

UNITED STATES GOVERNMENT
MEMORANDUM

February 2, 2021

To: Public Information
From: Plan Coordinator, FO, Plans Section

Subject: Public Information copy of plan

Control # - S-08040
Type - Supplemental Development Operations Coordinations Document
Lease(s) - OCS-G17015 Block - 758 Walker Ridge Area
OCS-G20394 Block - 802 Walker Ridge Area
OCS-G32703 Block - 718 Walker Ridge Area
Operator - Chevron U.S.A. Inc.
Description - Subsea Wells PS011 and 001 and Jack St. Malo

Attached is a copy of the subject plan.

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

Laura Christensen
Plan Coordinator

Site Type/Name	Botm Lse/Area/Blk	Surface Location	Surf Lse/Area/Blk
FPSO/A JSM		3464 FSL, 8525 FWL	G32703/WR/718
WELL/001	G20394/WR/802	6938 FNL, 904 FEL	G20394/WR/802
WELL/PS011	G17015/WR/758	6973 FNL, 3359 FEL	G17015/WR/758

DEVELOPMENT OPERATIONS COORDINATION DOCUMENT



Walker Ridge Blocks 758, 759, and 802
Lease OCS-G 17015, 17016, and 20394
Unit Agreement No. 754321001

Jack Field

Affected States: Louisiana

Estimated Startup Date: 2021

SUBMITTED BY:

Chevron U.S.A. Inc.
100 Northpark Boulevard
Room S2218A
Covington, Louisiana. 70433
Carly Moss
Carly.Moss@chevron.com

AUTHORIZED REPRESENTATIVE:

Kelley Pisciola
J. Connor Consulting, Inc.
19219 Katy Freeway, Suite 200
Houston, Texas 77094
(281) 281-698-8529
Kelley.pisciola@jccteam.com



CHEVRON U.S.A. INC.
DEVELOPMENT OPERATIONS COORDINATION DOCUMENT
LEASES OCS-G 17015, 17016, AND 20394
UNIT AGREEMENT NO. 754321001
WALKER RIDGE BLOCKS 758, 759, AND 802
OFFSHORE, LOUISIANA

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7-A	Waste You Will Generate, Treat and Downhole Dispose or Discharge to the GOM
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SECTION 1

PLAN CONTENTS

PLAN INFORMATION

Chevron U.S.A., Inc. (Chevron) is the designated operator of Leases OCS-G 17015, 17016, and 20394, Walker Ridge (WR) Blocks 758, 759, and 802. These blocks have been unitized to comprise the WR 759 Unit Agreement No. 754321001. The Jack field is comprised of subsea wells, tied back to the Chevron operated JSM in WR 718, Right-of-Use and Easement OCS-G 30350.

An Initial Exploration Plan (EP), Control No. N-7966 was approved by your office on December 31, 2003. Subsequently, your office approved, Revised EP, Control No. R-5108, on June 23, 2011; Revised EP, Control No. R-6365, on September 4, 2015; Supplemental EP, Control No. S-7800 on June 1, 2016; Supplemental EP, Control No. S-7897, on July 12, 2018 and Supplemental EP, Control No. S-7933, on April 26, 2019.

An Initial Development Operations Coordination Document (DOCD), Control No. N-9580, was approved by your office on March 7, 2012. Subsequently, your office approved, Revised DOCD, Control No. R-5697, on November 29, 2012; Revised DOCD, Control No. R-5917, on August 14, 2013; and Supplemental DOCD, Control No. S-7939, on June 6, 2019.

Under this Supplemental DOCD, Chevron proposes to commence production of two wells, Well No. PS011, WR Block 758 (to be drilled and completed under Plan Control No. S-7800) and Well No. JK 001 BP04, WR Block 802, API No. 60-812-40128-04 (drilled and completed under Control Plan S-7933).

Chevron further proposes to update the air emissions to include miscellaneous well intervention activities for the aforementioned wells and to update air emissions to provide for the installation of the following:

- 1) a new multi-phase pump (MPP) module to replace the existing single-phase (SPP) pump module (*a detailed description will be provided for in the lease term pipeline application and the Supplemental DWOP*), the new MPP module will be installed in WR 758, requiring inlet mixer modules, installed on suction piles. The mixer modules will be connected via two new 9.89-inch lease term jumpers (two jumpers total);
- 2) installation of a new production manifold, to be installed on a suction pile, at the Jack South drill center (WR 758);
- 3) installation of two new 10.75-inch interconnecting jumpers between the proposed manifold and the existing Jack South manifold;

- 4) installation of one 6.625-inch production flowline jumper between the new production manifold and production flowline PLET in WR 758;
- 5) installation of one new 6.625-inch infield production flowline between the Jack South and the Jack South East drill centers (the flowline will cross WR 758 and WR 802);
- 6) installation of one 7.75-inch OD production well jumper between the production flowline PLET and PS009 in WR 802;
- 7) installation of a new infield control umbilical (the umbilical will cross WR 758 and WR 802).

These development operations are in approximately 7,000 feet of water. The manifold and pipelines will be installed using a dynamically positioned offshore construction and a support vessel.

There are no drilling activities proposed in this DOCD. Further, the operations proposed will not utilize pile-driving, nor is Chevron proposing any new pipelines expected to make landfall.

Forms BOEM-0137 are included as **Attachment 1-A**.

LOCATION

Well location plats depicting the surface locations and bottomhole locations of the proposed wells, measured depths/true vertical depths and water depths is included as **Attachment 1-B** and a bathymetry map is included as **Attachment 1-C**. No anchors are associated with the activities proposed in this plan.

SAFETY AND POLLUTION PREVENTION MEASURES

No drilling operations are proposed in this plan. Safety of personnel and protection of the environment during the proposed operations is one of the primary concerns of Chevron. Chevron mandates regulatory compliance with the contractors and vendors associated with the proposed operations as follows:

The Bureau of Ocean Energy Management (BOEM) mandates that the operations described in this Revised DOCD comply with well control, pollution prevention, construction, welding procedures, and training described in the Bureau of Safety and Environmental Enforcement (BSEE) regulations 30 CFR 250 C, D, E, O and S; and as further clarified by BSEE Notices to Lessees. BSEE conducts periodic announced and unannounced onsite inspections of offshore facilities to confirm operators are complying with lease stipulations, regulatory requirements, approved plans, and other conditions, and complying with pollution prevention requirements. The National Potential Incident of Noncompliance (PINIC) List serves as the baseline for these inspections. United States Coast Guard (USCG) regulations contained in Title 33 CFR Part 144 mandate that appropriate life rafts, life jackets, ring buoys, etc. be maintained on the facilities at all times. U.S. Environmental Protection Agency (EPA) regulations contained in the NPDES General Permit for Region VI mandate that supervisory and certain designated personnel on board the facility be familiar with the effluent limitations and guidelines for overboard discharges into the receiving waters.

STORAGE TANKS AND PRODUCTION VESSELS

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

Type of Storage Tank	Type of Facility	Tank Capacity (bbl)	Number of Tanks	Total Capacity (bbl)	Fluid Gravity (API)
Fuel oil (marine diesel)	Light Construction Vessel (LCV)	942.86	7	6600	30°
Production	Light Construction Vessel (LCV)	36.25	8	290	22°

POLLUTION PREVENTION MEASURES

Florida is not an affected State under this plan, therefore this information is not required based on the guidelines provided in NTL No. 2008-G04.

ADDITIONAL MEASURES

Chevron has a robust Health Safety and Environment (HSE) system with a focus on Injury and Incident Free operations. The facility and its operations have been, and will continue to be, the focus of numerous hazard assessments and mitigations to reduce the risk of accidents and incidents, including pollution.

COST RECOVERY FEE

Documentation of the cost recovery fee payment is included in **Attachment 1-D**.

Attachment 1-A

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

OMB Control Number: 1010-0151
OMB Approval Expires: 6/30/2021

OCS PLAN INFORMATION FORM

General Information									
Type of OCS Plan:		Exploration Plan (EP)	XX		Development Operations Coordination Document (DOCD)				
Company Name: Chevron U.S.A. Inc.				BOEM Operator Number: 00003					
Address:				Contact Person: Kelley Pisciola					
100 Northpark Boulevard				Phone Number: (281) 698-8519					
Covington, LA 70433				E-Mail Address: kelley.pisciola@iccteam.com					
If a service fee is required under 30 CFR 550.125(a), provide the			Amount paid	\$8476.00	Receipt No.		26QNN14M		
Project and Worst Case Discharge (WCD) Information									
Leases: OCS-G 17015 / 20394		Areas: Walker Ridge		Blocks: 758 / 802		Project Name: Jack			
Objectives	X	Oil	Gas	Sulphur	Salt	Onshore Support Base: Port Fourchon and Galliano, LA			
Platform / Well Name: A-Jack St. Malo FPU			Total Volume of WCD: 100,526 bbls			API Gravity: 30°			
Distance to Closest Land (Miles): 196 miles			Volume from uncontrolled blowout: 40,816 BOPD						
Have you previously provided information to verify the calculations and assumptions for your WCD?						XX	Yes	No	
If so, provide the Control Number of the EP or DOCD with which this information was provided						S-7800			
Do you propose to use new or unusual technology to conduct your activities?						Yes	XX	No	
Do you propose to use a vessel with anchors to install or modify a structure?						Yes	XX	No	
Do you propose any facility that will serve as a host facility for deepwater subsea development?						Yes	XX	No	
Description of Proposed Activities and Tentative Schedule (Mark all that apply)									
Proposed Activity				Start Date	End Date	No. of Days			
Install suction piles, manifold, lease term jumpers				06/01/2021	06/30/2021	30 days			
Install lease term jumpers				04/01/2022	05/30/2022	60 days			
Commence production at well location WR 758 PS011				07/01/2022	07/01/2052	30 years			
Commence production of well location WR 802 JK-1				07/01/2022	07/01/2052	30 years			
Description of Drilling Rig					Description of Structure				
Jackup		Drillship			Caisson		Tension leg platform		
Gorilla Jackup		Platform rig			Fixed platform		Compliant tower		
Semisubmersible		Submersible			Spar		Guyed tower		
DP Semisubmersible		Other (Attach description)			Floating production system		Other (Attach description)		
Drilling Rig Name (If known):									
Description of Lease Term Pipelines									
From (Facility/Area/Block)		To (Facility/Area/Block)		Diameter (Inches)		Length (Feet)			
WR 758 MPP		WR 758 Mixer Module		9.89" OD		80'			
WR 758 MPP		WR 758 Mixer Module		9.89" OD		80'			
WR 758 Manifold		WR 802 PLET		6.625" OD		102'			
WR 802 JK PS009 Tree		WR 802 PLET		7.75" OD		111'			
WR 802 PLET		WR 758 PLET		6.625" OD		15,514'			
WR 758 Manifold		WR 758 Manifold		10.75" OD		130'			
WR 758 Manifold		WR 758 Manifold		10.75" OD		130'			

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): A-Jack St Malo				Previously reviewed under an approved EP or DOCD?		<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
Is this an existing well or structure?		<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	If this is an existing well or structure, list the Complex ID or API No.		2440	
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
WCD info	For wells, volume of uncontrolled blowout (Bbls/day): N/A			For structures, volume of all storage and pipelines (Bbls): 59,710			API Gravity of fluid 30°		
	Surface Location			Bottom-Hole Location (For Wells)			Completion (For multiple completions, enter separate lines)		
Lease No.	OCS G 32703						OCS OCS		
Area Name	WR								
Block No.	718								
Blockline Departures (in feet)	N/S Departure: F <u> </u> L			N/S Departure: F ^N <u> </u> L			N/S Departure: F <u> </u> L		
	3464						N/S Departure: F <u> </u> L		
	E/W Departure: F _w <u> </u> L			E/W Departure: F _E <u> </u> L			N/S Departure: F <u> </u> L		
	8525						E/W Departure: F <u> </u> L		
							E/W Departure: F <u> </u> L		
Lambert X-Y coordinates	X:			X:			X:		
	2,210,285						X:		
	Y:			Y:			Y:		
	9,523,304						Y:		
Latitude/ Longitude	Latitude			Latitude			Latitude		
	26°14' 5.9382"						Latitude		
	Longitude			Longitude			Longitude		
	-91°15' 39.9846"						Longitude		
Water Depth (Feet): 6,950'				MD (Feet):		TVD (Feet):		MD (Feet):	
Anchor Radius (if applicable) in feet:								TVD (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 =					

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): WR 758 PS011				Previously reviewed under an approved EP or DOCD?		<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	S-7800
Is this an existing well or structure?		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	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?						<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	
WCD info	For wells, volume of uncontrolled blowout (Bbls/day): 40, 816			For structures, volume of all storage and pipelines (Bbls): NA			API Gravity of fluid		30 deg	
Surface Location				Bottom-Hole Location (For Wells)			Completion (For multiple completions, enter separate lines)			
Lease No.	OCS G 17015			OCS			OCS OCS			
Area Name	WALKER RIDGE									
Block No.	758									
Blockline Departures (in feet)	N/S Departure: F <u> </u> N <u> </u> L			N/S Departure:			N/S Departure: F <u> </u> L		F <u> </u> L	
	6973						N/S Departure: F <u> </u> L		F <u> </u> L	
	E/W Departure: F <u> </u> E <u> </u> L			E/W Departure:			E/W Departure: F <u> </u> L		F <u> </u> L	
	3359						E/W Departure: F <u> </u> L		F <u> </u> L	
Lambert X-Y coordinates	X: 2150881			X:			X: X: X:			
	Y: 9512867			Y:			Y: Y: Y:			
Latitude/ Longitude	Latitude N 26 12 30.0490			Latitude			Latitude Latitude Latitude			
	Longitude W 91 26 33.7113			Longitude			Longitude Longitude Longitude			
Water Depth (Feet): -7078				MD (Feet):		TVD (Feet):		MD (Feet):		TVD (Feet):
Anchor Radius (if applicable) in feet:				NA				MD (Feet):		TVD (Feet):
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)										
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor					
			X =	Y =						
			X =	Y =						
			X =	Y =						
			X =	Y =						
			X =	Y =						
			X =	Y =						
			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): WR 802 001BP04				Previously reviewed under an approved EP or DOCD?		<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	S-7933
Is this an existing well or structure?		<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	If this is an existing well or structure, list the Complex ID or API No.			608124012804	
Do you plan to use a subsea BOP or a surface BOP on a floating facility to conduct your proposed activities?						<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	
WCD info	For wells, volume of uncontrolled blowout (Bbls/day): 40, 816			For structures, volume of all storage and pipelines (Bbls): NA			API Gravity of fluid		30 deg	
Surface Location				Bottom-Hole Location (For Wells)			Completion (For multiple completions, enter separate lines)			
Lease No.	OCS G 20394			OCS			OCS OCS			
Area Name	WALKER RIDGE									
Block No.	802									
Blockline Departures (in feet)	N/S Departure: F <u> </u> N <u> </u> L			N/S Departure:			N/S Departure: F <u> </u> L		F <u> </u> L	
	6938						N/S Departure: F <u> </u> L		F <u> </u> L	
	E/W Departure: F <u> </u> E <u> </u> L			E/W Departure:			E/W Departure: F <u> </u> L		F <u> </u> L	
	904						E/W Departure: F <u> </u> L		F <u> </u> L	
Lambert X-Y coordinates	X: 2153336			X:			X:			
	Y: 9497062			Y:			Y:			
Latitude/ Longitude	Latitude N 26 09 53.2117			Latitude			Latitude Latitude Latitude			
	Longitude W 91 26 08.8479			Longitude			Longitude Longitude Longitude			
Water Depth (Feet): -6995				MD (Feet):		TVD (Feet):		MD (Feet):		TVD (Feet):
Anchor Radius (if applicable) in feet:				NA				MD (Feet):		TVD (Feet):
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)										
Anchor Name or No.	Area	Block	X Coordinate		Y Coordinate		Length of Anchor Chain on Seafloor			
			X =		Y =					
			X =		Y =					
			X =		Y =					
			X =		Y =					
			X =		Y =					
			X =		Y =					
			X =		Y =					

GRID NORTH



X=2,140,000'

X=2,145,000'

X=2,150,000'

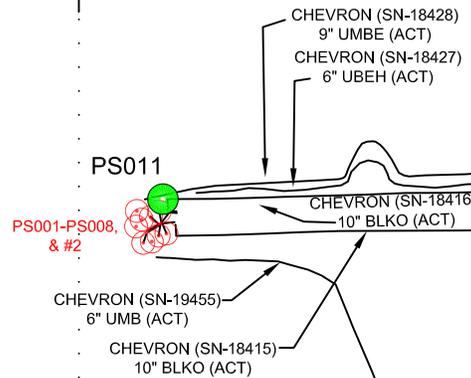
WR 758
OCS-G-17015
Chevron U.S.A. Inc.

26° 13' 00" N

Y=9,515,000'

Y=9,510,000'

26° 12' 00" N



PROPOSED SURFACE LOCATION

BLOCK	WELL	Cartesian Coordinates UTM Zone 15 (ft)		Geographic Coordinates		Block Calls (ft)	
				C1866, NAD 1927 (deg., min., sec.)			
		X	Y	Latitude	Longitude		
758	PS011	2,150,881.00	9,512,867.00	26°12'30.0490"N	91°26'33.7113"W	6973' FNL	3359' FEL

Y=9,505,000'

91° 28' 00" W

91° 27' 00" W

91° 26' 00" W

26° 11' 00" N



PROPOSED WELL, SURFACE LOCATION.



EXISTING CHEVRON WELL LOCATION, AS REPORTED BY BOEM.

EXISTING PIPELINE/UMBILICAL/CABLE LOCATION, AS REPORTED BY BOEM.

DATE : 8 DECEMBER 2020
 GEODETIC DATUM: NAD 1927
 ELLIPSOID: CLARKE 1866
 PROJECTION: UTM
 ZONE: 15 NORTH
 GRID UNITS: US FEET

PROJECT NO.: 1220-3002

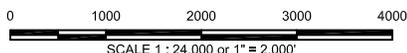


**CHEVRON
U.S.A INC**

FILE NAME: 3002_PLAT.DWG

PROPOSED WELL 'PS011'

PUBLIC INFORMATION
 OCS-G-17015
 BLOCK 758
 WALKER RIDGE AREA
 GULF OF MEXICO



GRID NORTH



X=2,140,000'

X=2,145,000'

X=2,150,000'

26° 11' 00" N

Y=9,500,000'

WR 802
OCS-G-20394
Chevron U.S.A. Inc.

26° 10' 00" N

001BP04  #1

Y=9,495,000'

PROPOSED SURFACE LOCATION

BLOCK	WELL	Cartesian Coordinates UTM Zone 15 (ft)		Geographic Coordinates		Block Calls (ft)	
				C1866, NAD 1927			
		(deg., min., sec.)					
		Latitude	Longitude				
X	Y	Latitude	Longitude				
802	001BP04	2,153,336.00	9,497,062.00	26°09'53.2117"N	91°26'08.8479"W	6938' FNL	904 'FEL

26° 09' 00" N

Y=9,490,000'

W. 00' 28' 16"

W. 00' 27' 00"

W. 00' 26' 00" W



PROPOSED WELL, SURFACE LOCATION.
EXISTING CHEVRON WELL LOCATION, AS REPORTED BY BOEM.

DATE : 4 DECEMBER 2020
GEODETTIC DATUM: NAD 1927
ELLIPSOID: CLARKE 1866
PROJECTION: UTM
ZONE: 15 NORTH
GRID UNITS: US FEET

PROJECT NO.: 1220-3002

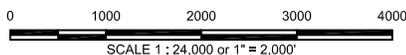


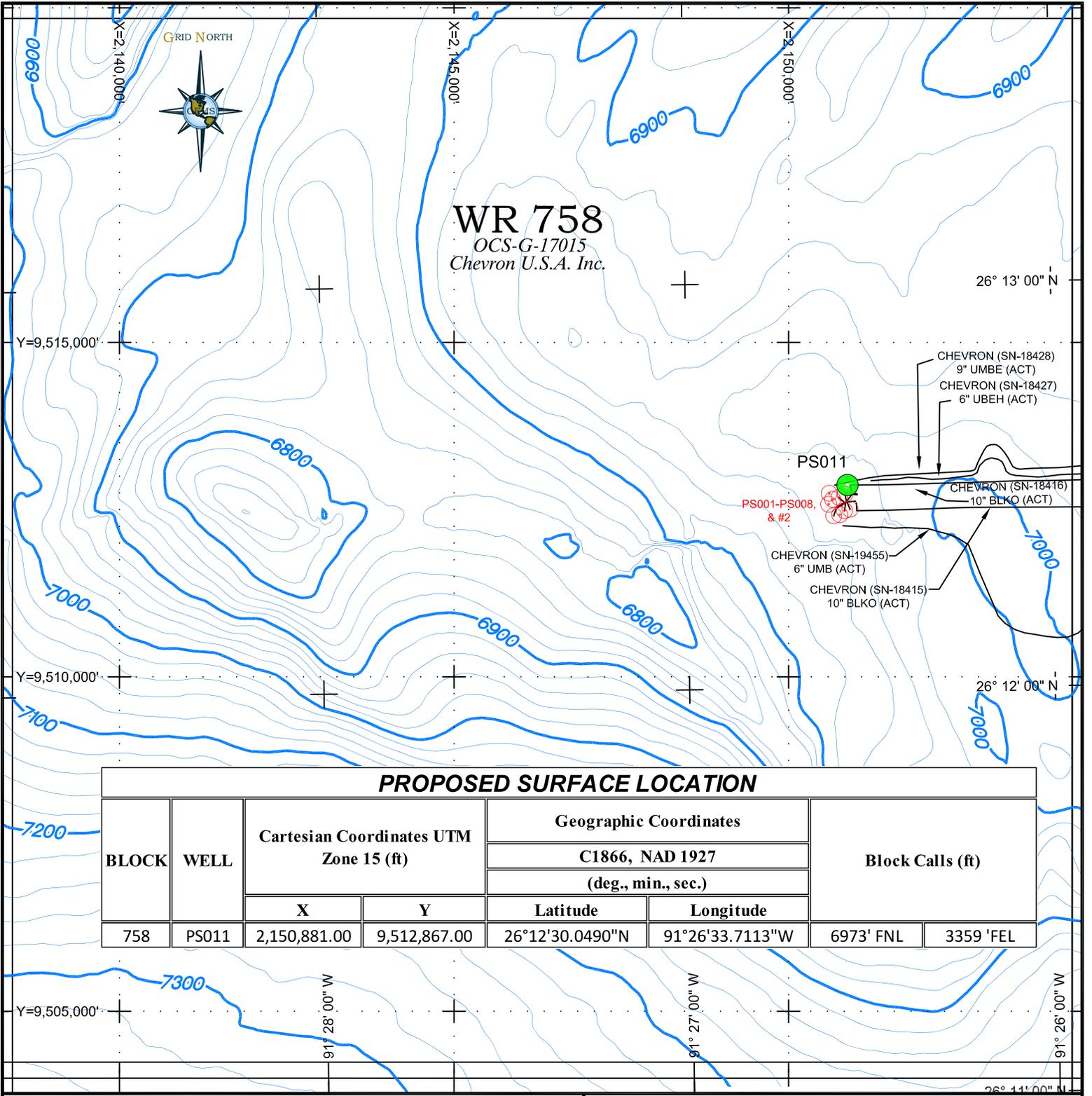
**CHEVRON
U.S.A INC**

FILE NAME: 3002_PLAT.DWG

PROPOSED WELL '001BP04'

PUBLIC INFORMATION
OCS-G-20394
BLOCK 802
WALKER RIDGE AREA
GULF OF MEXICO





PROPOSED SURFACE LOCATION

BLOCK	WELL	Cartesian Coordinates UTM Zone 15 (ft)		Geographic Coordinates		Block Calls (ft)	
				C1866, NAD 1927			
		(deg., min., sec.)	Latitude	Longitude			
X	Y						
758	PS011	2,150,881.00	9,512,867.00	26°12'30.0490"N	91°26'33.7113"W	6973' FNL	3359' FEL

-  PROPOSED WELL, SURFACE LOCATION.
-  WATER DEPTH, CONTOUR IN FEET.
-  EXISTING CHEVRON WELL LOCATION, AS REPORTED BY BOEM.
-  EXISTING PIPELINE/UMBILICAL/CABLE LOCATION, AS REPORTED BY BOEM.

DATE : 8 DECEMBER 2020
 GEODETIC DATUM: NAD 1927
 ELLIPSOID: CLARKE 1866
 PROJECTION: UTM
 ZONE: 15 NORTH
 GRID UNITS: US FEET

PROJECT NO.: 1220-3002

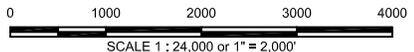


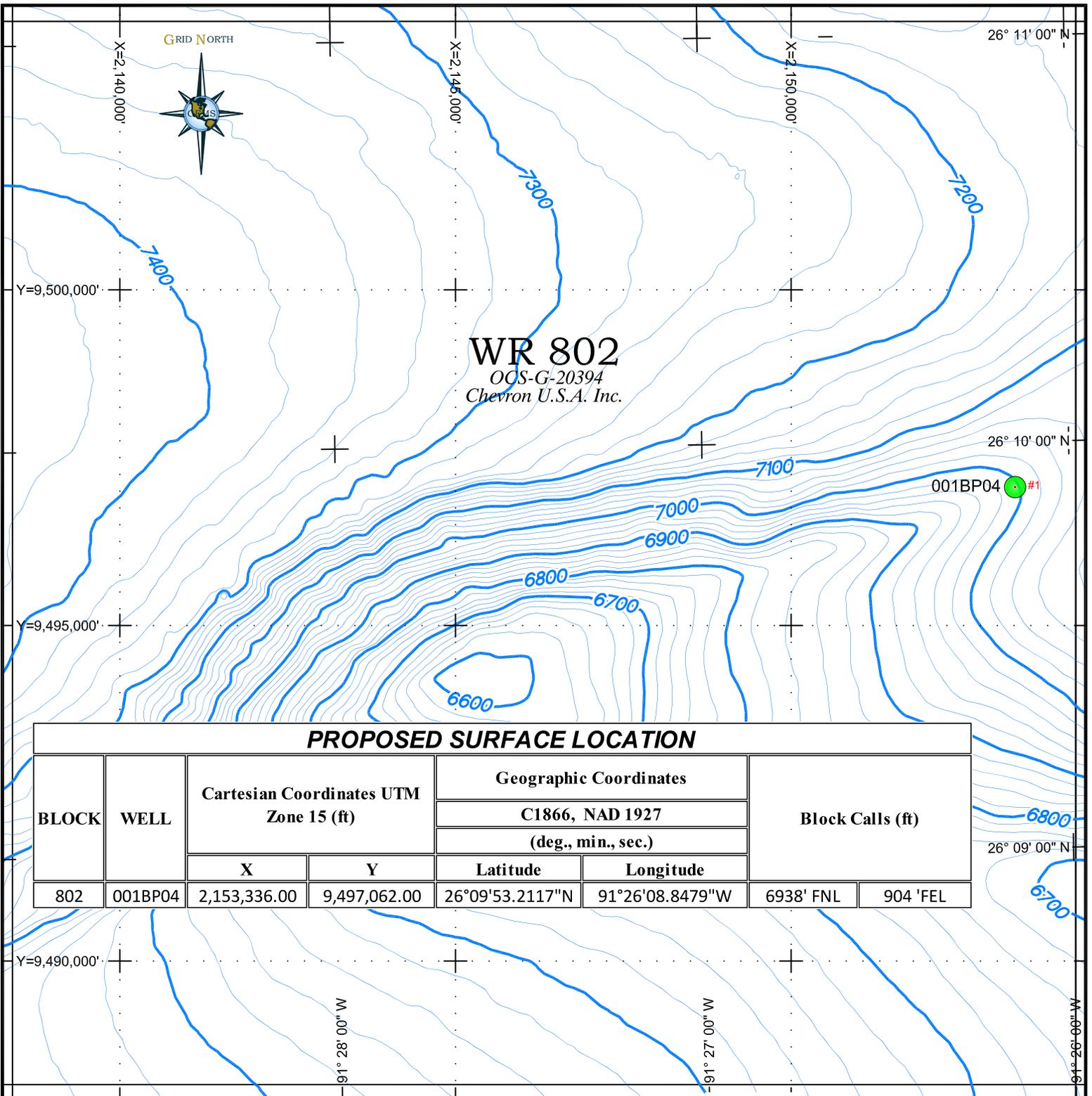
**CHEVRON
U.S.A INC**

FILE NAME: 3002_PLAT.DWG

PROPOSED WELL 'PS011'

**BATHYMETRY MAP
 OCS-G-17015
 BLOCK 758
 WALKER RIDGE AREA
 GULF OF MEXICO**





PROPOSED SURFACE LOCATION

BLOCK	WELL	Cartesian Coordinates UTM Zone 15 (ft)		Geographic Coordinates		Block Calls (ft)	
				C1866, NAD 1927 (deg., min., sec.)			
		X	Y	Latitude	Longitude		
802	001BP04	2,153,336.00	9,497,062.00	26°09'53.2117"N	91°26'08.8479"W	6938' FNL	904' FEL



PROPOSED WELL, SURFACE LOCATION.



WATER DEPTH, CONTOUR IN FEET.



EXISTING CHEVRON WELL LOCATION, AS REPORTED BY BOEM.

DATE : 8 DECEMBER 2020
 GEODETIC DATUM: NAD 1927
 ELLIPSOID: CLARKE 1866
 PROJECTION: UTM
 ZONE: 15 NORTH
 GRID UNITS: US FEET

PROJECT NO.: 1220-3002

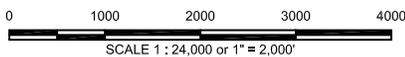


**CHEVRON
U.S.A INC**

FILE NAME: 3002_PLAT.DWG

PROPOSED WELL '001BP04'

**BATHYMETRY MAP
 OCS-G-20394
 BLOCK 802
 WALKER RIDGE AREA
 GULF OF MEXICO**



FW: Pay.gov Payment Confirmation: BOEM Development/DOCD Plan - BD

Kelley Pisciola

Sent: Monday, December 21, 2020 6:07 AM

To: Kelley Pisciola

From: notification@pay.gov <notification@pay.gov>

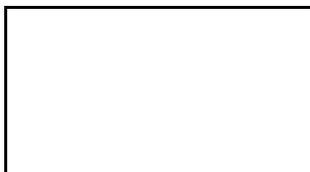
Sent: Wednesday, December 16, 2020 8:19 AM

To: Moss, Carly T <Carly.Moss@chevron.com>

Subject: [****EXTERNAL****] Pay.gov Payment Confirmation: BOEM Development/DOCD Plan - BD



An official email of the United States government



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

Application Name: BOEM Development/DOCD Plan - BD

Pay.gov Tracking ID: 26QNNI4M

Agency Tracking ID: 76059309595

Transaction Type: Sale

Transaction Date: 12/16/2020 09:19:01 AM EST

Account Holder Name: Jennifer Johnson

Transaction Amount: \$8,476.00

Card Type: AmericanExpress

Card Number: *****3008

Region: Gulf of Mexico

Contact: Carly Moss 337-849-4936

Company Name/No: Chevron U.S.A. Inc., 0078

Lease Number(s): 17015, 17016, 20394, 20395,

Area-Block: Walker Ridge WR, 758: Walker Ridge WR, 759: Walker Ridge WR, 802:

Walker Ridge WR, 803: ,

Type-Wells: Initial Plan, 2

THIS IS AN AUTOMATED MESSAGE. PLEASE DO NOT REPLY.

SECTION 2 GENERAL INFORMATION

APPLICATIONS AND PERMITS

The table below provides the additional applications to be filed covering operations proposed in this DOCD.

Application/Permit	Issuing Agency	Status
Pipeline Application	BSEE	To Be Submitted
Supplemental DWOP	BSEE	To Be Submitted
Downhole Commingling Application	BSEE	To Be Submitted
Surface Commingling Application	BSEE	To Be Submitted
Production Safety System	BSEE	To Be Submitted

PRODUCTION

Proprietary Information.

OIL CHARACTERISTICS

Proprietary Information.

NEW OR UNUSUAL TECHNOLOGY

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

BONDING STATEMENT

The bond requirements for the activities and facilities proposed in this DOCD are satisfied by an area-wide bond, furnished and maintained according to 30 CFR 556 Subpart I; NTL No. BOEM 2015-N04, "General Financial Assurance;" and additional security under 30 CFR 556.901(d) – (f) and National NTL No. 2016-N01-BOEM, "Requiring Additional Security" as required by BOEM.

OIL SPILL FINANCIAL RESPONSIBILITY

Chevron U.S.A. Inc. (Operator Number 00078) has demonstrated oil spill financial responsibility for the facilities proposed in this DOCD according to 30 CFR Part 553; and NTL No. 2008-N05, "Guidelines for Oil Spill Financial Responsibility for Covered Facilities" prior to conducting operations covered in this DOCD.

DEEPWATER WELL CONTROL STATEMENT

Chevron U.S.A. Inc. (Operator Number 00078) has the financial capability to drill a relief well and conduct other emergency well control operations.

SUSPENSION OF PRODUCTION

Chevron does not anticipate filing any requests for Suspension of Production to hold the leases addressed in this DOCD in active status.

BLOWOUT SCENARIO

There are no drilling operations proposed in this plan.

SECTION 3

GEOLOGICAL AND GEOPHYSICAL INFORMATION

GEOLOGICAL DESCRIPTION

Proprietary Information.

STRUCTURE CONTOUR MAPS

Proprietary Information.

INTERPRETED SEISMIC LINES

Proprietary Information.

GEOLOGICAL STRUCTURE CROSS-SECTIONS

Proprietary Information.

SHALLOW HAZARDS REPORT

The proposed operations will be conducted from previously approved surface locations as provided for in EPs (Control No. S-7800 and S-7933); therefore, in accordance with NTL No. 2008-G05, "Shallow Hazards Program," a shallow hazards report is not provided.

SHALLOW HAZARDS ASSESSMENT

The proposed operations will be conducted from previously approved surface locations as provided for in EPs (Control No. S-7800 and S-7933); therefore, in accordance with NTL No. 2008-G05, "Shallow Hazards Program," a site-specific shallow hazards assessment

HIGH-RESOLUTION SEISMIC LINES

Proprietary Information.

STRATIGRAPHIC COLUMN

Proprietary Information.

TIME VS DEPTH TABLES

Proprietary Information.

SECTION 4 HYDROGEN SULFIDE INFORMATION

CONCENTRATION

Chevron anticipates encountering zero ppm H₂S during the proposed operations.

CLASSIFICATION

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

H₂S CONTINGENCY PLAN

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

MODELING REPORT

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

SECTION 5

MINERAL RESOURCE CONSERVATION INFORMATION

TECHNOLOGY & RESERVOIR ENGINEERING PRACTICES AND PROCEDURES

Proprietary Information.

TECHNOLOGY AND RECOVERY PRACTICES AND PROCEDURES

Proprietary Information.

RESERVOIR DEVELOPMENT

Proprietary Information.

SECTION 6

BIOLOGICAL, PHYSICAL AND SOCIOECONOMIC INFORMATION

DEEPWATER BENTHIC COMMUNITIES

The proposed operations will be conducted within 500 feet of previously approved surface locations as provided for in EPs (Control No. S-7800 and S-7933).

TOPOGRAPHIC FEATURES (BANKS)

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

TOPOGRAPHIC FEATURES STATEMENT (SHUNTING)

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 per NTL No. 2009-G39, “Biologically Sensitive Underwater Features and Areas.”

LIVE-BOTTOMS (PINNACLE TREND FEATURES)

The leases included in this DOCD are not located within 61 meters (200 feet) of any pinnacle trend feature; therefore, a separate bathymetric map is not required per NTL No. 2009-G39, “Biologically Sensitive Underwater Features and Areas.”

LIVE BOTTOMS (LOW RELIEF)

The leases included in this DOCD are not located within 30 meters (100 feet) of any live bottom (low relief) feature with vertical relief equal to or greater than 8 feet; therefore, live bottom (low relief) maps are not required per NTL No. 2009-G39, “Biologically Sensitive Underwater Features and Areas.”

POTENTIALLY SENSITIVE BIOLOGICAL FEATURES

The leases included in this DOCD are not located within 30 meters (100 feet) of potentially sensitive biological features. In accordance with NTL No. 2009-G39, “Biologically Sensitive Underwater Features and Areas,” biologically sensitive area maps are not required.

THREATENED OR 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 30 CFR 550, 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.

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

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

Species	Scientific Name	Status	Potential Presence		Critical Habitat Designated in the Gulf of Mexico
			Lease Area	Coastal	
Marine Mammals					
Manatee, West Indian	<i>Trichechus manatus latirostris</i>	E	--	X	Florida (peninsular)
Whale, Blue	<i>Balaenoptera masculus</i>	E	X*	--	None
Whale, Bryde's	<i>Balaenoptera Edeni</i>	E	X*	--	None
Whale, Finback	<i>Balaenoptera physalus</i>	E	X*	--	None
Whale, Humpback	<i>Megaptera novaeangliae</i>	E	X*	--	None
Whale, North Atlantic Right	<i>Eubalaena glacialis</i>	E	X*	--	None
Whale, Sei	<i>Balaenoptera borealis</i>	E	X*	--	None
Whale, Sperm	<i>Physeter catodon (=macrocephalus)</i>	E	X	--	None
Terrestrial Mammals					
Mouse, Beach (Alabama, Choctawatchee, Perdido Key, St. Andrew)	<i>Peromyscus polionotus</i>	E	-	X	Alabama, Florida (panhandle) beaches
Birds					
Plover, Piping	<i>Charadrius melodus</i>	T	-	X	Coastal Texas, Louisiana, Mississippi, Alabama and Florida (panhandle)
Crane, Whooping	<i>Grus Americana</i>	E	-	X	Coastal Texas
Mississippi sandhill crane	<i>Grus canadensis pulla</i>	E	-	X	Coastal Mississippi
Eskimo curlew	<i>Numenius borealis</i>	E	-	X	None
Northern Aplomado Falcon	<i>Falco femoralis septentrionalis</i>	E	-	X	None
Red knot	<i>Calidris canutus rufa</i>	T	-	X	None
Wood stork	<i>Mycteria Americana</i>	T	-	X	None
Reptiles					
Sea Turtle, Green	<i>Chelonia mydas</i>	T	X	X	None
Sea Turtle, Hawksbill	<i>Eretmochelys imbricata</i>	E	X	X	None

Species	Scientific Name	Status	Potential Presence		Critical Habitat Designated in the Gulf of Mexico
			Lease Area	Coastal	
Sea Turtle, Kemp's Ridley	<i>Lepidochelys kempli</i>	E	X	X	None
Sea Turtle, Leatherback	<i>Dermochelys coriacea</i>	E	X	X	None
Sea Turtle, Loggerhead	<i>Caretta caretta</i>	T	X	X	Texas, Louisiana, Mississippi, Alabama, Florida
Sharks and Fishes					
Giant Manta Ray	<i>Manta birostris</i>	E	X	--	None
Oceanic Whitetip Shark	<i>Carcharhinus longimanus</i>	E	X	-	None
Nassau Grouper	<i>Epinephelus striatus</i>	T	-	X	None
Smalltooth Sawfish	<i>Pristis pectinata</i>	E	-	X	None
Sturgeon, Gulf	<i>Acipenser oxyrinchus (=oxyrhynchus) desotoi</i>	T	X	X	None
Corals					
Coral, Elkhorn	<i>Acopora palmate</i>	T	X**	X	Florida Keys and Dry Tortugas
Coral, Staghorn	<i>Acopora cervicornis</i>	T	-	X	Florida
Boulder Star Coral	<i>Orbicella franksi</i>	T	X	X	None
Lobed Star Coral	<i>Orbicella annularis</i>	T	X	X	None
Mountainous Star Coral	<i>Orbicella faveolata</i>	T	X	X	None
Rough Cactus Coral	<i>Mycetophyllia ferox</i>	T	-	X	None

Abbreviations: E = Endangered; T = Threatened

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

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

ARCHAEOLOGICAL REPORT

Chevron contracted Fugro GeoServices, Inc. (FGSI) to conduct high-resolution geophysical surveys in 2008, 2010 and 2018 in the "Jack-St. Malo" Development Area. The AUV collected side-scan sonar, subbottom profiler, and multibeam bathymetric data. Geoscience Earth & Marine Services (GEMS) was contracted by Chevron to examine the data collected and to locate any potential submerged cultural resources. GEMS prepared archaeological assessments to comply with the Archaeological Resource Surveys and Reports requirements in NTL 2005-G07.

GEMS completed the archaeological report, "Jack-St. Malo Development Area Archaeological Assessment, Blocks 631-634, 671, 674-678, 714-721, 758-764, 802,805, Walker Ridge Area, Gulf of Mexico", Project No. 0311-1903, in July of 2011 based on the 2008 and 2010 data. The report was previously submitted to the BOEM.

An archaeological assessment of the data collected in 2018 was included in the GEMS report, “Shallow Hazards and Archaeological Assessment, Blocks 758, 759, 802, and 803, Walker Ridge Area, Gulf of Mexico”, and was previously submitted to the BOEM.

No sonar contacts are recommended for archaeological avoidance in the AUV survey areas, but care should be exercised when working on the seabed near the sidescan sonar contacts. Should any potentially historic materials such as textiles, wood, ceramics, or other items be uncovered during operations in the area, all operations must cease and BOEM be notified within 48 hours.

AIR AND WATER QUALITY INFORMATION

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

SOCIOECONOMIC INFORMATION

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

SECTION 7 WASTES AND DISCHARGES INFORMATION

PROJECTED GENERATED WASTES

“Wastes You Will Generate, Treat and Downhole Dispose or Discharge to the Gulf of Mexico” is included as **Attachment 7-A**.

MODELING REPORT

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

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

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

Projected generated waste				Projected ocean discharges			Projected Downhole Disposal
Type of Waste	Composition	Total Projected Annual Discharge Volume	units	Maxium Discharge rate	units	Discharge Method	Answer yes or no
Will humans be there? If yes, expect conventional waste							
<i>EXAMPLE: Sanitary waste water</i>	<i>Sanitary waste from living quarters</i>	<i>bbl</i>	<i>X bbl/well</i>			<i>chlorinate and discharge overboard</i>	<i>No</i>
Domestic waste	Grey water from living quarters, control rooms, operating areas, and common areas; Food waste from galley	2,864,765	bbl/yr	1,057	bbl/day	Food grinder. Continuous discharge	No
Sanitary waste	Sanitary waste from living quarters, control rooms, and common areas	2,754,582	bbl/yr	755	bbl/day	USCG-approved MSD with chlorination.	No
Is there a deck? If yes, there will be Deck Drainage							
Deck Drainage	Deck drainage from drilling floor, operating areas, and vessel decks	44,680	bbl/yr	233,140	bbl/day	Hull discharge overboard.	No
Miscellaneous discharges. If yes, only fill in those associated with your activity.							
Desalinization unit discharge	Rejected brine from watermaker unit	1,101,833	bbl/yr	3,019	bbl/day	continuous discharge commingled with fresh water storage	No
Ballast water	Uncontaminated seawater used to maintain proper draft	79,242	bbl/yr	694,394	bbl/day	intermittent discharge on location.	No
Bilge water	Water from bilge separator	12,578	bbl/yr	755	bbl/day	intermittent discharge	No
Firewater	Seawater treated with only hypochlorite for fire water	557,142	bbl/yr	514,276	bbl/day	fire water pumps only used for testing system. Intermittant discharge	No
Non-contact cooling water	Seawater treated with only hypochlorite	635,952,368	bbl/yr	1,741,265	bbl/day	references the Stage II rates. Stage I rates are lower.	No
Uncontaminated Seawater	Discharges associated with hypochlorite generator	2,754,582	bbl/yr	7,548	bbl/day	from hypochlorite generator continuous discharge	No
Uncontaminated Freshwater	Freshwater condensation from HVAC	163,205	bbl/yr	211	bbl/day		No
Uncontaminated Freshwater	Freshwater from South East storage	1,652,749	bbl/yr	4,529	bbl/day	continuous discharge commingled with water maker brine	No
Chemically treated seawater	Seawater treated with hypochlorite	4,458,044	bbl/yr	741,412	bbl/day	Excess seawater from jockey pumps and seawater lift pumps	No
Subsea Production Control Fluids	Hydraulic control fluids used to actuate valves or replace chokes	260	bbl/yr	1	gal/valve/ per two weeks	intermittent discharge at seafloor from sub sea valves (based on 10 valves tested every 2 weeks)	No
Hydrate inhibitor	Hydrate inhibitor (methanol) for replacing chokes	0.05	bbl/yr	0.05	bbl/day	intermittent discharge at seafloor from sub sea choke replacement. Estimated one to occur per year (<0.05bbl)	No
Treatment Fluids			bbl		bbl/day	no estimation of this at this time	No
Workover Fluids			bbl		bbl/day	no estimation of this at this time	No
Miscellaneous discharges. Generated once only at commissioning - not annual discharges				Total discharge			
Chemically treated seawater	Base case is no addition of chemical for hydrotesting pipelines. However if holding times are extended, corrosion inhibitor and biocide will be added to seawater	330,000	bbl	82,500	bbl/day	export oil line discharge-during commissioning, estimated to occur ONCE ONLY over 4 day comissioning period	No
Chemically treated seawater	Base case is no addition of chemical for hydrotesting pipelines. However if holding times are extended, corrosion inhibitor and biocide will be added to seawater	75,000	bbl	18,750	bbl/day	export gas line discharge-during commissioning, estimated to occur ONCE ONLY over 4 day commissioning period	No
Chemically treated seawater	Hydrotest fluids of treated seawater with biocide and dye	1,071	bbl	1,071	bbl/day	hydrotest for infield flowlines. Estimate discharge 1day	No
Chemically treated seawater	hydrotest and dewatering infield flowlines of treated seawater with biocide and dye	18,576	bbl	1,327	bbl/day	potential during commissioning, estimated to occur over 2 week period	No
Will you produce hydrocarbons? If yes fill in for produced water.							
Produced water	formation fluids separated from oil	47,482,500	bbl	130,000	bbl/day	discharged overboard through diffuser	No
Will you be covered by an individual or general NPDES permit ?				General			
				General			

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

SECTION 8 AIR EMISSIONS INFORMATION

Emissions worksheets and screening questions:

"Yes"	"No"	Screening Questions for DOCD's
Yes		Is any calculated Complex Total (CT) Emission amount (in tons) associated with your proposed exploration activities more than 90% of the amounts calculated using the following formulas: $CT = 3400D^{2/3}$ for CO, and $CT = 33.3D$ for the other air pollutants (where D = distance to shore in miles)?
	No	Do your emission calculations include any emission reduction measures or modified emission factors?
Yes		Does or will the facility complex associated with your proposed development and production activities process production from eight or more wells?
	No	Do you expect to encounter H ₂ S at concentrations greater than 20 parts per million (ppm)?
	No	Do you propose to flare or vent natural gas in excess of the criteria set forth under 250.1105(a)(2) and (3)?
NOTE: The flare/vent volumes included in this AQR exceed the limits established under 30 CFR 250 Subpart K to allow conservatism for air permitting purposes. However, Chevron will comply with all applicable requirements of 30 CFR 250.1160 and 1161.		
	No	Do you propose to burn produced hydrocarbon liquids?
	No	Are your proposed development and production activities located within 25 miles from shore?
	No	Are your proposed development and production activities located within 200 kilometers of the Breton Wilderness Area?

Included as **Attachment 8-A** are the Air Emissions Worksheets.

COMPANY	Chevron
AREA	Walker Ridge
BLOCK	WR 718
LEASE	OCS-G 32703
FACILITY	JSM FPU (WR718)
WELL	
COMPANY CONTACT	Kathy Sharp
TELEPHONE NO.	985-773-6230
REMARKS	

LEASE TERM PIPELINE CONSTRUCTION INFORMATION:		
YEAR	NUMBER O PIPELINES	TOTAL NUMBER OF CONSTRUCTION DAYS*
2021	1	35
2022		
2023		
2024		
2025		
2026		
2027		
2028		
2029		
2030		

*This AQR includes additional days each year for contingency purposes. Number of days included

AIR EMISSIONS COMPUTATION FACTORS

Fuel Usage Conversion Factors	Natural Gas Turbines			Natural Gas Engines			Diesel Recip. Engine		Diesel Turbines	
	SCF/hp-hr			SCF/hp-hr			GAL/hp-hr		GAL/hp-hr	
		9.524		7.143			0.0514		0.0514	

Equipment/Emission Factors	units	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3	REF.	DATE	Reference Links
Natural Gas Turbine	g/hp-hr		0.0086	0.0086	0.0026	1.4515	0.0095	N/A	0.3719	N/A	AP42 3.1-1& 3.1-2a	4/00	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03s01.pdf
RECIP. 2 Cycle Lean Natural Gas	g/hp-hr		0.1293	0.1293	0.0020	6.5998	0.4082	N/A	1.2009	N/A	AP42 3.2-1	7/00	https://www3.epa.gov/ttn/chie1/ap42/ch03/final/c03s02.pdf
RECIP. 4 Cycle Lean Natural Gas	g/hp-hr		0.0002	0.0002	0.0020	2.8814	0.4014	N/A	1.8949	N/A	AP42 3.2-2	7/00	https://www3.epa.gov/ttn/chie1/ap42/ch03/final/c03s02.pdf
RECIP. 4 Cycle Rich Natural Gas	g/hp-hr		0.0323	0.0323	0.0020	7.7224	0.1021	N/A	11.9408	N/A	AP42 3.2-3	7/00	https://www3.epa.gov/ttn/chie1/ap42/ch03/final/c03s02.pdf
Diesel Recip. < 600 hp	g/hp-hr	1	1	1	0.0279	14.1	1.04	N/A	3.03	N/A	AP42 3.3-1	10/96	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03s03.pdf
Diesel Recip. > 600 hp	g/hp-hr	0.32	0.182	0.178	0.0055	10.9	0.29	N/A	2.5	N/A	AP42 3.4-1 & 3.4-2	10/96	https://www3.epa.gov/ttn/chie1/ap42/ch03/final/c03s04.pdf
Diesel Boiler	lbs/bbl	0.0840	0.0420	0.0105	0.0089	1.0080	0.0084	5.14E-05	0.2100	0.0336	AP42 1.3-6; Pb and NH3: WebFIRE (08/2018)	9/98 and 5/10	https://cfpub.epa.gov/webfire/
Diesel Turbine	g/hp-hr	0.0381	0.0137	0.0137	0.0048	2.7941	0.0013	4.45E-05	0.0105	N/A	AP42 3.1-1 & 3.1-2a	4/00	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03s01.pdf
Dual Fuel Turbine	g/hp-hr	0.0381	0.0137	0.0137	0.0048	2.7941	0.0095	4.45E-05	0.3719	0.0000	AP42 3.1-1& 3.1-2a; AP42 3.1-1 & 3.1-2a	4/00	https://cfpub.epa.gov/webfire/
Vessels – Propulsion	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI; TSP refer to Diesel Recip. > 600 hp reference	3/19	
Vessels – Drilling Prime Engine, Auxiliary	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI; TSP refer to Diesel Recip. > 600 hp reference	3/19	https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data
Vessels – Diesel Boiler	g/hp-hr	0.0466	0.1491	0.1417	0.4400	1.4914	0.0820	3.73E-05	0.1491	0.0003	USEPA 2017 NEI; TSP (units converted) refer to Diesel Boiler Reference	3/19	
Vessels – Well Stimulation	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI; TSP refer to Diesel Recip. > 600 hp reference	3/19	
Natural Gas Heater/Boiler/Bumer	lbs/MMscf	7.60	1.90	1.90	0.60	190.00	5.50	5.00E-04	84.00	3.2	AP42 1.4-1 & 1.4-2; Pb and NH3: WebFIRE (08/2018)	7/98 and 8/18	https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s04.pdf
Combustion Flare (no smoke)	lbs/MMscf	0.00	0.00	0.00	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	
Combustion Flare (light smoke)	lbs/MMscf	2.10	2.10	2.10	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	https://www3.epa.gov/ttn/chie1/ap42/ch13/final/C13S05_02-05-18.pdf
Combustion Flare (medium smoke)	lbs/MMscf	10.50	10.50	10.50	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	
Combustion Flare (heavy smoke)	lbs/MMscf	21.00	21.00	21.00	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	
Liquid Flaring	lbs/bbl	0.42	0.0966	0.0651	5.964	0.84	0.01428	5.14E-05	0.21	0.0336	AP42 1.3-1 through 1.3-3 and 1.3-5	5/10	https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s03.pdf
Storage Tank	tons/yr/tank						4.300				2014 Gulfwide Inventory; Avg emiss (upper bound of 95% CI)	2017	https://www.boem.gov/environment/environmental-studies/2014-gulfwide-emission-inventory
Fugitives	lbs/hr/component						0.0005				API Study	12/93	https://www.epiwebstore.org/publications/item.cgi?9879d38a-8bc0-4abc-b5c-9b623870125d
Glycol Dehydrator	tons/yr/dehydrator						19.240				2011 Gulfwide Inventory; Avg emiss (upper bound of 95% CI)	2014	https://www.boem.gov/environment/environmental-studies/2011-gulfwide-emission-inventory
Cold Vent	tons/yr/vent						44.747				2014 Gulfwide Inventory; Avg emiss (upper bound of 95% CI)	2017	https://www.boem.gov/environment/environmental-studies/2014-gulfwide-emission-inventory
Waste Incinerator	lb/ton		15.0	15.0	2.5	2.0	N/A	N/A	20.0	N/A	AP 42 2.1-12	10/96	https://www3.epa.gov/ttnchie1/ap42/ch02/final/c02s01.pdf
On-Ice – Loader	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	
On-Ice – Other Construction Equipment	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	
On-Ice – Other Survey Equipment	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	https://www.epa.gov/moves/nonroad2008a-installation-and-updates
On-Ice – Tractor	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	
On-Ice – Truck (for gravel island)	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	
On-Ice – Truck (for surveys)	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	
Man Camp - Operation (max people/day)	tons/person/day		0.0004	0.0004	0.0004	0.006	0.001	N/A	0.001	N/A	BOEM 2014-1001	2014	https://www.boem.gov/sites/default/files/uploadedFiles/BOEM/BOEM_Newsroom/Library/Publications/2014-1001.pdf
Vessels - Ice Management Diesel	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI; TSP refer to Diesel Recip. > 600 hp reference	3/19	https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data
Vessels - Hovercraft Diesel	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI; TSP refer to Diesel Recip. > 600 hp reference	3/19	https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data

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

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

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

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

AIR EMISSIONS CALCULATIONS - 2ND YEAR

COMPANY	AREA	BLOCK	LEASE	FACILITY	WELL	CONTACT	PHONE	REMARKS	ESTIMATED TONS															
Chevron	Walker Ridge	WR718	OCS-G 32703	JSM FFU (WR718)		Kathy Sharp	857-773-8230		ESTIMATED TONS															
OPERATIONS	EQUIPMENT	EQUIPMENT ID	RATING	MAX FUEL	ACT FUEL	RUN TIME	MAXIMUM POUNDS PER HOUR																	
	Diesel Engines	HP	GAL/HR	GAL/D	HR/D	D/YR	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3
	Nat. Gas Engines	MMBTU/HR	SCF/HR	SCF/D	HR/D	D/YR	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3
DRILLING	VESSELS - Drilling - Propulsion Engine - Diesel		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS - Drilling - Propulsion Engine - Diesel		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS - Drilling - Propulsion Engine - Diesel		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS - Drilling - Propulsion Engine - Diesel		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Vessels - Diesel Boiler		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Vessels - Drilling Prime Engine, Auxiliary		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PIPELINE INSTALLATION	VESSELS - Pipeline Laying Vessel - Diesel		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS - Pipeline Burying - Diesel		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FACILITY INSTALLATION	VESSELS - Heavy Lift Vessel/Derrick Barge Diesel		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	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 1		490	25.20854	605.00	24	365	1.08	1.08	1.08	0.03	15.23	1.12	3.27	0.00	4.73	4.73	4.73	0.13	66.72	4.92	0.00	14.34	0.00
	RECIP <600hp Diesel - Crane 2		490	25.20854	605.00	24	365	1.08	1.08	1.08	0.03	15.23	1.12	3.27	0.00	4.73	4.73	4.73	0.13	66.72	4.92	0.00	14.34	0.00
	RECIP <600hp Diesel - WIM Crane		580	29.83688	716.13	24	365	1.28	1.28	1.28	0.04	18.03	1.33	3.87	0.00	5.60	5.60	5.60	0.16	78.97	5.82	0.00	16.97	0.00
	RECIP <600hp Diesel - Aux Equip Survival Craft 1		30	1.54338	37.04	1	52	0.07	0.07	0.07	0.00	0.93	0.07	0.20	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.01	0.00
	RECIP <600hp Diesel - Aux Equip Survival Craft 2		30	1.54338	37.04	1	52	0.07	0.07	0.07	0.00	0.93	0.07	0.20	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.01	0.00
	RECIP <600hp Diesel - Aux Equip Survival Craft 3		30	1.54338	37.04	1	52	0.07	0.07	0.07	0.00	0.93	0.07	0.20	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.01	0.00
	RECIP <600hp Diesel - Aux Equip Survival Craft 4		30	1.54338	37.04	1	52	0.07	0.07	0.07	0.00	0.93	0.07	0.20	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.01	0.00
	RECIP <600hp Diesel - Rescue Craft		250	12.9615	308.68	1	52	0.55	0.55	0.55	0.02	7.77	0.57	1.67	0.00	0.01	0.01	0.01	0.00	0.20	0.01	0.01	0.01	0.04
	RECIP <600hp Diesel - Temporary/Mobile Equipment*		1760	90.54496	2173.08	24	365	3.88	3.88	3.88	0.11	54.71	4.04	11.76	0.00	17.00	17.00	17.00	0.47	239.63	17.67	0.00	51.49	0.00
	RECIP >600hp Diesel - Firewater Pump 1		2199	113.1298	2715.11	1	52	1.55	0.88	0.86	0.03	52.84	1.41	12.12	0.00	0.04	0.02	0.02	0.00	1.37	0.04	0.00	0.32	0.00
	RECIP >600hp Diesel - Firewater Pump 2		2199	113.1298	2715.11	1	52	1.55	0.88	0.86	0.03	52.84	1.41	12.12	0.00	0.04	0.02	0.02	0.00	1.37	0.04	0.00	0.32	0.00
	RECIP >600hp Diesel - Emergency Generator		3151	162.1063	3890.55	1	52	2.22	1.26	1.24	0.04	75.72	2.01	17.37	0.00	0.06	0.03	0.03	0.00	1.97	0.05	0.00	0.45	0.00
	RECIP >600hp Diesel - Hurricane Generator		3151	162.1063	3890.55	1	52	2.22	1.26	1.24	0.04	75.72	2.01	17.37	0.00	0.06	0.03	0.03	0.00	1.97	0.05	0.00	0.45	0.00
	VESSELS - Shuttle Tankers		0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS - Well Stimulation		0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Natural Gas Turbine - Generator 1 (dual fuel)		42068	400647.6	9615542.86	24	365	0.80	0.80	0.80	0.24	134.62	0.88	34.50	0.00	3.50	3.50	3.50	1.04	589.63	3.87	0.00	151.09	0.00
	Natural Gas Turbine - Generator 2 (dual fuel)		42068	400647.6	9615542.86	24	365	0.80	0.80	0.80	0.24	134.62	0.88	34.50	0.00	3.50	3.50	3.50	1.04	589.63	3.87	0.00	151.09	0.00
	Natural Gas Turbine - Generator 3 (dual fuel)		42068	400647.6	9615542.86	24	365	0.80	0.80	0.80	0.24	134.62	0.88	34.50	0.00	3.50	3.50	3.50	1.04	589.63	3.87	0.00	151.09	0.00
	Natural Gas Turbine - Generator 4 (dual fuel)		49807.8	474360	11384640.00	24	365	0.85	0.85	0.85	0.28	159.38	1.05	40.84	0.00	4.15	4.15	4.15	1.23	698.11	4.58	0.00	178.89	0.00
	Diesel Turbine - Generator 1 (dual fuel)		42068	2164.23	51941.53	24	122	3.53	1.27	1.27	0.45	259.14	0.12	0.97	0.00	5.17	1.85	1.85	0.65	379.38	0.18	0.01	1.42	0.00
	Diesel Turbine - Generator 2 (dual fuel)		42068	2164.23	51941.53	24	122	3.53	1.27	1.27	0.45	259.14	0.12	0.97	0.00	5.17	1.85	1.85	0.65	379.38	0.18	0.01	1.42	0.00
	Diesel Turbine - Generator 3 (dual fuel)		42068	2164.23	51941.53	24	122	3.53	1.27	1.27	0.45	259.14	0.12	0.97	0.00	5.17	1.85	1.85	0.65	379.38	0.18	0.01	1.42	0.00
	Diesel Turbine - Generator 4 (dual fuel)		49807.8	2562.412	61497.89	24	122	4.18	1.50	1.50	0.53	306.82	0.14	1.15	0.00	6.13	2.19	2.19	0.77	449.18	0.21	0.01	1.68	0.00
	Dual Fuel Turbine		0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP 2 Cycle Lean Natural 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP 4 Cycle Lean Natural 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP 4 Cycle Rich Natural 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Diesel Boiler		0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Natural Gas Heater/Boiler/Burner		0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MISC		BPD	SCF/HR	COUNT																				
	STORAGE TANK - routed to VRU		780	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HP COMBUSTION FLARE - no smoke Continuous Pilot and Purge		1991667	443	24	365	0.00	0.00	0.00	0.00	1.14	142.21	71.56	648.29	0.00	0.00	0.00	0.00	0.98	122.87	61.83	0.00	560.12	0.00
	LP COMBUSTION FLARE - no smoke Continuous Pilot and Purge		443	24	365	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.07	0.00	0.63	0.00
	LP COMBUSTION FLARE - no smoke Upset Conditions		229166.7	24	72	0.00	0.00	0.00	0.00	0.13	16.36	8.23	74.59	0.00	0.00	0.00	0.00	0.00	0.11	14.14	7.11	0.00	64.45	0.00
	COMBUSTION FLARE - light smoke		0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	COMBUSTION FLARE - medium smoke		0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	COMBUSTION FLARE - heavy smoke		0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	COLD VENT - contingency for flare pilot outage		2	1	1	1	1	0.00	0.00	0														

AIR EMISSIONS CALCULATIONS - 3RD YEAR

COMPANY	AREA	BLOCK	LEASE	FACILITY	WELL	CONTACT	PHONE	REMARKS	ESTIMATED TONS																				
Chevron	Walker Ridge	WR718	OCS-G 32703	JSM FFU (WR718)		Katly Sharp	857-773-8230		ESTIMATED TONS																				
OPERATIONS	EQUIPMENT	EQUIPMENT ID	RATING	MAX FUEL GAL/HR	ACT FUEL GAL/D	RUN TIME	MAXIMUM POUNDS PER HOUR																						
							HP	SCF/HR	SCF/D	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3											
									TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3			
DRILLING	VESSLS - Drilling - Propulsion Engine - Diesel		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DRILLING	VESSLS - Drilling - Propulsion Engine - Diesel		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DRILLING	VESSLS - Drilling - Propulsion Engine - Diesel		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DRILLING	VESSLS - Drilling - Propulsion Engine - Diesel		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DRILLING	Vessels - Diesel Boiler		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DRILLING	Vessels - Drilling Prime Engine, Auxiliary		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PIPELINE INSTALLATION	VESSLS - Pipeline Laying Vessel - Diesel		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PIPELINE INSTALLATION	VESSLS - Pipeline Burying - Diesel		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FACILITY INSTALLATION	VESSLS - Heavy Lift Vessel/Derrick Barge Diesel		0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 1		490	25.20854	605.00	24	365	1.08	1.08	1.08	0.03	15.23	1.12	0.20	3.27	0.00	4.73	4.73	4.73	0.13	66.72	4.92	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP <600hp Diesel - Crane 2		490	25.20854	605.00	24	365	1.08	1.08	1.08	0.03	15.23	1.12	0.20	3.27	0.00	4.73	4.73	4.73	0.13	66.72	4.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	RECIP <600hp Diesel - WIM Crane		580	29.83688	716.13	24	365	1.28	1.28	1.28	0.04	18.03	1.33	0.20	3.87	0.00	5.60	5.60	5.60	0.16	78.97	5.82	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP <600hp Diesel - Aux Equip Survival Craft 1		30	1.54338	37.04	1	52	0.07	0.07	0.07	0.00	0.93	0.07	0.20	0.20	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP <600hp Diesel - Aux Equip Survival Craft 2		30	1.54338	37.04	1	52	0.07	0.07	0.07	0.00	0.93	0.07	0.20	0.20	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP <600hp Diesel - Aux Equip Survival Craft 3		30	1.54338	37.04	1	52	0.07	0.07	0.07	0.00	0.93	0.07	0.20	0.20	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP <600hp Diesel - Aux Equip Survival Craft 4		30	1.54338	37.04	1	52	0.07	0.07	0.07	0.00	0.93	0.07	0.20	0.20	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP <600hp Diesel - Rescue Craft		250	12.9615	308.68	1	52	0.55	0.55	0.55	0.02	7.77	0.57	0.20	1.67	0.00	0.01	0.01	0.01	0.00	0.20	0.01	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP <600hp Diesel - Temporary/Mobile Equipment*		1760	90.54496	2173.08	24	365	3.88	3.88	3.88	0.11	54.71	4.04	11.76	17.00	17.00	17.00	0.47	239.63	17.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP >600hp Diesel - Firewater Pump 1		2199	113.1298	2715.11	1	52	1.55	0.88	0.86	0.03	52.84	1.41	12.12	0.04	0.02	0.02	0.00	1.37	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP >600hp Diesel - Firewater Pump 2		2199	113.1298	2715.11	1	52	1.55	0.88	0.86	0.03	52.84	1.41	12.12	0.04	0.02	0.02	0.00	1.37	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP >600hp Diesel - Emergency Generator		3151	162.1063	3890.55	1	52	2.22	1.26	1.24	0.04	75.72	2.01	17.37	0.06	0.03	0.03	0.00	1.97	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	VESSLS - Shuttle Tankers		0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	VESSLS - Well Stimulation		0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	Natural Gas Turbine - Generator 1 (dual fuel)		42068	400647.6	9615542.86	24	365	0.80	0.80	0.80	0.24	134.62	0.88	34.50	0.00	3.50	3.50	1.04	589.63	3.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	Natural Gas Turbine - Generator 2 (dual fuel)		42068	400647.6	9615542.86	24	365	0.80	0.80	0.80	0.24	134.62	0.88	34.50	0.00	3.50	3.50	1.04	589.63	3.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	Natural Gas Turbine - Generator 3 (dual fuel)		42068	400647.6	9615542.86	24	365	0.80	0.80	0.80	0.24	134.62	0.88	34.50	0.00	3.50	3.50	1.04	589.63	3.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	Natural Gas Turbine - Generator 4 (dual fuel)		49807.8	474360	11384640.00	24	365	0.85	0.85	0.85	0.28	159.38	1.05	40.84	0.00	4.15	4.15	1.25	696.11	4.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	Diesel Turbine - Generator 1 (dual fuel)		42068	2164.23	51941.53	24	122	3.53	1.27	1.27	0.45	259.14	0.12	0.97	5.17	1.85	1.85	0.65	379.38	0.18	0.01	1.42	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	Diesel Turbine - Generator 2 (dual fuel)		42068	2164.23	51941.53	24	122	3.53	1.27	1.27	0.45	259.14	0.12	0.97	5.17	1.85	1.85	0.65	379.38	0.18	0.01	1.42	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	Diesel Turbine - Generator 3 (dual fuel)		42068	2164.23	51941.53	24	122	3.53	1.27	1.27	0.45	259.14	0.12	0.97	5.17	1.85	1.85	0.65	379.38	0.18	0.01	1.42	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	Diesel Turbine - Generator 4 (dual fuel)		49807.8	2562.412	61497.89	24	122	4.18	1.50	1.50	0.53	306.82	0.14	0.97	6.13	2.19	2.19	0.77	449.18	0.21	0.01	1.68	0.00	0.00	0.00	0.00	0.00		
PRODUCTION	Dual Fuel Turbine		0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP 2 Cycle Lean Natural 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP 4 Cycle Lean Natural 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	RECIP 4 Cycle Rich Natural 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	Diesel Boiler		0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION	Natural Gas Heater/Boiler/Burner		0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
MISC	STORAGE TANK - routed to VRU			BPD	SCF/HR	COUNT								#DIV/0!															
MISC	HP COMBUSTION FLARE - no smoke Continuous Pilot and Purge			780	0	24	365	0.00	0.00	0.00	0.00	0.06	0.03	0.25	0.00	0.00	0.00	0.00	0.24	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
MISC	HP COMBUSTION FLARE - no smoke Upset Conditions			1991667	0	24	72	0.00	0.00	0.00	0.00	1.14	142.21	71.56	648.29	0.00	0.00	0.00	0.98	122.87	61.83	0.00	0.00	0.00	0.00				

AIR EMISSIONS CALCULATIONS

COMPANY	AREA	BLOCK	LEASE	FACILITY	WELL				
Chevron	Walker Ridge	WR 718	OCS-G 32703	JSM FPU (WF					
Year	Facility Emitted Substance								
	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3
2021	42.61	43.07	43.07	6.94	3430.29	218.63	0.02	1166.88	0.00
2022	955.30	54.60	54.59	9.09	4650.70	228.81	0.03	1363.17	0.00
2023	955.30	54.60	54.59	9.09	4650.70	231.00	0.03	1363.17	0.00
2024-2031	955.30	54.60	54.59	9.09	4650.70	231.00	0.03	1363.17	0.00
Allowable	6526.80			6526.80	6526.80	6526.80		#####	

DOCD/DPP - AIR QUALITY

**OMB Control No. 1010-0151
OMB Approval Expires: 08/31/2023**

COMPANY	Chevron U.S.A. Inc.
AREA	Walker Ridge
BLOCK	758, 802
LEASE	OCS-G 17015, 20394
FACILITY	Production is routed to WR718 FPU
WELL	PS011, JK 01
COMPANY CONTACT	Kathy Sharp
TELEPHONE NO.	985-773-6230
REMARKS	

LEASE TERM PIPELINE CONSTRUCTION INFORMATION:		
YEAR	NUMBER O PIPELINES	TOTAL NUMBER OF CONSTRUCTION DAYS*
2021	1	30
2022		
2023		
2024		
2025		
2026		
2027		
2028		
2029		
2030		

*This AQR includes additional days each year for contingency purposes. Number of days included

AIR EMISSIONS COMPUTATION FACTORS

Fuel Usage Conversion Factors	Natural Gas Turbines			Natural Gas Engines SCF/hp-hr	Diesel Recip. Engine 7.143	Diesel Turbines GAL/hp-hr	0.0514			
	SCF/hp-hr	9.524								

Equipment/Emission Factors	units	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3	REF.	DATE	Reference Links
Natural Gas Turbine	g/hp-hr		0.0086	0.0086	0.0026	1.4515	0.0095	N/A	0.3719	N/A	AP42 3.1-1& 3.1-2a	4/00	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03s01.pdf
RECIP. 2 Cycle Lean Natural Gas	g/hp-hr		0.1293	0.1293	0.0020	6.5998	0.4082	N/A	1.2009	N/A	AP42 3.2-1	7/00	https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s02.pdf
RECIP. 4 Cycle Lean Natural Gas	g/hp-hr		0.0002	0.0002	0.0020	2.8814	0.4014	N/A	1.8949	N/A	AP42 3.2-2	7/00	https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s02.pdf
RECIP. 4 Cycle Rich Natural Gas	g/hp-hr		0.0323	0.0323	0.0020	7.7224	0.1021	N/A	11.9408	N/A	AP42 3.2-3	7/00	https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s02.pdf
Diesel Recip. < 600 hp	g/hp-hr	1	1	1	0.0279	14.1	1.04	N/A	3.03	N/A	AP42 3.3-1	10/96	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03s03.pdf
Diesel Recip. > 600 hp	g/hp-hr	0.32	0.182	0.178	0.0055	10.9	0.29	N/A	2.5	N/A	AP42 3.4-1 & 3.4-2	10/96	https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s04.pdf
Diesel Boiler	lbs/bbl	0.0840	0.0420	0.0105	0.0089	1.0080	0.0084	5.14E-05	0.2100	0.0336	AP42 1.3-6; Pb and NH3; WebFIRE (08/2018)	9/98 and 5/10	https://cfpub.epa.gov/webfire/
Diesel Turbine	g/hp-hr	0.0381	0.0137	0.0137	0.0048	2.7941	0.0013	4.45E-05	0.0105	N/A	AP42 3.1-1 & 3.1-2a	4/00	https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03s01.pdf
Dual Fuel Turbine	g/hp-hr	0.0381	0.0137	0.0137	0.0048	2.7941	0.0095	4.45E-05	0.3719	0.0000	AP42 3.1-1& 3.1-2a; AP42 3.1-1 & 3.1-2a	4/00	https://cfpub.epa.gov/webfire/
Vessels – Propulsion	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI/TSP refer to Diesel Recip. > 600 hp reference	3/19	https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data
Vessels – Drilling Prime Engine, Auxiliary	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI/TSP refer to Diesel Recip. > 600 hp reference	3/19	https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data
Vessels – Diesel Boiler	g/hp-hr	0.0466	0.1491	0.1417	0.4400	1.4914	0.0820	3.73E-05	0.1491	0.0003	USEPA 2017 NEI/TSP (units converted) refer to Diesel Boiler Reference	3/19	https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data
Vessels – Well Stimulation	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI/TSP refer to Diesel Recip. > 600 hp reference	3/19	https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data
Natural Gas Heater/Boiler/Burner	lbs/MMscf	7.60	1.90	1.90	0.60	190.00	5.50	5.00E-04	84.00	3.2	AP42 1.4-1 & 1.4-2; Pb and NH3; WebFIRE (08/2018)	7/98 and 8/18	https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s04.pdf
Combustion Flare (no smoke)	lbs/MMscf	0.00	0.00	0.00	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	https://www3.epa.gov/ttn/chief/ap42/ch13/final/C13S05_02-05-18.pdf
Combustion Flare (light smoke)	lbs/MMscf	2.10	2.10	2.10	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	https://www3.epa.gov/ttn/chief/ap42/ch13/final/C13S05_02-05-18.pdf
Combustion Flare (medium smoke)	lbs/MMscf	10.50	10.50	10.50	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	https://www3.epa.gov/ttn/chief/ap42/ch13/final/C13S05_02-05-18.pdf
Combustion Flare (heavy smoke)	lbs/MMscf	21.00	21.00	21.00	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	https://www3.epa.gov/ttn/chief/ap42/ch13/final/C13S05_02-05-18.pdf
Liquid Flaring	lbs/bbl	0.42	0.0966	0.0651	5.964	0.84	0.01428	5.14E-05	0.21	0.0336	AP42 1.3-1 through 1.3-3 and 1.3-5	5/10	https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s03.pdf
Storage Tank	tons/yr/tank						4.300				2014 Gulfwide Inventory; Avg emiss (upper bound of 95% CI)	2017	https://www.boem.gov/environment/environmental-studies/2014-gulfwide-emission-inventory
Fugitives	lbs/hr/component						0.0005				API Study	12/93	https://www.epiwebstore.org/publications/item.cfm?9879d38a-8be0-44bc-bb5c-9b623870125d
Glycol Dehydrator	tons/yr/dehydrator						19.240				2011 Gulfwide Inventory; Avg emiss (upper bound of 95% CI)	2014	https://www.boem.gov/environment/environmental-studies/2011-gulfwide-emission-inventory
Cold Vent	tons/yr/vent						44.747				2014 Gulfwide Inventory; Avg emiss (upper bound of 95% CI)	2017	https://www.boem.gov/environment/environmental-studies/2014-gulfwide-emission-inventory
Waste Incinerator	lb/ton		15.0	15.0	2.5	2.0	N/A	N/A	20.0	N/A	AP 42.2.1-12	10/96	https://www3.epa.gov/ttnchie1/ap42/ch02/final/c02s01.pdf
On-Ice – Loader	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	https://www.epa.gov/moves/nonroad2008a-installation-and-updates
On-Ice – Other Construction Equipment	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	
On-Ice – Other Survey Equipment	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	
On-Ice – Tractor	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	
On-Ice – Truck (for gravel island)	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	
On-Ice – Truck (for surveys)	lbs/gal	0.043	0.043	0.043	0.040	0.604	0.049	N/A	0.130	0.003	USEPA NONROAD2008 model; TSP (units converted) refer to Diesel Recip. <600 reference	2009	
Man Camp - Operation (max people/day)	tons/person/day		0.0004	0.0004	0.0004	0.006	0.001	N/A	0.001	N/A	BOEM 2014-1001	2014	
Vessels – Ice Management Diesel	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI/TSP refer to Diesel Recip. > 600 hp reference	3/19	https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data
Vessels – Hovercraft Diesel	g/hp-hr	0.320	0.1931	0.1873	0.0047	7.6669	0.2204	2.24E-05	1.2025	0.0022	USEPA 2017 NEI/TSP refer to Diesel Recip. > 600 hp reference	3/19	https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data

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

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

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

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

AIR EMISSIONS CALCULATIONS - 1ST YEAR

COMPANY	AREA	BLOCK	LEASE	FACILITY	WELL	CONTACT	PHONE	REMARKS																			
Chevron U.S.A. Inc.	Walker Ridge	758-802	OCS-G 17015	is routed to W	PS011_JK 01	Kathy Sharp	985-773-6230																				
OPERATIONS	EQUIPMENT	EQUIPMENT ID	RATING	MAX. FUEL		RUN TIME		MAXIMUM POUNDS PER HOUR											ESTIMATED TONS								
				HP	GAL/HR	GAL/D	HR/D	D/YR	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3	
		Burners		MMBTU/HR	SCF/HR	SCF/D	HR/D	D/YR	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3	TSP	PM10	PM2.5	SOx	NOx	VOC	Pb	CO	NH3	
DRILLING	VESSLS - Drilling - Propulsion Engine - Diesel		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSLS - Drilling - Propulsion Engine - Diesel		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSLS - Drilling - Propulsion Engine - Diesel		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSLS - Drilling - Propulsion Engine - Diesel		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Vessels - Diesel Boiler		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Vessels - Drilling Prime Engine, Auxiliary		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PIPELINE INSTALLATION	VESSLS - Pipeline Laying Vessel - Diesel		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSLS - Pipeline Burying - Diesel		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FACILITY INSTALLATION	VESSLS - Heavy Lift Vessel/Demck Barge Diesel		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	RECIP <600hp Diesel		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP >600hp Diesel		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSLS - Shuttle Tankers		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSLS - Well Stimulation		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Natural Gas Turbine		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Diesel Turbine		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Dual Fuel Turbine		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP - 2 Cycle Lean Natural Gas		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP - 4 Cycle Lean Natural Gas		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP - 4 Cycle Rich Natural Gas		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Diesel Boiler		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Natural Gas Heater/Boiler/Burner		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MISC.			BPD	SCF/HR	COUNT																						
	STORAGE TANK		0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	COMBUSTION FLARE - no smoke		0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	COMBUSTION FLARE - light smoke		0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	COMBUSTION FLARE - medium smoke		0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	COMBUSTION FLARE - heavy smoke		0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	COLD VENT		0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	FUGITIVES		0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	GLYCOL DEHYDRATOR		0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	WASTE INCINERATOR		0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DRILLING WELL TEST	Liquid Flaming		0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	COMBUSTION FLARE - no smoke		0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	COMBUSTION FLARE - light smoke		0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	COMBUSTION FLARE - medium smoke		0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	COMBUSTION FLARE - heavy smoke		0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ALASKA-SPECIFIC SOURCES	VESSLS					HR/D	D/YR																				
	VESSLS - Ice Management Diesel		0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	Facility Total Emissions								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES																										
	199.0																										
DRILLING	VESSLS - Crew Diesel		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSLS - Supply Diesel		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSLS - Tugs Diesel		0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PIPELINE INSTALLATION	VESSLS - Prelay Survey LCV Diesel		19655	1011.171	24268.11	24	30	13.87	8.37	11.51	0.20	332.22	13.14	0.00	71.87	0.13	6.87	4.14	4.02	0.10	184.51	3.44	0.00	18.76	0.03		
	VESSLS - Pipeline Diesel		27035	1390.843	33380.22	24																					

AIR EMISSIONS CALCULATIONS

COMPANY	AREA	BLOCK	LEASE	FACILITY	WELL				
Chevron U.S.A. Inc.	Walker Ridge	758, 802	OCS-G 17015	Production is r	PS011, JK 01				
Year	Facility Emitted Substance								
	TSP	PM10	PM2.5	SO _x	NO _x	VOC	Pb	CO	NH ₃
2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022-2023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024-2030	81.46	57.28	55.57	1.38	2274.88	65.41	0.01	356.81	0.66
Allowable	6626.70			6626.70	6626.70	6626.70		115890.45	

SECTION 9 OIL SPILL INFORMATION

Oil Spill Response Planning

All the proposed activities and facilities in this DOCD will be covered by the Chevron Gulf of Mexico Regional Oil Spill Response Plan (OSRP), approved by BSEE on March 22, 2016; Chevron submitted Biennial Review update on March 1, 2019 and was deemed in compliance by BSEE on July 22, 2019. The plan with revisions was submitted to BSEE on October 4, 2019 which BSEE acknowledged on October 9, 2019. The following operators are covered under this OSRP:

Chevron U.S.A. Inc. (00078)
Chevron Pipe Line Company (00400)
Sabine Pipe Line LLC (0295)
Union Oil Company of California (0003)
PRS Offshore, L.P. (01767)

SPILL RESPONSE SITES

In the table below, information is provided concerning the location of the primary spill response equipment and the location of the planned staging area(s) that would be used should an oil spill occur resulting from activities proposed in this plan.

Primary Response Equipment Locations	Preplanned Staging Location(s)
Ingleside, Galveston, and Port Arthur, TX; Lake Charles, Morgan City, Houma, Port Fourchon, Leeville, Venice, Fort Jackson, Harvey, Belle Chasse, and Baton Rouge, LA; Pascagoula, MS; Theodore, AL; Tampa, Miami, and Jacksonville, FL.	Ingleside, TX; Port Fourchon and Galliano, LA; Theodore, AL.

OIL SPILL REMOVAL ORGANIZATION (OSRO) INFORMATION

Clean Gulf Associates (CGA) and Marine Spill Response Corporation (MSRC) cooperatives are the primary surface response equipment providers for Chevron in the Gulf of Mexico Region. CGA & MSRC each maintain a dedicated fleet of vessels and other equipment strategically positioned along the Gulf Coast. CGA & MSRC each maintain a network of trained Oil Spill Removal Organizations (OSROs) to deploy and operate their equipment. CGA & MSRC have the capability to plan the mobilization and rapid deployment of spill response resources on a 24-hour, 7 days a week basis, year-round.

Marine Well Containment Company (MWCC) is the primary subsea containment service provider for Chevron. MWCC equipment is available on a 24-hour, 7 days a week basis, year-round.

Chevron's primary staging areas, marine transportation facilities and helicopter bases, are located in Port Fourchon and Galliano, Louisiana. Chevron has the capability to contract for additional staging areas throughout Gulf of Mexico coastal ports.

As per Chevron's Regional Oil Spill Response Plan, our primary Incident Command Post is located in Covington, LA. Chevron has the ability to set up and effectively manage spills at Chevron facilities located in Houma and Lafayette, LA and Houston, TX. Chevron has the capability to contract additional command posts facilities as necessary throughout Gulf Coast region.

Worst-case Discharge Scenario Determination

Category	Production	
	Regional OSRP WCD	DOCD WCD
Type of Activity	>10 Miles Production	>10 Miles Production
Facility location (Area/Block)	GC 641	WR 718
Facility designation	A (Tahiti Spar)	JSM FPU
Distance to nearest shoreline (miles)	118	196
Storage tanks & flowlines (bbl)	4,914	51,770
Lease term pipelines (bbl)	4,044	7,940
Uncontrolled blowout (bbl)	186,452	40,816
Total Volume (bbl)	195,410	100,526
Type of oil(s) (crude, condensate, diesel)	Crude	Crude
API gravity	29.5°	30°

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

Since Chevron has the capability to respond to the worst-case spill scenario included in its Regional OSRP, and since the worst-case scenario determined for Chevron's Plan does not replace the worst-case scenario in Chevron's Regional OSRP; Chevron hereby certifies that Chevron has the capability to respond, to the maximum extent practicable, to a worst-case discharge, or a substantial threat of such a discharge, resulting from the activities proposed in this Plan.

SECTION 10

ENVIRONMENTAL MONITORING INFORMATION

MONITORING SYSTEMS

There are no environmental monitoring systems currently in place or planned for the proposed activities. The supply vessels associated with the operations proposed in this plan will not have moon pools or entanglement areas on the vessels.

INCIDENTAL TAKES

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

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

Chevron 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 No. 2015-BSEE-G03, “Marine Trash and Debris Awareness and Elimination”
- NTL No. 2016-BOEM-G01, “Vessel Strike Avoidance and Injured/Dead Protected Species Reporting”
- NTL No. 2016-BOEM-G02, “Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program”
- “Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, Appendices to the Programmatic Biological Opinion on the Gulf of Mexico Oil and Gas Program”, Appendices A, B, C and J

SECTION 11

LEASE STIPULATIONS INFORMATION

Walker Ridge Blocks 758, 759, 802 and 803 have no known lease stipulations.

Although Stipulation Number 5 - Protected Species is not assigned, Chevron will follow all guidelines to implement these mitigation measures to reduce the potential taking of Federally protected species.

MARINE PROTECTED SPECIES

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

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

BOEM and BSEE issue Notices to Lessees (NTLs), which more fully describe measures implemented in support of the above-mentioned implementing statutes and regulations, as well as measures identified by the U.S. Fish and Wildlife Service and NMFS arising from, among others, conservation recommendations, rulemakings pursuant to the MMPA, or consultation. The

lessee and its operators, personnel, and subcontractors, while undertaking activities authorized under this lease, must implement and comply with the specific mitigation measures outlined in NTL No. 2016-BOEM-G01, "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting;" NTL No. 2016-BOEM-G02, "Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program;" and NTL No. 2015-BSEE-G03, "Marine Trash and Debris Awareness and Elimination." At the lessee's option, the lessee, its operators, personnel, and contractors may comply with the most current measures to protect species in place at the time an activity is undertaken under this lease, including but not limited to new or updated versions of the NTLs identified in this paragraph. The lessee and its operators, personnel, and subcontractors will be required to comply with the mitigation measures, identified in the above referenced NTLs, and additional measures in the conditions of approvals for their plans or permits.

SECTION 12

ENVIRONMENTAL MITIGATION MEASURES INFORMATION

MEASURES TAKEN TO AVOID, MINIMIZE, AND MITIGATE IMPACTS

Chevron will adhere to the requirements as set forth in the following BOEM/BSEE Notice to Lessees, as applicable, to avoid or minimize impacts to any marine and coastal environments and habitats, biota, and threatened and endangered species:

- NTL No. 2015-BSEE-G03, “Marine Trash and Debris Awareness and Elimination”
- NTL No. 2016-BOEM-G01, “Vessel Strike Avoidance and Injured/Dead Protected Species Reporting”
- NTL No. 2016-BOEM-G02, “Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program”
- “Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, Appendices to the Programmatic Biological Opinion on the Gulf of Mexico Oil and Gas Program”, Appendices A, B, C and J

INCIDENTAL TAKES

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

- NTL No. 2015-BSEE-G03, “Marine Trash and Debris Awareness and Elimination”
- NTL No. 2016-BOEM-G01, “Vessel Strike Avoidance and Injured/Dead Protected Species Reporting”
- NTL No. 2016-BOEM-G02, “Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program”
- “Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, Appendices to the Programmatic Biological Opinion on the Gulf of Mexico Oil and Gas Program”, Appendices A, B, C and J

See **Section 6** for a list of Threatened and Endangered Species, Critical Habitat and Marine Mammal Information.

SECTION 13

RELATED FACILITIES AND OPERATIONS INFORMATION

RELATED OCS FACILITIES AND OPERATIONS

The Jack development is supported by the existing Chevron operated JSM FPU host platform installed in WR 718 (CID No. 2440). The Jack subsea wells tie-back to the FPU via two 10.75-inch OD pipelines (includes SCR, pipeline and jumpers), approximately 66,500 feet each, from the subsea manifold located in WR 758 to the JSM FPU. The wells are tied back to the manifold via 7.75 inch OD jumpers approximately 100 feet in length, and are designed for 25,000 BOPD each. The pipeline system will shut-in according to the guidance contained in NTL 2009-G36. The boarding shut down valve will close in 45 seconds.

Chevron proposes to install a new multi-phase pump (MPP) module to replace the existing single-phase (SPP) pump module (a detailed description will be provided for in the lease term pipeline application and the Supplemental DWOP), the new MPP module will be installed in WR 758, requiring inlet mixer modules, installed on suction piles. The mixer modules will be connected via two new 9.89-inch lease term jumpers (two jumpers total); install a new production manifold, to be installed on a suction pile, at the Jack South drill center (WR 758); install two new 10.75-inch interconnecting jumpers between the proposed manifold and the existing Jack South manifold; install a new 6.625 inch production flowline jumper between the new production manifold and production flowline PLET in WR 758; install a new 6.625-inch infield production flowline between the Jack South and the Jack South East drill centers (the flowline will cross WR 758 and WR 802); install a 7.75-inch OD production well jumper between the production flowline PLET and PS009 in WR 802; install a new infield control umbilical (the umbilical will cross WR 758 and WR 802).

TRANSPORTATION SYSTEM

There are no new pipelines going to shore or new onshore facilities planned for this project.

The oil and gas will continue to depart the JSM FPU via export pipelines operated by third parties. The oil is transported via an existing 20-24 inch OD pipeline (S-16329) operated by Chevron Pipeline Company that is approximately 138 miles long between the JSM FPU in WR 718 and Green Canyon (GC) Block 19, Platform A. From GC 19, Platform A, it ties into existing infrastructure for ultimate delivery to shore. The gas is transported via an existing 10.75-inch OD pipeline (S-16327) operated by Enbridge Offshore Facilities, LLC, approximately 152 miles long between the JSM FPU in WR 718 and Ship Shoal (SS) Block 332, Platform A. From SS 332, Platform A, it ties into existing infrastructure for ultimate delivery to shore.

PRODUCED LIQUID HYDROCARBONS TRANSPORTATION VESSELS

There will not be any transfers of liquid hydrocarbons other than via pipeline.

SECTION 14 SUPPORT VESSELS AND AIRCRAFT INFORMATION

GENERAL

The most practical, direct route from the shorebase as permitted by weather and traffic conditions will be utilized. Information regarding the vessels and aircraft to be used to support the proposed activities is provided in the table below.

Type	Maximum Fuel Tank Capacity	Maximum Number in Area at Any Time	Trip Frequency or Duration
Light Construction Vessel (LCV)	242,246 gals	1	35 days
Pipelay Vessel	766,099 gals	1	35 days
Supply Vessel	303,093 gals	1	35 days
Helicopter	760 gals	1	As Needed

DIESEL OIL SUPPLY VESSELS

Information regarding vessels to be used to supply diesel oil for fuel and other purposes is not required for the activities proposed in this plan.

DRILLING FLUID TRANSPORTATION

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

SOLID AND LIQUID WASTE TRANSPORTATION

A table, "Wastes You Will Transport and/or Dispose of Onshore", is included as **Attachment 14-A**.

VICINITY MAP

The drilling unit, vessels, crew boats and supply boats associated with the operations proposed in this plan will not transit the Bryde's whale area.

A vicinity map showing the location of the activities proposed herein relative to the shoreline with the distance of the proposed activities from the shoreline and the primary route of the support vessels that will be used when traveling between the onshore support facilities and the wells is included as **Attachment 14-B**.

Attachment 14-A

TABLE 2. WASTE AND SURPLUS ESTIMATED TO BE TRANSPORTED AND/OR DISPOSED OF ONSHORE

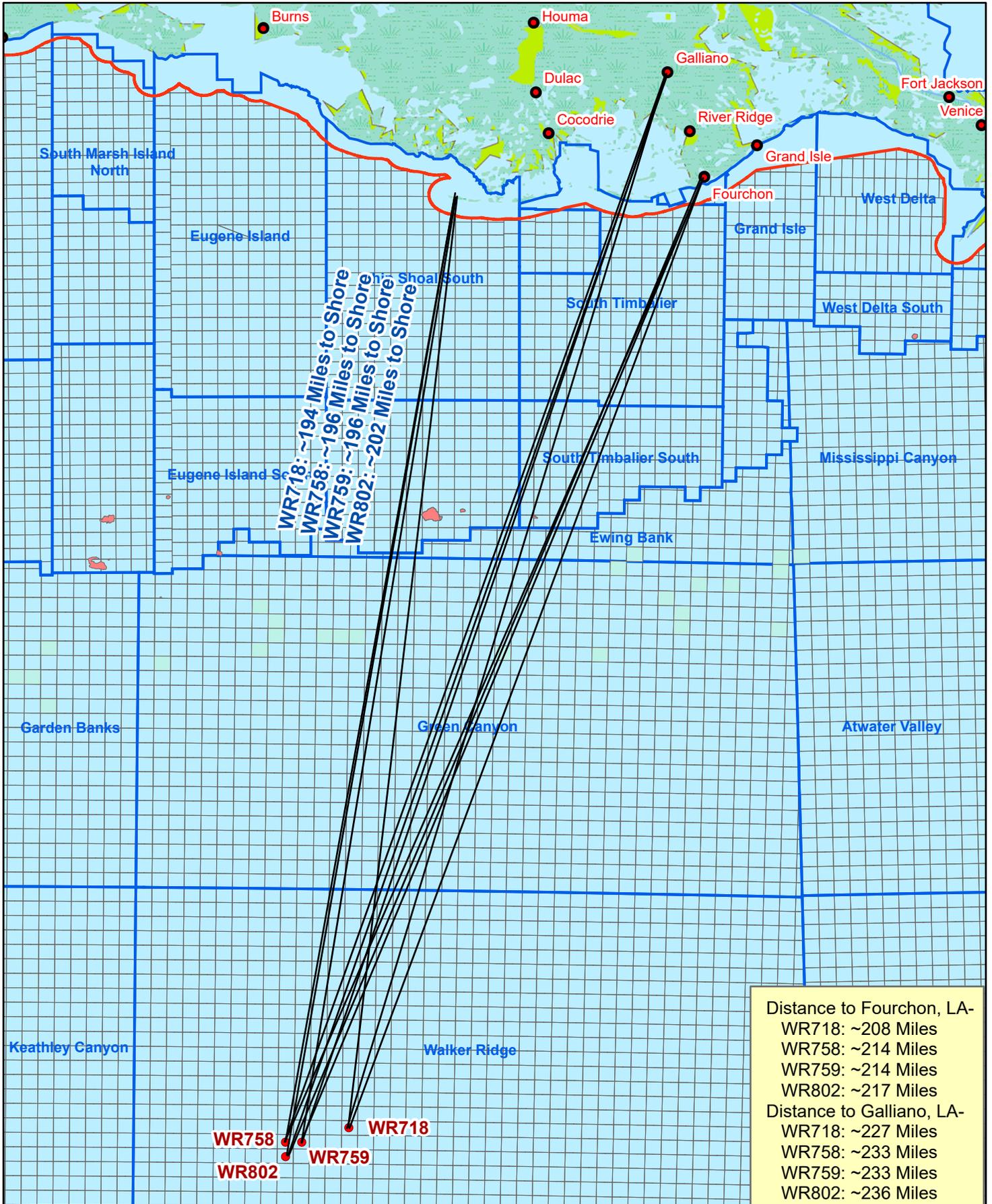
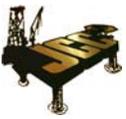
please specify whether the amount reported is a total or per well

Projected generated waste		Solid and Liquid Wastes transportation	Waste Disposal		
Type of Waste	Composition	Transport Method	Name/Location of Facility	Amount	Disposal Method
Will drilling occur ? If yes, fill in the muds and cuttings.					
Oil-based drilling fluid or mud	No drilling activity	N/A	N/A	N/A	N/A
Synthetic-based drilling fluid or mud	No drilling activity	N/A	N/A	N/A	N/A
Cuttings wetted with Water-based fluid	No drilling activity	N/A	N/A	N/A	N/A
Cuttings wetted with Synthetic-based fluid	No drilling activity	N/A	N/A	N/A	N/A
Cuttings wetted with oil-based fluids	No drilling activity	N/A	N/A	N/A	N/A
Will you produce hydrocarbons? If yes fill in for produced sand.					
Produced sand	Oil contaminated produced sand	Transport to shorebase by marine vessel in cutting boxes	Newpark, Fourchon, LA	100 bbls	Liquids are injected into a disposal well and the solids are landfilled
Will you have additional wastes that are not permitted for discharge? If yes, fill in the appropriate rows.					
Trash and debris	Plastic, paper, aluminum	Transport to shorebase by marine vessel in trash bins	IESSI, Houma, LA	1500 cu/ft	Local Landfill
Used oil	Waste oil, i.e., refined oil, cooking oil and oily rags	Transport to shorebase by marine vessel in drums, cutting boxes	Aaron Oil, Berwick, LA	400 bbls	Recycled
Chemical product wastes, hazardous waste	Contaminated glycol, paint waste and various production chemicals	Transport to shorebase by marine vessel in MPT tanks or drums	Waste Management Inc., Lake Charles/Sulfur, LA	100 bbls (during installation, up to 200 metric tonnes)	Incineration, depending on product
Non hazardous waste	Sandblast media and other maintenance waste, nonhazardous chemicals	Transport to shorebase by marine vessel in MPT tanks or drums	Waste Management Inc., Woodside Landfill, Walker, LA	Up to 200 metric tonnes during startup	Landfill
NORM contaminated waste	Sands and scale	Transport to shorebase by marine vessel in drums or seal equipment	>30 MR - Newpark, Fourchon, LA <30 MR - Newpark, Big Hill, TX	1 ton	Slurred and injected into a disposal well

TABLE 2. WASTE AND SURPLUS ESTIMATED TO BE TRANSPORTED AND/OR DISPOSED OF ONSHORE

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

Projected generated waste		Solid and Liquid Wastes transportation	Waste Disposal		
Type of Waste	Composition	Transport Method	Name/Location of Facility	Amount	Disposal Method
RCRA-exempt E&P waste	Workover fluids, sludges from production equipment, wash water	Transport to shorebase by marine vessel in MPT tanks, cutting boxes or drums	Newpark, Fourchon, LA	150 bbls	Liquids are injected into a disposal well and the solids are landfilled
NOTE: If you will not have a type of waste, enter NA in the row.					



SECTION 15 ONSHORE SUPPORT FACILITIES INFORMATION

GENERAL

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

Name	Location	Existing/New/Modified
C-Port Shorebase	Port Fourchon, LA	Existing
Chevron Galliano Airbase	Galliano, LA	Existing

SUPPORT BASE CONSTRUCTION OR EXPANSION

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

SUPPORT BASE CONSTRUCTION OR EXPANSION TIMETABLE

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

WASTE DISPOSAL

A table, "Wastes You Will Transport and/or Dispose of Onshore," is included as **Attachment 14-A**.

SECTION 16 COASTAL ZONE MANAGEMENT (CZM) INFORMATION

Certificates for Coastal Zone Management Consistency are not required for the activities proposed in this plan.

SECTION 17
ENVIRONMENTAL IMPACT ANALYSIS (EIA)

The Environmental Impact Analysis is included as **Attachment 17-A**.

Chevron U.S.A. Inc. (Chevron)

Development Operations Coordination Document Walker Ridge Blocks 758 and 802 OCS-G 17015 & 20394

(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 ₂ S releases)	Discarded Trash & Debris
Site-specific at Offshore Location						
Designated topographic features		(1)	(1)		(1)	
Pinnacle Trend area live bottoms		(2)	(2)		(2)	
Eastern Gulf live bottoms		(3)	(3)		(3)	
Benthic communities			(4)			
Water quality			X		X	
Fisheries			X		X	
Marine Mammals	X(8)				X(8)	X
Sea Turtles	X(8)				X(8)	X
Air quality	X(9)					
Shipwreck sites (known or potential)			(7)			
Prehistoric archaeological sites			(7)		X	
Vicinity of Offshore Location						
Essential fish habitat			X		X(6)	
Marine and pelagic birds	X				X	X
Public health and safety					(5)	
Coastal and Onshore						
Beaches					X(6)	X
Wetlands					X(6)	
Shore birds and coastal nesting birds					X(6)	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:
 - 4-mile zone of the Flower Garden Banks, or the 3-mile zone of Stetson Bank;
 - 1000-m, 1-mile or 3-mile zone of any topographic feature (submarine bank) protected by the Topographic Features Stipulation attached to an OCS lease;
 - Essential Fish Habitat (EFH) criteria of 500 feet. from any no-activity zone; or
 - Proximity of any submarine bank (500 feet. buffer zone) with relief greater than two meters that is not protected by the Topographic Features Stipulation attached to an OCS lease.
- 2) Activities with any bottom disturbance within an OCS lease block protected through the Live Bottom (Pinnacle Trend) Stipulation attached to an OCS lease.
- 3) Activities within any Eastern Gulf OCS block where seafloor habitats are protected by the Live Bottom (Low-Relief) Stipulation attached to an OCS lease.
- 4) Activities on blocks designated by the BOEM as being in water depths 300 meters or greater.
- 5) Exploration or production activities where H₂S concentrations greater than 500 ppm might be encountered.
- 6) All activities that could result in an accidental spill of produced liquid hydrocarbons or diesel fuel that you determine would impact these environmental resources. If the proposed action is located a sufficient distance from a resource that no impact would occur, the EIA can note that in a sentence or two.
- 7) All activities that involve seafloor disturbances, including anchor emplacements, in any OCS block designated by the BOEM as having high-probability for the occurrence of shipwrecks or prehistoric sites, including such blocks that will be affected that are adjacent to the lease block in which your planned activity will occur. If the proposed 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.

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

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

Species	Scientific Name	Status	Potential Presence		Critical Habitat Designated in the Gulf of Mexico	Gulf of Mexico Range
			Lease Area	Coastal		
Marine Mammals						
Manatee, West Indian	<i>Trichechus manatus latirostris</i>	T	--	X	Florida (peninsular)	Coastal Louisiana, Mississippi, Alabama, and Florida
Whale, Blue	<i>Balaenoptera masculus</i>	E	X*	--	None	GOM
Whale, Bryde's	<i>Balaenoptera edeni</i>	E	X	--	None	Eastern GOM
Whale, Fin	<i>Balaenoptera physalus</i>	E	X*	--	None	GOM
Whale, Humpback	<i>Megaptera novaeangliae</i>	E	X*	--	None	GOM
Whale, North Atlantic Right	<i>Eubalaena glacialis</i>	E	X*	--	None	GOM
Whale, Sei	<i>Balaenoptera borealis</i>	E	X*	--	None	GOM
Whale, Sperm	<i>Physeter catodon</i> (= <i>macrocephalus</i>)	E	X	--	None	GOM
Terrestrial Mammals						
Mouse, Beach (Alabama, Choctawatchee, Perdido Key, St. Andrew)	<i>Peromyscus polionotus</i>	E	-	X	Alabama, Florida (panhandle) beaches	Alabama, Florida (panhandle) beaches
Birds						
Plover, Piping	<i>Charadrius melodus</i>	T	-	X	Coastal Texas, Louisiana, Mississippi, Alabama and Florida (panhandle)	Coastal GOM
Crane, Whooping	<i>Grus Americana</i>	E	-	X	Coastal Texas	Coastal Texas and Louisiana
Crane, Mississippi sandhill	<i>Grus canadensis pulla</i>	E	-	X	Coastal Mississippi	Coastal Mississippi
Curlew, Eskimo	<i>Numenius borealis</i>	E	-	X	none	Coastal Texas
Falcon, Northern Aplomado	<i>Falco femoralis septentrionalis</i>	E	-	X	none	Coastal Texas
Knot, Red	<i>Calidris canutus rufa</i>	T	-	X	None	Coastal GOM
Stork, Wood	<i>Mycteria americana</i>	T	-	X	None	Coastal Alabama and Florida

Species	Scientific Name	Status	Potential Presence		Critical Habitat Designated in the Gulf of Mexico	Gulf of Mexico Range
			Lease Area	Coastal		
Reptiles						
Sea Turtle, Green	<i>Chelonia mydas</i>	T/E***	X	X	None	GOM
Sea Turtle, Hawksbill	<i>Eretmochelys imbricata</i>	E	X	X	None	GOM
Sea Turtle, Kemp's Ridley	<i>Lepidochelys kempli</i>	E	X	X	None	GOM
Sea Turtle, Leatherback	<i>Dermochelys coriacea</i>	E	X	X	None	GOM
Sea Turtle, Loggerhead	<i>Caretta caretta</i>	T	X	X	Texas, Louisiana, Mississippi, Alabama, Florida	GOM
Fish						
Sturgeon, Gulf	<i>Acipenser oxyrinchus (=oxyrhynchus) desotoi</i>	T	X	X	Coastal Louisiana, Mississippi, Alabama and Florida (panhandle)	Coastal Louisiana, Mississippi, Alabama and Florida (panhandle)
Shark, Oceanic Whitetip	<i>Carcharhinus longimanus</i>	E	X	-	None	GOM
Sawfish, Smalltooth	<i>Pristis pectinata</i>	E	-	X	None	Florida
Grouper, Nassau	<i>Epinephelus striatus</i>	T	-	X	None	Florida
Ray, Giant Manta	<i>Manta birostris</i>	E	X	--	None	GOM
Corals						
Coral, Elkhorn	<i>Acopora palmate</i>	T	X**	X	Florida Keys and Dry Tortugas	Flower Garden Banks, Florida, and the Caribbean
Coral, Staghorn	<i>Acopora cervicornis</i>	T	X	X	Florida	Flower Garden Banks, Florida, and the Caribbean
Coral, Boulder Star	<i>Orbicella franksi</i>	T	X	X	none	Flower Garden Banks and Florida
Coral, Lobed Star	<i>Orbicella annularis</i>	T	X	X	None	Flower Garden Banks and Caribbean
Coral, Mountainous Star	<i>Orbicella faveolata</i>	T	X	X	None	Flower Garden Banks and Gulf of Mexico
Coral, Rough Cactus	<i>Mycetophyllia ferox</i>	T	-	X	None	Florida and Southern Gulf of Mexico

Abbreviations: E = Endangered; T = Threatened

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

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

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

(B) ANALYSIS

Site-Specific at Walker Ridge Blocks 758 and 802

Under this Supplemental Development Operations Coordination Document (DOCD), Chevron proposes to commence production of two wells, Well No. PS011, WR Block 758 (to be drilled and completed under Plan Control No. S-7800) and Well No. JK 001 BP04, WR Block 802, API No. 60-812-40128-04 (drilled and completed under Control Plan S-7933).

Chevron further proposes to update the air emissions to include miscellaneous well intervention activities for the aforementioned wells and to update air emissions to provide for the installation of the following:

- 1) a new multi-phase pump (MPP) module to replace the existing single-phase (SPP) pump module (*a detailed description will be provided for in the lease term pipeline application and the Supplemental DWOP*), the new MPP module will be installed in WR 758, requiring inlet mixer modules, installed on suction piles. The mixer modules will be connected via two new 9.89-inch lease term jumpers (two jumpers total);
- 2) installation of a new production manifold, to be installed on a suction pile, at the Jack South drill center (WR 758);
- 3) installation of two new 10.75-inch interconnecting jumpers between the proposed manifold and the existing Jack South manifold;
- 4) installation of one new 6.625 inch production flowline jumper between the new production manifold and production flowline PLET in WR 758;
- 5) installation of one new 6.625-inch infield production flowline between the Jack South and the Jack South East drill centers (the flowline will cross WR 758 and WR 802);
- 6) installation of one 7.75-inch OD production well jumper between the production flowline PLET and PS009 in WR 802;
- 7) installation of a new infield control umbilical (the umbilical will cross WR 758 and WR 802).

Operations will be conducted with light construction and pipelay vessels.

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

1. Designated Topographic Features

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

Physical disturbances to the seafloor: Walker Ridge Blocks 758 and 802 are 116.8 miles from the closest designated Topographic Features Stipulation Block (Sweet 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 meter depth. At this depth, the oil is found only at concentrations several orders of magnitude lower than the amount shown to have an effect on corals. Because the crests of topographic features in the Northern Gulf of Mexico are found below 10 meters, oil from a surface spill is not expected to reach their sessile biota. Oil from a subsurface spill is not applicable due to the distance of these blocks from a topographic area. The activities proposed in this plan will be covered by Chevron's Regional OSRP (refer to information submitted in **Section 9**).

If dispersants were utilized as a response method, the fate and effects of spilled oil would be impacted. Dispersants have been utilized in previous spill response efforts and were used extensively in the response to the Deepwater Horizon oil spill, with both surface and sub-surface applications. Reports on dispersant usage on surface oil indicate that a majority of the dispersed oil remains in the top 10 meters of the water column, with 60 percent of the oil in the top two meters of water (McAuliffe et al, 1981; Lewis and Aurand, 1997; OCS Report BOEM 2017-007). Lubchenco et al. (2010) report that most chemically dispersed surface oil from the Deepwater Horizon explosion and oil spill remained in the top six meters of the water column where it mixed with surrounding waters and biodegraded (BOEM 2017-007). None of the topographic features or potentially sensitive biological features in the GOM are shallower than 10 meters (33 feet), and only the Flower Garden Banks are shallower than 20 meters (66 feet).

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

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

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

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

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

With the exception of special Federal management areas or designated exclusion areas, dispersants have been preapproved for surface use, which provides the USCG On-Scene Coordinator with the authority to approve the use of dispersants. However, that approval would only be granted upon completion of the protocols defined in the appropriate Area Contingency Plan (ACP) and the Regional Response Team (RRT) Dispersant Plan. The protocols include conducting an environmental benefit analysis to determine if the dispersant use will prevent a substantial threat to the public health or welfare or minimize serious environmental damage. The Regional Response Team would be notified immediately to provide technical support and guidance in determining if the dispersant use meets the established criteria and provide an environmental benefit. Additionally, there is currently no preapproval for subsea dispersant injection and the USCG On-Scene Coordinator must approve use of this technology before any subsea application. Due to the unprecedented volume of dispersants applied for an extended period of time, the U.S. National Response Team has developed guidance for atypical dispersant operations to ensure that planning and response activities will be consistent with national policy (BOEM 2017-007).

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

Due to the distance of these blocks from a topographic area and the coverage of the activities proposed in this plan by Chevron's Regional OSRP (refer to information submitted in **Section 9**), impacts to topographic features from surface or sub-surface oil spills are not expected.

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

2. Pinnacle Trend Area Live Bottoms

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

Physical disturbances to the seafloor: Walker Ridge Blocks 758 and 802 are 277.6 miles from the closest live bottom (pinnacle trend) area; therefore, no adverse impacts are expected.

Emissions (noise / sound): All routine OCS oil-and gas-related activities have some element of sound generation. Common sound sources include propeller cavitation, rotating machinery, and reciprocating machinery, which are associated with routine OCS oil-and gas-related activities such as vessel traffic, construction, and oil and gas production, processing, and transport. Sound introduced into the marine environment as a result of human activities has the potential to affect marine organisms. Although there is little information available on sound detection and sound-mediated behaviors for marine invertebrates, the overall impacts on pinnacle and low-relief feature communities from anthropogenic noise are expected to be negligible (BOEM 2017-009). Additionally, Walker Ridge Blocks 758 and 802 are 277.6 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 meter depth. At this depth, the oil is found only at concentrations several orders of magnitude lower than the amount shown to have an effect on marine organisms. Oil from a subsurface spill is not expected to impact pinnacle trend area live bottoms due to the distance of these blocks from a live bottom (pinnacle trend) area. The activities proposed in this plan will be covered by Chevron's Regional OSRP (refer to information submitted in **Section 9**).

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

There are no other IPFs (including effluents and wastes sent to shore for treatment or 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, emissions (noise / sound), and accidents.

Physical disturbances to the seafloor: Walker Ridge Blocks 758 and 802 are 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.

Emissions (noise / sound): All routine OCS oil-and gas-related activities have some element of sound generation. Common sound sources include propeller cavitation, rotating machinery, and reciprocating machinery, which are associated with routine OCS oil-and gas-related activities

such as vessel traffic, construction, and oil and gas production, processing, and transport. Sound introduced into the marine environment as a result of human activities has the potential to affect marine organisms. Although there is little information available on sound detection and sound-mediated behaviors for marine invertebrates, the overall impacts on pinnacle and low-relief feature communities from anthropogenic noise are expected to be negligible (BOEM 2017-009). Additionally, Walker Ridge Blocks 758 and 802 are 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 meter depth. At this depth, the oil is found only at concentrations several orders of magnitude lower than the amount shown to have an effect on marine invertebrates. Oil from a subsurface spill is not expected to impact Eastern Gulf live bottoms due to the distance of these blocks from a live bottom area and coverage of the activities proposed in this plan by Chevron's Regional OSRP (refer to information submitted in **Section 9**).

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

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

4. Deepwater Benthic Communities

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

Walker Ridge Blocks 758 and 802 are located in water depths of 984 feet (300 meters) or greater. At such depth high-density, deepwater benthic communities may sometimes be found. However, Walker Ridge Blocks 758 and 802 are approximately 35.6 miles from a known deepwater benthic community site (Walker Ridge Block 269), listed in NTL 2009-G40. Therefore, Chevron's proposed operations in Walker Ridge Blocks 758 and 802 would not cause impacts to deepwater benthic communities.

Deepwater benthic communities would potentially be subject to detrimental effects from a catastrophic seafloor blowout due to sediment and oiled sediment from the initial event (BOEM 2017-007). However, this is unlikely due to the distancing requirements described in NTL 2009-G40. Additionally, the potential impacts would be localized due to the directional movement of oil plumes by water currents and the scattered, patchy distribution of sensitive habitats. Although

widely dispersed, biodegraded particles of a passing oil plume might impact patchy habitats, no significant impacts would be expected to the Gulfwide population. Most deepwater benthic communities are expected to experience no impacts from a catastrophic seafloor blowout due to the directional movement of oil plumes by the water currents and their scattered, patchy distribution. Impacts may be expected if a spill were to occur close to a deepwater benthic habitat, however, beyond the localized area of impact particles would become increasingly biodegraded and dispersed. Localized impacts to deepwater benthic organisms would be expected to be mostly sublethal (BOEM 2017-007).

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

5. Water Quality

Potential IPFs that could result in water quality degradation from the proposed operations in Walker Ridge Blocks 758 and 802 include disturbances to the seafloor, and accidents.

Physical disturbances to the seafloor: Bottom area disturbances resulting from the emplacement of rigs 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.

Accidents: Impact-producing factors related to OCS oil- and gas-related accidental events primarily involve chemical spills, and oil spills.

Chemical Spills

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

Oil Spills

Oil spills have the greatest potential of all OCS oil-and gas-related activities to affect water quality. Small spills (<1,000 barrels) are not expected to substantially impact water quality in coastal or offshore waters because the oil dissipates quickly through dispersion and weathering while still at sea. Reasonably foreseeable larger spills ($\geq 1,000$ barrels), however, could impact

water quality in coastal and offshore waters (BOEM 2017-007). However, based on data provided in the BOEM 2016 Update of Occurrence Rates for Offshore Oil Spills, it is unlikely that an accidental surface or subsurface spill of a significant volume would occur from the proposed activities. Between 2001 and 2015 OCS operations produced eight billion barrels of oil and spilled 0.062 percent of this oil, or one barrel for every 1,624 barrels produced. (The overall spill volume was almost entirely accounted for by the 2010 Deepwater Horizon blowout and subsequent discharge of 4.9 million barrels of oil. Additional information on unlikely scenarios and impacts from very large oil spills are discussed in the Catastrophic Spill Event Analysis white paper (BOEM 2017-007).

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

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

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

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

Oil that is chemically dispersed at the surface move into the top six meters (20 feet) of the water column where it mixes with surrounding waters and begins to biodegrade (U.S. Congress, Office of Technology Assessment, 1990). Dispersant use, in combination with natural processes, breaks up oil into smaller components that allows them to dissipate into the water and degrade more rapidly (Nalco, 2010). Dispersant use must be in accordance with an RRT Preapproved Dispersant Use Manual and with any conditions outlined within a RRT's site-specific, dispersant

approval given after a spill event. Consequently, dispersant use must be in accordance with the restrictions for specific water depths, distances from shore, and monitoring requirements. At this time, neither the Region IV nor the Region VI RRT dispersant use manuals, which cover the GOM region, give preapproval for the application of dispersant use subsea (BOEM 2017-009).

The activities proposed in this plan will be covered by Chevron's Regional Oil Spill Response Plan, which discusses potential response actions in more detail (refer to information submitted in **Section 9**).

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

6. Fisheries

There are multiple species of fish in the Gulf of Mexico, including the endangered and threatened species listed in **Table 1** at the beginning of this Environmental Impact Assessment. More information regarding the endangered Gulf sturgeon (**Item 20.2**), oceanic whitetip shark (**Item 20.3**), and giant manta ray (**Item 20.4**) can be found below. Potential IPFs that could cause impacts to fisheries as a result of the proposed operations in Walker Ridge Blocks 758 and 802 include physical disturbances to the seafloor, emissions (noise / sound), and accidents.

Physical disturbances to the seafloor: The emplacement of a structure or 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.

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

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

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

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

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

Despite the importance of many sound-mediated behaviors and the potential biological costs associated with behavioral response to anthropogenic sounds, many environmental and biological factors limit potential exposure and the effects that OCS oil-and gas-related sounds

have on fishes and invertebrate resources. The overall impact to fishes and invertebrate resources due to anthropogenic sound introduced into the marine environment by OCS oil-and gas-related routine activities is expected to be minor.

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

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

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

An accidental oil spill has the potential to cause some detrimental effects on fisheries; however, it is unlikely that such an event would occur from the proposed 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 Chevron's Regional OSRP (refer to information submitted in **Section 9**).

There are no other IPFs (including effluents and wastes sent to shore for treatment or disposal) from the proposed activities that are likely to cause impacts to fisheries.

7. Marine Mammals

The latest population estimates for the Gulf of Mexico revealed that cetaceans of the continental shelf and shelf-edge were almost exclusively bottlenose dolphin and Atlantic spotted dolphin. Squid eaters, including dwarf and pygmy killer whale, Risso's dolphin, rough-toothed dolphin, and Cuvier's beaked whale, occurred most frequently along the upper slope in areas outside of anticyclones. The Bryde's whale is the only commonly occurring baleen whale in the northern Gulf of Mexico and has been sighted off western Florida and in the De Soto Canyon region. Florida manatees have been sighted along the entire northern GOM but are mainly found in the shallow coastal waters of Florida, which are unassociated with the proposed actions. A complete list of all endangered and threatened marine mammals in the GOM may be found in **Table 1** at the beginning of this Environmental Impact Assessment. More information regarding the endangered Gulf of Mexico Bryde's whale can be found in **Item 20.1** below. Potential IPFs that could cause impacts to marine mammals as a result of the proposed operations in Walker Ridge Blocks 758 and 802 include emissions, discarded trash and debris, and accidents.

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

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

during transit to and from a working area, and at an altitude of about 500 feet between platforms. The duration of the effects resulting from a startle response is expected to be short-term during routine flights, and the potential effects will be insignificant to sperm whales and Bryde's whales. Therefore, we find that any disturbance that may result from aircraft associated with the proposed action is not likely to adversely affect ESA-listed whales.

Construction and production noise would contribute to increases in the ambient noise environment of the GOM, but they are not expected in amplitudes sufficient to cause either hearing or behavioral impacts (BOEM 2017-009). There is the possibility of short-term disruption of movement patterns and/or behavior caused by vessel noise and disturbance; however, these are not expected to impact survival and growth of any marine mammal populations in the GOM. Additionally, the National Marine Fisheries Service published a final recovery plan for the sperm whale, which identified anthropogenic noise as either a low or unknown threat to sperm whales in the GOM (USDOD, NMFS, 2010b). Sirenians (i.e. manatees) are not located within the area of operations. Additionally, there were no specific noise impact factors identified in the latest BOEM environmental impact statement for sirenians related to GOM OCS operations (BOEM 2017-009). See **Item 20.1** for details on the Bryde's whale.

The National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion Appendix C explains how operators must implement measures to minimize the risk of vessel strikes to protected species and report observations of injured or dead protected species. This guidance should also minimize the chance of marine mammals being subject to the increased noise level of a service vessel in very close proximity.

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

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, 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).

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

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

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

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

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

These proposed operations may utilize a moon pool(s) to conduct various subsea activities. Chevron's contractor or company representative will provide a dedicated crew member to monitor and continually survey the moon pool area during the operations for marine mammals. If any marine mammal is detected in the moon pool, Chevron will cease operations and contact NMFS at nmfs.psoreview@noaa.gov and BSEE at protectedspecies@bsee.gov and 985-722-7902 for additional guidance and incidental report information.

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 impact cetacean behavior and/or distribution, thereby causing additional stress to the animals. The effect of oil dispersants on cetaceans is not known. Removing oil from the surface would reduce the likelihood of oil adhering to marine mammals. Laboratory experiments have shown that the dispersants used during the Deepwater Horizon response are cytotoxic to sperm whale cells; however, it is difficult to determine actual exposure levels in the GOM. Therefore, dispersants will only be used if approved by the Regional Response Team in coordination with the RRT Dispersant Plan and RRT Biological Assessment for Dispersants. The acute toxicity of oil dispersant chemicals included in Chevron'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 Chevron's OSRP (refer to information submitted in accordance with **Section 9**).

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

NMFS Protected Resources Contacts for the Gulf of Mexico:

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

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

8. Sea Turtles

GulfCet II studies sighted most loggerhead, Kemp's ridley and leatherback sea turtles over shelf waters. Historically these species have been sighted up to the shelf's edge. They appear to be more abundant east of the Mississippi River than they are west of the river (Fritts et al., 1983b; Lohofener et al., 1990). Deep waters may be used by all species as a transitory habitat. A complete list of endangered and threatened sea turtles in the GOM may be found in **Table 1** at

the beginning of this Environmental Impact Assessment. Additional details regarding the loggerhead sea turtle's critical habitat in the GOM are located in **Item 20.5**. Potential IPFs that could cause impacts to sea turtles as a result of the proposed operations include emissions, discarded trash and debris, and accidents.

Emissions (noise / sound): Noise from vessels, and helicopters may elicit a startle reaction from sea turtles, but this is a temporary disturbance. As a result, sound sources associated with vessel movement as part of the proposed operations are insignificant and therefore are not likely to adversely affect sea turtles. Exposure to sound from pile driving activities may result in hearing loss and temporary loss of available habitat for sea turtles, including some local displacement from the area for as long as the pile driving activity is occurring. The impact of this exposure is not anticipated to be significant for adult sea turtles because the continuous "banging" of a pile should provide ample warning to avoid the immediate pile-driving area. Juvenile sea turtles may be motivated to remain in *Sargassum* habitat and may not leave the area, which could cause hearing loss; the juveniles that do leave the area may be adversely affected by being displaced from *Sargassum* habitat. The annual number of predicted disturbances of oceanic juveniles is relatively low.

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, 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).

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

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

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

Vessel crews must report sightings of any injured or dead protected sea turtle species immediately, regardless of whether the injury or death is caused by their vessel, to the State Coordinators for the Sea Turtle Stranding and Salvage Network (STSSN) at http://www.sefsc.noaa.gov/species/turtles/stranding_coordinators.htm (phone numbers vary by state). Additional information may be found at the following website: <https://www.fisheries.noaa.gov/report>. Any injured or dead protected species should also be reported to takereport.nmfsser@noaa.gov. In addition, if the injury or death was caused by a collision with the operator's vessel, an entrapment within the operator's equipment or vessel (e.g. moon pool), or an entanglement within the operator's equipment, the operator must further notify BOEM and BSEE within 24 hours of the strike or entrapment/entanglement by email to protectedspecies@boem.gov and protectedspecies@bsee.gov. If the vessel is the responsible party, it is required to remain available to assist the respective salvage and stranding network as needed.

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

All sea turtle species and their life stages are vulnerable to the harmful effects of oil through direct contact or by fouling of their food. Exposure to oil can be fatal, particularly to juveniles and hatchlings. However, it is unlikely that an accidental oil spill would occur from the proposed 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 Chevron's Regional Oil Spill Response Plan (refer to information submitted in accordance with **Section 9**).

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

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

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

9. Air Quality

Potential IPFs that could cause impacts to air quality as a result of the proposed operations include accidents.

The projected air emissions identified in **Section 8** are not expected to affect the OCS air quality primarily due to distance to the shore or to any Prevention of Significant Deterioration Class I air quality area such as the Breton Wilderness Area. Walker Ridge Blocks 758 and 802 are beyond the 200 kilometer (124 mile) buffer for the Breton Wilderness Area and is 263.6 miles from the coastline. Therefore, no special mitigation, monitoring, or reporting requirements apply with respect to air emissions.

Accidents and blowouts can release hydrocarbons or chemicals, which could cause the emission of air pollutants. However, these releases should not impact onshore air quality because of the prevailing atmospheric conditions, emission height, emission rates, and the distance of Walker Ridge Blocks 758 and 802 from the coastline. There are no other IPFs (including effluents, physical disturbances to the seafloor, and wastes sent to shore for treatment or disposal) from the proposed activities that are likely to impact air quality.

10. Shipwreck Sites (known or potential)

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

Potential IPFs that could impact known or unknown shipwreck sites as a result of the proposed operations in Walker Ridge Blocks 758 and 802 include accidents and disturbances to the seafloor. Walker Ridge Blocks 758 and 802 are not located in or adjacent to an OCS block designated by BOEM as having a high probability for occurrence of shipwrecks. Should Chevron discover any evidence of a shipwreck, they will immediately halt operations within a 1000 foot radius, report to BOEM within 48 hours, and make every reasonable effort to preserve and protect that cultural resource.

Physical Disturbances to the seafloor: Walker Ridge Blocks 758 and 802 are not located in or adjacent to an OCS block designated by BOEM as having a high probability for occurrence of shipwrecks; therefore, no adverse impacts are expected.

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 Chevron's Regional Oil Spill Response Plan (refer to information submitted in accordance with **Section 9**).

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

11. Prehistoric Archaeological Sites

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

Potential IPFs which could impact prehistoric archaeological sites as a result of the proposed operations in Walker Ridge Blocks 758 and 802 include physical disturbances to the seafloor and accidents. Walker Ridge Blocks 758 and 802 are located outside the Archaeological Prehistoric high probability line, therefore, no adverse impacts are expected. Should Chevron discover any object of prehistoric archaeological significance, they will immediately halt operations within a 1000 foot radius, report to BOEM within 48 hours, and make every reasonable effort to preserve and protect that cultural resource.

Physical Disturbances to the seafloor: Walker Ridge Blocks 758 and 802 are not located in or adjacent to an OCS block designated by BOEM as having a high probability for occurrence of archaeological sites; therefore, no adverse impacts are expected.

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 Chevron's Regional Oil Spill Response Plan (refer to information submitted in accordance with **Section 9**).

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

Vicinity of Offshore Location

12. Essential Fish Habitat (EFH)

Potential IPFs that could cause impacts to EFH as a result of the proposed operations in Walker Ridge Blocks 758 and 802 include physical disturbances to the seafloor and accidents. EFH includes all estuarine and marine waters and substrates in the Gulf of Mexico.

Physical disturbances to the seafloor: Turbidity and sedimentation resulting from the bottom disturbing activities included in the proposed operations would be short term and localized. Fish are mobile and would avoid these temporarily suspended sediments. Additionally, the Live Bottom Low Relief Stipulation, the Live Bottom (Pinnacle Trend) Stipulation, and the Eastern Gulf Pinnacle Trend Stipulation have been put in place to minimize the impacts of bottom disturbing activities. Therefore, the bottom disturbing activities from the proposed operations would have a negligible impact on 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 Chevron's Regional OSRP (refer to information submitted in **Section 9**).

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

13. Marine and Pelagic Birds

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

Emissions:

Air Emissions

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

Noise / Sound Emissions

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

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

Accidents: An oil spill would cause localized, low-level petroleum hydrocarbon contamination. However, it is unlikely that an oil spill would occur from the proposed 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 Chevron's Regional OSRP (refer to information submitted in **Section 9**).

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

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

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

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

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

14. Public Health and Safety Due to Accidents.

There are no IPFs (including emissions, effluents, physical disturbances to the seafloor, wastes sent to shore for treatment or disposal, and accidents, including an accidental H₂S release) from the proposed 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 **Section 4** to justify our request that our proposed activities be classified by BSEE as H₂S absent.

Coastal and Onshore

15. Beaches

Potential IPFs from the proposed activities that could cause impacts to beaches include accidents and discarded trash and debris.

Accidents: Oil spills contacting beaches would have impacts on the use of recreational beaches and associated resources. Due to the distance from shore (182 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 Chevron's Regional OSRP (refer to information submitted in **Section 9**).

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, 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).

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

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

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

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

16. Wetlands

Potential IPFs from the proposed activities that could cause impacts to wetlands include accidents and discarded trash and debris.

Accidents: Oil spills could cause impacts to wetlands; 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 (182 miles) and the response capabilities that would be implemented, no impacts are expected. The activities proposed in this plan will be covered by Chevron’s Regional OSRP (refer to information submitted in **Section 9**).

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, 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).

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

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

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

17. Shore Birds and Coastal Nesting Birds

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

Accidents: Oil spills could 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 (182 miles) and the response capabilities that would be implemented, no impacts are expected. The activities proposed in this plan will be covered by Chevron’s Regional OSRP (refer to information submitted in **Section 9**).

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, 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).

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

Informational placards will be posted on vessels and every facility that has sleeping or food preparation capabilities. All offshore personnel, including contractors and other support services-related personnel (e.g. helicopter pilots, vessel captains and boat crews) will be indoctrinated on

waste procedures, and will view the video (or Microsoft PowerPoint presentation), “Think About It” (previously “All Washed Up: The Beach Litter Problem”). Thereafter, all personnel will view the marine trash and debris training video annually. Offshore personnel will also receive an explanation from Chevron management or the designated lease operator management that emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE.

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

18. Coastal Wildlife Refuges

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

Accidents: An accidental oil spill from the proposed 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 (182 miles) and the response capabilities that would be implemented, no impacts are expected. The activities proposed in this plan will be covered by Chevron’s Regional OSRP (refer to information submitted in **Section 9**).

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).

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

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

emphasizes their commitment to waste management in accordance with NTL No. 2015-G03-BSEE.

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

19. Wilderness Areas

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

Accidents: An accidental oil spill from the proposed 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 (263.6 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 Chevron's Regional OSRP (refer to information submitted in **Section 9**).

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).

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

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

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

20. Other Environmental Resources Identified

20.1 – Bryde’s Whale

The Bryde’s whale is the only commonly occurring baleen whale in the northern Gulf of Mexico and has been sighted off western Florida and in the De Soto Canyon region. The Bryde’s whale area is over 282.5 miles from the proposed operations. Additionally, vessel traffic associated with the proposed operations will not flow through the Bryde’s whale area. Therefore, there are no IPFs from the proposed activities that are likely to impact the Bryde’s whale. Additional information on marine mammals may be found in **Item 7**.

20.2 – Gulf Sturgeon

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

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

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

Should an ESA-listed fish (e.g. giant manta ray, oceanic whitetip shark, or Gulf sturgeon) be entrapped, entangled, or injured, personnel should contact the ESA Section 7 biologist at (301) 427-8413 (nmfs.psoreview@noaa.gov) and report all incidents to takereport.nmfs@noaa.gov. After making the appropriate notifications, Chevron may call BSEE at (985) 722-7902 for questions or additional guidance on recovery assistance needs, continued monitoring requirements, and incidental report information which at minimum is detailed below. Additional information may be found at the following website: <https://www.fisheries.noaa.gov/report>. Any injured or dead protected species should also be reported to takereport.nmfs@noaa.gov. In

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

Due to the distance from the nearest identified Gulf sturgeon critical habitat (275.1 miles) and the response capabilities that would be implemented during a spill, no significant adverse impacts are expected to the Gulf sturgeon. Considering the information from the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion, the location of this critical habitat in relation to proposed operations, the likely dilution of oil reaching nearshore areas, and the on-going weathering and dispersal of oil over time, we do not anticipate the effects from oil spills will appreciably diminish the value of Gulf sturgeon designated critical habitat for the conservation of the species. The activities proposed in this plan will be covered by Chevron's Regional OSRP (refer to information submitted in **Section 9**).

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

Discarded trash and debris: Trash and debris are not expected to impact the Gulf sturgeon. There will only be a limited amount of marine debris, if any, resulting from the proposed activities. 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).

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

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

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

20.3 – Oceanic Whitetip Shark

Oceanic whitetip sharks may be found in tropical and subtropical waters around the world, including the Gulf of Mexico (Young 2016). According to the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion, Essential Fish Habitat (EFH) for the oceanic whitetip shark includes localized areas in the central Gulf of Mexico and Florida Keys. Oceanic whitetip sharks were listed as threatened under the Endangered Species Act in 2018 due to worldwide overfishing. Oceanic whitetip sharks had an abundant worldwide population, which has been threatened in recent years by inadequate regulatory measures governing fisheries; therefore, there is little research regarding the impact of oil and gas operations on oceanic whitetip sharks (NMFS, 2020). IPFs that have been determined by NMFS to be discountable to oceanic whitetip sharks include vessel strike, emissions (noise / sound), discharges, entanglement and entrapment, and marine debris. IPFs that could cause impacts to oceanic whitetip sharks as a result of the proposed operations in Walker Ridge Blocks 758 and 802 include accidents. Additional information on ESA-listed fish may be found in **Item 6**.

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

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

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

There is little information available on the impacts of oil spills or dispersants on oceanic whitetip sharks. It is expected that exposure of oil or dispersants to oceanic whitetip sharks would likely result in effects similar to other marine species, including fitness reduction and the possibility of mortality (NMFS, 2020). Due to the sparse population in the Gulf of Mexico, it is possible that a small number of oceanic whitetip sharks could be impacted by an oil spill. However, it is unlikely that such an event would occur from the proposed activities (refer to **Item 5**, Water Quality). The activities proposed in this plan will be covered by Chevron's Regional OSRP (refer to information submitted in **Section 9**).

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

There will only be a limited amount of marine debris, if any, resulting from the proposed activities. 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).

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

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

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

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

20.4 – Giant Manta Ray

According to the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion, the giant manta ray lives in tropical, subtropical, and temperate oceanic waters and productive coastlines throughout the Gulf of Mexico. While uncommon in the Gulf of Mexico, there is a population of approximately 70 giant manta rays in the Flower Garden Banks National Marine Sanctuary (Miller and Klimovich 2017). Giant manta rays were listed as threatened under the Endangered Species Act in 2018 due to worldwide overfishing. Giant manta rays had an abundant worldwide population, which has been threatened in recent years by inadequate regulatory measures governing fisheries; therefore, there is little research regarding the impact of oil and gas operations on giant manta rays (NMFS, 2020). IPFs that have been determined by NMFS to be discountable to giant manta rays include vessel strike, emissions (noise / sound), discharges, entanglement and entrapment, and marine debris. IPFs that could cause impacts to giant manta rays as a result of the proposed operations in Walker Ridge Blocks 758 and 802 include accidents. Additional information on ESA-listed fish may be found in **Item 6**.

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

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

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

There is little information available on the impacts of oil spills or dispersants on giant manta rays. It is expected that exposure of oil or dispersants to giant manta rays would likely result in effects similar to other marine species, including fitness reduction and the possibility of mortality (NMFS, 2020). It is possible that a small number of giant manta rays could be impacted by an oil spill in the Gulf of Mexico. However, due to the distance to the Flower Garden Banks (175.9 miles), the low population dispersed throughout the Gulf of Mexico, and the response capabilities that would be implemented during a spill, no significant adverse impacts are expected to impact giant manta rays. Additionally, it is unlikely that such an event would occur from the proposed activities (refer to **Item 5**, Water Quality). The activities proposed in this plan will be covered by Chevron's Regional OSRP (refer to information submitted in **Section 9**).

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

There will only be a limited amount of marine debris, if any, resulting from the proposed activities. 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).

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

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

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

20.5 – Loggerhead Sea Turtle

The loggerhead sea turtles are large sea turtles that inhabit continental shelf and estuarine environments throughout the temperate and tropical regions of the Atlantic Ocean, with nesting beaches along the northern and western Gulf of Mexico. NMFS issued a Final Rule in 2014 (79 FR 39855) designating a critical habitat including 38 marine areas within the Northwest Atlantic Ocean, with seven of those areas residing within the Gulf of Mexico. These areas contain one or a combination of habitat types: nearshore reproductive habitats, winter areas, breeding areas, constricted migratory corridors, and/or *Sargassum* habitats.

There are multiple IPFs that may impact loggerhead sea turtles (see **Item 8**). However, the closest loggerhead critical habitat is located 324 miles from Walker Ridge Blocks 758 and 802; therefore, no adverse impacts are expected to the critical habitat. Additionally, considering the information from the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion, we do not expect proposed operations to affect the ability of *Sargassum* to support adequate prey abundance and cover for loggerhead turtles.

20.6 - Protected Corals

Protected coral habitats in the Gulf of Mexico range from Florida, the Flower Garden Banks National Marine Sanctuary, and into the Caribbean, including Puerto Rico, the U.S. Virgin Islands, and Navassa Island. Four counties in Florida (Palm Beach, Broward, Miami-Dade, and

Monroe Counties) were designated as critical habitats for elkhorn (*Acropora palmata*) and staghorn (*Acropora cervicornis*) corals. These coral habitats are located outside of the planning area and are not expected to be impacted by the proposed actions. Elkhorn coral can also be found in the Flower Garden Banks along with three additional coral species, boulder star coral (*Orbicella franksi*), lobed star coral (*Orbicella annularis*), and mountainous star coral (*Orbicella faveolata*). Potential IPFs from the proposed activities that could cause impacts to protected corals include accidents.

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 corals only if the oil contacts the organisms. Due to the distance from the Flower Garden Banks (175.9 miles) and other critical coral habitats, no adverse impacts are expected. The activities proposed in this plan will be covered by Chevron's Regional OSRP (refer to information submitted in **Section 9**).

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

20.7 - Endangered Beach Mice

There are four subspecies of endangered beach mouse that are found in the dune systems along parts of Alabama and northwest Florida. Due to the location of Walker Ridge Blocks 758 and 802 and the beach mouse critical habitat (above the intertidal zone), there are no IPFs that are likely to impact endangered beach mice.

20.8 - Navigation

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

(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, Walker Ridge Blocks 758 and 802 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. Platform / structure Installation

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

2. 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)

Jami Christley
J. Connor Consulting, Inc.
19219 Katy Freeway, Suite 200
Houston, Texas 77094
(281) 578-3388
jami.christley@jccteam.com

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

- Hazard Surveys

SECTION 18

ADMINISTRATIVE INFORMATION

EXEMPTED INFORMATION DESCRIPTION

The proposed bottomhole locations of the planned wells have been removed from the Public Information copy of the DOCD as well as any discussions of the target objectives, geologic or geophysical data, and interpreted geology.

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