

UNITED STATES GOVERNMENT
MEMORANDUM

September 23, 2026

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

Subject: Public Information copy of plan
Control # - N-10274
Type - Initial Exploration Plan
Lease(s) - OCS-G38008 Block - 966 Ewing Bank Area
Operator - Walter Oil & Gas Corporation
Description - Well A
Rig Type - Not Found

Attached is a copy of the subject plan.

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

Leah O'Donnell
Plan Coordinator

Site Type/Name	Botm Lse/Area/Blk	Surface Location	Surf Lse/Area/Blk
WELL/A	G38008/EW/966	436 FNL, 5828 FEL	G38008/EW/966

PUBLIC COPY
August 24, 2026

INITIAL EXPLORATION PLAN



WALTER OIL & GAS CORPORATION

Ewing Bank Block 966
OCS-G 38008
Affected State: Louisiana

Estimated Startup Date: October 15, 2026

SUBMITTED BY:

Walter Oil & Gas Corporation
1100 Louisiana
Suite 200
Houston, TX 77002

Paul Rodriguez
(281) 659-1221
prodriguez@walteroil.com

AUTHORIZED REPRESENTATIVE:

Greer Malbrough
J. Connor Consulting, Inc.
19219 Katy Freeway, Suite 200
Houston, Texas 77094
(281) 698-8525
greer.malbrough@jccteam.com

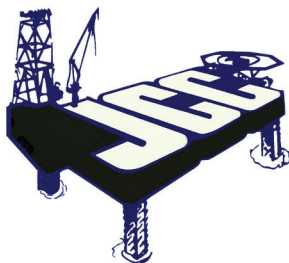


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15-A	Environmental Impact Analysis (EIA)

SECTION 1

PLAN CONTENTS

1.1 PLAN INFORMATION

Lease OCS-G 38008, Ewing Bank Block 966, was awarded to Walter Oil & Gas Corporation (Walter) in Lease Sale BBG1, effective April 1, 2026, with a primary term ending March 31, 2031. Under this Exploration Plan, Walter proposes to drill, complete, and test one well. The well will be drilled with a dynamically positioned semi-submersible MODU and is located in approximately 1,762 feet of water. Walter is not proposing any new pipelines expected to make landfall. The operations proposed will not utilize piledriving.

Walter seeks the greatest flexibility to drill the proposed well location in 2026, 2027, 2028, 2029, 2030 or 2031 before the expiration of the primary lease term on March 31, 2031.

The OCS Plan Information Form BOEM-137 is included as **Attachment 1-A**.

1.2 LOCATION

A Well Location Plat depicting the bottomhole location of the proposed well, and water depth is included as **Attachment 1-B**.

No anchors are associated with the activities proposed in this plan. A Bathymetry Map depicting the surface location and water depth of the proposed well is included as **Attachment 1-C**.

1.3 SAFETY AND POLLUTION PREVENTION FEATURES

Walter proposes to drill the well with a dynamically positioned semi-submersible which is equipped with a Subsea BOP. Once a rig is determined, BOP information and schematics will be included as a part of the Application for Permit to Drill.

The rig will be equipped with safety and fire-fighting equipment required to comply with United States Coast Guard (USCG) regulations. Appropriate lifesaving equipment such as life rafts, life jackets, ring buoys, etc. as prescribed by the USCG, will be maintained on the rig at all times.

Safety features on the drilling unit will include well control, pollution prevention, and blowout prevention equipment as described in BSEE regulations 30 CFR 250 C, D, E, O, Q and S; and as further clarified by BSEE Notices to Lessees, and current policy making invoked by the BSEE, Environmental Protection Agency (EPA) and the USCG.

Pollution prevention measures include installation of curbs, gutters, drip pans, and drains on drilling deck areas to collect all contaminants and debris. Compliance will be maintained with the EPA NPDES Permit. The rig will be monitored daily and any waste or fuel resulting in pollution of the Gulf waters will be reported to the representative in charge for immediate isolation and correction of the problem. All spills will be reported to the appropriate governmental agencies.

1.4 STORAGE TANKS AND PRODUCTION VESSELS

The table below provides storage tanks with capacity of 25 barrels or more that will store fuels, oil and lubricants.

Type of Storage Tank	Type of Facility	Tank Capacity (bbl)	Number of Tanks	Total Capacity (bbl)	Fluid Gravity (API)
1PS	MODU	6,397	1	6,397	32.4°
2PS	MODU	9,021	1	9,021	32.4°
1SB	MODU	6,397	1	6,397	32.4°
2SB	MODU	9,021	1	9,021	32.4°
ER1 Day Tank + Settling Tank	MODU	539	1	539	32.4°
ER2 Day Tank + Settling Tank	MODU	552	1	552	32.4°
ER3 Day Tank + Settling Tank	MODU	490	1	490	32.4°
ER4 Day Tank + Settling Tank	MODU	484	1	484	32.4°

1.5 POLLUTION PREVENTION MEASURES

These operations do not propose activities for which the State of Florida is an affected state.

1.6 ADDITIONAL MEASURES

Walter does not propose any additional safety, pollution prevention, or early spill detection measures beyond those required by 30 CFR 250.

1.7 COST RECOVERY FEE

Documentation of the \$4,823.00 cost recovery fee payment is included as **Attachment 1-D**.

OCS PLAN INFORMATION FORM

General Information															
Type of OCS Plan:	☒	Exploration Plan (EP)	☐	Development Operations Coordination Document (DOCD)											
Company Name: Walter Oil & Gas Corporation				BOEM Operator Number: 00730											
Address: 1100 Louisiana, Suite 200				Contact Person: Greer Malbrough											
Houston, TX 77002-5299				Phone Number: 281-578-3388											
				E-Mail Address: Greer.Malbrough@jccetteam.com											
If a service fee is required under 30 CFR 550.125(a), provide the				Amount paid	\$4,823.00	Receipt No.		284PKD6D							
Project and Worst-Case Discharge (WCD) Information															
Lease: OCS-G 38008				Area: Ewing Bank				Block: 966		Project Name (If Applicable): N/A					
Objectives	☒	Oil	☒	Gas	☐	Sulphur	☐	Salt	Onshore Support Bases: Port Fourchon, LA; Houma, LA						
Platform / Well Name: Location A				Total Volume of WCD: 62,260 bbls/day				API Gravity: 29°							
Distance to Closest Land (Miles): 69				Volume from uncontrolled blowout: 6,226,000 bbls											
Have you previously provided information to verify the calculations and assumptions for your WCD?								☐	Yes	☒	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	☒	No				
Do you propose to use a vessel with anchors to install or modify a structure?								☐	Yes	☒	No				
Do you propose any facility that will serve as a host facility for deepwater subsea development?								☐	Yes	☒	No				
Description of Proposed Activities and Tentative Schedule (Mark all that apply)															
Proposed Activity				Start Date		End Date		No. of Days							
Drill, Complete, Test Location, install subsea tree/wellhead				10/15/2026		12/31/2026		78 days/year							
Drill, Complete, Test Location, install subsea tree/wellhead				2027		2027		140 days/year							
Drill, Complete, Test Location, install subsea tree/wellhead				2028		2028		140 days/year							
Drill, Complete, Test Location, install subsea tree/wellhead				2029		2029		140 days/year							
Drill, Complete, Test Location, install subsea tree/wellhead				2030		2030		140 days/year							
Drill, Complete, Test Location, install subsea tree/wellhead				01/01/2031		03/31/2031		90 days/year							
Description of Drilling Rig						Description of Structure									
☐	Jackup			☐	Drillship			☐	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):															
Description of Lease Term Pipelines															
From (Facility/Area/Block)				To (Facility/Area/Block)				Diameter (Inches)		Length (Feet)					
N/A															

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

Proposed Well/Structure Location									
Well or Structure Name/Number (If renaming well or structure, reference previous name): Location A				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?						X	Yes		No
WCD Info	For wells, volume of uncontrolled blowout (Bbls/Day): 62,260			For structures, volume of all storage and pipelines (Bbls): N/A		API Gravity of fluid		29°	
	Surface Location			Bottom-Hole Location (For Wells)		Completion (For multiple completions, enter separate lines)			
Lease No.	OCS-G 38008			OCS-G 38008		OCS OCS			
Area Name	EW			EW					
Block No.	966			966					
Blockline Departures (in feet)	N/S Departure: 436' FNL			N/S Departure:		N/S Departure		F __ L	
	E/W Departure: 5,828' FEL			E/W Departure:		E/W Departure		F __ L	
Lambert X-Y coordinates	X: 2,623,612			X:		X:		F __ L	
	Y: 10,184,684			Y:		Y:		F __ L	
Latitude/ Longitude	Latitude: 28° 01' 54.362" N			Latitude:		Latitude		Latitude	
	Longitude: 89° 57' 07.411" W			Longitude:		Longitude		Longitude	
Water Depth (Feet): 1,762'				MD (Feet):		TVD (Feet):		MD (Feet):	
Anchor Radius (if applicable) in feet: N/A								TVD (Feet):	
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)									
Anchor Name or No.	Area	Block	X Coordinate		Y Coordinate		Length of Anchor Chain on Seafloor		
			X:		Y:				
			X:		Y:				
			X:		Y:				
			X:		Y:				
			X:		Y:				
			X:		Y:				
			X:		Y:				
			X:		Y:				

Attachment 1-B

Y = 10,185,120.00

 001 (G06925)

O 'A' (SL)

 004 (G06925)
 003 (G06925) 001 (G18184)
 002 (G06925)EW966
OCS-G38008 (PENDING)

X = 2,613,600.00

X = 2,629,440.00

PROPOSED WELL LOCATION

LOCATION	BLOCK	CALLS		COORDINATES		LATITUDE	LONGITUDE	WD	MD	TVD
'A' (SL)	EW966	5,828.00' FEL	436.00' FNL	X = 2,623,612.00	Y = 10,184,684.00	28° 01' 54.362"N	89° 57' 07.411"W	1,762'		

Y = 10,169,280.00

PUBLIC INFORMATION



WALTER OIL & GAS CORPORATION

Echo OFFSHORE LLC36499 Perkins Road
Prairieville, Louisiana 70769
Tel: 225-673-2163

SCALE IN FEET

EXPLORATION PLAT

PROPOSED WELL 'A'
OCS-G 38008 BLOCK 966
EWING BANK AREA

GULF OF AMERICA

DATUM: NAD 27 | SPHEROID: CLARKE 1866 | PROJECTION: U.T.M. | ZONE: 15

DRAWN BY: RJN | CHK. BY: MEK | REV. No.: | JOB No.: 25-013 | DWG No.: 25-013-EXP
DATE: 1/22/2026 | REV. DATE: | SCALE: 1"=2,000' | **SHEET 1 OF 1**

SECTION 2 GENERAL INFORMATION

2.1 APPLICATIONS AND PERMITS

The table below provides all additional applications to be filed covering operations proposed in this EP.

Application/Permit	Issuing Agency	Status
Application for Permit to Drill	BSEE	To Be Submitted
Application for Permit to Modify	BSEE	To Be Submitted

2.2 DRILLING FLUIDS

The table below provides the types and estimated volumes of the drilling fluids Walter plans to use to drill the proposed well.

Type of Drilling Fluid	Estimated Volume of Drilling Fluid to be Used per Well (bbl)
Water-based (seawater, freshwater, barite)	13,248
Oil-based (diesel, mineral oil)	N/A
Synthetic-based (internal olefin, ester)	7,819

2.3 NEW OR UNUSUAL TECHNOLOGY

No new or unusual technology is proposed in this EP as defined by 30 CFR 550.200.

2.4 BONDING STATEMENT

The bond requirements for the activities and facilities proposed in this EP are satisfied by an area-wide bond, furnished and maintained according to 30 CFR 556.900 (a) and 30 CFR 556.901 (a) and (b) and NTL No. 2015-BOEM-N04, "General Financial Assurance"; and additional security under 30 CFR 556.901(d) – (f) and NTL No. 2016—BOEM-N01, "Requiring Additional Security" as required by BOEM.

2.5 OIL SPILL FINANCIAL RESPONSIBILITY (OSFR)

Walter Oil & Gas Corporation (Company No. 00730) will demonstrate oil spill financial responsibility for the facilities proposed in this EP according to 30 CFR 553.15 (a); and NTL No. 2008-N05, "Guidelines for Oil Spill Financial Responsibility for Covered Facilities".

2.6 DEEPWATER WELL CONTROL STATEMENT

Walter Oil & Gas Corporation (Company No. 00730) has the financial capability to drill a relief well and conduct other emergency well control operations.

2.7 BLOWOUT SCENARIO AND WORST-CASE DISCHARGE CALCULATIONS

In accordance with NTL No. 2015-BOEM-N01, "Information Requirements for Exploration Plans, Development and Production Plans, and Development Operations Coordination Documents on the OCS for Worst-Case Discharge and Blowout Scenarios," the Blowout Scenario and Worst-Case Discharge Assumptions and Calculations are included as **Attachment 2-A**.

ATTACHMENT 2-A

**Exploration Plan
OCS-G 38008, Ewing Bank Area, BLOCK 966
Well Location A
BLOWOUT SCENARIO DATA SUBMITTAL
NTL 2015-N01**

There are currently eighteen semi-submersible/drill-ship rigs with a minimum 15,000 psi subsea blowout preventers with derrick capacity and horsepower available for relief-well drilling in case the Ewing Bank (EW) Block 966 requires a relief well. It is estimated that a contract could be administered, and additional equipment procured to drill the relief well in one hundred (100) days. Availability and safety record will be a predominant factor for selecting the rig for the relief well.

Measure to prevent Blowout:

Walter Oil & Gas Corporation (Walter) has used offset well information and seismic data in the design of the proposed exploration well in EW 966. Walter has gained pore pressure and geology information in this area and this well will be similar pore pressures and geology to the offset wells. Walter will be using MWD/PWD tools to be able to obtain formation pressures while drilling to mitigate risk.

Uncontrolled blowout volume (first day in bbls): 62,260

Duration of flow (days) based on relief well: 100

Total volume of spill (bbls (flow rate X duration): 6,226,000

Discussion of potential for well to bridge over (include backup to support your assumption):

Walter does not have sufficient information to anticipate that this well would likely bridge over; therefore, discussion of the likelihood of the well to bridge over is not included in this plan. Walter does not have any empirical data.

Discussion of likelihood of surface intervention to stop blowout:

An ongoing operation for subsea intervention will work in parallel to the relief well operations. Walter O&G will initiate the HWCG mutual aid group and commence operations to install capping stack and cap and flow equipment in accordance with Walter Regional Well Control Plan (RCD)

RELIEF WELL

Rig type capable of drilling relief well at WD and to TD:

Semi-submersible and drillship drilling rig

Rig package constraints (if none, make statement to that effect):

No constraints

Time to acquire rig (days):

10

Time to move a rig onsite (days):

10

Drilling time (days):

80

Statement whether possibility of using nearby platform was considered:

No nearby platform.

Additional precautions and safety procedures:

1. Complete detailed well design program for drilling operations including mud program and cement program. Safety meetings will be conducted every tour to communicate the importance of operations.
2. Maintain mud properties consistent with offset wells.
3. Flow monitoring equipment for the rigs mud return system with real time data provided to supervisory personnel and the rig floor personnel.
4. Real-time gas monitoring for the purpose of measuring gas contained in the mud system for rig floor and supervisory personnel.
5. Drilling breaks monitored and checked for flow. In the event of flow, mud weight will be increased to control the well.
6. Monitoring of trip volumes both tripping in and out of the hole. Proper fill-up volumes will be measured.
7. Control surge and swab pressures.
8. Circulate bottoms up before trips to ensure the well is stable and free of gas.
9. Testing of BOP's at a minimum of every three weeks, when rams are changed or BOP's repaired.

Measures to reduce the likelihood of a blowout:

1. Contractor personnel (driller and tool pusher) have the authority to shut-in well should a well flow be encountered. Company personnel will be informed of the situation.
2. Company personnel will go to the floor immediately to assist Contractor personnel in industry-best practices kill procedure.
3. Proper API casing design and cementing practices using centralizers as recommended by simulation to insure centralized casing and 360-degree annular fill up of cement.
4. Production casing will have two barriers (float collar and float shoe).
5. Upon bumping the plug during cement operations, floats will be checked. In the event the floats do not hold, pressure will be maintained for 6-8 hours, and then shoe tract will be rechecked. Remedial cementing or setting of bridge plug will be taken if necessary to isolate the shoe tract.

Arrangements for drilling relief wells:

1. Review shallow hazards survey to determine positioning of relief well.
2. Contract and mobilize relief well rig.
3. Contract relief well directional drilling company and relief well drilling experts.
4. Prepare drilling program based on optimum rig position relative to targeted wellbore to optimize intervention.

Walter is a member of Clean Gulf and HWCG well control group. The equipment controlled by Clean Gulf and HWCG is readily available in case of an incident. Walter is also a party to a Mutual Assistance Agreement that facilitates the transfer of drilling units between operators in the Gulf of Mexico in order to provide rig release and Well Site Services in the case of a blowout to ensure relief well capability.

SECTION 3

GEOLOGICAL AND GEOPHYSICAL INFORMATION

3.1 GEOLOGICAL DESCRIPTION

Proprietary Information

3.2 STRUCTURE CONTOUR MAP

Proprietary Information

3.3 INTERPRETED SEISMIC LINES

Proprietary Information

3.4 GEOLOGICAL STRUCTURE CROSS-SECTION

Proprietary Information

3.5 SHALLOW HAZARDS REPORT

A shallow hazards survey was conducted over Ewing Bank Blocks 922/966.

In accordance with NTL No. 2008-G05, "Shallow Hazards Program," a shallow hazards survey evaluating seafloor and subsurface geological and manmade features and conditions that may adversely affect drilling operations, was conducted by Echo Offshore LLC. The shallow hazards report is provided with this plan.

3.6 SHALLOW HAZARDS ASSESSMENT

In accordance with NTL No. 2008-G05, "Shallow Hazards Program," a site-specific shallow hazards assessment has been prepared for the proposed surface location evaluating seafloor and subsurface geological and manmade features and conditions that may adversely affect drilling operations. The shallow hazards assessment is included as **Attachment 3-D**.

3.7 HIGH-RESOLUTION SEISMIC LINES

Proprietary Information

3.8 STRATIGRAPHIC COLUMN

Proprietary Information

3.9 TIME VERSUS DEPTH TABLES

Proprietary Information



36499 Perkins Road
Prairieville, Louisiana 70769
Telephone: 225.673.2163
www.echo-offshore.net

January 20, 2026 Job No 25-015-52 / Job No. H100225-S00-100

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

**RE: Walter Oil & Gas Corporation
Proposed Well 'A' Location
Block 966
Ewing Bank Area
Shallow Hazards Assessment**

Walter Oil & Gas Corporation (Walter) proposes to drill the EW 966 Well 'A' from the following surface location in EW966:

Proposed EW 966 Well 'A' Location (Surface)							
Location Coordinates							
NAD 27 Datum - Clarke 1866 Ellipsoid				UTM Zone 15 - CM 93° West			
Latitude	28°	01'	54.362"	North	Easting	2,623,612	US ft. E
Longitude	89°	57'	07.411"	West	Northing	10,184,684	US ft. N
FEL Ewing Bank EW966				5,828ft	US ft.	Inline	41590
FNL Ewing Bank EW966				436ft	US ft.	Crossline	7292
Water Depth: -1,762ft				Slope: <1.0° NE			

Echo Offshore, LLC, was contracted by Walter, to prepare a Well Clearance Letter for the proposed EW 966 Well 'A' in Block 966, Ewing Bank. This letter addresses seabed and shallow geologic conditions that may impact exploratory drilling operations within 2,000ft of the proposed well site. The depth limit of this site clearance assessment is -7,487ft below sea surface (5,725ft below seafloor). Walter plans to operate from a dynamically positioned drilling module; therefore, an anchoring assessment is not required. Relevant letter-size chart extracts, data examples, and a [Top-Hole Prognosis](#) are presented with this Well Clearance Letter, plus annotated data examples of the two nearest intersecting inlines and crosslines, the nearest sub-bottom profiler survey line, and the side-scan sonar mosaic. This site clearance assessment is primarily based on an interpretation of a 3D seismic data set for deeper geology supplemented with near seafloor AUV data. This assessment is based on the area specific hazard assessment that has been produced under separate cover (Echo Job# 25-015-52/H100225-S00). The text, maps, and figures included in the geohazard report provide detail on the regional geology and mapped stratigraphy in the study area. This letter is intended to supplement that report with details pertaining directly to the proposed EW 966 Well 'A' location.

The 3D data set for this evaluation was provided by Walter covers the entirety of the study area. The data was deemed acceptable for hazards evaluation, and the dataset possesses a frequency content of 60Hz or higher at 50% power across the first second below seafloor in compliance with NTL No. 2022-G01 ([Figure 11](#)).

**Proposed Well 'A1' Location
Walter Oil & Gas Corporation
Block 966
Ewing Bank Area
Shallow Hazards Assessment
Page 2**

Please see the referenced study area report for detailed parameters and specifications for the 3D data set.

In accordance with stipulations outlined in NTL 2005-G07, an archaeological assessment based on existing AUV geophysical data was commissioned by Walter and prepared by Echo Offshore under separate cover ([Echo Job# 25-013-42](#)).

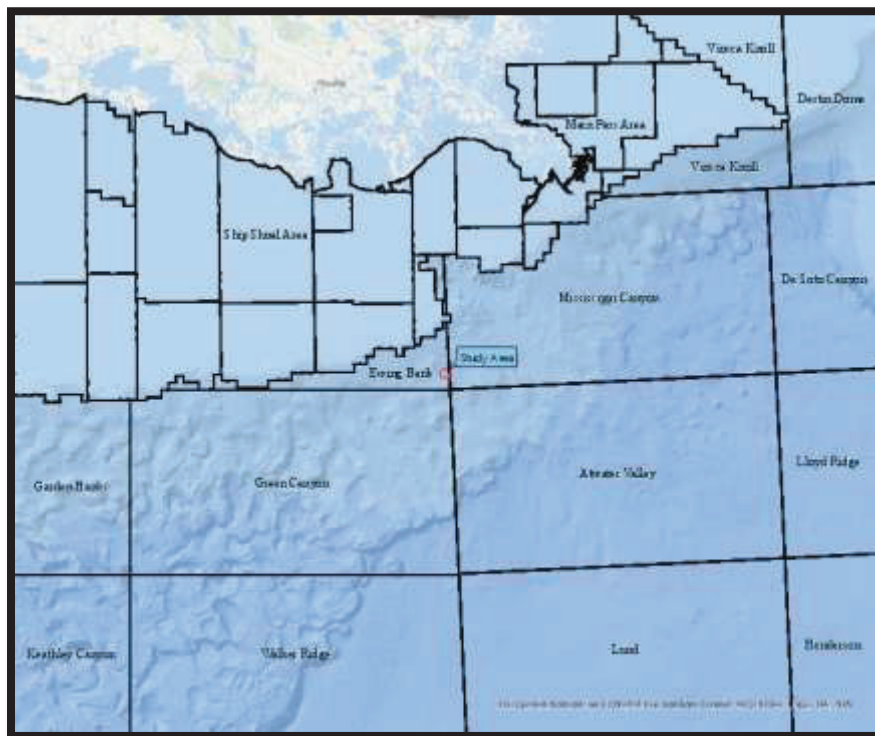
Seabed Depth

Water depth at the Proposed EW 966 Well 'A' location is -1,762ft below sea surface ([Figure 1](#)). The seafloor slopes to the northeast at $<1.0^{\circ}$.

Seafloor Morphology and Man-Made Features

The surface location for the proposed EW 966 Well 'A' location is in the north part of block EW966.

Location Map



**Proposed Well 'A' Location
Walter Oil & Gas Corporation
Unleased Block 966
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Side-scan sonar data indicates the proposed well is located on an area of smooth seafloor. Clays and silts are interpreted.

An archaeological assessment of existing AUV data was prepared by Echo Offshore for Walter under separate cover (Echo Job# 25-013-42). A sonar contact occurs within 1,000ft of the proposed well (Figures 2 & 6). Sonar contact #3 is located approximately 538ft west/northwest of the proposed well with no archeological significance. The Echo Offshore archaeological report should be consulted regarding avoidances assigned to the various sonar contacts.

There are no anomalous seabed amplitudes indicative of hydrocarbon macroseeps observed within a 2,000ft radius of the proposed location (Figure 3). Based on the review of the combined 3D and AUV data sets, it is unlikely that any features or areas that could support high-density sensitive sessile benthic communities are located within 2,000ft of any mud or cuttings discharge location. A seafloor fault, trending northeast / southwest is located 1,201ft to the southeast of the proposed well.

Sub-Seabed Conditions

The sub-seabed geology has been divided into seven Units, A through G separated by Horizons, H10, H15, H20, H30, H40, & H50 (Figures 8 through 10).

Unit A from seabed to -1,984ft below sea surface (222ft below seafloor) is characterized by well-layered, low amplitude reflectors interpreted as clays and silts. The sub-bottom profiler data supports this interpretation (Figure 7).

No problems are anticipated while jetting of the seabed conductor casing.

There is no interpreted risk of gas or shallow water flow in Unit A at the proposed well or within 245ft.

Horizon H10 marks the base of Unit A occurring at -1,984ft below sea surface (222ft below seafloor).

Unit B, from -1,984ft to -2,099ft below sea surface (222ft to 337ft below seafloor), is characterized by well-layered and slightly chaotic, low amplitude reflectors interpreted as clays and silts with occasional sands.

From -2,099ft to -2,521ft below sea surface (337ft to 759ft below seabed) is interpreted to comprise of well layered and slightly chaotic low and occasional moderate reflectors with clays, silts, and several sands. Minor wellbore stability and drilling fluid circulation problems may occur within this lower interval.

**Proposed Well 'A' Location
Walter Oil & Gas Corporation
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There is no interpreted risk of gas or shallow water flow in Unit B at the proposed location or within 245ft.

No faults are interpreted within Unit B at the proposed well location.

Horizon H15 marks the base of Unit B occurring at -2,521ft below sea surface (759ft below seafloor).

Unit C, from -2,521ft to -2,707ft below sea surface (759ft to 945ft below seabed) presents well layered low and occasional moderate amplitude reflectors interpreted as clays and silts.

From -2,707ft to -2,879ft below sea surface (945ft to 1,212ft below seabed) is interpreted as a mass-transport complex with slightly chaotic low and occasional moderate amplitude reflectors with clays, silts, and several sands. Due to the increased possibility of encountering poorly consolidated granular sediment within this interval minor wellbore stability and drilling fluid circulation problems may also occur.

No risk of gas or shallow water flow is assigned to Unit C or within 245ft of the proposed well.

The well-path will not traverse any faults within Unit C.

Horizon H20 marks the base of Unit C occurring at -2,879ft below sea surface (1,212ft below seafloor).

Unit D, from -2,879ft below sea surface (1,212ft below seafloor) to -3,122ft below sea surface (1,360ft below seafloor), is characterized by slightly chaotic, low amplitude reflectors interpreted as clays and silts.

Beneath, from -3,122ft to -3,281ft below sea surface (1,360ft to 1,519ft below seabed) well layered low and occasional moderate amplitude reflectors interpreted as clays, silts, with several sands. Minor wellbore stability and drilling fluid circulation problems may occur.

No risk of gas or shallow water flow is predicted within Unit D at the proposed well or within 245ft.

The well-path will not traverse any faults within Unit D.

Horizon H30 marks the base of Unit D occurring at -3,281ft below sea surface (1,519ft below seafloor).

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Unit E, from -3,281ft below sea surface (1,519ft below seafloor) to -3,554ft below sea surface (1,792ft below seafloor), is characterized by slightly chaotic, low amplitude reflectors interpreted as clays and silts and occasional sands.

From -3,554ft to -3,819ft below sea surface (1,792ft to 2,057ft below seabed) the strata consists of slightly chaotic low amplitude reflectors interpreted as clays, silts, and occasional sands.

The lower interval in Unit E from -3,819ft to -4,059ft below sea surface (2,057ft to 2,257ft below seabed) is interpreted as a well layered and slightly chaotic unit with low and occasional moderate amplitude reflectors. The lithology is interpreted as probable clays, silts, and several sands. Minor wellbore stability and drilling fluid circulation problems may occur.

No risk of gas or shallow water flow is predicted within Unit E at the proposed well. The nearest risk of gas is located 1,854ft to the northwest of the proposed well.

The well-path will not traverse any faults within Unit E.

Horizon H40 marks the base of Unit E occurring at -4,059ft below sea surface (2,257ft below seafloor).

Unit F, from -4,059ft below sea surface (2,257ft below seafloor) to -4,570ft below sea surface (2,808ft below seafloor), is interpreted as slightly chaotic and well layered low and occasional moderate amplitude reflectors with clays, silts, and occasional sands.

From -4,570ft to -5,098ft below sea surface (2,808ft to 3,336ft below seabed) is interpreted to comprise of well layered and slightly chaotic low and moderate amplitude reflectors with clays, silts, and several sands. Minor wellbore stability and drilling fluid circulation problems may occur within this interval.

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The lower part of Unit F from -5,098ft to -5,777ft below sea surface (3,336ft to 4,015ft below seabed) is characterized by chaotic, low to moderate amplitude reflectors interpreted as a channelized, higher-energy deposited interval with clays and silts and widespread sands. The proposed well will cross this unit in a relatively deep section. There is a possibility of encountering rapidly deposited sands that may not have dewatered fully. Historically in this general region, this unit has produced water flow events. The location has been selected to try and mitigate this risk as much as possible, encountering the unit deeper and in a region with reduced indications of sand. There remain some localized anomalies in relative proximity, some of which are downdip, though without indication of direct connectivity to the proposed wellbore. Given this setting a **Slight Risk of Gas** and a **Moderate Shallow Water Flow Risk** is assigned. Due to the increased possibility of poorly consolidated granular sediments in this interval, minor drilling fluid circulation and wellbore stability problems are possible. If full well control is not established by this level (3,336ft below seabed) **Drilling Caution** is advised. The nearest offset wells EW966-3 & 4, occurring ~3,000ft south of the proposed location, crossed this interval at a shallower level below seabed (Figure 8). At the offset wells there was less reflector downdip continuity and connectivity and there is a diminished amplitude response. Because of this difference in acoustic character, the offset wells are not considered a direct analog to the conditions interpreted at the proposed well location.

The nearest well-defined anomaly interpreted as moderate risk of gas is located 255ft to the southwest of the proposed well.

The well-path will not traverse any faults within Unit F.

Horizon H50 marks the base of Unit F occurring at -5,777ft below sea surface (4,015ft below seafloor).

Unit G, from -5,777ft below sea surface (4,015ft below seafloor) to -5,982ft below sea surface (4,220ft below seafloor), is characterized by well layered and slightly chaotic, low amplitude reflectors interpreted as clays, silts, and occasional sands.

From -5,982ft to -6,441ft below sea surface (4,220ft to 4,679ft below seabed) is interpreted as well-layered and slightly chaotic reflectors with clays, silts, and several sands. Minor wellbore stability and drilling fluid circulation problems may occur within this interval.

From -6,641ft to -6,695ft below sea surface (4,679ft to 4,993ft below seafloor) is interpreted as clays, silts, and several sands. The well-path will traverse a zone with an slightly elevated amplitude response and possible downdip connectivity and a **Slight Risk of Gas** is assigned. Since the borehole will traverse several interpreted sands that may contain fluid or water, a **Moderate Shallow Water Flow Risk** is assigned. Due to the increased possibility of poorly consolidated granular sediments in this interval, minor drilling fluid circulation and wellbore stability problems are possible. **Full Well Control** should have been established at these depths.

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From -6,695ft to -7,177ft below sea surface (4,993ft to 5,415ft below seabed) is interpreted as well-layered and slightly chaotic reflectors interpreted as clays and silts.

From -7,177ft to the base of the study at -7,487ft below sea surface (5,415ft to 5,725ft below seafloor) is interpreted as clays, silts, and several sands. The well-path will traverse a zone with an amplitude anomaly and a **Slight Risk of Gas** is assigned. Since the borehole will traverse several interpreted sands that may contain fluid or water, a **Moderate Shallow Water Flow Risk** is assigned. Due to the increased possibility of poorly consolidated granular sediments in this interval, minor drilling fluid circulation and wellbore stability problems are possible. **Full Well Control** should have been established at these depths.

The well-path will traverse a fault at -7,177ft below sea surface (5,415ft below seabed). The fault may cause minor drilling fluid circulation and wellbore stability problems.

2.600sec TWT marks the base of this interpretation occurring at -7,487ft below sea surface (5,725ft below seafloor).

Conclusions and Recommendations

No areas with the potential for fluid venting and the potential for benthic communities occur at or within 2,000ft radius of the proposed well.

No existing infrastructure occurs at or within 2,000ft of the proposed well.

A sonar target occurs 538ft west/northwest of the proposed well with no archeological significance.

A seafloor fault occurs approximately 1,201ft to the southeast of the proposed well.

Within Unit B, minor wellbore stability and drilling fluid circulation problems may occur from -2,099ft to -2,521ft below sea surface (337ft to 759ft below seabed).

Within Unit C, minor wellbore stability and drilling fluid circulation problems may occur from -2,707ft to -2,879ft below sea surface (945ft to 1,212ft below seabed).

Within Unit D, minor wellbore stability and drilling fluid circulation problems may occur from -3,122ft to -3,281ft below sea surface (1,360ft to 1,519ft below seabed).

Within Unit E, minor wellbore stability and drilling fluid circulation problems may occur from -3,819ft to -4,059ft below sea surface (2,057ft to 2,257ft below seabed).

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Within Unit F, minor wellbore stability and drilling fluid circulation problems may occur from -4,570ft to -5,098ft below sea surface (2,808ft to 3,336ft below seafloor). A **Slight Risk of Gas** and a **Moderate Shallow Water Flow Risk** is interpreted from -5,098ft to -5,777ft below sea surface (3,336ft to 4,015ft below seafloor). **Drilling Caution** is advised, and appropriate drilling methodology is recommended to contain a possible persistent shallow water flow event.

Within Unit G, minor wellbore stability and drilling fluid circulation problems may occur from -5,982ft to -6,441ft below sea surface (4,220ft to 4,679ft below seabed). A **Slight Risk of Gas** and a **Moderate Shallow Water Flow Risk** is interpreted from -6,441ft to -6,695ft below sea surface (4,679ft to 4,933ft below seafloor) and from -7,177ft to the base of the study at -7,487ft below sea surface (5,415ft to 5,725ft below seafloor). **Drilling Caution** is advised, and appropriate drilling methodology is recommended to contain a possible shallow water flow event. **Full Well Control** should have been established at these depths.

The well-path will traverse a fault at -7,177ft below sea surface (5,415ft below seabed). Minor wellbore stability and drilling fluid circulation problems may occur at the fault.

The proposed well location is clear of man-made, biologic, or geologic constraints within 2,000ft of the proposed well site. Pursuant to 30 CFR 550.194 (c), 30 CFR 550.101 (c), and **NTL No. 2005-G07-revised**, if any archaeological or potentially historically significant materials are observed during lease development, operations will immediately cease in that area and appropriate BOEM/BSEE personnel will be notified within 48 hours of discovery. A slight risk of gas is identified in Units F and G. A moderate shallow water flow risk was identified within Units F & G and the potential for minor wellbore stability and drilling circulation problems exists within Units B, C, D, E, F, & G. Walter Oil & Gas Corporation and subcontractors will apply the safest and best available technologies during rig moves and drilling operations.

**Proposed Well 'A' Location
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We appreciate the opportunity to work with you on this project and look forward to continuing as your geohazards consultants. Please contact us if you have any questions or if we can be of further assistance.

Sincerely,



Andrew Haigh
Geophysical Manager
Xodus Group



Matt Keith
Quality Assurance
Echo Offshore, LLC

Attachments:

Proposed EW966 Well 'A'

- Fig. 1 Seabed Depth Extract
- Fig. 2 Seabed Morphology Extract
- Fig. 3 Seabed Amplitude Extract
- Fig. 4 Geohazard Summary Extract Upper
- Fig. 5 Geohazard Summary Extract Lower
- Fig. 6 Side Scan Sonar Mosaic
- Fig. 7 Sub-Bottom Profiler Data Example
- Fig. 8 Inline Data Example
- Fig. 9 Crossline Data Example
- Fig. 10 Top Hole Prognosis
- Fig. 11 ROV Plat
- Fig. 12 Power Spectrum

SECTION 4

HYDROGEN SULFIDE INFORMATION

4.1 CONCENTRATION

Walter anticipates encountering 0 ppm H₂S during the proposed operations.

4.2 CLASSIFICATION

In accordance with Title 30 CFR 250.490(c), Walter requests that the area of proposed operations be classified by the BOEM as H₂S absent.

4.3 H₂S CONTINGENCY PLAN

An H₂S Contingency Plan is not required for the activities proposed in this plan.

4.4 MODELING REPORT

Modeling reports are not required for the activities proposed in this plan.

SECTION 5

BIOLOGICAL, PHYSICAL AND SOCIOECONOMIC INFORMATION

5.1 DEEPWATER BENTHIC COMMUNITIES

The seafloor disturbing activities proposed in this plan are in water depths greater than 300 meters (984'). Echo Offshore LLC was contracted to provide an assessment of the shallow conditions at the proposed surface locations. The purpose of the assessment was to address seafloor conditions that may impact exploratory drilling operations within 2,000 feet of the proposed well sites. Walter will avoid all high-density deepwater benthic communities by 2,000 feet from each proposed mud and cuttings discharge location and 250 feet from the location of all other seafloor disturbances.

5.2 TOPOGRAPHIC FEATURES (BANKS)

Activities proposed in this EP do not fall within 305 meters (1000 feet) of a topographic "No Activity Zone;" therefore, no map is required per NTL No. 2009-G39, "Biologically Sensitive Underwater Features and Areas."

5.3 TOPOGRAPHIC FEATURES STATEMENT (SHUNTING)

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."

5.4 LIVE BOTTOMS (PINNACLE TREND FEATURES)

Ewing Bank Block 966 is not located within 61 meters (200 feet) of any pinnacle trend feature; therefore, a separate bathymetric map is not required per NTL No. 2009-G39, "Biologically Sensitive Underwater Features and Areas."

5.5 LIVE BOTTOMS (LOW RELIEF)

Ewing Bank Block 966 is not located within 30 meters (100 feet) of any live bottom (low relief) feature with vertical relief equal to or greater than 8 feet; therefore, live bottom (low relief) maps are not required per NTL No. 2009-G39, "Biologically Sensitive Underwater Features and Areas."

5.6 POTENTIALLY SENSITIVE BIOLOGICAL FEATURES MAP

Ewing Bank Block 966 is not located within 30 meters (100 feet) of potentially sensitive biological features. In accordance with NTL No. 2009-G39, "Biologically Sensitive Underwater Features and Areas," biologically sensitive area maps are not required.

5.7 THREATENED AND ENDANGERED SPECIES, CRITICAL HABITAT, AND MARINE MAMMAL INFORMATION

The federally listed endangered and threatened species potentially occurring in the lease area and along the Gulf Coast are provided in the table below.

Species	Scientific Name	Status	Potential Presence		Critical Habitat Designated in the Gulf of Mexico
			Lease Area	Coastal	
Marine Mammals					
Manatee, West Indian	<i>Trichechus manatus latirostris</i>	T	--	X	Florida (peninsular)
Whale, Blue	<i>Balaenoptera masculus</i>	E	X ¹	--	None
Whale, Bryde's ⁴	<i>Balaenoptera brydei/edeni</i>	E	X	--	None
Whale, Fin	<i>Balaenoptera physalus</i>	E	X ¹	--	None
Whale, Humpback	<i>Megaptera novaeangliae</i>	E	X ¹	--	None
Whale, North Atlantic Right	<i>Eubalaena glacialis</i>	E	X ¹	--	None
Whale, Rice's ⁴	<i>Balaenoptera ricei</i>	E	X	--	None
Whale, Sei	<i>Balaenopiera borealis</i>	E	X ¹	--	None
Whale, Sperm	<i>Physeter catodon</i> (= <i>macrocephalus</i>)	E	X	--	None
Terrestrial Mammals					
Mouse, Beach (Alabama, Choctawatchee, Perdido Key, St. Andrew)	<i>Peromyscus polionotus</i>	E	-	X	Alabama, Florida (panhandle) beaches
Jaguarundi, Gulf Coast	<i>Puma yagouaroundi cacomitli</i>	E	-	X	None
Ocelot	<i>Leopardus</i> (= <i>Felis</i>) <i>pardalis</i>	E	-	X	None
Bat, Florida Bonneted	<i>Eumops floridanus</i>	E	-	X	None
Panther, Florida	<i>Puma</i> (= <i>Felis</i>) <i>concolor coryi</i>	E	-	X	None
Vole, Florida Salt Marsh	<i>Microtus pennsylvanicus dukecampbelli</i>	E	-	X	None
Deer, Key	<i>Odocoileus virginianus clavium</i>	E	-	X	None
Rabbit, Lower Keys Marsh	<i>Sylvilagus palustris hefneri</i>	E	-	X	None
Rat, Silver Rice	<i>Oryzomys palustris natator</i>	E	-	X	None
Birds					
Plover, Piping	<i>Charadrius melodus</i>	T	-	X	Coastal Texas, Louisiana, Mississippi, Alabama and Florida (panhandle)
Crane, Whooping	<i>Grus Americana</i>	E	-	X	Coastal Texas
Crane, Mississippi sandhill	<i>Grus canadensis pulla</i>	E	-	X	Coastal Mississippi
Caracara, Audubon's Crested	<i>Polyborus plancus audubonii</i>	T	-	X	None
Curlew, Eskimo	<i>Numenius borealis</i>	E	-	X	None
Falcon, Northern Aplomado	<i>Falco femoralis septentrionalis</i>	E	-	X	None
Prairie-chicken, Attwater's Greater	<i>Tympanuchus cupido attwateri</i>	E	-	X	None
Scrub-jay, Florida	<i>Aphelocoma coerulescens</i>	T	-	X	None

Species	Scientific Name	Status	Potential Presence		Critical Habitat Designated in the Gulf of Mexico
			Lease Area	Coastal	
Kite, Everglade Snail	<i>Rostrhamus sociabilis plumbeus</i>	E	-	X	None
Knot, Red	<i>Calidris canutus rufa</i>	T	-	X	None
Rail, Eastern Black	<i>Laterallus jamaicensis ssp. jamaicensis</i>	T	-	X	None
Sparrow, Cape Sable Seaside	<i>Ammodramus maritimus mirabilis</i>	E	-	X	Everglades
Stork, Wood	<i>Mycteria americana</i>	T	-	X	None
Tern, Roseate	<i>Sterna dougallii dougallii</i>	T	-	X	None
Warbler, Bachman's	<i>Vermivora bachmanii</i>	E	-	X	None
Woodpecker, Red-cockaded	<i>Picoides borealis</i>	E	-	X	None
Reptiles					
Sea Turtle, Green	<i>Chelonia mydas</i>	T/E ³	X	X	None
Sea Turtle, Hawksbill	<i>Eretmochelys imbricata</i>	E	X	X	None
Sea Turtle, Kemp's Ridley	<i>Lepidochelys kempi</i>	E	X	X	None
Sea Turtle, Leatherback	<i>Dermochelys coriacea</i>	E	X	X	None
Sea Turtle, Loggerhead	<i>Caretta caretta</i>	T	X	X	Texas, Louisiana, Mississippi, Alabama, Florida
Turtle, Alabama Red-bellied	<i>Pseudemys alabamensis</i>	E	-	X	None
Crocodile, American	<i>Crocodylus acutus</i>	T	-	X	Everglades and Florida Keys
Snake, Eastern Indigo	<i>Drymarchon couperi</i>	T	-	X	None
Tortoise, Gopher	<i>Gopherus polyphemus</i>	T	-	X	None
Turtle, Ringed Map	<i>Graptemys oculifera</i>	T	-	X	None
Turtle, Yellow-blotched Map	<i>Graptemys flavimaculata</i>	T	-	X	None
Fish					
Sturgeon, Gulf	<i>Acipenser oxyrinchus (=oxyrhynchus) desotoi</i>	T	X	X	Coastal Louisiana, Mississippi, Alabama and Florida (panhandle)
Shark, Oceanic Whitetip	<i>Carcharhinus longimanus</i>	E	X	—	None
Sawfish, Smalltooth	<i>Pristis pectinate</i>	E	-	X	None
Grouper, Nassau	<i>Epinephelus striatus</i>	T	-	X	Florida ⁵
Ray, Giant Manta	<i>Manta birostris</i>	E	X	—	None
Sturgeon, Pallid	<i>Scaphirhynchus albus</i>	E	-	X	None
Corals					
Coral, Elkhorn	<i>Acopora palmate</i>	T	X ²	X	Florida ⁵

Species	Scientific Name	Status	Potential Presence		Critical Habitat Designated in the Gulf of Mexico
			Lease Area	Coastal	
Coral, Staghorn	<i>Acopora cervicornis</i>	T	X	X	Florida ⁵
Coral, Boulder Star	<i>Orbicella franksi</i>	T	X	X	Flower Garden Banks and Florida
Coral, Lobed Star	<i>Orbicella annularis</i>	T	X	X	Flower Garden Banks and Florida
Coral, Mountainous Star	<i>Orbicella faveolate</i>	T	X	X	Flower Garden Banks and Florida
Coral, Rough Cactus	<i>Mycetophyllia ferox</i>	T	-	X	Florida ⁵
Coral, Pillar	<i>Dendrogyra cylindrus</i>	T	-	X	Florida ⁵

Abbreviations: E = Endangered; T = Threatened

1 The Blue, Fin, Humpback, North Atlantic Right, and Sei Whales are rare or extralimital in the Gulf of America and are unlikely to be present in the lease area.

2 According to the 2017 EIS, Elkhorn Coral, while uncommon, has been found in the Flower Garden Banks. (BOEM 2017-009)

3 Green Sea Turtles are considered threatened throughout the Gulf of America; however, the breeding population off the coast of Florida is considered endangered.

4 The Bryde's whale, also known as the Bryde's whale complex, is a collection of baleen whales that are still being researched to determine if they are the same species or if they are individual species of whales. In 2021, the Rice's whale, formerly known as the Gulf of Mexico Bryde's whale, was determined to be a separate species. There are less than 100 Rice's whales living in the Gulf of America year-round. These whales retain all the protections of the Gulf of Mexico Bryde's whale under the Endangered Species Act while the regulations are being updated to reflect the name change. Other Bryde's whales are migratory and may enter the Gulf of America; however, the migratory Bryde's whales are rare or extralimital in the Gulf of America and are unlikely to be present in the lease area.

5.8 ARCHAEOLOGICAL REPORT

Ewing Bank Block 962/966 has been determined to have a high potential for containing archaeological properties. / as potentially containing prehistoric archaeological properties. / to be located in an area where historic shipwrecks may exist. In accordance with NTL No. 2005-G07 "Archaeological Resource Surveys and Reports," and NTL No. 2011-JOINT-G01, "Revisions to the List of OCS Lease Blocks Requiring Archaeological Resource Surveys and Reports," an archaeological resource survey report is provided with this plan.

5.9 AIR AND WATER QUALITY INFORMATION

Air and water quality information is not required to be included in this plan per NTL No. 2008-G04, "Information Requirements for Exploration Plans and Development Operations Coordination Documents."

5.10 SOCIOECONOMIC INFORMATION

Socioeconomic information is not required to be included in this plan per NTL No. 2008-G04, "Information Requirements for Exploration Plans and Development Operations Coordination Documents."

SECTION 6

WASTES AND DISCHARGES INFORMATION

6.1 PROJECTED GENERATED WASTES

“Wastes You Will Generate, Treat and Downhole Dispose or Discharge to the Gulf of Mexico” is included as **Attachment 6-A**.

6.2 MODELING REPORT

Modeling reports are not required for the activities proposed in this plan.

ATTACHMENT 6-A

WASTE ESTIMATED TO BE GENERATED, TREATED AND/OR DOWNHOLE DISPOSED OR DISCHARGED TO THE GOM

Please specify if the amount reported is a total or per well amount and be sure to include appropriate units.

Projected generated waste			Projected ocean discharges		Projected Downhole Disposal
Type of Waste	Composition	Projected Amount	Discharge rate	Discharge Method	Answer yes or no
Will drilling occur ? If yes, you should list muds and cuttings					
Water-based drilling fluid	Water based drilling fluid	13248	442 bbl/day/well	Discharge overboard	No
Cuttings wetted with water-based fluid	Cuttings generated while using water based drilling fluids	5842 bbl/well	195 bbl/day/well	Discharge overboard	No
Cuttings wetted with synthetic-based fluid	Cuttings generated while using synthetic based drilling fluid.	2763 bbl/well	92 bbls/day/well	Treated cuttings will be discharged overboard while drilling SBM interval. Cuttings will pass through cuttings dryer to reduce ROC percentage in compliance with EPA and then shunt through downpipe below water line	No
Will humans be there? If yes, expect conventional waste					
Domestic waste	Gray water	8000 bbls/total	11 bbls/hr/well	Processed through DNV Class approved treatment tank and discharge	No
Sanitary waste	Human body treat waste discharge from toilets	2500 bbls total	3 bbls/hr/well	Chlorinate and discharge overboard	No
Is there a deck? If yes, there will be Deck Drainage					
Deck Drainage	Rain water and rig wash	28,000 bbls total	39 bbls/hr/well dependent on rainfall	Oily water is treated in one of four sperators and discharged through Port side caisson (cutting chute) below sea level	No
Will you conduct well treatment, completion, or workover?					
Well treatment fluids	Viscous and casing wash spacers using HEC and small amounts sodium	200 bbls/well	7 bbls/day/well	Discharge overbaord	No
Well completion fluids	Calcium Chloride	500 bbls/well	17 bbls/day/well	Discharge overboard	No
Workover fluids	NA	NA	NA	NA	NA
Miscellaneous discharges. If yes, only fill in those associated with your activity.					
Desalinization unit discharge	NA	NA	NA	NA	NA
Blowout prevent fluid	NA	NA	NA	NA	NA
Ballast water	NA	NA	NA	NA	NA
Bilge water	NA	NA	NA	NA	NA
Excess cement at seafloor	Cement slury	NA	NA	NA	No
Fire water	NA	NA	NA	NA	NA
Cooling water	NA	NA	NA	NA	NA
Will you produce hydrocarbons? If yes fill in for produced water.					
Produced water	Formation water	20,000 bbls	28 bbls/hr	Discharge overboard	No
Please enter individual or general to indicate which type of NPDES permit you will be covered by?					
GMG290129			NOTE: All discharged wastes should comply with the requirements of the NPDES permit.		
NOTE: If you will not have a type of waste for the activity being applied for, enter NA for all columns in the row.					

SECTION 7

AIR EMISSIONS INFORMATION

7.1 SUMMARY INFORMATION

There are no existing facilities or activities co-located with the currently proposed activities; therefore, the Complex Total Emissions are the same as the Plan Emissions and are provided in **Attachment 7-A**.

This information was calculated by: Greer Malbrough
281-578-3388
greer.malbrough@jccteam.com

Attachment 7-A

EP - AIR QUALITY

OMB Control No. 1010-0151
OMB Approval Expires: 10/31/2027

COMPANY	Walter Oil & Gas Corporation
AREA	Ewing Bank
BLOCK	966
LEASE	OCS-G 38008
FACILITY	NA
WELL	Locataion A
COMPANY CONTACT	Greer Malbrough
TELEPHONE NO.	281-578-3388
REMARKS	Drill, complete and test one (1) subsea well with the Sevan Louisiana or equivalent DP semisubmersible.Ultra-Low Sulfur Diesel Fuel Factor

AIR EMISSIONS COMPUTATION FACTORS

Fuel Usage Conversion Factors		Natural Gas Turbines		Natural Gas Engines		Diesel Recip. Engine		Diesel Turbines					
		SCF/hp-hr	8.524			SCF/hp-hr	7.143	Gal/hp-hr	0.0514	Gal/hp-hr	0.0514		
Equipment/Emission Factors	units	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3	REF.	DATE	Reference Links
Natural Gas Turbine	g/hp-hr	0.0086	0.0086	0.0026	1.4515	0.0095	N/A	0.3719	N/A		AP42 3.1-18.3.1-2a	400	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03a01.pdf
RECIP. 2 Cycle Lean Natural Gas	g/hp-hr	0.1293	0.1293	0.0020	6.5998	0.4082	N/A	1.2009	N/A		AP42 3.2-1	700	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03a02.pdf
RECIP. 4 Cycle Lean Natural Gas	g/hp-hr	0.0002	0.0002	0.0020	2.8814	0.4014	N/A	1.8849	N/A		AP42 3.2-2	700	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03a02.pdf
RECIP. 4 Cycle Rich Natural Gas	g/hp-hr	0.0323	0.0323	0.0020	7.7224	0.1021	N/A	11.9408	N/A		AP42 3.2-3	700	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03a02.pdf
Diesel Recip. < 600 hp	g/hp-hr	1	1	1	0.0279	14.1	1.04	N/A	3.03	N/A	AP42 3.3-1	1096	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03a03.pdf
Diesel Recip. > 600 hp	g/hp-hr	0.32	0.182	0.178	0.0055	10.9	0.23	N/A	2.5	N/A	AP42 3.4-1 & 3.4-2	1096	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03a04.pdf
Diesel Boler	lbs/bbl	0.0840	0.0420	0.0105	0.0089	1.0080	0.0084	5.14E-05	0.2100	0.0336	AP42 1.3-4; Pb and NH3: Wa6FIRE (08/2018)	9/98 and 5/10	https://cfpub.epa.gov/webfiles/
Diesel Turbine	g/hp-hr	0.0381	0.0137	0.0137	0.0048	2.7941	0.0013	4.45E-05	0.0105	N/A	AP42 3.1-1 & 3.1-2a	406	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03a01.pdf
Dual Fuel Turbine	g/hp-hr	0.0381	0.0137	0.0137	0.0048	2.7941	0.0095	4.45E-05	0.3719	0.0000	AP42 3.1-18.3.1-2a; AP42 3.1-1 & 3.1-2a	400	https://cfpub.epa.gov/webfiles/
Vessels – Propulsion	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI TSP refer to Diesel Recip. > 600 hp reference	3/19	
Vessels – Drilling Prime Engine, Auxiliary	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI TSP refer to Diesel Recip. > 600 hp reference	3/19	https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-ref-date
Vessels – Diesel Boler	g/hp-hr	0.0466	0.1491	0.1417	0.4400	1.4914	0.0820	3.73E-05	0.1491	0.0003	USEPA 2017 NEI TSP (units converted) refer to Diesel Boler Reference	3/19	
Vessels – Well Stimulation	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI TSP refer to Diesel Recip. > 600 hp reference	3/19	
Natural Gas Heater/Boler/Burner	lbs/MMscf	7.60	1.90	1.90	0.60	190.00	5.50	5.00E-04	84.00	3.2	AP42 1.4-1 & 1.4-2; Pb and NH3: Wa6FIRE (08/2018)	7/88 and 8/19	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03a04.pdf
Combustion Flare (no smoke)	lbs/MMscf	0.00	0.00	0.00	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	https://cfpub.epa.gov/webfiles/
Combustion Flare (light smoke)	lbs/MMscf	2.10	2.10	2.10	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	
Combustion Flare (medium smoke)	lbs/MMscf	10.50	10.50	10.50	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	https://www3.epa.gov/ttnchie1/ap42/ch13/final/C1305_02-05-18.pdf
Combustion Flare (heavy smoke)	lbs/MMscf	21.00	21.00	21.00	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	
Liquid Flaring	lbs/bbl	0.42	0.0966	0.0651	5.964	0.84	0.01428	5.14E-05	0.21	0.0336	AP42 1.3-1 through 1.3-3 and 1.3-5	5/10	https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01a03.pdf
Storage Tank	tons/yr/tank					4.300					2014 Gulfwide Inventory, Avg. emss (upper bound of 95% CI)	2017	https://www.boem.gov/environmental/environmental-studies/2014-gulfwide-emission-inventory
Flare/Gas	lbs/hr/component					0.0005					API Study	12/93	https://www.aia.org/
Glycol Dehydrator	tons/yr/dehydrator					19.240					2011 Gulfwide Inventory, Avg. emss (upper bound of 95% CI)	2014	https://www.boem.gov/environmental/environmental-studies/2011-gulfwide-emission-inventory
Cold Vent	tons/yr/vent					44.747					2014 Gulfwide Inventory, Avg. emss (upper bound of 95% CI)	2017	https://www.boem.gov/environmental/environmental-studies/2014-gulfwide-emission-inventory
Waste Incinerator	lb/ton		15.0	15.0	2.5	2.0	N/A	N/A	20.0	N/A	AP 42 2.1-12	1096	https://www3.epa.gov/ttnchie1/ap42/ch02/final/c02a01.pdf
On-Ice – Loader	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	https://www.epa.gov/moves/nonroad2008a-installation-and-updates
On-Ice – Other Construction Equipment	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	
On-Ice – Other Survey Equipment	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	
On-Ice – Tractor	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	
On-Ice – Truck (for gravel island)	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	
On-Ice – Truck (for surveys)	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	
Man Camp - Operation (max people/day)	tons/person/day		0.0004	0.0004	0.0004	0.006	0.001	N/A	0.001	N/A	BOEM 2014-1001	2014	https://www.boem.gov/sites/default/files/uploadedFiles/BOEM/BOEM_NAroom/Library/Publications/2014-1001.pdf
Vessels – Ice Management Diesel	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI TSP refer to Diesel Recip. > 600 hp reference	3/19	https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-ref-date
Vessels – Hovercraft Diesel	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI TSP refer to Diesel Recip. > 600 hp reference	3/19	https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-ref-date

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

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

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

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

AIR EMISSIONS CALCULATIONS - 1ST YEAR

COMPANY	AREA	BLOCK	LEASE	FACILITY	WELL	CONTACT	PHONE	REMARKS																						
Arctic Slope Regional Corporation	Crude Tank	BP	22-0-0008	NA	Location A	Steve Manning	907-476-3388	On-ice complete and test one (1) barge well with the Swan Louisiana or equivalent DP semi-trailer engine and use Diesel Fuel Factor																						
OPERATIONS	EQUIPMENT	EQUIPMENT ID	RATING	HP	MAX FUEL GAL/HR	ACT FUEL GAL/D	RUN TIME	MAXIMUM POUNDS PER HOUR	ESTIMATED TONS																					
	Diesel Engines	HP	SCF/HR	SCF/D	HR/D	D/YR	TSP	PM10	PM2.5	SOx	NOx	VOG	Ph	CO	NO1	TSP	PM10	PM2.5	SOx	NOx	VOG	Ph	CO	NO1						
	Net Gas Engines	HP	SCF/HR	SCF/D	HR/D	D/YR	TSP	PM10	PM2.5	SOx	NOx	VOG	Ph	CO	NO1	TSP	PM10	PM2.5	SOx	NOx	VOG	Ph	CO	NO1						
DRILLING	VESSELS - Drilling - Population Engine - Diesel	Sevan Louisiana	48344	2384.21343	57221.12	24	78	32.89	19.73	19.13	0.48	783.34	22.82	0.00	122.86	0.23	30.00	18.46	17.91	0.45	733.21	21.08	0.00	115.00	0.21					
	VESSELS - Drilling - Population Engine - Diesel	jet equivalent	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	VESSELS - Drilling - Population Engine - Diesel	DP semi - sub	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	VESSELS - Drilling - Population Engine - Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	Vesels - Diesel Barge		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	Vesels - Drilling Prime Engine, Auxiliary		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
FACILITY INSTALLATION	VESSELS - Heavy LR Vessel/Derrick Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
DRILLING	Liquid Flaring		BPD																											
WELL TEST	COMBUSTION FLARE - no smoke		0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	COMBUSTION FLARE - light smoke		0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	COMBUSTION FLARE - medium smoke		0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	COMBUSTION FLARE - heavy smoke		0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
ALASKA-SPECIFIC SOURCES	VESSELS		KW			HR/D	D/YR																							
	VESSELS - Ice Management Diesel		0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
2026	Facility Total Emissions							32.89	19.73	19.13	0.48	783.34	22.82	0.00	122.86	0.23	30.00	18.46	17.91	0.45	733.21	21.08	0.00	115.00	0.21					
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES															2,297.70			2,297.70	2,297.70	2,297.70				87.197.67					
DRILLING	VESSELS - Crew Diesel	2 x 2005	4130	212.47198	5099.33	24	78	2.91	1.76	1.71	0.04	69.81	2.01	0.00	10.95	0.02	2.73	1.65	1.60	0.04	65.34	1.88	0.00	10.25	0.02					
	VESSELS - Supply Diesel	2 x 2005	4130	212.47198	5099.33	24	78	2.91	1.76	1.71	0.04	69.81	2.01	0.00	10.95	0.02	2.73	1.65	1.60	0.04	65.34	1.88	0.00	10.25	0.02					
FACILITY	VESSELS - Tugs Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
INSTALLATION	VESSELS - Material Tug Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	VESSELS - Crew Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	VESSELS - Supply Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
PRODUCTION	VESSELS - Support Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
ALASKA-SPECIFIC SOURCES	On-ice Equipment			GAL/HR	GAL/D																									
	Man Camp - Operation (maximum people per day)			PEOPLE/DAY																										
	VESSELS					HR/D	D/YR																							
	On-ice - Loader			KW	0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	On-ice - Other Construction Equipment				0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	On-ice - Other Survey Equipment				0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	On-ice - Tractor				0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	On-ice - Truck (for gravel island)				0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	On-ice - Truck (for surveys)				0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	Man Camp - Operation				0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	VESSELS - Hovercraft Diesel				0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
2026	Non-Facility Total Emissions							8.83	3.62	3.41	0.08	139.62	4.91	0.00	21.90	0.04	5.45	3.29	3.19	0.08	130.68	3.76	0.00	20.50	0.04					

AIR EMISSIONS CALCULATIONS - 2ND YEAR

COMPANY	AREA	BLOCK	LEASE	FACILITY	WELL					CONTACT	PHONE	REMARKS												
OPERATIONS	Order Oil & Gas Company	NO	2010-2010	NA	Location A					Steve Mangan	805-439-2038	Oil: complete and last one (1) column will with the Santa Barbara or equivalent OP parameters (oil: complete and last one (1) column will with the Santa Barbara or equivalent OP parameters)												
	EQUIPMENT	EQUIPMENT ID	RATING	MAX FUEL	ACT FUEL	RUN TIME						ESTIMATED TONS												
	Diesel Engines	HP	GAL/HR	SCF/HR	SCFD																			
	Net Gas Engines	HP	SCF/HR	SCFD																				
	Surveys	MMBTU/HR	SCF/HR	SCFD	HR/D	D/YR	TSP	PM10	PM2.5	SOx	NOx	VOC	Ph	CO	NO3	TSP	PM10	PM2.5	SOx	NOx	VOC	Ph	CO	NO3
DRILLING	VESSELS - Drilling - Propulsion Engine - Diesel	Sevan Louisiana	48344	2384.21343	57221.12	24	140	32.89	19.73	19.13	0.48	783.34	22.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS - Drilling - Propulsion Engine - Diesel	or equivalent	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS - Drilling - Propulsion Engine - Diesel	DP semi-sub	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS - Drilling - Propulsion Engine - Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Vesels - Diesel Booter		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Vesels - Drilling Prime Engine, Auxiliary		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FACILITY INSTALLATION	VESSELS - Heavy Lift Vessel/Derrick Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		BPD																						
DRILLING	Liquid Flaring		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WELL TEST	COMBUSTION FLARE - no smoke		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	--	0.00	
	COMBUSTION FLARE - light smoke		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	--	0.00	
	COMBUSTION FLARE - medium smoke	208333.3	24	2	2.19	2.19	2.19	0.12	14.87	7.45	--	67.81	--	0.05	0.05	0.05	0.00	0.36	0.16	--	1.63	--	0.00	
	COMBUSTION FLARE - heavy smoke		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	--	0.00	
ALASKA-SPECIFIC SOURCES	VESSELS		kW		HR/D	D/YR																		
	VESSELS - Ice Management Diesel		0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	
2027	Facility Total Emissions							34.88	21.91	21.32	0.59	798.21	38.01	0.00	199.68	0.23	54.98	35.19	32.20	0.80	1,316.37	38.02	0.00	288.04
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES																2,297.70			2,297.70	2,297.70	2,297.70		87,197.67
DRILLING	VESSELS - Crew Diesel	2 x 2005	4130	212.47198	5099.33	24	140	2.91	1.76	1.71	0.04	69.81	2.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS - Supply Diesel	2 x 2005	4130	212.47198	5099.33	24	140	2.91	1.76	1.71	0.04	69.81	2.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FACILITY	VESSELS - Tugs Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
INSTALLATION	VESSELS - Material Tug Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS - Crew Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS - Supply Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	VESSELS - Support Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ALASKA-SPECIFIC SOURCES	On-Ice Equipment				GAL/HR	GAL/D																		
	Man Camp - Operation (maximum people per day)		PEOPLE/DAY																					
	VESSELS				HR/D	D/YR																		
	On-Ice - Loader		kW	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	
	On-Ice - Other Construction Equipment		0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	
	On-Ice - Other Survey Equipment		0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	
	On-Ice - Tractor		0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	
	On-Ice - Truck (for gravel island)		0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	
	On-Ice - Truck (for surveys)		0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	
	Man Camp - Operation		0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	--	0.00	
	VESSELS - Hovercraft Diesel		0	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	--	0.00	
2027	Non-Facility Total Emissions							5.83	3.62	3.41	0.08	139.62	4.01	0.00	21.90	0.84	9.79	6.91	6.73	0.14	234.06	6.74	0.00	36.79

AIR EMISSIONS CALCULATIONS - 3RD YEAR

COMPANY	AREA	BLOCK	LEASE	FACILITY	WELL	CONTACT	PHONE	REMARKS																				
Water Oil & Gas Company	Extra Bank	605	DCS-01-3859	NO	Location A	Donna Thompson	604-275-3385	2.0L complete and test one (1) engine well with the Seven Louisiana or equivalent DP semi-horsepower diesel engine Diesel Fuel Factor																				
OPERATIONS	EQUIPMENT	EQUIPMENT ID	RATING	MAX FUEL	ACT. FUEL	RUN TIME	MAXIMUM POUNDS PER HOUR											ESTIMATED TONS										
	Diesel Engines		HP	GAL/HR	GAL/D		TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3				
	Net Gas Engines		MMBtu/HR	SCFH/HR	SCFD	HR/D	DI/YR																					
DRILLING	VESSLS - Drilling - Population Engine - Diesel	Seven Louisiana	48344	2384.213427	57221.12	24	140	32.59	19.73	19.13	0.48	763.34	22.52	0.00	122.88	0.23	54.93	33.14	32.14	0.80	1318.01	37.84	0.00	206.41	0.38			
	VESSLS - Drilling - Population Engine - Diesel	or equivalent	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	VESSLS - Drilling - Population Engine - Diesel	DP semi-sub	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	VESSLS - Drilling - Population Engine - Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	VESSLS - Diesel Boiler		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	VESSLS - Drilling Prime Engine, Auxiliary		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
FACILITY INSTALLATION	VESSLS - Heavy Lift Vessel/Derrick Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
DRILLING	Liquid Flaring		BPD			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
WELL TEST	COMBUSTION FLARE - no smoke		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--			
	COMBUSTION FLARE - light smoke		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--			
	COMBUSTION FLARE - medium smoke	208333.3	24	2	2.19	2.19	2.19	0.12	14.87	7.46	--	67.81	--	0.05	0.05	0.05	0.00	0.36	0.16	--	1.63	--						
	COMBUSTION FLARE - heavy smoke	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--			
ALASKA-SPECIFIC SOURCES	VESSLS		KW			HR/D	DI/YR																					
	VESSLS - Ice Management Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00				
2028	Facility Total Emissions							34.88	21.91	21.32	0.99	799.21	38.01	0.00	196.68	0.23	54.96	33.19	32.20	0.80	1,316.37	38.02	0.00	208.04	0.38			
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES	69.0														2,297.70			2,297.70	2,297.70	2,297.70				67,197.67			
DRILLING	VESSLS - Crew Diesel	2 x 2065	4130	212.4719803	5099.33	24	140	2.91	1.76	1.71	0.04	69.81	2.01	0.00	10.95	0.02	4.89	2.95	2.86	0.07	117.28	3.37	0.00	18.39	0.03			
	VESSLS - Supply Diesel	2 x 2065	4130	212.4719803	5099.33	24	140	2.91	1.76	1.71	0.04	69.81	2.01	0.00	10.95	0.02	4.89	2.95	2.86	0.07	117.28	3.37	0.00	18.39	0.03			
FACILITY	VESSLS - Tug Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
	VESSLS - Material Tug Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
INSTALLATION	VESSLS - Crew Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
	VESSLS - Supply Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
PRODUCTION	VESSLS - Support Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
ALASKA-SPECIFIC SOURCES	On-ice Equipment			GAL/HR	GAL/D																							
	Man Camp - Operation (maximum people per day)		PEOPLE/DAY			HR/D	DI/YR																					
	VESSLS		KW	0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00				
	On-ice - Loader		0	0.0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00				
	On-ice - Other Construction Equipment		0	0.0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00				
	On-ice - Other Survey Equipment		0	0.0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00				
	On-ice - Tractor		0	0.0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00				
	On-ice - Truck (for gravel island)		0	0.0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00				
	On-ice - Truck (for surveys)		0	0.0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00				
	Man Camp - Operation		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00				
	VESSLS - Hovercraft Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00				
2028	Non-Facility Total Emissions							6.83	3.62	3.41	0.08	199.62	4.01	0.00	21.90	0.04	9.79	5.91	5.73	0.14	234.66	6.74	0.00	36.79	0.07			

AIR EMISSIONS CALCULATIONS - 4TH YEAR

COMPANY	AREA	BLOCK	LEASE	FACILITY	WELL	CONTACT	PHONE	REMARKS																						
Water Oil & Gas Company	Extra Bank	BP	2025-2025	NO	Location A	Donna Thompson	620-275-3385	2.0L complete and test one (1) engine well with the Seven Louisiana or equivalent DP semi-horsepower diesel fuel factor																						
OPERATIONS	EQUIPMENT	EQUIPMENT ID	RATING	MAX FUEL	ACT FUEL	RUN TIME	MAXIMUM POUNDS PER HOUR												ESTIMATED TONS											
	Net Gas Engines		HP	GAL/HR	GAL/D		TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NO2	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NO2						
	Net Gas Engines		MMBTU/HR	SCFH/HR	SCFD	HR/D	D/YR																							
DRILLING	VESSLS - Drilling - Population Engine - Diesel	Seven Louisiana	48,544	2,384.21	5,727.12	24	140	32.59	19.73	19.13	0.48	763.34	22.52	0.00	122.88	0.23	54.93	33.14	32.14	0.80	1318.01	37.84	0.00	206.41	0.38					
	VESSLS - Drilling - Population Engine - Diesel	or equivalent	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSLS - Drilling - Population Engine - Diesel	DP semi-sub	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSLS - Drilling - Population Engine - Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSLS - Diesel Boiler		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSLS - Drilling Prime Engine, Auxiliary		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FACILITY INSTALLATION	VESSLS - Heavy Lift Vessel/Derrick Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DRILLING	Liquid Flaring		BPD			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WELL TEST	COMBUSTION FLARE - no smoke		0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	--	
	COMBUSTION FLARE - light smoke		0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	--	
	COMBUSTION FLARE - medium smoke		208333.3			24	2	2.19	2.19	2.19	0.12	14.87	7.49	--	67.81	--	0.05	0.05	0.05	0.00	0.36	0.18	--	1.63	--	0.00	--	0.00	--	
	COMBUSTION FLARE - heavy smoke		0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	--	
ALASKA-SPECIFIC SOURCES	VESSLS		KW			HR/D	D/YR																							
	VESSLS - Ice Management Diesel		0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	
2029	Facility Total Emissions							34.88	21.91	21.32	0.59	798.21	38.01	0.00	196.68	0.23	54.98	33.19	32.20	0.80	1,316.37	38.02	0.00	208.04	0.38					
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES	69.0														2,297.70			2,297.70	2,297.70	2,297.70					67,197.67				
DRILLING	VESSLS - Crew Diesel	2 x 2065	4130	212.47	19603	5099.33	24	140	2.91	1.76	1.71	0.04	69.81	2.01	0.00	10.95	0.02	4.89	2.95	2.86	0.07	117.28	3.37	0.00	18.39	0.03				
	VESSLS - Supply Diesel	2 x 2065	4130	212.47	19603	5099.33	24	140	2.91	1.76	1.71	0.04	69.81	2.01	0.00	10.95	0.02	4.89	2.95	2.86	0.07	117.28	3.37	0.00	18.39	0.03				
FACILITY	VESSLS - Tug Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
INSTALLATION	VESSLS - Material Tug Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSLS - Crew Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSLS - Supply Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	VESSLS - Support Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ALASKA-SPECIFIC SOURCES	On-ice Equipment					GAL/HR	GAL/D																							
	Man Camp - Operation (maximum people per day)		PEOPLE/DAY																											
	VESSLS		KW			HR/D	D/YR																							
	On-ice - Loader		0	0.0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	
	On-ice - Other Construction Equipment		0	0.0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	
	On-ice - Other Survey Equipment		0	0.0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	
	On-ice - Tractor		0	0.0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	
	On-ice - Truck (for gravel island)		0	0.0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	
	On-ice - Truck (for surveys)		0	0.0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	
	Man Camp - Operation		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	
	VESSLS - Hovercraft Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	
2029	Non-Facility Total Emissions							8.83	3.52	3.41	0.08	139.62	4.01	0.00	21.90	0.04	9.79	5.91	5.73	0.14	234.66	6.74	0.00	36.79	0.07					

AIR EMISSIONS CALCULATIONS - 6TH YEAR

COMPANY	AREA	BLOCK	LEASE	FACILITY	WELL	CONTACT	PHONE	REMARKS																							
Arctic Oil & Gas Corporation	Exxon Bank	NO	CCO-8008	NA	Location A	Chris Manning	814-219-3388	Doi complete and test one (1) tubes well with the Seven Louisiana or equivalent DP semi-trailer (4000 gal) Diesel Fuel Factor																							
OPERATIONS	EQUIPMENT	EQUIPMENT ID	RATING	MAX FUEL ACT. FUEL	RUN TIME	MAXIMUM POUNDS PER HOUR												ESTIMATED TONS													
	Diesel Engines		HP	GAL/HR	GAL/D																										
	Net Gas Engines		HP	SCFH/HR	SCFD																										
	Boilers		MMBTU/HR	SCFH/HR	SCFD	HR/D	D/YR																								
DRILLING	VESSELS - Drilling - Propulsion Engine - Diesel	Seven Louisiana	48344	2384.21343	57221.12	24	140	32.89	19.73	19.13	0.48	783.35	22.52	0.00	122.58	0.23	54.93	33.14	32.14	0.80	1316.91	97.84	0.00	206.41	0.38						
	VESSELS - Drilling - Propulsion Engine - Diesel	jet equivalent	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	VESSELS - Drilling - Propulsion Engine - Diesel	DP semi-sub	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	VESSELS - Drilling - Propulsion Engine - Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	Vessels - Diesel Barge		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	Vessels - Drilling Prime Engine, Auxiliary		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
FACILITY INSTALLATION	VESSELS - Heavy Lift Vessel/Derrick Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
DRILLING	Liquid Flaring		BPD					0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
WELL TEST	COMBUSTION FLARE - no smoke		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	COMBUSTION FLARE - light smoke		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	COMBUSTION FLARE - medium smoke		208333.3			24	2	2.19	2.19	2.19	0.12	14.87	7.46	--	67.81	--	0.05	0.05	0.05	0.00	0.36	0.16	--	1.63	--						
	COMBUSTION FLARE - heavy smoke		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
ALASKA-SPECIFIC SOURCES	VESSELS		KW			HR/D	D/YR																								
	VESSELS - Ice Management Diesel		0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00					
2030	Facility Total Emissions							34.88	21.91	21.32	0.59	796.21	30.61	0.00	190.68	0.23	54.98	33.19	32.20	0.80	1,316.37	98.62	0.00	206.04	0.38						
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES	09.9																2,297.70			2,297.70	2,297.70	2,297.70				87,197.67				
DRILLING	VESSELS - Crew Diesel	2 x 2065	4130	212.47198	5099.33	24	140	2.91	1.76	1.71	0.04	69.81	2.01	0.00	10.95	0.02	4.89	2.95	2.86	0.07	117.28	3.37	0.00	18.39	0.03						
	VESSELS - Supply Diesel	2 x 2065	4130	212.47198	5099.33	24	140	2.91	1.76	1.71	0.04	69.81	2.01	0.00	10.95	0.02	4.89	2.95	2.86	0.07	117.28	3.37	0.00	18.39	0.03						
FACILITY	VESSELS - Tugs Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
INSTALLATION	VESSELS - Material Tug Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	VESSELS - Crew Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	VESSELS - Supply Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
PRODUCTION	VESSELS - Support Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
ALASKA-SPECIFIC SOURCES	On-ice Equipment			GAL/HR	GAL/D																										
	Man Camp - Operation (maximum people per day)	PEOPLE/DAY																													
	VESSELS		KW			HR/D	D/YR																								
	On-ice - Loader		0	0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00					
	On-ice - Other Construction Equipment		0	0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00					
	On-ice - Other Survey Equipment		0	0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00					
	On-ice - Tractor		0	0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00					
	On-ice - Truck (for gravel island)		0	0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00					
	On-ice - Truck (for surveys)		0	0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00					
	On-ice - Truck (for gravel island)		0	0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00					
	Man Camp - Operation		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00					
	VESSELS - Hovercraft Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00					
2030	Non-Facility Total Emissions							6.63	3.62	3.41	0.08	139.62	4.91	0.00	21.96	0.04	9.79	6.91	6.73	0.14	234.66	6.74	0.00	36.79	0.07						

AIR EMISSIONS CALCULATIONS - 6TH YEAR

COMPANY	AREA	BLOCK	LEASE	FACILITY	WELL					CONTACT	PHONE	REMARKS													
Walter O&G Services	Evans Bank	NO	COAS 9009	NA	Location 1					Don Macgregor	815-978-2388	Don't complete and test one (1) column cell with the Seven Louisiana or equivalent DP semi-trailer (4000 lbs) Diesel Fuel Factor													
OPERATIONS	EQUIPMENT	EQUIPMENT ID	RATING	MAX FUEL	ACT. FUEL	RUN TIME						ESTIMATED TONS													
	Diesel Engines		HP	GAL/HR	GAL/D																				
	Net Gas Engines		HP	SCF/HR	SCFD																				
	Burners		MMBTU/HR	SCF/HR	SCFD	HR/D	DI/YR	TSP	PM10	PM2.5	SOx	NOx	VOC	Ph	CO	NO2	TSP	PM10	PM2.5	SOx	NOx	VOC	Ph	CO	NO2
DRILLING	VESSELS-Drilling - Propulsion Engine - Diesel	Seven Louisiana	48344	2384.21343	57221.12	24	90	32.89	19.73	19.13	0.48	783.34	22.52	0.00	122.86	0.23	35.31	21.30	20.68	0.51	548.01	24.32	0.00	132.89	0.25
	VESSELS-Drilling - Propulsion Engine - Diesel	or equivalent	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS-Drilling - Propulsion Engine - Diesel	DP semi-sub	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS-Drilling - Propulsion Engine - Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS - Diesel Boiler		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS - Drilling Prime Engine, Auxiliary		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FACILITY INSTALLATION	VESSELS - Heavy Lift Vessel/Derrick Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DRILLING	Liquid Flaring		BPD			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WELL TEST	COMBUSTION FLARE - light smoke		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--
	COMBUSTION FLARE - no smoke		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--
	COMBUSTION FLARE - medium smoke	200333.3	24	2	2.19	2.19	2.19	0.12	14.87	7.45	--	67.81	--	0.05	0.05	0.05	0.00	0.36	0.18	--	1.63	--	--	--	--
	COMBUSTION FLARE - heavy smoke	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--
ALASKA-SPECIFIC SOURCES	VESSELS		KW			HR/D	DI/YR																		
	VESSELS - Ice Management Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00
2031 Facility Total Emissions						34.88	21.91	21.32	0.59	798.21	30.01	0.00	198.68	0.23	55.36	21.36	20.72	0.52	846.36	24.50	0.00	134.92	0.25		
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES	0.0															2,297.70			2,297.70	2,297.70	2,297.70		87,197.87	
DRILLING	VESSELS-Crew Diesel	2 x 2005	4130	212.47198	5099.33	24	90	2.91	1.76	1.71	0.04	69.81	2.01	0.00	10.95	0.02	3.15	1.90	1.84	0.05	75.39	2.17	0.00	11.83	0.02
	VESSELS - Supply Diesel	2 x 2005	4130	212.47198	5099.33	24	90	2.91	1.76	1.71	0.04	69.81	2.01	0.00	10.95	0.02	3.15	1.90	1.84	0.05	75.39	2.17	0.00	11.83	0.02
FACILITY	VESSELS - Tugs Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INSTALLATION	VESSELS - Material Tug Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS - Crew Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS - Supply Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	VESSELS - Support Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ALASKA-SPECIFIC SOURCES	On-ice Equipment			GAL/HR	GAL/D																				
	Man Camp - Operation (maximum people per day)		PEOPLE/DAY																						
	VESSELS					HR/D	DI/YR																		
	On-ice - Loader		KW	0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00
	On-ice - Other Construction Equipment		0	0.0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00
	On-ice - Other Survey Equipment		0	0.0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00
	On-ice - Tractor		0	0.0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00
	On-ice - Truck (for gravel island)		0	0.0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00
	On-ice - Truck (for surveys)		0	0.0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00
	Man Camp - Operation		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00
	VESSELS - Hovercraft Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00
2031 Non-Facility Total Emissions						5.83	3.62	3.41	0.08	139.62	4.91	0.00	21.90	0.04	6.29	3.80	3.68	0.09	190.79	4.34	0.00	23.66	0.04		

AIR EMISSIONS CALCULATIONS

COMPANY	AREA	BLOCK	LEASE	FACILITY	WELL				
Walter Oil & Gas Corporation	966	OCS-G 38008	NA	Locataion A					
Year	Facility Emitted Substance								
	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3
2026	30.60	18.46	17.91	0.45	733.21	21.08	0.00	115.00	0.21
2027	54.98	33.19	32.20	0.80	1316.37	38.02	0.00	208.04	0.38
2028	54.98	33.19	32.20	0.80	1316.37	38.02	0.00	208.04	0.38
2029	54.98	33.19	32.20	0.80	1316.37	38.02	0.00	208.04	0.38
2030	54.98	33.19	32.20	0.80	1316.37	38.02	0.00	208.04	0.38
2031	35.36	21.36	20.72	0.52	846.36	24.50	0.00	134.32	0.25
Allowable	2297.70			2297.70	2297.70	2297.70		57197.67	

SECTION 8 OIL SPILL INFORMATION

8.1 OIL SPILL RESPONSE PLANNING

All the proposed activities and facilities in this EP will be covered by the Oil Spill Response Plan (OSRP) filed by Walter Oil & Gas Corporation (Company No. 00730) dated July 2025 and last approved on January 7, 2026 (OSRP Control No. 0.370).

8.2 SPILL RESPONSE SITES

Primary Response Equipment Location	Preplanned Staging Location
Houma, LA	Houma, LA
Harvey, LA	Leeville, LA
Leeville, LA	Fourchon, LA

8.3 OSRO INFORMATION

Walter Oil & Gas Corporation's primary equipment providers are Clean Gulf Associates (CGA), Marine Spill Response Corporation (MSRC), and National Response Corporation (NRCC). Clean Gulf Associates Services, LLC (CGAS) will provide closest available personnel, as well as a CGAS supervisor to operate the equipment. MSRC personnel are responsible for operating MSRC response equipment. Through its Independent Contractor Network (ICN), NRCC will also provide closest available personnel, as well as an NRCC ICN supervisor to operate the equipment.

8.4 WORST CASE SCENARIO DETERMINATION

Category	Regional OSRP WCD - Drilling	EP WCD - Drilling
Type of activity	Drilling	Drilling
Facility location (area/block)	GC 41	EW 966
Facility designation	Location A	Location A
Distance to nearest shoreline (miles)	74	69
Storage tanks (bbl)	0	0
Uncontrolled blowout (bbl)	432,298	62,260
Total volume (bbl)	432,298	62,260
Type of oil(s) (crude, condensate, diesel)	Crude	Crude
API gravity	37.0°	29.0°

Walter has determined that the worst-case scenario from the activities proposed in this EP does not supersede the worst-case scenario from our approved Regional OSRP.

Since Walter Oil & Gas Corporation has the capability to respond to the worst-case spill scenario included in our Regional OSRP approved on January 7, 2026, and since the worst-case scenario determined for our EP does not replace the worst-case scenario in our Regional OSRP, Walter Oil & Gas Corporation certifies that Walter Oil & Gas Corporation has the capability to respond, to the maximum extent practicable, to a worst-case discharge, or a substantial threat of such a discharge, resulting from the activities proposed in this EP.

8.5 OIL SPILL RESPONSE DISCUSSION

The Oil Spill Response Discussion is included as **Attachment 8-A**.

8.6 MODELING REPORT

Modeling reports are not required for the activities proposed in this plan.

Attachment 8-A

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 62,260 barrels of crude oil with an API gravity of 29°.

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 available on the BOEM website. The results are shown in **Figure 1**. The BOEM OSRAM identifies the highest probability of impact to the shoreline of Cameron Parish within 30 days. Cameron Parish includes the east side of Sabine Lake, Sabine National Wildlife Refuge, Calcasieu Lake, Lacassine National Wildlife Refuge (inland) and Grand Lake. Cameron Parish also includes the area along the coastline from Sabine Pass to Big Constance Lake in Rockefeller Wildlife Refuge. This region is composed of open public beaches, marshlands and swamps. It serves as a habitat for numerous birds, finfish and other animals, including several rare, threatened and endangered species.

Response

Walter Oil & Gas Corporation will make every effort to respond to the Worst Case Discharge as effectively as practicable. A description of the response equipment under contract to contain and recover the Worst Case Discharge is shown in **Figure 2**.

Using the estimated chemical and physical characteristics of crude oil, an ADIOS weathering model was run on a similar product from the ADIOS oil database.

Natural Weathering Data: EW 966, Location A	Barrels of Oil
WCD Volume	62,260
Less 13% natural evaporation/dispersion	8,094
Remaining volume	54,166

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.

Walter Oil & Gas Corporation'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. Slick containment boom and sorbent boom would be immediately called out and on-scene as soon as possible. Offshore response strategies may include attempting to skim utilizing CGA response equipment, with a total

derated skimming capacity of 149,223 barrels. Temporary storage associated with skimming equipment equals 28,498 barrels. If additional storage is needed, various storage barges with a total capacity of 185,701 barrels 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 would depend upon existing environmental conditions. Shoreline protection would include the use of CGA near shore and shallow water skimmers with a totaled derated skimming capacity of 61,768 barrels. Temporary storage associated with skimming equipment equals 833 barrels. If additional storage is needed, various storage barges with a total capacity of 74,856 barrels 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. Through CGA membership access to AMPOL, Walter will ensure access to 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. Walter Oil & Gas Corporation’s contract Incident Management Team has access to the applicable ACP(s) and GRP(s).

Based on the anticipated worst case discharge scenario, Walter Oil & Gas Corporation 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 58 hours (based on the equipment’s Effective Daily Recovery Capacity (EDRC)).

Initial Response Considerations

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

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

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

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

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

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

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

Offshore Response Actions

Equipment Deployment

Surveillance

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

Dispersant application assets

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

Containment boom

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

Oceangoing Boom Barge

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

In-situ Burn assets

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

Dedicated off-shore skimming systems

General

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

CGA HOSS Barge

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

CGA 95' Fast Response Vessels (FRVs)

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

CGA FRUs

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

Koseq Skimming Systems

- To the area of the thickest oil
- PIDVs with a minimum of 6,000 bbls storage capacity
- PIDVs at least 220' in length
- PIDVs with deck space of 100' x 50' to provide space for arms, tanks, and crane
- PIDVs for shallow water should be deck barges with a draft of <10 feet when fully loaded

NRCC Oil Spill Response Barge (OSRB)

- Use in areas with heaviest oil concentrations

NRCC Oil Spill Response Vessel (OSRV)

- To the area of the thickest oil
- Use as far off-shore as allowed

NRCC Vessel of Opportunity Skimming System (VOSS)

- To the area of the thickest oil
- Use as far off-shore as allowed
- VOOs minimum 110' in length

- VOOs with minimum of 8x15 of optimum deck space
- VOOs with 200-400 ft of boom
- Storage tanks of 500 bbls or more

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 Walter Oil & Gas Corporation'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

CGA Minimum Acceptable Capabilities for Vessels of Opportunity (VOO)

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

Capability	FRU	KOSEQ	AquaGuard
Type of Vessel	Utility Boat	Offshore Supply Vessel	Utility Boat
Operating parameters			
Sea State	3-5 ft max	9.8 ft max	3-5 ft max
Skimming speed	≤1 kt	≤3 kts	≤1 kt
Vessel size			
Minimum Length	100 ft	200 ft	100 ft
Deck space for: • Tank(s) • Crane(s) • Boom Reels • Hydraulic Power Units • Equipment Boxes	18x32 ft	100x40 ft	18x32 ft
Communication Assets	Marine Band Radio	Marine Band Radio	Marine Band Radio

Tactical use of Vessels of Opportunity (VOO): Walter Oil & Gas Corporation 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.

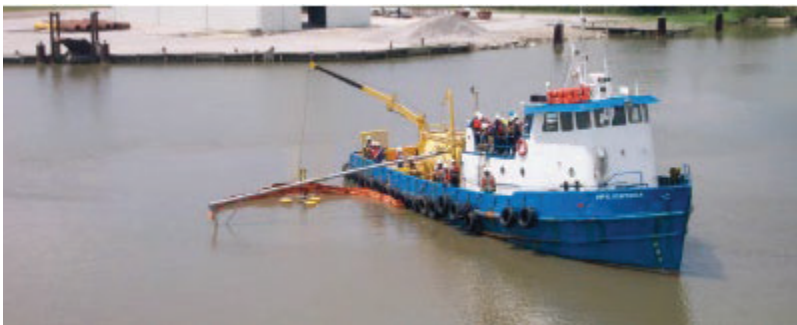
Tactical Overview

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.

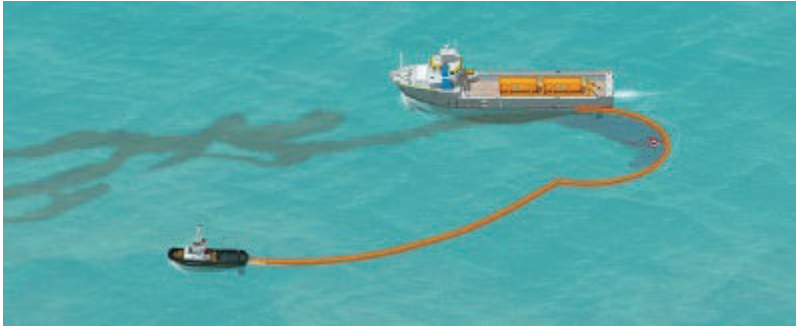
Possible Task Force Configuration (Multiple VOOs can be deployed in a task force)

- 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 220' with at least 100' x 50' of free deck space. On one 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 or brush skimmer by the Arm face. The weir or brush is adjusted to maximize the oil encounter rate. 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 the vessels liquid mud tanks in accordance with the vessel COI. Once the vessel is full, oil can be offloaded 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. 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. Additionally, 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), for an approximate total storage capability of at least 6,000 bbls. 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 on-deck 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 – $\geq$ 220' Offshore Supply Vessels (OSV) per Koseq Arm

2 to 4 portable storage tanks (500 bbl)

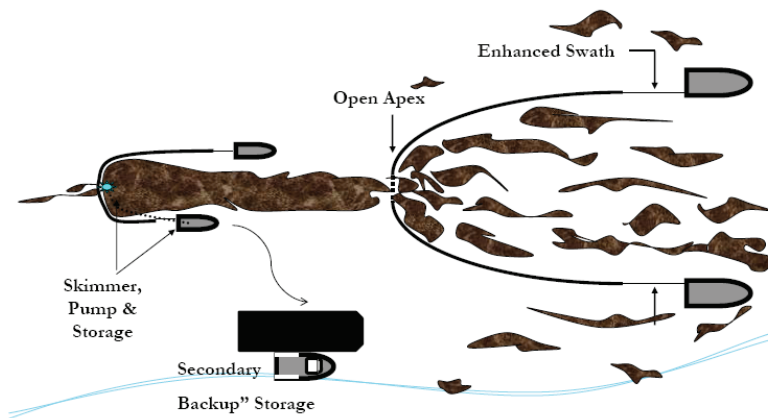
1 – Modular Crane Pedestal System set (MCPS) or 30 cherry picker (crane) for deployment

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.



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

Shoreline Protection Operations

Response Planning Considerations

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

Placement of boom

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

Beach Preparation - Considerations and Actions

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

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

Inland and Coastal Marsh Protection and Response Considerations and Actions

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

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

FIGURE 1
TRAJECTORY BY LAND SEGMENT

Trajectory of a spill and the probability of it impacting a land segment have been projected utilizing Walter Oil & Gas Corporation's WCD and information in the BOEM Oil Spill Risk Analysis Model (OSRAM) for the Central and Western Gulf available on the BOEM website using 30 day impact. The results are tabulated below.				
Area/Block	OCS-G	Launch Area	Land Segment and/or Resource	Conditional Probability (%) within 30 days
Drill, complete, test, and install subsea tree for one well EW 966, Location A <i>69 miles from shore</i>	G38008	C42	Matagorda, TX	1
			Galveston, TX	2
			Jefferson, TX	2
			Cameron, LA	7
			Vermilion, LA	3
			Iberia, LA	1
			Terrebonne, LA	3
			Lafourche, LA	2
			Jefferson, LA	1
			Plaquemines, LA	5

WCD Scenario– BASED ON WELL BLOWOUT DURING DRILLING OPERATIONS (69 miles from shore)

54,166 bbls of crude oil (Volume considering natural weathering)

API Gravity 29°

FIGURE 2 – Equipment Response Time to EW 966, Location A*Dispersants/Surveillance*

Dispersant/Surveillance	Dispersant Capacity (gal)	Persons Req.	From	Hrs to Procure	Hrs to Loadout	Travel to site	Total Hrs
MSRC							
737-500	4,125	3	Weyers Cave, VA	2	0.5	4.	6.5
737-500	4,125	3	Moses Lake, WA	2	0.5	2	4.5

Offshore Response

Offshore Equipment Pre-Determined Staging	EDRC	Storage Capacity	VOO	Persons Required	From	Hrs to Procure	Hrs to Loadout	Hrs to Gulf	Travel to Spill Site	Hrs to Deploy	Total Hrs
CGA											
HOSS Barge	76285	4000	3 Tugs	8	Harvey	6	0	12	8.8	2	28.8
95' FRV	22885	249	NA	6	Leeville	2	0	2	3.5	1	8.5
95' FRV	22885	249	NA	6	Venice	2	0	3	3.5	1	9.5
Boom Barge (CGA-300) 42" Auto Boom (25000')	NA	NA	1 Tug 50 Crew	4 (Barge) 2 (Per Crew)	Leeville	8	0	4	10	2	24
Kirby Offshore (available through contract with CGA)											
DBL 106	NA	99203	1 Tug	6	New Orleans	24	12	0	22	0	58
DBL 81	NA	86498	1 Tug	6	New Orleans	24	12	0	22	0	58

Staging Area: Fourchon

Offshore Equipment Preferred 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 Koseq 502 (1)	4528	4000	1 OSV	2	Galveston	0	12	12	6	0	32
FRU Koseq 502 (5)	22640	20000	5 OSVs	10	Harvey	0	12	12	6	0	32
Hydro-Fire Boom	NA	NA	8 Utility	40	Harvey	0	24	3	6	6	39

Nearshore Response

Nearshore Equipment Pre-determined Staging	EDRC	Storage Capacity	VOO	Persons Required	From	Hrs to Procure	Hrs to Loadout	Hrs to Gulf	Travel to Spill Site	Hrs to Deploy	Total Hrs
CGA											
46' FRV	15257	65	NA	4	Leeville	2	0	2	5	1	10
46' FRV	15257	65	NA	4	Vermilion	2	0	2	2.5	1	7.5
46' FRV	15257	65	NA	4	Venice	2	0	2	12	1	17
Kirby Offshore (Available through contract with CGA)											
Chesapeake	NA	35000	1 Tug	6	Port Arthur	24	12	0	6	0	42
Randy King	NA	39856	1 Tug	6	New Orleans	24	12	0	6	0	42

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 Marco	3588	20	NA	3	Vermilion	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	Vermilion	4	12	1.5	2	2	21.5
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	Vermilion	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	Vermilion	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 CGA membership)									
34,050' 18" Boom	13 Crew	26	New Iberia, LA	2	2	3.5	2	12	21.5
16,000' 18" Boom	7 Crew	14	Chalmette, LA	2	2	7.5	2	6	19.5
900' 18" Boom	1 Crew	2	Morgan City, LA	2	2	5	2	2	13
11,800' 18" Boom	5 Crew	10	Gonzales, LA	2	2	9	2	2	17
16,000' 18" Boom	7 Crew	14	Port Arthur, TX	2	2	1.5	2	6	13.5
2,700' 18" Boom	2 Crew	4	Decatur, GA	2	2	20	2	6	32

Wildlife Response	EDRC	Storage Capacity	VOO	Persons Req.	From	Hrs to Procure	Hrs to 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 (24)	NA	NA	NA	2	Vermilion	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	149,223
Offshore Recovered Oil Capacity	214,199
Nearshore / Shallow Water EDRC	61,768
Nearshore / Shallow Water Recovered Oil Capacity	75,689

SECTION 9

ENVIRONMENTAL MONITORING INFORMATION

9.1 MONITORING SYSTEMS

There are no environmental monitoring systems currently in place or planned for the proposed activities.

9.2 INCIDENTAL TAKES

There is no reason to believe that any of the endangered species or marine mammals as listed in the Endangered Species Act (ESA) will be “taken” as a result of the operations proposed under this plan.

It has been documented that the use of explosives and or seismic devices can affect marine life. Operations proposed in this plan will not be utilizing either of these devices.

Walter will adhere to the requirements as set forth in the following documents, as applicable, to avoid or minimize impacts to any of the species listed in the ESA as a result of the operations conducted herein:

- Appendices to the Biological Opinion on the Federally Regulated Oil and Gas Program in the Gulf of Mexico issued on March 13, 2020, and the amendments issued in 2021, 2022, and 2025
 - Appendix A: “Seismic Survey Mitigation and Protected Species Observer Protocols”
 - Appendix B: “Marine Trash and Debris Awareness and Elimination Survey Protocols”
 - Appendix C: “Vessel Strike Avoidance and Injured/Dead Aquatic Protected Species Reporting Protocols”
 - Appendix J: “Sea Turtle Handling and Resuscitation Guidelines”

9.3 FLOWER GARDEN BANKS NATIONAL MARINE SANCTUARY

Ewing Bank Block 966 is not located in the Flower Garden Banks National Marine Sanctuary; therefore, relevant information is not required in this EP.

SECTION 10

LEASE STIPULATIONS INFORMATION

Exploration activities are subject to the following stipulations attached to Lease OCS-G 38008, Ewing Bank Block 966.

10.5 MARINE PROTECTED SPECIES

In accordance with the Federal Endangered Species Act and the Marine Mammal Protection Act, Walter will:

- (a) Collect and remove flotsam resulting from activities related to exploration, development, and production of this lease;
- (b) Post signs in prominent places on all vessels and platforms used as a result of activities related to exploration, development, and production of this lease detailing the reasons (legal and ecological) why release of debris must be eliminated;
- (c) Observe for marine mammals and sea turtles while on vessels, reduce vessel speed to 10 knots or less when assemblages of cetaceans are observed, and maintain a distance of 90 meters or greater from whales, and a distance of 45 meters or greater from small cetaceans and sea turtles;
- (d) Employ mitigation measures prescribed by BOEM/BSEE or the National Marine Fisheries Service (NMFS) for all seismic surveys, including the use of an “exclusion zone” based upon the appropriate water depth, ramp-up and shutdown procedures, visual monitoring, and reporting;
- (e) Identify important habitats, including designated critical habitat, used by listed species (e.g., sea turtle nesting beaches, piping plover critical habitat), in oil spill contingency planning and require the strategic placement of spill cleanup equipment to be used only by personnel trained in less-intrusive cleanup techniques on beaches and bay shores; and
- (f) Immediately report all sightings and locations of injured or dead protected species (e.g., marine mammals and sea turtles) to the appropriate stranding network. If oil and gas industry activity is responsible for the injured or dead animal (e.g., because of a vessel strike), the responsible parties should remain available to assist the stranding network. If the injury or death was caused by a collision with the lessee’s vessel, the lessee must notify BOEM within 24 hours of the strike.

BOEM and BSEE issue Notices to Lessees (NTLs), which more fully describe measures implemented in support of the above-mentioned implementing statutes and regulations, 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, and subcontractors, while undertaking activities authorized under this lease, must implement and comply with the specific mitigation measures outlined in NTL No. 2016-BOEM-G01, “Vessel Strike Avoidance and Injured/Dead Protected Species Reporting;” NTL No. 2016-BOEM-G02, “Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program;” and NTL No. 2015-BSEE-G03, “Marine Trash and

Debris Awareness and Elimination.” At the lessee’s option, the lessee, its operators, personnel, and contractors may comply with the most current measures to protect species in place at the time an activity is undertaken under this lease, including but not limited to new or updated versions of the NTLs identified in this paragraph. The lessee and its operators, personnel, and subcontractors will be required to comply with the mitigation measures, identified in the above referenced NTLs, and additional measures in the conditions of approvals for their plans or permits.

SECTION 11

ENVIRONMENTAL MITIGATION MEASURES INFORMATION

11.1 MEASURES TAKEN TO AVOID, MINIMIZE, AND MITIGATE IMPACTS

Walter will adhere to the requirements as set forth in the following documents, as applicable, to avoid or minimize impacts to any marine and coastal environments and habitats, biota, and threatened and endangered species:

- Appendices to the Biological Opinion on the Federally Regulated Oil and Gas Program in the Gulf of Mexico issued on March 13, 2020, and the amendments issued in 2021, 2022, and 2025
 - Appendix A: “Seismic Survey Mitigation and Protected Species Observer Protocols”
 - Appendix B: “Marine Trash and Debris Awareness and Elimination Survey Protocols”
 - Appendix C: “Vessel Strike Avoidance and Injured/Dead Aquatic Protected Species Reporting Protocols”
 - Appendix J: “Sea Turtle Handling and Resuscitation Guidelines”

Walter will utilize a DP semi-submersible which will have a typical moon pool utilized in all Deepwater DP semi-submersibles. The moon pool is located in the center of the rig. The moon pool’s purpose is to allow access to the water to drill, complete and workover wells. This also allows access to run Blowout Preventers to latch up to the well for well control in the event of an emergency. There is no closing mechanism for the moon pool as it is always open to the sea. In the extremely rare instance that marine life would get entrapped or entangled by equipment in the moon pool, or by any other equipment on the rig, below are mitigations that Walter will put in place to protect marine life in case of an incident.

- Personnel will monitor the moon pool area for marine life while performing operations near the area;
- Walter will monitor video from the 3 cameras focused on the moon pool area;
- If endangered marine life is seen in the area, a live video feed can be streamed real-time for additional coverage;
- If marine life is entrapped or entangled, Walter can safely lower someone into the moon pool to free it.

11.2 INCIDENTAL TAKES

Walter will adhere to the requirements set forth in the following documents, as applicable, to avoid or minimize impacts to any of the species listed in the Endangered Species Act (ESA) as a result of the operations conducted herein:

- Appendices to the Biological Opinion on the Federally Regulated Oil and Gas Program in the Gulf of Mexico issued on March 13, 2020, and the amendments issued in 2021, 2022, and 2025
 - Appendix A: “Seismic Survey Mitigation and Protected Species Observer Protocols”
 - Appendix B: “Marine Trash and Debris Awareness and Elimination Survey Protocols”

- Appendix C: “Vessel Strike Avoidance and Injured/Dead Aquatic Protected Species Reporting Protocols”
- Appendix J: “Sea Turtle Handling and Resuscitation Guidelines”

See **Section 5.7** for a list of Threatened and Endangered Species, Critical Habitat and Marine Mammal Information.

SECTION 12

SUPPORT VESSELS AND AIRCRAFT INFORMATION

12.1 GENERAL

The most practical, direct route from the shorebase as permitted by weather and traffic conditions will be utilized. The drilling unit, vessels, crew boats and supply boats associated with the operations proposed in this plan will not transit the Bryde's whale area. Information regarding the vessels and aircraft to be used to support the proposed activities is provided in the table below.

Type	Maximum Fuel Tank Capacity	Maximum Number in Area at Any Time	Trip Frequency or Duration
Crew boat	7,500 gal	2	7 trips/ week
Supply boat	100,000 gal	2	7trips/ week
Helicopter	440 gal	As needed	As needed

12.2 DIESEL OIL SUPPLY VESSELS

Information regarding vessels to be used to supply diesel oil for fuel and other purposes is provided in the table below.

Size of Fuel Supply Vessel (ft)	Capacity of Fuel Supply Vessel	Frequency of Fuel Transfers	Route Fuel Supply Vessel Will Take
180'	1,500 bbls	One per week	Shortest route from Shorebase to block

12.3 DRILLING FLUID TRANSPORTATION

Drilling fluid transportation information is not required to be submitted with this plan.

12.4 SOLID AND LIQUID WASTE TRANSPORTATION

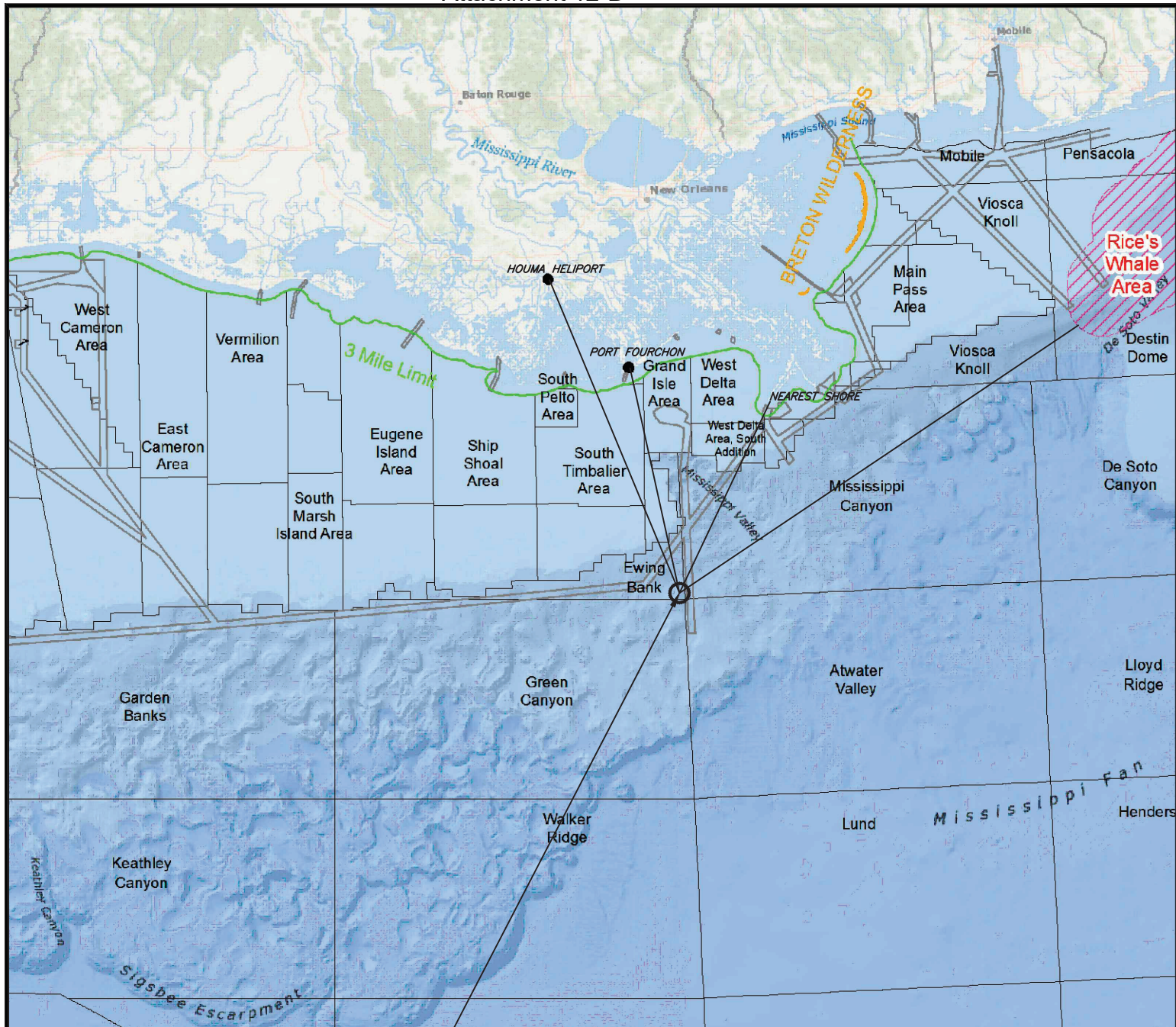
A table, "Wastes You Will Transport and/or Dispose of Onshore," is included as **Attachment 12-A**.

12.5 VICINITY MAP

A vicinity map showing the location of the activities proposed herein relative to the shoreline with the distance of the proposed activities from the shoreline and the primary routes of the support vessels and aircraft that will be used when traveling between the onshore support facilities and the drilling unit is included as **Attachment 12-B**.

ATTACHMENT 12-A
Ewing Bank Area, Block 966, Well No. A , DRL/ CMPL

Projected Generated Waste		Solid and Liquid Wastes Transportation	Waste Disposal		
Type of Waste	Composition	Transport Method	Name/Location of Facility	Amount	Disposal Method
Will drilling occur ? If yes, fill in the muds and cuttings.					
Oil-based drilling fluid or mud	NA	NA	NA	NA	NA
Synthetic-based drilling fluid or mud	Synthetic fluid	Below deck storage tanks on workboat	M-I SWACO Plat, Fourchon, LA	7819	Recycle
Cuttings wetted with Water-based fluid	NA		NA	NA	NA
Cuttings wetted with Synthetic-based fluid	NA	NA	NA	NA	NA
Cuttings wetted with oil-based fluids	NA	NA	NA	NA	NA
Will you produce hydrocarbons? If yes fill in for produced sand.					
Produced sand	NA	NA	NA	NA	NA
Will you have additional wastes that are not permitted for discharge? If yes, fill in the appropriate rows.					
Trash and debris (non-recyclable)	Paper and plastic	Garbage bags on Supply or Crew boat	HOS Port, Fourchon, LA	57 bags at 40 cuft per bag	Landfill
Used oil	Oily rags, absorbent pads, used oil filters	19 DOT drums on Supply boat	R-360, Fourchon, LA	7 Drums	Incineration
Wash water	NA	NA	NA	NA	NA
Chemical product wastes	Paint, solvents, light bulbs	Storage bins on Supply or Crew boat	Ecoserve, Fourchon, LA	200 lb/yr	Recycle or incinerate
Trash and debris (recyclable)	Batteries	5 gallon drums	Ecoserve, Fourchon, LA	10 gal/yr	Recycled



SITE OF PROPOSED WELL

~69 STATUTE (60 NAUTICAL) MILES TO PLAQUEMINES PARISH (NEAREST SHORE)
 COORDINATE TO NEAREST POINT ON SHORELINE X = 2,787,634 Y = 10,512,021
 ~76 STATUTE (66 NAUTICAL) MILES TO PORT FOURCHON, LA
 ~114 STATUTE (99 NAUTICAL) MILES TO HOUMA HELIPORT, HOUMA, LA
 ~234 STATUTE (204 NAUTICAL) MILES TO RICE'S WHALE AREA

VICINITY MAP

THE DISTANCES SHOWN HEREON ARE FROM THE PROPOSED WELL TO THE NEAREST COASTLINE POINT AS OBTAINED FROM NOAA, ENTITLED NOAA MEDIUM RESOLUTION SHORELINE. <[HTTP://SHORELINE.NOAA.GOV/DATA/DATASHEETS/MEDRES.HTML](http://SHORELINE.NOAA.GOV/DATA/DATASHEETS/MEDRES.HTML)>.



WALTER OIL & GAS CORPORATION

Echo OFFSHORE LLC

36499 Perkins Road
 Prairieville, Louisiana 70769
 Tel: 225-673-2163

NOT TO SCALE

EXPLORATION PLAT

PROPOSED WELL 'A'

OCS-G 38008 BLOCK 966

EWING BANK AREA

GULF OF AMERICA

DATUM: NAD 27 | SPHEROID: CLARKE 1866 | PROJECTION: U.T.M. | ZONE: 15

DRAWN BY: RJN | CHK. BY: MEK | REV. No.: | JOB No.: 25-013 | DWG No.: 25-013-EXP
 DATE: 1/22/2026 | REV. DATE: | SCALE: N.T.S. | **SHEET 1 OF 1**

SECTION 13

ONSHORE SUPPORT FACILITIES INFORMATION

13.1 GENERAL

The onshore facilities that will be used to provide supply and service support for the proposed activities are provided in the table below.

Name	Location	Existing/New/Modified
EPS Fourchon	Fourchon, Louisiana	Existing
RLC Heliport Galliano	Galliano, Louisiana	Existing

13.2 SUPPORT BASE CONSTRUCTION OR EXPANSION

There will be no new construction of an onshore support base, nor will Walter expand the existing shorebase as a result of the operations proposed in this EP.

13.3 SUPPORT BASE CONSTRUCTION OR EXPANSION TIMETABLE

A support base construction or expansion timetable is not required for the activities proposed in this plan.

13.4 WASTE DISPOSAL

The Table, "Wastes You Will Transport and/or Dispose of Onshore," is included as **Attachment 12-A**.

SECTION 14

COASTAL ZONE MANAGEMENT ACT (CZMA) INFORMATION

Under direction of the Coastal Zone Management Act (CZMA), the state of Louisiana developed a Coastal Zone Management Program (CZMP) to allow for the supervision of significant land and water use activities that take place within or that could significantly affect the Louisiana coastal zone.

Proposed activities are 69 miles from the Louisiana shore. Measures will be taken to avoid or mitigate the probable impacts. Walter will operate in compliance with existing federal and state laws, regulations, and resultant enforceable program policies in Louisiana's Coastal Zone Management Program.

The OCS related oil and gas exploratory and development activities having potential impact on the Louisiana Coastal Zone are based on the location of the proposed facilities, access to those sites, best practical techniques for drilling locations, drilling equipment guidelines for the prevention of adverse environmental effects, effective environmental protection, emergency plans and contingency plans.

Relevant enforceable policies were considered in certifying consistency for Louisiana. A certificate of Coastal Zone Management Consistency for the state of Louisiana is included as **Attachment 14-A**.

**COASTAL ZONE MANAGEMENT
CONSISTENCY CERTIFICATION
SUPPLEMENTAL EXPLORATION PLAN
EWING BANK BLOCK 966
OCS-G 38008**

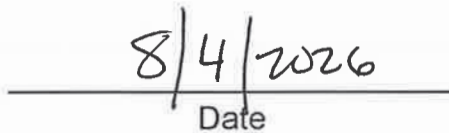
The proposed activity complies with the enforceable policies of the Louisiana approved management program and will be conducted in a manner consistent with such program.

Walter Oil & Gas Corporation

Operator

A handwritten signature in black ink, appearing to read "C. J. Feeney", is written over a horizontal line.

Certifying Official

A handwritten date "8/4/2026" is written over a horizontal line.

Date

SECTION 15 ENVIRONMENTAL IMPACT ANALYSIS

The Environmental Impact Analysis is included as **Attachment 15-A**.

Attachment 15- A

Walter Oil & Gas Corporation (Walter)

Initial Exploration Plan Ewing Bank Block 966 OCS-G 38008

(A) Impact Producing Factors

ENVIRONMENTAL IMPACT ANALYSIS WORKSHEET

Environment Resources	Impact Producing Factors (IPFs) Categories and Examples					
	Refer to recent GOA OCS Lease Sale EIS for a more complete list of IPFs					
	Emissions (air, noise, light, etc.)	Effluents (muds, cutting, 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)	Discarded Trash & Debris
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)	
Benthic communities			(4)			
Water quality		X			X	
Fisheries		X			X	
Marine Mammals	X(8)	X			X(8)	X
Sea Turtles	X(8)	X			X(8)	X
Air quality	X(9)					
Shipwreck sites (known or potential)			(7)			
Prehistoric archaeological sites			(7)			
Vicinity of Offshore Location						
Essential fish habitat		X			X(6)	
Marine and pelagic birds					X	X
Public health and safety					(5)	
Coastal and Onshore						
Beaches					X(6)	X
Wetlands					X(6)	
Shore birds and coastal nesting birds					X(6)	
Coastal wildlife refuges						
Wilderness areas						

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Footnotes for Environmental Impact Analysis Matrix

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

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TABLE 1: THREATENED AND ENDANGERED SPECIES, CRITICAL HABITAT, AND MARINE MAMMAL INFORMATION

The federally listed endangered and threatened species potentially occurring in the lease area and along the Gulf Coast are provided in the table below.

Species	Scientific Name	Status	Potential Presence		Critical Habitat Designated in the Gulf of America	Gulf of America Range
			Lease Area	Coastal		
Marine Mammals						
Manatee, West Indian	<i>Trichechus manatus latirostris</i>	T	--	X	Florida (peninsular)	Coastal Louisiana, Mississippi, Alabama, and Florida
Whale, Blue	<i>Balaenoptera masculus</i>	E	X ¹	--	None	GOA
Whale, Bryde's ⁴	<i>Balaenoptera brydei/edeni</i>	E	X	--	None	Eastern GOA
Whale, Fin	<i>Balaenoptera physalus</i>	E	X ¹	--	None	GOA
Whale, Humpback	<i>Megaptera novaeangliae</i>	E	X ¹	--	None	GOA
Whale, North Atlantic Right	<i>Eubalaena glacialis</i>	E	X ¹	--	None	GOA
Whale, Rice's ⁴	<i>Balaenoptera ricei</i>	E	X	--	None	GOA
Whale, Sei	<i>Balaenopiera borealis</i>	E	X ¹	--	None	GOA
Whale, Sperm	<i>Physeter catodon</i> (= <i>macrocephalus</i>)	E	X	--	None	GOA
Terrestrial Mammals						
Mouse, Alabama Beach	<i>Peromyscus polionotus ammobates</i>	E	-	X	Alabama beaches	Alabama beaches
Mouse, Choctawatchee Beach	<i>Peromyscus polionotus allophrys</i>	E	-	X	Florida panhandle beaches	Florida panhandle beaches
Mouse, Perdido Key Beach	<i>Peromyscus polionotus trissyllepsis</i>	E	-	X	Alabama, Florida (panhandle) beaches	Alabama, Florida (panhandle) beaches
Mouse, St. Andrew Beach	<i>Peromyscus polionotus peninsularis</i>	E	-	X	Florida panhandle beaches	Florida panhandle beaches
Jaguarundi, Gulf Coast	<i>Puma yagouaroundi cacomitli</i>	E	-	X	None	Texas
Ocelot	<i>Leopardus</i> (=Felis) <i>pardalis</i>	E	-	X	None	Texas

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Species	Scientific Name	Status	Potential Presence		Critical Habitat Designated in the Gulf of America	Gulf of America Range
			Lease Area	Coastal		
Bat, Florida Bonneted	<i>Eumops floridanus</i>	E	-	X	None	Florida
Panther, Florida	<i>Puma (=Felis) concolor coryi</i>	E	-	X	None	Florida
Vole, Florida Salt Marsh	<i>Microtus pennsylvanicus dukecampbelli</i>	E	-	X	None	Florida
Deer, Key	<i>Odocoileus virginianus clavium</i>	E	-	X	None	Florida Keys
Rabbit, Lower Keys Marsh	<i>Sylvilagus palustris hefneri</i>	E	-	X	None	Florida Keys
Rat, Silver Rice	<i>Oryzomys palustris natator</i>	E	-	X	None	Florida Keys
Birds						
Plover, Piping	<i>Charadrius melodus</i>	T	-	X	Coastal Texas, Louisiana, Mississippi, Alabama, and Florida (panhandle)	Coastal GOA
Crane, Whooping	<i>Grus Americana</i>	E	-	X	Coastal Texas	Coastal Texas and Louisiana
Crane, Mississippi sandhill	<i>Grus canadensis pulla</i>	E	-	X	Coastal Mississippi	Coastal Mississippi
Caracara, Audubon's Crested	<i>Polyborus plancus audubonii</i>	T	-	X	None	Coastal Florida Peninsula
Curlew, Eskimo	<i>Numenius borealis</i>	E	-	X	None	Coastal Texas
Falcon, Northern Aplomado	<i>Falco femoralis septentrionalis</i>	E	-	X	None	Coastal Texas
Prairie-chicken, Attwater's Greater	<i>Tympanuchus cupido attwateri</i>	E	-	X	None	Coastal Texas
Scrub-jay, Florida	<i>Aphelocoma coerulescens</i>	T	-	X	None	Coastal Florida
Kite, Everglade Snail	<i>Rostrhamus sociabilis plumbeus</i>	E	-	X	None	Coastal Southern Florida
Knot, Red	<i>Calidris canutus rufa</i>	T	-	X	None	Coastal GOA
Rail, Eastern Black	<i>Laterallus jamaicensis ssp. jamaicensis</i>	T	-	X	None	Coastal GOA
Sparrow, Cape Sable Seaside	<i>Ammodramus maritimus mirabilis</i>	E	-	X	Everglades	Coastal Florida

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Species	Scientific Name	Status	Potential Presence		Critical Habitat Designated in the Gulf of America	Gulf of America Range
			Lease Area	Coastal		
Stork, Wood	<i>Mycteria americana</i>	T	-	X	None	Coastal Alabama and Florida
Tern, Roseate	<i>Sterna dougallii dougallii</i>	T	-	X	None	Coastal Southern Florida
Warbler, Bachman's	<i>Vermivora bachmanii</i>	E	-	X	None	Coastal Southern Florida
Woodpecker, Red-cockaded	<i>Picoides borealis</i>	E	-	X	None	Coastal Louisiana and Florida
Marine Reptiles						
Sea Turtle, Green	<i>Chelonia mydas</i>	T/E ³	X	X	None	GOA
Sea Turtle, Hawksbill	<i>Eretmochelys imbricata</i>	E	X	X	None	GOA
Sea Turtle, Kemp's Ridley	<i>Lepidochelys kempli</i>	E	X	X	None	GOA
Sea Turtle, Leatherback	<i>Dermochelys coriacea</i>	E	X	X	None	GOA
Sea Turtle, Loggerhead	<i>Caretta caretta</i>	T	X	X	Texas, Louisiana, Mississippi, Alabama, Florida	GOA
Terrestrial Reptiles						
Turtle, Alabama Red-bellied	<i>Pseudemys alabamensis</i>	E	-	X	None	Coastal Mississippi and Alabama
Crocodile, American	<i>Crocodylus acutus</i>	T	-	X	Everglades and Florida Keys	Coastal Florida
Snake, Eastern Indigo	<i>Drymarchon couperi</i>	T	-	X	None	Coastal Mississippi, Alabama, and Florida
Tortoise, Gopher	<i>Gopherus polyphemus</i>	T	-	X	None	Coastal Louisiana, Mississippi, and Alabama
Turtle, Ringed Map	<i>Graptemys oculifera</i>	T	-	X	None	Coastal Louisiana and Mississippi
Turtle, Yellow-blotched Map	<i>Graptemys flavimaculata</i>	T	-	X	None	Coastal Mississippi
Fish						
Sturgeon, Gulf	<i>Acipenser oxyrinchus (=oxyrhynchus) desotoi</i>	T	X	X	Coastal Louisiana, Mississippi, Alabama, and Florida (panhandle)	Coastal Louisiana, Mississippi, Alabama, and Florida (panhandle)
Shark, Oceanic Whitetip	<i>Carcharhinus longimanus</i>	T	X	-	None	GOA
Sawfish, Smalltooth	<i>Pristis pectinate</i>	E	-	X	None	Florida
Grouper, Nassau	<i>Epinephelus striatus</i>	T	-	X	Florida ⁵	Florida

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Species	Scientific Name	Status	Potential Presence		Critical Habitat Designated in the Gulf of America	Gulf of America Range
			Lease Area	Coastal		
Ray, Giant Manta	<i>Manta birostris</i>	T	X	--	None	GOA
Sturgeon, Pallid	<i>Scaphirhynchus albus</i>	E	-	X	None	Louisiana Coastal Rivers
Corals						
Coral, Elkhorn	<i>Acopora palmate</i>	T	X ²	X	Florida ⁵	Flower Garden Banks and Florida
Coral, Staghorn	<i>Acopora cervicornis</i>	T	X	X	Florida ⁵	Florida
Coral, Boulder Star	<i>Orbicella franksi</i>	T	X	X	Flower Garden Banks and Florida	Flower Garden Banks and Florida
Coral, Lobed Star	<i>Orbicella annularis</i>	T	X	X	Flower Garden Banks and Florida	Flower Garden Banks and Florida
Coral, Mountainous Star	<i>Orbicella faveolate</i>	T	X	X	Flower Garden Banks and Florida	Flower Garden Banks and Florida
Coral, Rough Cactus	<i>Mycetophyllia ferox</i>	T	-	X	Florida ⁵	Florida and Southern Gulf of America
Coral, Pillar	<i>Dendrogyra cylindrus</i>	T	-	X	Florida ⁵	Florida

Abbreviations: E = Endangered; T = Threatened

1 The Blue, Fin, Humpback, North Atlantic Right, and Sei Whales are rare or extralimital in the Gulf of America and are unlikely to be present in the lease area.

2 According to the 2017 EIS, Elkhorn Coral, while uncommon, has been found in the Flower Garden Banks. (BOEM 2017-009)

3 Green Sea Turtles are considered threatened throughout the Gulf of America; however, the breeding population off the coast of Florida is considered endangered.

4 The Bryde's whale, also known as the Bryde's whale complex, is a collection of baleen whales that are still being researched to determine if they are the same species or if they are individual species of whales. In 2021, the Rice's whale, formerly known as the Gulf of America Bryde's whale, was determined to be a separate species. There are less than 100 Rice's whales living in the Gulf of America year-round. These whales retain all the protections of the Gulf of America Bryde's whale under the Endangered Species Act while the regulations are being updated to reflect the name change. Other Bryde's whales are migratory and may enter the Gulf of America; however, the migratory Bryde's whales are rare or extralimital in the Gulf of America and are unlikely to be present in the lease area.

5 Critical habitat is in the Gulf of America, but outside of planning area. Species may still occur in the Gulf of America.

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(B) Analysis

Site-Specific at Ewing Bank Block 966

Proposed operations consist of the drilling, completion, and testing of one location and installation of a subsea tree/wellhead. The operations will be conducted with a DP semisubmersible.

There are no seismic surveys, pile driving, or pipelines making landfall associated with the operations covered by this Plan.

1. Designated Topographic Features

Potential IPFs to topographic features as a result of the proposed operations include physical disturbances to the seafloor, effluents, and accidents.

Physical disturbances to the seafloor: Ewing Bank Block 966 is 45.4 miles from the closest designated Topographic Features Stipulation Block (Diaphus Bank); therefore, no adverse impacts are expected. Additionally, a DP semisubmersible is being used for the proposed operations; therefore, only an insignificant amount of seafloor will be disturbed.

Effluents: Ewing Bank Block 966 is 45.4 miles from the closest designated Topographic Features Stipulation Block (Diaphus Bank); therefore, no adverse impacts are expected.

Accidents: It is unlikely that an accidental surface or subsurface spill would occur from the proposed operations (refer to statistics in **Item 5**, Water Quality). Oil spills cause damage to benthic organisms only if the oil contacts the organisms. Oil from a surface spill can be driven into the water column; measurable amounts have been documented down to a 10-meter depth. At this depth, the oil is found only at concentrations several orders of magnitude lower than the amount shown to have an effect on corals. Because the crests of topographic features in the Northern Gulf of America are found below 10 meters, oil from a surface spill is not expected to reach their sessile biota. Oil from a subsurface spill is not applicable due to the distance of these blocks from a topographic area. The activities proposed in this plan will be covered by Walter's Regional OSRP (refer to information submitted in **Section 8**).

If dispersants were utilized as a response method, the fate and effects of spilled oil would be impacted. Dispersants have been utilized in previous spill response efforts and were used extensively in the response to the Deepwater Horizon oil spill, with both surface and sub-surface applications. Reports on dispersant usage on surface oil indicate that a majority of the dispersed oil remains in the top 10 meters of the water column, with 60 percent of the oil in the top two meters of water (McAuliffe et al, 1981; Lewis and Aurand, 1997; OCS Report BOEM 2017-007). Lubchenco et al. (2010) report that most chemically dispersed surface oil from the Deepwater Horizon explosion and oil spill remained in the top six meters of the water column where it mixed with surrounding waters and biodegraded (BOEM 2017-007). None of the topographic features or

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potentially sensitive biological features in the GOA are shallower than 10 meters (33 feet), and only the Flower Garden Banks are shallower than 20 meters (66 feet).

In one extraordinary circumstance with an unusual combination of meteorological and oceanographic conditions, a tropical storm forced a large volume of Deepwater Horizon oil spill-linked surface oil/dispersant mixture to as deep as 75 meters (246 feet), causing temporary exposure to mesophotic corals in the Pinnacle Trend area and leading to some coral mortality and sublethal impacts (Silva et al., 2015; BOEM 2017-007).

Additionally, concentrations of dispersed and dissolved oil in the Deepwater Horizon oil-spill subsea plume were reported to be in the parts per million range or less and were generally lower away from the water's surface and away from the well head (Adcroft et al., 2010; Haddad and Murawski, 2010; Joint Analysis Group, 2010; Lubchenco et al, 2010; BOEM 2017-007).

In the case of subsurface spills like a blowout or pipeline leak, dispersants may be injected at the seafloor. This will increase oil concentrations near the source but tend to decrease them further afield, especially at the surface. Marine organisms in the lower water column will be exposed to an initial increase of water-soluble oil compounds that will dilute in the water column over time (Lee et al., 2013a; NAS 2020).

Dispersant application involves a trade-off between decreasing the risk to the surface and shoreline habitat and increasing the risk beneath the surface. The optimal trade-off must account for various factors, including the type of oil spilled, the spill volume, the weather and sea state, the water depth, the degree of turbulence, and the relative abundance and life stages of organisms (NRC, 2005; NAS 2020).

Chemical dispersants may increase the risk of toxicity to subsurface organisms by increasing bioavailability of the oil. However, it is important to note that at the 1:20 dispersant-to-oil ratio recommended for use during response operations, the dispersants currently approved for use are far less acutely toxic than oil is. Toxicity of chemically dispersed oil is primarily due to the oil itself and its enhanced bioavailability (Lee et al., 2015; NAS 2020).

With the exception of special Federal management areas or designated exclusion areas, dispersants have been preapproved for surface use, which provides the USCG On-Scene Coordinator with the authority to approve the use of dispersants. However, that approval would only be granted upon completion of the protocols defined in the appropriate Area Contingency Plan (ACP) and the Regional Response Team (RRT) Dispersant Plan. The protocols include conducting an environmental benefit analysis to determine if the dispersant use will prevent a substantial threat to the public health or welfare or minimize serious environmental damage. The Regional Response Team would be notified immediately to provide technical support and guidance in determining if the dispersant use meets the established criteria and provide an environmental benefit. Additionally, there is currently no preapproval for subsea dispersant injection and the USCG On-Scene Coordinator must approve use of this technology before any subsea application. Due to the

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unprecedented volume of dispersants applied for an extended period of time, the U.S. National Response Team has developed guidance for atypical dispersant operations to ensure that planning and response activities will be consistent with national policy (BOEM 2017-007).

Dispersants were used extensively in the response to the Deepwater Horizon oil spill, both surface and sub-surface applications. However, during a May 2016 significant oil spill (approximately 1,926 barrels) in the Gulf of America dispersants were not utilized as part of the response. The Regional Response Team was consulted and recommended that dispersants not be used, despite acknowledging the appropriate protocols were correctly followed and that there was a net environmental benefit in utilizing dispersants. This demonstrates that the federal authorities (USCG and RRT) will be extremely prudent in their decision-making regarding dispersant use authorizations.

Due to the distance of these blocks from a topographic area and the coverage of the activities proposed in this plan by Walter's Regional OSRP (refer to information submitted in **Section 8**), impacts to topographic features from surface or sub-surface oil spills are not expected.

There are no other IPFs (including emissions and wastes sent to shore for treatment or disposal) from the proposed operations that are likely to impact topographic features.

2. Pinnacle Trend Area Live Bottoms

Potential IPFs to pinnacle trend area live bottoms from the proposed operations include physical disturbances to the seafloor, emissions (noise / sound), effluents, and accidents.

Physical disturbances to the seafloor: Ewing Bank Block 966 is 122.7 miles from the closest live bottom (pinnacle trend) area; therefore, no adverse impacts are expected. Additionally, a DP semisubmersible is being used for the proposed operations; therefore, only an insignificant amount of seafloor will be disturbed.

Emissions (noise / sound): All routine OCS oil-and gas-related activities have some element of sound generation. Common sound sources include propeller cavitation, rotating machinery, and reciprocating machinery, which are associated with routine OCS oil-and gas-related activities such as vessel traffic, drilling, construction, and oil and gas production, processing, and transport. Sound introduced into the marine environment as a result of human activities has the potential to affect marine organisms. Although there is little information available on sound detection and sound-mediated behaviors for marine invertebrates, the overall impacts on pinnacle and low-relief feature communities from anthropogenic noise are expected to be negligible (BOEM 2017-009). Additionally, Ewing Bank Block 966 is 122.7 miles from the closest live bottom (pinnacle trend) area; therefore, no adverse impacts are expected.

Effluents: Ewing Bank Block 966 is 122.7 miles from the closest live bottom (pinnacle trend) area; therefore, no adverse impacts are expected.

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Accidents: It is unlikely that an accidental surface or subsurface spill would occur from the proposed operations (refer to statistics in **Item 5**, Water Quality). Oil spills have the potential to foul benthic communities and cause lethal and sublethal effects on live bottom organisms. Oil from a surface spill can be driven into the water column; measurable amounts have been documented down to a 10-meter depth. At this depth, the oil is found only at concentrations several orders of magnitude lower than the amount shown to have an effect on marine organisms. Oil from a subsurface spill is not expected to impact pinnacle trend area live bottoms due to the distance of these blocks from a live bottom (pinnacle trend) area and the coverage of the activities proposed in this plan by Walter's Regional OSRP (refer to information submitted in **Section 8**).

If dispersants were utilized as a response method, the fate and effects of spilled oil would be impacted. A detailed discussion on dispersants, their usage during the Deepwater Horizon oil spill, and their impacts on different levels of benthic communities can be found in **Item 1**.

There are no other IPFs (including wastes sent to shore for treatment or disposal) from the proposed operations that are likely to impact a live bottom (pinnacle trend) area.

3. Eastern Gulf Live Bottoms

Potential IPFs on Eastern Gulf live bottoms from the proposed operations include physical disturbances to the seafloor, emissions (noise / sound), effluents, and accidents.

Physical disturbances to the seafloor: Ewing Bank Block 966 is not located in an area characterized by the existence of live bottoms, and this lease does not contain a Live-Bottom Stipulation requiring a photo documentation survey and survey report. Additionally, a DP semisubmersible is being used for the proposed operations; therefore, only an insignificant amount of seafloor will be disturbed.

Emissions (noise / sound): All routine OCS oil-and gas-related activities have some element of sound generation. Common sound sources include propeller cavitation, rotating machinery, and reciprocating machinery, which are associated with routine OCS oil-and gas-related activities such as vessel traffic, drilling, construction, and oil and gas production, processing, and transport. Sound introduced into the marine environment as a result of human activities has the potential to affect marine organisms. Although there is little information available on sound detection and sound-mediated behaviors for marine invertebrates, the overall impacts on pinnacle and low-relief feature communities from anthropogenic noise are expected to be negligible (BOEM 2017-009). Additionally, Ewing Bank Block 966 is not located in an area characterized by the existence of live bottoms; therefore, no adverse impacts are expected.

Effluents: Ewing Bank Block 966 is not located in an area characterized by the existence of live bottoms; therefore, no adverse impacts are expected.

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Accidents: It is unlikely that an accidental surface or subsurface spill would occur from the proposed operations (refer to statistics in **Item 5**, Water Quality). Oil spills cause damage to live bottom organisms only if the oil contacts the organisms. Oil from a surface spill can be driven into the water column; measurable amounts have been documented down to a 10-meter depth. At this depth, the oil is found only at concentrations several orders of magnitude lower than the amount shown to have an effect on marine invertebrates. Oil from a subsurface spill is not expected to impact Eastern Gulf live bottoms due to the distance of these blocks from a live bottom area and coverage of the activities proposed in this plan by Walter's Regional OSRP (refer to information submitted in **Section 8**).

If dispersants were utilized as a response method, the fate and effects of spilled oil would be impacted. A detailed discussion on dispersants, their usage during the Deepwater Horizon oil spill, and their impacts on different levels of benthic communities can be found in **Item 1**.

There are no other IPFs (including wastes sent to shore for treatment or disposal) from the proposed operations that are likely to impact an Eastern Gulf live bottom area.

4. Deepwater Benthic Communities

There are no IPFs (including emissions (noise / sound), physical disturbances to the seafloor, wastes sent to shore for treatment or disposal, and accidents) from the proposed operations that are likely to impact deepwater benthic communities.

Ewing Bank Block 966 is located in water depths of 984 feet (300 meters) or greater. At such depth high-density, deepwater benthic communities may sometimes be found. However, Ewing Bank Block 966 is approximately 1.5 miles from a known deepwater benthic community site (Ewing Bank Block 1010), listed in NTL 2009-G40. Additionally, a DP semisubmersible is being used for the proposed operations; therefore, only an insignificant amount of seafloor will be disturbed. Due to the distance from the closest known deepwater benthic community and because physical disturbances to the seafloor will be minimized by the use of a DP semisubmersible, Walter's proposed operations in Ewing Bank Block 966 are not likely to impact deepwater benthic communities.

Deepwater benthic communities would potentially be subject to detrimental effects from a catastrophic seafloor blowout due to sediment and oiled sediment from the initial event (BOEM 2017-007). However, this is unlikely due to the distancing requirements described in NTL 2009-G40. Additionally, the potential impacts would be localized due to the directional movement of oil plumes by water currents and the scattered, patchy distribution of sensitive habitats. Although widely dispersed, biodegraded particles of a passing oil plume might impact patchy habitats, no significant impacts would be expected to the Gulfwide population. Most deepwater benthic communities are expected to experience no impacts from a catastrophic seafloor blowout due to the directional movement of oil plumes by the water currents and their scattered, patchy distribution. Impacts may be expected if a spill were to occur close to a deepwater benthic habitat, however, beyond the localized area of impact particles would become increasingly biodegraded

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and dispersed. Localized impacts to deepwater benthic organisms would be expected to be mostly sublethal (BOEM 2017-007).

If dispersants were utilized as a response method, the fate and effects of spilled oil would be impacted. A detailed discussion on dispersants, their usage during the Deepwater Horizon oil spill, and their impacts on different levels of benthic communities can be found in **Item 1**.

5. Water Quality

Potential IPFs that could result in water quality degradation from the proposed operations in Ewing Bank Block 966 include disturbances to the seafloor, effluents, and accidents.

Physical disturbances to the seafloor: Bottom area disturbances resulting from the emplacement of drill rigs, the drilling of wells and the installation of platforms and pipelines would increase water-column turbidity and re-suspension of any accumulated pollutants, such as trace metals and excess nutrients. This would cause short-lived impacts on water quality conditions in the immediate vicinity of the emplacement operations. Additionally, a DP semisubmersible is being used for the proposed operations; therefore, only an insignificant amount of seafloor will be disturbed.

Effluents: Levels of contaminants in drilling muds and cuttings and produced water discharges, discharge-rate restrictions and monitoring and toxicity testing are regulated by the EPA NPDES permit, thereby eliminating many significant biological or ecological effects. Operational discharges are not expected to cause significant adverse impacts to water quality. Additionally, an analysis of the best available information from the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 *Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico* (NMFS, 2020) concludes that exposures to toxicants in discharges from oil and gas activities are not likely to adversely affect ESA-listed species.

Accidents: IPFs related to OCS oil- and gas-related accidental events primarily involve drilling fluid spills, chemical spills, and oil spills.

Drilling Fluid Spills

Water-based fluid (WBF) and Synthetic-based fluid (SBF) spills may result in elevated turbidity, which would be short term, localized, and reversible. The WBF is normally discharged to the seafloor during riserless drilling, which is allowable due to its low toxicity. For the same reasons, a spill of WBF would have negligible impacts. The SBF has low toxicity, and the discharge of SBF is allowed to the extent that it adheres onto drill cuttings. Both USEPA Regions 4 and 6 permit the discharge of cuttings wetted with SBF as long as the retained SBF amount is below a prescribed percent, meets biodegradation and toxicity requirements, and is not contaminated with the formation oil or PAH. A spill of SBF may cause a temporary increase in biological oxygen demand and locally result in lowered dissolved oxygen in the water column. Also, a spill of SBF may release an oil sheen if formation oil is present in the fluid. Therefore, impacts from a release of

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SBF are considered to be minor. Spills of SBF typically do not require mitigation because SBF sinks in water and naturally biodegrades, seafloor cleanup is technically difficult, and SBF has low toxicity. (BOEM 2017-009)

Chemical Spills

Accidental chemical spills could result in temporary localized impacts on water quality, primarily due to changing pH. Chemicals spills are generally small volume compared with spills of oil and drilling fluids. During the period of 2007 to 2014, small chemical spills occurred at an average annual volume of 28 barrels, while large chemical spills occurred at an average annual volume of 758 barrels. These chemical spills normally dissolve in water and dissipate quickly through dilution with no observable effects. Also, many of these chemicals are approved to be commingled in produced water for discharge to the ocean, which is a permitted activity. Therefore, impacts from chemical spills are considered to be minor and do not typically require mitigation because of technical feasibility and low toxicity after dilution (BOEM 2017-009).

Oil Spills

Oil spills have the greatest potential of all OCS oil-and gas-related activities to affect water quality. Small spills (<1,000 barrels) are not expected to substantially impact water quality in coastal or offshore waters because the oil dissipates quickly through dispersion and weathering while still at sea. Reasonably foreseeable larger spills ($\geq 1,000$ barrels), however, could impact water quality in coastal and offshore waters (BOEM 2017-007). However, based on data provided in the BOEM 2016 Update of Occurrence Rates for Offshore Oil Spills, it is unlikely that an accidental surface or subsurface spill of a significant volume would occur from the proposed operations. Between 2001 and 2015 OCS operations produced eight billion barrels of oil and spilled 0.062 percent of this oil, or one barrel for every 1,624 barrels produced. (The overall spill volume was almost entirely accounted for by the 2010 Deepwater Horizon blowout and subsequent discharge of 4.9 million barrels of oil. Additional information on unlikely scenarios and impacts from very large oil spills are discussed in the Catastrophic Spill Event Analysis white paper (BOEM 2017-007).

If a spill were to occur, the water quality of marine waters would be temporarily affected by the dissolved components and small oil droplets. Dispersion by currents and microbial degradation would remove the oil from the water column and dilute the constituents to background levels. Historically, changes in offshore water quality from oil spills have only been detected during the life of the spill and up to several months afterwards. Most of the components of oil are insoluble in water and therefore float. Dispersants will only be used if approved by the Regional Response Team in coordination with the RRT Dispersant Plan and RRT Biological Assessment for Dispersants.

Oil spills, regardless of size, may allow hydrocarbons to partition into the water column in a dissolved, emulsion, and/or particulate phase. Therefore, impacts from reasonably foreseeable oil spills are considered moderate. Mitigation efforts for oil spills may include booming, burning, and the use of dispersants (BOEM 2017-009).

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These methods may cause short-term secondary impacts to water quality, such as the introduction of additional hydrocarbon into the dissolved phase through the use of dispersants and the sinking of hydrocarbon residuals from burning. Since burning and the use of dispersants put additional hydrocarbons into the dissolved phase, impacts to water quality after mitigation efforts are still considered to be moderate, because dissolved hydrocarbons extend down into the water column. This results in additional exposure pathways via ingestion and gill respiration and may result in acute or chronic effects to marine life (BOEM 2017-009).

Most oil-spill response strategies and equipment are based upon the simple principle that oil floats. However, as evident during the Deepwater Horizon explosion, oil spill, and response, this is not always true. Sometimes it floats and sometimes it suspends within the water column or sinks to the seafloor (BOEM 2017-009).

Oil that is chemically dispersed at the surface moves into the top six meters of the water column where it mixes with surrounding waters and begins to biodegrade (U.S. Congress, Office of Technology Assessment, 1990). Dispersant use, in combination with natural processes, breaks up oil into smaller components that allows them to dissipate into the water and degrade more rapidly (Nalco, 2010). Dispersant use must be in accordance with an RRT Preapproved Dispersant Use Manual and with any conditions outlined within an RRT's site-specific, dispersant approval given after a spill event. Consequently, dispersant use must be in accordance with the restrictions for specific water depths, distances from shore, and monitoring requirements. At this time, neither the Region IV nor the Region VI RRT dispersant use manuals, which cover the GOA region, give preapproval for the application of dispersant use subsea (BOEM 2017-009).

The operations proposed in this plan will be covered by Walter's Regional Oil Spill Response Plan, which discusses potential response actions in more detail (refer to information submitted in **Section 8**).

There are no other IPFs (including emissions, physical disturbances to the seafloor, and wastes sent to shore for treatment or disposal) from the proposed operations that are likely to impact water quality.

6. Fisheries

There are multiple species of fish in the Gulf of America, including the endangered and threatened species listed in **Table 1** at the beginning of this Environmental Impact Assessment. More information regarding the endangered gulf sturgeon (**Item 20.2**), oceanic whitetip shark (**Item 20.3**), and giant manta ray (**Item 20.4**) can be found below. Potential IPFs to fisheries as a result of the proposed operations in Ewing Bank Block 966 include physical disturbances to the seafloor, emissions (noise / sound), effluents, and accidents.

Physical disturbances to the seafloor: The emplacement of a structure or drilling rig results in minimal loss of bottom trawling area to commercial fishermen. Pipelines cause gear conflicts

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which result in losses of trawls and shrimp catch, business downtime and vessel damage. Most financial losses from gear conflicts are covered by the Fishermen's Contingency Fund (FCF). The emplacement and removal of facilities are not expected to cause significant adverse impacts to fisheries. Additionally, a DP semisubmersible is being used for the proposed operations; therefore, only an insignificant amount of seafloor will be disturbed.

Emissions (noise / sound): All routine OCS oil-and gas-related activities have some element of sound generation. Common sound sources include propeller cavitation, rotating machinery, and reciprocating machinery, which are associated with routine OCS oil-and gas-related activities such as vessel traffic, drilling, construction, and oil and gas production, processing, and transport. Sound introduced into the marine environment as a result of human activities has the potential to affect marine organisms by stimulating behavioral response, masking biologically important signals, causing temporary or permanent hearing loss (Popper et al., 2005; Popper et al., 2014), or causing physiological injury (e.g., barotrauma) resulting in mortality (Popper and Hastings, 2009). The potential for anthropogenic sound to affect any individual organism is dependent on the proximity to the source, signal characteristics, received peak pressures relative to the static pressure, cumulative sound exposure, species, motivation, and the receiver's prior experience. In addition, environmental conditions (e.g., temperature, water depth, and substrate) affect sound speed, propagation paths, and attenuation, resulting in temporal and spatial variations in the received signal for organisms throughout the ensonified area (Hildebrand, 2009).

Sound detection capabilities among fishes vary. For most fish species, it is reasonable to assume hearing sensitivity to frequencies below 500 Hertz (Hz) (Popper et al., 2003 and 2014; Popper and Hastings, 2009; Slabbekoorn et al., 2010; Radford et al., 2014). The band of greatest interest to this analysis, low-frequency sound (30-500 Hz), has come to be dominated by anthropogenic sources and includes the frequencies most likely to be detected by most fish species. For example, the noise generated by large vessel traffic typically results from propeller cavitation and falls within 40-150 Hz (Hildebrand, 2009; McKenna et al., 2012). This range is similar to that of fish vocalizations and hearing and could result in a masking effect.

Masking occurs when background noise increases the threshold for a sound to be detected; masking can be partial or complete. If detection thresholds are raised for biologically relevant signals, there is a potential for increased predation, reduced foraging success, reduced reproductive success, or other effects. However, fish hearing and sound production may be adapted to a noisy environment (Wysocki and Ladich, 2005). There is evidence that fishes are able to efficiently discriminate between signals, extracting important sounds from background noise (Popper et al., 2003; Wysocki and Ladich, 2005). Sophisticated sound processing capabilities and filtering by the sound sensing organs essentially narrows the band of masking frequencies, potentially decreasing masking effects. In addition, the low-frequency sounds of interest propagate over very long distances in deep water, but these frequencies are quickly lost in water depths between $\frac{1}{2}$ and $\frac{1}{4}$ the wavelength (Ladich, 2013). This would suggest that the potential for a masking effect from low-frequency noise on behaviors occurring in shallow coastal waters may be reduced by the receiver's distance from sound sources, such as busy ports or construction activities.

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Pulsed sounds generated by OCS oil-and gas-related activities (e.g., impact-driven piles and airguns) can potentially cause behavioral response, reduce hearing sensitivity, or result in physiological injury to fishes and invertebrate resources. However, there are no pulsed sound generation activities proposed for these operations. [

Support vessel traffic, drilling, production facilities, and other sources of continuous sounds contribute to a chronic increase in background noise, with varying areas of effect that may be influenced by the sound level, frequencies, and environmental factors (Hildebrand, 2009; Slabbekoorn et al., 2010; McKenna et al., 2012). These sources have a low potential for causing physiological injury or injuring hearing in fishes and invertebrates (Popper et al., 2014). However, continuous sounds have an increased potential for masking biologically relevant sounds than do pulsed signals. The potential effects of masking on fishes and invertebrates are difficult to assess in the natural setting for communities and populations of species, but evidence indicates that the increase to background noise as a result of OCS oil and gas operations would be relatively minor. Therefore, it is expected that the cumulative impact to fishes and invertebrate resources would be minor and would not extend beyond localized disturbances or behavioral modification.

Despite the importance of many sound-mediated behaviors and the potential biological costs associated with behavioral response to anthropogenic sounds, many environmental and biological factors limit potential exposure and the effects that OCS oil-and gas-related sounds have on fishes and invertebrate resources. The overall impact to fishes and invertebrate resources due to anthropogenic sound introduced into the marine environment by OCS oil-and gas-related routine activities is expected to be minor.

Effluents: Effluents such as drilling fluids and cuttings discharges contain components and properties which are detrimental to fishery resources. Moderate petroleum and metal contamination of sediments and the water column can occur out to several hundred meters down current from the discharge point. Offshore discharges are expected to disperse and dilute to very near background levels in the water column or on the seafloor within 3,000 meters of the discharge point and are expected to have negligible effect on fisheries. Additionally, an analysis of the best available information from the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 *Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico* (NMFS, 2020) concludes that exposures to toxicants in discharges from oil and gas activities are not likely to adversely affect ESA-listed species.

Accidents: Collisions between support vessels and ESA-listed fish, would be unusual events, however, should one occur, death or injury to ESA-listed fish is possible. Contract vessel operators can avoid protected aquatic species and reduce potential deaths by maintaining a vigilant watch and a distance of 50 meters or greater, with the exception of animals that approach the vessel. Vessel personnel should use a Gulf of America reference guide that includes identifying information on marine mammals, sea turtles, and other marine protected species (i.e., Endangered Species Act listed species such as Gulf sturgeon, giant manta ray, or oceanic whitetip shark) that may be encountered in the Gulf of America OCS.

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Contract vessel operators will comply with the measures included in Appendix C of the NMFS Biological Opinion and requirements of the Protected Species Lease Stipulation, except under extraordinary circumstances when the safety of the vessel or crew is in doubt or the safety of life at sea is in question.

Should an ESA-listed fish (e.g., giant manta ray, oceanic whitetip shark, or Gulf sturgeon) be entrapped, entangled, or injured, personnel should contact the ESA Section 7 biologist at (301) 427-8413 (nmfs.psoreview@noaa.gov) and report all incidents to takereport.nmfs@noaa.gov. After making the appropriate notifications, Walter may call BSEE at (985) 722-7902 for questions or additional guidance on recovery assistance needs, continued monitoring requirements, and incidental report information which at minimum is detailed below. Additional information may be found at the following website: <https://www.fisheries.noaa.gov/report>. Any injured or dead protected species should also be reported to takereport.nmfs@noaa.gov. In addition, if the injury or death was caused by a collision with the operator's vessel, an entrapment within the operator's equipment or vessel (e.g. moon pool), or an entanglement within the operator's equipment, the operator must further notify BOEM and BSEE within 24 hours of the strike or entrapment/entanglement by email to protectedspecies@boem.gov and protectedspecies@bsee.gov. If the vessel is the responsible party, it is required to remain available to assist the respective salvage and stranding network as needed.

An accidental oil spill has the potential to cause some detrimental effects on fisheries; however, it is unlikely that such an event would occur from the proposed operations (refer to **Item 5**, Water Quality). The effects of oil on mobile adult finfish or shellfish would likely be sublethal and the extent of damage would be reduced to the capacity of adult fish and shellfish to avoid the spill, to metabolize hydrocarbons, and to excrete both metabolites and parent compounds. The activities proposed in this plan will be covered by Walter's Regional OSRP (refer to information submitted in **Section 8**).

There are no other IPFs (including wastes sent to shore for treatment or disposal) from the proposed operations that are likely to impact fisheries.

7. Marine Mammals

The latest population estimates for the Gulf of America revealed that cetaceans of the continental shelf and shelf-edge were almost exclusively bottlenose dolphin and Atlantic spotted dolphin. Squid eaters, including dwarf and pygmy killer whale, Risso's dolphin, rough-toothed dolphin, and Cuvier's beaked whale, occurred most frequently along the upper slope in areas outside of anticyclones. The Rice's whale (née Gulf of America Bryde's whale) is the only commonly occurring baleen whale in the northern Gulf of America and has been sighted off western Florida and in the De Soto Canyon region. Florida manatees have been sighted along the entire northern GOA but are mainly found in the shallow coastal waters of Florida, which are unassociated with the proposed operations. A complete list of all endangered and threatened marine mammals in the GOA may be found in **Table 1** at the beginning of this Environmental Impact Assessment. More information regarding the endangered Rice's whale can be found in **Item 20.1** below. Potential

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IPFs to marine mammals as a result of the proposed operations in Ewing Bank Block 966 include emissions (noise / sound), effluents, discarded trash and debris, and accidents.

Emissions (noise / sound): Noises from drilling activities, support vessels and helicopters (i.e., non-impulsive anthropogenic sound) may elicit a startle reaction from marine mammals. This reaction may lead to disruption of marine mammals' normal activities. Stress may make them more vulnerable to parasites, disease, environmental contaminants, and/or predation (Majors and Myrick, 1990). Responses to sound exposure may include lethal or nonlethal injury, temporary hearing impairment, behavioral harassment and stress, or no apparent response. Noise-induced stress is possible, but it is little studied in marine mammals. Tyack (2008) suggests that a more significant risk to marine mammals from sound are these less visible impacts of chronic exposure. There is little conclusive evidence for long-term displacements and population trends for marine mammals relative to noise.

Vessels are the greatest contributors to increases in low-frequency ambient sound in the sea (Andrew et al. 2011). Sound levels and tones produced are generally related to vessel size and speed. Larger vessels generally emit more sound than smaller vessels, and vessels underway with a full load, or those pushing or towing a load, are noisier than unladen vessels. Cetacean responses to aircraft depend on the animals' behavioral state at the time of exposure (e.g., resting, socializing, foraging, or traveling) as well as the altitude and lateral distance of the aircraft to the animals (Luksenburg and Parsons 2009). The underwater sound intensity from aircraft is less than produced by vessels, and visually, aircraft are more difficult for whales to locate since they are not in the water and move rapidly (Richter et al. 2006). Perhaps not surprisingly then, when aircraft are at higher altitudes, whales often exhibit no response, but lower flying aircraft (e.g., approximately 500 meters or less) have been observed to elicit short-term behavioral responses (Luksenburg and Parsons 2009; NMFS 2017b; NMFS 2017f; Patenaude et al. 2002; Smultea et al. 2008a; Wursig et al. 1998). Thus, aircraft flying at low altitude, at close lateral distances and above shallow water elicit stronger responses than aircraft flying higher, at greater lateral distances and over deep water (Patenaude et al. 2002; Smultea et al. 2008a). Routine OCS helicopter traffic would not be expected to disturb animals for extended periods, provided pilots do not alter their flight patterns to more closely observe or photograph marine mammals. Helicopters, while flying offshore, generally maintain altitudes above 700 feet during transit to and from a working area, and at an altitude of about 500 feet between platforms. The duration of the effects resulting from a startle response is expected to be short-term during routine flights, and the potential effects will be insignificant to sperm whales and Rice's whales. Therefore, we find that any disturbance that may result from aircraft associated with the proposed operations is not likely to adversely affect ESA-listed whales.

Drilling and production noise would contribute to increases in the ambient noise environment of the GOA, but they are not expected in amplitudes sufficient to cause either hearing or behavioral impacts (BOEM 2017-009). There is the possibility of short-term disruption of movement patterns and/or behavior caused by vessel noise and disturbance; however, these are not expected to impact survival and growth of any marine mammal populations in the GOA. Additionally, the National Marine Fisheries Service published a final recovery plan for the sperm whale, which identified anthropogenic noise as either a low or unknown threat to sperm whales in the GOA (USDOC,

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NMFS, 2010b). Sirenians (i.e., manatees) are not located within the area of operations. Additionally, there were no specific noise impact factors identified in the latest BOEM environmental impact statement for sirenians related to GOA OCS operations (BOEM 2017-009). See **Item 20.1** for details on the Rice's whale.

Impulsive sound impacts (i.e., pile driving, seismic surveys) are not included among the activities proposed under this plan.

Effluents: Drilling fluids and cuttings discharges contain components which may be detrimental to marine mammals. Most operational discharges are diluted and dispersed upon release. Any potential impact from drilling fluids would be indirect, either as a result of impacts on prey items or possibly through ingestion in the food chain (API, 1989).

Discarded trash and debris: Both entanglement in and ingestion of debris have caused the death or serious injury of marine mammals (Laist, 1997; MMC, 1999). The limited amount of marine debris, if any, resulting from the proposed operations is not expected to substantially harm marine mammals. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V, the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies, including the United States Coast Guard (USCG) and the Environmental Protection Agency (EPA).

Walter will operate in accordance with the regulations, agency guidance, and Appendix B of the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion and also avoid accidental loss of solid waste items by maintaining waste management plans, manifesting trash sent to shore, and using special precautions such as covering outside trash bins to prevent accidental loss of solid waste. Special caution will be exercised when handling and disposing of small items and packaging materials, particularly those made of non-biodegradable, environmentally persistent materials such as plastic or glass. Walter will also collect and remove flotsam resulting from activities related to proposed operations.

Informational placards will be posted on all vessels and facilities having sleeping or food preparation capabilities. All offshore personnel, including contractors and other support services-related personnel (e.g., helicopter pilots, vessel captains and boat crews) will be indoctrinated on waste procedures, and will view the video (or Microsoft PowerPoint presentation), *Think About It (previously All Washed Up: The Beach Litter Problem)*. Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from Walter management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE.

Accidents: Collisions between support vessels and marine mammals, including cetaceans, would be unusual events; however, should one occur, death or injury to marine mammals is possible. Contract vessel operators can avoid marine mammals and reduce potential deaths by maintaining

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a vigilant watch for marine mammals and maintaining a safe distance of 500 meters or greater from baleen whales, 100 meters or greater from sperm whales, and a distance of 50 meters or greater from all other aquatic protected species, with the exception of animals that approach the vessel. If unable to identify the marine mammal, the vessel will act as if it were a baleen whale and maintain a distance of 500 meters or greater. If a manatee is sighted, all vessels in the area will operate at “no wake/idle” speeds in the area, while maintaining proper distance. When assemblages of cetaceans are observed, including mother/calf pairs, vessel speeds will be reduced to 10 knots or less. Vessel personnel should use a Gulf of America reference guide that includes identifying information on marine mammals, sea turtles, and other marine protected species (i.e., Endangered Species Act listed species such as Gulf sturgeon, giant manta ray, or oceanic whitetip shark) that may be encountered in the Gulf of America OCS.

Contract vessel operators will comply with the measures included in Appendix C of the NMFS Biological Opinion and requirements of the Protected Species Lease Stipulation, except under extraordinary circumstances when the safety of the vessel or crew is in doubt or the safety of life at sea is in question.

Vessel personnel must report sightings of any injured or dead protected marine mammal species immediately, regardless of whether the injury or death is caused by their vessel, to the NMFS Southeast Marine Mammal Stranding Hotline at (877) WHALE-HELP (877-942-5343). Additional information may be found at the following website: <https://www.fisheries.noaa.gov/report>. Any injured or dead protected species should also be reported to takereport.nmfs@noaa.gov. In addition, if the injury or death was caused by a collision with the operator’s vessel, an entrapment within the operator’s equipment or vessel (e.g. moon pool), or an entanglement within the operator’s equipment, the operator must further notify BOEM and BSEE within 24 hours of the strike or entrapment/entanglement by email to protectedspecies@boem.gov and protectedspecies@bsee.gov. If the vessel is the responsible party, it is required to remain available to assist the respective salvage and stranding network as needed.

Walter will utilize a DP semi-submersible which will have a typical moon pool utilized in all Deepwater DP semi-submersibles. The moon pool is located in the center of the rig. The moon pool’s purpose is to allow access to the water to drill, complete and workover wells. This also allows access to run Blowout Preventers to latch up to the well for well control in the event of an emergency. There is no closing mechanism for the moon pool as it is always open to the sea. In the extremely rare instance that marine life would get entrapped or entangled by equipment in the moon pool, or by any other equipment on the rig, below are mitigations that Walter will put in place to protect marine life in case of an incident.

- Personnel will monitor the moon pool area for marine life while performing operations near the area;
- Walter will monitor video from the 3 cameras focused on the moon pool area;

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- If endangered marine life is seen in the area, a live video feed can be streamed real-time for additional coverage;
- If marine life is entrapped or entangled, Walter can safely lower someone into the moon pool to free it.

Walter's contractor or company representative will provide a dedicated crew member to monitor and continually survey the moon pool area during the operations for marine mammals. If any marine mammal is detected in the moon pool, Walter will cease operations and contact NMFS at nmfs.psoreview@noaa.gov and BSEE at protectedspecies@bsee.gov and 985-722-7902 for additional guidance and incident report information.

Oil spills have the potential to cause sublethal oil-related injuries and spill-related deaths to marine mammals. However, it is unlikely that an accidental oil spill would occur from the proposed operations (refer to **Item 5**, Water Quality). Oil spill response activities may increase vessel traffic in the area, which could impact cetacean behavior and/or distribution, thereby causing additional stress to the animals. The effect of oil dispersants on cetaceans is not known. Removing oil from the surface would reduce the likelihood of oil adhering to marine mammals. Laboratory experiments have shown that the dispersants used during the Deepwater Horizon response are cytotoxic to sperm whale cells; however, it is difficult to determine actual exposure levels in the GOA. Therefore, dispersants will only be used if approved by the Regional Response Team in coordination with the RRT Dispersant Plan and RRT Biological Assessment for Dispersants. The acute toxicity of oil dispersant chemicals included in Walter's Regional OSRP is considered to be low when compared with the constituents and fractions of crude oils and diesel products. The activities proposed in this plan will be covered by Walter's Regional OSRP (refer to information submitted in accordance with **Section 8**).

The NMFS Office of Protected Resources coordinates agency assessment of the need for response and leads response efforts for spills that may impact cetaceans. If a spill may impact cetaceans, NMFS Protected Resources Contacts should be notified (see contact details below), and they will initiate notification of other relevant parties.

NMFS Protected Resources Contacts for the Gulf of America:

- Marine mammals – Southeast emergency stranding hotline 1-877-433-8299
- Other endangered or threatened species – ESA section 7 consulting biologist: nmfs.ser.emergency.consult@noaa.gov

There are no other IPFs (including physical disturbances to the seafloor) from the proposed operations that are likely to impact marine mammals.

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8. Sea Turtles

GulfCet II studies sighted most loggerhead, Kemp's ridley and leatherback sea turtles over shelf waters. Historically these species have been sighted up to the shelf's edge. They appear to be more abundant east of the Mississippi River than they are west of the river (Fritts et al., 1983b; Lohofener et al., 1990). Deep waters may be used by all species as a transitory habitat. A complete list of endangered and threatened sea turtles in the GOA may be found in **Table 1** at the beginning of this Environmental Impact Assessment. Additional details regarding the loggerhead sea turtle's critical habitat in the GOA are located in **Item 20.5**. Potential IPFs to sea turtles as a result of the proposed operations include emissions (noise / sound), effluents, discarded trash and debris, and accidents.

Emissions (noise / sound): Noise from drilling activities, support vessels, and helicopters (i.e., non-impulsive anthropogenic sound) may elicit a startle reaction from sea turtles, but this is a temporary disturbance. Responses to sound exposure may include lethal or nonlethal injury, temporary hearing impairment, behavioral harassment and stress, or no apparent response. Vessels are the greatest contributors to increases in low-frequency ambient sound in the sea (Andrew et al. 2011). Sound levels and tones produced are generally related to vessel size and speed. Larger vessels generally emit more sound than smaller vessels, and vessels underway with a full load, or those pushing or towing a load, are noisier than unladen vessels. Routine OCS helicopter traffic would not be expected to disturb animals for extended periods, provided pilots do not alter their flight patterns to more closely observe or photograph marine mammals. Helicopters, while flying offshore, generally maintain altitudes above 700 feet during transit to and from a working area, and at an altitude of about 500 feet between platforms. The duration of the effects resulting from a startle response is expected to be short-term during routine flights and the potential effects will be insignificant to sea turtles. Therefore, we find that any disturbance that may result from aircraft associated with the proposed operations is not likely to adversely affect sea turtles. Construction and operational sounds other than pile driving should have insignificant effects on sea turtles; effects would be limited to short-term avoidance of construction activity itself rather than the sound produced. As a result, sound sources associated with support vessel movement as part of the proposed operations are insignificant and therefore are not likely to adversely affect sea turtles.

Overall noise impacts on sea turtles from the proposed operations are expected to be negligible to minor depending on the location of the animal(s) relative to the sound source and the frequency, intensity, and duration of the source. The National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion Appendix C explains how operators must implement measures to minimize the risk of vessel strikes to protected species and report observations of injured or dead protected species. This guidance should also minimize the chance of sea turtles being subject to the increased noise level of a service vessel in very close proximity.

Effluents: Drilling fluids and cuttings discharges are not known to be lethal to sea turtles. Most operational discharges are diluted and dispersed upon release. Any potential impact from drilling fluids would be indirect, either as a result of impacts on prey items or possibly through ingestion in the food chain (API, 1989).

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Discarded trash and debris: Both entanglement in, and ingestion of, debris have caused the death or serious injury of sea turtles (Balazs, 1985). The limited amount of marine debris, if any, resulting from the proposed operations is not expected to substantially harm sea turtles. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V, the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies, including the United States Coast Guard (USCG) and the Environmental Protection Agency (EPA).

Walter will operate in accordance with the regulations, agency guidance, and Appendix B of the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion and also avoid accidental loss of solid waste items by maintaining waste management plans, manifesting trash sent to shore, and using special precautions such as covering outside trash bins to prevent accidental loss of solid waste. Special caution will be exercised when handling and disposing of small items and packaging materials, particularly those made of non-biodegradable, environmentally persistent materials such as plastic or glass. Walter will also collect and remove flotsam resulting from activities related to proposed operations.

Informational placards will be posted on all vessels and facilities having sleeping or food preparation capabilities. All offshore personnel, including contractors and other support services-related personnel (e.g., helicopter pilots, vessel captains and boat crews) will be indoctrinated on waste procedures, and will view the video (or Microsoft PowerPoint presentation), *Think About It (previously All Washed Up: The Beach Litter Problem)*. Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from Walter management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE.

Accidents: Collisions between support vessels and sea turtles would be unusual events; however, should one occur, death or injury to sea turtles is possible. Contract vessel operators can avoid sea turtles and reduce potential deaths by maintaining a vigilant watch for sea turtles and maintaining a safe distance of 50 meters or greater when they are sighted, with the exception of sea turtles that approach the vessel. Vessel crews should use a reference guide to help identify the five species of sea turtles that may be encountered in the Gulf of America OCS as well as other marine protected species (i.e., Endangered Species Act listed species). Contract vessel operators will comply with the measures included in Appendix C of the NMFS Biological Opinion and requirements of the Protected Species Lease Stipulation, except under extraordinary circumstances when the safety of the vessel or crew is in doubt or the safety of life at sea is in question.

Vessel crews must report sightings of any injured or dead protected sea turtle species immediately, regardless of whether the injury or death is caused by their vessel, to the State Coordinators for the Sea Turtle Stranding and Salvage Network (STSSN) at http://www.sefsc.noaa.gov/species/turtles/stranding_coordinators.htm (phone numbers vary by state). Additional information may be found at the following website: <https://www.fisheries.noaa.gov/report>. Any injured or dead protected species should also be

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reported to takereport.nmfs@noaa.gov. In addition, if the injury or death was caused by a collision with the operator's vessel, an entrapment within the operator's equipment or vessel (e.g. moon pool), or an entanglement within the operator's equipment, the operator must further notify BOEM and BSEE within 24 hours of the strike or entrapment/entanglement by email to protectedspecies@boem.gov and protectedspecies@bsee.gov. If the vessel is the responsible party, it is required to remain available to assist the respective salvage and stranding network as needed.

Walter will utilize a DP semi-submersible which will have a typical moon pool utilized in all Deepwater DP semi-submersibles. The moon pool is located in the center of the rig. The moon pool's purpose is to allow access to the water to drill, complete and workover wells. This also allows access to run Blowout Preventers to latch up to the well for well control in the event of an emergency. There is no closing mechanism for the moon pool as it is always open to the sea. In the extremely rare instance that marine life would get entrapped or entangled by equipment in the moon pool, or by any other equipment on the rig, below are mitigations that Walter will put in place to protect marine life in case of an incident.

- Personnel will monitor the moon pool area for marine life while performing operations near the area;
- Walter will monitor video from the 3 cameras focused on the moon pool area;
- If endangered marine life is seen in the area, a live video feed can be streamed real-time for additional coverage;
- If marine life is entrapped or entangled, Walter can safely lower someone into the moon pool to free it.

Walter's contractor or company representative will provide a dedicated crew member to monitor and continually survey the moon pool area during the operations for sea turtles. If any sea turtle is detected in the moon pool, Walter will cease operations and contact NMFS at nmfs.psoreview@noaa.gov and BSEE at protectedspecies@bsee.gov and 985-722-7902 for additional guidance and incidental report information. The procedures found in Appendix J of the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion will be employed to free entrapped or entangled marine life safely.

All sea turtle species and their life stages are vulnerable to the harmful effects of oil through direct contact or by fouling of their food. Exposure to oil can be fatal, particularly to juveniles and hatchlings. However, it is unlikely that an accidental oil spill would occur from the proposed operations (refer to **Item 5**, Water Quality). Oil spill response activities may increase vessel traffic in the area, which could add to the possibility of collisions with sea turtles. The activities proposed in this plan will be covered by Walter's Regional Oil Spill Response Plan (refer to information submitted in accordance with **Section 8**).

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The NMFS Office of Protected Resources coordinates agency assessment of the need for response and leads response efforts for spills that may impact sea turtles. If a spill may impact sea turtles, the following NMFS Protected Resources Contacts should be notified, and they will initiate notification of other relevant parties.

- Dr. Brian Stacy at brian.stacy@noaa.gov and 352-283-3370 (cell); or
- Stacy Hargrove at stacy.hargrove@noaa.gov and 305-781-7453 (cell)

There are no other IPFs (including physical disturbances to the seafloor) from the proposed operations that are likely to impact sea turtles.

9. Air Quality

Potential IPFs to air quality as a result of the proposed operations include accidents.

Ewing Bank Block 966 is located 109.2 miles from the Breton Wilderness Area and 69 miles from shore. Applicable emissions data is included in **Section 7** of the Plan.

There would be a limited degree of air quality degradation in the immediate vicinity of the proposed operations. Plan Emissions for the proposed operations do not exceed the annual exemption levels as set forth by BOEM. Accidents and blowouts can release hydrocarbons or chemicals, which could cause the emission of air pollutants. However, these releases would not impact onshore air quality because of the prevailing atmospheric conditions, emission height, emission rates, and the distance of Ewing Bank Block 966 from the coastline.

There are no other IPFs (including effluents, physical disturbances to the seafloor, and wastes sent to shore for treatment or disposal) from the proposed operations that are likely to impact air quality.

10. Shipwreck Sites (known or potential)

In accordance with BOEM NTL 2005-G07, Walter will submit an archaeological resource report per 30 CFR 550.194 if directed to do so by the Regional Director.

Potential IPFs to known or unknown shipwreck sites as a result of the proposed operations in Ewing Bank Block 966 include physical disturbances to the seafloor and accidents.

Physical disturbances to the seafloor: A DP semisubmersible is being used for the proposed operations; therefore, only an insignificant amount of seafloor will be disturbed. Because physical disturbances to the seafloor will be minimized by the use of a DP semisubmersible, Walter's proposed operations in Ewing Bank Block 966 that are not likely to impact shipwreck sites.

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Additionally, Ewing Bank Block 966 is not located in or adjacent to an OCS block designated by BOEM as having a high probability for occurrence of shipwrecks. Should Walter discover any evidence of a shipwreck, they will immediately halt operations within a 1000-foot radius, report to BOEM within 48 hours, and make every reasonable effort to preserve and protect that cultural resource.

Accidents: An accidental oil spill has the potential to cause some detrimental effects to shipwreck sites if the release were to occur subsea. However, it is unlikely that an accidental oil spill would occur from the proposed operations (refer to **Item 5**, Water Quality). The activities proposed in this plan will be covered by Walter's Regional Oil Spill Response Plan (refer to information submitted in accordance with **Section 8**).

There are no other IPFs (including emissions, effluents, and wastes sent to shore for treatment or disposal) from the proposed operations that are likely to impact shipwreck sites.

11. Prehistoric Archaeological Sites

In accordance with BOEM NTL 2005-G07, Walter will submit an archaeological resource report per 30 CFR 550.194 if directed to do so by the Regional Director.

Potential IPFs to prehistoric archaeological sites as a result of the proposed operations in Ewing Bank Block 966 are physical disturbances to the seafloor and accidents. Should Walter discover any object of prehistoric archaeological significance, they will immediately halt operations within a 1000-foot radius, report to BOEM within 48 hours, and make every reasonable effort to preserve and protect that cultural resource.

Physical Disturbances to the seafloor: Although the operations proposed will be conducted by utilizing a DP semisubmersible, which would cause only an insignificant amount of seafloor to be disturbed, Ewing Bank Block 966 is located inside the Archaeological Prehistoric high probability lines. Walter will report to BOEM the discovery of any object of prehistoric archaeological significance and make every reasonable effort to preserve and protect that cultural resource.

Accidents: An accidental oil spill has the potential to cause some detrimental effects to prehistoric archaeological sites if the release were to occur subsea. However, it is unlikely that an accidental oil spill would occur from the proposed operations (refer to **Item 5**, Water Quality). The activities proposed in this plan will be covered by Walter's Regional Oil Spill Response Plan (refer to information submitted in accordance with **Section 8**).

There are no other IPFs (including emissions, effluents, and wastes sent to shore for treatment or disposal) from the proposed operations that are likely to impact prehistoric archeological sites.

Vicinity of Offshore Location

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12. Essential Fish Habitat (EFH)

Potential IPFs to EFH as a result of the proposed operations in Ewing Bank Block 966 include physical disturbances to the seafloor, effluents, and accidents. EFH includes all estuarine and marine waters and substrates in the Gulf of America.

Physical disturbances to the seafloor: Turbidity and sedimentation resulting from the bottom disturbing activities included in the proposed operations would be short term and localized. Fish are mobile and would avoid these temporarily suspended sediments. Additionally, the Live Bottom Low Relief Stipulation, the Live Bottom (Pinnacle Trend) Stipulation, and the Eastern Gulf Pinnacle Trend Stipulation have been put in place to minimize the impacts of bottom disturbing activities. Additionally, a DP semisubmersible is being used for the proposed operations; therefore, only an insignificant amount of seafloor will be disturbed. Therefore, the bottom disturbing activities from the proposed operations would have a negligible impact on EFH.

Effluents: The Live Bottom Low Relief Stipulation, the Live Bottom (Pinnacle Trend) Stipulation, and the Eastern Gulf Pinnacle Trend Stipulation would prevent most of the potential impacts on live-bottom communities and EFH from operational waste discharges. Levels of contaminants in drilling muds and cuttings and produced-water discharges, discharge-rate restrictions, and monitoring and toxicity testing are regulated by the EPA NPDES permit, thereby eliminating many significant biological or ecological effects. Operational discharges are not expected to cause significant adverse impacts to EFH.

Accidents: An accidental oil spill has the potential to cause some detrimental effects on EFH. Oil spills that contact coastal bays and estuaries, as well as OCS waters when pelagic eggs and larvae are present, have the greatest potential to affect fisheries. However, it is unlikely that an oil spill would occur from the proposed operations (refer to **Item 5**, Water Quality). The activities proposed in this plan will be covered by Walter's Regional OSRP (refer to information submitted in **Section 8**).

There are no other IPFs (including emissions and wastes sent to shore for treatment or disposal) from the proposed operations that are likely to impact essential fish habitat.

13. Marine and Pelagic Birds

Potential IPFs to marine birds as a result of the proposed operations include emissions (air, noise / sound), accidental oil spills, and discarded trash and debris from vessels and the facilities.

Emissions:

Air Emissions

Emissions of pollutants into the atmosphere from these activities are far below concentrations which could harm coastal and marine birds.

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Noise / Sound Emissions

The OCS oil-and gas-related helicopters and vessels have the potential to cause noise and disturbance. However, flight altitude restrictions over sensitive habitat, including that of birds, may make serious disturbance unlikely. Birds are also known to habituate to noises, including airport noise. It is an assumption that the OCS oil-and gas-related vessel traffic would follow regular routes; if so, seabirds would find the noise to be familiar. Therefore, the impact of OCS oil-and gas-related noise from helicopters and vessels to birds would be expected to be negligible.

The use of explosives for decommissioning activities may potentially kill one or more birds from barotrauma if a bird (or several birds because birds may occur in a flock) is present at the location of the severance. For the impact of underwater sound, a threshold of 202 dB sound exposure level (SEL) for injury and 208 dB SEL for barotrauma was recommended for the *Brahyramphus marmoratus*, a diving seabird (USDOI, FWS, 2011). However, the use of explosive severance of facilities for decommissioning are not included in these proposed operations, therefore these impacts are not expected.

Accidents: An oil spill would cause localized, low-level petroleum hydrocarbon contamination. However, it is unlikely that an oil spill would occur from the proposed operations (refer to **Item 5**, Water Quality). Marine and pelagic birds feeding at the spill location may experience chronic, nonfatal, physiological stress. It is expected that few, if any, coastal and marine birds would actually be affected to that extent. The activities proposed in this plan will be covered by Walter's Regional OSRP (refer to information submitted in **Section 8**).

Discarded trash and debris: Marine and pelagic birds could become entangled and snared in discarded trash and debris, or ingest small plastic debris, which can cause permanent injuries and death. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V, the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies, including the United States Coast Guard (USCG) and the Environmental Protection Agency (EPA).

Walter will operate in accordance with the regulations, agency guidance, and Appendix B of the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion and also avoid accidental loss of solid waste items by maintaining waste management plans, manifesting trash sent to shore, and using special precautions such as covering outside trash bins to prevent accidental loss of solid waste. Special caution will be exercised when handling and disposing of small items and packaging materials, particularly those made of non-biodegradable, environmentally persistent materials such as plastic or glass. Walter will also collect and remove flotsam resulting from activities related to proposed operations.

Informational placards will be posted on all vessels and facilities having sleeping or food preparation capabilities. All offshore personnel, including contractors and other support services-related personnel (e.g., helicopter pilots, vessel captains and boat crews) will be indoctrinated on waste procedures, and will view the video (or Microsoft PowerPoint presentation), *Think About It*

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(previously *All Washed Up: The Beach Litter Problem*). Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from Walter management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE. Debris, if any, from these proposed operations will seldom interact with marine and pelagic birds; therefore, the effects will be negligible.

ESA bird species: Seven species found in the GOA are listed under the ESA. BOEM consults on these species and requires mitigations that would decrease the potential for greater impacts due to small population size.

There are no other IPFs (including effluents, physical disturbances to the seafloor, and wastes sent to shore for treatment or disposal) from the proposed operations that are likely to impact marine and pelagic birds.

14. Public Health and Safety Due to Accidents.

There are no IPFs (including emissions, effluents, physical disturbances to the seafloor, wastes sent to shore for treatment or disposal, and accidents, including an accidental H₂S release) from the proposed operations that are likely to impact public health and safety. In accordance with NTL No.'s 2008-G04, 2009-G27, and 2009-G31, sufficient information is included in **Section 4** to justify our request that our proposed operations be classified by BSEE as H₂S absent.

Coastal and Onshore

15. Beaches

Potential IPFs to beaches from the proposed operations include accidents and discarded trash and debris.

Accidents: Oil spills contacting beaches would have impacts on the use of recreational beaches and associated resources. Due to the distance from shore (69 miles) and the response capabilities that would be implemented, no significant adverse impacts are expected. The operations proposed in this plan will be covered by Walter's Regional OSRP (refer to information submitted in **Section 8**).

Discarded trash and debris: Trash on the beach is recognized as a major threat to the enjoyment and use of beaches. There will only be a limited amount of marine debris, if any, resulting from the proposed operations. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V, the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies, including the United States Coast Guard (USCG) and the Environmental Protection Agency (EPA).

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Walter will operate in accordance with the regulations, agency guidance, and Appendix B of the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion and also avoid accidental loss of solid waste items by maintaining waste management plans, manifesting trash sent to shore, and using special precautions such as covering outside trash bins to prevent accidental loss of solid waste. Special caution will be exercised when handling and disposing of small items and packaging materials, particularly those made of non-biodegradable, environmentally persistent materials such as plastic or glass. Walter will also collect and remove flotsam resulting from activities related to proposed operations.

Informational placards will be posted on all vessels and facilities having sleeping or food preparation capabilities. All offshore personnel, including contractors and other support services-related personnel (e.g., helicopter pilots, vessel captains and boat crews) will be indoctrinated on waste procedures, and will view the video (or Microsoft PowerPoint presentation), *Think About It (previously All Washed Up: The Beach Litter Problem)*. Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from Walter management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE.

There are no other IPFs (including emissions, effluents, physical disturbances to the seafloor, and wastes sent to shore for treatment or disposal) from the proposed operations that are likely to impact beaches.

16. Wetlands

Potential IPFs to wetlands from the proposed operations include accidents and discarded trash and debris.

Accidents: It is unlikely that an oil spill would occur from the proposed operations (refer to **Item 5, Water Quality**). Due to the distance from shore (69 miles) and the response capabilities that would be implemented, no impacts are expected. The operations proposed in this plan will be covered by Walter's Regional OSRP (refer to information submitted in **Section 8**).

Discarded trash and debris: There will only be a limited amount of marine debris, if any, resulting from the proposed operations. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V, the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies, including the United States Coast Guard (USCG) and the Environmental Protection Agency (EPA).

Walter will operate in accordance with the regulations, agency guidance, and Appendix B of the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion and also avoid accidental loss of solid waste items by maintaining waste management plans, manifesting trash sent to shore, and using special precautions such as covering outside trash bins

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to prevent accidental loss of solid waste. Special caution will be exercised when handling and disposing of small items and packaging materials, particularly those made of non-biodegradable, environmentally persistent materials such as plastic or glass. Walter will also collect and remove flotsam resulting from activities related to proposed operations.

Informational placards will be posted on all vessels and facilities having sleeping or food preparation capabilities. All offshore personnel, including contractors and other support services-related personnel (e.g., helicopter pilots, vessel captains and boat crews) will be indoctrinated on waste procedures, and will view the video (or Microsoft PowerPoint presentation), *Think About It (previously All Washed Up: The Beach Litter Problem)*. Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from Walter management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE.

There are no other IPFs (including emissions, effluents, physical disturbances to the seafloor, and wastes sent to shore for treatment or disposal) from the proposed operations that are likely to impact wetlands.

17. Shore Birds and Coastal Nesting Birds

Potential IPFs to shore birds and coastal nesting birds as a result of the proposed operations include accidents and discarded trash and debris.

Accidents: Oil spills could impact shore birds and coastal nesting birds. However, it is unlikely that an oil spill would occur from the proposed operations (refer to **Item 5**, Water Quality). Given the distance from shore (69 miles) and the response capabilities that would be implemented, no impacts are expected. The operations proposed in this plan will be covered by Walter's Regional OSRP (refer to information submitted in **Section 8**).

Discarded trash and debris: Shore birds and coastal nesting birds are highly susceptible to entanglement in floating, submerged, and beached marine debris: specifically, plastics. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V, the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies including the United States Coast Guard (USCG) and the Environmental Protection Agency (EPA).

Walter will operate in accordance with the regulations, agency guidance, and Appendix B of the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion and also avoid accidental loss of solid waste items by maintaining waste management plans, manifesting trash sent to shore, and using special precautions such as covering outside trash bins to prevent accidental loss of solid waste. Special caution will be exercised when handling and disposing of small items and packaging materials, particularly those made of non-biodegradable,

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environmentally persistent materials such as plastic or glass. Walter will also collect and remove flotsam resulting from activities related to proposed operations.

Informational placards will be posted on vessels and every facility that has sleeping or food preparation capabilities. All offshore personnel, including contractors and other support services-related personnel (e.g., helicopter pilots, vessel captains and boat crews) will be indoctrinated on waste procedures, and will view the video (or Microsoft PowerPoint presentation), *Think About It (previously All Washed Up: The Beach Litter Problem)*. Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from Walter management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE.

There are no other IPFs (including emissions, effluents, physical disturbances to the seafloor, and wastes sent to shore for treatment or disposal) from the proposed operations that are likely to impact shore birds and coastal nesting birds.

18. Coastal Wildlife Refuges

Potential IPFs to coastal wildlife refuges as a result of the proposed operations include accidents and discarded trash and debris.

Accidents: An accidental oil spill from the proposed operations could impact coastal wildlife refuges. However, it is unlikely that an oil spill would occur from the proposed operations (refer to Item 5, Water Quality). Due to the distance from shore (69 miles) and the response capabilities that would be implemented, no impacts are expected. The operations proposed in this plan will be covered by Walter's Regional OSRP (refer to information submitted in **Section 8**).

Discarded trash and debris: Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V, the Marine Plastic Pollution Research and Control Act and regulations imposed by various agencies, including the United States Coast Guard (USCG) and the Environmental Protection Agency (EPA).

Walter will operate in accordance with the regulations, agency guidance, and Appendix B of the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion and also avoid accidental loss of solid waste items by maintaining waste management plans, manifesting trash sent to shore, and using special precautions such as covering outside trash bins to prevent accidental loss of solid waste. Special caution will be exercised when handling and disposing of small items and packaging materials, particularly those made of non-biodegradable, environmentally persistent materials such as plastic or glass. Walter will also collect and remove flotsam resulting from activities related to proposed operations.

Informational placards will be posted on vessels and every facility that has sleeping or food preparation capabilities. All offshore personnel, including contractors and other support services-

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related personnel (e.g., helicopter pilots, vessel captains and boat crews) will be indoctrinated on waste procedures, and will view the video (or Microsoft PowerPoint presentation), *Think About It (previously All Washed Up: The Beach Litter Problem)*. Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from Walter management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE.

There are no other IPFs (including emissions, effluents, physical disturbances to the seafloor, and wastes sent to shore for treatment or disposal) from the proposed operations that are likely to impact coastal wildlife refuges.

19. Wilderness Areas

Potential IPFs to wilderness areas as a result of the proposed operations include accidents and discarded trash and debris.

Accidents: An accidental oil spill from the proposed operations could impact wilderness areas. However, it is unlikely that an oil spill would occur from the proposed operations (refer to **Item 5**, Water Quality). Due to the distance from the nearest designated Wilderness Area (109.2 miles) and the response capabilities that would be implemented, no significant adverse impacts are expected. The operations proposed in this plan will be covered by Walter's Regional OSRP (refer to information submitted in **Section 8**).

Discarded trash and debris: Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V, the Marine Plastic Pollution Research and Control Act and regulations imposed by various agencies including the United States Coast Guard (USCG) and the Environmental Protection Agency (EPA).

Walter will operate in accordance with the regulations, agency guidance, and Appendix B of the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion and also avoid accidental loss of solid waste items by maintaining waste management plans, manifesting trash sent to shore, and using special precautions such as covering outside trash bins to prevent accidental loss of solid waste. Special caution will be exercised when handling and disposing of small items and packaging materials, particularly those made of non-biodegradable, environmentally persistent materials such as plastic or glass. Walter will also collect and remove flotsam resulting from activities related to proposed operations.

Informational placards will be posted on vessels and every facility that has sleeping or food preparation capabilities. All offshore personnel, including contractors and other support services-related personnel (e.g., helicopter pilots, vessel captains and boat crews) will be indoctrinated on waste procedures, and will view the video (or Microsoft PowerPoint presentation), *Think About It (previously All Washed Up: The Beach Litter Problem)*. Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an

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explanation from Walter management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE.

There are no other IPFs (including emissions, effluents, physical disturbances to the seafloor, and wastes sent to shore for treatment or disposal) from the proposed operations that are likely to impact wilderness areas.

20. Other Environmental Resources Identified

20.1 – Rice’s Whale (née Gulf of America Bryde’s Whale)

The Bryde’s whale, also known as the Bryde’s whale complex, is a collection of baleen whales that are still being researched to determine if they are the same species or if they are individual species of whales. In 2021, the Rice’s whale, formerly known as the Gulf of America Bryde’s whale, was determined to be a separate species from other Bryde’s whales. There are less than 100 Rice’s whales living in the Gulf of America year-round. These whales retain all the protections of the Gulf of America Bryde’s whale under the Endangered Species Act while the regulations are being updated to reflect the name change.

The Rice’s whale (née Gulf of America Bryde’s whale) is the only commonly occurring baleen whale in the northern Gulf of America and has been sighted off western Florida and in the De Soto Canyon region. The Rice’s whale area is over 130.5 miles from the proposed operations. Additionally, vessel traffic associated with the proposed operations will not flow through the Rice’s whale area. Therefore, there are no IPFs from the proposed operations that are likely to impact the Rice’s whale. Additional information on marine mammals may be found in **Item 7**.

20.2 – Gulf Sturgeon

The Gulf sturgeon resides primarily in inland estuaries and rivers from Louisiana to Florida and a small population of the species enters the Gulf of America seasonally in western Florida. Potential IPFs to the Gulf sturgeon from the proposed operations include accidents, emissions (noise / sound), and discarded trash and debris. Additional information on ESA-listed fish may be found in **Item 6**.

Accidents: Collisions between support vessels and the Gulf sturgeon would be unusual events; however, should one occur, death or injury to the Gulf sturgeon is possible. Contract vessel operators can avoid protected aquatic species and reduce potential deaths by maintaining a vigilant watch and a distance of 50 meters or greater, with the exception of animals that approach the vessel. Vessel personnel should use a Gulf of America reference guide that includes identifying information on marine mammals, sea turtles, and other marine protected species (i.e., Endangered Species Act listed species such as Gulf sturgeon, giant manta ray, or oceanic whitetip shark) that may be encountered in the Gulf of America OCS.

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Contract vessel operators will comply with the measures included in Appendix C of the NMFS Biological Opinion and requirements of the Protected Species Lease Stipulation, except under extraordinary circumstances when the safety of the vessel or crew is in doubt or the safety of life at sea is in question.

Should an ESA-listed fish (e.g., giant manta ray, oceanic whitetip shark, or Gulf sturgeon) be entrapped, entangled, or injured, personnel should contact the ESA Section 7 biologist at (301) 427-8413 (nmfs.psoreview@noaa.gov) and report all incidents to takereport.nmfs@noaa.gov. After making the appropriate notifications, Walter may call BSEE at (985) 722-7902 for questions or additional guidance on recovery assistance needs, continued monitoring requirements, and incidental report information which at minimum is detailed below. Additional information may be found at the following website: <https://www.fisheries.noaa.gov/report>. Any injured or dead protected species should also be reported to takereport.nmfs@noaa.gov. In addition, if the injury or death was caused by a collision with the operator's vessel, an entrapment within the operator's equipment or vessel (e.g. moon pool), or an entanglement within the operator's equipment, the operator must further notify BOEM and BSEE within 24 hours of the strike or entrapment/entanglement by email to protectedspecies@boem.gov and protectedspecies@bsee.gov. If the vessel is the responsible party, it is required to remain available to assist the respective salvage and stranding network as needed.

Due to the distance from the nearest identified Gulf sturgeon critical habitat (128.8 miles) and the response capabilities that would be implemented during a spill, no significant adverse impacts are expected to the Gulf sturgeon. Considering the information from the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion, the location of this critical habitat in relation to proposed operations, the likely dilution of oil reaching nearshore areas, and the on-going weathering and dispersal of oil over time, we do not anticipate the effects from oil spills will appreciably diminish the value of Gulf sturgeon designated critical habitat for the conservation of the species. The operations proposed in this plan will be covered by Walter's Regional OSRP (refer to information submitted in **Section 8**).

Emissions (noise / sound): All routine OCS oil-and gas-related activities have some element of sound generation. Common sound sources include propeller cavitation, rotating machinery, and reciprocating machinery, which are associated with routine OCS oil-and gas-related activities such as vessel traffic, drilling, construction, and oil and gas production, processing, and transport. Sound introduced into the marine environment as a result of human activities has the potential to affect marine organisms. The National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion found that construction and operational sounds other than pile driving will have insignificant effects on Gulf sturgeon (NMFS, 2020). There are no pile driving activities associated with the proposed operations, therefore noise impacts are not expected to significantly affect Gulf sturgeon.

Discarded trash and debris: Trash and debris are not expected to impact the Gulf sturgeon. There will only be a limited amount of marine debris, if any, resulting from the proposed operations. Operators are prohibited from deliberately discharging debris as mandated by

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MARPOL-Annex V, the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies including the United States Coast Guard (USCG) and the Environmental Protection Agency (EPA).

Walter will operate in accordance with the regulations, agency guidance, and Appendix B of the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion and also avoid accidental loss of solid waste items by maintaining waste management plans, manifesting trash sent to shore, and using special precautions such as covering outside trash bins to prevent accidental loss of solid waste. Special caution will be exercised when handling and disposing of small items and packaging materials, particularly those made of non-biodegradable, environmentally persistent materials such as plastic or glass. Walter will also collect and remove flotsam resulting from activities related to proposed operations.

Informational placards will be posted on all vessels and facilities having sleeping or food preparation capabilities. All offshore personnel, including contractors and other support services-related personnel (e.g., helicopter pilots, vessel captains and boat crews) will be indoctrinated on waste procedures, and will view the video (or Microsoft PowerPoint presentation), *Think About It (previously All Washed Up: The Beach Litter Problem)*. Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from Walter management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE.

There are no other IPFs (including effluents, physical disturbances to the seafloor, and wastes sent to shore for treatment or disposal) from the proposed operations that are likely to impact the Gulf sturgeon.

20.3 – Oceanic Whitetip Shark

Oceanic whitetip sharks may be found in tropical and subtropical waters around the world, including the Gulf of Mexico (Young 2016). According to the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion, Essential Fish Habitat (EFH) for the oceanic whitetip shark includes localized areas in the central Gulf of America and Florida Keys. Oceanic whitetip sharks were listed as threatened under the Endangered Species Act in 2018 due to worldwide overfishing. Oceanic whitetip sharks had an abundant worldwide population, which has been threatened in recent years by inadequate regulatory measures governing fisheries; therefore, there is little research regarding the impact of oil and gas operations on oceanic whitetip sharks (NMFS, 2020). IPFs that have been determined by NMFS to be discountable to oceanic whitetip sharks include vessel strike, emissions (noise / sound), discharges, entanglement and entrapment, and marine debris. Potential IPFs to oceanic whitetip sharks as a result of the proposed operations in Ewing Bank Block 966 include accidents. Additional information on ESA-listed fish may be found in **Item 6**.

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Accidents: Collisions between support vessels and the oceanic whitetip shark would be unusual events, however, should one occur, death or injury to the oceanic whitetip shark is possible. Contract vessel operators can avoid protected aquatic species and reduce potential deaths by maintaining a vigilant watch and a distance of 50 meters or greater, with the exception of animals that approach the vessel. Vessel personnel should use a Gulf of America reference guide that includes identifying information on marine mammals, sea turtles, and other marine protected species (i.e., Endangered Species Act listed species such as Gulf sturgeon, giant manta ray, or oceanic whitetip shark) that may be encountered in the Gulf of America OCS.

Contract vessel operators will comply with the measures included in Appendix C of the NMFS Biological Opinion and requirements of the Protected Species Lease Stipulation, except under extraordinary circumstances when the safety of the vessel or crew is in doubt or the safety of life at sea is in question.

Should an ESA-listed fish (e.g., giant manta ray, oceanic whitetip shark, or Gulf sturgeon) be entrapped, entangled, or injured, personnel should contact the ESA Section 7 biologist at (301) 427-8413 (nmfs.psoreview@noaa.gov) and report all incidents to takereport.nmfs@noaa.gov. After making the appropriate notifications, Walter may call BSEE at (985) 722-7902 for questions or additional guidance on recovery assistance needs, continued monitoring requirements, and incidental report information which at minimum is detailed below. Additional information may be found at the following website: <https://www.fisheries.noaa.gov/report>. Any injured or dead protected species should also be reported to takereport.nmfs@noaa.gov. In addition, if the injury or death was caused by a collision with the operator's vessel, an entrapment within the operator's equipment or vessel (e.g. moon pool), or an entanglement within the operator's equipment, the operator must further notify BOEM and BSEE within 24 hours of the strike or entrapment/entanglement by email to protectedspecies@boem.gov and protectedspecies@bsee.gov. If the vessel is the responsible party, it is required to remain available to assist the respective salvage and stranding network as needed.

There is little information available on the impacts of oil spills or dispersants on oceanic whitetip sharks. It is expected that exposure of oil or dispersants to oceanic whitetip sharks would likely result in effects similar to other marine species, including fitness reduction and the possibility of mortality (NMFS, 2020). Due to the sparse population in the Gulf of America, it is possible that a small number of oceanic whitetip sharks could be impacted by an oil spill. However, it is unlikely that such an event would occur from the proposed operations (refer to **Item 5**, Water Quality). The operations proposed in this plan will be covered by Walter's Regional OSRP (refer to information submitted in **Section 8**).

Discarded trash and debris: There is little available information on the effects of marine debris on oceanic whitetip sharks. Since these sharks are normally associated with surface waters, they may be susceptible to entanglement. However, due to the small, widely dispersed, and highly mobile population in the Gulf of America, and the localized and patchy distribution of marine debris, it is extremely unlikely that oceanic whitetip sharks would be impacted by marine debris.

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There will only be a limited amount of marine debris, if any, resulting from the proposed operations. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V, the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies, including the United States Coast Guard (USCG) and the Environmental Protection Agency (EPA).

Walter will operate in accordance with the regulations, agency guidance, and Appendix B of the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion and also avoid accidental loss of solid waste items by maintaining waste management plans, manifesting trash sent to shore, and using special precautions such as covering outside trash bins to prevent accidental loss of solid waste. Special caution will be exercised when handling and disposing of small items and packaging materials, particularly those made of non-biodegradable, environmentally persistent materials such as plastic or glass. Walter will also collect and remove flotsam resulting from activities related to proposed operations.

Informational placards will be posted on all vessels and facilities having sleeping or food preparation capabilities. All offshore personnel, including contractors and other support services-related personnel (e.g., helicopter pilots, vessel captains and boat crews) will be indoctrinated on waste procedures, and will view the video (or Microsoft PowerPoint presentation), *Think About It (previously All Washed Up: The Beach Litter Problem)*. Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from Walter management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE.

There are no IPFs (including effluents, physical disturbances to the seafloor, and wastes sent to shore for treatment or disposal) from the proposed operations that are likely to impact oceanic whitetip sharks.

20.4 – Giant Manta Ray

According to the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion, the giant manta ray lives in tropical, subtropical, and temperate oceanic waters and productive coastlines throughout the Gulf of America. While uncommon in the Gulf of America, there is a population of approximately 70 giant manta rays in the Flower Garden Banks National Marine Sanctuary (Miller and Klimovich 2017). Giant manta rays were listed as threatened under the Endangered Species Act in 2018 due to worldwide overfishing. Giant manta rays had an abundant worldwide population, which has been threatened in recent years by inadequate regulatory measures governing fisheries; therefore, there is little research regarding the impact of oil and gas operations on giant manta rays (NMFS, 2020). IPFs that have been determined by NMFS to be discountable to giant manta rays include vessel strike, emissions (noise / sound), discharges, entanglement and entrapment, and marine debris. Potential IPFs to giant manta rays as a result of the proposed operations in Ewing Bank Block 966 include accidents. Additional information on ESA-listed fish may be found in **Item 6**.

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Accidents: Collisions between support vessels and the giant manta ray would be unusual events, however, should one occur, death or injury to the giant manta ray is possible. Contract vessel operators can avoid protected aquatic species and reduce potential deaths by maintaining a vigilant watch and a distance of 50 meters or greater, with the exception of animals that approach the vessel. Vessel personnel should use a Gulf of America reference guide that includes identifying information on marine mammals, sea turtles, and other marine protected species (i.e., Endangered Species Act listed species such as Gulf sturgeon, giant manta ray, or oceanic whitetip shark) that may be encountered in the Gulf of America OCS.

Contract vessel operators will comply with the measures included in Appendix C of the NMFS Biological Opinion and requirements of the Protected Species Lease Stipulation, except under extraordinary circumstances when the safety of the vessel or crew is in doubt or the safety of life at sea is in question.

Should an ESA-listed fish (e.g., giant manta ray, oceanic whitetip shark, or Gulf sturgeon) be entrapped, entangled, or injured, personnel should contact the ESA Section 7 biologist at (301) 427-8413 (nmfs.psoreview@noaa.gov) and report all incidents to takereport.nmfs@noaa.gov. After making the appropriate notifications, Walter may call BSEE at (985) 722-7902 for questions or additional guidance on recovery assistance needs, continued monitoring requirements, and incidental report information which at minimum is detailed below. Additional information may be found at the following website: <https://www.fisheries.noaa.gov/report>. Any injured or dead protected species should also be reported to takereport.nmfs@noaa.gov. In addition, if the injury or death was caused by a collision with the operator's vessel, an entrapment within the operator's equipment or vessel (e.g. moon pool), or an entanglement within the operator's equipment, the operator must further notify BOEM and BSEE within 24 hours of the strike or entrapment/entanglement by email to protectedspecies@boem.gov and protectedspecies@bsee.gov. If the vessel is the responsible party, it is required to remain available to assist the respective salvage and stranding network as needed.

There is little information available on the impacts of oil spills or dispersants on giant manta rays. It is expected that exposure of oil or dispersants to giant manta rays would likely result in effects similar to other marine species, including fitness reduction and the possibility of mortality (NMFS, 2020). It is possible that a small number of giant manta rays could be impacted by an oil spill in the Gulf of America. However, due to the distance to the Flower Garden Banks (123.1 miles), the low population dispersed throughout the Gulf of America, and the response capabilities that would be implemented during a spill, no significant adverse impacts are expected to impact giant manta rays. Additionally, it is unlikely that such an event would occur from the proposed operations (refer to **Item 5**, Water Quality). The operations proposed in this plan will be covered by Walter's Regional OSRP (refer to information submitted in **Section 8**).

Discarded trash and debris: There is little available information on the effects of marine debris on giant manta rays. Since these sharks are normally associated with surface waters, they may be susceptible to entanglement. However, due to the small, widely dispersed, and highly mobile

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population in the Gulf of America, and the localized and patchy distribution of marine debris, it is extremely unlikely that oceanic whitetip sharks would be impacted by marine debris.

There will only be a limited amount of marine debris, if any, resulting from the proposed operations. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V, the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies, including the United States Coast Guard (USCG) and the Environmental Protection Agency (EPA).

Walter will operate in accordance with the regulations, agency guidance, and Appendix B of the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion and also avoid accidental loss of solid waste items by maintaining waste management plans, manifesting trash sent to shore, and using special precautions such as covering outside trash bins to prevent accidental loss of solid waste. Special caution will be exercised when handling and disposing of small items and packaging materials, particularly those made of non-biodegradable, environmentally persistent materials such as plastic or glass. Walter will also collect and remove flotsam resulting from activities related to proposed operations.

Informational placards will be posted on all vessels and facilities having sleeping or food preparation capabilities. All offshore personnel, including contractors and other support services-related personnel (e.g., helicopter pilots, vessel captains and boat crews) will be indoctrinated on waste procedures, and will view the video (or Microsoft PowerPoint presentation), *Think About It (previously All Washed Up: The Beach Litter Problem)*. Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from Walter management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE.

There are no other IPFs (including effluents, physical disturbances to the seafloor, and wastes sent to shore for disposal) from the proposed operations that are likely to impact giant manta rays.

20.5 – Loggerhead Sea Turtle

The loggerhead sea turtles inhabit continental shelf and estuarine environments throughout the temperate and tropical regions of the Atlantic Ocean, with nesting beaches along the northern and western Gulf of America. NMFS issued a Final Rule in 2014 (79 FR 39855) designating a critical habitat including 38 marine areas within the Northwest Atlantic Ocean, with seven of those areas residing within the Gulf of America. These areas contain one or a combination of habitat types: nearshore reproductive habitats, winter areas, breeding areas, constricted migratory corridors, and/or *Sargassum* habitats. Winter areas, breeding areas, and constricted migratory corridors are not located in the planning area.

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There are multiple IPFs that may impact loggerhead sea turtles (see **Item 8**). However, the closest loggerhead nearshore reproductive critical habitat is located 169.6 miles from Ewing Bank Block 966; therefore, no adverse impacts are expected. Additionally, considering the information from the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion, we do not expect proposed operations to affect the ability of *Sargassum* to support adequate prey abundance and cover for loggerhead turtles.

20.6 - Protected Corals

Protected coral habitats, including designated critical habitats, are noncontiguous and occur in the Flower Garden Banks National Marine Sanctuary and Florida. Five banks in the Flower Garden Banks National Marine Sanctuary have been designated as critical habitats for boulder star (*Orbicella franksi*), lobed star (*Orbicella annularis*), and mountainous star (*Orbicella faveolate*) corals. Elkhorn coral can also be found in the Flower Garden Banks, though the area is not a designated critical habitat for this coral. Various coastal counties in Florida are also designated as critical habitats for protected coral species. These coral habitats are located outside of the planning area and are not expected to be impacted by the proposed operations. The following table comprehensively details the designated critical habitat for each protected coral species in the Flower Garden Banks National Marine Sanctuary and Florida.

Protected Corals							
	Elkhorn Coral <i>Acopora palmate</i>	Staghorn Coral <i>Acopora cervicornis</i>	Boulder Star Coral <i>Orbicella franksi</i>	Lobed Star Coral <i>Orbicella annularis</i>	Mountainous Star Coral <i>Orbicella faveolate</i>	Rough Cactus Coral <i>Mycetophyllia ferox</i>	Pillar Coral <i>Dendrogyra cylindrus</i>
Designated Critical Habitat	Flower Garden Banks National Marine Sanctuary						
	East Flower Garden Bank		X	X	X		
	West Flower Garden Bank		X	X	X		
	Rankin Bank		X	X	X		
	Rankin Bank		X	X	X		
	Geyer Bank		X	X	X		
	McGrail Bank		X	X	X		
	Florida (outside of planning area)						
	Martin County				X		
	Palm Beach County	X	X	X	X		X
	Broward County	X	X	X	X	X	X

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Miami-Dade County	X	X	X	X	X	X	X
Monroe County	X	X	X	X	X	X	X

Potential IPFs to protected corals from the proposed operations include accidents.

Accidents: It is unlikely that an accidental surface or subsurface spill would occur from the proposed operations (refer to statistics in **Item 5**, Water Quality). Oil spills cause damage to corals only if the oil contacts the organisms. Due to the distance from the Flower Garden Banks National Marine Sanctuary (123.1 miles) and other critical coral habitats, no adverse impacts are expected. The operations proposed in this plan will be covered by Walter's Regional OSRP (refer to information submitted in **Section 8**).

There are no other IPFs (including emissions, effluents, physical disturbances to the seafloor, and wastes sent to shore for disposal) from the proposed operations that are likely to impact protected corals.

20.7 - Endangered Beach Mice

There are four subspecies of endangered beach mouse that are found in the dune systems along parts of Alabama and northwest Florida. Due to the location of Ewing Bank Block 966 and the beach mouse critical habitat (above the intertidal zone), there are no IPFs that are likely to impact endangered beach mice.

20.8 - Navigation

The current system of navigation channels around the northern GOA is believed to be generally adequate to accommodate traffic generated by the future Gulfwide OCS Program. As exploration and development activities increase on deepwater leases in the GOA, port channels may need to be expanded to accommodate vessels with deeper drafts and longer ranges. However, current navigation channels will not be changed, and new channels will not be required as a result of the operations proposed in this plan.

(C) IMPACTS ON PROPOSED OPERATIONS

The site-specific environmental conditions have been taken into account for the proposed operations. No impacts are expected on the proposed operations from site-specific environmental conditions.

(D) ENVIRONMENTAL HAZARDS

During the hurricane season, June through November, the Gulf of America is impacted by an average of ten tropical storms (39-73 mph winds), of which six become hurricanes (> 74 mph winds). Due to its location in the Gulf, Ewing Bank Block 966 may experience hurricane and

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tropical storm force winds and related sea currents. These factors can adversely impact the integrity of the operations covered by this plan. A significant storm may present physical hazards to operators and vessels, damage exploration or production equipment, or result in the release of hazardous materials (including hydrocarbons). Additionally, the displacement of equipment may disrupt the local benthic habitat and pose a threat to local species.

The following preventative measures included in this plan may be implemented to mitigate these impacts:

1. Drilling & completion
 - a. Secure well
 - b. Secure rig / platform
 - c. Evacuate personnel

Drilling activities will be conducted in accordance with NTL No.'s 2008-G09, 2009-G10, and 2010-N10.

2. Structure Installation
Operator will not conduct structure installation operations during Tropical Storm or Hurricane threat.

(E) ALTERNATIVES

No alternatives to the proposed operations were considered to reduce environmental impacts.

(F) MITIGATION MEASURES

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

(G) CONSULTATION

No agencies or persons were consulted regarding potential impacts associated with the proposed operations. Therefore, a list of such entities has not been provided.

(H) PREPARER(S)

Stephen Depew
J. Connor Consulting, Inc.
19219 Katy Freeway, Suite 200
Houston, Texas 77094
281-578-3388
Stephen.depew@jccteam.com

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Although not cited, the following were utilized in preparing this EIA:

- Hazard Surveys

SECTION 16

ADMINISTRATIVE INFORMATION

16.1 EXEMPTED INFORMATION DESCRIPTION

The proposed bottomhole location of the planned well has been removed from the Public Information copy of this EP as well as any discussions of the target objectives, geologic or geophysical data, and interpreted geology.

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