UNITED STATES MEMORANDUM	GOVERNM	ENT O	ctober 11,	2023						
то:	Public	Information (MS 5030)								
From:	Plan (5231)	Coordinator, FO, Plans Section (MS)								
Subject:	Publi	c Information copy of plan								
Control #	-	S-08125								
Туре	-	Supplemental Development Operations Coord	dinations	Document						
Lease(s)	-	OCS-G12136 Block - 873 Ewing Bank Area								
Operator	-	Talos Energy Ventures, LLC								
Description	-	Platform A and Wells A14 & A28								
Rig Type	-	Not Found								

Attached is a copy of the subject plan.

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

Leslie Wilson Plan Coordinator

Site Type/Name	Botm Lse/Area/Blk	Surface Location	Surf Lse/Area/Blk
FIXED/A		6969 FSL, 7938 FWL	G12136/EW/873
WELL/A14	G12136/EW/873	6959 FSL, 7904 FEL	G12136/EW/873
WELL/A28	G12136/EW/873	6990 FSL, 7903 FEL	G12136/EW/873



EW 873 Well(s): A14 ST02 & A28 OCS-G 12136 SUPPLEMENTAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

August 25, 2023

Bureau of Ocean Energy Management New Orleans Regional Office ATTN: Plans Section 1201 Elmwood Park Boulevard New Orleans, LA 70123

Ladies/Gentlemen:

Talos Energy Ventures, LLC has reviewed NTLs 2008-G04, BOEM 2015-N01 and other relevant NTLs and FAQs for the activities proposed herein and included in this submittal all pertinent proprietary and public information and documentation in regards to those activities.

The activities noted above are expected to commence on or about November 15, 2023.

All questions and/or correspondence regarding this plan should be submitted to Erin Harold at (713) 335-6952 or via email at erin.harold@talosenergy.com.

Your expedited review is greatly appreciated.

Respectfully,

Erin Harold Talos Energy Ventures, LLC



SUPPLEMENTAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

PUBLIC INFORMATION

Lease Number: OCS-G 12136

- Area/Block: EW 873
- Well(s): A14 ST02 & A28
- Offshore: Louisiana
- Submitted By: Talos Energy (03257) 333 Clay St., Suite 3300 Houston, Tx 77002

Erin Harold (713) 335-6952 erin.harold@talosenergy.com

Estimated Wednesday, November 15, 2023 Start-up Date:

EW 873 Well(s): A14 ST02 & A28 OCS-G 12136

SUPPLEMENTAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

- APPENDIX A PLAN CONTENTS
- APPENDIX B GENERAL INFORMATION
- APPENDIX C GEOLOGICAL & GEOPHYSICAL INFORMATION
- APPENDIX D HYDROGEN SULFIDE INFORMATION
- APPENDIX E MINERAL RESOURCE CONSERVATION INFORMATION
- APPENDIX F BIOLOGICAL, PHYSICAL, & SOCIOECONOMIC INFORMATION
- APPENDIX G WASTES AND DISCHARGES INFORMATION
- APPENDIX H AIR EMISSIONS INFORMATION
- APPENDIX I OIL SPILLS INFORMATION
- APPENDIX J ENVIRONMENTAL MONITORING INFORMATION
- APPENDIX K LEASE STIPULATIONS INFORMATION
- APPENDIX L ENVIRONMENTAL MITIGATION MEASURES INFORMATION
- APPENDIX M RELATED FACILITIES & OPERATIONS INFORMATION
- APPENDIX N SUPPORT VESSELS AND AIRCRAFT INFORMATION
- APPENDIX O ONSHORE SUPPORT FACILITIES INFORMATION
- APPENDIX P COASTAL ZONE MANAGEMENT (CZMA) INFORMATION
- APPENDIX Q ENVIRONMETAL IMPACT ANALYSIS
- APPENDIX R ADMINISTRATIVE INFORMATION

APPENDIX A PLAN CONTENTS

A) PLAN INFORMATION

Included in the attachments for this appendix is the OCS Plan Information Form BOEM-137, providing information on the activities proposed herein.

Talos proposes the following activities for lease OCS-G 12136 as follows:

Drill, complete and produce the A28 and/or A14 ST02 as a dump flood well for purposes of enhanced oil recovery from the existing EW873 A (Lobster) platform.

B) LOCATION

A map depicting the existing well surface location and water depth is included in Appendix A public information copy of this plan.

A map depicting the existing well surface location, bottom hole location, and water depth is included in Appendix A propriety information copy of this plan.

C) SAFETY AND POLLUTION PREVENTION FEATURES

Talos Energy (Talos) will comply with regulations in 30 CFR Part 250 in regards to safety, pollution prevention, and early spill detection measures. Talos has also reviewed the numerous industry and commission reports, as well as DOI's NTL's, and other guidance documents prepared since the 2010 Macondo blowout. As a result, Talos Energy has joined the HWCG LLC, and is also a member of Clean Gulf Associates and the National Response Corporation.

D) STORAGE TANKS AND/OR PRODUCTION VESSELS

The table below provides the information on oil storage tanks with a capacity of 25 bbls or more. Thank tank capacities are representatives of either DP semi-submersible or drillship.

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

E) POLLUTION PREVENTION

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as the State of Florida is not an affected State.

F) ADDITIONAL MEASURES

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

Talos Energy is a member of HWCG LLC, Clean Gulf Associates, and the National Response Corporation.

G) SERVICE FEE

Included in Attachment A is a Pay.Gov receipt in the amount of \$5,017.00 to cover operations proposed in this plan.



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

OCS PLAN INFORMATION FORM

	General Information													
Туре	of OCS Plan:	Explo	oration Plan (EP)	Dev	relopment Operations Coordination Document ()		Х		
Comp	^{any Name:} Talos Energy	Ventu	ures, LLC		BOEM Operator Number: 03026									
Addre	ess:				Contact Person: Erin Harold									
	Phone Number: 713-335-6952													
	Houston, Te	xas 77	7002		E-Mail Ad	dress:	erin.h	narold@talosenerg	y.com					
If a se	rvice fee is required unde	: 30 CF	FR 550.125(a), p	he Ai	mount	paid	\$5017.00	eceipt N	lo.	2	77CDJ3J			
			Project and	l Wor	st Case Di	schar	:ge (V	VCD) Informati	on					
Lease	^{(s):} G12136		Area: EW	Block	x(1973 Proje	ct Nam	ne (If A	Applicable):						
Objec	tive(s) $ \mathbf{X} $ Oil $ \mathbf{G} $	ıs	Sulphur	Salt	Onshore S	Suppor	t Base	^{(s):} Fourchon, LA						
Platfo	rm/Well Name: A17 ST0	1	Total Volume	of WCI	^{):} 35787 BO	PD		API	Gravity	′ [:] 32°				
Distar	Distance to Closest Land (Miles): 66.4 Volume from uncontrolled blowout: 35787 bopd													
Have	you previously provided i	nforma	tion to verify the	e calcul	ations and as	sumpti	ons fo	r your WCD?	x	Yes		No		
If so,	provide the Control Numl	er of tl	he EP or DOCD	with wl	hich this info	rmatio	n was j	provided	S-78	317				
Do yo	ou propose to use new or u	nusual	technology to co	onduct :	your activitie	s?				Yes	X	No		
Do yo	ou propose to use a vessel	with ar	chors to install o	or modi	fy a structure	?				Yes	X	No		
Do yo	ou propose any facility that	t will s	erve as a host fac	cility fo	r deepwater s	· deepwater subsea development? Yes						No		
	Description of Proposed Activities and Tentative Schedule (Mark all that apply)													
	Proposed	Activi	ty		Start	Date		End Date			Ν	o. of Days		
Explo	ration drilling													
Devel	opment drilling				11/15	5/2023	3	01/14/2024		60				
Well	completion				01/15/2024 02/14/2024				30					
Well	test flaring (for more than	48 hou	ırs)											
Instal	lation or modification of s	tructur	e											
Instal	lation of production facilit	ies												
Instal	lation of subsea wellheads	and/or	manifolds											
Instal	lation of lease term pipelin	ies												
Comn	nence production				02/15	5/2024								
Other	(Specify and attach descr	ption)												
	Descripti	on of	Drilling Rig					Descrip	tion of	Struct	ure			
	Jackup		Drillship				Cais	son		Tension	leg pla	atform		
	Gorilla Jackup	X	Platform ri	g		Х	Fixe	d platform		Complia	nt tow	er		
	Semisubmersible		Submersibl	e			Spar			Guyed to	ower			
	DP Semisubmersible		Other (Atta	ch Des	cription)	l	Floa syste	ting production		Other (A	ttach l	Description)		
Drilli	ng Rig Name (If Known):													
		-	D	escrip	otion of Le	ease T	ſerm	Pipelines						
Fro	m (Facility/Area/Block)	_	To (Facility/	Area/B	lock)	2k) Diameter (Inches)				Length (Feet)				
		_												
		_												

OCS PLAN INFORMATION FORM (CONTINUED)	
nclude one copy of this page for each proposed well/structur	e

Include one copy of this page for each proposed well/structure															
Proposed Well/Structure Location															
Well or Structu structure, refer	ure Name/l ence previ	Number (If re ous name): A	naming well or (Lobster)	Pr D	Previously reviewed under an approved EP or X Yes No DOCD?										
Is this an exist or structure?	ing well	Y >	es No K	If this is Comple	s an existing we x ID or API No	ell or structure, lis	st the 2	24129							
Do you plan to	o use a sub	sea BOP or a	surface BOP on a	floating	facility to cond	luct your propose	d activities?		Yes	5	Х	No			
WCD info	For wells blowout	s, volume of u (Bbls/day): 3	incontrolled 5787	For str pipelin	ructures, volum nes (Bbls):	ne of all storage a	nd	API Gravity of fluid 32°							
	Surface	Location		Bot	ttom-Hole Loc	ation (For Wells	5)	Completion (For multiple completions, enter separate lines)							
Lease No.	OCS G12136			00	CS			OCS OCS	-						
Area Name		E	N												
Block No.		87	73												
Blockline Departures (in feet)	N/S Dep	arture:	F <u>s</u> L	N/3	S Departure:		F L	N/S D N/S D N/S D)epartu epartu epartu	re: re: re:		F L F L F L			
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	Y: 10207929'					Y: Y: Y:									
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Anchor Radius	s (if applic	able) in feet:						MD (F	eet):			(Feet):			
Anchor Lo	cations f	or Drilling	g Rig or Const	ruction	Barge (If an	chor radius sup	plied above	, not ne	cessar	y)					
Anchor Name or No.	e Area	Block	X Coordinate		Y Coordir	iate	Leng	th of A1	ichor (Chaiı	n on Se	afloor			
			X =		Y =										
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			X =		Y =										
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OCS PLAN INFORMATION FORM (CONTINUED)	
Include one copy of this page for each proposed well/structur	e

Proposed Well/Structure Location															
Well or Structu structure, refere	re Name/Nu ence previou	umber (If re 1s name): A	naming we 14 ST02	ell or	Prev: DOC	Previously reviewed under an approved EP or X Yes DOCD?							No		
Is this an existi or structure?	ng well	or structure, list	the	60	81	050	058	3							
Do you plan to	use a subse	a BOP or a	surface BC	OP on a floa	ating fac	cility to conduct	your proposed	l activities	?		Ye	s	X	No	
WCD info	For wells, volume of uncontrolledHblowout (Bbls/day): 35787F					ctures, volume c s (Bbls):	of all storage an	ıd	A flu	API Gravity of fluid 32°					
	Surface L	ocation			Botto	m-Hole Locati	on (For Wells))	C	Completion (For multiple completions,					
Lease No.	OCS G12136				OCS				(DCS DCS	~- P				
Area Name		E\	N												
Block No.		87	'3												
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	7903.	59'							E/W Departure: FL E/W Departure: FL						
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Anchor Name	Area	Block	X Coord	inate		Y Coordinat	e	Len	gth	of A	nchor	Chai	in on Se	afloor	
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OCS PLAN INFORMATION FORM (CONTINUED)	
Include one copy of this page for each proposed well/structur	re

Proposed Well/Structure Location																
Well or Structu structure, refere	ire Name/ì ence previ	Number (If ous name)	f renamir : A28	ng wel	l or	_	Previ DOC	ously reviewe D?	d under an appr	roved E	EP or		Yes	X	No	
Is this an existi or structure?	ng well		Yes		No l X d	If thi Com	s is an plex II	existing well D or API No.	or structure, lis	t the						
Do you plan to	use a sub	sea BOP o	r a surfa	ce BO	P on a f	floati	ng fac	ility to conduc	t your proposed	d activi	ities?		Ye	s	X	No
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	Surface	Location]	Botto	m-Hole Locat	ion (For Wells	5)		Comj enter	pletion separa	(For ate lii	multip 1es)	le completions,
Lease No.	OCS G12136						OCS					OCS OCS				
Area Name			EW													
Block No.			873													
Blockline	N/S Depa	arture:		F	s L		N/S C	Departure:		F <u>s</u>	_L	N/S	Depart	ure:		FL
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	7902.97'										E/W Departure: FL E/W Departure: FL					
Lambert X-	X:				2	X:					X: X·					
coordinates	s 2542337.03'									X:						
	Y:				Y:					Y: Y:						
	10207950.18'									Y:						
Latitude/ Longitude	Latitude			-0"]	Latitu	de				Latitude				
Longiture	28° (J6' U3	3.84:	59"	N							Latitude				
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Water Depth (F 775'	eet):						MD (Feet): TVD (Feet):					MD MD	(Feet): (Feet):		TVI) (Feet):) (Feet):
Anchor Radius	(if applica	able) in fee	et:			l			-			MD (Feet):		TVI	O (Feet):
Anchor Loo	cations f	or Drilli	ng Rig	or C	Constr	ucti	on B	arge (If ancl	or radius supj	plied a	bove, 1	not n	ecessai	ry)		
Anchor Name or No.	Area	Block	K XC	oordi	nate			Y Coordinat	ie]	Length	ı of A	nchor	Chai	in on Se	afloor
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Erin Harold

From:	notification@pay.gov
Sent:	Wednesday, August 23, 2023 9:28 AM
То:	Erin Harold
Subject:	Pay.gov Payment Confirmation: BOEM Development/DOCD Plan - BD

Caution: External (notification@pay.gov)

Sensitive Content Details

Talos Policy: Never send money without verbal confirmation.

Report This Email FAQ Support

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: 277CDJ3J Agency Tracking ID: 76484134153 Transaction Type: Sale Transaction Date: 08/23/2023 10:27:43 AM EDT Account Holder Name: Melissa Sassella Transaction Amount: \$5,017.00 Card Type: MasterCard Card Number: ********5056

Region: Gulf of Mexico Contact: Erin Harold (713) 335-6952 Company Name/No: Talos Energy Ventures, LLC, 03026 Lease Number(s): 12136 Area-Block: Ewing Bank EW, 873 Type-Wells: Supplemental Plan, 1

THIS IS AN AUTOMATED MESSAGE. PLEASE DO NOT REPLY.

APPENDIX B GENERAL INFORMATION

A) APPLICATIONS & PERMITS

Listed in the table below are the applications and/or permits that are required to be filed prior to conducting the activities proposed herein:

Application/Permit	Issuing Agency	Status				
NPDES	EPA	Pending				
APD/AST	BSEE	Pending				

B) DRILLING FLUIDS

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as the State of Florida is not an affected State, the activities are not within the Protective Zones, there will be no installation of a surface facility in water depths greater than 1,312' nor will a facility be installed to support a subsea development in water depths greater than 1,312', this is not an Initial EP or Initial DOCD that proposes drilling activities, it is not a SDOCD which is proposing the installation of a new multiwell structure which will affect the State of Texas or the State of Mississippi, nor is it a SDOCD proposing the installation of a new multiwell structure that will affect the State of Louisiana and that proposes the use of oil-based or synthetic-based drilling fluids.

C) PRODUCTION

PROPRIETARY INFORMATION

D) OIL CHARACTERISTICS

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as this is a DOCD that does not propose the production, handling, transporting or storing of oil where the State of Florida is an affected State, the activities proposed are not within the Protective Zones of the Flower Garden Banks and Stetson Bank, nor are we proposing to install a surface facility in water depths greater than 1,312 feet or a surface facility to support a subsea development in water depths greater than 1,312'.

E) NEW OR UNUSUAL TECHNOLOGY

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as no new or unusual technology as defined in 30 CFR 250.200 will be utilized to carry out the proposed activities. Talos will endeavor to use the best available and safest technologies (BAST), as referred to in 30 CFR 250, provided it is proven for the well conditions anticipated and is reasonably available at the time of well operations.

F) BONDING STATEMENT

The bond requirements for the activities and facilities proposed in this DOCD are satisfied by a \$3,000,000.00 areawide development bond, furnished and maintained according to 30 CFR 556, Subpart I, and NTL No. 2015-N04, "General Financial Assurance." Additional security will be satisfied in accordance with the regulations contained in 30 CFR 556.901(d) and NTL No. 2016-N01, "Requiring Additional Security."

G) OIL SPILL FINANCIAL RESPONSIBILITY

Talos Energy Ventures, LLC (03026), has demonstrated oil spill financial responsibility (OSFR) for the activities/facilities proposed herein according to 30 CFR Part 553, and NTL No. 2008-N05, "Guidelines for Oil Spill Financial Responsibility for Covered Facilities."

H) DEEPWATER WELL CONTROL STATEMENT

Talos Energy Ventures, LLC (03026) has the financial capability to drill a relief well and conduct other emergency well control operations.

I) SUSPENSION OF PRODUCTION

In accordance with NTL 2008-G04, this information is not applicable to this Development Operations Coordination Document as no suspensions of production have been approved, or are in the process of being obtained, or anticipated to be sought to hold the subject lease(s) or unit.

J) BLOWOUT SCENARIO

Talos provided a Blowout Scenario for the Worst Case Discharge Volume for Ewing Bank 873, Lease G-12136 in Plan Control No. S-7817, approved on December 9, 2016, which established the Worst Case Discharge Volume for the Field. The proposed operations do not supersede the worst case discharge volume previously provided and approved.

Blowout Scenario

Estimated Flow Rate:

42,511 MSCFD & 35,787 BOPD **Maximum Duration of blowout (44 days):** 1,870 MMSCF & 1,574,628 BOPD

The duration of the blowout will be a function of the well bridging over, the ability of surface intervention, or drilling of the relief well. 1) Bridging over 48 - 72 hours, 2) Surface intervention 7 to 11 days, and 3) a drilling a relief well is 45 days.

Discussion of potential for well to bridge over

Specific to our WCD evaluation, the Well No. A017 (ST01) open hole interval of approximately 2,500' MD will be exposed to 35,787 BOPD and 42,511 MSCFPD with mixed fluid velocities exceeding 1,500 ft/sec before they enter the 7-5/8" casing. Typical GOM wells usually result in sanding up or bridging due to the high amount of solids that would be produced resulting from unconsolidated formations. We typically expect 24-48 hours for natural bridging to occur. This is usually the period where equipment is being moved to location for a surface intervention.

Discussion of likelihood for surface intervention to stop blowout

Surface intervention would be viable as long as the surface wellhead and tree are not damaged beyond use. If the blowout results in a fire which destroys the surface equipment surface intervention could be limited or not an option. Surface intervention would be the first line of defense after a blowout occurs. The actual intervention technique chosen will depend on actual conditions and ability to access the existing well. There can be simple solutions such as rig up and set a plug in the casing or to more complex solutions such as stabbing over a new BOP and closing the well. A surface intervention can be initiated quicker than a relief well and is usually started as conditions permit and can be done while relief well planning in being conducted. Talos would immediately consult with Boots & Coots, Cudd Pressure Control, and Wild Well Control, which are diversified well control services companies that offer full consulting and contracting services. Typical blowouts can be controlled with surface intervention. The easy access to the surface wellhead and BOP makes this option viable in most cases.

Relief Well

Talos currently has the Seadrill Sevan Louisiana (DP Semi) under contract which is working and capable of drilling a relief well from an open water location in the 700'+ water depth.

Rig under contract

Talos currently has the Seadrill Sevan Louisiana under contract.

Rig package constraints

The water depths range from 680' - 1000' in the block and they are not complex or ultra- deep therefore all the moored/DP semi's in the GOM would be capable.

Estimated time to drill relief well

The total time to drill a relief well is 45 days.

Time to acquire rig

5 days will be required to acquire a rig and make it available for tow. It may have to suspend operations that are currently ongoing.

Time to move rig onsite

The mobilization time will be 24 - 72 hours.

Drilling time

The drilling time is 40 days.

Statement whether the possibility of using a nearby platform was considered, if feasible

There are no platforms in the area from which the relief well could be drilled.

APPENDIX C GEOLOGICAL & GEOPHYSICAL INFORMATION

- A) GEOLOGICAL DESCRIPTION PROPRIETARY INFORMATION
- B) STRUCTURE CONTOUR MAPS PROPRIETARY INFORMATION
- C) INTERPRETED 2D/3D SEISMIC CROSS SECTIONS PROPRIETARY INFORMATION
- D) GEOLOGICAL STRUCTURE CROSS SECTIONS PROPRIETARY INFORMATION

E) SHALLOW HAZARDS REPORT

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

F) SHALLOW HAZARDS ASSESSMENT

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

G) HIGH RESOLUTION SEISMIC LINES

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

H) STRATIGRAPHIC COLUMN

In accordance with NTL 2008-G04, this information is not applicable to this plan as it is a Development Operations Coordination Document.

I) TIME VS DEPTH TABLES

In accordance with NTL 2008-G04, the information in this section is not applicable to the activities proposed herein as this plan is a Development Operations Coordination Document.

J) GEOCHEMICAL INFORMATION

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as the subject area is within the boundaries of the Gulf of Mexico.

K) FUTURE G&G ACTIVITIES

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as the subject area is within the boundaries of the Gulf of Mexico.

APPENDIX D HYDROGEN SULFIDE INFORMATION

A) CONCENTRATION

In accordance with NTL 2008-G04, this information is not applicable to this plan as Talos Energy does not anticipate encountering any H2S during the operations proposed herein.

B) CLASSIFICATION

Ewing Bank 873 has been classified by the BOEM as H2S absent.

PROPRIETARY INFORMATION

C) H2S CONTINGENCY PLAN

In accordance with NTL 2008-G04, this information is not applicable to this plan as Talos Energy does not anticipate encountering H2S during the activities proposed herein.

D) MODELING REPORT

In accordance with NTL 2008-G04, this information is not applicable to this plan as Talos Energy does not anticipate encountering H2S during the activities proposed herein.

APPENDIX E MINERAL RESOURCE CONSERVATION INFORMATION

- A) TECHNOLOGY & RESERVOIR ENGINEERING PRACTICES & PROCEDURES PROPRIETARY INFORMATION
- B) TECHNOLOGY & RECOVERY PRACTICES & PROCEDURES PROPRIETARY INFORMATION
- C) RESERVOIR DEVELOPMENT PROPRIETARY INFORMATION

APPENDIX F BIOLOGICAL, PHYSICAL, & SOCIOECONOMIC INFORMATION

A) CHEMOSYNTHETIC COMMUNITIES REPORT

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as Talos Energy is not proposing any activities in water depths equal to or greater than 984 feet.

B) TOPOGRAPHIC FEATURES MAP

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as no rig, barge or anchors, etc. will be placed within 1,000 feet of the "No Activity Zone" of an identified topographic feature.

C) TOPOGRAPHIC FEATURES STATEMENT (SHUNTING)

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

D) LIVE BOTTOM (PINNACLE TREND) MAP

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as the Live Bottom (Pinnacle Trend) lease stipulation is not attached to the subject lease(s).

E) LIVE BOTTOM (LOW RELIEF) MAP

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as the Live Bottom (Low Relief) lease stipulation is not attached to the subject lease(s).

F) POTENTIALLY SENSITIVE BIOLOGICAL FEATURES

In accordance with NTL 2009-G39. this information is not applicable to the activities proposed herein as the bottom-disturbing activities are not within 100 feet of potentially sensitive biological features.

G) REMOTELY OPERATED VEHICLE (ROV) SURVEYS

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as the location is in an area and block with a water depth less than 984 feet.

H) THREATENED & ENDANGERED SPECIES, CRITICAL HABITAT, & MARINE MAMMAL INFORMATION

Endangered marine mammal species as listed under the Endangered Species Act that might occur in the Gulf of Mexico are the Gulf of Mexico Bryde's Whale (Balaenoptera edeni), Oceanic Whitetip Shark (Carcharhinus longimanus), Giant Manta Ray (Manta birostris), West Indian manatee (Trichechus manatus), northern right whale (Eubalaena glacialis), fin whale (Balaenoptera physalus), humpback whale (Megaptera novaiangliae), sei whale (Balaenoptera borealis), sperm whale (Physeter macrocephalus), and blue whale (Balaenoptera musculus). Endangered or threatened sea turtle species that might occur in the Gulf of Mexico are Kemp's ridley (Lepidochelys kempii), green turtle (Chelonia mydas), hawksbill (Eretmochelys imbricate), leatherback (Demochelys coriacea), and loggerhead (Caretta caretta) (USDOI, OCS EIS/EA MMS 2007-2012). The only listed threatened fish species in the Gulf of Mexico is the Gulf sturgeon (Ancipenser oxyrincus desotoi).The subject area(s) and block(s) is not designated as a critical habitat for any of these species. Talos Energy does not anticipate that any threatened or endangered species will be adversely affected as a result of the activities proposed herein. However, in the unlikely event of an accident, adverse impacts to endangered marine mammal species are possible.

Talos Energy will adhere to the requirements as set forth in the following Notices to Lessees and guidelines, 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 2015-G03 "Marine Trash and Debris Awareness and Elimination"
- BOEM NTL 2016-G01 "Vessel Strike Avoidance and Injured/ Dead Protected Species Reporting
- BOEM NTL 2016-G02 "Implementation of Seismic Survey Mitigation Measures and Protected Species
 Observer Program"
- Biological Opinion 2020:
- Appendix A: Seismic Survey Mitigation and Protected Species Observer Protocols, found in the Biological Opinion issued by the National Marine Fisheries Service on March 13,2020
- Appendix B: Gulf of Mexico Marine Trash and Debris Awareness and Elimination Survey Protocols, found in the Biological Opinion issued by the National Marine Fisheries Service on March 13,2020
- Appendix C: Gulf of Mexico Vessel Strike Avoidance and Injured/Dead Aquatic Protected Species Reporting Protocols, found in the Biological Opinion issued by the National Marine Fisheries Service on March 13,2020
- Appendix J: Sea Turtle Handling and Resuscitation Guidelines, found in the Biological Opinion issued by the National Marine Fisheries Service on March 13,2020

I) ARCHAEOLOGICAL REPORT

An assessment of the archaeological resources associated with the subject lease area was included with the Shallow Hazards and Archaeological Assessment approved by BOEM in previous submittal via Control Document No. N-4522.

J) AIR & WATER QUALITY INFORMATION

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as the State of Florida is not an affected State.

K) SOCIOECONOMIC INFORMATION

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as the State of Florida is not an affected State.

APPENDIX G WASTES AND DISCHARGES INFORMATION

A) PROJECTED GENERATED WASTES

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as Talos Energy is not proposing any of the following: (1) Activities for which the State of Florida is an affected State (2) Activities within the Protective Zones of the Flower Garden Banks and Stetson Bank (3) To use new or unusual technology that changes the nature or magnitude of the waste stream (4) To use a sulphur recovery unit(s) (5) Deepwater development operations that are in an exempted area (6) Initial EPs/DOCDs or Supplemental DOCDs with new multiwell structures for which the State of Texas or the State of Mississippi is an affected State (7) Initial or Supplemental DOCD for which the State of Alabama is an affected State or (8) Initial DOCDs or Supplemental DOCDs with new multiwell structure that includes disposal in Louisiana State waters or onshore Louisiana.

B) PROJECTED OCEAN DISCHARGES

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as Talos Energy is not proposing any of the following: (1) Activities for which the State of Florida is an affected State (2) Activities within the Protective Zones of the Flower Garden Banks and Stetson Bank (3) To use new or unusual technology that changes the nature or magnitude of the waste stream (4) Deepwater development operations that are in an exempted area (5) Initial EPs/DOCDs or Supplemental DOCDs with new multiwell structures for which the State of Texas or the State of Mississippi is an affected State or (6) Initial or Supplemental EPs or DOCDs for which the State of Alabama is an affected State.

C) MODELING REPORT

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as the subject activities do not require an individual NPDES permit. Therefore, a modeling report is not mandated.

D) NPDES PERMITS

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as the associated leases are within the Gulf of Mexico Region.

E) COOLING WATER INTAKES

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as the associated leases are within the Gulf of Mexico Region.

APPENDIX H AIR EMISSIONS INFORMATION

A) Offshore air emissions related to these proposed activities result mainly from drilling operations, helicopters and vessels. These emissions occur mainly from burning fuels and natural gas and from venting or evaporation of hydrocarbons. The combustion of fuel occurs primarily on diesel-powered generators, pumps or motors and from lighter fuel motors.

The primary air pollutants associated with OCS activities are nitrogen oxides, carbon monoxide, sulphur oxides, volatile organic compounds and suspended particulates.

You are being provided summary information regarding the peak year emissions that have been generated by and associated with the Complex Total Emissions.

COMPANY	Talos Energy Ventures, LLC
AREA	Ewing Bank
BLOCK	873
LEASE	OCS-G12136
FACILITY	Platform A (LOBSTER)
WELL	A14 ST02 / A28
COMPANY CONTACT	Erin Harold
TELEPHONE NO.	713-335-6952
REMARKS	Talos proposes to drill,complete & produce either the A14ST02 or A28 well as dump flood wells to enhance oil recovery

LEASE TER	M PIPELINE CO	ONSTRUCTION INFORMATION:
YEAR	NUMBER OF	TOTAL NUMBER OF CONSTRUCTION DAYS
	PIPELINES	
2023		
2024		
2025		
2026		
2027		
2028		
2029		
2030		
2031		
2032		

BOEM FORM 0139 (August 2020- Supersedes all previous versions of this form which may not be used).

Air Emissions Spreadsheets

Fuel Usage Conversion Factors	Natural Ga	as Turbines			Natural Ga	as Engines	Diesel Re	cip. Engine	Diesel *	Turbines			7
·	SCF/hp-hr	9.524			SCF/hp-hr	7.143	GAL/hp-hr	0.0514	GAL/hp-hr	0.0514			1
F													
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	
Vessels – Drilling Prime Engine, Auxiliary	a/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-
Vessels – Diesel Boiler	a/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	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	
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	
Combustion Flare (light smoke)	lbs/MMscf	2.10	2.10	2.10	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	
Combustion Flare (medium smoke)	lbs/MMscf	10.50	10.50	10.50	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	nups//wwws.epa.gov/un/chiel/ap42/ch15/infai/C15505_02-05-16.pdf
Combustion Flare (heavy smoke)	lbs/MMscf	21.00	21.00	21.00	0.57	71.40	35.93	N/A	325.5	N/A	AP42 13.5-1, 13.5-2	2/18	
Liquid Flaring	lbs/bbl	0.42	0.0966	0.0651	5.964	0.84	0.01428	5.14E-05	0.21	0.0336	AP42 1.3-1 through 1.3-3 and 1.3-5	5/10	https://www3.epa.gov/ttnchie1/ap42/ch01/final/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.apiwebstore.org/publications/item.cgi?9879d38a-8bc0-4abe- 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	
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/movee/poproad2008a-installation-and-undates
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	mpsorwww.epa.govmovcarromoad2000a*instaliation*and*updates
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_Ne wsroom/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	a 3/19 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	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

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

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

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Air Emissions Spreadsheets

Characterization Control	COMBANY	4054	· · · · ·	BLOCK	LEASE	EACILITY	WELL					CONTACT		PHONE		DEMADING											
ProvinceProvinc	Talos Energy Ventures, LLC	Ewing Bank		873	OCS-G12136	tform A (LOBS)	A14 ST02 / A	28				Erin Harold		713-335-6952		Talos proposes	to drill,complete	& produce either	the A14ST02 or	A28 well as durr	np flood wells to e	enhance oil recov	ery				
Mart 1 Mart 1 Mart 2 Mart 2<	OPERATIONS	EQUIPMENT	EQUIPMENT ID	RATING	MAX. FUEL	ACT. FUEL	. RUN	TIME				MAXIMU	JM POUNDS P	ER HOUR							ES	STIMATED T	ONS				
Import Import<		Diesel Engines		HP	GAL/HR	GAL/D SCE/D																					
Characterization Characterization<		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	
Note: Note: <th< td=""><td>DRILLING</td><td>VESSELS- Drilling - Propulsion Engine - Diesel</td><td></td><td>6635</td><td>341.34421</td><td>8192.26</td><td>24</td><td>46</td><td>4.68</td><td>2.82</td><td>2.74</td><td>0.07</td><td>112.15</td><td>3.22</td><td>0.00</td><td>17.59</td><td>0.03</td><td>2.58</td><td>1.56</td><td>1.51</td><td>0.04</td><td>61.91</td><td>1.78</td><td>0.00</td><td>9.71</td><td>0.02</td></th<>	DRILLING	VESSELS- Drilling - Propulsion Engine - Diesel		6635	341.34421	8192.26	24	46	4.68	2.82	2.74	0.07	112.15	3.22	0.00	17.59	0.03	2.58	1.56	1.51	0.04	61.91	1.78	0.00	9.71	0.02	
Note of the sympole		VESSELS- Drilling - Propulsion Engine - Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Norw: Original and and a second sec		VESSELS- Drilling - Propulsion Engine - Diesel		0		0.00		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
North Maximum North Ma		Vessels - Diesel Boiler		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Dist Dist <th< td=""><td></td><td>Vessels – Drilling Prime Engine, Auxiliary</td><td></td><td>0</td><td>0</td><td>0.00</td><td>Ō</td><td>0</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></th<>		Vessels – Drilling Prime Engine, Auxiliary		0	0	0.00	Ō	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	
Differ Differ<																											
Disc. 1 and problems ing trains T T T <th< td=""><td>PIPELINE</td><td>VESSELS - Pipeline Laying Vessel - Diesel</td><td></td><td>0</td><td>0</td><td>0.00</td><td>0</td><td>0</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></th<>	PIPELINE	VESSELS - Pipeline Laying Vessel - Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Main Main <th< td=""><td>INSTALLATION</td><td>VESSELS - Pipeline Burying - Diesel</td><td></td><td>U</td><td>U</td><td>0.00</td><td>0</td><td>0</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></th<>	INSTALLATION	VESSELS - Pipeline Burying - Diesel		U	U	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	
New Provise bar New Provis	FACILITY INSTALLATIO	VESSELS - Heavy Lift Vessel/Derrick Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
NICCOMM NICCOMM <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>																											
Prod	PRODUCTION	RECIP.<600hp Diesel		503	25.877338	621.06	1	120	1.11	1.11	1.11	0.03	15.64	1.15		3.36		0.07	0.07	0.07	0.00	0.94	0.07		0.20	-	
PC-9000000000000000000000000000000000000		RECIP.<000np Diesel		503	3.807004	91.37		120	0.16	0.16	0.16	0.03	2 30	0.17		0.49	-	0.07	0.07	0.07	0.00	0.94	0.07		0.20	-	
NCD NCD <td></td> <td>RECIP.>600hp Diesel</td> <td></td> <td>1106</td> <td>56.899276</td> <td>1365.58</td> <td>1</td> <td>60</td> <td>0.78</td> <td>0.44</td> <td>0.43</td> <td>0.00</td> <td>26.58</td> <td>0.71</td> <td></td> <td>6.10</td> <td></td> <td>0.02</td> <td>0.01</td> <td>0.01</td> <td>0.00</td> <td>0.80</td> <td>0.02</td> <td></td> <td>0.18</td> <td></td>		RECIP.>600hp Diesel		1106	56.899276	1365.58	1	60	0.78	0.44	0.43	0.00	26.58	0.71		6.10		0.02	0.01	0.01	0.00	0.80	0.02		0.18		
NEMP NO NO NO NO NO<		RECIP.>600hp Diesel		700	36.0122	864.29	1	60	0.49	0.28	0.27	0.01	16.82	0.45		3.86		0.01	0.01	0.01	0.00	0.50	0.01		0.12		
Nome::::::::::::::::::::::::::::::::::::		RECIP.>600hp Diesel		700	36.0122	864.29	1	60	0.49	0.28	0.27	0.01	16.82	0.45		3.86		0.01	0.01	0.01	0.00	0.50	0.01		0.12		
None None <th< td=""><td></td><td>VESSELS - Shuttle Lankers</td><td></td><td>0</td><td></td><td>0.00</td><td></td><td>0</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></th<>		VESSELS - Shuttle Lankers		0		0.00		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Busic Current: C		Natural Gas Turbine - Generator 1		6100	58095,238	1394285.7	24	365		0.12	0.12	0.00	19.52	0.13		5.00			0.51	0.51	0.15	85.50	0.56		21.91		
Nucl: Cal: Cal: Cal: Cal: Cal: Cal: Cal: Ca		Natural Gas Turbine - Generator 2		6100	58095.238	1394285.7	24	365		0.12	0.12	0.03	19.52	0.13		5.00			0.51	0.51	0.15	85.50	0.56		21.91	-	
Desitivity Desitiv		Natural Gas Turbine - Generator 3		6100	58095.238	1394285.7	24	365		0.12	0.12	0.03	19.52	0.13		5.00			0.51	0.51	0.15	85.50	0.56		21.91		
Decision 0 0 0 0 </td <td></td> <td>Diesel Turbine</td> <td></td> <td>0</td> <td>0</td> <td>0.00</td> <td>0</td> <td>0</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td></td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td></td>		Diesel Turbine		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
NEC: 1 O 0 0 0 0 <td></td> <td>Dual Fuel Turbine RECIP 2 Curle Lean Natural Cas</td> <td></td> <td>0</td> <td></td> <td>0.00</td> <td></td> <td>0</td> <td>0.00</td>		Dual Fuel Turbine RECIP 2 Curle Lean Natural Cas		0		0.00		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
RCP A (with hinder A and a second of a seco		RECIP. 4 Cycle Lean Natural Gas		ő	ŏ	0.00	ŏ	ő	-	0.00	0.00	0.00	0.00	0.00		0.00	-	-	0.00	0.00	0.00	0.00	0.00		0.00		
Image base Image b		RECIP. 4 Cycle Rich Natural Gas		0	ō	0.00	ō	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		
Interference Interference<		Diesel Boiler					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	
Information from the set of the		Natural Gas Heater/Boiler/Burner		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
COMUSE DIV Comuse		MISC. STORAGE TANK		BPD	SCF/HR	COUNT	0	0						#DIV/01									0.00				
CONSISTION FLAGE - istainance ORDER TWE All - istainace ORDER TWE All - istainance ORDER TWE All - istaina		COMBUSTION FLARE - no smoke			0		l õ	ő	0.00	0.00	0.00	0.00	0.00	0.00		0.00	-	0.00	0.00	0.00	0.00	0.00	0.00		0.00		
COMUSIDINGLASE-media mandes DUCAUSAUNT NUMBER D D D D <td></td> <td>COMBUSTION FLARE - light smoke</td> <td></td> <td></td> <td>0</td> <td></td> <td>0</td> <td>0</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td></td> <td>0.00</td> <td></td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td></td> <td>0.00</td> <td></td>		COMBUSTION FLARE - light smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00		
Conduction Conduction Accord Conduction Conduct		COMBUSTION FLARE - medium smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00		
Ling (main (Ling) (main (Ling) (main (Ling)) (main (Ling) (main) (Ling) (main		COMBUSTION FLARE - heavy smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00		
Chronolstronscropt O O -		COLD VENT				0	0	0			-			#DIV/0!			-		-	-			0.00			-	
Water Norman O O - 0.00 0.00 - - 0.00 </td <td></td> <td>GLYCOL DEHYDRATOR</td> <td></td> <td></td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td>#DIV/01</td> <td></td> <td></td> <td>-</td> <td></td> <td>-</td> <td>-</td> <td></td> <td></td> <td>0.00</td> <td></td> <td></td> <td></td>		GLYCOL DEHYDRATOR				0	0	0		-	-	-		#DIV/01			-		-	-			0.00				
CHALLING Lade Fining O O <		WASTE INCINERATOR		0			0	0		0.00	0.00	0.00	0.00			0.00			0.00	0.00	0.00	0.00			0.00		
WELL TEST COMUSTION FLARE: - notaring 0 0	DRILLING	Liquid Flaring		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	
CDMMSDIGNER/WARENetWeinstands O <	WELL TEST	COMBUSTION FLARE - no smoke		ļ	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	-	
COMUSITION FARE -many mode O O O O <td></td> <td>COMBUSTION FLARE - light smoke</td> <td></td> <td></td> <td>0</td> <td></td> <td>0</td> <td>0</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td></td> <td>0.00</td> <td></td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td></td> <td>0.00</td> <td>-</td>		COMBUSTION FLARE - light smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	-	
Condustrion FLARE - now synche 0 0 0		COMBUSTION FLARE - medium smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	-	
Nebsel 2- Vessel 3- Vessel 3- <t< td=""><td></td><td>COMBUSTION FLARE - heavy smoke</td><td></td><td></td><td>0</td><td></td><td>0</td><td>0</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td></td><td>0.00</td><td></td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td></td><td>0.00</td><td>-</td></t<>		COMBUSTION FLARE - heavy smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	-	
VESSELS - Low Management Dised 0 0 0.00 0	ALASKA-SPECIFIC	VESSELS		kW			HR/D	D/YR																			
1202 Security Total Emissions 1 1 5 6.5 6.65 6.65 6.00 5.52 6.00 2.78 2.28 3.28 </td <td></td> <td>VESSELS - Ice Management Diesel</td> <td></td> <td>0</td> <td></td> <td></td> <td>0</td> <td>0</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td></td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td></td> <td>0.00</td> <td>0.00</td>		VESSELS - Ice Management Diesel		0			0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Letter 10 M CALCULATION DISTANCE FROM LAND IN MILES Image: mail of the set	2023	Facility Total Emissions							8.83	6.56	6.45	0.27	264.50	#DIV/0!	0.00	53.62	0.03	2.78	3.25	3.21	0.50	322.22	3.66	0.00	76.28	0.02	
mean mean <th< td=""><td>CALCULATION</td><td>DISTANCE FROM LAND IN MILES</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2.211.12</td><td></td><td></td><td>2.211.12</td><td>2.211.12</td><td>2.211.12</td><td></td><td>55,751,64</td><td></td></th<>	CALCULATION	DISTANCE FROM LAND IN MILES																2.211.12			2.211.12	2.211.12	2.211.12		55,751,64		
DRLING VESSELS - Crew Diseit 2065 106 2359 254.06 10 0.05 0.01 0.05 0.05 0.00 0.00 0.03 0.00 VESSELS - Tugs Deel 0 0 0.00 0.00 0.00		66.4																									
VESSELS-SupplyDeed 2065 102.2599 244.86 10 6 1.46 0.88 0.02 34.90 1.00 0.00 0.01 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.00<	DRILLING	VESSELS- Crew Diesel		2065	106.23599	2549.66	6	20	1.46	0.88	0.85	0.02	34.90	1.00	0.00	5.47	0.01	0.09	0.05	0.05	0.00	2.09	0.06	0.00	0.33	0.00	
PPELINE Vessels - log break Light of the super log		VESSELS - Supply Diesel		2065	106.23599	2549.66	10	6	1.46	0.88	0.85	0.02	34.90	1.00	0.00	5.47	0.01	0.04	0.03	0.03	0.00	1.05	0.03	0.00	0.16	0.00	
NSTALLATION VESSELS - Support Disedi Burging 0 0 0.00	DIDELINE	VESSELS - Tugs Diesel VESSELS - Support Diesel Laving		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
VESSELS - Cwip Dised 0	INSTALLATION	VESSELS - Support Diesel, Burving		0	ŏ	0.00	ŏ	ő	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
VESSELS - Supply Diseit 0		VESSELS - Crew Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FACILITY VESSELS - free biesel 0 <th< td=""><td></td><td>VESSELS - Supply Diesel</td><td></td><td>0</td><td>0</td><td>0.00</td><td>0</td><td>0</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></th<>		VESSELS - Supply Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
INSTALTATION VESSELS - Graph Dised 0	FACILITY	VESSELS - Material Tug Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
PRODUCTION VESSELS - Support Disest 2005 102/2590 2549/66 10 156 1.46 0.86 0.06 249/0 1.00 0.00	INSTALLATION	VESSELS - Crew Diesel		0	0	0.00		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ALASKA-SPECIFIC SOURCES number of the component Construction (maximum people per day) PEOPLE/DAY (WESSELS Construction (maximum people per day) PEOPLE/DAY (WESSELS Number of the component (maximum people per day) PEOPLE/DAY (WESSELS Number of the component (maximum people per day) PEOPLE/DAY (WESSELS Number of the component (maximum people per day) PEOPLE/DAY (Maximum people per day) P	PRODUCTION	VESSELS - Support Diesel		2065	106.23599	2549.66	10	156	1.46	0.88	0.85	0.00	34.90	1.00	0.00	5.47	0.00	1.14	0.69	0.66	0.00	27.23	0.78	0.00	4.27	0.00	
SOURCES On-toe Equipment One Equipment </td <td>ALASKA-SPECIFIC</td> <td>On los Fouriement</td> <td></td> <td></td> <td>041.00</td> <td>0.41/0</td> <td></td>	ALASKA-SPECIFIC	On los Fouriement			041.00	0.41/0																					
Man Camp - Operation (maximum people per day) PEOPLE/AY HR/D HR/D D/R - 0.00 0.00 <th <="" td=""><td>SOURCES</td><td></td><td>-</td><td></td><td>GAL/HR</td><td>GAL/D</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td><u> </u></td></th>	<td>SOURCES</td> <td></td> <td>-</td> <td></td> <td>GAL/HR</td> <td>GAL/D</td> <td></td> <td><u> </u></td>	SOURCES		-		GAL/HR	GAL/D																				<u> </u>
Drives Data Diffe Diffe <th< td=""><td></td><td>Man Camp - Operation (maximum people per day)</td><td>+</td><td>PEOPLE/DAY</td><td></td><td></td><td>HR/P</td><td>D/VP</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td> </td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td><u> </u></td></th<>		Man Camp - Operation (maximum people per day)	+	PEOPLE/DAY			HR/P	D/VP																		<u> </u>	
On-lose - Other Construction Equipment 0		On-Ice - Loader		AW	0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
On-lose - Others Survey Equipment 0 0.0 0.0 0.00 <		On-Ice – Other Construction Equipment			0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
On-log - Track (for gravel sland) 0		On-Ice - Other Survey Equipment			0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
On-log - Track (or grave learning) 0		On-Ice - Tractor			0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Office Operating O <tho< th=""> O O <</tho<>		On-loe - Truck (for supers)			0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
VESSELS - Hovercraft Diesel 0 0 0.00 0.00 0.00 0.00 0.00 0.00 0.0		Man Camp - Operation		0		0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
2023 Non-Facility Total Emissions		VESSELS - Hovercraft Diesel		ő			0	Ő	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	2023	Non-Facility Total Emissions							4.37	2.64	2.56	0.06	104.71	3.01	0.00	16.42	0.03	1.27	0.76	0.74	0.02	30.37	0.87	0.00	4.76	0.01	

Characterization Control	COMBANY	ABEA	· · · · ·	BLOCK	LEASE	EACILITY	WELL					CONTACT		PHONE		DEMADING										
ProvinceProvinc	Talos Energy Ventures, LLC	Ewing Bank		873	OCS-G12136	tform A (LOBS)	A14 ST02 / A	28				Erin Harold		713-335-6952		Talos proposes	to drill,complete	& produce either	the A14ST02 or	A28 well as durr	np flood wells to e	enhance oil recov	ery			
Image:	OPERATIONS	EQUIPMENT	EQUIPMENT ID	RATING	MAX. FUEL	ACT. FUEL	. RUN	TIME				MAXIMU	JM POUNDS P	er hour							ES	STIMATED T	ONS			
Import Import<		Diesel Engines		HP	GAL/HR	GAL/D SCE/D																				
Characterization Characterization<		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
Note: Note: <th< td=""><td>DRILLING</td><td>VESSELS- Drilling - Propulsion Engine - Diesel</td><td></td><td>6635</td><td>341.34421</td><td>8192.26</td><td>24</td><td>44</td><td>4.68</td><td>2.82</td><td>2.74</td><td>0.07</td><td>112.15</td><td>3.22</td><td>0.00</td><td>17.59</td><td>0.03</td><td>2.47</td><td>1.49</td><td>1.45</td><td>0.04</td><td>59.21</td><td>1.70</td><td>0.00</td><td>9.29</td><td>0.02</td></th<>	DRILLING	VESSELS- Drilling - Propulsion Engine - Diesel		6635	341.34421	8192.26	24	44	4.68	2.82	2.74	0.07	112.15	3.22	0.00	17.59	0.03	2.47	1.49	1.45	0.04	59.21	1.70	0.00	9.29	0.02
Note of the sympole		VESSELS- Drilling - Propulsion Engine - Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Norm: Original protects Norm: Original		VESSELS- Drilling - Propulsion Engine - Diesel		0		0.00		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
North Maximum North Ma		Vessels - Diesel Boiler		0	-	0.00	l õ	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
Dist Dist <th< td=""><td></td><td>Vessels – Drilling Prime Engine, Auxiliary</td><td></td><td>0</td><td>0</td><td>0.00</td><td>Ō</td><td>0</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></th<>		Vessels – Drilling Prime Engine, Auxiliary		0	0	0.00	Ō	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
Nick Nick <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>																										
Disc. 1 and problems ing the problem in pro	PIPELINE	VESSELS - Pipeline Laying Vessel - Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mail Mail <th< td=""><td>INSTALLATION</td><td>VESSELS - Pipeline Burying - Diesel</td><td></td><td>U</td><td>U</td><td>0.00</td><td>0</td><td>0</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></th<>	INSTALLATION	VESSELS - Pipeline Burying - Diesel		U	U	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
New Provise bar New Provis	FACILITY INSTALLATIO	VESSELS - Heavy Lift Vessel/Derrick Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NICCOMM NICCOMM <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>																										
Prod	PRODUCTION	RECIP.<600hp Diesel		503	25.877338	621.06	1	120	1.11	1.11	1.11	0.03	15.64	1.15		3.36		0.07	0.07	0.07	0.00	0.94	0.07		0.20	-
PC-9000000000000000000000000000000000000		RECIP.<000np Diesel		503	3.807004	91.37		120	0.16	0.16	0.16	0.03	2 30	0.17		0.49	-	0.07	0.07	0.07	0.00	0.94	0.07		0.20	-
NCD NCD <td></td> <td>RECIP.>600hp Diesel</td> <td></td> <td>1106</td> <td>56.899276</td> <td>1365.58</td> <td>1</td> <td>60</td> <td>0.78</td> <td>0.44</td> <td>0.43</td> <td>0.00</td> <td>26.58</td> <td>0.71</td> <td></td> <td>6.10</td> <td></td> <td>0.02</td> <td>0.01</td> <td>0.01</td> <td>0.00</td> <td>0.80</td> <td>0.02</td> <td></td> <td>0.18</td> <td></td>		RECIP.>600hp Diesel		1106	56.899276	1365.58	1	60	0.78	0.44	0.43	0.00	26.58	0.71		6.10		0.02	0.01	0.01	0.00	0.80	0.02		0.18	
NEMP NO NO NO NO NO<		RECIP.>600hp Diesel		700	36.0122	864.29	1	60	0.49	0.28	0.27	0.01	16.82	0.45		3.86		0.01	0.01	0.01	0.00	0.50	0.01		0.12	
Nome::::::::::::::::::::::::::::::::::::		RECIP.>600hp Diesel		700	36.0122	864.29	1	60	0.49	0.28	0.27	0.01	16.82	0.45		3.86		0.01	0.01	0.01	0.00	0.50	0.01		0.12	
None None <th< td=""><td></td><td>VESSELS - Shuttle Lankers</td><td></td><td>0</td><td></td><td>0.00</td><td></td><td>0</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></th<>		VESSELS - Shuttle Lankers		0		0.00		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Busic Control		Natural Gas Turbine - Generator 1		6100	58095,238	1394285.7	24	365		0.12	0.12	0.00	19.52	0.13		5.00			0.51	0.51	0.15	85.50	0.56		21.91	
Nerror Nerro Nerro Nerro <td></td> <td>Natural Gas Turbine - Generator 2</td> <td></td> <td>6100</td> <td>58095.238</td> <td>1394285.7</td> <td>24</td> <td>365</td> <td></td> <td>0.12</td> <td>0.12</td> <td>0.03</td> <td>19.52</td> <td>0.13</td> <td></td> <td>5.00</td> <td></td> <td></td> <td>0.51</td> <td>0.51</td> <td>0.15</td> <td>85.50</td> <td>0.56</td> <td></td> <td>21.91</td> <td></td>		Natural Gas Turbine - Generator 2		6100	58095.238	1394285.7	24	365		0.12	0.12	0.03	19.52	0.13		5.00			0.51	0.51	0.15	85.50	0.56		21.91	
Num Transm. 0 0 0		Natural Gas Turbine - Generator 3		6100	58095.238	1394285.7	24	365		0.12	0.12	0.03	19.52	0.13	-	5.00			0.51	0.51	0.15	85.50	0.56		21.91	-
Description Description <thdescription< th=""> <thdescription< th=""></thdescription<></thdescription<>		Diesel Turbine		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
NEC: 1 O 0 0 0 0 <td></td> <td>Dual Fuel Turbine RECIP 2 Curle Lean Natural Cas</td> <td></td> <td>0</td> <td></td> <td>0.00</td> <td></td> <td>0</td> <td>0.00</td>		Dual Fuel Turbine RECIP 2 Curle Lean Natural Cas		0		0.00		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RCP A (with hinder A and a second of a seco		RECIP. 4 Cycle Lean Natural Gas		ő	ŏ	0.00	ŏ	ő	_	0.00	0.00	0.00	0.00	0.00		0.00	-		0.00	0.00	0.00	0.00	0.00		0.00	
Image base Image b		RECIP. 4 Cycle Rich Natural Gas		0	ō	0.00	ō	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	
Net Net Obs Obs <td></td> <td>Diesel Boiler</td> <td></td> <td></td> <td></td> <td></td> <td>0</td> <td>0</td> <td>0.00</td>		Diesel Boiler					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
Information from the set of the		Natural Gas Heater/Boiler/Burner		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COMUSE DIV Comuse		MISC. STORAGE TANK		BPD	SCF/HR	COUNT	0	0						#DIV/01									0.00			
CONSISTION FLAGE - istainance ORDER TWE All - istainace ORDER TWE All - istainance ORDER TWE All - istaina		COMBUSTION FLARE - no smoke			0		l õ	ő	0.00	0.00	0.00	0.00	0.00	0.00		0.00	-	0.00	0.00	0.00	0.00	0.00	0.00		0.00	
COMUSIDINGLASE-media mandes DUCAUSAUNT NUMBER D D D D <td></td> <td>COMBUSTION FLARE - light smoke</td> <td></td> <td></td> <td>0</td> <td></td> <td>0</td> <td>0</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td></td> <td>0.00</td> <td></td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td></td> <td>0.00</td> <td></td>		COMBUSTION FLARE - light smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	
Conduction Conduction Accord Conduction Conduct		COMBUSTION FLARE - medium smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	
Ling (main (Ling) (main (Ling)) Ling (main (Ling))		COMBUSTION FLARE - heavy smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	
Chronolstronscropt O O -		COLD VENT				0	0	0			-			#DIV/0!			-		-	-			0.00			-
Water Norman O O - O - O O - O O - O O O <th< td=""><td></td><td>GLYCOL DEHYDRATOR</td><td></td><td></td><td></td><td>0</td><td>0</td><td>0</td><td>-</td><td></td><td>-</td><td>-</td><td></td><td>#DIV/01</td><td></td><td></td><td>-</td><td></td><td>-</td><td>-</td><td></td><td></td><td>0.00</td><td></td><td></td><td></td></th<>		GLYCOL DEHYDRATOR				0	0	0	-		-	-		#DIV/01			-		-	-			0.00			
CHALLING Lade Fining O O <		WASTE INCINERATOR		0		-	0	0		0.00	0.00	0.00	0.00			0.00			0.00	0.00	0.00	0.00			0.00	
WELL TEST COMUSTION FLARE: - notaring 0 0	DRILLING	Liquid Flaring		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
CDMMSDIGNER/DARE - Index - made manade O	WELL TEST	COMBUSTION FLARE - no smoke		ļ	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	-
COMUSITION FARE -many mode O O O O <td></td> <td>COMBUSTION FLARE - light smoke</td> <td></td> <td></td> <td>0</td> <td></td> <td>0</td> <td>0</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td></td> <td>0.00</td> <td></td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td></td> <td>0.00</td> <td>-</td>		COMBUSTION FLARE - light smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	-
Condustrion FLARE - now synche 0 0 0		COMBUSTION FLARE - medium smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	-
Nebsel 2- Vessel 3- Vessel 3- <t< td=""><td></td><td>COMBUSTION FLARE - heavy smoke</td><td></td><td></td><td>0</td><td></td><td>0</td><td>0</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td></td><td>0.00</td><td></td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td></td><td>0.00</td><td>-</td></t<>		COMBUSTION FLARE - heavy smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	-
VESSELS - Low Management Dised 0 0 0.00 0	ALASKA-SPECIFIC	VESSELS		kW			HR/D	D/YR																		
10224 Facility Total Emissions 10 10 10 10 100 54.2 0.00 54.2 0.00 54.2 0.00 54.2 0.00 54.2 0.00 54.2 0.00 54.2 0.00 54.2 0.00 54.2 0.00 54.2 0.00 54.2 0.00 54.2 0.00 54.2 0.00 54.2 0.00 2.211.2<		VESSELS - Ice Management Diesel		0			0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Letter 10 M CALCULATION DISTANCE FROM LAND IN MILES Image: mail of the set	2024	Facility Total Emissions							8.83	6.56	6.45	0.27	264.50	#DIV/0!	0.00	53.62	0.03	2.67	3.19	3.14	0.49	319.53	3.58	0.00	75.86	0.02
mean mean <th< td=""><td>CALCULATION</td><td>DISTANCE FROM LAND IN MILES</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2.211.12</td><td></td><td></td><td>2.211.12</td><td>2.211.12</td><td>2.211.12</td><td></td><td>55,751,64</td><td></td></th<>	CALCULATION	DISTANCE FROM LAND IN MILES																2.211.12			2.211.12	2.211.12	2.211.12		55,751,64	
DRLING VESSELS - Crew Diseit 2065 106 2359 254.06 10 0.05 0.01 0.05 0.05 0.00 0.00 0.03 0.00 VESSELS - Tugs Deel 0 0 0.00 0.00 0.00		66.4																								
VESSELS-SupplyDeed 2065 102.2599 244.86 10 6 1.46 0.88 0.02 34.90 1.00 0.00 0.01 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.00<	DRILLING	VESSELS- Crew Diesel		2065	106.23599	2549.66	6	20	1.46	0.88	0.85	0.02	34.90	1.00	0.00	5.47	0.01	0.09	0.05	0.05	0.00	2.09	0.06	0.00	0.33	0.00
PHELINE Vessels - base members 0		VESSELS - Supply Diesel		2065	106.23599	2549.66	10	6	1.46	0.88	0.85	0.02	34.90	1.00	0.00	5.47	0.01	0.04	0.03	0.03	0.00	1.05	0.03	0.00	0.16	0.00
NSTALLATION VESSELS - Support Dised: Burying 0 0 0.00	PIPELINE	VESSELS - Tugs Diesel Laving		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VESSELS - Cwip Dised 0	INSTALLATION	VESSELS - Support Diesel, Burving		0	ŏ	0.00	ŏ	ő	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VESSELS - Supply Diseit 0		VESSELS - Crew Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FACILITY VESSELS - free biesel 0 <th< td=""><td></td><td>VESSELS - Supply Diesel</td><td></td><td>0</td><td>0</td><td>0.00</td><td>0</td><td>0</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></th<>		VESSELS - Supply Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INSTALTATION VESSELS - Graph Dised 0	FACILITY	VESSELS - Material Tug Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION VESSELS - Support Disest 2005 102/2599 2549/86 10 156 1.46 0.88 0.05 0.00	INSTALLATION	VESSELS - Crew Diesel		0	0	0.00		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ALASKA-SPECIFIC SOURCES On-loc Equipment GAL/H	PRODUCTION	VESSELS - Support Diesel		2065	106.23599	2549.66	10	156	1.46	0.88	0.85	0.02	34.90	1.00	0.00	5.47	0.00	1.14	0.69	0.66	0.00	27.23	0.00	0.00	4.27	0.00
Sources Onto Equipment Onco Onco <td>ALASKA-SPECIFIC</td> <td>On les Equipment</td> <td></td> <td></td> <td>CAL/HD</td> <td>CALID</td> <td></td>	ALASKA-SPECIFIC	On les Equipment			CAL/HD	CALID																				
Man camp - uppertion (maximum people per day) PEOPLICIAY HR/D HR/D D/R - 0.00	SOURCES		-		GAL/HR	GALID	<u> </u>													L						<u> </u>
On-tope One of the Construction Equipment NV 0 0.0 0.0 0.00		Man Camp - Operation (maximum people per day)		PEOPLE/DAY	-		HR/D	D/VP														-				<u> </u>
On-loss-Other Construction Equipment 0 0.0 0.00		On-Ice - Loader			0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
On-lose - Others Survey Equipment 0 0.0 0.0 0.00 <		On-Ice – Other Construction Equipment			0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
On-log - Track (for gravel sland) 0		On-Ice - Other Survey Equipment			0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
On-log - Track (or grave learning) 0		On-Ice - Tractor			0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Office Operating O <tho< th=""> O O <</tho<>		On-loe - Truck (for supers)			0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
VESSELS - Hovercraft Diesel 0 0 0.00 0.00 0.00 0.00 0.00 0.00 0.0		Man Camp - Operation		0		0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
2024 Non-Facility Total Emissions		VESSELS - Hovercraft Diesel		ő			0	Ő	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2024	Non-Facility Total Emissions							4.37	2.64	2.56	0.06	104.71	3.01	0.00	16.42	0.03	1.27	0.76	0.74	0.02	30.37	0.87	0.00	4.76	0.01

											_														
COMPANY Talaa Enarmu Vanturaa III C	AREA		BLOCK	LEASE	FACILITY form A/LORG	WELL	128				CONTACT Erin Harold		PHONE 713-335-6952		REMARKS	to drill complete	& produce either	the &1//ST02 or	A28 well as dure	on flood wells to a	enhance oil reco	anv.			
OPERATIONS	EQUIPMENT	EQUIPMENT ID	RATING	MAX. FUEL	ACT. FUE	RUN					MAXIMU	IM POUNDS PE	R HOUR		raios proposes	to unit,complete	a produce enner	ule A 143102 0	Azo well as dull	ES	STIMATED T	ONS			
	Diesel Engines		HP	GAL/HR	GAL/D																				
	Nat. Gas Engines		HP	SCF/HR	SCF/D	LIB/D	D/VP	тер	DM10	DM2.5	80%	NOr	VOC	Dh	<u> </u>	NIL 2	TOD	DM40	DM2 5	50×	NOr	VOC	Dh		NIL 2
DRILLING	VESSELS- Drilling - Propulsion Engine - Diesel		MMBTU/HK	O O	0.00	HR/D	D/TR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS- Drilling - Propulsion Engine - Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS- Drilling - Propulsion Engine - Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS- Drilling - Propulsion Engine - Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Vessels - Diesel Boller Vessels - Drilling Prime Engine, Auvilianu		0	0	0.00		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Veasers - Drining I Time Engine, Advinary		Ū		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	VESSELS - Pipeline Laying Vessel - Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INSTALLATION	VESSELS - Pipeline Burying - Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FACILITY INSTALLATIO	N VESSELS - Heavy Lift Vessel/Derrick Barge Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRODUCTION	DEOID 2000ka Dissal		500	05 077000	004.00		400			4.44	0.00	45.04	4.45		0.00		0.07	0.07	0.07	0.00	0.04	0.07		0.00	
PRODUCTION	RECIP.<000np Diesel		503	25.877338	621.06		120	1.11	1.11	1.11	0.03	15.64	1.15		3.30		0.07	0.07	0.07	0.00	0.94	0.07		0.20	-
	RECIP.<600hp Diesel		74	3.807004	91.37	i i	120	0.16	0.16	0.16	0.00	2.30	0.17		0.49	-	0.01	0.01	0.01	0.00	0.14	0.01		0.03	
	RECIP.>600hp Diesel		1106	56.899276	1365.58	1	60	0.78	0.44	0.43	0.01	26.58	0.71		6.10		0.02	0.01	0.01	0.00	0.80	0.02		0.18	
	RECIP.>600hp Diesel		700	36.0122	864.29	1	60	0.49	0.28	0.27	0.01	16.82	0.45		3.86		0.01	0.01	0.01	0.00	0.50	0.01		0.12	
	KECIP.>600hp Diesel		/00	36.0122	864.29		60	0.49	0.28	0.27	0.01	16.82	0.45		3.86		0.01	0.01	0.01	0.00	0.50	0.01		0.12	
	VESSELS - Shuttle Lankers VESSELS - Well Stimulation		0		0.00		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Natural Gas Turbine - Generator 1		6100	58095.238	1394285.7	24	365		0.12	0.12	0.03	19.52	0.13		5.00			0.51	0.51	0.15	85.50	0.56		21.91	
	Natural Gas Turbine - Generator 2		6100	58095.238	1394285.7	24	365		0.12	0.12	0.03	19.52	0.13		5.00			0.51	0.51	0.15	85.50	0.56		21.91	
	Natural Gas Turbine - Generator 3		6100	58095.238	1394285.7	24	365		0.12	0.12	0.03	19.52	0.13		5.00			0.51	0.51	0.15	85.50	0.56		21.91	
	Diesel Turbine		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Dual Fuel Turbine		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP. 2 Cycle Lean Natural Gas		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	
	RECIP 4 Cycle Rich Natural Gas		0		0.00		0		0.00	0.00	0.00	0.00	0.00		0.00			0.00	0.00	0.00	0.00	0.00		0.00	
	Diesel Boiler		Ŭ		0.00	ŏ	ő	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00	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	1	1	-				-	0.00						-			0.00		-	
	COMBUSTION FLARE - no smoke			0	Ĭ	i i	o i	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	
	COMBUSTION FLARE - light smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	
	COMBUSTION FLARE - medium smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	
	COMBUSTION FLARE - heavy smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	
	COLD VENT				0	1	1						0.00					-				0.00			
					0	1	1				-		0.00	-	-			-	-		-	0.00			
	WASTE INCINERATOR		0		l v	i i	o i		0.00	0.00	0.00	0.00			0.00			0.00	0.00	0.00	0.00	0.00		0.00	
DRILLING	Liquid Flaring		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
WELL TEST	COMBUSTION FLARE - no smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	
	COMBUSTION FLARE - light smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00	-	0.00	0.00	0.00	0.00	0.00	0.00		0.00	
	COMBUSTION FLARE - medium smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	
	COMBUSTION ELARE - herror smoke			0		0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	
ALASKA-SPECIFIC	VESSELS		kW	- U		HR/D	D/YR	0.00	0.00	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 - Ice Management Diesel		0			0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
202	5 Facility Total Emissions							4.15	3.73	3.71	0.20	152.35	4.46	0.00	36.03	0.00	0.20	1.70	1.70	0.46	260.31	1.88	0.00	66.57	0.00
EXEMPTION	DISTANCE FROM LAND IN MILES 66.4																2,211.12			2,211.12	2,211.12	2,211.12		55,751.64	
DRILLING	VESSELS- Crew Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS - Supply Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS - Tugs Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS - Support Diesel, Laving		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INSTALLATION	VESSELS - Support 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 - Supply Diesel		ő	ŏ	0.00	ŏ	ŏ	0.00	0.00	0.00	0.00	0.00	0.00	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	VESSELS - Material Tug Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INSTALLATION	VESSELS - Crew Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DD OD U OTION	VESSELS - Supply Diesel		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ALASKA-SPECIFIC	VESSELS - Support Diesel		2065	106.23599 GAL/HP	2549.66 GAL/D	10	156	1.46	0.88	U.85	0.02	34.90	1.00	0.00	5.47	0.01	1.14	0.69	0.66	0.02	27.23	0.78	0.00	4.27	0.01
0000000	Man Camp - Operation (maximum people per day)	1	PEOPLE/DAY	GALINK	GALID	-	1				+				1					1	1				-
	VESSELS		kW			HR/D	D/YR																		
	On-Ice – Loader			0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
	On-Ice – Other Construction Equipment			0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
	On-Ice – Other Survey Equipment			0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
	On-Ice - Truck (for gravel island)			0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00
	On-Ice - Truck (for surveys)			0	0.0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
	Man Camp - Operation		0	-		0	0	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00		0.00	
	VESSELS - Hovercraft Diesel		0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
202	5 Non-Facility Total Emissions							1.46	0.88	0.85	0.02	34.90	1.00	0.00	5.47	0.01	1.14	0.69	0.66	0.02	27.23	0.78	0.00	4.27	0.01

AIR EMISSIONS CALCULATIONS

COMPANY		AREA	BLOCK	LEASE	FACILITY	WELL			
Talos Energy	Ventures, LLC	873	OCS-G12136	Platform A (LOE	A14 ST02 / A28				
Year				Facility					
	TSP	PM10	PM2.5	SOx	NOx	voc	Pb	со	NH3
2023	2.78	3.25	3.21	0.50	322.22	3.66	0.00	76.28	0.02
2024	2.67	3.19	3.14	0.49	319.53	3.58	0.00	75.86	0.02
2025-2032	0.20	1.70	1.70	0.46	260.31	1.88	0.00	66.57	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Allowable	2211.12			2211.12	2211.12	2211.12		55751.64	

Emissions Worksheets and Screening Questions

(1) Screening Questions

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

APPENDIX I OIL SPILLS INFORMATION

A) OIL SPILL RESPONSE PLANNING

Pursuant to CFR 250.219 and NTL BOEM 2015-N01, this appendix provides information regarding any potential oil spill(s), the assumptions and calculations used to determine the worst case discharge (WCD) measures scenario.

Below is a reference to and status of Talos Energy's Regional OSRP. A site specific OSRP nor a subregional OSRP is not required with this plan, as the State of Florida is not an affected State for the activities proposed herein.

1) REGIONAL OR SUBREGIONAL OSRP INFORMATION

All of the proposed activities and facilities in this Plan will be covered by the Regional Oil Spill Response Plan filed by Talos Energy Offshore LLC (BOEM Company No. 03247) in accordance with 30 CFR 254 and approved on May 4, 2017, OSRP Control No. O-647. By letter dated October 2, 2023, the latest OSRP nonregulatory revision was found to be in compliance. As of letter dated October 2, 2023, BSEE acknowledged that the following operators are covered under this OSRP:

Talos ERT LLC (02899) Talos Petroleum LLC (01834) Talos Energy Offshore LLC (03247) Talos Oil and Gas LLC (03269) Talos Third Coast LLC (03619) Talos Gulf Coast Onshore, LLC (22691) Talos Gulf Coast Offshore LLC (03201) Talos Energy Ventures, LLC (03026)

2) SPILL RESPONSE SITES

The table below provides information on 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 the activities proposed herein.

Primary Response Equipment Location	Pre-planned Staging Location
Houma, LA; Harvey, LA; Leeville, LA	Houma, LA; Harvey, LA; Leeville, LA; Fourchon, LA

3) OIL SPILL REMOVAL ORGANIZATION (OSRO) INFORMATION

Talos' primary equipment provider is Clean Gulf Association (CGA). The Marine Spill Response Corporation's (MSRC) STARS network will closest available personnel, as well as a MSRC supervisor to operate the equipment. CGA and MSRC have equipment pre-staged around the Gulf of Mexico. The major locations of this equipment are Lake Charles, Houma, Fort Jackson, and Venice, Louisiana; Galveston and Ingleside, Texas; and Pascagoula, Mississippi.

4) WORST CASE SCENARIO COMPARISON

The table below provides a comparison of the worst-case discharge scenario from the above referenced Regional OSRP with the worst-case scenario from the activities proposed herein. Please note the Regional OSRP distance to shore scenarios are approximate and will be updated as required with modifications to the OSRP. The distance to shore for the proposed activities is accurate and based on survey data.

Worst Case Discharge Comparison Chart						
Category	DRILLING		PRODUCTION			
	REGIONAL OSRP WCD	DOCD WCD CURRENT PLAN	REGIONAL OSRP WCD	DOCD WCD CURRENT PLAN		
Type of Activity	EXPLORATORY WELL	DOCD WCD	Production > 10 miles from shore	DOCD WCD		
Facility Location (Area/Block)	GC 281	EW 873	GC 281	EW 873		
Facility Designation	Well SS001	Well A17 ST01	Well SS001	A (LOBSTER)		
Distance to Shore (miles)	91	67	96	67		
Volume						

Worst Case Discharge Comparison Chart						
Category	DRILLING		PRODUCTION			
	REGIONAL OSRP WCD	DOCD WCD CURRENT PLAN	REGIONAL OSRP WCD	DOCD WCD CURRENT PLAN		
Type of Activity	EXPLORATORY WELL	DOCD WCD	Production > 10 miles from shore	DOCD WCD		
Storage				666.00		
Flowlines (on facility)						
Lease Term Pipelines				1609.00		
Uncontrolled Blowout	370000.00	35787.00	35495.00	9349.00		
Total Volume	370000.00	35787.00	35495.00	11624.00		
Type of Oil(s) (crude, condensate, diesel)	Crude	Crude	Crude	Crude		
API Gravity	33	32	30.8	32		

Since Talos Energy Offshore LLC has the capacity to respond to the worst case spill scenario included in our Regional OSRP approved on May 4, 2017 and determined in compliance October 2, 2023, and since the worst case scenario determined for our Plan does not replace the worst case scenario in our Regional OSRP, Talos hereby certifies that we have the capacity to respond, to the maximum extent practicable, to a worst case discharge, or substantial threat of such a discharge, resulting from the activities proposed in this Plan.

5) WORST CASE DISCHARGE SCENARIOS AND ASSUMPTIONS

Talos provided the assumptions and calculations for the Worst Case Discharge Volume of EW873 in Plan Control No. N-4522, approved on December 9, 2016, which established the Worst Case Discharge Volume for the Field. The proposed operations do not supersede the worst case discharge volume previously provided and approved.

6) OIL SPILL RESPONSE DISCUSSION

Talos provided an Oil Spill Response Discussion for the Worst Case Discharge Volume for EW873 in Plan Control No. N-4522, approved on December 9, 2016, which established the Worst Case Discharge Volume for the Field.The proposed operations do not supersede the worst case discharge volume previously provided and approved; therefore, an oil spill response discussion is not being provided.

APPENDIX J ENVIRONMENTAL MONITORING INFORMATION

A) MONITORING SYSTEMS

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

B) INCIDENTAL TAKES

There is no reason to believe that any of the endangered species or marine mammals as listed in the ESA will be "taken" as a result of the operations proposed under this plan. To date, 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. Operations in this plan do propose utilizing pile driving.

Talos Energy will adhere to the requirements as set forth in the following Notices to Lessees and guidelines, 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 2015-G03 "Marine Trash and Debris Awareness and Elimination"
- BOEM NTL 2016-G01 "Vessel Strike Avoidance and Injured/ Dead Protected Species Reporting"
- BOEM NTL 2016-G02 "Implementation of Seismic Survey Mitigation Measures and Protected Species
 Observer Program"

2020 Biological Opinion:

- Appendix A: Seismic Survey Mitigation and Protected Species Observer Protocols, found in the Biological Opinion issued by the NAtional Marine Fisheries Service on March 13, 2020
- Appendix B: Gulf of Mexico Marine Trash and Debris Awareness and Elimination Survey Protocols, found in the Biological Opinion issued by the National Marine Fisheries Service on March 13, 2020
- Appendix C: Gulf of Mexico Vessel STrike Avoidance and Injured/Dead Aquatic Protected Species Reporting Protocols, found in the Biological Opinion issued by the National Marine Fisheries Service on March 13, 2020
- Appendix J: Sea Turtle Handling and Resuscitation Guidelines, found in the Biological Opinion issued by the National Marine Fisheries Services on March 13, 2020

C) FLOWER GARDEN BANKS NATIONAL MARINE SANCTUARY

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as the subject area and block(s) are not located within the Protective Zones of the Flower Garden Banks and Stetson Bank.

APPENDIX K LEASE STIPULATIONS INFORMATION

A) Lease stipulations are developed and implemented on a sale by sale basis and are applied to individual leases based on specific instructions in the applicable Final Notice of Sale Package. Stipulations place restrictions and operating requirements on lessees. This may involve protection of environmentally sensitive organisms or communities that exist in the area covered by the lease, conflicts with other uses such as military operations, LNG or sand extraction. However, there are no lease stipulations attached to the subject lease(s).

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

Lease Stipulation No. 1 - Protection of Archaeological Resources

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

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

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

APPENDIX L ENVIRONMENTAL MITIGATION MEASURES INFORMATION

A) MEASURES TAKEN TO AVOID, MINIMIZE, AND MITIGATE IMPACTS

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as the State of Florida is not an affected State.

B) INCIDENTAL TAKES

Talos Energy will adhere to the requirements as set forth in the following Notices to Lessees, 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 2015-G03 "Marine Trash and Debris Awareness and Elimination"
- BOEM NTL 2016-G01 "Vessel Strike Avoidance and Injured/ Dead Protected Species Reporting"
- BOEM NTL 2016-G02 "Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program"
- Appendix A: Seismic Survey Mitigation and Protected Species Observer Protocols, found in the Biological Opinion issued by the NAtional Marine Fisheries Service on March 13, 2020
- Appendix B: Gulf of Mexico Marine Trash and Debris Awareness and Elimination Survey Protocols, found in the Biological Opinion issued by the National Marine Fisheries Service on March 13, 2020
- Appendix C: Gulf of Mexico Vessel STrike Avoidance and Injured/Dead Aquatic Protected Species Reporting Protocols, found in the Biological Opinion issued by the National Marine Fisheries Service on March 13, 2020
- Appendix J: Sea Turtle Handling and Resuscitation Guidelines, found in the Biological Opinion issued by the National Marine Fisheries Services on March 13, 2020

APPENDIX M RELATED FACILITIES & OPERATIONS INFORMATION

A) RELATED OCS FACILITIES AND OPERATIONS

Under this plan of operations, Talos Energy (Talos) is proposing to drill one dump flood well from either the A14 ST02 or A28 well location on the EW873 A platform for purposes of enhancing oil recovery. No hydrocarbons will be produced from either well.

A-28 or A-14ST2 will be drilled and completed with 2-zone frac pack completion; one zone in Lobe 70/80 (upper zone) and another in Tex Mex E (lower zone). The Tex Mex E sand, which is the donor sand or water source in this case, is currently has significantly higher pressure than the Lobe 70/80 sands which is a receiver. With the differential pressure between the sands, water will flow from the Tex Mex E to Lobe 70/80 sands naturally. The water production will flow through the lower gravel pack assembly into the tubing and up to the ICV valve which is used to control the inject rate. The water production will flow through the ICV valve at the designed rate to the annulus and down the Lobe 70/80 through upper gravel pack assembly. The attached A-28 or A-14ST2 well schematic includes the flow direction of the water production for the dumpflood as explained above.

The existing hydrocarbon wells, following separation and measurement, will depart Platform A via either the existing 30" gas/condensate right-of-way pipeline (SN 11161) to Bay Marchand Block 4 or the 16" oil right-of-way pipeline (SN 11269) to a SSTI in South Timbalier Block 212. The pipelines have a shut-in time of 45 seconds.

B) TRANSPORTATION SYSTEM

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

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

C) PRODUCED LIQUID HYDROCARBONS TRANSPORTATION VESSELS

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as no liquid hydrocarbons will be transported by means other than a pipeline.
APPENDIX N SUPPORT VESSELS AND AIRCRAFT INFORMATION

A) GENERAL

The most practical and direct route from the shorebase as permitted by weather and traffic conditions will be utilized. The table below provides information on vessels and aircraft that will be used to support the proposed activities.

Туре	Maximun Fuel Tank Capacity	Maximun Number in Area at Any Time	Trip Frequency or Duration
Crew Boat	500 bbls	1	3 trips/week
Support Vessel	6630 bbls	1	Weekly
Helicopter	260 gal	1	3 trips/week

B) DIESEL OIL SUPPLY VESSELS

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as the State of Florida is not an affected State, activities are not within the Protective Zones of the Flower Garden Banks and Stetson Bank, no surface facility in water depths greater than 1,312 feet will be installed, no surface facility in any water depth to support a subsea development in water depths greater than 1,312 feet will be installed, this is not an Initial DOCD nor is this a SDOCD for which the State of Alabama is an affected State, nor is this a SDOCD with new multiwell structures for which the State of Louisiana is an affected State.

C) DRILLING FLUID TRANSPORTATION

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as the State of Florida is not an affected State.

D) SOLID AND LIQUID WASTE TRANSPORTATION

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as Talos Energy is not proposing any of the following: (1) Activities for which the State of Florida is an affected State (2) Activities within the Protective Zones of the Flower Garden Banks and Stetson Bank (3) To use new or unusual technology that changes the nature or magnitude of the waste stream on the facility (4) Deepwater development operations in an exempted area (5) To use a sulphur recovery unit on the facility (6) Initial or Supplemental DOCDs for which the State of Alabama is an affected State (7) Initial DOCDs or Supplemental DOCDs with new multiwell structure that includes disposal in Louisiana coastal waters or onshore Louisiana (8) Initial EPs and DOCDs and Supplemental DOCDs with new multiwell structures for which the State of Texas.

E) VICINITY MAP

Enclosed as an attachment to this appendix is a vicinity map for the activities proposed herein depicting the location of same relative to the shoreline with the distance of the proposed activities from the shoreline and the primary route(s) of the support vessels and aircraft which will be used when traveling between the onshore support facilities and the proposed operations.

The vessels, supply boats, etc. utilized for the proposed activities will not transit the Rice's whale area.

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TAL <i>S PETROLEUM LLC</i>							
Ewing Bank 873 OFFSHORE LOUISIANA DOCD Proposed Well Location A14ST02/A28 Vicinity Location Map							
CONTOUR INTERVAL:	DATE: 03-28-2022						
INTERPRETATION BY:	DRAFTED BY:						
SCALE: 1 =40,000'	APPROVED BY: NIA						
AREA: EV\11NG BANK	FILE:						

APPENDIX O ONSHORE SUPPORT FACILITIES INFORMATION

A) GENERAL

The table below is a list of the onshore facilities that will be used to provide supply and service support for the activities proposed herein.

Name of Shorebase	Location	Existing/New/Modified			
Heliport -RCL Galliano Base	Galliano, LA	Existing			
Martin Terminal North	Port Fourchon, LA	Existing			

B) SUPPORT BASE CONSTRUCTION OR EXPANSION

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as Talos Energy will use an existing onshore base facility and will not need to expand or modify those facilities to accomodate the operations proposed herein.

C) SUPPORT BASE CONSTRUCTION OR EXPANSION TIMETABLE

In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as no land is being acquired to construct or expand an onshore support base.

D) WASTE DISPOSAL

In accordance with BOEM guidance, the required data regarding the facilities that will be used to store and dispose of any solid and liquid wastes generated by the activities proposed herein has been incorporated into the Waste & Discharge tables which are included in the attachment(s) to the Waste & Discharge Information appendix.

E) AIR EMISSIONS

In accordance with NTL 2008-G04, this information is not applicable to the activites proposed herein as the air emissions information in this section is not required for plans where the activities being proposed are within the boundaries of the Gulf of Mexico Region.

F) UNUSUAL SOLID AND LIQUID WASTES

In accordance with NTL 2008-G04, this information is not appliable to the activities proposed herein as the unusual solid and liquid wastes information generated by onshore support facilities is not required for plans that propose activities that fall within the boundaries of the Gulf of Mexico Region.

Waste Disposal Table

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

APPENDIX P COASTAL ZONE MANAGEMENT (CZMA) INFORMATION

A) In accordance with NTL 2008-G04, this information is not applicable to the activities proposed herein as no new multi-well structures for which Louisiana, Mississippi and Texas would be an affected state is being proposed.

APPENDIX Q ENVIRONMETAL IMPACT ANALYSIS

A) In accordance with NTL 2008-G04, Talos Energy has included with this plan an Environmental Impact Analysis (EIA) prepared by J. Connor Consulting, Inc., which addresses the activities proposed herein. A copy of the EIA is included as an attachment to this appendix.

Talos Energy Ventures, LLC (Talos)

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

(A) Impact Producing Factors

ENVIRONMENTAL IMPACT ANALYSIS WORKSHEET

Environment Resources	R	efer to recent GO	Impact Producing F Categories and I M OCS Lease Sale EI	actors (IPFs) Examples S for a more co	mplete list of IP	Fs
	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		Х			Х	
Fisheries		X			Х	
Marine Mammals	X(8)	X			X(8)	Х
Sea Turtles	X(8)	Х			X(8)	Х
Air quality	X(9)					
Shipwreck sites (known or potential)			(7)			
Prehistoric archaeological sites			(7)			
Vicinity of Offshore Location						
Essential fish habitat		Х			X(6)	
Marine and pelagic birds					Х	Х
Public health and safety					(5)	
Coastal and Onshore						
Beaches					X(6)	Х
Wetlands					X(6)	
Shore birds and coastal nesting birds					X6)	
Coastal wildlife refuges						
Wilderness areas						

Footnotes for Environmental Impact Analysis Matrix

- 1) Activities that may affect a marine sanctuary or topographic feature. Specifically, if the well or platform site or any anchors will be on the seafloor within the:
 - 4-mile zone of the Flower Garden Banks, or the 3-mile zone of Stetson Bank;
 - 1000-meter, 1-mile or 3-mile zone of any topographic feature (submarine bank) protected by the Topographic Features Stipulation attached to an OCS lease;
 - Essential Fish Habitat (EFH) criteria of 500 feet from any no-activity zone; or
 - Proximity of any submarine bank (500-foot buffer zone) with relief greater than two meters that is not protected by the Topographic Features Stipulation attached to an OCS lease.
- 2) Activities with any bottom disturbance within an OCS lease block protected through the Live Bottom (Pinnacle Trend) Stipulation attached to an OCS lease.
- 3) Activities within any Eastern Gulf OCS block where seafloor habitats are protected by the Live Bottom (Low-Relief) Stipulation attached to an OCS lease.
- 4) Activities on blocks designated by the BOEM as being in water depths 300 meters or greater.
- 5) Exploration or production activities where H₂S concentrations greater than 500 ppm might be encountered.
- 6) All activities that could result in an accidental spill of produced liquid hydrocarbons or diesel fuel that you determine would impact these environmental resources. If the proposed action is located a sufficient distance from a resource that no impact would occur, the EIA can note that in a sentence or two.
- 7) All activities that involve seafloor disturbances, including anchor emplacements, in any OCS block designated by the BOEM as having high probability for the occurrence of shipwrecks or prehistoric sites, including such blocks that will be affected that are adjacent to the lease block in which your planned activity will occur. If the proposed 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	Potentia	Presence	Critical Habitat Designated in the	Gulf of Mexico Range		
			Lease Area	Coastal	Gulf of Mexico			
Marine Mammals								
Manatee, West Indian	Trichechus manatus latirostris	Т		X	Florida (peninsular)	Coastal Louisiana, Mississippi, Alabama, and Florida		
Whale, Blue	Balaenoptera masculus	Е	X^1		None	GOM		
Whale, Bryde's ⁴	Balaenoptera brydei/edeni	E	Х		None	Eastern GOM		
Whale, Fin	Balaenoptera physalus	Е	X^1		None	GOM		
Whale, Humpback	Megaptera novaeangliae	Е	X^1		None	GOM		
Whale, North Atlantic Right	Eubalaena glacialis	E	X^1		None	GOM		
Whale, Rice's ⁴	Balaenoptera ricei	Е	Х		None	GOM		
Whale, Sei	Balaenopiera borealis	Е	X^1		None	GOM		
Whale, Sperm	Physeter catodon (=macrocephalus)	E	Х		None	GOM		
Terrestrial Mammals						·		
Mouse, Alabama Beach	Peromyscus polionotus ammobates	E	-	X	Alabama beaches	Alabama beaches		
Mouse, Choctawatchee Beach	Peromyscus polionotus allophrys	E	-	X	Florida panhandle beaches	Florida panhandle beaches		
Mouse, Perdido Key Beach	Peromyscus polionotus trissyllepsis	E	-	X	Alabama, Florida (panhandle) beaches	Alabama, Florida (panhandle) beaches		
Mouse, St. Andrew Beach	Peromyscus polionotus peninsularis	E	-	X	Florida panhandle beaches	Florida panhandle beaches		
Jaguarundi, Gulf Coast	Puma yagouaroundi cacomitli	Е	-	X	None	Texas		
Ocelot	Leopardus (=Felis) pardalis	Е	-	X	None	Texas		

EW873 Environmental Impact Analysis

Species	Scientific Name	Status	Potentia	Presence	Critical Habitat Designated in the	Gulf of Mexico Range		
			Lease Area	Coastal	Gulf of Mexico			
Bat, Florida Bonneted	Eumops floridanus	Е	-	Х	None	Florida		
Panther, Florida	Puma (=Felis) concolor coryi	E	-	X	None	Florida		
Vole, Florida Salt Marsh	e, Florida Salt Marsh Microtus pennsylvanicus E dukecampbelli		-	X	None	Florida		
Deer, Key	Odocoileus virginianus clavium	E	-	X	None	Florida Keys		
Rabbit, Lower Keys Marsh	Sylvilagus palustris hefneri	E	-	Х	None	Florida Keys		
Rat, Silver Rice	Oryzomys palustris natator	E	-	X	None	Florida Keys		
Birds								
Plover, Piping	Charadrius melodus	Т	-	X	Coastal Texas, Louisiana, Mississippi, Alabama, and Florida (panhandle)	Coastal GOM		
Crane, Whooping	Grus Americana	Е	-	X	Coastal Texas	Coastal Texas and Louisiana		
Crane, Mississippi sandhill	Grus canadensis pulla	E	-	X	Coastal Mississippi	Coastal Mississippi		
Caracara, Audubon's Crested	Polyborus plancus audubonii	Т	-	X	None	Coastal Florida Peninsula		
Curlew, Eskimo	Numenius borealis	Е	-	Х	None	Coastal Texas		
Falcon, Northern Aplomado	Falco femoralis septentrionalis	E	-	X	None	Coastal Texas		
Prairie-chicken, Attwater's Greater	Tympanuchus cupido attwateri	E	-	X	None	Coastal Texas		
Scrub-jay, Florida	Aphelocoma coerulescens	Т	-	X	None	Coastal Florida		
Kite, Everglade Snail	Rostrhamus sociabilis plumbeus	E	-	X	None	Coastal Southern Florida		
Knot, Red	Calidris canutus rufa	Т	-	X	None	Coastal GOM		
Rail, Eastern Black	Laterallus jamaicensis ssp. jamaicensis	Т	-	X	None	Coastal GOM		
Sparrow, Cape Sable Seaside	Ammodramus maritimus mirabilis	E	-	X	Everglades	Coastal Florida		

EW873 Environmental Impact Analysis

Species	Scientific Name	Status	Potentia	Presence	Critical Habitat Designated in the	Gulf of Mexico Range
			Lease Area	Coastal	Gulf of Mexico	
Stork, Wood	Mycteria americana	Т	-	X	None	Coastal Alabama and Florida
Tern, Roseate	Sterna dougallii dougallii	Т	-	X	None	Coastal Southern Florida
Warbler, Bachman's	Vermivora bachmanii	Е	-	X	None	Coastal Southern Florida
Woodpecker, Red- cockaded	Picoides borealis	E	-	X	None	Coastal Louisiana and Florida
Marine Reptiles		1				
Sea Turtle, Green	Chelonia mydas	T/E ³	Х	X	None	GOM
Sea Turtle, Hawksbill	Eretmochelys imbricata	Е	Х	X	None	GOM
Sea Turtle, Kemp's Ridley	Lepidochelys kempli	E	Х	X	None	GOM
Sea Turtle, Leatherback	Dermochelys coriacea	Е	Х	X	None	GOM
Sea Turtle, Loggerhead	Caretta caretta	Т	Х	X	Texas, Louisiana, Mississippi, Alabama, Florida	GOM
Terrestrial Reptiles						·
Turtle, Alabama Red- bellied	Pseudemys alabamensis	E	-	X	None	Coastal Mississippi and Alabama
Crocodile, American	Crocodylus acutus	Т	-	X	Everglades and Florida Keys	Coastal Florida
Snake, Eastern Indigo	Drymarchon couperi	Т	-	X	None	Coastal Mississippi, Alabama, and Florida
Tortoise, Gopher	Gopherus polyphemus	Т	-	X	None	Coastal Louisiana, Mississippi, and Alabama
Turtle, Ringed Map	Graptemys oculifera	Т	-	X	None	Coastal Louisiana and Mississippi
Turtle, Yellow-blotched Map	Graptemys flavimaculata	Т	-	X	None	Coastal Mississippi
Fish						
Sturgeon, Gulf	Acipenser oxyrinchus (=oxyrhynchus) desotoi	Т	Х	X	Coastal Louisiana, Mississippi, Alabama, and Florida (panhandle)	Coastal Louisiana, Mississippi, Alabama, and Florida (panhandle)
Shark, Oceanic Whitetip	Carcharhinus longimanus	Т	X	-	None	GOM
Sawfish, Smalltooth	Pristis pectinate	Е	-	X	None	Florida
Grouper, Nassau	Epinephelus striatus	Т	-	Х	None	Florida

EW873 Environmental Impact Analysis

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

Abbreviations: E = Endangered; T = Threatened

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

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

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

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

(B) Analysis

Site-Specific at Ewing Bank Block 873

Proposed operations consist of the following:

- Sidetrack drilling, completion, and commencement of production of Ewing Bank Block 873 Well A14ST02
- Drilling, completion, and commencement of production of Ewing Bank Block 873 Well A28

Both wells are dumpflood water wells, which means that no hydrocarbons will be produced.

The operations will be conducted with the Nabors MODS 200 Rig, which will not be attached to the seabed during these operations.

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

The proposed siedtracking of the Ewing Bank Block 873 A-28 well will be the only well operations to utilize pile-driving.

1. Designated Topographic Features

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

Physical disturbances to the seafloor: Ewing Bank Block 873 is 30.1 miles from the closest designated Topographic Features Stipulation Block (Diaphus Bank); therefore, no adverse impacts are expected. Additionally, Nabors MODS 200 Rig is being used for the proposed activities; therefore, only an insignificant amount of seafloor will be disturbed.

Effluents: Ewing Bank Block 873 is 30.1 miles from the closest designated Topographic Features Stipulation Block (Diaphus Bank); therefore, no adverse impacts are expected.

Accidents: It is unlikely that an accidental surface or subsurface spill would occur from the proposed activities (refer to statistics in **Item 5**, Water Quality). Oil spills cause damage to benthic organisms only if the oil contacts the organisms. Oil from a surface spill can be driven into the water column; measurable amounts have been documented down to a 10-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 Talos's Regional OSRP (refer to information submitted in **Appendix I**).

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 Talos's Regional OSRP (refer to information submitted in **Appendix I**), impacts to topographic features from surface or sub-surface oil spills are not expected.

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

Physical disturbances to the seafloor:

The Topographic Features Stipulation minimizes the likelihood of bottom-disturbing activities impacting the live-bottom communities of the banks by not allowing direct contact to the banks (No activity zone) from rig emplacements and anchoring activities. Additionally, Talos will comply with BSEE NTL 2009-G39 Biologically Sensitive Underwater Features and Areas, which provides for the avoidance and protection of biologically sensitive features and areas (i.e., topographic features, pinnacles, live bottoms, and other potentially sensitive biological features) when conducting OCS operations in water depths less than 300 meters in the GOM. Furthermore,

Nabors MODS 200 Rig is being used for the proposed activities; therefore, only an insignificant amount of seafloor will be disturbed.

Effluents: Drilling muds and cuttings discharges have a potential to impact the live bottom organisms of topographic features through increasing water-column turbidity, smothering sessile invertebrates on the surrounding seafloor, and sediment contamination by accumulations of low concentrations of toxic constituents. Shunting of drill fluids and cuttings is not required under these exploratory operations.

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 expected to rise in the water column to the surface and become diluted by currents. Any oil remaining on the bottom is expected to be swept clear of the banks by currents moving around the banks. The activities proposed in this plan will be covered by Talos's Regional OSRP (refer to information submitted in **Appendix I**).

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 m 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 Talos's Regional OSRP (refer to information submitted in **Appendix I**), impacts to topographic features from surface or sub-surface oil spills are not expected.

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

2. Pinnacle Trend Area Live Bottoms

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

Physical disturbances to the seafloor: Ewing Bank Block 873 is 129.9 miles from the closest live bottom (pinnacle trend) area; therefore, no adverse impacts are expected. Additionally, Nabors MODS 200 Rig is being used for the proposed activities; therefore, only an insignificant amount of seafloor will be disturbed.

Emissions (noise / sound): All routine OCS oil-and gas-related activities have some element of sound generation. Common sound sources include propeller cavitation, rotating machinery, and reciprocating machinery, which are associated with routine OCS oil-and gas-related activities such as vessel traffic, drilling, construction, and oil and gas production, processing, and transport. Sound introduced into the marine environment as a result of human activities has the potential to affect marine organisms. Although there is little information available on sound detection and sound-mediated behaviors for marine invertebrates, the overall impacts on pinnacle and low-relief feature communities from anthropogenic noise are expected to be negligible (BOEM 2017-009). Additionally, Ewing Bank Block 873 is 129.9 miles from the closest live bottom (pinnacle trend) area; therefore, no adverse impacts are expected.

Effluents: Ewing Bank Block 873 is 129.9 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 and the coverage of the activities proposed in this plan by Talos's Regional OSRP (refer to information submitted in Appendix I).

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

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

3. Eastern Gulf Live Bottoms

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

Physical disturbances to the seafloor: Ewing Bank Block 873 is not located in an area characterized by the existence of live bottoms, and this lease does not contain a Live-Bottom Stipulation requiring a photo documentation survey and survey report. Additionally, Nabors MODS 200 Rig is being used for the proposed activities; therefore, only an insignificant amount of seafloor will be disturbed.

Emissions (noise / sound): All routine OCS oil-and gas-related activities have some element of sound generation. Common sound sources include propeller cavitation, rotating machinery, and reciprocating machinery, which are associated with routine OCS oil-and gas-related activities such as vessel traffic, drilling, construction, and oil and gas production, processing, and transport. Sound introduced into the marine environment as a result of human activities has the potential to affect marine organisms. Although there is little information available on sound detection and sound-mediated behaviors for marine invertebrates, the overall impacts on pinnacle and low-relief feature communities from anthropogenic noise are expected to be negligible (BOEM 2017-009). Additionally, Ewing Bank Block 873 is not located in an area characterized by the existence of live bottoms; therefore, no adverse impacts are expected.

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

Accidents: It is unlikely that an accidental surface or subsurface spill would occur from the proposed activities (refer to statistics in Item 5, Water Quality). Oil spills cause damage to live bottom organisms only if the oil contacts the organisms. Oil from a surface spill can be driven into the water column; measurable amounts have been documented down to a 10-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 Talos's Regional OSRP (refer to information submitted in Appendix I).

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

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

4. Deepwater Benthic Communities

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

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

5. Water Quality

Potential IPFs that could result in water quality degradation from the proposed operations in Ewing Bank Block 873 include disturbances to the seafloor, effluents, and accidents.

Physical disturbances to the seafloor: Bottom area disturbances resulting from the emplacement of drill rigs, the drilling of wells and the installation of platforms and pipelines would increase water-column turbidity and re-suspension of any accumulated pollutants, such as trace metals and excess nutrients. This would cause short-lived impacts on water quality conditions in the immediate vicinity of the emplacement operations. Additionally, Nabors MODS 200 Rig is being used for the proposed activities; therefore, only an insignificant amount of seafloor will be disturbed.

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

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

Drilling Fluid Spills

Water-based fluid (WBF) and Synthetic-based fluid (SBF) spills may result in elevated turbidity, which would be short term, localized, and reversible. The WBF is normally discharged to the seafloor during riserless drilling, which is allowable due to its low toxicity. For the same reasons, a spill of WBF would have negligible impacts. The SBF has low toxicity, and the discharge of SBF is allowed to the extent that it adheres onto drill cuttings. Both USEPA Regions 4 and 6 permit the discharge of cuttings wetted with SBF as long as the retained SBF amount is below a prescribed percent, meets biodegradation and toxicity requirements, and is not contaminated with the formation oil or PAH. A spill of SBF may cause a temporary increase in biological oxygen demand and locally result in lowered dissolved oxygen in the water column. Also, a spill of SBF may release an oil sheen if formation oil is present in the fluid. Therefore, impacts from a release of SBF are considered to be minor. Spills of SBF typically do not require mitigation because SBF sinks in water and naturally biodegrades, seafloor cleanup is technically difficult, and SBF has low toxicity. (BOEM 2017-009)

Chemical Spills

Accidental chemical spills could result in temporary localized impacts on water quality, primarily due to changing pH. Chemicals spills are generally small volume compared with spills of oil and drilling fluids. During the period of 2007 to 2014, small chemical spills occurred at an average annual volume of 28 barrels, while large chemical spills occurred at an average annual volume of 58 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 moves into the top six meters of the water column where it mixes with surrounding waters and begins to biodegrade (U.S. Congress, Office of Technology Assessment, 1990). Dispersant use, in combination with natural processes, breaks up oil into smaller components that allows them to dissipate into the water and degrade more rapidly (Nalco, 2010). Dispersant use must be in accordance with an RRT Preapproved Dispersant Use Manual and with any conditions outlined within an RRT's site-specific, dispersant approval given after a spill event. Consequently, dispersant use must be in accordance with the restrictions for specific water depths, distances from shore, and monitoring requirements. At this time, neither the Region IV nor the Region VI RRT dispersant use manuals, which cover the GOM region, give preapproval for the application of dispersant use subsea (BOEM 2017-009).

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

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

6. Fisheries

There are multiple species of fish in the Gulf of 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 to fisheries as a result of the proposed operations in Ewing Bank Block 873 include physical disturbances to the seafloor, emissions (noise / sound), effluents, and accidents.

Physical disturbances to the seafloor: The emplacement of a structure or drilling rig results in minimal loss of bottom trawling area to commercial fishermen. Pipelines cause gear conflicts which result in losses of trawls and shrimp catch, business downtime and vessel damage. Most financial losses from gear conflicts are covered by the Fishermen's Contingency Fund (FCF). The emplacement and removal of facilities are not expected to cause significant adverse impacts to fisheries. Additionally, Nabors MODS 200 Rig is being used for the proposed activities; therefore, only an insignificant amount of seafloor will be disturbed.

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

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

Masking occurs when background noise increases the threshold for a sound to be detected; masking can be partial or complete. If detection thresholds are raised for biologically relevant signals, there is a potential for increased predation, reduced foraging success, reduced reproductive success, or other effects. However, fish hearing and sound production may be adapted to a noisy

environment (Wysocki and Ladich, 2005). There is evidence that fishes are able to efficiently discriminate between signals, extracting important sounds from background noise (Popper et al., 2003; Wysocki and Ladich, 2005). Sophisticated sound processing capabilities and filtering by the sound sensing organs essentially narrows the band of masking frequencies, potentially decreasing masking effects. In addition, the low-frequency sounds of interest propagate over very long distances in deep water, but these frequencies are quickly lost in water depths between ½ and ¼ 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.

Impact pile-driving during OCS construction and on-lease seismic activity are both temporally and spatially limited activities. The effects of these sound-producing activities would extend only to communities of fishes and invertebrates within a relatively small area. Benthic fishes and invertebrates could receive sound waves propagated through the water and sound waves propagated through the substrate. However, Wardle et al. (2001) found that, although fishes and invertebrates associated with a reef exhibited a brief startle response when exposed to pulsed lowfrequency signals, disruption of diurnal patterns was not observed. Fishes disturbed by the noise were observed to resume their previous activity within 1-2 seconds and only exhibited flight response if the airguns were visible when discharged (Wardle et al., 2001). Other studies of fishes exposed to pulsed anthropogenic sound signals in natural environments have produced a wide range of results suggesting that species, experience, and motivation are very important factors, and indicating that habituation may occur (Engås et al., 1996; Løkkeborg et al., 2012; Popper et al., 2014). Organisms in close proximity to a pulsed sound source are at increased risk of barotrauma. A signal with a very rapid rise and peak pressures that vary substantially from the static pressure at the receiver's location can cause physiological injury or mortality (Popper et al., 2014). However, the range at which physiological injury may occur is short (<10 meters; <33 feet) and, given fish avoidance behavior, the potential for widespread impacts to populations as a result of physiological injury is negligible.

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

Despite the importance of many sound-mediated behaviors and the potential biological costs associated with behavioral response to anthropogenic sounds, many environmental and biological factors limit potential exposure and the effects that OCS oil-and gas-related sounds have on fishes and invertebrate resources. The overall impact to fish 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.

Talos will monitor for marine life both before and during the proposed pile driving operations from a vantage point which will allow Talos to monitor according to the 157-meter range noted in the National Marine Fisheries Service "Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico" (NMFS 2020), *Table 94, Additional distance over which the daily cumulative exposure to pile-driving sound can affect the hearing of sea turtles and sperm whales* (refer to information submitted in **Section A**).

Talos will also adhere to requirements as set forth in Notices to Lessees and guidelines listed in **Appendix F**, **Appendix I**, and **Appendix L** of the Supplemental Development Operations Coordination Document, as applicable, to avoid or minimize impacts to any of the species listed in the ESA as a result of these operations.

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

Accidents: Collisions between support vessels and ESA-listed fish, would be unusual events, however, should one occur, death or injury to ESA-listed fish is possible. Contract vessel operators can avoid protected aquatic species and reduce potential deaths by maintaining a vigilant watch and a distance of 50 meters or greater, with the exception of animals that approach the vessel. Vessel personnel should use a Gulf of 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, Talos 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 protectedspecies@boem.gov by email to 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 Talos's Regional OSRP (refer to information submitted in **Appendix I**).

There are no other IPFs (including wastes sent to shore for treatment or disposal) from the proposed operations 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 Rice's whale (née Gulf of Mexico 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 Rice's whale can be found in **Item 20.1** below. Potential IPFs to marine mammals as a result of the proposed operations in Ewing Bank Block 873 include emissions (noise / sound), effluents, discarded trash and debris, and accidents.

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

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

Drilling 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 (USDOC, 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 Rice's whale.

Pile-Driving

The drilling of the Ewing Bank Block 873 A-28 well will be the only well operations to utilize pile-driving for the proposed operations.

The drilling of the Ewing Bank Block 873 A-28 well will utilize impact hammer operations (piledriving) to set steel pipe. Talos anticipates that it will drive one (1) steel pipe with an impact hammer performing approximately 10-40 BPF initial, 150-200 BPF at total depth of 515' below the mudline. The steel pipe will be driving for a period of 1 day. This pile is 26" but we're using the impacts from the 24" pile since it is the closest analog.

Exposure to sound from pile driving activities may result in temporary hearing loss or other behavioral responses in sperm whales, including some local displacement from the area for as long as the pile driving activity is occurring. An analysis of the best available information from the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion concludes that the potential impacts of this exposure are not anticipated to have adverse effects because sperm whales are expected to be moving and less likely to remain stationary during pile driving activities.

Talos will monitor for marine life both before and during the proposed pile driving operations from a vantage point which will allow Talos to monitor according to the 157-meter range noted in the National Marine Fisheries Service "Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico" (NMFS 2020), *Table 94, Additional distance over which the daily cumulative exposure to pile-driving sound can affect the hearing of sea turtles and sperm whales* (refer to information submitted in **Appendix A**).

Mid-frequency cetaceans (i.e., sperm whales) sound exposure thresholds in the "Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico" (NMFS 2020), *Table 61. Impulsive acoustic permanent threshold shift and temporary threshold shift onset criteria [to] the species groups considered in this consultation.*, show permanent hearing loss at 230 dB and temporary hearing loss at 224 dB. According to *Table 92, Sound source levels for different steel pile sizes used for offshore construction,* the peak sound level when driving 24-inch piles (the nearest available size comparison for these operations) is approximately 213 dB, which is below the limit for permanent hearing loss and temporary hearing loss.

Talos will also adhere to requirements as set forth in Notices to Lessees and guidelines listed in **Appendix F**, **Appendix I**, and **Appendix L** of the Supplemental Development Operations Coordination Document, as applicable, to avoid or minimize impacts to any of the species listed in the ESA as a result of these operations.

Effluents: Drilling fluids and cuttings discharges contain components which may be detrimental to marine mammals. Most operational discharges are diluted and dispersed upon release. Any

potential impact from drilling fluids would be indirect, either as a result of impacts on prey items or possibly through ingestion in the food chain (API, 1989).

Discarded trash and debris: Both entanglement in and ingestion of debris have caused the death or serious injury of marine mammals (Laist, 1997; MMC, 1999). The limited amount of marine debris, if any, resulting from the proposed activities is not expected to substantially harm marine mammals. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V, 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).

Talos 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. Talos 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 Talos 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.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 will not utilize moon pools to conduct activities.

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 Talos'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 Talos's OSRP (refer to information submitted in accordance with **Appendix I**).

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: <u>nmfs.ser.emergency.consult@noaa.gov</u>

There are no other IPFs (including physical disturbances to the seafloor) from the proposed operations 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; Lohoefener 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 to sea turtles as a result of the proposed operations include emissions (noise / sound), effluents, discarded trash and debris, and accidents.

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

Overall noise impacts on sea turtles from the proposed activities are expected to be negligible to minor depending on the location of the animal(s) relative to the sound source and the frequency, intensity, and duration of the source. The National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion Appendix C explains how operators must implement measures to minimize the risk of vessel strikes to protected species and report observations of

injured or dead protected species. This guidance should also minimize the chance of sea turtles being subject to the increased noise level of a service vessel in very close proximity.

Pile-Driving

The drilling of the Ewing Bank Block 873 A-28 well will be the only well operations to utilize pile-driving for the proposed operations.

The drilling of the Ewing Bank Block 873 A-28 well will utilize impact hammer operations (piledriving) to set steel pipe. Talos anticipates that it will drive one (1) steel pipe with an impact hammer performing approximately 10-40 BPF initial, 150-200 BPF at total depth of 515' below the mudline. The steel pipe will be driving for a period of 1 day. This pile is 26" but we're using the impacts from the 24" pile since it is the closest analog.

Talos will monitor for marine life both before and during the proposed pile driving operations from a vantage point which will allow Talos to monitor according to the 157-meter range noted in the National Marine Fisheries Service "Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico" (NMFS 2020), *Table 94, Additional distance over which the daily cumulative exposure to pile-driving sound can affect the hearing of sea turtles and sperm whales* (refer to information submitted in **Section A**).

Sea turtle sound exposure thresholds in the "Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico" (NMFS 2020), *Table 72. Sea turtle sound exposure thresholds,* show permanent hearing loss at 232 dB and temporary hearing loss at 226 dB. According to *Table 92, Sound source levels for different steel pile sizes used for offshore construction,* the peak sound level when driving 24-inch piles (the nearest available size comparison for these operations) is approximately 213 dB, which is below the limit for permanent hearing loss.

Talos will also adhere to requirements as set forth in Notices to Lessees and guidelines listed in **Appendix F**, **Appendix I**, and **Appendix L** of the Supplemental Development Operations Coordination Document, as applicable, to avoid or minimize impacts to any of the species listed in the ESA as a result of these operations.

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. An analysis of the best available information from the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion concludes that 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.

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

Discarded trash and debris: Both entanglement in, and ingestion of, debris have caused the death or serious injury of sea turtles (Balazs, 1985). The limited amount of marine debris, if any, resulting from the proposed activities is not expected to substantially harm sea turtles. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V, 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).

Talos 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. Talos 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 Talos 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 Turtle Stranding and Salvage Network (STSSN) Sea at http://www.sefsc.noaa.gov/species/turtles/stranding coordinators.htm (phone numbers vary by information website: Additional found the following state). may be at 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 will not utilize moon pools to conduct activities

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

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

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

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

9. Air Quality

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

Ewing Bank Block 873 is located 110.5 miles from the Breton Wilderness Area and 67.05 miles from shore. Applicable emissions data is included in **Appendix H** of the Plan.

There would be a limited degree of air quality degradation in the immediate vicinity of the proposed activities. Plan Emissions for the proposed activities do not exceed the annual exemption levels as set forth by BOEM. Accidents and blowouts can release hydrocarbons or chemicals, which could cause the emission of air pollutants. However, these releases would not impact onshore air quality because of the prevailing atmospheric conditions, emission height, emission rates, and the distance of Ewing Bank Block 873 from the coastline.

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

10. Shipwreck Sites (known or potential)

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

Potential IPFs to known or unknown shipwreck sites as a result of the proposed operations in Ewing Bank Block 873 include physical disturbances to the seafloor and accidents.

Physical disturbances to the seafloor: The Nabors MODS 200 Rig is being used for the proposed activities; therefore, only an insignificant amount of seafloor will be disturbed. Because physical disturbances to the seafloor will be minimized by the use of the Nabors MODS 200 Rig, Talos's proposed operations in Ewing Bank Block 873 are unlikely to impact shipwreck sites.

Additionally, Ewing Bank Block 873 is not located in or adjacent to an OCS block designated by BOEM as having a high probability for occurrence of shipwrecks. Should Talos discover any evidence of a shipwreck, they will immediately halt operations within a 1000-foot radius, report to BOEM within 48 hours, and make every reasonable effort to preserve and protect that cultural resource.

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

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

11. Prehistoric Archaeological Sites

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

Potential IPFs to prehistoric archaeological sites as a result of the proposed operations in Ewing Bank Block 873 are physical disturbances to the seafloor and accidents. Should Talos discover any object of prehistoric archaeological significance, they will immediately halt operations within a 1000-foot radius, report to BOEM within 48 hours, and make every reasonable effort to preserve and protect that cultural resource.

Physical Disturbances to the seafloor: Although the operations proposed will be conducted by utilizing the Nabors MODS 200 Rig, which would cause only an insignificant amount of seafloor to be disturbed, Ewing Bank Block 873 is located inside an area previous described by BOEM via NTL and survey data as having a high probability for Archaeological Prehistoric resources. Talos will report to BOEM the discovery of any object of prehistoric archaeological significance and make every reasonable effort to preserve and protect that cultural resource.

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

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

Vicinity of Offshore Location

12. Essential Fish Habitat (EFH)

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

Physical disturbances to the seafloor: Turbidity and sedimentation resulting from the bottom disturbing activities included in the proposed operations would be short term and localized. Fish are mobile and would avoid these temporarily suspended sediments. Additionally, the Live Bottom Low Relief Stipulation, the Live Bottom (Pinnacle Trend) Stipulation, and the Eastern Gulf Pinnacle Trend Stipulation have been put in place to minimize the impacts of bottom disturbing activities. Additionally, the Nabors MODS 200 Rig is being used for the proposed activities; therefore, only an insignificant amount of seafloor will be disturbed. Therefore, the bottom disturbing activities from the proposed operations would have a negligible impact on EFH.

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

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

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

13. Marine and Pelagic Birds

Potential IPFs to marine birds as a result of the proposed 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 (USDOI, FWS, 2011). However, the use of explosive severance of facilities for decommissioning are not included in these proposed operations, therefore these impacts are not expected.

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

Discarded trash and debris: Marine and pelagic birds could become entangled and snared in discarded trash and debris, or ingest small plastic debris, which can cause permanent injuries and death. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V, 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).

Talos 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. Talos 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 Talos 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 operations that are likely to impact marine and pelagic birds.

14. Public Health and Safety Due to Accidents.

There are no IPFs (including emissions, effluents, physical disturbances to the seafloor, wastes sent to shore for treatment or disposal, and accidents, including an accidental H_2S release) from the proposed activities that are likely to impact public health and safety. In accordance with NTL No.'s 2008-G04, 2009-G27, and 2009-G31, sufficient information is included in **Appendix D** to justify our request that our proposed operations be classified by BSEE as H_2S absent.

Coastal and Onshore

15. Beaches

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

Accidents: Oil spills contacting beaches would have impacts on the use of recreational beaches and associated resources. Due to the distance from shore (67.05 miles) and the response capabilities that would be implemented, no significant adverse impacts are expected. The operations proposed in this plan will be covered by Talos's Regional OSRP (refer to information submitted in Appendix I).

Discarded trash and debris: Trash on the beach is recognized as a major threat to the enjoyment and use of beaches. There will only be a limited amount of marine debris, if any, resulting from the proposed activities. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V, 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).

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

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

16. Wetlands

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

Accidents: It is unlikely that an oil spill would occur from the proposed activities (refer to Item 5, Water Quality). Due to the distance from shore (67.05 miles) and the response capabilities that would be implemented, no impacts are expected. The operations proposed in this plan will be covered by Talos's Regional OSRP (refer to information submitted in Appendix I).

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

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

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

17. Shore Birds and Coastal Nesting Birds

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

Accidents: Oil spills could 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 (67.05 miles) and the response capabilities that would be implemented, no impacts are expected. The operations proposed in this plan will be covered by Talos's Regional OSRP (refer to information submitted in **Appendix I**).

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

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

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

18. Coastal Wildlife Refuges

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

Accidents: An accidental oil spill from the proposed 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 (67.05 miles) and the response capabilities that would be implemented, no impacts are expected. The operations proposed in this plan will be covered by Talos's Regional OSRP (refer to information submitted in **Appendix I**).

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

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

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

19. Wilderness Areas

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

Accidents: An accidental oil spill from the proposed activities could cause impacts to wilderness areas. However, it is unlikely that an oil spill would occur from the proposed operations (refer to **Item 5**, Water Quality). Due to the distance from the nearest designated Wilderness Area (Ewing Bank Block 873 is located 110.5 miles from the Breton Sound Wilderness Area) and the response capabilities that would be implemented, no significant adverse impacts are expected. The operations proposed in this plan will be covered by Talos's Regional OSRP (refer to information submitted in **Appendix I)**.

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

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

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

20. Other Environmental Resources Identified

20.1 – Rice's Whale (née Gulf of Mexico Bryde's Whale)

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

The Rice's whale (née Gulf of Mexico 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 Rice's Whale Core Area (as identified in the NMFS Biological Opinion) is over 139.5 miles from the proposed operations. Additionally, vessel traffic associated with the proposed operations will not flow through the Rice's Whale Core Area. Therefore, there are no IPFs from the proposed operations that are likely to impact the Rice's whale.

It is important to note that, NTL 2023-G01-BOEM includes recommendations and guidance for lessees and operators regarding suggested measures to expand protections for the Rice's whale, during the period when BOEM and BSEE are engaged in a reinitiated consultation with NMFS on the 2020 Biological Opinion. The mitigation measures identified in the guidance document do not have the force of law and per an accompanying Fact Sheet issued by the agencies, are "intended to be used as voluntary precautionary measures taken during BOEM's ongoing reinitiated consultation with NMFS." In the NTL and Fact Sheet, these measures are recommended for implementation "as practicable" within the expanded Rice's Whale Area until the NTL is revoked by BOEM. Therefore, the mitigation measures identified in the NTL 2023-G01-BOEM will be implemented as necessary.

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 to the Gulf sturgeon from the proposed operations include accidents, emissions (noise / sound), and discarded trash and debris. Additional information on ESA-listed fish may be found in **Item 6**.

Accidents: Collisions between support vessels and the Gulf sturgeon would be unusual events; however, should one occur, death or injury to the Gulf sturgeon is possible. Contract vessel operators can avoid protected aquatic species and reduce potential deaths by maintaining a vigilant watch and a distance of 50 meters or greater, with the exception of animals that approach the vessel. Vessel personnel should use a Gulf of 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, Talos 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 protectedspecies@boem.gov by email to 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 (125.6 miles) and the response capabilities that would be implemented during a spill, no significant adverse impacts are expected to the Gulf sturgeon. Considering the information from the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion, the location of this critical habitat in relation to proposed operations, the likely dilution of oil reaching nearshore areas, and the on-going weathering and dispersal of oil over time, we do not anticipate the effects from oil spills will appreciably diminish the value of Gulf sturgeon designated critical habitat for the conservation of the species. The operations proposed in this plan will be covered by Talos's Regional OSRP (refer to information submitted in **Appendix I**).

Emissions (noise / sound): All routine OCS oil-and gas-related activities have some element of sound generation. Common sound sources include propeller cavitation, rotating machinery, and reciprocating machinery, which are associated with routine OCS oil-and gas-related activities such as vessel traffic, drilling, construction, and oil and gas production, processing, and transport. Sound introduced into the marine environment as a result of human activities has the potential to affect marine organisms. The National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion found that construction and operational sounds other than pile driving will have insignificant effects on Gulf sturgeon (NMFS, 2020). Although pile driving operations will be conducted as previously noted, due to the distance from the nearest identified Gulf sturgeon

critical habitat (125.6 miles, using the closest area / block location as a measuring point; Ewing Bank Block 873) sound emissions from pile driving are not expected to impact Gulf sturgeons.

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).

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

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

20.3 – Oceanic Whitetip Shark

Oceanic whitetip sharks may be found in tropical and subtropical waters around the world, including the Gulf of Mexico (Young 2016). According to the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion, Essential Fish Habitat (EFH) for the oceanic whitetip shark includes localized areas in the central Gulf of 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. Potential IPFs to oceanic whitetip sharks as a result of the proposed operations in Ewing Bank Block 873 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, Talos 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 email protectedspecies@boem.gov bv to 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 operations proposed in this plan will be covered by Talos's Regional OSRP (refer to information submitted in **Appendix I**).

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).

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

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

20.4 – Giant Manta Ray

According to the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion, the giant manta ray lives in tropical, subtropical, and temperate oceanic waters and productive coastlines throughout the Gulf of 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. Potential IPFs to giant manta rays as a result of the proposed operations in Ewing Bank Block 873 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.nmfsser@noaa.gov. After making the appropriate notifications, Talos 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 protectedspecies@boem.gov by email to 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 (108.2 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 operations proposed in this plan will be covered by Talos's Regional OSRP (refer to information submitted in Appendix I).

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).

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

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

20.5 – Loggerhead Sea Turtle

The loggerhead sea turtles inhabit continental shelf and estuarine environments throughout the temperate and tropical regions of the Atlantic Ocean, with nesting beaches along the northern and western Gulf of 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. Winter areas, breeding areas, and constricted migratory corridors are not located in the planning area.

There are multiple IPFs that may impact loggerhead sea turtles (see Item 8). However, the closest loggerhead nearshore reproductive critical habitat is located 170.8 miles from Ewing Bank Block 873; therefore, no adverse impacts are expected. Additionally, considering the information from the National Marine Fisheries Service Endangered Species Act (ESA) Section 7 Biological Opinion, we do not expect proposed operations to affect the ability of *Sargassum* to support adequate prey abundance and cover for loggerhead turtles.

20.6 - Protected Corals

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

		Protected Corals										
		Elkhorn	Staghorn	Boulder Star	Lobed Star	Mountainous	Rough Cactus	Pillar				
		Coral	Coral	Coral	Coral	Star Coral	Coral	Coral				
		Acopora	Acopora	Orbicella	Orbicella	Orbicella	Mycetophyllia	Dendrogyra				
		palmate	cervicornis	franksi	annularis	faveolate	ferox	cylindrus				
	Flower Garde	wer Garden Banks National Marine Sanctuary										
	East Flower			Х	Х	Х						
	Garden Bank											
	West Flower			Х	Х	Х						
t	Garden Bank											
oita	Rankin			Х	Х	Х						
Hal	Bank											
al	Rankin			Х	Х	Х						
īti	Bank											
ũ	Geyer			Х	Х	Х						
ited	Bank											
gna	McGrail			Х	Х	Х						
esi	Bank											
	Florida (outside of planning area)											
	Martin					Х						
	County											
	Palm Beach	X	Х	Х	Х	Х		X				
	County											

	Broward	Х	Х	Х	Х	Х	Х	Х
	County							
	Miami-Dade	Х	Х	Х	Х	Х	Х	Х
	County							
	Monroe	Х	Х	Х	Х	Х	Х	Х
	County							

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

Accidents: It is unlikely that an accidental surface or subsurface spill would occur from the proposed operations (refer to statistics in Item 5, Water Quality). Oil spills cause damage to corals only if the oil contacts the organisms. Due to the distance from the Flower Garden Banks National Marine Sanctuary (108.2 miles) and other critical coral habitats, no adverse impacts are expected. The operations proposed in this plan will be covered by Talos's Regional OSRP (refer to information submitted in Appendix I).

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

20.7 - Endangered Beach Mice

There are four subspecies of endangered beach mouse that are found in the dune systems along parts of Alabama and northwest Florida. Due to the location of Ewing Bank Block 873 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 operations 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 operations from site-specific environmental conditions.

(D) ENVIRONMENTAL HAZARDS

During the hurricane season, June through November, the Gulf of Mexico is impacted by an average of ten tropical storms (39-73 mph winds), of which six become hurricanes (> 74 mph winds). Due to its location in the Gulf, Ewing Bank Block 873 may experience hurricane and tropical storm force winds and related sea currents. These factors can adversely impact the integrity of the operations covered by this plan. A significant storm may present physical hazards to operators and vessels, damage exploration or production equipment, or result in the release of hazardous materials (including hydrocarbons). Additionally, the displacement of equipment may disrupt the local benthic habitat and pose a threat to local species.

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

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

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

- Platform / Structure Installation Operator will not conduct platform / structure installation operations during Tropical Storm or Hurricane threat.
- Pipeline Installation Operator will not conduct pipeline installation operations during Tropical Storm or Hurricane threat.

(E) ALTERNATIVES

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

(F) MITIGATION MEASURES

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

(G) CONSULTATION

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

(H) PREPARER(S)

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

• Hazard Surveys

APPENDIX R ADMINISTRATIVE INFORMATION

A) EXEMPTED INFORMATION DESCRIPTION

The bottom-hole location of the well has been removed form the public information copy of the DOCD as well as any discussions of the target objectives, geologic or geophysical data, and any interpreted geology.

B) BIBLIOGRAPHY

Below is a listing of all referenced material used to development this plan.

- BOEM Notice to Lessees No. 2016-G01 "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting"
- BOEM Notice to Lessees No. 2016-G02 "Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program"
- BOEM Notice to Lessees No. 2016-N01 "Requiring Additional Security"
- BOEM Notice to Lessees No. 2015-N01 "Information Requirements for Exploration Plans, Development and Production Plans, and Development Operations Coordination Documents on the OCS for Worst Case Discharge and Blowout Scenarios"
- Notice to Lessees No. 2015-G03 "Marine Trash and Debris Awareness and Elimination"
- Notice to Lessees No. 2011-G01 (Joint) "Revisions to the List of OCS Lease Blocks Requiring Archaeological Resource Surveys and Reports"
- Notice to Lessees No. 2009-G40 "Deepwater Benthic Communities"
- Notice to Lessees No. 2009-G39 "Biologically-Sensitive Underwater Features and Areas"
- Notice to Lessees No. 2008-G04 "Information Requirements for Exploration Plans and Development Operations Coordination Documents"
- Notice to Lessees No. 2008-G05 "Shallow Hazards Program" Notice to Lessees No. 2005-G07 "Archaeological Resource Surveys and Reports"