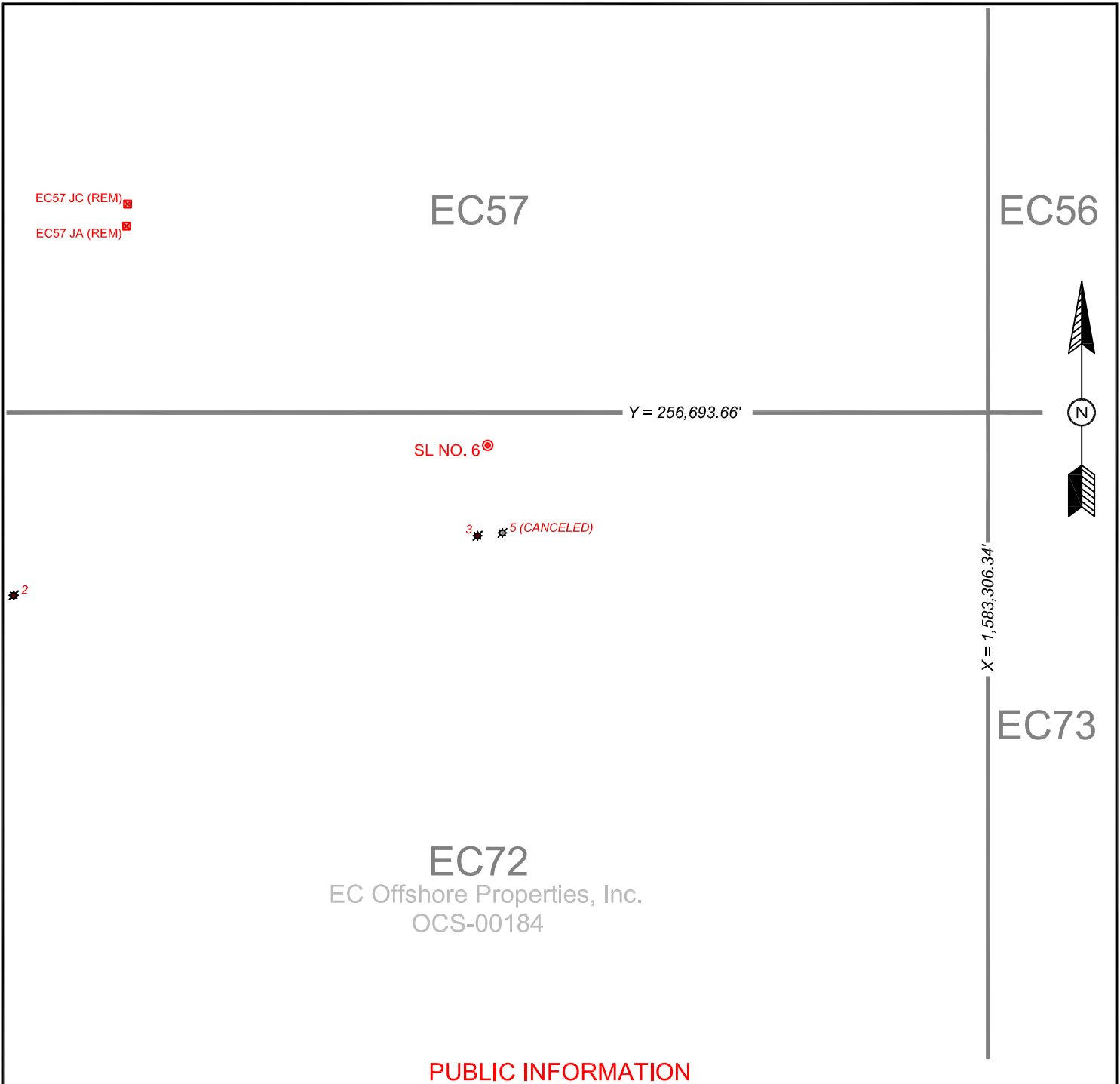
OCS PLAN INFORMATION FORM (CONTINUED)
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location										
Well or Structure Name/Number (If renaming well or structure, reference previous name): 006				Previously reviewed under an approved EP or DOCD?			Yes	X	No	
Is this an existing well or structure?		Yes	X	No	If this is an existing well or structure, list the Complex ID or API No.					
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?						Yes		No	X	
WCD info	For wells, volume of uncontrolled blowout (Bbls/day): 61,500 BCPD			For structures, volume of all storage and pipelines (Bbls): 0			API Gravity of fluid		50.0	
	Surface Location			Bottom-Hole Location (For Wells)			Completion (For multiple completions, enter separate lines)			
Lease No.	OCS00184						OCS OCS			
Area Name	EAST CAMERON									
Block No.	072									
Blockline Departures (in feet)	N/S Departure: 449.66 FNL						N/S Departure: F__L			
	E/W Departure: 6910.34 FEL						N/S Departure: F__L E/W Departure: F__L E/W Departure: F__L			
Lambert X-Y coordinates	X: 1,576,396						X: X: X:			
	Y: 256,244						Y: Y: Y:			
Latitude/ Longitude	Latitude 29° 21' 52.392"						Latitude Latitude Latitude			
	Longitude 92° 39' 42.272"						Longitude Longitude Longitude			
Water Depth (Feet): 52				MD (Feet):		TVD (Feet): 10,843		MD (Feet):		MD (Feet):
Anchor Radius (if applicable) in feet: NA								MD (Feet):		MD (Feet):
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)										
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor					
			X =	Y =						
			X =	Y =						
			X =	Y =						
			X =	Y =						
			X =	Y =						

OCS PLAN INFORMATION FORM (CONTINUED)

Provide the following information for the well with the highest Worst-Case Discharge volume:

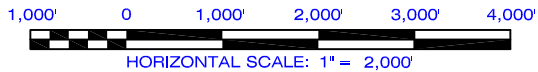
PROPRIETARY DATA ONLY



PUBLIC INFORMATION

OCS-00184 PROPOSED LOCATION

WELL	BLOCK	BLOCK CALLS	X (NAD 27)	Y (NAD 27)	LAT (NAD 27)	LONG (NAD 27)	WD	MD	TVD
SL NO. 6	72	449.66' FNL 6,910.34' FEL	1,576,396.00'	256,244.00'	29° 21' 52.392" N	92° 39' 47.272" W	-52'	-	-



NOTES:

- Coordinates are referenced to the Louisiana Coordinate System 1927, South Zone. Units are in U.S. Survey Feet.
- Features of record which may exist outside the survey area are not represented on this map.
- Lease information shown on this map was obtained from the BSEE.

Legend:

- BLOCK LINE.
- PLUGGED & ABANDONED WELL LOCATION.
- CANCELED WELL LOCATION.
- PROPOSED SURFACE LOCATION.
- REMOVED STRUCTURE

EC OFFSHORE PROPERTIES, INC.

EP

OCS-00184 WELL NO. 6
EAST CAMERON AREA
BLOCK 72

PREPARED FOR: EC OFFSHORE PROPERTIES, INC	FILENAME: 20-0227_EC72_Well_Plat
	DRAFTED BY: M.G.K.
GULF OCEAN SERVICES OFFSHORE GEOPHYSICAL SURVEYS	DATE: FEBRUARY 28, 2020
	REV NO.: 0
	SHEET: 2 OF 4

PUBLIC INFORMATION

EC57

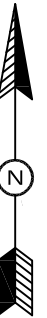
EC56

EC73

EC72

EC Offshore Properties, Inc.
OCS-00184

SL NO. 6



1,000' 0 1,000' 2,000' 3,000' 4,000'



HORIZONTAL SCALE: 1" = 2,000'

NOTES:

1. Coordinates are referenced to the Louisiana Coordinate System 1927, South Zone. Units are in U.S. Survey Feet.
2. Features of record which may exist outside the survey area are not represented on this map.
3. Lease information shown on this map was obtained from the BSEE.

Legend:

- BLOCK LINE.
- WATER DEPTH CONTOUR 10' INTERVAL.
- PROPOSED SURFACE LOCATION.

EC OFFSHORE PROPERTIES, INC.

EP

OCS-00184 WELL NO. 6
EAST CAMERON AREA
BLOCK 72

PREPARED FOR: EC OFFSHORE PROPERTIES, INC

FILENAME: 20-0227_EC72_Well_Plat

DRAFTED BY: M.G.K.

DATE: FEBRUARY 28, 2020

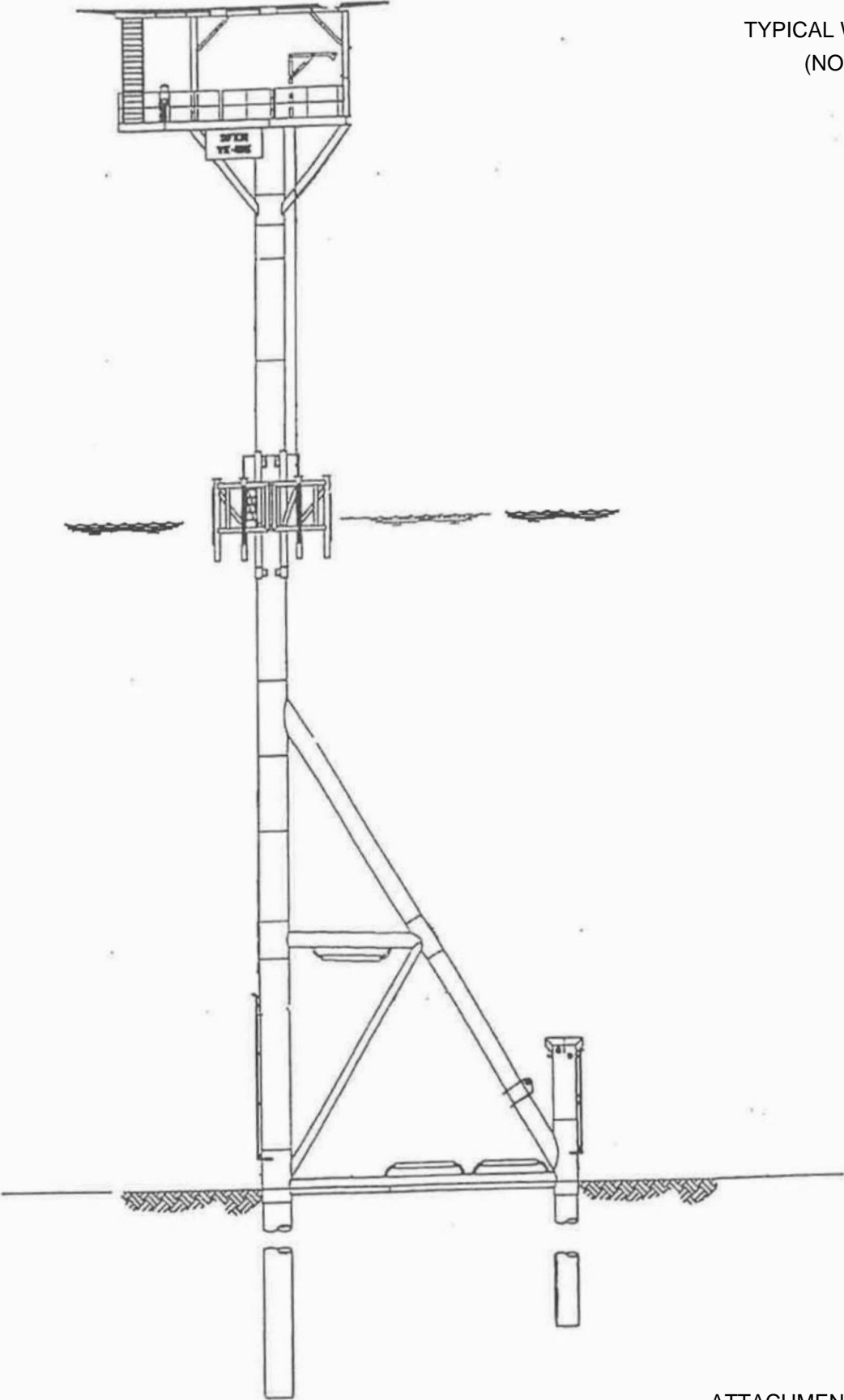
REV NO.: 0

SHEET: 4 OF 4



PUBLIC INFORMATION

TYPICAL WELL PROTECTOR
(NO SCALE)



From: notification@pay.gov
To: [Kathy Camp](#)
Subject: Pay.gov Payment Confirmation: BOEM Exploration Plan - BF
Date: Thursday, March 12, 2020 5:28:53 PM



An official email of the United States government

Pay.gov logo

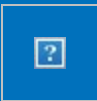


Your payment has been submitted to Pay.gov and the details are below. If you have any questions regarding this payment, please contact Brenda Dickerson at (703) 787-1617 or BseeAccountsReceivable@bsee.gov.

Application Name: BOEM Exploration Plan - BF
Pay.gov Tracking ID: 26O0SAIG
Agency Tracking ID: 75974525959
Transaction Type: Sale
Transaction Date: 03/12/2020 06:28:47 PM EDT
Account Holder Name: EC OFFSHORE PROP, INC
Transaction Amount: \$3,673.00
Card Type: Visa
Card Number: *****0689

Region: Gulf of Mexico
Contact: KATHY CAMP 7132019627
Company Name/No: EC OFFSHORE PROPERTIES, INC, 03147
Lease Number(s): 00184, , , ,
Area-Block: East Cameron EC, 072: , : , : , : ,
Surface Locations: 1

THIS IS AN AUTOMATED MESSAGE. PLEASE DO NOT REPLY.



Pay.gov is a program of the U.S. Department of the Treasury, Bureau of the Fiscal Service

PUBLIC INFORMATION



February 28, 2020

Bureau of Ocean Energy Management
Gulf of Mexico OCS Region (MS 5230)
1201 Elmwood Park Blvd.
New Orleans, LA 70123-2394

**RE: EC Offshore Properties, Inc.
Block 72, East Cameron Area
Proposed OCS-00184 Well #6
Shallow Hazard Analysis
Archaeological Assessment
Area of Potential Effect (APE)**

EC Offshore Properties, Inc. proposes to drill the OCS-00184 Well #6 from the following surface location (SL) in Block 72:

- 449.66' FNL and 6,910.34' FEL of Block 72, East Cameron Area
- X = 1,576,396.00' and Y = 256,244.00' (NAD 27)
- Latitude: 29° 21' 52.392" N and Longitude: 92° 39' 47.272" W (NAD 27)

Gulf Ocean Services covered the proposed drilling location in an Archaeological and Hazard geophysical survey of Blocks 71 and 72, East Cameron Area, on January 11th - 14th of 2004. The survey report is on file under BOEM Survey Number 21670, received date of May 4th, 2004. GPS positioning of the M/V David McCall II provided horizontal control along 150-meter survey line intervals for side scan sonar and echosounder data acquisition, and 300-meter line intervals for magnetometer, subbottom profiler, and sparker seismic data acquisition across both lease blocks. East Cameron Partners, LP (now EC Offshore Properties, Inc.) contracted this 2004 survey to meet all requirements for archaeological and shallow hazard surveys stipulated by the MMS in NTL 98-20 and NTL 2002-G01, which were in effect at that time for lease OCS-00184. This 2004 survey overlapped a December of 1980 survey covering all of OCS-00184 in EC71 and EC72 OCS-G13576 at 300-meter line intervals conducted by Summit Geophysical International, Inc. under contact to Conoco, Inc., the former operator of lease OCS-00184.

Lease OCS-00184 in EC71 has been in effect since 1948, and Well #1 was completed in 1965 with subsequent installation of a 3-inch gas pipeline running due west to the EC 71 'A'/'C' Platform complex. The 1980 archaeological and shallow hazard survey for Conoco, Inc. was used to permit OCS-00184 Wells #2 and #3. Well #3 is plugged and abandoned 1,260 feet south of the proposed Well #6 and provides important correlative well data.

After the overlapping 2004 archaeological and hazard survey by Gulf Ocean Services under contract to new lease operator, East Cameron Partners, LP, permitted OCS-00184 Well #4 in September 2004, and by December of 2004 a 4-inch bulk gas pipeline (Segment 14770) was installed from the completed EC72 Well #4 to carry product SW to the EC 71 'C' Platform. EC 72 Well #5 in OCS-00184 was permitted 345 feet due east of Well #3; however, that well was never drilled according to BOEM/BSEE files. These cumulative data sets have been reviewed to assess the proposed OCS-00184 Well #6 to be drilled by EC Offshore Properties, Inc.



The aforementioned existing 2004 survey meets the present standard for GPS survey controls and 300-meter survey line spacing required for EC72 following the guidelines in **Shallow Hazards Program NTL No. 2008-G07** (extension under **NTL No. 2014-G05**), Archaeological Resource Surveys **NTL No. 2005-G07**, and **NTL No. 2011-JOINT-G01**, listing EC72 as requiring 300-meter survey line spacing. The 2004 survey by Gulf Ocean Services (under different ownership than the present Gulf Ocean Services & Telesis Geophysical Services, Inc.) met the survey standards required at the time by MMS for this lease OCS-00184. The geophysical data were not stored digitally, and the remaining hard copy records are faded; however, the maps and interpretation were very reliable.

To ensure adequate survey data for BOEM analysts to review in the process of National Environmental Policy Act (NEPA) compliance, the acquired data set provides complete coverage of the defined **Area of Potential Effect (APE)** as required by BOEM & BSEE under **NTL No. 2008-G07, Section VI** and **NTL No. 2005-G07**, Avoidance of Archaeological Resources.

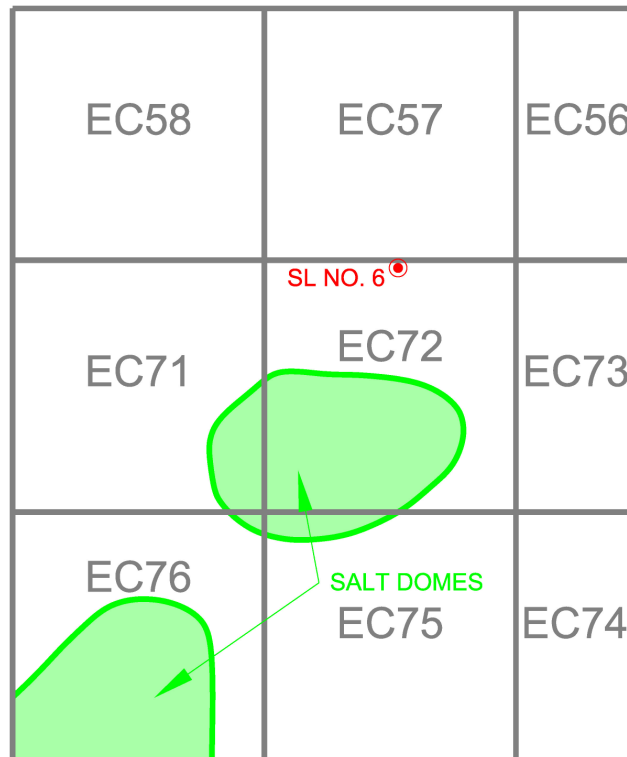
The basic **APE** on the seafloor at the proposed drill site will include a jack-up rig with 3 independent legs and cantilever design or a mat-supported jack-up rig. The specific seafloor impact will depend on the specific rig, but the bottom disturbance will not exceed the typical foot-print of three (3) spud cans approximately 45 feet in diameter with longitudinal leg centers spaced 125 feet apart and the transverse legs centered 140 feet apart. Spud can or mat-support penetration will be evaluated based on previous soil borings in EC72 and drilling reports from nearby well sites.

As required for this shallow hazards assessment at the newly proposed surface location under **NTL No. 2008-G04 Information Requirements for Exploration Plans and Developmental Operations Coordination Documents** (extended by **NTL No. 2014-G05**), **Geological and Geophysical Information (30 CFR 250.214 and 250.244)**, paragraphs (f) and (g) the best available copies of the high-resolution subbottom profiler and medium penetration seismic data nearest the proposed location are enclosed.

- **Water depth** at the proposed well site is -52 feet along a flat seafloor sloping gently to the SSW at slightly less than 2 feet/mile (0.02° slope or 0.04% grade).
- **Seafloor soils** are soft clay at the drill site with soil vane shear strengths of 100lbs/ft² at the mudline. Vane shear strength increases to 1,000lbs/ft² at 10 feet below the mudline based on the soil boring data at Well #2. The water content is reportedly 80% in the upper 10 feet of Holocene muds, and the underlying Pleistocene clay is approximately 15 feet thick from 10 feet BML to 25 feet BML with water content dropping to less than 40% which characterizes the top of the Beaumont Clay formation (equivalent Prairie Formation in LA).
- **Identified man-made features** closest to the **APE** include:
 - OCS-00184 Well #3 well site P&A at a distance 1,260 feet south of proposed drill site
 - OCS-00184 Permitted Well #5 but not drilled 1,225 feet south of proposed drill site
 - Kinetica 12-inch gas pipeline (S-1223 Active) 6,570' SE of proposed drill site



- **Magnetic anomaly #46** is the closest anomaly to the planned drill site. The anomaly is 1,955 feet due east of the planned drilling location. The anomaly is not a hazard to rig moves or drilling at the proposed **APE**.
- **Side scan sonar** data surrounding the proposed well site indicate a smooth bottom with no outcrops, slumps, or seafloor irregularities. The closest side scan sonar contacts of man-made debris fall in EC 71 where Sonar Contacts #1 and #2 are approximately 13,625 feet (2.6 miles) SW of the proposed #6 well site in EC72. The sonar and magnetometer data did not highlight any obstructions or shipwrecks near the proposed well site. The **APE** is clear of historical cultural resources.
- **Subbottom profiler** from Line 47, headed due south through the proposed Well #6, highlights the flat seafloor and continuous reflectors within the upper 10 feet of Holocene Age deposits overlying the Pleistocene Beaumont Clay unconformity. The Pleistocene top soils should be overconsolidated from past subaerial weathering and desiccation during the Late Wisconsin low sea level stage. There are no channel remnants cutting through the upper Pleistocene unconformity. Deeper fluvial bedding indicated on the sparker data represents a an infilled river system over 9,000 feet wide beneath the proposed Well #6. The infilled system that was cut probably 70,000 years ago. The beds were not high amplitude reflectors or suggestive of over-pressured intervals.
- There is a salt dome underlying the southern portion of EC 72, but the diapiric uplift has not deformed or faulted the near-seafloor bedding planes. The migrated 3-D data will be utilized to highlight deeper fault planes and bright spots that may exist deeper than the sparker penetration. Interpreted sparker data did not show amplitude anomalies at this proposed well site. The closest amplitude anomaly was 3,225 feet SW of the drill site.





Normal drilling precautions including a proper mud program will be employed during the planning of the proposed wellbore and subsequent drilling activities. Logs and data from the OCS-0183 Well #3, which is only 1,260 feet south of this drill site, will provide critical information for rig placement and subbottom borehole intervals.

Neither shipwrecks nor prehistoric archaeological sites are present within the Area of Potential Effect (**APE**) for this proposed drilling project.

EC Offshore Properties, Inc. has identified the primary hazards to rig movements and drilling. No seafloor obstructions or shipwrecks will be disturbed within the **APE** for the proposed drilling. The closest existing pipeline is the Kinetica (formerly TGP) 12-inch gas pipeline (S-1223 Active) approximately 6,570' SE of proposed drill site. This pipeline and the P&A well sites can be marked with real-time DGPS graphics on the rig to comply with **NTL No. 2008-G05 Section VI Mitigation of Potential Shallow Hazards parts 'B' & 'C'**. A map at a scale of 1:12,000 (1' = 1,000') will be provided to key personnel on the drilling rig. The field map will depict the aforementioned infrastructure in the general vicinity of the APE for the drilling rig.

S. Dean EIDarragi
Marine Geophysicist

Robert J. Floyd Ph.D.
Marine Archaeologist

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

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

Projected generated waste based on single well		Projected ocean discharges		Projected Downhole Disposal
Type of Waste	Composition	Discharge rate	Discharge Method	Answer yes or no
Will drilling occur? If yes, you should list muds and cuttings				
Water-based drilling fluid	Water Base Drilling Mud	200 bbls/hr/well	Overboard	No
Cuttings wetted with water-based fluid	Sand/Shale Cuttings	100 bbls/day/well	Overboard	No
Synthetic-based drilling fluid	N/A	N/A	NA	N/A
Cuttings wetted with synthetic-based fluid	N/A	N/A	N/A	N/A
Will humans be there? If yes, expect conventional waste				
Domestic waste	Trash/Debris	20 ft ³ /day/well	Transport To Dock	No
Sanitary waste	Sanitary Waste	5 bbls/day/well	Treated - Overboard	No
Is there a deck? If yes, there will be Deck Drainage				
Deck Drainage	Rainfall	1 bbl/day/well	Treated - Overboard	No
Will you conduct well treatment, completion, or workover?				
Well treatment fluids	N/A	N/A	N/A	N/A
Well completion fluids	CaCl ₂ / CaBr ₂ Brine	N/A	Transport to Disposal Facility	No
Workover fluids	N/A	N/A	N/A	N/A
Miscellaneous discharges. If yes, only fill in those associated with your activity.				
Desalinization unit discharge	N/A	N/A	N/A	N/A
Blowout prevent fluid	N/A	N/A	N/A	N/A
Ballast water	N/A	N/A	N/A	N/A
Blige water	N/A	N/A	N/A	N/A
Excess cement at seafloor	N/A	N/A	N/A	N/A
Fire water	N/A	N/A	N/A	N/A
Cooling water	N/A	N/A	N/A	N/A
Will you produce hydrocarbons? If yes fill in for produced water.				
Produced water	N/A	N/A	N/A	N/A
Will you be covered by an individual or general NPDES permit?				
				General

NOTE: If you will not have a type of waste, enter NA in the row.

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

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

Projected generated waste		Solid and Liquid Wastes transportation		Waste Disposal	
Type of Waste	Composition	Transport Method	Name/Location of Facility	Amount	Disposal Method
Will drilling occur ? If yes, fill in the muds and cuttings.					
Oil-based drilling fluid or mud	Oil Based Mud	NA	NA	NA	NA
Synthetic-based drilling fluid or mud	N/A	N/A	N/A	N/A	N/A
Cuttings wetted with Water-based fluid	Water Based Cuttings	N/A	N/A	3500	Overboard Discharge
Cuttings wetted with Synthetic-based fluid	N/A	N/A	N/A	N/A	N/A
Cuttings wetted with oil-based fluids	NA	NA	NA	NA	NA
Will you produce hydrocarbons? If yes fill in for produced sand.					
Produced sand	N/A	N/A	N/A	N/A	N/A
Will you have additional wastes that are not permitted for discharge? If yes, fill in the appropriate rows.					
Trash and debris	Trash & Debris	Storage Bins on Crewboat	Cameron, La.	1000 ft ³ /well	Landfill
Used oil	Motor Oil	Drums on Crewboat	Newpark - ICY	100 bbls/well	Recycled
Wash water	N/A	N/A	N/A	N/A	N/A
Chemical product wastes	Chemical Product Waste	Drums on Crewboat	Newpark - ICY	50 lbs/well	Treatment / Recycled

NOTE: If you will not have a type of waste, enter NA in the row.

Southeast Region

Threatened and Endangered Species and Critical Habitats Under NOAA Fisheries Jurisdiction - Last updated by [Southeast Regional Office](#) on March 16, 2020

Southeast

Species	Listing Status	Recovery Plan	Critical Habitat
Green sea turtle	Threatened - North and South Atlantic Distinct Population Segment (81 FR 20057; April 6, 2016)	October 1991	63 FR 46693; September 2, 1998
Kemp's ridley sea turtle	Endangered (35 FR 18319; December 2, 1970)	September 2011	None
Leatherback sea turtle	Endangered (35 FR 8491; June 2, 1970)	April 1992	44 FR 17710; March 23, 1979
Loggerhead sea turtle	Threatened - Northwest Atlantic Ocean Distinct Population Segment (76 FR 58868; September 22, 2011)	December 2008	79 FR 39856; July 10, 2014
Hawksbill sea turtle	Endangered (35 FR 8491; June 2, 1970)	December 1993	63 FR 46693; September 2, 1998
Smalltooth sawfish	U.S. Distinct Population Segment Endangered (68 FR 15674; April 1, 2003)	January 2009	72 FR 45353; October 2, 2009
Shortnose sturgeon	Endangered (32 FR 4001; March 11, 1967)	December 1998	None
Atlantic sturgeon	Endangered - South Atlantic and Carolina Distinct Population Segment (77 FR 5914; February 6, 2012)	2018 Recovery Outline	82 FR 39160; August 10, 2017
Gulf sturgeon	Threatened (56 FR 49653; September 30, 1991)	September 1995	68 FR 13370; March 19, 2003
Nassau grouper	Threatened (81 FR 42268; June 29, 2016)	2018 Recovery Outline	None
Oceanic whitetip shark	Threatened (83 FR 4153; January 30, 2018)	2018 Recovery Outline	None
Giant manta ray	Threatened (83 FR 2916; January 22, 2018)	2019 Recovery Outline	None
Scalloped hammerhead shark	Central and Southwest Atlantic Distinct Population Segment - Threatened (79 FR 38213; July 3, 2014)	None	None
Elkhorn coral	Threatened (71 FR 26852; May 9, 2006)	March 2015	73 FR 72210; November 26, 2008

Species	Listing Status	Recovery Plan	Critical Habitat
Staghorn coral	Threatened (71 FR 26852; May 9, 2006)	March 2015	73 FR 72210; November 26, 2008
Boulder star coral	Threatened (79 FR 53851; September 10, 2014)	None	None
Mountainous star coral	Threatened (79 FR 53851; September 10, 2014)	None	None
Lobed star coral	Threatened (79 FR 53851; September 10, 2014)	None	None
Rough cactus coral	Threatened (79 FR 53851; September 10, 2014)	None	None
Pillar coral	Threatened (79 FR 53851; September 10, 2014)	None	None
Johnson's seagrass	Threatened (58 FR 483226)	September 2002	65 FR 17786; May 5, 2000
Fin whale	Endangered (35 FR 18319/ December 2, 1970)	August 2010	None
Sperm whale	Endangered (35 FR 18319; December 2, 1970)	December 2010	None
Sei whale	Endangered (35 FR 12222/ December 2, 1970)	December 2011	None
Blue whale	Endangered (35 FR 18319/ December 2, 1970)	July 1998	None
North Atlantic right whale	Endangered (35 FR 18319; December 2, 1970)	June 2005	81 FR 4837; January 27, 2016
Gulf of Mexico Bryde's whale	Endangered (81 FR 88639; December 8, 2016)	None	None

EXPLORATION PLAN (EP)
AIR QUALITY SCREENING CHECKLIST

COMPANY	EC OFFSHORE PROPERTIES, INC.
AREA	EAST CAMERON
BLOCK	72
LEASE	OCS00184
PLATFORM	
WELL	6
COMPANY CONTACT	KATHY CAMP
TELEPHONE NO.	713.201.9627
REMARKS	DRILL / COMPLETE 1 WELL / INSTALL TEMP WELL PROTECTOR

PUBLIC INFORMATION

ATTACHMENT N

EMISSIONS FACTORS

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

Equipment/Emission Factors	units	PM	SOx	NOx	VOC	CO	REF.	DATE
NG Turbines	gms/hp-hr		0.00247	1.3	0.01	0.83	AP42 3.2-1& 3.1-1	10/96
NG 2-cycle lean	gms/hp-hr		0.00185	10.9	0.43	1.5	AP42 3.2-1	10/96
NG 4-cycle lean	gms/hp-hr		0.00185	11.8	0.72	1.6	AP42 3.2-1	10/96
NG 4-cycle rich	gms/hp-hr		0.00185	10	0.14	8.6	AP42 3.2-1	10/96
Diesel Recip. < 600 hp.	gms/hp-hr	1	0.1835	14	1.12	3.03	AP42 3.3-1	10/96
Diesel Recip. > 600 hp.	gms/hp-hr	0.32	0.1835	11	0.33	2.4	AP42 3.4-1	10/96
Diesel Boiler	lbs/bbl	0.084	0.3025	0.84	0.008	0.21	AP42 1.3-12,14	9/98
NG Heaters/Boilers/Burners	lbs/mmscf	7.6	0.593	100	5.5	84	P42 1.4-1, 14-2, & 14	7/98
NG Flares	lbs/mmscf		0.593	71.4	60.3	388.5	AP42 11.5-1	9/91
Liquid Flaring	lbs/bbl	0.42	6.83	2	0.01	0.21	AP42 1.3-1 & 1.3-3	9/98
Tank Vapors	lbs/bbl				0.03		E&P Forum	1/93
Fugitives	lbs/hr/comp.				0.0005		API Study	12/93
Glycol Dehydrator Vent	lbs/mmscf				6.6		La. DEQ	1991
Gas Venting	lbs/scf				0.0034			

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

EMISSIONS CALCULATIONS 1ST YEAR

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL	CONTACT	PHONE	REMARKS	ESTIMATED TONS											
									PM	SOx	NOx	VOC	CO	PM	SOx	NOx	VOC	CO		
EO OFFSHORE PROPE	EAST CAMERON	72	DCS00184	0	6	KATHY CAMP	713.201.9827													
OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT. FUEL	RUN TIME	MAXIMUM POUNDS PER HOUR														
	Diesel Engines	HP	GAL/HR	GAL/D		PM	SOx	NOx	VOC	CO	PM	SOx	NOx	VOC	CO					
	Nat. Gas Engines	MMBTU/HR	SCF/HR	SCF/D	HR/D	D/YR														
DRILLING	PRIME MOVER>600hp diesel	16975	819.8925	19677.42	24	61	11.96	6.86	411.29	12.34	89.74	8.76	5.02	301.06	9.03	65.69				
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	BURNER diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	AUXILIARY EQUIP<600hp diesel	550	26.565	637.56	24	61	1.21	0.22	16.96	1.36	3.67	0.89	0.16	12.41	0.99	2.69				
	VESSELS>600hp diesel(crew)	2100	101.43	2434.32	10	24	1.48	0.85	50.88	1.53	11.10	0.18	0.10	6.11	0.18	1.33				
	VESSELS>600hp diesel(supply)	2500	120.75	2898.00	10	24	1.76	1.01	60.57	1.82	13.22	0.21	0.12	7.27	0.22	1.59				
	VESSELS>600hp diesel(tugs)	15000	724.5	17388.00	24	2	10.57	6.06	363.44	10.90	79.30	0.25	0.15	8.72	0.26	1.90				
FACILITY	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				
INSTALLATION	MATERIAL TUG diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
MISC.	TANK-	BPD	SCF/HR	COUNT																
		0			0	0				0.00										
DRILLING	OIL BURN	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
WELL TEST	GAS FLARE		0		0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
	2020 YEAR TOTAL						26.99	15.01	903.14	27.94	197.02	10.29	5.55	335.58	10.69	73.19				
EXEMPTION	DISTANCE FROM LAND IN																			
CALCULATION	MILES											499.50	499.50	499.50	499.50	20679.49				

PUBLIC INFORMATION

SUMMARY

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL
EC OFFSHORE	EAST CAMERON	72	OCS00184	0	6
		Emitted			
Year	Substance				
	PM	SOx	NOx	VOC	CO
2020	10.29	5.55	335.58	10.69	73.19
Allowable	499.50	499.50	499.50	499.50	20679.49

PUBLIC INFORMATION

Worst Case Discharge Summary

Lease OCS 00184, East Cameron Block 72, Well No. 006 ST00 BP00
March, 2020

PROPRIETARY DATA ONLY

SPILL RESPONSE DISCUSSION

For the purpose of NEPA and Coastal Zone Management Act analysis, the largest spill volume originating from the proposed activity would be a well blowout during drilling operations, estimated to be 61,500 barrels of condensate with an API gravity of 50°.

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 the highest probability of impact to the shorelines of Cameron Parish, Louisiana. 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

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

Using the estimated chemical and physical characteristics of condensate, an ADIOS weathering model was run on a similar product from the ADIOS oil database. The results indicate 40% or approximately 24,600 barrels of condensate would be evaporated/dispersed within 24 hours, with approximately 36,900 barrels remaining.

Natural Weathering Data: EC 72, Well 006	Barrels of Oil
WCD Volume	61,500
Less 40% natural evaporation/dispersion	24,600
Remaining volume	36,900

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.

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

utilized, 8 sorties (9,600 gallons) from two of the DC-3 aircrafts and 4 sorties (8,000 gallons) from the Basler aircraft would provide a daily dispersant capability of 7,540 barrels. Slick containment boom and sorbent boom would be immediately called out and on-scene as soon as possible. Offshore response strategies may include collection of condensate with sorbent boom (inside hard boom), attempting to skim utilizing CGA spill response equipment, with a total derated skimming capacity of 206,084 barrels. Temporary storage associated with skimming equipment equals 6,796 barrels. If additional storage is needed, various storage barges with a total capacity 211,000+ 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 total derated skimming capacity of 190,915 barrels. Temporary storage associated with skimming equipment equals 2,343 barrels. If additional storage is needed, various storage barges with a total capacity 230,000+ 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 29,700 feet of 18" shoreline protection boom. **Figure 2** outlines individual times needed for procurement, load out, travel time to the site and deployment. Strategies would be based upon surveillance and real time trajectories that depict areas of potential impact given actual sea and weather conditions. Applicable Area Contingency Plans (ACPs), Geographic Response Plans (GRPs), and Unified Command (UC) will be consulted to ensure that environmental and special economic resources are correctly identified and prioritized to ensure optimal protection. Shoreline protection strategies depict the protection response modes applicable for oil spill clean-up operations. As a secondary resource, the State of Louisiana Initial Oil Spill Response Plan will be consulted as appropriate to provide detailed shoreline protection strategies and describe necessary action to keep the oil spill from entering Louisiana's coastal wetlands. The UC should take into consideration all appropriate items detailed in Tactics discussion of this Appendix. The UC and their personnel have the option to modify the deployment and operation of equipment to allow for a more effective response to site-specific circumstances. EC Offshore Properties, Inc.'s contract Incident Management Team has access to the applicable ACP(s) and GRP(s).

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

Initial Response Considerations

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

- Safety
- 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

EC Offshore Properties, Inc. 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 to complete a common objective, 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 EC Offshore Properties, Inc.'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 (C³)

- 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: <ul style="list-style-type: none"> • 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): EC Offshore Properties, Inc. 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

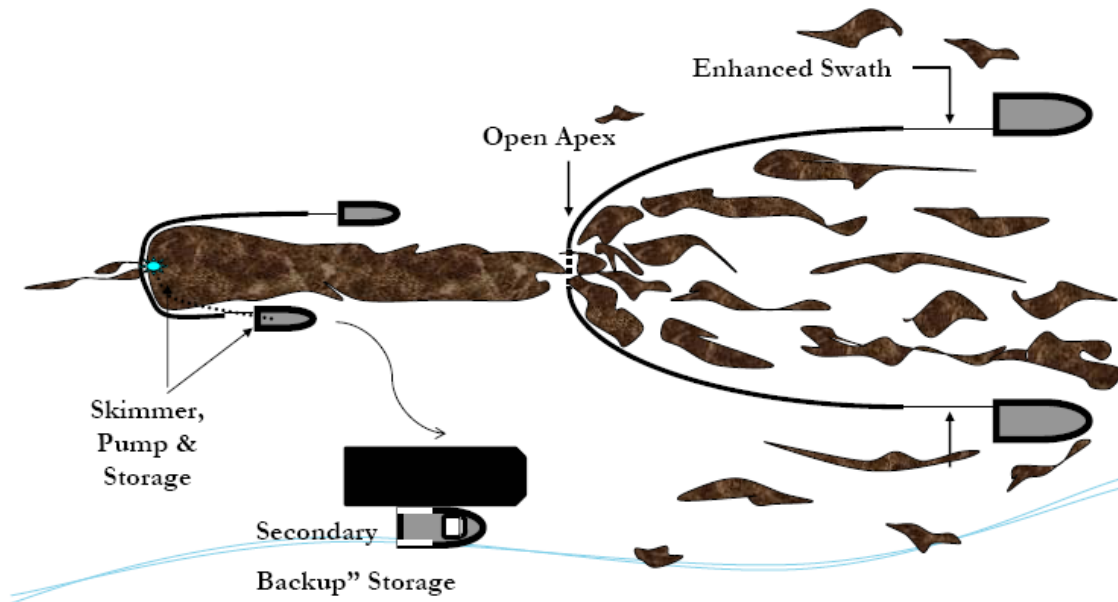
Mechanical Recovery – Deployed on large vessels of opportunity (VOO) the Koseq Rigid Sweeping Arms are high volume surge capacity deployed to increase recovery capacity at the source of a large oil spill in the offshore and outer nearshore environment of the Gulf of Mexico. They are highly mobile and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

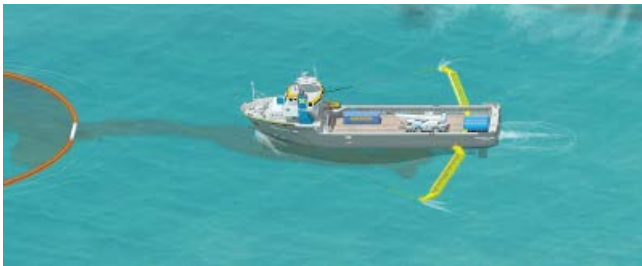
Command and Control – The large OSVs in many cases have state of the art communication and electronic systems, as well as the accommodations to support the function of directing all skimming operations offshore and reporting back to the command post.

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

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



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



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

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

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

Near Shore Response Actions

Timing

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

Considerations

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

Surveillance

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

Dispersant Use

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

Dedicated Near Shore skimming systems

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

VOO

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

Shoreline Protection Operations

Response Planning Considerations

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

Placement of boom

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

Beach Preparation - Considerations and Actions

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

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

*Inland and Coastal Marsh Protection and Response
Considerations and Actions*

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

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

Decanting Strategy

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

CGA Equipment Limitations

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

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

Environmental Conditions in the GOM

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

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

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

**FIGURE 1
TRAJECTORY BY LAND SEGMENT**

<p>Trajectory of a spill and the probability of it impacting a land segment have been projected utilizing EC Offshore Properties, Inc.'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 3 and 10 day impact. The results are tabulated below.</p>				
Area/Block	OCS-G	Launch Area	Land Segment and/or Resource	Conditional Probability (%)
<p>EC 72, Well 006 <i>15 miles from shore</i></p>	<p>00184</p>	<p>C30</p>	<p>Jefferson, TX Cameron, LA Vermilion, LA</p>	<p><i>3 day</i> 5 27 1</p>
			<p>Matagorda, TX Brazoria, TX Galveston, TX Chambers, TX Jefferson, TX Cameron, LA Vermilion, LA</p>	<p><i>10 day</i> 1 2 9 1 14 41 2</p>

WCD Scenario– BASED ON WELL BLOWOUT DURING DRILLING OPERATIONS (15 miles from shore)

36,900 bbls of condensate (Volume considering natural weathering)

API Gravity 50°

FIGURE 2 – Equipment Response Time to EC 72, Well 006

Dispersants/Surveillance

Dispersant/Surveillance	Dispersant Capacity (gal)	Persons Req.	From	Hrs to Procure	Hrs to Loadout	Travel to site	Total Hrs
ASI							
Basler 67T	2000	2	Houma	2	2	0.6	4.6
DC 3	1200	2	Houma	2	2	0.8	4.8
DC 3	1200	2	Houma	2	2	0.8	4.8
Aero Commander	NA	2	Houma	2	2	0.6	4.6

Offshore Response

Offshore Equipment Pre-Determined 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	12	Harvey	6	0	12	16	2	36
95' FRV	22885	249	NA	6	Galveston	2	0	2	6	1	11
95' FRV	22885	249	NA	6	Leeville	2	0	2	8	1	13
95' FRV	22885	249	NA	6	Vermilion	2	0	3	4	1	10
95' FRV	22885	249	NA	6	Venice	2	0	3	10	1	16
Boom Barge (CGA-300) 42" Auto Boom (25000')	NA	NA	1 Tug 50 Crew	4 (Barge) 2 (Per Crew)	Leeville	8	0	4	23	2	37
Kirby Offshore (available through contract with CGA)											
RO Barge	NA	80000+	1 Tug	6	Venice	30	0	4	25	1	60
Enterprise Marine Services LLC (Available through contract with CGA)											
CTCo 2603	NA	25000	1 Tug	6	Amelia	31.5	0	6	9.5	1	48
CTCo 2604	NA	20000	1 Tug	6	Amelia	31.5	0	6	9.5	1	48
CTCo 2605	NA	20000	1 Tug	6	Amelia	31.5	0	6	9.5	1	48
CTCo 2606	NA	20000	1 Tug	6	Amelia	31.5	0	6	9.5	1	48
CTCo 2607	NA	23000	1 Tug	6	Amelia	31.5	0	6	9.5	1	48
CTCo 2608	NA	23000	1 Tug	6	Amelia	31.5	0	6	9.5	1	48

Staging Area: Cameron

Offshore Equipment With Staging	EDRC	Storage Capacity	VOO	Persons Req.	From	Hrs to Procure	Hrs to Loadout	Travel to Staging	Travel to Site	Hrs to Deploy	Total Hrs
CGA											
FRU (1) + 100 bbl Tank (2)	4251	200	1 Utility	6	Vermilion	2	6	2.5	4	1	15.5
FRU (1) + 100 bbl Tank (2)	4251	200	1 Utility	6	Galveston	2	6	5	4	1	18
FRU (1) + 100 bbl Tank (2)	4251	200	1 Utility	6	Aransas Pass	2	6	9.5	4	1	22.5
FRU (1) + 100 bbl Tank (2)	4251	200	1 Utility	6	Lake Charles	2	6	2	4	1	15
FRU (3) + 100 bbl Tank (6)	12753	600	3 Utility	18	Leeville	2	6	7	4	1	20
FRU (2) + 100 bbl Tank (4)	8502	400	2 Utility	12	Venice	2	6	9.5	4	1	22.5

Nearshore Response

Nearshore Equipment Pre-determined 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											
Mid-Ship SWS	22885	249	NA	4	Leeville	2	0	N/A	48	1	51
Mid-Ship SWS	22885	249	NA	4	Galveston	2	0	N/A	48	1	51
Trinity SWS	21500	249	NA	4	Lake Charles	2	0	N/A	48	1	51
Trinity SWS	21500	249	NA	4	Vermilion	2	0	N/A	48	1	51
Trinity SWS	21500	249	NA	4	Galveston	2	0	N/A	48	1	51
46' FRV	15257	65	NA	4	Aransas Pass	2	0	2	16	1	21
46' FRV	15257	65	NA	4	Leeville	2	0	2	8	1	13
46' FRV	15257	65	NA	4	Lake Charles	2	0	2	2.5	1	7.5
46' FRV	15257	65	NA	4	Venice	2	0	2	11	1	16
Kirby Offshore (available through contract with CGA)											
RO Barge	NA	80000+	1 Tug	6	Venice	30	0	4	25	1	60
RO Barge	NA	80000+	1 Tug	6	Venice	30	0	4	25	1	60
Enterprise Marine Services LLC (Available through contract with CGA)											
CTCo 2609	NA	23000	1 Tug	6	Amelia	26	0	6	15	1	48
CTCo 5001	NA	47000	1 Tug	6	Amelia	26	0	6	15	1	48

Staging Area: Cameron

Nearshore Equipment With Staging	EDRC	Storage Capacity	VOO	Persons Req.	From	Hrs to Procure	Hrs to Load Out	Travel to Staging	Travel to Deployment	Hrs to Deploy	Total Hrs
CGA											
SWS Egmopol	1810	100	NA	3	Galveston	2	2	5	2	1	12
SWS Egmopol	1810	100	NA	3	Leeville	2	2	7	2	1	14
SWS Marco	3588	20	NA	3	Lake Charles	2	2	2	2	1	9
SWS Marco	3588	34	NA	3	Leeville	2	2	7	2	1	14
SWS Marco	3588	34	NA	3	Venice	2	2	9.5	2	1	16.5
Foilex Skim Package (TDS 150)	1131	50	1 Utility	3	Lake Charles	4	12	2	2	2	22
Foilex Skim Package (TDS 150)	1131	50	1 Utility	3	Galveston	4	12	5	2	2	25
Foilex Skim Package (TDS 150)	1131	50	1 Utility	3	Harvey	4	12	7	2	2	27
4 Drum Skimmer (Magnum 100)	680	100	1 Crew	3	Lake Charles	2	2	2	2	1	9
4 Drum Skimmer (Magnum 100)	680	100	1 Crew	3	Harvey	2	2	7	2	1	14
2 Drum Skimmer (TDS 118)	240	100	1 Crew	3	Lake Charles	2	2	2	2	1	9
2 Drum Skimmer (TDS 118)	240	100	1 Crew	3	Harvey	2	2	7	2	1	14

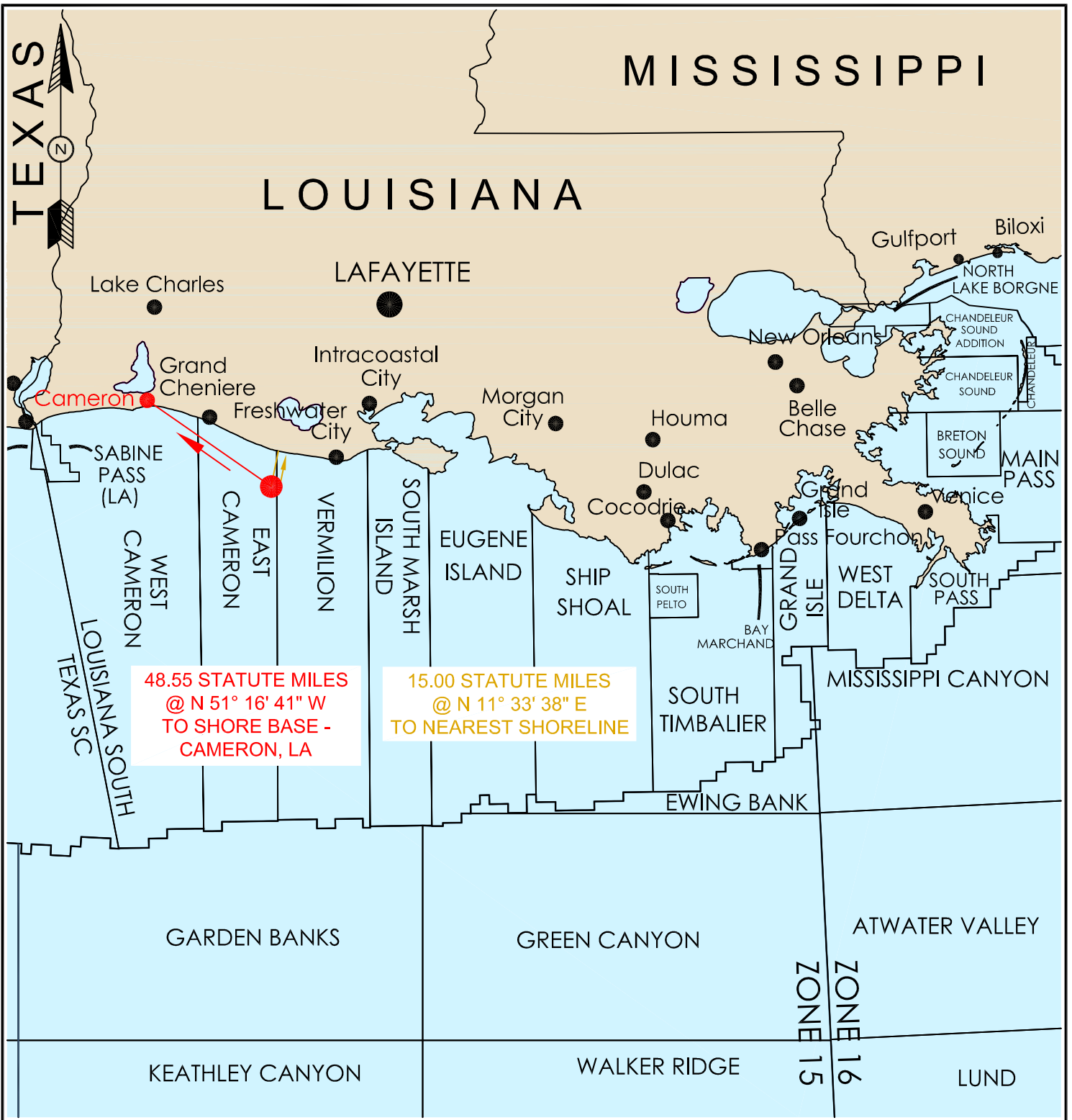
Shoreline Protection

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)									
12,850' 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
3,200' 18" Boom	2 Crew	4	Venice, LA	2	2	9	2	2	17
12,750' 18" Boom	7 Crew	14	Port Arthur, TX	2	2	1.5	2	6	13.5

Wildlife Response	EDRC	Storage Capacity	VOO	Persons Req.	From	Hrs to Procure	Hrs to Loadout	Travel to Staging	Travel to Deployment	Hrs to Deploy	Total Hrs
CGA											
Wildlife Support Trailer	NA	NA	NA	2	Harvey	2	2	7	1	2	14
Bird Scare Guns (24)	NA	NA	NA	2	Harvey	2	2	7	1	2	14
Bird Scare Guns (12)	NA	NA	NA	2	Galveston	2	2	5	1	2	12
Bird Scare Guns (12)	NA	NA	NA	2	Aransas Pass	2	2	9.5	1	2	16.5
Bird Scare Guns (48)	NA	NA	NA	2	Lake Charles	2	2	2	1	2	9
Bird Scare Guns (24)	NA	NA	NA	2	Leeville	2	2	7	1	2	14

Response Asset	Total
Offshore EDRC	206,084
Offshore Recovered Oil Capacity	217,796+
Nearshore / Shallow Water EDRC	190,915
Nearshore / Shallow Water Recovered Oil Capacity	232,343



EC OFFSHORE PROPERTIES, INC.

EP

OCS-00184 WELL NO. 6
EAST CAMERON AREA
BLOCK 72

PREPARED FOR: EC OFFSHORE PROPERTIES, INC

FILENAME: 20-0227_EC72_Well_Plat

DRAFTED BY: M.G.K.

DATE: FEBRUARY 28, 2020

REV NO.: 0

SHEET: 1 OF 4



GULF OCEAN SERVICES
OFFSHORE GEOPHYSICAL SURVEYS

PUBLIC INFORMATION

**COASTAL ZONE MANAGEMENT
CONSISTENCY CERTIFICATION
SUPPLEMENTAL EP
East Cameron Area, Block 72
LEASE OCS-00184**

The proposed activities described in detail in this OCS Plan comply with Louisiana's approved Coastal Zone Management Program and will be conducted in a manner consistent with such Program. Relevant enforceable policies were considered in this certification and will be complied with.

EC Offshore Properties, Inc.
Lessee or Operator

David Strassner

David Strassner
Certifying Official

March 12, 2020
Date

ATTACHMENT R

PUBLIC INFORMATION