

UNITED STATES GOVERNMENT  
MEMORANDUM

August 29, 2018

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

Subject: Public Information copy of plan  
Control # - S-07904  
Type - Supplemental Development Operations Coordinations Document  
Lease(s) - OCS-G12136 Block - 873 Ewing Bank Area  
Operator - EnVen Energy Ventures, LLC  
Description - Drill, complete and produce Well A025  
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.

Robert Arpino  
Plan Coordinator

Site Type/Name	Botm Lse/Area/Blk	Surface Location	Surf Lse/Area/Blk
????/A		6969 FSL, 7938 FEL	G12136/EW/873
WELL/A025	G12136/EW/873	6967 FSL, 7905 FEL	G12136/EW/873



SUPPLEMENTAL DEVELOPMENT OPERATIONS  
COORDINATION DOCUMENT

EWING BANK BLOCK 873

LEASE NO. OCS-G 12136

OFFSHORE, LOUISIANA

**PUBLIC COPY**

Record of Change Log

Submission Type	Date Sent to BOEM	Summary of Submission	Page Numbers

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Date of Submittal: July 3, 2018  
Estimated Start-up Date: October 21, 2018

**Supplemental Development Operations  
Coordination Document  
Lease OCS-G 12136  
Ewing Bank Block 873**

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## SECTION A CONTENTS OF PLAN

### **A. PLAN INFORMATION FORM**

EnVen Energy Ventures, LLC submits this Supplemental Development Operations Coordination Document to allow for the *drilling, completion, and production of one well (Well #A025ST00BP00) which will bottom hole in Ewing Bank Block 873 and surface at the existing A platform in Ewing Bank Block 873.* Tentative schedules from start to completion of the proposed activities and information regarding the proposed location(s) are included on the OCS Plan Information Forms BOEM-137, **Attachment A-1.**

### **B. LOCATION**

A location/bathymetry plat, prepared in accordance with Notice to Lessees (NTL) 2008-G04, depicting the surface location(s), bottom-hole location(s) and water depth(s) of the proposed well are Included as **Attachment B-1.**

There will not be any anchors associated with the proposed operations.

### **C. SAFETY AND POLLUTION PREVENTION FEATURES**

During the proposed development activities, EnVen will utilize a typical platform drilling rig during the proposed operations. Rig specifications will be made part of each Application for Permit to Drill.

Safety features on the drilling unit will include well control, pollution prevention, welding procedure and blowout prevention equipment as described in Title 30 CFR Part 250, Subparts C, D, E, G and O and as further clarified by the BSEE Notices to Lessees, and current policy making invoked by the BSEE.

The BSEE is required to conduct onsite inspections of offshore facilities to confirm operators are complying with lease stipulations, operating regulations, approved plans, and other conditions, as well as to assure safety and pollution prevention requirements are being met. The National Potential Incident of Noncompliance (PINIC) List serves as the baseline for these inspections. The BSEE also inspects the stockpiles of equipment listed in the operator's approved Regional Oil Spill Response Plan that would be used for the containment and cleanup of hydrocarbon spills.

Appropriate life rafts, life jackets, ring buoys, etc., will be maintained on the facility at all times as mandated by the U.S. Coast Guard regulations contained in Title 33 CFR.

Supervisory and certain designated personnel on-board the facility will be familiar with the effluent limitations and guidelines for overboard discharges into the receiving waters, as outlined in the NPDES General Permit GMG 290000.



Pollution prevention measures include installation of curbs, gutters, drip pans, and drains on drilling deck areas to collect all contaminants and debris.

**D. STORAGE TANKS AND PRODUCTION VESSELS**

Information regarding the storage tanks that will be used to conduct the drilling operations proposed in this plan that will store oil, as defined at 30 CFR 254.6 is provided in the table below. Only those tanks with a capacity of 25 barrels or more are included.

Type of Storage Tank	Type of Facility	Tank Capacity (bbls)	Number of Tanks	Total Capacity (bbls)	Fluid Gravity (API)
Fuel Oil (Marine Diesel)	Platform	150 bbl	2	300 bbl	35°
Slop Oil	Platform	50 bbl	1	50 bbl	23°
Oil	Platform	273 bbl	1	273 bbl	23°

**E. POLLUTION PREVENTION MEASURES (FLORIDA ONLY)**

According to NTL 2008-G04, pollution prevention measures are not required for these proposed operations.

**F. ADDITIONAL MEASURES**

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

**OCS PLAN INFORMATION FORM**

**General Information**

Type of OCS Plan:	Exploration Plan (EP)	Development Operations Coordination Document (DOCD)	<input checked="" type="checkbox"/>
Company Name: EnVen Energy Ventures, LLC		BOEM Operator Number: 03026	
Address: 333 Clay St, Suite 4200		Contact Person: Tracy Borel	
Houston, TX 77002		Phone Number: 713-335-7093	
E-Mail Address:			
If a service fee is required under 30 CFR 550.125(a), provide the	Amount paid	Receipt No.	

**Project and Worst Case Discharge (WCD) Information**

Lease(s): G12139	Area: EW	Block(s): 873	Project Name (If Applicable): Lobster
Objective(s) <input checked="" type="checkbox"/>	Oil <input type="checkbox"/>	Gas <input type="checkbox"/>	Sulphur <input type="checkbox"/>
Salt <input type="checkbox"/> Onshore Support Base(s): Fourchon, LA			
Platform/Well Name: A-25	Total Volume of WCD: 35,787 BOPD		API Gravity: 20.5
Distance to Closest Land (Miles): 66.4	Volume from uncontrolled blowout: 35,787 BOPD		
Have you previously provided information to verify the calculations and assumptions for your WCD?	<input checked="" type="checkbox"/>	Yes	No
If so, provide the Control Number of the EP or DOCD with which this information was provided	S-7817		
Do you propose to use new or unusual technology to conduct your activities?	<input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Do you propose to use a vessel with anchors to install or modify a structure?	<input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Do you propose any facility that will serve as a host facility for deepwater subsea development?	<input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

**Description of Proposed Activities and Tentative Schedule (Mark all that apply)**

Proposed Activity	Start Date	End Date	No. of Days
Drill & Complete Well A-25	10/01/2018	12/31/2018	91
Commence Production	1/1/2019		

**Description of Drilling Rig**

**Description of Structure**

Jackup	<input type="checkbox"/>	Drillship	<input type="checkbox"/>	Caisson	<input type="checkbox"/>	Tension leg platform
Gorilla Jackup	<input checked="" type="checkbox"/>	Platform rig	<input checked="" type="checkbox"/>	Fixed platform	<input type="checkbox"/>	Compliant tower
Semisubmersible	<input type="checkbox"/>	Submersible	<input type="checkbox"/>	Spar	<input type="checkbox"/>	Guyed tower
DP Semisubmersible	<input type="checkbox"/>	Other (Attach Description)	<input type="checkbox"/>	Floating production system	<input type="checkbox"/>	Other (Attach Description)
Drilling Rig Name (If Known): MODS 200						

**Description of Lease Term Pipelines**

From (Facility/Area/Block)	To (Facility/Area/Block)	Diameter (Inches)	Length (Feet)

**OCS PLAN INFORMATION FORM (CONTINUED)**

**Include one copy of this page for each proposed well/structure**

Proposed Well/Structure Location										
Well or Structure Name/Number (If renaming well or structure, reference previous name): A025					Previously reviewed under an approved EP or DOCD?			Yes	<input checked="" type="checkbox"/>	No
Is this an existing well or structure?		Yes	<input checked="" type="checkbox"/>	No	If this is an existing well or structure, list the Complex ID or API No.					
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?							Yes	<input checked="" type="checkbox"/>	No	
<b>WCD info</b>	For wells, volume of uncontrolled blowout (Bbls/day): 35,787			For structures, volume of all storage and pipelines (Bbls):			API Gravity of fluid		20.5	
<b>Surface Location</b>				<b>Bottom-Hole Location (For Wells)</b>			<b>Completion (For multiple completions, enter separate lines)</b>			
<b>Lease No.</b>	OCS-G12136						OCS OCS			
<b>Area Name</b>	Ewing Bank									
<b>Block No.</b>	873									
<b>Blockline Departures (in feet)</b>	N/S Departure: 6966.57' FSL			N/S Departure:			N/S Departure: F__L			
	E/W Departure: 7905.27' FEL			E/W Departure:			E/W Departure: F__L			
<b>Lambert X-Y coordinates</b>	X: 2,542,334.740			X:			X:			
	Y: 10,207,926.580			Y:			Y:			
<b>Latitude/ Longitude</b>	Latitude 28° 06' 03.614"N			Latitude			Latitude			
	Longitude -90° 12' 07.595"W			Longitude			Longitude			
Water Depth (Feet): 775'				MD (Feet):		TVD (Feet):		MD (Feet):		TVD (Feet):
Anchor Radius (if applicable) in feet:							MD (Feet):		TVD (Feet):	

**Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)**

Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor
			X =	Y =	
			X =	Y =	
			X =	Y =	
			X =	Y =	
			X =	Y =	
			X =	Y =	
			X =	Y =	
			X =	Y =	

**OCS PLAN INFORMATION FORM (CONTINUED)**

**Include one copy of this page for each proposed well/structure**

Proposed Well/Structure Location									
Well or Structure Name/Number (If renaming well or structure, reference previous name): Platform A				Previously reviewed under an approved EP or DOCD?		<input checked="" type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
Is this an existing well or structure?		<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	If this is an existing well or structure, list the Complex ID or API No.		24129	
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?						<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
<b>WCD info</b>		For wells, volume of uncontrolled blowout (Bbls/day): 35,787			For structures, volume of all storage and pipelines (Bbls):			API Gravity of fluid	
								20.5	
<b>Surface Location</b>				<b>Bottom-Hole Location (For Wells)</b>			<b>Completion (For multiple completions, enter separate lines)</b>		
<b>Lease No.</b>		OCS-G12136						OCS OCS	
<b>Area Name</b>		Ewing Bank							
<b>Block No.</b>		873							
<b>Blockline Departures (in feet)</b>		N/S Departure: 6969' FSL			N/S Departure:			N/S Departure: F__L	
		E/W Departure: 7938' FEL			E/W Departure:			E/W Departure: F__L	
<b>Lambert X-Y coordinates</b>		X: 2,542,338			X:			X:	
		Y: 10,207,929			Y:			Y: Y: Y:	
<b>Latitude/ Longitude</b>		Latitude 28° 06' 03.635"N			Latitude			Latitude Latitude Latitude	
		Longitude -90° 12' 07.556"W			Longitude			Longitude Longitude Longitude	
Water Depth (Feet): 775'				MD (Feet):		TVD (Feet):		MD (Feet): MD (Feet): MD (Feet):	
Anchor Radius (if applicable) in feet:								TVD (Feet): TVD (Feet): TVD (Feet):	

**Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)**

Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor
			X =	Y =	
			X =	Y =	
			X =	Y =	
			X =	Y =	
			X =	Y =	
			X =	Y =	
			X =	Y =	
			X =	Y =	



# EWING BANK

ENVEN  
PSL #A25



800'

873

917

1000'

PSL #A25

LAT: 28° 06' 03.614" N

LONG: -90° 12' 07.595" W

X = 2,542,334.740

Y = 10,207,926.580

7905.27' FEL of EW 873

6966.57' FSL of EW 873



Offshore Louisiana  
Ewing Bank 873  
Bathymetry Map  
Proprietary Location #A25



Attachment B-1

<b>SECTION B</b> <b>GENERAL INFORMATION</b>
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**A. APPLICATIONS AND PERMITS**

Application/Permit	Issuing Agency	Status
APD	BSEE	Pending

**B. DRILLING FLUIDS**

According to NTL 2008-G04, drilling fluid information is not required.

**C. PRODUCTION**

Type	Average Production Rate	Peak Production Rate	Life of Reservoir
PROPRIETARY			

**D. OIL CHARACTERISTICS**

According to NTL 2008-G04, oil characteristics information is not required.

**E. NEW OR UNUSUAL TECHNOLOGY**

EnVen does not propose to use new techniques or unusual technology to carry out these proposed development activities; however, the best available and safest technologies (BAST) as referenced in Title 30 CFR 250 will be incorporated as standard operational procedures.

**F. BONDING STATEMENT**

The bond requirements for the activities and facilities proposed in this DOCD are satisfied by a \$3,000,000.00 areawide bond, furnished and maintained according to 30 CFR 256, subpart I; NTL No. 2005-N04, "General Financial Assurance" and additional security under National NTL No. 2016-N01, "Requiring Additional Security" to be effective September 12, 2016.

**G. OIL SPILL FINANCIAL RESPONSIBILITY (OSFR)**

EnVen (BOEM company number 03026) has demonstrated oil spill financial responsibility for the facilities proposed in this DOCD according to 30 CFR Part 253; and NTL No. 2008-N05, "Guidelines for Oil Spill Financial Responsibility for Covered Facilities".

**H. DEEPWATER WELL CONTROL STATEMENT**

EnVen (BOEM company number 03026) has the financial capability to drill a relief well and conduct other emergency well control operations.

## **I. SUSPENSION OF PRODUCTION**

EnVen has not filed and does not anticipate filing any requests for Suspensions of Production for Lease OCS-G 12136.

## **J. BLOWOUT SCENARIO**

**Estimated Flow Rate:** 35,787 bbls  
**Maximum Duration of blowout (85 days):** 13,041,895 bbls

In the event of an uncontrolled flow of hydrocarbons from the wellbore, the Oil Spill Response Plan (OSRP) would be activated. EnVen would immediately bring in the most qualified and experienced personnel in order to assist in the control of the blowout/spill. EnVen has Cudd Pressure Control, Boot & Coats, and Wild Well Control identified in the OSRP.

Three blowout scenarios will be described below:

Blowout Scenario I is most likely, and is one that will take care of itself in 24 hours without any intervention. Scenario I will assume that the rig, BOPs and wellhead equipment are not damaged beyond repair and the well can be intervened after the well bridges over.

Blowout scenario II will assume that the rig is still on location and capable of supporting a top kill or the replacement of the BOP Stack.

Scenario III will assume that all available moored semi-submersibles are under contract, another Operator would have to make their well safe, suspend their contract with the Contractor, allow Enven to sign a contract, mob the rig to EnVen's location and drill a relief well. These three cases should represent the quickest and simplest solution to the longest and most difficult solution to the problem. Current availability of equipment to enact both well intervention scenarios will be identified.

### **Blowout Scenario I**

Assuming an uncontrolled flow situation, the platform rig is intact and not sufficiently damaged, and the well bridges over within a 24 hour period.

#### **Duration:**

- **24 hours**

Probability of the well bridging over is very high.

Wells in the GoM that have natural completions are typically produced with a sand face draw down of 1,000 psi or less. Depleting sandstone reservoirs in

excess of 1,000 psi differential will dramatically increase the chances of sanding up the wellbore. The methodology of using absolute open flow (AOF) of the last casing string set will put maximum drawdown on the sand face and fail the rock rapidly causing a bridge to be formed.

### **Blowout Scenario II**

Assuming an uncontrolled flow situation, the platform rig is intact and not sufficiently damaged, wellbore intervention would be performed from the platform rig, or a vessel/barge mobilized nearby. It is assumed that the BOPs are compromised, that the rig has not caught on fire and is capable of supporting well control efforts with the assistance of a support vessel. As an example, the flow could be controlled from either a “top kill” method or from removal of the damaged surface BOP stack or wellhead and subsequent replacement of the stack and the wellbore shut in.

#### **Duration:**

- 2 days to assess the situation and condition of the well.
- 2 days to mobilize and RU equipment
- 6 days to control well
- **10 days Total**

### **Blowout Scenario III**

Assuming an uncontrolled flow situation, where the platform rig and/or the wellbore is irreparably damaged during a blowout scenario, a relief well would have to be drilled. It is assumed that a suitable rig is not currently available due to the workload from any of the contractors working in the GoM. It assumes that another Operator will make their well safe and release the rig they have under contract to EnVen for the use of drilling the relief well.

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

#### **Duration:**

- 2 days to assess the situation and condition of the well.
- 10 days for Operator to suspend current operations
- 3 days to mobilize rig and equipment
- 70 days to drill relief well
- **85 days Total**

#### **Rig availability:**

- EnVen has contracted Nabors Offshore to drill the prospect.



- Nabors MODS 202 would be utilized to drill the well. The rig is currently rigged up and operating on EnVen's EW 873 platform.
- There are 4 other rigs currently working in the GoM capable of drilling a relief well in 750'-800' of water:
  - Ensco 8503 & 8505 (Moored Vessels)
  - Noble Paul Romano (Moored Vessel/Cold Stacked)
  - Sevan Louisiana (DP vessel capable of working in 700' water)

**Rig package constraints:**

- Water depth is 773' at the location
- Relief well depth within the capability of all moored semi-submersibles working in GoM
- Relief well would be drilled from an open water location
- Use of jack up rigs is not an option
- Use of a platform rig is not an option.

In addition to 30 CFR 250, these additional measures will be performed in order to prevent and reduce the likelihood of a blowout, and conduct effective and early intervention in the event of a blowout as required by US DOI BSEE NTL No. 2015-N01.

**Blowout Prevention**

- Company will verify with contractor that the BOP has been certified, maintained and is capable of operating in the anticipated conditions required to drill this well.
- Company representative will witness and review all BOP tests, casing tests and formation integrity tests.
- Company representative will review and witness the installation, testing, function testing and operation of the diverter system and diverter outlets.
- Key personnel on the rig will have a valid well control certificate.
- Company representative will relay and review the result of the FIT with the office in Houston prior to drilling ahead.
- Adequate circulation will be performed prior to cementing operations on any casing string, in order to obtain a quality cement job.
- A liner top packer or equivalent expandable will be run on all liner laps as an additional barrier for well safety.
- All production casing strings will be cemented properly to ensure proper zonal isolation of pay sands.
- Every effort will be made to review all offset and seismic data in order to prepare a mud weight schedule that will allow for safe drilling margin without putting excess hydrostatic pressures on known zones previously encountered.

- Lost circulation material will be added to the mud system in order to assist the mud systems ability to prevent lost circulation. Sweeps and concentrated pills will be used to prevent uncontrolled mud losses.
- Have spotting fluid on the rig or at the dock for quick response to stuck pipe.
- Wiper trips will be performed as hole conditions dictate in order to quantify the stability of the wellbore and determine if sufficient mud weights are being utilized.
- Connections will be simulated while drilling into pressure transition areas in order to properly assess the current wellbore conditions.
- Mudloggers may be utilized during critical drilling operations as another set of eyes to monitor gas content of mud returns, formation characteristics and abnormalities of cuttings and estimate paleo aging of cuttings.
- Function test the gas detection systems daily. Run two gas detectors.
- Logging while drilling (LWD) tools will be utilized to evaluate formations, formation pressures and fluid content in the critical sections of the well. This will enable the real time identification of any changes in anticipated formation pressures and assist in the picking of casing points and wellbore TD. Log data will be continuously review by the Enven drilling and geological departments.
- Pressure While Drilling (PWD) data will be utilized to maintain constant monitoring of hydrostatic pressures applied to the wellbore.

### **Blowout Intervention**

In the event of an uncontrolled flow of hydrocarbons from the wellbore, the Oil Spill Response Plan (OSRP) would be activated. In addition to the activation of this plan two scenarios (II & III) of well intervention have been described in the attached documentation and current availability of equipment to enact both well intervention scenarios identified:

- Assuming an uncontrolled flow situation, the platform rig is intact and not sufficiently damaged, wellbore intervention would be performed from the platform, or a vessel mobilized nearby. It is assumed that the BOPs are compromised, that the rig has not caught on fire and is capable of supporting well control efforts with the assistance of a support vessel. As an example, the flow could be controlled from either a “top kill” method or from the removal of the damaged surface BOP stack or wellhead and subsequent replacement of the stack and the wellbore shut in.
- Assuming an uncontrolled flow situation, where the platform rig and/or the wellbore is irreparably damaged during a blowout scenario, a relief well would have to be drilled. It is assumed that a suitable rig is not currently available due to the workload from any of the contractors working in the GoM. It assumes that another Operator will make their well safe and

release the rig they have under contract to EnVen for the use of drilling the relief well.

EnVen believes this is the best case and worst case blowout scenario.

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

<b>SECTION C</b> <b>GEOLOGICAL AND GEOPHYSICAL INFORMATION</b>
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**A. GEOLOGICAL DESCRIPTION**

PROPRIETARY

**B. STRUCTURE CONTOUR MAP**

PROPRIETARY

**C. INTERPRETED 2-D And/Or 3-D SEISMIC LINE(S)**

The proposed operations will be conducted from a previously approved surface location as provided for in Plan Control No.N-4522.

**D. GEOLOGICAL STRUCTURE CROSS-SECTIONS**

An interpreted geological structure cross-section showing the location and depth  
PROPRIETARY

**E. SHALLOW HAZARDS REPORT**

A shallow hazards survey was conducted over Ewing Bank Block 917.

The proposed operations will be conducted from a previously approved surface location as provided for in Plan Control No. N-4522 therefore, a shallow hazards report is not being provided.

Copies of the report have been previously submitted to the Bureau of Ocean Energy Management.

**F. SHALLOW HAZARDS ASSESSMENT**

The proposed operations will be conducted from a BOEM previously approved surface location in Plan Control No. N-4522 therefore, a shallow hazards assessment is not being provided.

**G. HIGH-RESOLUTION SEISMIC LINES**

The proposed operations will be conducted from a previously approved surface location in Plan Control No. N-4522; therefore annotated high-resolution survey lines are not being submitted.

**H. STRATIGRAPHIC COLUMN**

PROPRIETARY

**I. TIME VS DEPTH TABLES**

Sufficient well control data for the target areas proposed in this DOCD exists; therefore, seismic time versus depth tables for the proposed well locations are not required.

<p style="text-align: center;"><b>SECTION D</b> <b>HYDROGEN SULFIDE INFORMATION</b></p>
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**A. CONCENTRATION**

EnVen does not anticipate encountering any H<sub>2</sub>S during the proposed operations.

**B. CLASSIFICATION**

In accordance with Title 30 CFR 250.490(c), EnVen requests that the area of the proposed activities in Ewing Bank Block 917 be classified by the BOEM as H<sub>2</sub>S absent.

**C. H<sub>2</sub>S CONTINGENCY PLAN**

According to NTL 2008-G04, an H<sub>2</sub>S Contingency Plan is not required.

**D. MODELING REPORT**

According to NTL 2008-G04, an H<sub>2</sub>S modeling report is not required.

**SECTION E**  
**MINERAL RESOURCE CONSERVATION INFORMATION**

**(A) TECHNOLOGY & RESERVOIR ENGINEERING PRACTICES &  
PROCEDURES**  
PROPRIETARY

**(B) TECHNOLOGY AND RECOVERY PRACTICES AND PROCEDURES**  
PROPRIETARY

**(C) RESERVOIR DEVELOPMENT**  
PROPRIETARY

<b>SECTION F</b> <b>BIOLOGICAL, PHYSICAL &amp; SOCIOECONOMIC INFORMATION</b>
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**A. CHEMOSYNTHETIC COMMUNITIES REPORT**

This DOCD does not propose activities that could disturb seafloor areas in water depths of 300 meters (984 feet) or greater; therefore, chemosynthetic information is not required.

**B. TOPOGRAPHIC FEATURES MAP**

Activities proposed in this DOCD do not fall within 305 meters (1000 feet) of the “no activity zone”, therefore no map is required.

**C. TOPOGRAPHIC FEATURES STATEMENT (SHUNTING)**

All activities proposed under this DOCD will be conducted outside all Topographic Feature Protective Zones, therefore shunting of drill cuttings and drilling fluids is not required.

**D. LIVE BOTTOMS (PINNACLE TREND) MAP**

Ewing Bank Block 873 are not located within 200 feet of any pinnacle trend feature with vertical relief equal to or greater than 8 feet; therefore, live bottom information is not required.

**E. LIVE BOTTOMS (LOW RELIEF) MAP**

Ewing Bank Block 873 are not located within 200 feet of any pinnacle trend feature with vertical relief equal to or greater than 8 feet; therefore, live bottom (low relief) maps are not required.

**F. POTENTIALLY SENSITIVE BIOLOGICAL FEATURES**

Ewing Bank Block 873 are not located within 61 meters (200 feet) of potentially sensitive biological features; therefore, biologically sensitive area maps are not required.

**G. REMOTELY OPERATED VEHICLE (ROV) SURVEYS**

These proposed operations do not take place in deep water; therefore an ROV survey is not required.

**H. THREATENED AND ENDANGERED SPECIES, CRITICAL HABITAT, AND MARINE MAMMAL INFORMATION**

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

In accordance with the 30 CFR 250, Subpart B, effective May 14, 2007, and further outlined in Notice to Lessees (NTL) 2008-G04, lessees/operators are

required to address site-specific information on the presence of federally listed threatened or endangered species and critical habitat designated under the ESA and marine mammals protected under the Marine Mammal Protection Act (MMPA) in the area of proposed activities under this plan.

Currently, there are no designated critical habitats for the listed species in the Gulf of Mexico Outer Continental Shelf; however, it is possible that one or more of these species could be seen in the area of our operations.

NOAA Fisheries currently lists the Sperm Whale, West Indian Manatee, Leatherback Turtle, Hawksbill Turtle and the Kemp's Ridley Turtle as endangered and the Loggerhead Turtle, Green Turtle and Gulf Sturgeon as threatened.

**I. ARCHAEOLOGICAL REPORT**

Ewing Bank Block 873 have been determined to have a high potential for containing archaeological properties,

Therefore, an Archaeological Survey Report was prepared in accordance with NTL 2005-G07 "Archaeological Surveys and Reports" and was previously submitted under separate cover.

**J. AIR AND WATER QUALITY INFORMATION**

According to NTL 2008-G04, Air and Water Quality Information is not required.

**K. SOCIOECONOMIC INFORMATION**

According to NTL 2008-G04, Socioeconomic Information is not required.



<p style="text-align: center;"><b>SECTION G</b> <b>WASTES AND DISCHARGES INFORMATION</b></p>
--

**A. PROJECTED GENERATED WASTES**

Projected Generated Waste information is not required in this DOCD, per NTL 2008-G04.

**B. PROJECTED OCEAN DISCHARGES**

Discharge information is not required in this DOCD, per NTL 2008-G04.

**C. MODELING REPORT**

According to NTL 2008-G04, a modeling report is not required for these operations.

<b>SECTION H</b> <b>AIR EMISSIONS INFORMATION</b>
--

**EMISSIONS WORKSHEETS AND SCREENING QUESTIONS**

Screen Procedures for DOCD's	Yes	No
Is any calculated Complex Total (CT) Emission amount (tons) associated with your proposed development activities more than 90% of the amounts calculated using the following formulas: $CT = 3400D^{2/3}$ for CO, and $CT = 33.3D$ for the other air pollutants (where D = distance to shore in miles)?		X
Do your emission calculations include any emission reduction measures or modified emission factors?		X
Does or will the facility complex associated with your proposed development and production activities process production from eight or more wells?	X	
Do you expect to encounter H <sub>2</sub> S at concentrations greater than 20 parts per million (ppm)?		X
Do you propose to flare or vent natural gas in excess or criteria set for the under 250.1105(a)(2) and (3)?		X
Do you propose to burn produced hydrocarbon liquids?		X
Are your proposed development and production activities located within 25 miles (40 kilometers) from shore?		X
Are your proposed development and production activities located within 124 miles (200 kilometers) of the Breton Wilderness Area?	X	

Plan Emission and Complex Total Emission amounts were calculated using the methodology, emission factors and worksheets in Form BOEM-139 for DOCD's.

Enclosed as **Attachment H-1** are the emissions worksheets prepared in accordance with 30 CFR 550.303(d).

The air emission worksheets were prepared by:

Tracy Borel  
 Regulatory Analyst  
 (713) 335-7093  
 tborel@enven.com

**DOCD AIR QUALITY SCREENING CHECKLIST**

OMB Control No. 1010-0049  
OMB Approval Expires: August 31, 2006

<b>COMPANY</b>	EnVen Energy Ventures, LLC
<b>AREA</b>	Ewing Bank
<b>BLOCK</b>	873
<b>LEASE</b>	G 12136
<b>PLATFORM</b>	A
<b>WELL</b>	A-25
<b>COMPANY CONTACT</b>	Tracy Borel
<b>TELEPHONE NO.</b>	713-335-7093
<b>REMARKS</b>	Drill, complete and produce one well from existing Platform A.

**PLAN EMISSIONS**

<b>LEASE TERM PIPELINE CONSTRUCTION INFORMATION:</b>		
<b>YEAR</b>	<b>NUMBER OF PIPELINES</b>	<b>TOTAL NUMBER OF CONSTRUCTION DAYS</b>
1999		
2000		
2001		
2002		
2003		
2004		
2005		
2006		
2007		
2008		
2009		

Attachment H-1

### AIR EMISSION COMPUTATION FACTORS

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

Equipment/Emission Factors	units	PM	SOx	NOx	VOC	CO	REF.	DATE
NG Turbines	gms/hp-hr		0.00247	1.3	0.01	0.83	AP42 3.2-1& 3.1-1	10/96
NG 2-cycle lean	gms/hp-hr		0.00185	10.9	0.43	1.5	AP42 3.2-1	10/96
NG 4-cycle lean	gms/hp-hr		0.00185	11.8	0.72	1.6	AP42 3.2-1	10/96
NG 4-cycle rich	gms/hp-hr		0.00185	10	0.14	8.6	AP42 3.2-1	10/96
Diesel Recip. < 600 hp.	gms/hp-hr	1	1.468	14	1.12	3.03	AP42 3.3-1	10/96
Diesel Recip. > 600 hp.	gms/hp-hr	0.32	1.468	11	0.33	2.4	AP42 3.4-1	10/96
Diesel Boiler	lbs/bbl	0.084	2.42	0.84	0.008	0.21	AP42 1.3-12,14	9/98
NG Heaters/Boilers/Burners	lbs/mmscf	7.6	0.593	100	5.5	84	AP42 1.4-1, 14-2, & 14	7/98
NG Flares	lbs/mmscf		0.593	71.4	60.3	388.5	AP42 11.5-1	9/91
Liquid Flaring	lbs/bbl	0.42	6.83	2	0.01	0.21	AP42 1.3-1 & 1.3-3	9/98
Tank Vapors	lbs/bbl				0.03		E&P Forum	1/93
Fugitives	lbs/hr/comp.				0.0005		API Study	12/93
Glycol Dehydrator Vent	lbs/mmscf				6.6		La. DEQ	1991
Gas Venting	lbs/scf				0.0034			

Sulfur Content Source	Value	Units
Fuel Gas	3.33	ppm
Diesel Fuel	0.4	% weight
Produced Gas( Flares)	3.33	ppm
Produced Oil (Liquid Flaring)	1	% weight

AIR EMISSION CALCULATIONS - FIRST YEAR

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL	CONTACT	PHONE	REMARKS									
EnVen Energy Ventures, L	Ewing Bank	873	G 12136	A	A-25	Tracy Borel	713-335-7093	Drill, complete and produce one sidetrack well from existing Platform A.									
OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT. FUEL	RUN TIME		MAXIMUM POUNDS PER HOUR					ESTIMATED TONS					
	Diesel Engines	HP	GAL/HR	GAL/D													
	Nat. Gas Engines	HP	SCF/HR	SCF/D													
	Burners	MMBTU/HR	SCF/HR	SCF/D	HR/D	DAYS	PM	SOx	NOx	VOC	CO	PM	SOx	NOx	VOC	CO	
DRILLING	PRIME MOVER>600hp diesel	6635	320.4705	7691.29	24	91	4.68	21.45	160.76	4.82	35.07	5.11	23.43	175.55	5.27	38.30	
	VESSELS>600hp diesel(crew)	2065	99.7395	2393.75	6	39	1.46	6.68	50.03	1.50	10.92	0.17	0.78	5.85	0.18	1.28	
	VESSELS>600hp diesel(supply)	2065	99.7395	2393.75	10	39	1.46	6.68	50.03	1.50	10.92	0.28	1.30	9.76	0.29	2.13	
PIPELINE INSTALLATION	PIPELINE LAY BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	SUPPORT VESSEL diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	PIPELINE BURY BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	SUPPORT VESSEL diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FACILITY INSTALLATION	DERRICK BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	MATERIAL TUG diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP.<600hp diesel - Crane West	0	0	0.00	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP.<600hp diesel - Crane East	0	0	0.00	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP.<600hp diesel - Emergency Air Compressor	0	0	0.00	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP.>600hp diesel - Generator 4	0	0	0.00	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP.>600hp diesel - Fire Pump 1	0	0	0.00	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP.>600hp diesel - Fire Pump 2	0	0	0.00	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	SUPPORT VESSEL diesel	0	0	0.00	10	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	TURBINE nat gas - generator 1	0	0	0.00	24	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	TURBINE nat gas - generator 2	0	0	0.00	24	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	TURBINE nat gas - generator 3	0	0	0.00	24	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP.2 cycle lean nat gas	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP.4 cycle lean nat gas	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	RECIP.4 cycle rich nat gas	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	BURNER nat gas	0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	MISC.	BPD	SCF/HR	COUNT													
	TANK-	0			0	0				0.00	0.00					0.00	
	FLARE-		0		0	0			0.00	0.00	0.00		0.00	0.00	0.00	0.00	
	PROCESS VENT-		0		0	0			0.00	0.00	0.00					0.00	
	FUGITIVES-			2225.0		0					1.11					0.00	
	GLYCOL STILL VENT-		0		0	0					0.00					0.00	
DRILLING WELL TEST	OIL BURN	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	GAS FLARE		0		0	0			0.00	0.00	0.00					0.00	
<b>2018 YEAR TOTAL</b>							<b>7.59</b>	<b>34.81</b>	<b>260.83</b>	<b>8.94</b>	<b>56.91</b>	<b>5.56</b>	<b>25.51</b>	<b>191.16</b>	<b>5.73</b>	<b>41.71</b>	
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES												2211.12	2211.12	2211.12	2211.12	55751.64
	66.4																

**AIR EMISSION CALCULATIONS**

OMB Control No. 1010-0049  
OMB Approval Expires: August 31, 2006

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL
EnVen Energy V	Ewing Bank	873	G 12136	A	A-25
<b>Year</b>	<b>Emitted Substance</b>				
	<b>PM</b>	<b>SOx</b>	<b>NOx</b>	<b>VOC</b>	<b>CO</b>
<b>2018</b>	<b>5.56</b>	<b>25.51</b>	<b>191.16</b>	<b>5.73</b>	<b>41.71</b>
<b>Allowable</b>	<b>2211.12</b>	<b>2211.12</b>	<b>2211.12</b>	<b>2211.12</b>	<b>55751.64</b>

**DOCD AIR QUALITY SCREENING CHECKLIST**

OMB Control No. 1010-0049  
OMB Approval Expires: August 31, 2006

<b>COMPANY</b>	EnVen Energy Ventures, LLC
<b>AREA</b>	Ewing Bank
<b>BLOCK</b>	873
<b>LEASE</b>	G 12136
<b>PLATFORM</b>	A
<b>WELL</b>	A-25
<b>COMPANY CONTACT</b>	Tracy Borel
<b>TELEPHONE NO.</b>	713-335-7093
<b>REMARKS</b>	Drill, complete and produce one well from existing Platform A.

**COMPLEX EMISSIONS**

<b>LEASE TERM PIPELINE CONSTRUCTION INFORMATION:</b>		
<b>YEAR</b>	<b>NUMBER OF PIPELINES</b>	<b>TOTAL NUMBER OF CONSTRUCTION DAYS</b>
1999		
2000		
2001		
2002		
2003		
2004		
2005		
2006		
2007		
2008		
2009		

### AIR EMISSION COMPUTATION FACTORS

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

Equipment/Emission Factors	units	PM	SOx	NOx	VOC	CO	REF.	DATE
NG Turbines	gms/hp-hr		0.00247	1.3	0.01	0.83	AP42 3.2-1& 3.1-1	10/96
NG 2-cycle lean	gms/hp-hr		0.00185	10.9	0.43	1.5	AP42 3.2-1	10/96
NG 4-cycle lean	gms/hp-hr		0.00185	11.8	0.72	1.6	AP42 3.2-1	10/96
NG 4-cycle rich	gms/hp-hr		0.00185	10	0.14	8.6	AP42 3.2-1	10/96
Diesel Recip. < 600 hp.	gms/hp-hr	1	1.468	14	1.12	3.03	AP42 3.3-1	10/96
Diesel Recip. > 600 hp.	gms/hp-hr	0.32	1.468	11	0.33	2.4	AP42 3.4-1	10/96
Diesel Boiler	lbs/bbl	0.084	2.42	0.84	0.008	0.21	AP42 1.3-12,14	9/98
NG Heaters/Boilers/Burners	lbs/mmscf	7.6	0.593	100	5.5	84	AP42 1.4-1, 14-2, & 14	7/98
NG Flares	lbs/mmscf		0.593	71.4	60.3	388.5	AP42 11.5-1	9/91
Liquid Flaring	lbs/bbl	0.42	6.83	2	0.01	0.21	AP42 1.3-1 & 1.3-3	9/98
Tank Vapors	lbs/bbl				0.03		E&P Forum	1/93
Fugitives	lbs/hr/comp.				0.0005		API Study	12/93
Glycol Dehydrator Vent	lbs/mmscf				6.6		La. DEQ	1991
Gas Venting	lbs/scf				0.0034			

Sulfur Content Source	Value	Units
Fuel Gas	3.33	ppm
Diesel Fuel	0.4	% weight
Produced Gas( Flares)	3.33	ppm
Produced Oil (Liquid Flaring)	1	% weight



AIR EMISSION CALCULATIONS - FIRST YEAR

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL	CONTACT	PHONE	REMARKS								
EnVen Energy Ventures, L.P.	Ewing Bank	873	G 12136	A	A-25	Tracy Borel	713-335-7093	Drill, complete and produce one sidetrack well from existing Platform A.								
OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT. FUEL	RUN TIME		MAXIMUM POUNDS PER HOUR					ESTIMATED TONS				
	Diesel Engines	HP	GAL/HR	GAL/D			PM	SOx	NOx	VOC	CO	PM	SOx	NOx	VOC	CO
	Nat. Gas Engines	HP	SCF/HR	SCF/D												
Burners		MMBTU/HR	SCF/HR	SCF/D	HR/D	DAYS										
DRILLING	PRIME MOVER>600hp diesel	6635	320.4705	7691.29	24	91	4.68	21.45	160.76	4.82	35.07	5.11	23.43	175.55	5.27	38.30
	VESSELS>600hp diesel(crew)	2065	99.7395	2393.75	6	39	1.46	6.68	50.03	1.50	10.92	0.17	0.78	5.85	0.18	1.28
	VESSELS>600hp diesel(supply)	2065	99.7395	2393.75	10	39	1.46	6.68	50.03	1.50	10.92	0.28	1.30	9.76	0.29	2.13
PIPELINE INSTALLATION	PIPELINE LAY BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SUPPORT VESSEL diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	PIPELINE BURY BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SUPPORT VESSEL diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FACILITY INSTALLATION	DERRICK BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	MATERIAL TUG diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	RECIP.<600hp diesel - Crane West	503	24.2949	583.08	1	120	1.11	1.63	15.51	1.24	3.36	0.07	0.10	0.93	0.07	0.20
	RECIP.<600hp diesel - Crane East	503	24.2949	583.08	1	120	1.11	1.63	15.51	1.24	3.36	0.07	0.10	0.93	0.07	0.20
	RECIP.<600hp diesel - Emergency Air Compressor	74	3.5742	85.78	1	20	0.16	0.24	2.28	0.18	0.49	0.00	0.00	0.02	0.00	0.00
	RECIP.>600hp diesel - Generator 4	1106	53.4198	1282.08	1	60	0.78	3.58	26.80	0.80	5.85	0.02	0.11	0.80	0.02	0.18
	RECIP.>600hp diesel - Fire Pump 1	700	33.81	811.44	1	52	0.49	2.26	16.96	0.51	3.70	0.01	0.06	0.44	0.01	0.10
	RECIP.>600hp diesel - Fire Pump 2	700	33.81	811.44	1	52	0.49	2.26	16.96	0.51	3.70	0.01	0.06	0.44	0.01	0.10
	SUPPORT VESSEL diesel	2065	99.7395	2393.75	10	156	1.46	6.68	50.03	1.50	10.92	1.14	5.21	39.03	1.17	8.51
	TURBINE nat gas - generator 1	6100	58096.4	1394313.60	24	365	0.03	17.47	0.13	11.15	0.15	76.51	0.59	48.85	0.59	48.85
	TURBINE nat gas - generator 2	6100	58096.4	1394313.60	24	365	0.03	17.47	0.13	11.15	0.15	76.51	0.59	48.85	0.59	48.85
	TURBINE nat gas - generator 3	6100	58096.4	1394313.60	24	365	0.03	17.47	0.13	11.15	0.15	76.51	0.59	48.85	0.59	48.85
	RECIP.2 cycle lean nat gas	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP.4 cycle lean nat gas	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP.4 cycle rich nat gas	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	BURNER nat gas	0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	MISC.	BPD	SCF/HR	COUNT												
	TANK-	0			0	0										
	FLARE-		0		0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	PROCESS VENT-		0		0	0										
	FUGITIVES-			2225.0		121				1.11					1.62	
	GLYCOL STILL VENT-		0		0	0				0.00					0.00	
DRILLING WELL TEST	OIL BURN	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	GAS FLARE		0		0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
<b>2018 YEAR TOTAL</b>							<b>13.19</b>	<b>53.18</b>	<b>457.28</b>	<b>15.33</b>	<b>121.74</b>	<b>6.88</b>	<b>31.58</b>	<b>463.27</b>	<b>10.49</b>	<b>197.54</b>
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES															
	66.4															

AIR EMISSIONS CALCULATIONS - SECOND YEAR

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL	CONTACT	PHONE	REMARKS								
EnVen Energy Ventures	Ewing Bank	873	G 12136	A	A-25	Tracy Borel	713-335-7093	Drill, complete and produce one sidetrack well from existing Platform A.								
OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT. FUEL	RUN TIME		MAXIMUM POUNDS PER HOUR					ESTIMATED TONS				
	Diesel Engines	HP	GAL/HR	GAL/D												
	Nat. Gas Engines	HP	SCF/HR	SCF/D												
	Burners	MMBTU/HR	SCF/HR	SCF/D	HR/D	DAYS	PM	SOx	NOx	VOC	CO	PM	SOx	NOx	VOC	CO
DRILLING	PRIME MOVER>600hp diesel	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	PRIME MOVER>600hp diesel	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	PRIME MOVER>600hp diesel	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	PRIME MOVER>600hp diesel	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	BURNER diesel	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	AUXILIARY EQUIP<600hp diesel	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(crew)	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(supply)	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(tugs)	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PIPELINE INSTALLATION	PIPELINE LAY BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SUPPORT VESSEL diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	PIPELINE BURY BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SUPPORT VESSEL diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(crew)	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(supply)	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FACILITY INSTALLATION	DERRICK BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	MATERIAL TUG diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(crew)	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(supply)	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	RECIP.<600hp diesel - Crane West	503	24.2949	583.08	1	120	1.11	1.63	15.51	1.24	3.36	0.07	0.10	0.93	0.07	0.20
	RECIP.<600hp diesel - Crane East	503	24.2949	583.08	1	120	1.11	1.63	15.51	1.24	3.36	0.07	0.10	0.93	0.07	0.20
	RECIP.<600hp diesel - Emergency Air Compressor	74	3.5742	85.78	1	20	0.16	0.24	2.28	0.18	0.49	0.00	0.00	0.02	0.00	0.00
	RECIP.>600hp diesel - Generator 4	1106	53.4198	1282.08	1	60	0.78	3.58	26.80	0.80	5.85	0.02	0.11	0.80	0.02	0.18
	RECIP.>600hp diesel - Fire Pump 1	700	33.81	811.44	1	52	0.49	2.26	16.96	0.51	3.70	0.01	0.06	0.44	0.01	0.10
	RECIP.>600hp diesel - Fire Pump 2	700	33.81	811.44	1	52	0.49	2.26	16.96	0.51	3.70	0.01	0.06	0.44	0.01	0.10
	SUPPORT VESSEL diesel	2065	99.7395	2393.75	10	156	1.46	6.68	50.03	1.50	10.92	1.14	5.22	39.13	1.17	8.54
	TURBINE nat gas - generator 1	6100	58096.4	1394313.60	24	365		0.03	17.47	0.13	11.15		0.15	76.51	0.59	48.85
	TURBINE nat gas - generator 2	6100	58096.4	1394313.60	24	365		0.03	17.47	0.13	11.15		0.15	76.51	0.59	48.85
	TURBINE nat gas - generator 3	6100	58096.4	1394313.60	24	365		0.03	17.47	0.13	11.15		0.15	76.51	0.59	48.85
	RECIP.2 cycle lean nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	RECIP.4 cycle lean nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	RECIP.4 cycle rich nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	BURNER nat gas	0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	MISC.	BPD	SCF/HR	COUNT												
	TANK-	0			0	0										
	FLARE-		0		0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	PROCESS VENT-		0		0	0							0.00	0.00	0.00	0.00
	FUGITIVES-			2225.0		365					1.11			4.87		0.00
	GLYCOL STILL VENT-		0		0	0					0.00			0.00		0.00
DRILLING WELL TEST	OIL BURN	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	GAS FLARE		0		0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
<b>2019-2032 YEAR TOTAL</b>							<b>5.60</b>	<b>18.37</b>	<b>196.46</b>	<b>7.50</b>	<b>64.83</b>	<b>1.32</b>	<b>6.08</b>	<b>272.22</b>	<b>8.01</b>	<b>155.85</b>
<b>EXEMPTION CALCULATION</b>	<b>DISTANCE FROM LAND IN MILES</b>															
	66.4															
			<b>2211.12</b>	<b>2211.12</b>	<b>2211.12</b>	<b>2211.12</b>	<b>55751.64</b>									

**AIR EMISSION CALCULATIONS**

OMB Control No. 1010-0049  
OMB Approval Expires: August 31, 2006

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL
EnVen Energy V	Ewing Bank	873	G 12136	A	A-25
Year	Emitted Substance				
	PM	SOx	NOx	VOC	CO
2019	6.88	31.58	463.27	10.49	197.54
2020	1.32	6.08	272.22	8.01	155.85
2021	1.32	6.08	272.22	8.01	155.85
2022	1.32	6.08	272.22	8.01	155.85
2023	1.32	6.08	272.22	8.01	155.85
2024	1.32	6.08	272.22	8.01	155.85
2025	1.32	6.08	272.22	8.01	155.85
2026	1.32	6.08	272.22	8.01	155.85
2027	1.32	6.08	272.22	8.01	155.85
2028	1.32	6.08	272.22	8.01	155.85
2029	1.32	6.08	272.22	8.01	155.85
2030	1.32	6.08	272.22	8.01	155.85
2031	1.32	6.08	272.22	8.01	155.85
2032	1.32	6.08	272.22	8.01	155.85
<b>Allowable</b>	<b>2211.12</b>	<b>2211.12</b>	<b>2211.12</b>	<b>2211.12</b>	<b>55751.64</b>

**SECTION I  
OIL SPILLS INFORMATION**

**A. OIL SPILL RESPONSE PLANNING**

The proposed activities are in the Central Planning Area of the GOM. Therefore, a site-specific Oil Spill Response Plan (OSRP) is not required for this plan.

**B. REGIONAL OSRP INFORMATION**

All the proposed activities and facilities in this DOCD will be covered by the Oil Spill Response Plan filed by EnVen Energy Ventures, LLC (BOEM Operator Number 03026) in accordance with 30 CFR 254 and approved on May 8, 2014. The OSRP Biennial Update was deemed in compliance on June 4, 2018. OSRP control number is O-678.

**1. SPILL RESPONSE SITES**

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

**C. OSRO INFORMATION**

EnVen utilizes the Clean Gulf Associates (CGA) and the Marine Spill Response Corporation's (MSRC) STARS network as the primary providers for oil spill removal equipment. The MSRC STARS network provides for the closest available personnel, as well as an MSRC supervisor to operate the equipment.

#### D. WORST-CASE SCENARIO COMPARISON

A comparison from EnVen’s approved regional OSRP with the worst-case scenario from the proposed activities in this DOCD is provided in the table below.

The proposed activities are greater than ten miles seaward of the coastline, therefore, the “far-shore” worst case scenario is provided as the “drilling and/or production” worst case scenario.

Category	Drilling		Production	
	Regional OSRP WCD	DOCD WCD	Regional OSRP WCD	DOCD WCD
Type of Activity	Drilling	Drilling	Production	Production
Facility Location (Area/Block)	SM 152	EW 873	VR 356	EW 873
Facility Designation	Well Location B	A-17(ST01)	A	A (Lobster)
Distance to Nearest Shoreline (miles)	85	67	78	67
Volume				
Storage tanks (total)	0	0	1,650	666
Pipelines/Flowlines	0	0	0	1609
Uncontrolled blowout	<u>120,000</u>	<u>35787</u>	<u>32,669</u>	<u>12041</u>
Total Volume	<b>120,000</b>	<b>35,787</b>	<b>34,319</b>	<b>14,316</b>
Type of Oil(s) (crude, condensate, diesel)	Crude	Crude	Crude	Crude
API Gravity	35°	20.5°	33°	20.5°

The calculations and assumption for the Regional OSRP WCD for drilling operations greater than 10 miles from shore were approved under Plan Control No. N-9780.

The calculations and assumptions for the Regional OSRP WCD for production operations greater than 10 miles from shore were approved under Plan Control R-5888.

Since EnVen has the capability to respond to the worst-case spill scenario included in our Regional OSRP approved on May 8, 2014 and since the worst-case scenario determined for our DOCD does not replace the worst-case scenario in our Regional OSRP, I hereby certify that EnVen has the capability to respond, to the maximum extent practicable, to a worst-case discharge, or a substantial threat of such a discharge, resulting from the activities proposed in our DOCD.

In accordance with NTL 2015-N01, supporting documentation for the calculations and assumptions used to determine the worst case discharge for the activities proposed in this plan were previously reviewed and approved under Plan Control No. S-7817.

**E. OIL SPILL RESPONSE DISCUSSION (NEPA ANALYSIS)**

## *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 35,787 barrels of crude oil with an API gravity of 20.5°.

### Land Segment and Resource Identification

Trajectories of a spill and the probability of it impacting a land segment have been projected utilizing information in the BOEM Oil Spill Risk Analysis Model (OSRAM) for the Central and Western Gulf of Mexico available on the BOEM website. The results are shown in **Figure 1**. The BOEM OSRAM identifies a 7% probability of impact to the shorelines of Cameron Parish, Louisiana within 30 days. Cameron Parish includes the east side of Sabine Lake, Sabine National Wildlife Refuge, Calcasieu Lake, Lacassine National Wildlife Refuge (inland) and Grand Lake. Cameron Parish also includes the area along the coastline from Sabine Pass to Big Constance Lake in Rockefeller Wildlife Refuge. This region is composed of open public beaches, marshlands and swamps. It serves as a habitat for numerous birds, finfish and other animals, including several rare, threatened and endangered species.

### Response

EnVen Energy Ventures, LLC 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. The results indicate 14% or approximately 5,010 barrels of crude oil would be evaporated/dispersed within 24 hours, with approximately 30,777 barrels remaining.

<b>Natural Weathering Data: EW 873, A-17(ST01)</b>	<b>Barrels of Oil</b>
WCD Volume	35,787
Less 14% natural evaporation/dispersion	5,010
Remaining volume	30,777

**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.

EnVen Energy Ventures, LLC's Oil Spill Response Plan includes alternative response technologies such as dispersants and in-situ burn. Strategies will be decided by Unified Command based on an operations safety analysis, the size of the spill, weather and potential

impacts. If aerial dispersants are utilized, 8 sorties (9,600 gallons) from two of the DC-3 aircrafts and 4 sorties (8,000 gallons) from the Basler aircraft would provide a daily dispersant capability of 7,540 barrels. If the conditions are favorable for in-situ burning, the proper approvals have been obtained and the proper planning is in place, in-situ burning of oil may be attempted. Slick containment boom would be immediately called out and on-scene as soon as possible. Offshore response strategies may include attempting to skim utilizing CGA spill response equipment, with a total derated skimming capacity of 157,693 barrels. Temporary storage associated with skimming equipment equals 5,347 barrels. If additional storage is needed, various storage barges with a total capacity 154,000 bbls may be mobilized and centrally located to provide temporary storage and minimize off-loading time. **Safety is first priority. Air monitoring will be accomplished and operations deemed safe prior to any containment/skimming attempts.**

If the spill went unabated, shoreline impact in Cameron Parish, Louisiana would depend upon existing environmental conditions. Shoreline protection would include the use of CGA's near shore and shallow water skimmers with a totaled derated skimming capacity of 34,874 barrels. Temporary storage associated with skimming equipment equals 903 barrels. If additional storage is needed, one storage barge with a total capacity 47,000 bbls may be mobilized and centrally located to provide temporary storage and minimize off-loading time. Onshore response may include the deployment of shoreline boom on beach areas, or protection and sorbent boom on vegetated areas. A Master Service Agreement with AMPOL will ensure access to 94,250 feet of 18" shoreline protection boom. **Figure 2** outlines individual times needed for procurement, load out, travel time to the site and deployment. Strategies would be based upon surveillance and real time trajectories that depict areas of potential impact given actual sea and weather conditions. Applicable Area Contingency Plans (ACPs), Geographic Response Plans (GRPs), and Unified Command (UC) will be consulted to ensure that environmental and special economic resources are correctly identified and prioritized to ensure optimal protection. Shoreline protection strategies depict the protection response modes applicable for oil spill clean-up operations. As a secondary resource, the State of Louisiana Initial Oil Spill Response Plan will be consulted as appropriate to provide detailed shoreline protection strategies and describe necessary action to keep the oil spill from entering Louisiana's coastal wetlands. The UC should take into consideration all appropriate items detailed in Tactics discussion of this Appendix. The UC and their personnel have the option to modify the deployment and operation of equipment to allow for a more effective response to site-specific circumstances. EnVen Energy Ventures, LLC's contract Spill Management Team has access to the applicable ACP(s) and GRP(s).

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



### **Initial Response Considerations**

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

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

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

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

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

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

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

## Offshore Response Actions

### Equipment Deployment

#### *Surveillance*

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

#### *Dispersant application assets*

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

#### *Containment boom*

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

#### *Oceangoing Boom Barge*

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

#### *In-situ Burn assets*

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

### *Dedicated off-shore skimming systems*

#### *General*

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

#### *CGA HOSS Barge*

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

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

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

#### *CGA FRUs*

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

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

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

#### *Storage Vessels*

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

### *Vessels of Opportunity (VOO)*

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

### *Adverse Weather Operations:*

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

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

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

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

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

*Maximize skimmer system efficiency*

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

*Recovered Oil Storage*

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

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

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

### **On Water Recovery Group**

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

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

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

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

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

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

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

Initial set-up and potential actions:

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

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

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

#### **TF 1**

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

#### **TF 2**

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

#### **TF 3**

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

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

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

**TF 4**

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

**TF 5**

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

**TF 6**

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

**TF 7**

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



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

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

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

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

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

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

### **Tactical Overview**

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

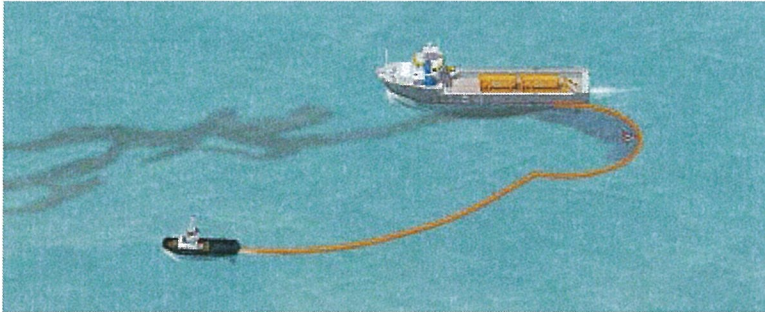
*Maximum Sea Conditions* – Under most circumstances the FRU can maintain standard oil spill recovery operations in 2' to 4' seas. Ultimately, the Coast Guard licensed Captain in charge of the VOO (with input from the CGAS Supervisor assigned) will be responsible to determine when the sea conditions have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

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

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



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



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

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

### **Tactical Overview**

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

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

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

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

1 –  $\geq$  200' Offshore Supply Vessels (OSV) with set of Koseq Arms

2 to 4 portable storage tanks (500 bbl)

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

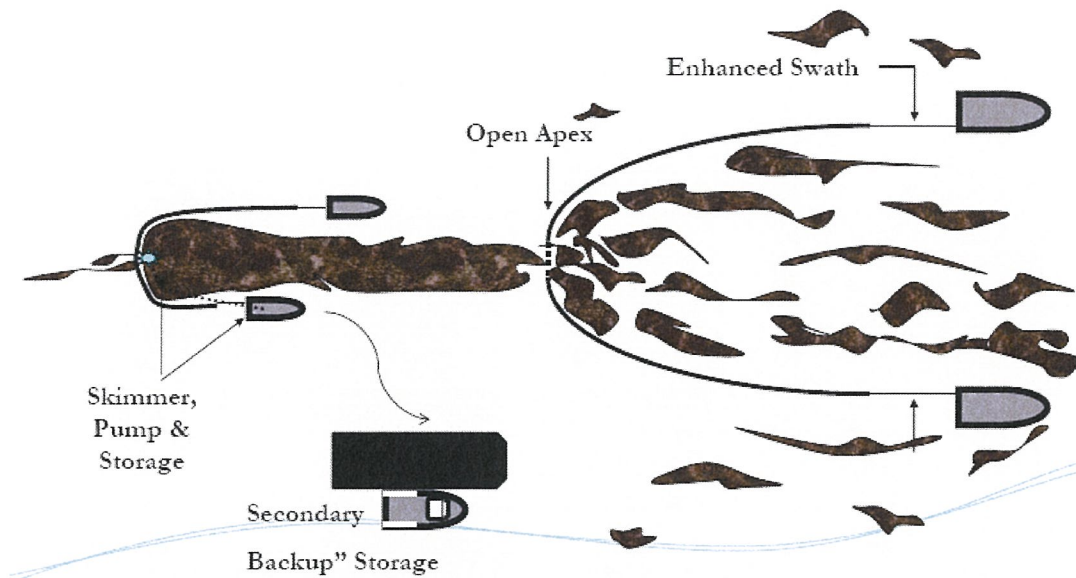
1 – Tank barge (offshore) for temporary storage

1 – Utility/Crewboat (supply)

1 – Designated spotter aircraft

4 – Personnel (4 T&T OSRO)





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



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

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

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

## **Near Shore Response Actions**

### *Timing*

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

### *Considerations*

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

### *Surveillance*

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

### *Dispersant Use*

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

### *Dedicated Near Shore skimming systems*

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

### *VOO*

- Use EnVen Energy Ventures, LLC'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 GOM**

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

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

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

**FIGURE 1  
TRAJECTORY BY LAND SEGMENT**

<p>Trajectory of a spill and the probability of it impacting a land segment have been projected utilizing EnVen Energy Ventures, LLC's WCD and information in the BOEM Oil Spill Risk Analysis Model (OSRAM) for the Central and Western Gulf of Mexico available on the BOEM website using 30 day impact. The results are tabulated below.</p>				
Area/Block	OCS-G	Launch Area	Land Segment and/or Resource	Conditional Probability (%)
Drilling Operations <b>EW 873, A-17(ST01)</b> <i>67 miles from shore</i>	G12136	C42	Matagorda, TX Galveston, TX Jefferson, TX <b>Cameron, LA</b> Vermilion, LA Iberia, LA Terrebonne, LA Lafourche, LA Jefferson, LA Plaquemines, LA	1 2 2 7 3 1 3 2 1 5

**WCD Scenario– BASED ON WELL BLOWOUT DURING DRILLING OPERATIONS (67 miles from shore)**  
 30,777 bbls of crude oil (Volume considering natural weathering)  
 API Gravity 20.5°

**FIGURE 2 – Equipment Response Time to EW 873, A-17(ST01)**

*Dispersants/Surveillance*

Dispersant/Surveillance	Dispersant Capacity (gal)	Persons Req.	From	Hrs to Procure	Hrs to Loadout	Travel to site	Total Hrs
ASI							
Basler 67T	2000	2	Houma	2	2	0.5	4.5
DC 3	1200	2	Houma	2	2	0.7	4.7
DC 3	1200	2	Houma	2	2	0.7	4.7
Aero Commander	NA	2	Houma	2	2	0.5	4.5

*Offshore Response*

Offshore Equipment Pre-Determined Staging	EDRC	Storage Capacity	VOO	Persons Required	From	Hrs to Procure	Hrs to Loadout	Hrs to GOM	Travel to Spill Site	Hrs to Deploy	Total Hrs
CGA											
HOSS Barge	76285	4000	3 Tugs	12	Harvey	6	0	12	9	2	29
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	4	1	10
95' FRV	22885	249	NA	6	Vermilion	2	0	3	9.5	1	15.5
Boom Barge (CGA-300) 42" Auto Boom (25000')	NA	NA	1 Tug 50 Crew	4 (Barge) 2 (Per Crew)	Leeville	8	0	4	11	2	25

Recovered Oil Storage Pre-Determined Staging	EDRC	Storage Capacity	VOO	Persons Required	From	Hrs to Procure	Hrs to Loadout	Hrs to GOM	Travel to Spill Site	Hrs to Deploy	Total Hrs
Enterprise Marine Services LLC (Available through contract with CGA)											
CTCo 2603	NA	25000	1 Tug	6	Amelia	26	12	6	15	1	60
CTCo 2604	NA	20000	1 Tug	6	Amelia	26	12	6	15	1	60
CTCo 2605	NA	20000	1 Tug	6	Amelia	26	12	6	15	1	60
CTCo 2606	NA	20000	1 Tug	6	Amelia	26	12	6	15	1	60
CTCo 2607	NA	23000	1 Tug	6	Amelia	26	12	6	15	1	60
CTCo 2608	NA	23000	1 Tug	6	Amelia	26	12	6	15	1	60
CTCo 2609	NA	23000	1 Tug	6	Amelia	26	12	6	15	1	60

**Staging Area: Fourchon**

Offshore Equipment With Staging	EDRC	Storage Capacity	VOO	Persons Req.	From	Hrs to Procure	Hrs to Loadout	Travel to Staging	Travel to Site	Hrs to Deploy	Total Hrs
CGA											
FRU (1) + 100 bbl Tank (2)	4251	200	1 Utility	6	Morgan City	2	6	3	7	1	19
FRU (2) + 100 bbl Tank (4)	8502	400	2 Utility	12	Venice	2	6	5	7	1	21
Hydro-Fire Boom	NA	NA	8 Utility	40	Harvey	0	24	3	7	6	40

*Nearshore Response*

Nearshore Equipment Pre-determined Staging	EDRC	Storage Capacity	VOO	Persons Required	From	Hrs to Procure	Hrs to Loadout	Hrs to GOM	Travel to Spill Site	Hrs to Deploy	Total Hrs
CGA											
46' FRV	15257	65	NA	4	Lake Charles	2	0	2	2.5	1	7.5
Enterprise Marine Services LLC (Available through contract with CGA)											
CTCo 5001	NA	47000	1 Tug	6	Amelia	26	12	6	15	1	60

**Staging Area: Cameron**

Nearshore Equipment With Staging	EDRC	Storage Capacity	VOO	Persons Req.	From	Hrs to Procure	Hrs to Load Out	Travel to Staging	Travel to Deployment	Hrs to Deploy	Total Hrs
CGA											
SWS Egmopol	1810	100	NA	3	Galveston	2	2	5	2	1	12
SWS Egmopol	1810	100	NA	3	Morgan City	2	2	4.5	2	1	11.5
SWS Marco	3588	20	NA	3	Lake Charles	2	2	2	2	1	9
SWS Marco	3588	34	NA	3	Leeville	2	2	7	2	1	14
SWS Marco	3588	34	NA	3	Venice	2	2	9.5	2	1	16.5
Foilex Skim Package (TDS 150)	1131	50	NA	3	Lake Charles	4	12	2	2	2	22
Foilex Skim Package (TDS 150)	1131	50	NA	3	Galveston	4	12	5	2	2	25
Foilex Skim Package (TDS 150)	1131	50	NA	3	Harvey	4	12	7	2	2	27
4 Drum Skimmer (Magnum 100)	680	100	1 Crew	3	Lake Charles	2	2	2	2	1	9
4 Drum Skimmer (Magnum 100)	680	100	1 Crew	3	Harvey	2	2	7	2	1	14
2 Drum Skimmer (TDS 118)	240	100	1 Crew	3	Lake Charles	2	2	2	2	1	9
2 Drum Skimmer (TDS 118)	240	100	1 Crew	3	Harvey	2	2	7	2	1	14



*Shoreline Protection*

**Staging Area: Cameron**

Shoreline Protection Boom	VOO	Persons Req.	Storage/Warehouse Location	Hrs to Procure	Hrs to Loadout	Travel to Staging	Travel to Deployment	Hrs to Deploy	Total Hrs
AMPOL (available through MSA)									
34,050' 18" Boom	13 Crew	26	New Iberia, LA	2	2	3.5	2	12	21.5
12,850' 18" Boom	7 Crew	14	Chalmette, LA	2	2	7.5	2	6	19.5
900' 18" Boom	1 Crew	2	Morgan City, LA	2	2	5	2	2	13
30,000' 18" Boom	13 Crew	26	Harvey, LA	2	2	7.5	2	12	25.5
1,700' 18" Boom	2 Crew	4	Venice, LA	2	2	9	2	2	17
14,750' 18" Boom	7 Crew	14	Port Arthur, TX	2	2	1.5	2	6	13.5

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

Response Asset	Total
Offshore EDRC	157,693
Offshore Recovered Oil Capacity	159,347
Nearshore / Shallow Water EDRC	34,874
Nearshore / Shallow Water Recovered Oil Capacity	47,903

<b>SECTION J</b> <b>ENVIRONMENTAL MONITORING INFORMATION</b>
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**A. MONITORING SYSTEMS**

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

**B. INCIDENTAL TAKES**

Although marine mammals may be seen in the area, EnVen does not believe that its operations proposed under this plan will result in the harassment, capture, collection or killing of any mammals covered by the Marine Mammal Protection Act.

**C. FLOWER GARDEN BANKS NATIONAL MARINE SANCTUARY**

Ewing Bank Block 873 are not located in the Flower Garden Banks National Marine Sanctuary; therefore, the requested information is not required in this DOCD.

<b>SECTION K</b> <b>LEASE STIPULATIONS INFORMATION</b>
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Oil and gas development activities on the OCS are subject to stipulations developed before the lease sale and would be attached to the lease instrument, as necessary, in the form of mitigating measures. The BOEM is responsible for ensuring full compliance with stipulations.

Development activities are subject to the following stipulations attached to Lease OCS-G 12136/12139, Ewing Bank Blocks 873.

**Lease Stipulation No. 1 – Protection of Archaeological Resources**

An archaeological report was previously submitted with Plan Control No. N-4522.

**Lease Stipulation No. 2 - Military Warning Area (MWA)**

Ewing Bank Blocks 873/917 are located within designated MWA-W-92. The Fleet Area Control and Surveillance Facility will be contacted in order to coordinate and control the electromagnetic emissions during the proposed operations.

<b>SECTION L</b> <b>ENVIRONMENTAL MITIGATION MEASURES INFORMATION</b>
--

**A. MEASURES TAKEN TO AVOID, MINIMIZE, AND MITIGATE IMPACTS**

Activities in this DOCD do not impact the State of Florida.

**B. INCIDENTAL TAKES**

EnVen Energy Ventures, LLC 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:

- NTL 2012-Joint-G01, "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting
- NTL 2012-BSEE-G01, "Marine Trash and Debris Awareness and Elimination"
- NTL 2012-Joint-G02, "Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program"

<b>SECTION M</b> <b>RELATED FACILITIES AND OPERATIONS INFORMATION</b>
--

**(A) RELATED OCS FACILITIES AND OPERATIONS**

The proposed well will be drilled from existing Platform A located in Ewing Bank Block 873 which is the central processing facility for all wells. Following separation and measurement, the combined gas and liquid hydrocarbons will depart Platform A via either the existing 30" gas/condensate right-of-way pipeline (SN 11161) to Bay Marchand Block 4 or the 16" oil right-of-way pipeline (SN 11269) to a SSTI in South Timbalier Block 212. The pipelines have a shut-in time of 45 seconds.

EnVen anticipates installing minimal processing equipment on this structure. All hydrocarbon handling equipment installed for testing and production operations will be designed, installed and operated to prevent pollution.

**(B) TRANSPORTATION SYSTEM**

Produced hydrocarbons from the respective structure addressed above will be further transported to shore for ultimate delivery into Operations Systems 25.0 and 29.5.

EnVen does not anticipate installation of any new and/or modified onshore facilities to accommodate additional production.

**(C) PRODUCED LIQUID HYDROCARBONS TRANSPORTATION VESSELS**

EnVen will not transfer liquid hydrocarbons using any method other than via pipeline.

**(D) DECOMMISSIONING INFORMATION**

Subsequent to applicable lease expirations, abandonment activities will be conducted in accordance with all state and federal regulations.

<b>SECTION N</b> <b>SUPPORT VESSELS AND AIRCRAFT INFORMATION</b>
---

**A. GENERAL**

EnVen will travel the most practical, direct route from the shorebase to Ewing Bank Block 837/917 as permitted by weather and traffic conditions.

Type	Maximum Fuel Tank Capacity	Maximum Number in Area at Any Time	Trip Frequency or Duration
Crew Boat	500 bbls	1	3/week
Supply Boat	500 bbls	1	3/week
Helicopter	1900 gallons	1	As Needed

**B. DIESEL OIL SUPPLY VESSELS**

Not applicable, per NTL 2008-G04.

**C. DRILLING FLUID TRANSPORTATION**

Not applicable, per NTL 2008-G04.

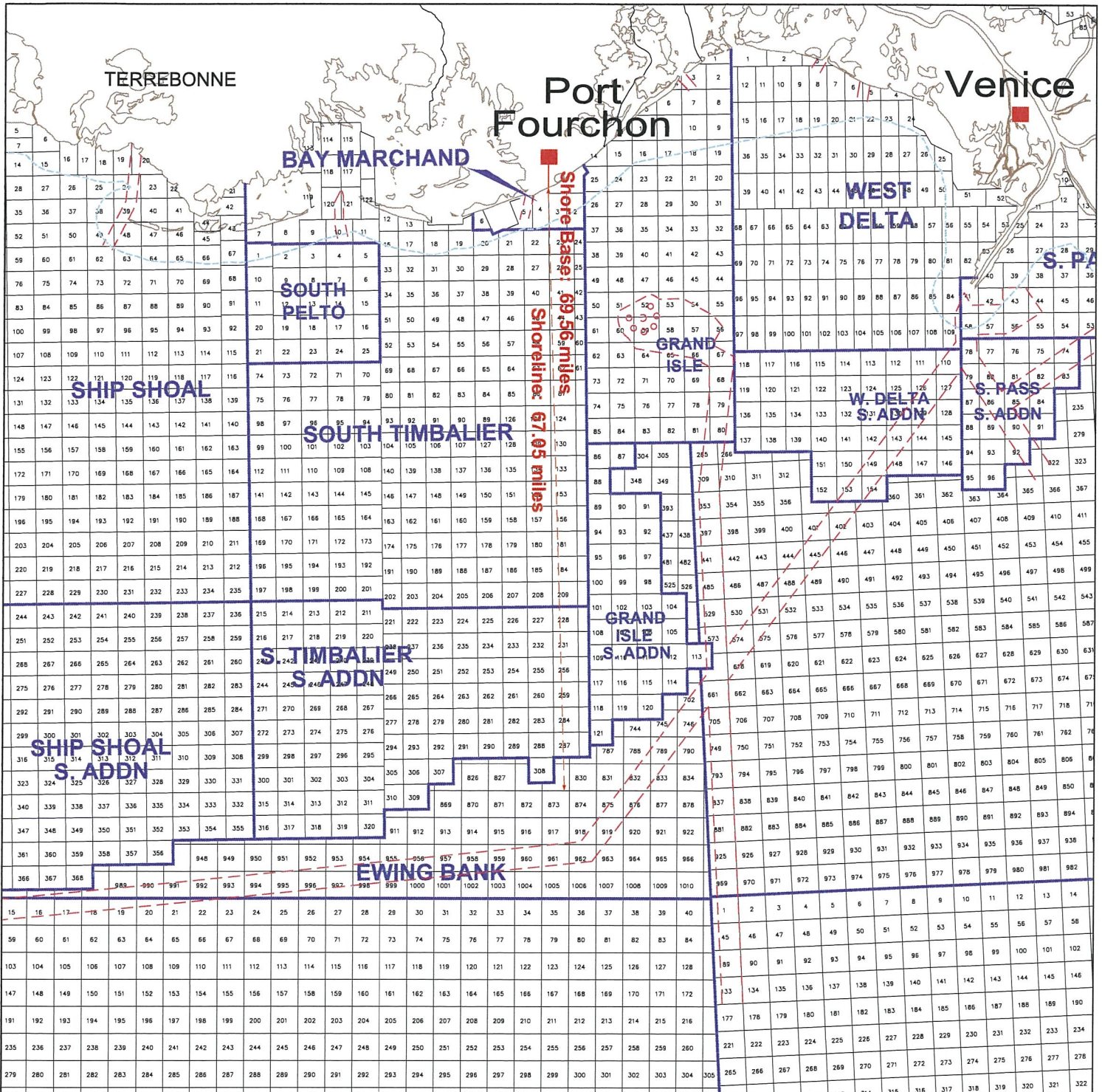
**D. SOLID AND LIQUID WASTE TRANSPORTATION**

Not applicable, per NTL 2008-G04.

**E. VICINITY MAP**

A vicinity map showing the location of the proposed activities relative to the shoreline, the distance of the proposed activities from the shoreline and the support base, and the primary route of the support vessels and aircraft that will be used when traveling between the onshore support facilities is included as **Attachment N-1**.





Ewing Bank 873  
 OFFSHORE LOUISIANA  
 DCCD  
 Proposed Well Location #A25

**Vicinity Location Map**

CONTOUR INTERVAL:	DATE: 06-20-18
INTERPRETATION BY:	DRAFTED BY: LH
SCALE: 1"=40,000'	APPROVED BY: N/A
AREA: Ewing Bank 873	FILE:

Attachment N-1

<b>SECTION O</b> <b>ONSHORE SUPPORT FACILITIES INFORMATION</b>
---

**A. GENERAL**

Provided in the table below is a list of the onshore facilities that will be used to provide supply and service support for the proposed activities:

Name	Location	Existing/New/Modified
GIS Dock	Fourchon, LA	Existing

**B. SUPPORT BASE CONSTRUCTION OR EXPANSION**

EnVen does not propose any land acquisitions for the construction of an onshore support base, nor will we expand the existing shorebase as a result of the operations proposed in this DOCD.

**C. SUPPORT BASE CONSTRUCTION OR EXPANSION TIMETABLE**

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

**D. WASTE DISPOSAL**

Name/Location of Facility	Type of waste	Amount	Disposal Method
Fourchon, LA	Completion Fluid	200 bbls/well	Environmental Drum/tote tank to shorebase; trucked to recycling facility
Fourchon, LA	Used Oil	500 gal/month	Environmental Drum/tote tank to shorebase; trucked to recycling facility
Fourchon, LA	Trash and Debris	1000 cuft/month	Storage bins to shorebase; trucked to recycling facility



**SECTION P**  
**COASTAL ZONE MANAGEMENT (CZMA) INFORMATION**

The activities proposed in this plan do not require consistency from the state of Louisiana.

**SECTION Q**  
**ENVIRONMENTAL IMPACT ANALYSIS (EIA)**

# EnVen Energy Ventures, LLC (EnVen)

## Supplemental Development Operations Coordination Document Ewing Bank Block 873 OCS-G 12136

### (A) IMPACT PRODUCING FACTORS

#### ENVIRONMENTAL IMPACT ANALYSIS WORKSHEET

Environment Resources	Impact Producing Factors (IPFs) Categories and Examples Refer to recent GOM 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 <sub>2</sub> S releases)	Discarded Trash & Debris
<b>Site-specific at Offshore Location</b>						
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		X	
Fisheries		X	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			X(7)			
<b>Vicinity of Offshore Location</b>						
Essential fish habitat		X	X		X(6)	
Marine and pelagic birds	X				X	X
Public health and safety					(5)	
<b>Coastal and Onshore</b>						
Beaches					X(6)	X
Wetlands					X(6)	
Shore birds and coastal nesting birds					X(6)	X
Coastal wildlife refuges					X	
Wilderness areas					X	

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

## **(B) ANALYSIS**

### **Site-Specific at Ewing Bank Block 873**

Proposed operations consist of the drilling, completion, and commencement of production from well A-25. Operations will be conducted with a platform rig.

#### **1. Designated Topographic Features**

Potential IPFs on topographic features include physical disturbances to the seafloor, effluents, and accidents.

**Physical disturbances to the seafloor:** Ewing Bank Block 873 is 30 miles from the closest designated Topographic Features Stipulation Block (Diaphus Bank); therefore, no adverse impacts are expected.

**Effluents:** Ewing Bank Block 873 is 30 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 activities (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 m 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 Mexico are found below 10 m, no oil from a surface spill could 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 EnVen's Regional OSRP (refer to information submitted in **Appendix I**).

There are no other IPFs (including emissions and wastes sent to shore for disposal) from the proposed activities, which could impact topographic features.

#### **2. Pinnacle Trend Area Live Bottoms**

Potential IPFs on pinnacle trend area live bottoms include physical disturbances to the seafloor, effluents, and accidents.

**Physical disturbances to the seafloor:** Ewing Bank Block 873 is 129 miles from the closest live bottom (pinnacle trend) area; therefore, no adverse impacts are expected.

**Effluents:** Ewing Bank Block 873 is 129 miles from the closest live bottom (pinnacle trend) area; therefore, no adverse impacts are expected.

**Accidents:** It is unlikely that an accidental surface or subsurface spill would occur from the proposed activities (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 m 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 applicable due to the distance of these blocks from a live bottom (pinnacle trend) area. The activities proposed in this plan will be covered by EnVen's Regional OSRP (refer to information submitted in **Appendix I**).

There are no other IPFs (including emissions and wastes sent to shore for disposal) from the proposed activities which could impact a live bottom (pinnacle trend) area.

### **3. Eastern Gulf Live Bottoms**

Potential IPFs on Eastern Gulf live bottoms include physical disturbances to the seafloor, effluents, and accidents.

**Physical disturbances to the seafloor:** Ewing Bank Block 873 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.

**Effluents:** Ewing Bank Block 873 is not located in an area characterized by the existence of live bottoms; therefore, no adverse impacts are expected.

**Accidents:** It is unlikely that an accidental surface or subsurface spill would occur from the proposed activities (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 m 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 applicable due to the distance of these blocks from a live bottom area. The activities proposed in this plan will be covered by EnVen's Regional OSRP (refer to information submitted in **Appendix I**).

There are no other IPFs (including emissions and wastes sent to shore for disposal) from the proposed activities which could impact an Eastern Gulf live bottom area.

#### **4. Benthic Communities**

There are no IPFs (including emissions, physical disturbances to the seafloor, wastes sent to shore for disposal, or accidents) from the proposed activities that could cause impacts to benthic communities.

Operations proposed in this plan are in water depths of 775 feet. High-density benthic communities are found only in water depths greater than 984 feet (300 meters); therefore, EnVen's proposed operations in Ewing Bank Block 873 would not cause impacts to benthic communities.

#### **5. Water Quality**

IPFs that could result in water quality degradation from the proposed operations in Ewing Bank Block 873 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.

**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.

**Accidents:** Oil spills have the potential to alter offshore water quality; however, it is unlikely that an accidental surface or subsurface spill would occur from the proposed activities. Between 1980 and 2000, OCS operations produced 4.7 billion barrels of oil and spilled only 0.001 percent of this oil, or 1 bbl for every 81,000 bbl produced. The spill risk related to a diesel spill from drilling operations is even less. Between 1976 and 1985, (years for which data were collected), there were 80 reported diesel spills greater than one barrel associated with drilling activities. Considering that there were 11,944 wells drilled, this is a 0.7 percent probability of an occurrence. 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. The activities proposed in this plan will be covered by EnVen's Regional Oil Spill Response Plan (refer to information submitted in **Appendix I**).

There are no other IPFs (including emissions, physical disturbances to the seafloor, and wastes sent to shore for disposal) from the proposed activities which could cause impacts to water quality.

## **6. Fisheries**

IPFs that could cause impacts to fisheries as a result of the proposed operations in Ewing Bank Block 873 include physical disturbances to the seafloor, 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 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.

**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 m of the discharge point, and are expected to have negligible effect on fisheries.

**Accidents:** 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 activities (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 EnVen's Regional OSRP (refer to information submitted in **Appendix I**).

There are no IPFs from emissions, or wastes sent to shore for disposal from the proposed activities which could cause impacts to fisheries.

## **7. Marine Mammals**

GulfCet II studies 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. IPFs that could cause impacts to marine mammals as a result of the proposed operations in Ewing Bank Block 873 include emissions, effluents, discarded trash and debris, and accidents.



**Emissions:** Noises from drilling activities, support vessels and helicopters 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). There is little conclusive evidence for long-term displacements and population trends for marine mammals relative to noise.

**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 activities is not expected to substantially harm marine mammals. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V and 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).

EnVen will operate in accordance with the regulations 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.

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), "*Keep the Seas Free of Debris*" (previously "*Think About It*"). Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from EnVen management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE. EnVen will submit an annual training report to BSEE by January 31st. This report will describe the training process and be signed by a company official.

**Accidents:** Collisions between support vessels and 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 a vigilant watch for marine mammals and maintaining a safe distance when they are sighted. Vessel personnel should use a Gulf of Mexico reference guide to help identify the twenty-one species of whales and dolphins, and the single species of manatee that may be encountered in the Gulf of Mexico OCS. 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 1-877-433-8299 (<http://www.nmfs.noaa.gov/pr/health/report.htm#southeast>). Any injured or dead protected species should also be reported to [takereport.nmfsser@noaa.gov](mailto:takereport.nmfsser@noaa.gov). In addition, if the injury or death was caused by a collision with a contract vessel, the BOEM must be notified within 24 hours of the strike by email to [protectedspecies@bsee.gov](mailto: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.

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 activities (refer to **Item 5**, Water Quality). Oil spill response activities may increase vessel traffic in the area, which could add to changes in cetacean behavior and/or distribution, thereby causing additional stress to the animals. The effect of oil dispersants on cetaceans is not known. The acute toxicity of oil dispersant chemicals included in EnVen's 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 EnVen's OSRP (refer to information submitted in accordance with **Appendix I**).

There are no other IPFs (including physical disturbances to the seafloor) from the proposed activities which could impact marine mammals.

## **8. Sea Turtles**

IPFs that could cause impacts to sea turtles as a result of the proposed operations include emissions, effluents, discarded trash and debris, and accidents. 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.

**Emissions:** Noise from drilling activities, support vessels, and helicopters may elicit a startle reaction from sea turtles, but this is a temporary disturbance.

**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).

**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 activities is not expected to substantially harm sea turtles. Operators

are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V and 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). EnVen will operate in accordance with the regulations 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.

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), "*Keep the Seas Free of Debris*" (previously "*Think About It*"). Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from EnVen management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE. EnVen will submit an annual training report to BSEE by January 31st. This report will describe the training process and be signed by a company official.

**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 when they are sighted. Vessel crews should use a reference guide to help identify the five species of sea turtles that may be encountered in the Gulf of Mexico OCS. 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](http://www.sefsc.noaa.gov/species/turtles/stranding_coordinators.htm) (phone numbers vary by state). Any injured or dead protected species should also be reported to [takereport.nmfsser@noaa.gov](mailto:takereport.nmfsser@noaa.gov). In addition, if the injury or death was caused by a collision with a contract vessel, the BOEM must be notified within 24 hours of the strike by email to [protectedspecies@bsee.gov](mailto: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.

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 activities (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 EnVen's Regional Oil Spill Response Plan (refer to information submitted in accordance with **Appendix I**).

There are no other IPFs (including physical disturbances to the seafloor) from the proposed activities which could impact sea turtles.

## **9. Air Quality**

Ewing Bank Block 873 is located 110 miles from the Breton Wilderness Area and 66.4 miles from shore. Applicable emissions data is included in **Appendix H** of the Plan.

There would be a limited degree of air quality degradation in the immediate vicinity of the proposed activities. Plan Emissions for the proposed activities 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 873 from the coastline. There are no other IPFs (including effluents, physical disturbances to the seafloor, wastes sent to shore for treatment or disposal) from the proposed activities which would impact air quality.

## **10. Shipwreck Sites (known or potential)**

IPFs that could impact known or unknown shipwreck sites as a result of the proposed operations in Ewing Bank Block 873 include disturbances to the seafloor and accidents (oil spill). Ewing Bank Block 873 is not located in or adjacent to an OCS block designated by BOEM as having a high probability for occurrence of shipwrecks. EnVen will report to BOEM the discovery of any evidence of a shipwreck and make every reasonable effort to preserve and protect that cultural resource. There are no other IPFs (including emissions, effluents, wastes sent to shore for treatment or disposal, or accidents) from the proposed activities which could impact shipwreck sites.

**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 activities (refer to **Item 5**, Water Quality). The activities proposed in this plan will be covered by EnVen's Regional Oil Spill Response Plan (refer to information submitted in accordance with **Appendix I**).

There are no other IPFs (including emissions, effluents, or wastes sent to shore for treatment or disposal) from the proposed activities that could cause impacts to shipwreck sites.

## **11. Prehistoric Archaeological Sites**

IPFs that could cause impacts to prehistoric archaeological sites as a result of the proposed operations in Ewing Bank Block 873 are physical disturbances to the seafloor and accidents (oil spills).

**Physical Disturbances to the seafloor:** Ewing Bank Block 873 is located inside the Archaeological Prehistoric high probability lines. EnVen 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 activities (refer to **Item 5**, Water Quality). The activities proposed in this plan will be covered by EnVen's Regional Oil Spill Response Plan (refer to information submitted in accordance with **Appendix I**).

There are no other IPFs (including emissions, effluents, wastes sent to shore for treatment or disposal) from the proposed activities that could cause impacts to prehistoric archaeological sites.

## **Vicinity of Offshore Location**

### **1. Essential Fish Habitat (EFH)**

IPFs that could cause impacts to EFH as a result of the proposed operations in Ewing Bank Block 873 include physical disturbances to the seafloor, effluents and accidents. EFH includes all estuarine and marine waters and substrates in the Gulf of Mexico.

**Physical disturbances to the seafloor:** 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 bottom disturbing activities (e.g., anchoring, structure emplacement and removal).

**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 activities (refer to **Item 5**, Water Quality). The activities proposed in this plan will be covered by EnVen's Regional OSRP (refer to information submitted in **Appendix I**).

There are no other IPFs (including emissions, or wastes sent to shore for treatment or disposal) from the proposed activities which could impact essential fish habitat.

## 2. Marine and Pelagic Birds

IPFs that could impact marine birds as a result of the proposed activities include air emissions, accidental oil spills, and discarded trash and debris from vessels and the facilities.

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

**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 activities (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 EnVen's Regional OSRP (refer to information submitted in **Appendix I**).

**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 and 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). EnVen will operate in accordance with the regulations 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. 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), "*Keep the Seas Free of Debris*" (previously "*Think About It*"). Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from EnVen management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE. EnVen will submit an annual training report to BSEE by January 31st. This report will describe the training process and be signed by a company official. Debris, if any, from these proposed activities will seldom interact with marine and pelagic birds; therefore, the effects will be negligible.

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

### **3. Public Health and Safety Due to Accidents.**

There are no IPFs (emissions, effluents, physical disturbances to the seafloor, wastes sent to shore for treatment or disposal or accidents, including an accidental H<sub>2</sub>S releases) from the proposed activities which could cause impacts to public health and safety. In accordance with NTL No.'s 2008-G04, 2009-G27, and 2009-G31, sufficient information is included in **Appendix D** to justify our request that our proposed activities be classified by BSEE as H<sub>2</sub>S absent.

## **Coastal and Onshore**

### **1. Beaches**

IPFs from the proposed activities that could cause impacts to beaches include accidents (oil spills) 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 (66.4 miles) and the response capabilities that would be implemented, no significant adverse impacts are expected. The activities proposed in this plan will be covered by EnVen's Regional OSRP (refer to information submitted in **Appendix I**).

**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 activities. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V and 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). EnVen will operate in accordance with the regulations 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.

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), "*Keep the Seas Free of Debris*" (previously "*Think About It*"). Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from EnVen management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE. EnVen will submit an annual training report to BSEE by January 31st. This report will describe the training process and be signed by a company official.

There are no other IPFs (emissions, effluents, physical disturbances to the seafloor, or wastes sent to shore for treatment or disposal) from the proposed activities which could impact beaches.

## **2. Wetlands**

IPFs from the proposed activities that could cause impacts to wetlands include accidents (oil spills) and discarded trash and debris.

**Accidents:** It is unlikely that an oil spill would occur from the proposed activities (refer to **Item 5, Water Quality**). Due to the distance from shore (66.4 miles) and the response capabilities that would be implemented, no impacts are expected. The activities proposed in this plan will be covered by EnVen's Regional OSRP (refer to information submitted in **Appendix I**).

**Discarded trash and debris:** There will only be a limited amount of marine debris, if any, resulting from the proposed activities. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V and 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). EnVen will operate in accordance with the regulations 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.

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), "*Keep the Seas Free of Debris*" (previously "*Think About It*"). Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from EnVen management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE. EnVen will submit an annual training report to BSEE by January 31st. This report will describe the training process and be signed by a company official.

There are no other IPFs (emissions, effluents, physical disturbances to the seafloor, or wastes sent to shore for treatment or disposal) from the proposed activities which could impact wetlands.



### 3. Shore Birds and Coastal Nesting Birds

**Accidents:** Oil spills could cause impacts to shore birds and coastal nesting birds. However, it is unlikely that an oil spill would occur from the proposed activities (refer to **Item 5**, Water Quality). Given the distance from shore (66.4 miles) and the response capabilities that would be implemented, no impacts are expected. The activities proposed in this plan will be covered by EnVen's Regional OSRP (refer to information submitted in **Appendix I**).

**Discarded trash and debris:** Coastal and marine 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 and 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). EnVen will operate in accordance with the regulations 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.

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), "*Keep the Seas Free of Debris*" (previously "*Think About It*"). Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from EnVen management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE. EnVen will submit an annual training report to BSEE by January 31st. This report will describe the training process and be signed by a company official.

There are no other IPFs (emissions, effluents, physical disturbances to the seafloor, or wastes sent to shore for treatment or disposal) from the proposed activities that could cause impacts to shore birds and coastal nesting birds.

### 4. Coastal Wildlife Refuges

**Accidents:** An accidental oil spill from the proposed activities could cause impacts to coastal wildlife refuges. However, it is unlikely that an oil spill would occur from the proposed activities (refer to Item 5, Water Quality). Due to the distance from shore (66.4 miles) and the response capabilities that would be implemented, no impacts are expected. The activities proposed in this plan will be covered by EnVen's Regional OSRP (refer to information submitted in **Appendix I**).

**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). EnVen will operate in accordance with the regulations 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.

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), *“Keep the Seas Free of Debris”* (previously *“Think About It”*). Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from EnVen management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE. EnVen will submit an annual training report to BSEE by January 31st. This report will describe the training process and be signed by a company official.

There are no other IPFs (emissions, effluents, physical disturbances to the seafloor, or wastes sent to shore for treatment or disposal) from the proposed activities that could cause impacts to coastal wildlife refuges.

## **5. Wilderness Areas**

**Accidents:** An accidental oil spill from the proposed activities could cause impacts to wilderness areas. However, it is unlikely that an oil spill would occur from the proposed activities (refer to **Item 5, Water Quality**). Due to the distance from the nearest designated Wilderness Area (110 miles) and the response capabilities that would be implemented, no significant adverse impacts are expected. The activities proposed in this plan will be covered by EnVen’s Regional OSRP (refer to information submitted in **Appendix I**).

**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). EnVen will operate in accordance with the regulations 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.

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), “*Keep the Seas Free of Debris*” (previously “*Think About It*”). Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from EnVen management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE. EnVen will submit an annual training report to BSEE by January 31st. This report will describe the training process and be signed by a company official.

There are no other IPFs (emissions, effluents, physical disturbances to the seafloor, or wastes sent to shore for treatment or disposal) from the proposed activities that could cause impacts to wilderness areas.

## **6. Other Environmental Resources Identified**

There are no other environmental resources identified for this impact assessment.

### **(C) IMPACTS ON PROPOSED ACTIVITIES**

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

### **(D) ENVIRONMENTAL HAZARDS**

During the hurricane season, June through November, the Gulf of Mexico 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 873 may experience hurricane and 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. Platform / Structure Installation

Operator will not conduct platform / structure installation operations during Tropical Storm or Hurricane threat.

3. Pipeline Installation

Operator will not conduct pipeline installation operations during Tropical Storm or Hurricane threat.

**(E) ALTERNATIVES**

No alternatives to the proposed activities 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 activities. Therefore, a list of such entities has not been provided.

**(H) PREPARER(S)**

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

- Hazard Surveys
- BOEM EIS's:
  - GOM Deepwater Operations and Activities. Environmental Assessment. MMS 2000-001
  - GOM Central and Western Planning Areas Sales 166 and 168 Final Environmental Impact Statement. MMS 96-0058.

<b>SECTION R</b> <b>ADMINISTRATIVE INFORMATION</b>
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**A. EXEMPTED INFORMATION DESCRIPTION**

Included in the proprietary copy and removed from the public copy of this DOCD are the proposed bottom-hole locations of the planned well, discussions of the target objectives, geologic and/or geophysical data, and any interpreted geology.

**B. BIBLIOGRAPHY**

Initial DOCD, Plan Control No. N-4522