UNITED STATES GOVERNMENT June 19, 2019
MEMORANDUM

To: Public Information
From: Plan Coordinator, OLP, Plans Section
(GM 235D)

Subject: Public Information copy of plan

Control #	-	R-06831
Type	-	Revised Development Operations Coordinations Document
Lease(s)	-	OCS-G17565 Block - 857 Alaminos Canyon Area OCS-G17570 Block - 900 Alaminos Canyon Area OCS-G17571 Block - 901 Alaminos Canyon Area OCS-G20870 Block - 856 Alaminos Canyon Area
Operator	-	Shell Offshore Inc.
Description	-	GB007 and GB008, GB001, GB002, GB003, GB004, GB005, GB006
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.

Michelle Griffitt Evans
Plan Coordinator

Site Type/Name	Botm Lse/Area/Blk	Surface Location	Surf Lse/Area/Blk
WELL/GB001	G17571/AC/901	408 FSL, 1581 FWL	G17565/AC/857
WELL/GB002	G17571/AC/901	297 FSL, 2102 FWL	G17565/AC/857
WELL/GB003	G17571/AC/901	369 FSL, 1948 FWL	G17565/AC/857
WELL/GB003	G17565/AC/857	369 FSL, 1948 FWL	G17565/AC/857
WELL/GB004	G17565/AC/857	447 FSL, 2037 FWL	G17565/AC/857
WELL/GB005	G17570/AC/900	394 FSL, 1770 FWL	G17565/AC/857
WELL/GB006	G20870/AC/856	315 FSL, 1655 FWL	G17565/AC/857
WELL/GB007	G17571/AC/901	340 FSL, 2122 FWL	G17565/AC/857
WELL/GB008	G17571/AC/901	255 FSL, 2055 FWL	G17565/AC/857

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Public Information Copy

April 2, 2019

Mrs. Michelle Picou, Section Chief
Bureau of Ocean Energy Management
1201 Elmwood Park Boulevard
New Orleans, LA 70123-2394

Attn: Plans Group GM 235D

SUBJECT: Revised Development Operations Coordination Document (DOCD)
OCS-G 17565, Block 857, Alaminos Canyon Area (AC)
OCS-G 17571, Block 901, Alaminos Canyon Area (AC)
Offshore, Texas

Dear Mrs. Picou:

Supplemental DOCD S-7701 was approved January 12, 2015. In compliance with 30 CFR 550.211 and NTLs 2008-G04, 2009-G27 and 2015-N01, giving DOCD Plan guidelines, Shell Offshore Inc. (Shell) requests your approval of this Revised DOCD for the Perdido Great White Subsea Development to move the surface location and BHL's for Well GB007 and GB008 (being drilled and completed under EP S-7917) to match the EP location (one drill and back-up well) and for the seafloor jumper installation associated with this well.

Attached are Sections 1, 2, 6, 7, 9 and 13 of the plan, all other information remains as previously approved. The attachments we desire to be exempted from disclosure under the Freedom of Information Act are marked "Proprietary" and excluded from the Public Information Copies of this submittal.

Should you require additional information, please contact me as detailed above.

Sincerely,

Sylvia A. Bellone

SHELL OFFSHORE INC.

REVISED DEVELOPMENT OPERATIONS COORDINATION DOCUMENT (DOCD)

For

OCS-G 17565, Block 857, Alaminos Canyon Area (AC)
OCS-G 17571, Block 901, Alaminos Canyon Area (AC)

PUBLIC INFORMATION COPY

APRIL 2019

PREPARED BY:

Tracy W. Albert
Sr. Regulatory Specialist

504.425.4652

tracy.albert@shell.com

REVISIONS TABLE:

SECTION 1: PLAN CONTENTS

A. DESCRIPTION, OBJECTIVES & SCHEDULE

Shell Offshore Inc. (Shell) is submitting this Revised Development Operations Coordination Document (DOCD/plan) from Plan S-7701, approved January 12, 2015 for the following Alaminos Canyon (AC) Leases:

OCS-G 17565, Block 857, Alaminos Canyon Area (AC)
OCS-G 17571, Block 901, Alaminos Canyon Area (AC)

Wells GB007 and GB008 were previous injector wells in SDOCD S-7701. Those wells were never drilled.

We are requesting to move the surface and bottom hole locations of wells GB007 and GB008 in SDOCD S-7701 to match the new producer wells GWE DD-Alt and GWE-DD-Alt 2 locations from approved Exploration Plan S-7917. This EP covered the drilling and completion of these wells. This RDOCD will move the SL and BHL of the primary well, GB007 (GWE DD-Alt) and back-up well GB008 (GWE DD-Alt2) to the drilling location approved in the EP, lay a new jumper and umbilical to the well(s) and commence production. No new drilling is associated with this Revision.

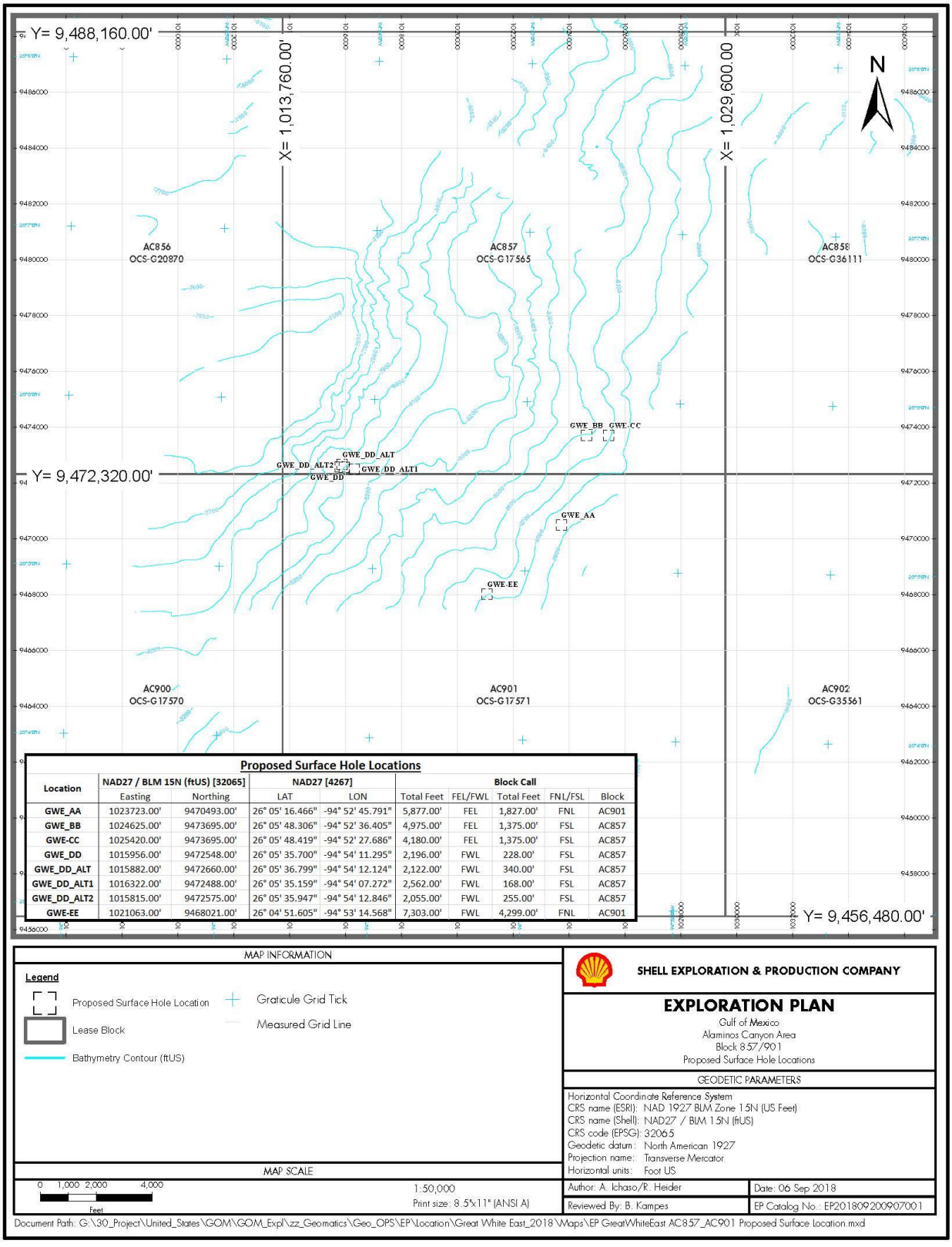
This plan also covers future well work for all of the GB wells (previously approved in plan R-6297).

The lease is 142 statute miles from the nearest shoreline, 354 statute miles from the onshore support base at Port Fourchon, Louisiana and 222 statute miles from the helicopter base at Galveston, Texas. Water depths at the well sites range from ~8,095' to ~8,869' (Attachment 1A).

B. LOCATION

See attached Subsea Layout (Attachment 1C).

Attachment 1A Bathymetry and Surface Locations – Approved in Plan S-7917
GWE DD-Alt and GWE DD-Alt2



Proposed Surface Hole Locations

Location	NAD27 / BLM 15N (ftUS) [32065]		NAD27 [4267]		Block Call				
	Easting	Northing	LAT	LON	Total Feet	FEL/FWL	Total Feet	FNL/FSL	Block
GWE_AA	1023723.00'	9470493.00'	26° 05' 16.466"	-94° 52' 45.791"	5,877.00'	FEL	1,827.00'	FNL	AC901
GWE_BB	1024625.00'	9473695.00'	26° 05' 48.306"	-94° 52' 36.405"	4,975.00'	FEL	1,375.00'	FSL	AC857
GWE-CC	1025420.00'	9473695.00'	26° 05' 48.419"	-94° 52' 27.686"	4,180.00'	FEL	1,375.00'	FSL	AC857
GWE_DD	1015956.00'	9472548.00'	26° 05' 35.700"	-94° 54' 11.295"	2,196.00'	FWL	228.00'	FSL	AC857
GWE_DD_ALT	1015882.00'	9472660.00'	26° 05' 36.799"	-94° 54' 12.124"	2,122.00'	FWL	340.00'	FSL	AC857
GWE_DD_ALT1	1016322.00'	9472488.00'	26° 05' 35.159"	-94° 54' 07.272"	2,562.00'	FWL	168.00'	FSL	AC857
GWE_DD_ALT2	1015815.00'	9472575.00'	26° 05' 35.947"	-94° 54' 12.846"	2,055.00'	FWL	255.00'	FSL	AC857
GWE-EE	1021063.00'	9468021.00'	26° 04' 51.605"	-94° 53' 14.568"	7,303.00'	FWL	4,299.00'	FNL	AC901

MAP INFORMATION

Legend

Proposed Surface Hole Location

Lease Block

Bathymetry Contour (ftUS)

Graticule Grid Tick

Measured Grid Line

MAP SCALE

0 1,000 2,000 4,000 Feet

1:50,000

Print size: 8.5"x11" (ANSI A)

SHELL EXPLORATION & PRODUCTION COMPANY

EXPLORATION PLAN

Gulf of Mexico
Alaminos Canyon Area
Block 857/901
Proposed Surface Hole Locations

GEODETIC PARAMETERS

Horizontal Coordinate Reference System
CRS name (ESRI): NAD 1927 BLM Zone 15N (US Feet)
CRS name (Shell): NAD27 / BLM 15N (ftUS)
CRS code (EPSG): 32065
Geodetic datum: North American 1927
Projection name: Transverse Mercator
Horizontal units: Foot US

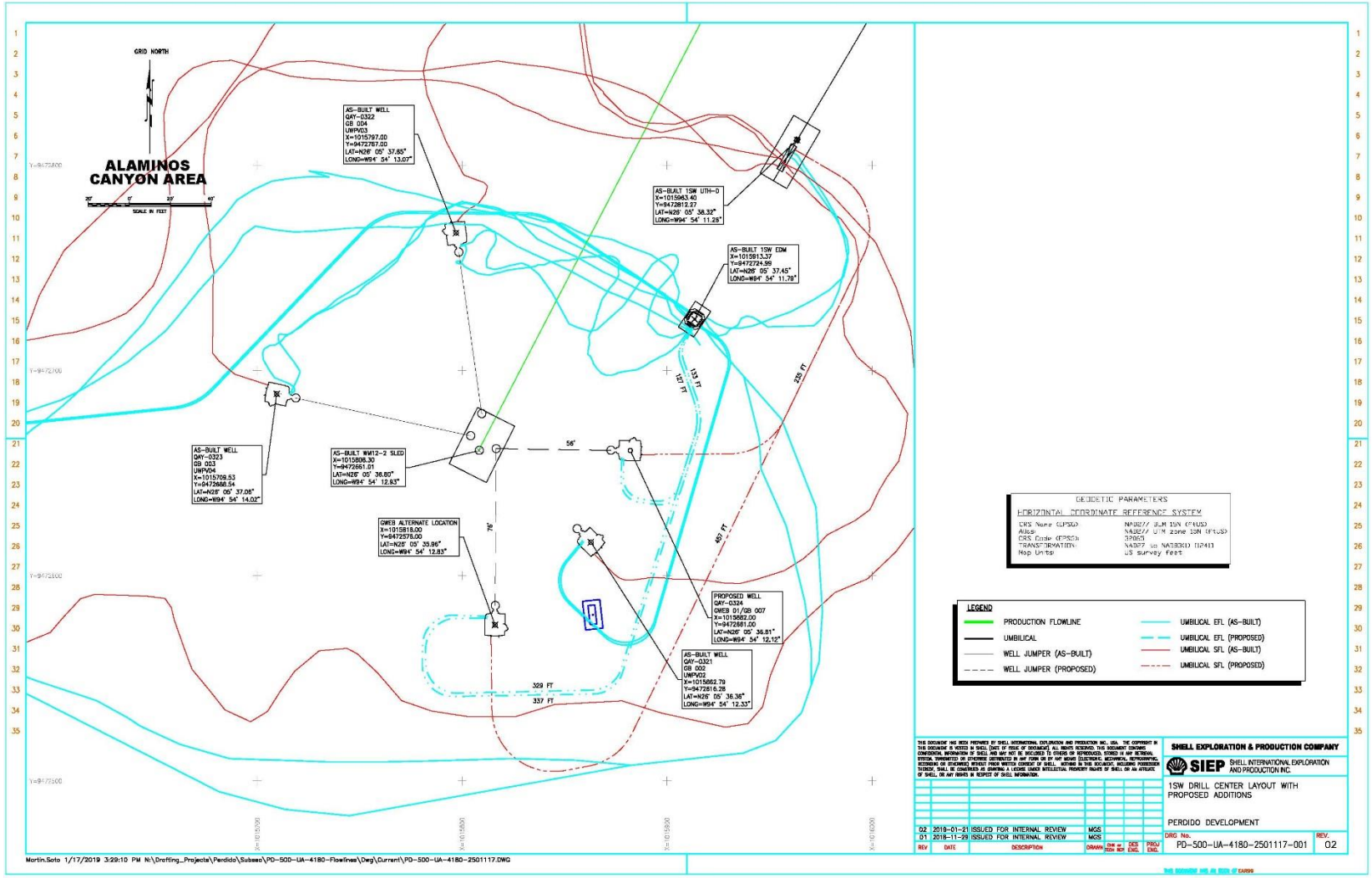
Author: A. Ichaso/R. Heider	Date: 06 Sep 2018
Reviewed By: B. Kampes	EP Catalog No.: EP201809200907001

Document Path: G:\30_Project\United_States\GOM\GOM_Expl\zz_Geomatics\Geo_OPS\EP\Location\Great White East_2018\Maps\EP GreatWhiteEast AC857_AC901 Proposed Surface Location.mxd

ATTACHMENT 1B - Approved in Plan S-7917
DD-Alt and DD-Alt2

Proprietary Data

ATTACHMENT 1C – Seafloor Layout
DD-Alt and DD-Alt2 (now called GB007 and GB008)



Attachment 1D

U.S. Department of the Interior
Bureau of Ocean Energy Management

OMB Control Number: 1010-0151
OMB Approval Expires: 12/31/14

OCS PLAN INFORMATION FORM General Information				
Type of OCS Plan:		Exploration Plan (EP)	Development Operations Coordination Document (DOCD)	X

Company Name: Shell Offshore Inc.	BOEM Operator Number: 0689
Address: 701 Poydras St., Room 2418	Contact Person: Tracy ALbert
New Orleans, LA 70131	Phone Number: 504.425.4652
	Email Address: tracy.albert@shell.com
If a service fee is required under 30 CFR 550.125(a) provide:	Amount Paid: NA / Receipt No.:

Project and Worst-Case Discharge (WCD) Information

Lease(s) OCS-G 17565, 17571			Area: AC				Block(s): 857, 901	Project Name: Great White East Block	
Objectives(s):	X	Oil		Gas		Sulphur		Salt	Onshore Support Base(s) Fourchon & Galveston

Platform/Well Name: D (GA14)	Total Volume of WCD: 129,000 BOPD	API Gravity: 34°
Distance to Closest Land (Miles): 56 (MC 812 WCD)	Volume from uncontrolled blowout: 53 MMBBL	

Have you previously provided information to verify the calculations and assumptions of your WCD?	X	Yes		No
If so, provide the Control Number of the EP or DOCD with which this information was provided	R-5144 (9/1/2011)			
Do you propose to use new or unusual technology to conduct your activities?		Yes	X	No
Do you propose to use a vessel with anchors to install or modify a structure?		Yes	X	No
Do you propose any facility that will serve as a host facility for Deepwater subsea development?		Yes	X	No

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

Proposed Activity	**Start Date**	**End Date**	**No. of Days**
Exploratory drilling			
Development drilling – future well work after wells are drilled			
Well completion			
Well test flaring (for more than 48 hours)			
Installation or modification of structure			
Installation of production facilities			
Installation of subsea wellheads and/or dry hole tree			
Installation of lease term pipelines			
Commence production	See attached		
Other (Specify and attach description) Jumpers/Umbilicals	See attached		

Description of Drilling Rig				**Description of Structure**			
	Jackup		Drillship		Caisson		Tension Leg Platform
	Gorilla Jackup		Platform rig		Fixed Platform		Compliant Tower
	Semisubmersible		Submersible		Spar Other		Guyed tower
	DP Submersible		Other (attached description)		Floating production system	X	Other (attached description) Subsea Facility
Drilling Rig Name (If known): NA							

Description of Lease Term Pipelines

From (Facility/Area/Block)	To (Facility/Area/Block)	Diameter (Inches)	Length (Feet)
AC 857	AC 901		
Flexible Jumper (4)	AC901 Sled	4″	~300′
Umbilical EFL's (6)	AC901	4″	~350′

Attachment 1D - Continued

Activity Schedule

Proposed Activities	Start date	End date	No. of Days
GB007:			
Jumpers/flying lead/umbilical installation	10/01/2019	10/21/2019	20
Commence production	10/22/2019		
GB008 (Back-up well to GB007):			
Jumpers/flying lead/umbilical installation	10/01/2020	10/21/2020	20
Commence production	10/22/2020		
Future well work:			
GB001 through GB008	2021	2045	175 days/year

Attachment 1E

Proposed Well/Structure Location												
Well or Structure Name/Number (if renaming well or structure, reference previous name): GB007 (GWE-DD Alt)					Previously reviewed under an approved EP or DOCD? S-7917			X	Yes		No	
Is this an existing well or structure?		Yes	X	No	If this is an existing well or structure, list the Complex ID or API Number:			NA				
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?								X	Yes		No	
WCD Info	For wells, volume of uncontrolled Blowouts (bbls/day): 129,000 BOPD				For structures, volume of all storage and pipelines (bbls): NA			API Gravity of fluid	34°			
	Surface Location				**Bottom Hole Location (for Wells)**			**Completion (for multiple enter separate lines)**				
Lease Number	OCS-G 17565				OCS-G 17571			OCS				
Area Name	AC				AC							
Block No.	857				901							
Blockline Departure (in feet)	N/S Departure: 340′ FSL							N/S Departure:				
	E/W Departure 2,122′ FWL							E/W Departure:				
Lambert X-Y Coord.	X: 1,015,882							X:				
	Y: 9,472,660							Y:				
Lat/Long	Latitude: 26º 05′ 36.799″							Latitude				
	Longitude: 94º 54′ 12.124″							Longitude				
Water Depth (Feet): 8,095′								MD (Feet)		TVD (Feet)		
Anchor Radius (if applicable) in feet:												

Anchor locations for drilling rig or construction barge (if anchor radius is 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=	

Attachment 1F

Proposed Well/Structure Location												
Well or Structure Name/Number (if renaming well or structure, reference previous name): GB008 (GWE-DD Alt2)					Previously reviewed under an approved EP or DOCD? S-7917			X	Yes		No	
Is this an existing well or structure?		Yes	X	No	If this is an existing well or structure, list the Complex ID or API Number:			NA				
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?								X	Yes		No	
WCD Info	For wells, volume of uncontrolled Blowouts (bbls/day): 129,000 BOPD				For structures, volume of all storage and pipelines (bbls): NA			API Gravity of fluid	34°			
	Surface Location				**Bottom Hole Location (for Wells)**			**Completion (for multiple enter separate lines)**				
Lease Number	OCS-G 17565				OCS-G 17571			OCS OCS				
Area Name	AC				AC							
Block No.	857				901							
Blockline Departure (in feet)	N/S Departure: 255′ FSL							N/S Departure: N/S Departure:				
	E/W Departure 2,055′ FWL							E/W Departure: E/W Departure:				
Lambert X-Y Coord.	X: 1,015,815							X:				
	Y: 9,472,575							Y:				
Lat/Long	Latitude: 26º 05′ 35.947″							Latitude				
	Longitude: 94º 54′ 12.846″							Longitude				
Water Depth (Feet): 8,095′								MD (Feet)		TVD (Feet		
Anchor Radius (if applicable) in feet:												

Anchor locations for drilling rig or construction barge (if anchor radius is 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=	

Attachment 1G

Proposed Well/Structure Location												
Well or Structure Name/Number (if renaming well or structure, reference previous name): GB001 (Future well work)					Previously reviewed under an approved EP or DOCD? R-6297			X	Yes		No	
Is this an existing well or structure?	X	Yes		No	If this is an existing well or structure, list the Complex ID or API Number:			608054006700				
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?								X	Yes		No	

WCD Info	For wells, volume of uncontrolled Blowouts (bbls/day): 129,000 BOPD	For structures, volume of all storage and pipelines (bbls): NA	API Gravity of fluid	34°
	Surface Location	**Bottom Hole Location (for Wells)**	**Completion (for multiple enter separate lines)**	
Lease Number	OCS-G 17565	OCS-G 17571	OCS OCS	
Area Name	AC	AC		
Block No.	857	901		
Blockline Departure (in feet)	N/S Departure: 408′ FSL		N/S Departure: N/S Departure:	
	E/W Departure 1,581′ FWL		E/W Departure: E/W Departure:	
Lambert X-Y Coord.	X: 1,015,341		X:	
	Y: 9,472,727		Y:	
Lat/Long	Latitude: 26.093721		Latitude	
	Longitude: 94.905019		Longitude	
Water Depth (Feet): 8,021′			MD (Feet)	TVD (Feet
Anchor Radius (if applicable) in feet:				

Anchor locations for drilling rig or construction barge (if anchor radius is 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=	

Attachment 1H

Proposed Well/Structure Location												
Well or Structure Name/Number (if renaming well or structure, reference previous name): GB002 (Future well work)					Previously reviewed under an approved EP or DOCD? R-6297			X	Yes		No	
Is this an existing well or structure?	X	Yes		No	If this is an existing well or structure, list the Complex ID or API Number:			608054006402				
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?								X	Yes		No	

WCD Info	For wells, volume of uncontrolled Blowouts (bbls/day): 129,000 BOPD	For structures, volume of all storage and pipelines (bbls): NA	API Gravity of fluid	34°

	Surface Location	**Bottom Hole Location (for Wells)**	**Completion (for multiple enter separate lines)**
Lease Number	OCS-G 17565	OCS-G 17571	OCS OCS
Area Name	AC	AC	
Block No.	857	901	
Blockline Departure (in feet)	N/S Departure: 297' FSL		N/S Departure: N/S Departure:
	E/W Departure 2,102' FWL		E/W Departure: E/W Departure:
Lambert X-Y Coord.	X: 1,015,863		X:
	Y: 9,472,616		Y:
Lat/Long	Latitude: 26.093435		Latitude
	Longitude: 94.903427		Longitude

Water Depth (Feet): 8,076'			MD (Feet)	TVD (Feet

Anchor Radius (if applicable) in feet:

Anchor locations for drilling rig or construction barge (if anchor radius is 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=	

Attachment 1I

Proposed Well/Structure Location												
Well or Structure Name/Number (if renaming well or structure, reference previous name): GB003 (Future well work)					Previously reviewed under an approved EP or DOCD? R-6297			X	Yes		No	
Is this an existing well or structure?	X	Yes		No	If this is an existing well or structure, list the Complex ID or API Number:			608054006500				
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?								X	Yes		No	

WCD Info	For wells, volume of uncontrolled Blowouts (bbls/day): 129,000 BOPD	For structures, volume of all storage and pipelines (bbls): NA	API Gravity of fluid	34°
	Surface Location	**Bottom Hole Location (for Wells)**	**Completion (for multiple enter separate lines)**	
Lease Number	OCS-G 17565	OCS-G 17565	OCS OCS	
Area Name Block No.	AC 857	AC 857		
Blockline Departure (in feet)	N/S Departure: 369' FSL E/W Departure 1,948' FWL		N/S Departure: N/S Departure: E/W Departure: E/W Departure:	
Lambert X-Y Coord.	X: 1,015,708 Y: 9,472,689		X: Y:	
Lat/Long	Latitude: 26.093627 Longitude: 94.903898		Latitude Longitude	
Water Depth (Feet): 8,062'			MD (Feet)	TVD (Feet
Anchor Radius (if applicable) in feet:				

Anchor locations for drilling rig or construction barge (if anchor radius is 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=	

Attachment 1J

Proposed Well/Structure Location												
Well or Structure Name/Number (if renaming well or structure, reference previous name): GB004 (Future well work)					Previously reviewed under an approved EP or DOCD? R-6297			X	Yes		No	
Is this an existing well or structure?	X	Yes		No	If this is an existing well or structure, list the Complex ID or API Number:			608054006600				
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?								X	Yes		No	

WCD Info	For wells, volume of uncontrolled Blowouts (bbls/day): 129,000 BOPD	For structures, volume of all storage and pipelines (bbls): NA	API Gravity of fluid	34°
	Surface Location	**Bottom Hole Location (for Wells)**	**Completion (for multiple enter separate lines)**	
Lease Number	OCS-G 17565	OCS-G 17565	OCS OCS	
Area Name Block No.	AC 857	AC 857		
Blockline Departure (in feet)	N/S Departure: 447' FSL E/W Departure 2,037' FWL		N/S Departure: N/S Departure: E/W Departure: E/W Departure:	
Lambert X-Y Coord.	X: 1,015,797 Y: 9,472,767		X: Y:	
Lat/Long	Latitude: 26.093848 Longitude: 94.903631		Latitude Longitude	
Water Depth (Feet): 8,062'			MD (Feet)	TVD (Feet
Anchor Radius (if applicable) in feet:				

Anchor locations for drilling rig or construction barge (if anchor radius is 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=	

Attachment 1K

Proposed Well/Structure Location												
Well or Structure Name/Number (if renaming well or structure, reference previous name): GB005 (Future well work)					Previously reviewed under an approved EP or DOCD? R-6297			X	Yes		No	
Is this an existing well or structure?	X	Yes		No	If this is an existing well or structure, list the Complex ID or API Number:			608054007400				
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?								X	Yes		No	

WCD Info	For wells, volume of uncontrolled Blowouts (bbls/day): 129,000 BOPD	For structures, volume of all storage and pipelines (bbls): NA	API Gravity of fluid	34°

	Surface Location	**Bottom Hole Location (for Wells)**	**Completion (for multiple enter separate lines)**
Lease Number	OCS-G 17565	OCS-G 17570	OCS OCS
Area Name	AC	AC	
Block No.	857	900	
Blockline Departure (in feet)	N/S Departure: 394′ FSL		N/S Departure: N/S Departure:
	E/W Departure 1,770′ FWL		E/W Departure: E/W Departure:
Lambert X-Y Coord.	X: 1,015,529		X:
	Y: 9,472,714		Y:
Lat/Long	Latitude: 26.09369		Latitude
	Longitude: 94.904443		Longitude

Water Depth (Feet): 8,039′			MD (Feet)	TVD (Feet

Anchor Radius (if applicable) in feet:

Anchor locations for drilling rig or construction barge (if anchor radius is 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=	

Attachment 1L

Proposed Well/Structure Location												
Well or Structure Name/Number (if renaming well or structure, reference previous name): GB006 (Future well work)					Previously reviewed under an approved EP or DOCD? R-6297		X	Yes		No		
Is this an existing well or structure?	X	Yes		No	If this is an existing well or structure, list the Complex ID or API Number:		608054007500					
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?						X	Yes		No			

WCD Info	For wells, volume of uncontrolled Blowouts (bbls/day): 129,000 BOPD	For structures, volume of all storage and pipelines (bbls): NA	API Gravity of fluid	34°
	Surface Location	**Bottom Hole Location (for Wells)**	**Completion (for multiple enter separate lines)**	
Lease Number	OCS-G 17565	OCS-G 20870	OCS OCS	
Area Name	AC	AC		
Block No.	857	856		
Blockline Departure (in feet)	N/S Departure: 315′ FSL		N/S Departure: N/S Departure:	
	E/W Departure 1,655′ FWL		E/W Departure: E/W Departure:	
Lambert X-Y Coord.	X: 1,015,415		X:	
	Y: 9,472,635		Y:	
Lat/Long	Latitude: 26 05′ 34.482″		Latitude	
	Longitude: 94 54′ 17.244″		Longitude	
Water Depth (Feet): 8,037′			MD (Feet)	TVD (Feet
Anchor Radius (if applicable) in feet:				

Anchor locations for drilling rig or construction barge (if anchor radius is 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=	

SECTION 2: GENERAL INFORMATION

A. Application and Permits

There are no individual or site-specific permits other than general NPDES Permit, APD, flowline permit, and rig move notification that need to be obtained.

B. Drilling Fluids

See Section 7 for a list of fluids to be used for future wellwork.

C. Production

	Average Production Rate	Peak Production Rate	Life of Reservoir
Oil	Proprietary data		
Gas			

D. Oil Characteristics

Provide the estimated chemical and physical characteristics of the oils that will be handled, stored, or transported on/by the facility.

Characteristic	Analytical Methodologies Should Be Compatible With:
1. Gravity (API) 36 (Flash Measurement)	**ASTM D4052**
2. Flash Point (ºC)	**ASTM D93/IP 34**
3. Pour Point (ºC) -20 deg C	**ASTM D97**
4. Viscosity (Centipoise at 25 ˚C) 0.36	**ASTM D445**
5. Wax Content (wt %)	**Precipitate with 2-butanon/dichloromethane (1 to 1 volume) at -10 ˚C**
6. Asphaltene Content (wt %)	**IP-Method 143/84**
7. Resin Content (wt %)	**Jokuty et al., 1996**
8. Boiling point distribution including, for each fraction, the percent volume or weight and the boiling point range in ˚C	**ASTM D2892 (TBP distillation) or ASTM D2887/5307**
9. Sulphur (wt %) 1.24	**ASTM D4294**

Note: If the distillation information in Item No. 8 in the above table is not available, the GOMR may accept the following information in lieu of Items Nos. 5, 6, 7, and 8: weight percent total of saturates, aromatics, waxes, asphaltenes, and resins; and total BTEX (ppm) using analytical methods compatible with the Hydrocarbon Groups methodology found in Jokuty et al., 1996.

All in wt% Topped Basis

SARA (Topped Basis) All in wt %				
Well #	Saturates	Aromatics	Resin	Asphaltenes
OCS-G-17565 AC857 #1	49.1	43.2	7.6	0.15
OCS-G-17565 AC857 #1 BP1	50.2	41.7	8.0	0.13

Oil from one well	Oil from more than one well sampled on a facility	Oil from a pipeline system
·Area/Block-**SeeTable Below** ·BSEE platform ·API Well No. ·Completion perforation interval ·Reservoir name ·Sample date ·Sample No.(if more than one is taken)	·Area/Block ·Platform ID ·Field/Unit ·Sample date ·Sample No. (if more than one is taken) ·Listing of API Well Nos. ·Storage tank ID No. (if sampled at a storage tank)	·Pipeline segment number ·For each pipeline that feeds into the system, the ID codes for the closest upstream LACT units and/or facility measurement points ·Storage tank ID No. (if sampled at a storage tank)

Sample Detail:

Area/Block	AC857	AC857	AC813	AC813	AC813	AC857
MMS platform	OCS-G-17565#1	OCS-G-17565#1BP#1	OCS-G-17561#1	OCS-G-17561#1	OCS-G-17561#1	OCS-G-17655 #3 & #3ST1
API Well No.	608054001800	608054001801	608054002200	608054002200	608054002200	608054002300
Completion perforation	13834.9 ft MD	13855 ft MD	14899 ft MD	14926.1 ft MD	14952.1 ft MD	14450 ft MD
MMS's reservoir name	WM12	WM12	WM12 (Upper)	WM12 (Middle)	WM12 (Lower)	WM12
Sample date	13-Apr-02	23-Apr-02	5-15-Dec-2002	5-15-Dec-2002	5-15-Dec-2002	1-Nov-03
Sample No.(if more than one is taken)	NG-O-3661A	NG-O-3672A	NG-O-4184	NG-O-4188	NG-O-4201	NG-O-4526A

E. New Or Unusual Technology

Shell is not proposing to use new or unusual technology as defined in 30 CFR 250.200 to carry out the proposed activities in this SDOCD.

F. Bonding

The bond requirement for the activities proposed in this SDOCD are satisfied by an area-wide bond furnished and maintained according to 30 CFR Part 556.901, Subpart I-Bonding; NTL No. 2015-N04, "General Financial Assurance" and additional security under NTL No. 2016-BOEM-N01, "Additional Security."

G. Oil Spill Financial Responsibility (OSFR)

Shell Offshore Inc. (Shell), BOEM Operator Number 0689, has demonstrated oil spill financial responsibility for the activites proposed in this plan according to 30 CFR Parts 250 and 253, and NTL No. 2008-N05, "Guidelines for Oil Spill Financial Responsibility for Covered Facilities."

H. Deepwater well control statement

Shell Offshore Inc. (Shell), BOEM Operator Number 0689, has the financial capability to drill a relief well and conduct other emergency well control operations.

I. Suspension of Production

The operations proposed in this SDOCD are not under a Suspension of Production.

J. Blowout scenario

The blowout scenario for this area was provided by Shell and accepted by BOEM in plan R-5144 on September 1, 2011 for the Alaminos Canyon Block 857 Unit (Great White Field). There is no drilling in this plan; just future well work.

SECTION 6: Biological, Physical and Socioeconomic Information

A. Chemosynthetic Communities Report

ARCHAEOLOGICAL CLEARANCE AND CHEMOSYNTHETIC ORGANISMS COMMENTS

Shallow Hazards and Archaeological Assessment - Proposed Jumper, Umbilical and Flying Leads
Blocks 857 (OCS-G-17565), Alaminos Canyon Area, Gulf of Mexico

Shell Offshore Inc. (Shell) is submitting a revised DOCD for Alaminos Canyon Block 857 (AC 857) for the addition of new seafloor equipment to continue its development. The SDOCD will add a jumper, umbilical and flying leads in the area of existing infrastructure previously approved in DOCD Plan No. N-9087, R-05144, and RDOCD Plan No. R-06668. The new well, GWE-DD-A (GB-007) being tied in was approved in SEP Plan No. S-7917. The alternate well location, GWE-DD-A2 (GB-008) was also approved in SEP Plan No. S-2917. This letter addresses specific seafloor conditions within the area of installation.

The installation site falls within 250 ft. of the previously approved well GWE-DD-A (GB-007), SEP Plan No. S-7917. The assessment below addresses the seafloor conditions around the proposed jumper, umbilical and flying leads and a 1000 ft. radius around the installation site.

Seafloor conditions appear favorable within the vicinity of the proposed equipment installation. There are no potential sites for deepwater high-density benthic communities within 1,000 ft installation location and no sonar targets of archaeological significance were identified in the vicinity.

Geohazard and Archaeological Assessments.
The following geohazard discussions are based on the findings provided within the following geohazard reports:

- Shallow Hazards Assessment, Multi-Temporal Subsidence Monitoring, & Archaeological Assessment Perdido Field Block 857 & Vicinity Alaminos Canyon Area Gulf of Mexico Report No. 2414-5056 July 2015 Fugro Geoservices Inc. Previously submitted.
- Hazards and Subsidence Monitoring Report Perdido AUV Survey Portions of Blocks 812-816, 856-80, and 900-902 Alaminos Canyon Area. June 28, 2018 Oceaneering, Project No. 182843. Previously submitted.

Available Data
This assessment is based on the analysis of: a) high-resolution geophysical datasets b) reprocessed exploration 3D seismic data volume and; c) offset well data including logs and drilling events.

Oil Field Infrastructure and Military Warning Areas
The wellsite area is within Military Warning Area W-602. There are multiple existing wells and infrastructure in the area, including: AC857-4 appraisal well (permanently abandoned), the GD001-GD003 development wells, and the GB001-GB006 development wells.

Proposed Sled, Jumper, Umbilical and Flying Leads, Alaminos Canyon 857 (OCS-G-17565)

Shell proposes to install a 56 foot Well Jumper from installed Sled WM12-2 to proposed well GWE-DD-A (GB-007). Shell proposes to install one 235 ft umbilical SFL from Proposed well GWE-DD-A(GB-007) to 1SW UTH-D. See Table A-1 for coordinate information.

Shell also proposes to install two Umbilical EFL's from Proposed well GWE-DD-A(GB-007) to 1SW EDM. One at a length of 127 ft. and one at a length of 133 ft. See Table A-1 for coordinate information.

Shell proposes to install one 76 ft. jumper from GWE-DD-A2(GB-008) to WM12-2 sled. Shell proposes to install two umbilical EFL's from GWE-DD-A2(GB-008) to 1SW EDM at lengths of 329 ft. and 337 ft. Shell proposes to install one umbilical SFL from GWE-DD-A2(GB-008) to 1SW UTH-D at a length of 457 ft. See Table A-1 for coordinate information.

Proposed Installation Location
The location of the installation area is in the southwestern corner of block AC 857. Table A-1 proposed and as-built location coordinates:

Table A-1. Location Coordinates of Proposed / AS-BUILT Equipment

Equipment	Spheroid & Datum: Clarke 1866 NAD27 Projection: BLM Zone 15 North	
Well GB-007(GWE-DD-A) (Proposed)	X: 1015882 ft.	Y: 9472661 ft.
WM12-2 Sled (AS-BUILT)	X: 1015808.30 ft.	Y: 9472661.01 ft.
UTH-D 1SW (AS-BUILT)	X: 1015963.40 ft.	Y: 9472812.27 ft.
EDM 1SW (AS-BUILT)	X: 1015913.37 ft.	Y: 9472724.99 ft.
GB002 Well (AS-BUILT)	X: 1015862.79ft.	Y: 9472616.28 ft.
Well GB-008 (GWEB-DD-A2) (Proposed)	X: 1015816 ft.	Y: 9472576 ft.

Our assessment addresses the seafloor conditions within a 1,000-ft radius around the proposed area of impact. Figure-1, Figure-1a.

Installation Site Conditions
The installation site is located along the Perdido Escarpment south of the Perdido Canyon and is characterized by complex seafloor morphology from regional tectonics. Slopes are variable and can exceed 20° along the seafloor escarpments and Perdido Canyon. Erosional gullies were identified within 500 ft. of the proposed installation site but not within 250 ft. of the site.

Man-Made Features
Infrastructure consisting of previously drilled wells are within 1000 ft. of the subsea installation and will be considered during installation activities There are six transponder frames within 1000 ft. of the proposed installation site and four pipelines.

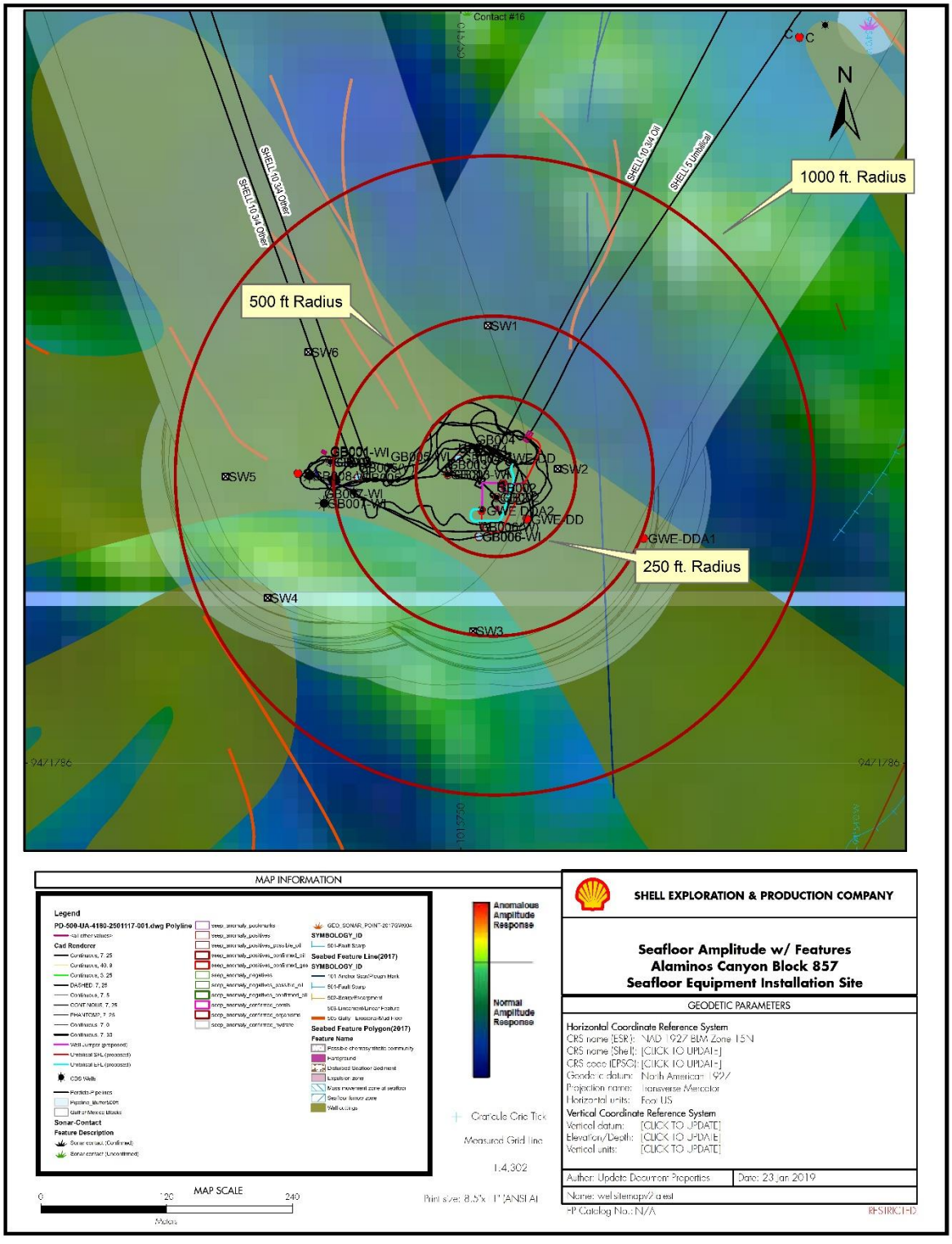
Water Depth and Seafloor Conditions. The water depth at the proposed installation site ranges from approximately -7920 ft to -8180 ft and the seafloor slopes approximately 6° to the east. The area of installation is in close proximity to existing Southwest cluster infrastructure. There is a seafloor escarpment to the North West of the planned installation site. Figure-2, Figure-2a.

Deepwater Benthic Communities. Deepwater high density benthic communities are not expected at the proposed installation site. There are no features or areas that could or have been observed to support significant, high-density, benthic communities within 1,000 ft of the proposed seafloor equipment. There are no water bottom anomalies (positive possible oil) as defined by BOEM (BOEM, 2019) within 1,000 ft. of the proposed installation site. See Figure-1 and Figure 1-a.

Archaeological Assessment. The archaeological assessments of side-scan sonar covering AC 857 and the surrounding area resulted in no sonar contacts being identified within 1000 ft. of the proposed installation site. There are no sonar contacts of archaeological significance within 1000 ft. of proposed installation site. Figure 1.

Proposed Seafloor Equipment Installation: Concluding Remarks
The Proposed Seafloor Equipment, Alaminos Canyon 857 (OCS-G-17571), appears suitable for development drilling operations. No seafloor obstructions or conditions exist that will be a constraint to equipment at the proposed location.

Attachment 6A



SECTION 7: WASTE AND DISCHARGE INFORMATION

A. Projected Ocean Discharges

Note: Please specify if the amount reported is a total or per well amount

Projected generated waste			Projected ocean discharges		Projected Downhole Disposal
Type of Waste and Composition	**Composition**	**Projected Amount**	**Discharge rate**	**Discharge Method**	**Answer yes or no**
Will drilling occur ? If yes, you should list muds and cuttings					
EXAMPLE: Cuttings wetted with ynthetic based fluid	*Cuttings generated while using synthetic based drilling fluid.*	*X bbl/well*	*X bbl/day/well*	*discharge pipe*	*No*
Water-based drilling fluid	barite, additives, mud	85000 bbls/well	17000 bbls/day	marine riser installation	No
Cuttings wetted with water-based fluid	Cuttings coated with water based drilling mud	11520 bbls/well	768 bbls/day	Seafloor prior to marine riser installation	No
Cuttings wetted with synthetic-based fluid	Cuttings generated while using synthetic based drilling fluid.	22495 bbls/well	409 bbls/day	Overboard discharge line below the water level	No
Synthetic based drilling fluid adhering to washed drill cuttings	Synthetic based drilling fluid adhering to washed drill cuttings	385 bbls/well	7 bbls/day	Overboard discharge line below the water level	No
Spent drilling fluids - synthetic	Synthetic-based drilling mud	0 bbls / well	0 bbls/day	Overboard discharge line below the water level	No
Spent drilling fluids - water based	Synthetic-based drilling mud	0 bbls / well	0 bbls/day	Overboard discharge line below the water level	No
Chemical product waste	Chemical product waste	0 bbls / well	0 bbls/day	Treated to meet NPDES limits and discharged overboard	No
Brine	brine	N/A	N/A	N/A	No
Will humans be there? If yes, expect conventional waste					
EXAMPLE: Sanitary waste water		*X liter/person/day*	*NA*	*chlorinate and discharge*	*No*
Domestic waste (kitchen water, shower water)	grey water	35000 bbls/well	200 bbls/day/well	Ground to less than 25 mm mesh size and discharge overboard	No
Sanitary waste (toilet water)	treated sanitary waste	26250 bbls/well	150 bbls/day/well	Treated in the MSD** prior to discharge to meet NPDES limits	No
Is there a deck? If yes, there will be Deck Drainage					
Deck Drainage	Wash and rainwater	3500 bbls/well	20 bbls/day	Drained overboard through deck scuppers	No
Will you conduct well treatment, completion, or workover?					
well treatment fluids	Linear Frac Gel Flush Fluids, Crosslinked Frac Fluids carrying ceramic proppant and acidic breaker fluid	750 bbls/well	10 bbls/day	Overboard discharge line below the water level if oil and greese free and meets LC50 requirements.	No
well completion fluids	Completion brine contaminated with WBDM and displacement spacers	1125 bbls/well	15 bbls/day	Overboard discharge line below the water level if oil and greese free and meets LC50 requirements.	No
workover fluids	Linear Frac Gel Flush Fluids, Crosslinked Frac Fluids carrying ceramic proppant, spacers, flushes, and acidic breaker fluid	1125 bbls/well	15 bbls/day	NA	No
Miscellaneous discharges. If yes, only fill in those associated with your activity.					
Desalinization unit discharge	Rejected water from watermaker unit	70000 bbls/well	400 bbls/day/well	RO Desalinization Unit Discharge Line below waterline	No
Blowout preventer fluid	Water based	35 bbls/well	0 bbls/day	Discharge Line @ Subsea BOP @ seafloor	No
Ballast water	Uncontaminated seawater	573300 bbls/well	3276 bbls/day	Discharge line overboard just above water line	No
Bilge water	Bilge and drainage water will be treated to MARPOL standards (< 15ppm oil in water).	270025 bbls/well	1543 bbls/day	Bilge and drainage water will be treated to MARPOL standards (< 15ppm oil in water).	No
Excess cement at seafloor	Cement slurry	20000 bbls/well (assume planned 100% excess is discharged)	200 bbls/day	Discharged at seafloor.	No
Fire water	Treated seawater	11666 bbls/well	2000 bbls/month	Discharged below waterline	No
Cooling water	Treated seawater	79860025 bbls/well	456343 bbls/day/well	Discharged below waterline	No
Untreated or treated seawater	Treated Seawater	2300 bbls / flowline	300 gpm	Discharged at seafloor.	No
Hydrate Inhibitor	Hydrate Inhibitor	20 bbl glycol plug / flowline 15 bbl methanol / well	300 gpm	Discharged at seafloor.	No
Sub sea Production Control Fluid	Water-based	72 bbls/year	72 bbls/year	Discharged at seafloor.	No
Will you produce hydrocarbons? If yes fill in for produced water.					
Produced water	NA	NA	NA	NA	
Will you be covered by an individual or general NPDES permit ?			GENERAL PERMIT	GMG290103	
NOTE: If you will not have a type of waste, enter NA in the row.					

B. Projected Generated Wastes

Note: Please specify whether the amount reported is a total or per well					
Projected generated waste		**Solid and Liquid Wastes transportation**	**Waste Disposal**		
Type of Waste	**Composition**	**Transport Method**	**Name/Location of Facility**	**Amount**	**Disposal Method**
Will drilling occur ? If yes, fill in the muds and cuttings.					
EXAMPLE: Oil-based drilling fluid or mud	*NA*	*NA*	*NA*	*NA*	*NA*
Oil-based drilling fluid or mud	NA	NA	NA	NA	NA
Synthetic-based drilling fluid or mud	used SBF and additives	Drums/tanks on supply boat/barges	Halliburton Drilling Fluids, MiSwaco, Newpark Drilling Fluids - Fourchon, LA; Ecoserv (Fourchon, La.), or R360 Environmental Solutions (Fourchon, La.),	6,500 bbls/well	Recycled/Reconditioned ; Deep Well Injection
Cuttings wetted with Water-based fluid	NA	NA	NA	NA	NA
Cuttings wetted with Synthetic-based fluid	Drill cuttings from synthetic based interval.	storage tank on supply boat.	Ecoserv (Fourchon, La.), or R360 Environmental Solutions (Fourchon, La.),	300 bbls / well	Deep Well Injection, or landfarm
Cuttings wetted with oil-based fluids	NA	NA	NA	NA	NA
Completion Fluids	Completion and treatment fluids	Storage tank on supply boat	Halliburton, Baker Hughes, Superior, or Tetra - Fourchon, LA; Ecoserv (Fourchon, La.), or R360 Environmental Solutions (Fourchon, La.),	4,000 bbls/well	Recycled/Reconditioned ; Deep Well Injection
Salvage Hydrocarbons	Well completion fluids, formation water, formation solids, and hydrocarbon	Barge or vessel tank	PSC Industrial Outsourcing, Inc. (Jeanereette, LA)	<8000 bbl./well	Recycled or Injection
Will you produce hydrocarbons? If yes fill in for produced sand.					
Produced sand	NA	NA	NA	NA	NA
Will you have additional wastes that are not permitted for discharge? If yes, fill in the appropriate rows.					
EXAMPLE: trash and debris	*cardboard, aluminum,*	*barged in a storage bin*	*shorebase*	*z tons total*	*recycle*
Trash and debris - recyclables	trash and debris	various storage containers on supply boat	Omega Waste Managment, W. Patterson, LA; Lamp Environmental, Hammond, LA	200 lbs/month	Recycle
Trash and debris - non-recyclables	trash and debris	various storage containers on supply boat	Republic/BFI landfill, Sorrento, LA or the parish landfill, Avondale, LA	400 lbs/month	Landfill
E&P Wastes	Completion and treatment wastes	various storage containers on supply boat	Ecoserv (Fourchon, La.), or R360 Environmental Solutions (Fourchon, La.),	200 bbls / well	Deep Well Injection, or landfarm
Used oil and glycol	used oil, oily rags and pads, empty drums and cooking oil	various storage containers on supply boat	Omega Waste Managment, W. Patterson, LA	20 bbls/month	Recycle
Non-Hazardous Waste	paints, solvents, chemicals, completion and treatment fluids	various storage containers on supply boat	Republic/BFI landfill, Sorrento, LA Lamp Environmental, Hammond, LA	60 bbls/mo	Incineration or RCRA Subtitle C landfill
Non-Hazardous Oilfield Waste	Chemicals, completion and treatment fluids	various storage containers on supply boat	Ecoserv (Port Arthur, TX)	60 bbls/mo	Deep Well Injected
Hazardous Waste	paints, solvents, chemicals, completion and treatment fluids	various storage containers on supply boat	Omega Waste Managment, W. Patterson, LA; Lamp Environmental, Hammond, LA	60 bbls/mo	Recycle, treatment, incineration, or landfill
Universal Waste Items	Batteries, lamps, glass and mercury-contaminated waste	various storage containers on supply boat	Lamp Environmental, Independence, LA	50 bbls/mo	Recycle, treatment, incineration, or landfill
NOTE: If you will not have a type of waste, enter NA in the row.					

C. Modeling Report

The proposed activities under this plan do not meet the U.S. Environmental Protection Agency requirements for an individual NPDES permit. Therefore, modeling report requirements per NTL No. 2008-G04 is not applicable to this EP.

SECTION 8: AIR EMISSIONS INFORMATION

A. Emissions Worksheet and Screening Questions

Screening Questions for DOCD's	Yes	No
Is any calculated Complex Total (CT) Emission amount (in tons) associated with your proposed development and production 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_2S at concentrations greater than 20 parts per million (ppm)?		X
Do you propose to flare or vent natural gas in excess of the criteria set forth 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 from shore?		X
Are your proposed development and production activities located within 200 kilometers of the Breton Wilderness Area?		X

***Note: The following AQR is using fuel limitations and Shell will perform fuel monitoring for this project.**

B. If you answer *no* to <u>all</u> of the above screening questions from the appropriate table, provide:

(1) Summary information regarding the peak year emissions for both Plan Emissions and Complex Total Emissions, if applicable. This information is compiled on the summary form of the two sets of worksheets. You can submit either these summary forms or use the format below. You do not need to include the entire set of worksheets.

Note: There are no collocated wells, activities or facilitates associated with this plan. The complex total is the same as Plan Emissions.

Air Pollutant		Plan Emission Amounts (tons)	Calculated Exemption Amounts (tons)		Calculated Complex Total Emission Amounts (tons)
PM					
SO_x					
NOx					
VOC					
CO					

(1) Contact: Josh O'Brien, (504) 425-9097, Joshua.E.OBrien@shell.com

C. Worksheets

See attached. The schedule in Form BOEM-0137 will not match the days presented in the AQR, as the AQR contains extra days for contingency delays.

Note: The air emissions in this plan were previously approved in Plan R-06297 on June 1, 2015 and do change by the operations proposed in this revised plan.

The Perdido host emissions do not increase or change as a result of the operations proposed in this plan. These emissions were approved in Plan R-06665.

D. Emissions Reduction Measures

Emission Source	Reduction Control Method	Amount of Reduction	Monitoring System
N/A			

COMPANY	Shell Offshore Inc
AREA	Alaminos Canyon
BLOCK	856, 857 (SL), and 900
LEASE	OCS-G 20870, OCS-G 17565, OCS-G 17570
PLATFORM	MODU (Semi-sub or Drillship)
WELL	GB007, GB008 and GB001 through GB006 as workovers.
DISTANCE TO LAND	141
COMPANY CONTACT	Josh O'Brien
TELEPHONE NO.	(504) 425-9097
REMARKS	Great White-GB DC-DOCD-AQR-DPMODU-2019327-BOEM.xlsx Emissions previously approved in plan R-06297

LEASE TERM PIPELINE CONSTRUCTION INFORMATION:		
YEAR	NUMBER OF PIPELINES	TOTAL NUMBER OF CONSTRUCTION DAYS
2019	1	15
2020	1	15
2021		
2022		
2023		
2024		
2025		
2026		
2027		
2028		
2029		

Note: The schedule in Form BOEM-0137 will not match the days presented in the AQR, as the AQR contains extra days for contingency delays.

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	Notes
NG Turbines	gms/hp-hr		0.00247	1.3	0.01	0.83	AP42 3.2-1& 3.1-1	10/96	Factors not used in this spreadsheet
NG 2-cycle lean	gms/hp-hr		0.00185	10.9	0.43	1.5	AP42 3.2-1	10/96	Factors not used in this spreadsheet
NG 4-cycle lean	gms/hp-hr		0.00185	11.8	0.72	1.6	AP42 3.2-1	10/96	Factors not used in this spreadsheet
NG 4-cycle rich	gms/hp-hr		0.00185	10	0.14	8.6	AP42 3.2-1	10/96	Factors not used in this spreadsheet
Diesel Recip. < 600 hp.	gms/hp-hr	1	0.005505	14	1.12	3.03	AP42 3.3-1	10/96	Typical BOEM Factors
Diesel Recip. > 600 hp.	gms/hp-hr	0.32	0.005505	11	0.33	2.4	AP42 3.4-1	10/96	Typical BOEM Factors
Diesel Boiler	lbs/bbl	0.084	0.009075	0.84	0.008	0.21	AP42 1.3-12,14	9/98	Factors not used in this spreadsheet
NG Heaters/Boilers/Burners	lbs/mmscf	7.6	0.593	100	5.5	84	42 1.4-1, 14-2, & 14	7/98	Factors not used in this spreadsheet
NG Flares	lbs/mmscf		0.593	71.4	60.3	388.5	AP42 11.5-1	9/91	Factors not used in this spreadsheet
Liquid Flaring	lbs/bbl	0.42	6.83	2	0.01	0.21	AP42 1.3-1 & 1.3-3	9/98	Factors not used in this spreadsheet
Tank Vapors	lbs/bbl				0.03		E&P Forum	1/93	Factors not used in this spreadsheet
Fugitives	lbs/hr/comp.				0.0005		API Study	12/93	Factors not used in this spreadsheet
Glycol Dehydrator Vent	lbs/mmscf				6.6		La. DEQ	1991	Factors not used in this spreadsheet
Gas Venting	lbs/scf				0.0034				Factors not used in this spreadsheet

Sulphur Content Source	Value	Units
Fuel Gas	3.33	ppm
Diesel Fuel (6)	0.0015	% weight
Produced Gas(Flares)	3.33	ppm
Produced Oil (Liquid Flaring)	1	% weight

365	days/yr - Follows FLAG 2010 Guidance
2000	lb/ton conversion factor
454	g/lb conversion factor
1000	SCF/MSCF conversion factor
1.341	hp/kW conversion factor

Notes

1. Reserved
2. Reserved
3. Reserved
4. Reserved
5. Reserved
6. Per 40 CFR Part 80 Subpart I, as of June 1, 2012, nonroad, locomotive, and marine (NRLM) diesel fuel is subject to a 15 ppm maximum sulfur content, which is considered ultra-low sulfur diesel (ULSD). BOEM has indicated that use of low sulfur fuel content on the AQRs will not result in mitigations in Plan approval documents.

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL			CONTACT			PHONE	REMARKS				
Shell Offshore Inc	Alaminos Canyon	856, 857 (SL),	OCS-G 20870, OCS-G 17565,		GB007, GB008 and GB001 through GB00			Josh O'Brien			(504) 425-909	Great White-GB DC-DOCD-AQR-DPMODU-2019327-BOEM.xlsx Emissions previously approved in plan R-06297				
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**
DP MODU	PRIME MOVER>600hp diesel	9387	453	10881	24	175	6.62	0.11	227.44	6.82	49.62	13.89	0.24	477.62	14.33	104.21
DRILLING AND/OR	PRIME MOVER>600hp diesel	9387	453	10881	24	175	6.62	0.11	227.44	6.82	49.62	13.89	0.24	477.62	14.33	104.21
WELLWORK	PRIME MOVER>600hp diesel	9387	453	10881	24	175	6.62	0.11	227.44	6.82	49.62	13.89	0.24	477.62	14.33	104.21
	PRIME MOVER>600hp diesel	9387	453	10881	24	175	6.62	0.11	227.44	6.82	49.62	13.89	0.24	477.62	14.33	104.21
	PRIME MOVER>600hp diesel	9387	453	10881	24	175	6.62	0.11	227.44	6.82	49.62	13.89	0.24	477.62	14.33	104.21
	PRIME MOVER>600hp diesel	9387	453	10881	24	175	6.62	0.11	227.44	6.82	49.62	13.89	0.24	477.62	14.33	104.21
	Energency Generator>600hp diesel	2547	123	2952	1	175	1.80	0.03	61.71	1.85	13.46	0.16	0.00	5.40	0.16	1.18
	Emergency Air Compressor< 600hp	26	1	30	1	175	0.06	0.00	0.80	0.06	0.17	0.01	0.00	0.07	0.01	0.02
	All other rig-equipment is electric (e.g cranes) or negligible in emissions potential (e.g. life boats, welding equipment, etc.)															
	Supply Vessel>600hp diesel (gene	10100	488	11708	24	175	7.12	0.12	244.71	7.34	53.39	14.95	0.26	513.90	15.42	112.12
	Supply Vessel>600hp diesel (gene	10100	488	11708	24	35	7.12	0.12	244.71	7.34	53.39	2.99	0.05	102.78	3.08	22.42
	Supply Vessel>600hp diesel (gene	10100	488	11708	24	35	7.12	0.12	244.71	7.34	53.39	2.99	0.05	102.78	3.08	22.42
	Crew Vessel>600hp diesel	8000	386	9274	24	53	5.64	0.10	193.83	5.81	42.29	3.55	0.06	122.11	3.66	26.64
	Multi-Purpose Service Vessel (MPSV)	17005	821	19712	24	45	11.99	0.21	412.02	12.36	89.89	6.47	0.11	222.49	6.67	48.54
	TCW Boat Engines >600hp diesel	12100	584	14026	24	8	8.53	0.15	293.17	8.80	63.96	0.82	0.01	28.14	0.84	6.14
	TCW Boat-Completion Equipment >600hp diesel	21000	1014	24343	24	8	14.80	0.25	508.81	15.26	111.01	1.42	0.02	48.85	1.47	10.66
PIPELINE	INSTALLATION Vessel diesel	21400	1033.62	24806.88	24	15	15.08	0.26	518.50	15.56	113.13	2.72	0.05	93.33	2.80	20.36
INSTALLATION	VESSELS>600hp diesel(supply)	10500	507.15	12171.60	24	8	7.40	0.13	254.41	7.63	55.51	0.71	0.01	24.42	0.73	5.33
	INSTALLATION/SUPPORT VESSE	14751	712.4733	17099.36	24	15	10.40	0.18	357.40	10.72	77.98	1.87	0.03	64.33	1.93	14.04
	VESSELS>600hp diesel(crew)	8000	386.4	9273.60	24	2	5.64	0.10	193.83	5.81	42.29	0.14	0.00	4.65	0.14	1.01
2019-2020	**ANNUAL TOTAL**						**142.38**	**2.45**	**4893.26**	**146.84**	**1067.62**	**122.16**	**2.10**	**4198.98**	**125.97**	**916.14**
EXEMPTION CALCULATION	**DISTANCE FROM LAND IN MILES**											**4695.30**	**4695.30**	**4695.30**	**4695.30**	**92106.79**
	141															

NOTE - Emissions for MODU activities are estimated at the Potential to Emit (no fuel reduction measures).

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL			CONTACT		PHONE	REMARKS					
Shell Offshore Inc	Alaminos Canyon	856, 857 (SL),	OCS-G 20870, OCS-G 17565,		GB007, GB008 and GB001 through GB00			Josh O'Brien		(504) 425-909	Great White-GB DC-DOCD-AQR-DPMODU-2019327-BOEM.xlsxEmissions previously approved					
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**
DP MODU	PRIME MOVER>600hp diesel	9387	453	10881	24	175	6.62	0.11	227.44	6.82	49.62	13.89	0.24	477.62	14.33	104.21
DRILLING AND/OR	PRIME MOVER>600hp diesel	9387	453	10881	24	175	6.62	0.11	227.44	6.82	49.62	13.89	0.24	477.62	14.33	104.21
WELLWORK	PRIME MOVER>600hp diesel	9387	453	10881	24	175	6.62	0.11	227.44	6.82	49.62	13.89	0.24	477.62	14.33	104.21
	PRIME MOVER>600hp diesel	9387	453	10881	24	175	6.62	0.11	227.44	6.82	49.62	13.89	0.24	477.62	14.33	104.21
	PRIME MOVER>600hp diesel	9387	453	10881	24	175	6.62	0.11	227.44	6.82	49.62	13.89	0.24	477.62	14.33	104.21
	PRIME MOVER>600hp diesel	9387	453	10881	24	175	6.62	0.11	227.44	6.82	49.62	13.89	0.24	477.62	14.33	104.21
	Energency Generator>600hp diese	2547	123	2952	1	175	1.80	0.03	61.71	1.85	13.46	0.16	0.00	5.40	0.16	1.18
	Emergency Air Compressor< 600h	26	1	30	1	175	0.06	0.00	0.80	0.06	0.17	0.01	0.00	0.07	0.01	0.02
	All other rig-equipment is electric (e.g cranes) or negligible in emissions potential (e.g. life boats, welding equipment, etc.)															
	Supply Vessel>600hp diesel (gene	10100	488	11708	24	175	7.12	0.12	244.71	7.34	53.39	14.95	0.26	513.90	15.42	112.12
	Supply Vessel>600hp diesel (gene	10100	488	11708	24	35	7.12	0.12	244.71	7.34	53.39	2.99	0.05	102.78	3.08	22.42
	Supply Vessel>600hp diesel (gene	10100	488	11708	24	35	7.12	0.12	244.71	7.34	53.39	2.99	0.05	102.78	3.08	22.42
	Crew Vessel>600hp diesel	8000	386	9274	24	53	5.64	0.10	193.83	5.81	42.29	3.55	0.06	122.11	3.66	26.64
	Multi-Purpose Service Vessel (MPSV)	17005	821	19712	24	45	11.99	0.21	412.02	12.36	89.89	6.47	0.11	222.49	6.67	48.54
	TCW Boat Engines >600hp diesel	12100	584	14026	24	8	8.53	0.15	293.17	8.80	63.96	0.82	0.01	28.14	0.84	6.14
	TCW Boat-Completion Equipment >600hp diesel	21000	1014	24343	24	8	14.80	0.25	508.81	15.26	111.01	1.42	0.02	48.85	1.47	10.66
2021-2045	**ANNUAL TOTAL**						**103.86**	**1.79**	**3569.11**	**107.11**	**778.71**	**116.72**	**2.01**	**4012.24**	**120.37**	**875.40**
EXEMPTION CALCULATION	**DISTANCE FROM LAND IN MILES**											**4695.30**	**4695.30**	**4695.30**	**4695.30**	**92106.79**
	141															
NOTE - Emissions for MODU activities are estimated at the Potential to Emit (no fuel reduction measures).																

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL
Shell Offshore Inc	Alaminos Canyon	856, 857 (SL), and 900	OCS-G 20870, OCS-G 17565, OCS-G 17570	MODU (Semi-sub or Drillship)	GB007, GB008 and GB001 through GB006 as workovers.

Year	Emitted Substance				
	PM	SOx	NOx	VOC	CO
AQR Emissions if DP MODU(Semi-sub or Drillship) is Utilized					
2019-2020	**122.16**	**2.10**	**4198.98**	**125.97**	**916.14**
2021-2045	**116.72**	**2.01**	**4012.24**	**120.37**	**875.40**
Allowable	**4695.30**	**4695.30**	**4695.30**	**4695.30**	**92106.79**

SECTION 9: OIL SPILL INFORMATION

A. Oil Spill Response Planning

All the proposed activities and facilities in this plan will be covered by the Regional OSRP filed by Shell Offshore Inc. (0689) in accordance with 30 CFR 254.47 and NTL 2013-N02. Shell's regional OSRP was approved by BSEE in June 2017, the bi-annual review was found to be in compliance October 3, 2017, and updated October 11, 2018.

Primary Response Equipment Locations	Preplanned Staging Location(s)
Ingleside, TX; Galveston, TX; Venice, LA; Ft Jackson, LA; Harvey, LA; Stennis, MS; Pascagoula, MS; Theodore, AL; Tampa, FL	Galveston, TX; Port Fourchon; Venice, LA; Pascagoula, MS ; Mobile, AL; Tampa, FL

Table 9.1 – Response Equipment and Staging Areas

OSRO Information:
The names of the oil spill removal organizations (OSRO's) under contract include Clean Gulf Associates (CGA), Marine Spill Response Company (MSRC) and Oil Spill Response Limited (OSRL). These OSRO's provide equipment and will in some cases provide trained personnel to operate their response equipment (OSRVs, etc.) and Shell also has the option to pull from their trained personnel as needed for assistance/expertise in the Command Post and in the field.

Category	Regional OSRP	DOCD
Type of Activity	Production >10 miles to shore	Production and Subsea Installation
Facility Location (area/block)	MC 812	AC 857
Facility Designation	Subsea well B◇	Subsea well GA-14◇◇
Distance to Nearest Shoreline (miles)	59	142
Volume Storage tanks (total) Flowlines (on facility) Pipelines Uncontrolled blowout (volume per day) Total Volume	 16,600 Bbls. 100 Bbls. 27,428 Bbls. 468,000* BOPD 512,128 Bbls	 4,000 Bbls 100 Bbls. 8,300 Bbls. 129,000** BOPD 141,400 Bbls
Type of Oil(s) - (crude oil, condensate, diesel)	Crude oil	Crude oil
API Gravity(s)	31º	34º

Table 9.2 - Worst Case Scenario Determination

24-hour rate (432,000 BOPD 30-day average)** * 24-hour rate (78,700 BOPD 30-day average)**

◇This well was accepted by BOEM in plan N-9840.
◇◇This well was accepted by BOEM in plan R-5085/R-5144 for Great White Unit.

Certification: *Since Shell Offshore Inc. has the capability to respond to the appropriate worst-case spill scenario included in its regional OSRP, approved by BSEE June 2017. The bi-annual review was found to be in compliance October 2017 and updated October 2018. Since the worst-case scenario determined for our Plan does not replace the appropriate worst-case scenario in our regional OSRP, I hereby certify that Shell Offshore Inc. 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 plan.*

Modeling: Based on the requirement per BSEE NTL 2008-G04 and the outcome of the OSRAM Model, Shell determined no additional modeling was needed for potential oil or hazardous substance spill for operations proposed in this exploration plan, as the current, approved OSRP adequately meets the necessary response capabilities.

SECTION 13: RELATED FACILITIES AND OPERATIONS INFORMATION

A. Related OCS Facilities and Operations

This RDOCD covers the seafloor hardware required to produce the GB007 and GB008 wells back to the regional host. No additional infrastructure is required. Section 1 has the Subsea Layout drawings for the equipment proposed in this plan.

This subsea tieback flows back to the Perdido Spar and was covered in the Initial DOCD (approved by MMS April 12, 2007, Control Number N-08809). This system remains as previously approved.

B. Transportation System

The identical Transportation System described in Section (13b) of the Initial DOCD (approved by MS April 12, 2007, Control Number N-08809) pertains to this application. No additional measures are anticipated as a result of the installation or production of the wells discussed in this RDOCD.