UNITED STATES GOVERNMENT MEMORANDUM

November 18, 2005

To:

Public Information (MS 5030)

From:

Plan Coordinator, FO, Plans Section (MS

5231)

.,

Subject:

Public Information copy of plan

Control #

S-06782

Type

Supplemental Exploration Plan

Lease(s)

OCS-G02601 Block - 57 Eugene Island Area

Operator -

Arena Offshore, LLC

Description -

Wells and Well Protectos Nos. 15 and 16

Rig Type

JACKUP

Attached is a copy of the subject plan.

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

Plan Coordinator

Site Type/Name Botm Lse/Area/Blk Surface Location Surf Lse/Area/Blk WP/WP #15 150 FNL, 3022 FEL G02601/EI/57 WP/WP #16 1705 FNL, 5023 FEL G02601/EI/57 WELL/NO. 15 G02601/EI/57 150 FNL, 3022 FEL G02601/EI/57 WELL/NO. 16 G02601/EI/57 1705 FNL, 5023 FEL G02601/EI/57

PIRS

MONNI/8/2005.

NOV 2 1 2005

October 13, 2005

U.S. Department of the Interior Minerals Management Service 16855 Northchase Dr. Houston, Texas 77060

Attention:

Mr. Nick Wetzel

Plans Unit

Arena Offshore, LLC

4200 Research Forest Drive, Suite 230 The Woodlands, TX 77381

281-681-9501

281-681-9502 Fax

Supplemental Exploration Plan for Lease OCS-G 02601, Eugene Island Block 57, OCS RE:

Federal Waters, Gulf of Mexico, Offshore, Louisiana

Gentlemen:

In accordance with the provisions of Title 30 CFR 250.203 and that certain Notice to Lessees (NTL 2003-G17), Arena Offshore, LLC (Arena) hereby submits for your review and approval a Supplemental Exploration Plan (Plan) for Lease OCS-G 02601, Eugene Island Block 57, Offshore, Louisiana. Excluded from the Public Information copies are certain geologic and geophysical discussions and attachments.

Enclosed are two Proprietary Information copies (one hard copy and one CD) and three Public Information copies (one hard copy and two CD's) of the Plan.

Contingent upon receiving regulatory approvals and based on equipment and personnel availability, Arena anticipates operations under this Plan commencing as early as December 26, 2005 using the TODCO Rig No. 150.

Should additional information be required, please contact the undersigned, or our regulatory consultant, R.E.M. Solutions, Inc., Attention: Natalie Schumann at 281.492.3243.

Sincerely,

Arena Offshore, LLC

Michael J. Minacovic / cją

Michael J. Minarovic

Managing Director

MJM:CJG

Attachments

Public Information

ARENA OFFSHORE, LLC

4200 Research Forest Drive, Suite 230 The Woodlands, Texas

Michael J. Minarovic mike@arenaenergy.com

SUPPLEMENTAL EXPLORATION PLAN

LEASE OCS-G 02601

EUGENE ISLAND BLOCK 57

PROSPECT NAME: NONE ASSIGNED

PREPARED BY:

Natalie Schumann
R.E.M. Solutions, Inc.
17171 Park Row, Suite 390
Houston, Texas 77084
281.492.3243 (Phone)
281.492.6117 (Fax)
natalie@remsolutionsinc.com

DATED:

October 13, 2005

SECTION A Plan Contents

A. <u>Description</u>, Objectives and Schedule

Lease OCS-G 02601, Eugene Island Block 57 was acquired at the Central Gulf of Mexico Lease Sale No. 33. The lease was issued with an effective date of March 1, 1974 and a primary term ending date of April 30, 1979. The lease is currently being held by production.

The current lease operatorship and ownership are as follows:

Area/Block Lease No.	Operator	Ownership
Eugene Island Block 57 Lease OCS-G 02601	Northstar Gulfsands, LLC	Entech Enterprises, Inc. Northstar Gulfsands, LLC

Arena Offshore, LLC (Arena) is in the process of becoming designated operator of aliquot portions of Lease OCS-G 02601, Eugene Island Block 57.

Arena proposes to drill, complete, test and install minimal well protector structures over Lease OCs-G 02601, Well Locations No. 15 and 16, Eugene Island Block 57.

Information pertaining to the geological targets and trapping features is included as **Attachment A-1**.

B. Location

Included as *Attachments A-2 through A-5* are Form MMS-137 "OCS Plan Information Form", well location plats, and bathymetry map detailing the proposed well surface location disturbance areas, and a typical elevation view of a well protector structure.

C. Drilling Unit

Arena will utilize the TODOC 150 jack-up type drilling rig for the proposed drilling, completion, testing and installation of minimal well protector structure operations provided for in this Plan. Actual rig specifications will be included with the Applications for Permit to Drill.

SECTION A Plan Contents - Continued

Safety of personnel and protection of the environment during the proposed operations is of primary concern with Arena, and mandates regulatory compliance with the contractors and vendors associated with the proposed operations as follows:

Minerals Management Service regulations contained in Title 30 CFR Part 250, Subparts C, D, E, and O mandate the operations comply with well control, pollution prevention, construction and welding procedures as described in Title 30 CFR Part 250, Subparts C, D, E, and O; and as further clarified by MMS Notices to Lessees.

Minerals Management Service conducts periodic announced and unannounced onsite inspections of offshore facilities to confirm operators are complying with lease stipulations, operating regulations, approved plans, and other conditions; as well as to assure safety and pollution prevention requirements are being met. The National Potential Incident of Noncompliance (PINC) List serves as the baseline for these inspections.

- U. S. Coast Guard regulations contained in Title 33 CFR mandate the appropriate life rafts, life jackets, ring buoys, etc., be maintained on the facility at all times.
- U. S. Environmental Protection Agency regulations contained in the NPDES General Permit GMG290000 mandate that supervisory and certain designated personnel on-board the facility be familiar with the effluent limitations and guidelines for overboard discharges into the receiving waters.

Geological Targets and Trapping Features

Attachment A-1 (Proprietary Information)

OCS Plan Information Form

Attachment A-2 (Public Information)

OMB Control Number: 1010-0049 OMB Approval Expires: August 31, 2006

OCS PLAN INFORMATION FORM

1 5 53%			lore o apago	abor or sub-	eringer eringer			Ger	ieral Info	orm	atio	n						ja spatiji na te Stoje i
Type of OCS Plan X Exploration Plan (EP)					Development Operations Coordination Document (DOCD)													
Company Name: Arena Offshore, LLC							MMS Operation Number: 02628											
Address: 4200 Research Forest Drive, Suite 230								Contact Person: Natalie Schumann at R.E.M. Solutions, Inc.										
	The Woodlands, Texas 77381									Phone Number: (281) 492-3243								
									E-Mail Address: natalie@remsolutionsinc.com									
Lease(s): OCS-G 02601 Area: EI Block(s)																		
Objective(s): Oil X Gas Sulphur Salt Onsho								re B	ase:	Morgan City,	Distan	ce to Clos	ses L	and (Mi	les): :	5.7		
- 1	Description of Proposed Activities (Mark all that apply)																	
X	Exploration	n dri	lling									Development of	lrilling					
X	Well comp	letio	n							Installation of production platform								
X	Well test fl	laring	g (for	more	than 4	48 ho	ours)				Installation of production facilities							
X	Installation	ı of c	aissor	n or p	latfor	m as	well protec	ion sti	ructure			Installation of	satellite s	structure				
	Installation	ı of s	ubsea	wellł	neads	and/	or manifold	S				Commence pro	duction					
	Installation	of le	ease to	erm p	ipelin	es						Other (Specify	and desc	cribe)				
Ha	ve you subm	iitted	or do	you j	plan te	o sub	omit a Cons	rvatio	n Informa	tion	Doc	ument to accom	pany this	s plan?		Yes	X	No
Do	you propose	e to u	ise ne	w or ı	ınusua	al tec	chnology to	condu	ct your act	tiviti	es?					Yes	X	No
Do	you propose	e any	facili	ity tha	t will	serv	e as a host f	acility	for deepv	vater	sub	sea developmen	t?			Yes	X	No
Do	you propose	e any	activ	ities t	hat m	ay di	isturb an Mi	AS-de	signated h	igh-	prob	bability archaeological area? X Yes No					No	
Have all of the surface locations of your proposed activities been previously reviewed and approved by MMS? Yes X N								No										
	Tentative Schedule of Proposed Activities																	
					Prop	osed	Activity					Start I	ate	End Da	ate	No.	o. of Days	
	ll, Complet ucture	e, an	d Tes	st We	ll No.	015	(EI 57) and	Insta	ıll Well Pı	rote	ctor	12-26-2	005	5 01-25-2005 31 Day			/S	
	ll, Complet ucture	e, an	d Tes	st We	ll No.	016	(EI 57) and	Insta	ıll Well Pı	rote	ctor	01-27-2	006	6 02-28-2006 34 Da			l Day	/S
								_										
	·	D	escri	ptior	of I)rill	ing Rig					Descriptio	n of Pro	To 12 (2015) 80 (40	*/filesons	ar iyiddayra ta e		
X	Jackup						Drillship				Caisson Tens			sion Leg Platform				
	Gorilla Jackup Platform rig							X					Compliant tower					
		-submersible Submersible Fixed Platform Guyed tower																
DP Semi-submersible Other (Attach description)						Subsea manifold Floating production system					on							
Dri	ling Rig Na	me (if kno	wn):	TOD	СО	150			Spar Other (Attach Descri					script	ion)		
		M.					Descri	ption	of Lease	Te	rm]	Pipelines 🗀						
	From (F	acilit	ty/Arc	ea/Blo	ock)		To	(Facil	lity/Area/	Bloc	k)	Diamete	er (Inche	es)	Length (Feet)			
		N	I A															

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

			Proposed V	Well/Structu	re Location							
Well or Structur	Well or Structure Name/Number (If renaming well or structure, reference previous name): Well No. 015 Subsea Completion											
Anchor Radius	(if applical	ble) in feet:	NA			Yes	X	No				
	Surface	Location			Bottom-Hole Location (For Wells)							
Lease No.	OCS-G	02601	•		OCS-G 02601							
Area Name	Eugene l	[sland			Eugene Island							
Block No.	57				57							
Blockline Departures	N/S Dep	arture	150.00' FNL	1	N/S Departure:							
	E/W Dep	oarture	3,022.00' FEL		E/S Departure:							
Lamber X-Y	X: 1,981	,955.84'			X:							
coordinates	Y: 211,7	748.26°			Y:							
Latitude / Longitude	Latitude	: 29°14'56	.174"		Latitude:							
	Longitud	le: 91° 23 '2	3.683"		Longitude:							
	TVD (Fe	et):		MD (Feet):): Water Depth (Feet): 13'							
Anchor Locat	ions for	Drilling R	ig or Construction	Barge (If an	chor radius supplied	above, not n	ecessary)					
Anchor Name or No.	Area	Block	X Coordinate		Y Coordinate			of Anchor n Seafloor				
			X=		Y=							
			X=		Y=							
			X=		Y=							
			X=		Y=							
			X=		Y=							
			X=		Y=							
			X=		Y=							
			X=		Y=		·					

Paperwork Reduction Act of 1995 Statement: The Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35) requires us to inform you that MMS collects this information as part of an applicant's Exploration Plan or Development Operations Coordination Document submitted for MMS approval. We use the information to facilitate our review and data entry for OCS plans. We will protect proprietary data according to the Freedom of Information Act and 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget Control Number. The use of this form is voluntary. The public reporting burden for this form is included in the burden for preparing Exploration Plans and Development Operations Coordination Documents. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management Service, 1849 C Street, N.W., Washington, DC 20240.

MMS Form MMS-137 (August 2003 – Supersedes all previous editions of form MMS-137, which may not be used.) Page 2 of 3

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

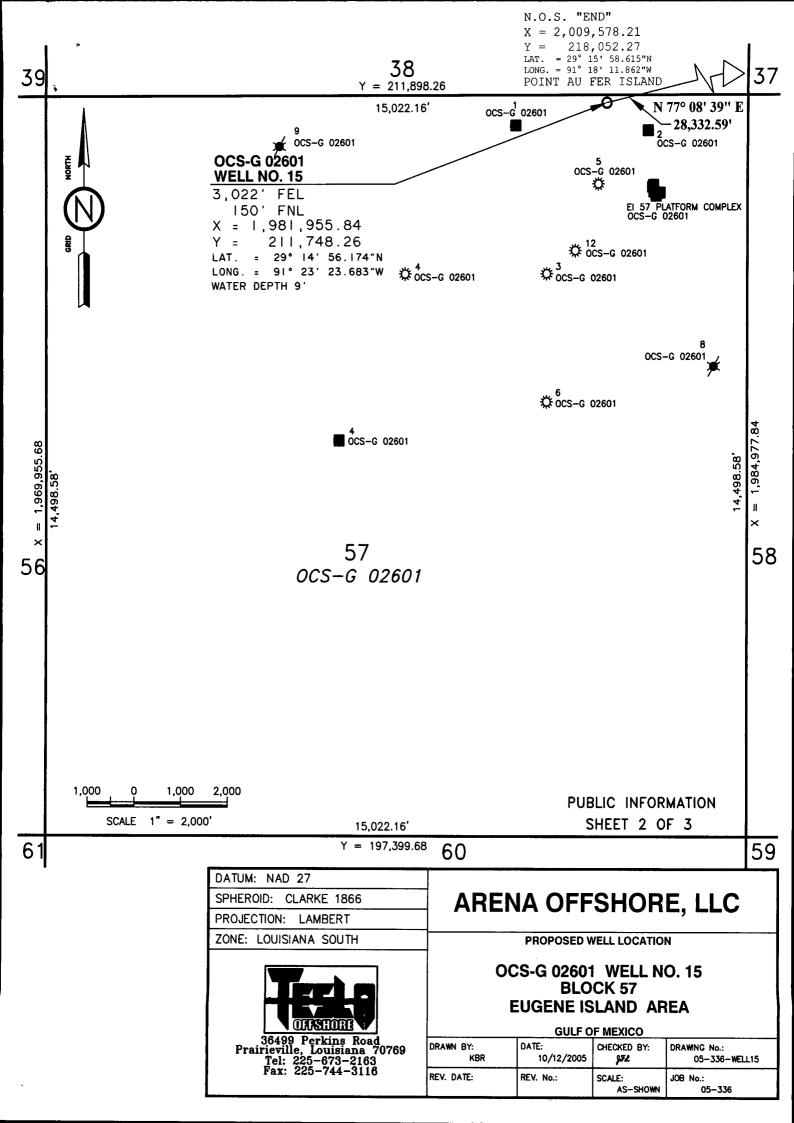
			Proposed N	Well/Structu	re Location							
Well or Structu	re Name/N	Jumber (If	renaming well or struct Well No. 016	ure, reference	previous name):	Subsea Con	pletion					
Anchor Radius	(if applica	ble) in feet	: NA		Yes	X	No					
	Surface	Location			Bottom-Hole Location (For Wells)							
Lease No.	OCS-G	02601			OCS-G 02601							
Area Name	Eugene	Island			Eugene Island							
Block No.	57				57							
Blockline Departures	N/S Dep	arture	1,705.00' FNL	•	N/S Departure:							
	E/W Dep	parture	5,023.00' FEL	1	E/S Departure:							
Lamber X-Y	X: 1,979	,954.84'		•	X:							
coordinates	Y: 210,1	193.26'			Y:							
Latitude / Longitude	Latitude	e: 29°14'40).769"		Latitude:							
	Longitue	de: 91°23'	46.261"		Longitude:							
	TVD (Fe	eet):		MD (Feet):		Water Dept	h (Feet):	12'				
Anchor Local	tions for	Drilling F	Rig or Construction	Barge (If an	chor radius supplie	d above, not ne	cessary					
Anchor Name or No.	Area	Block	X Coordinate		Y Coordinate			of Anchor n Seafloor				
			X=		Y=							
			X=		Y=							
			X=		Y=							
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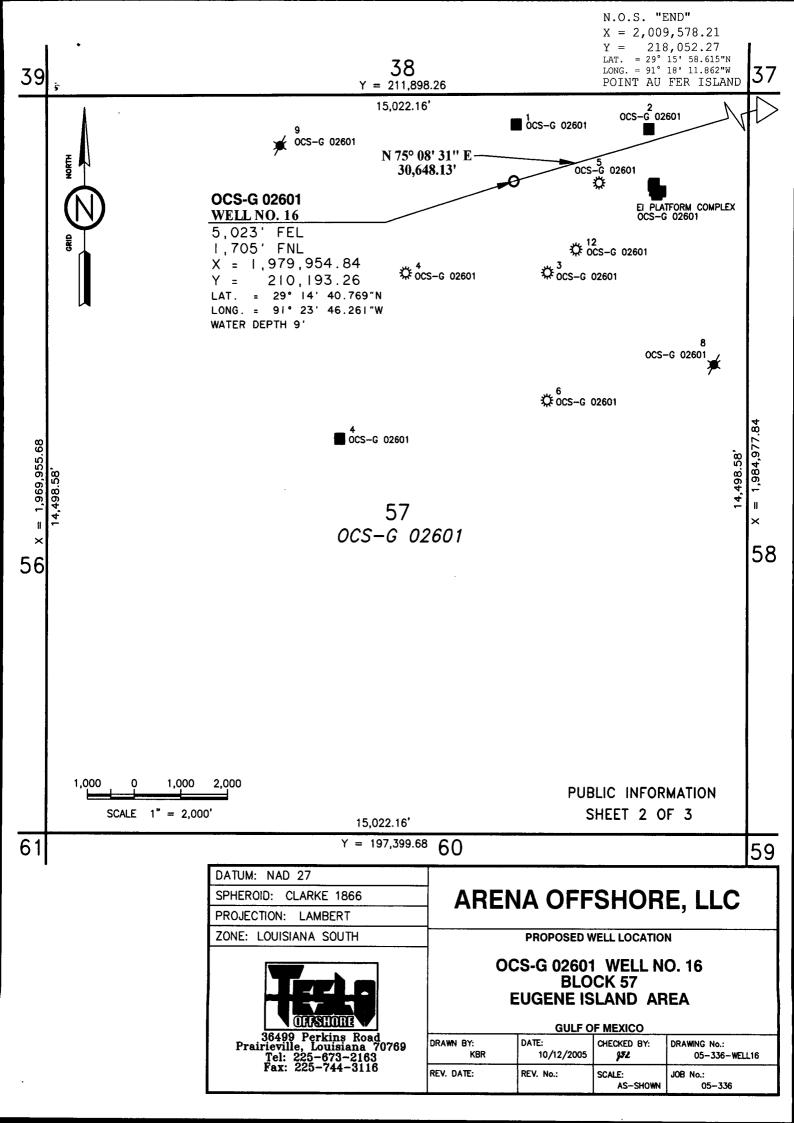
Paperwork Reduction Act of 1995 Statement: The Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35) requires us to inform you that MMS collects this information as part of an applicant's Exploration Plan or Development Operations Coordination Document submitted for MMS approval. We use the information to facilitate our review and data entry for OCS plans. We will protect proprietary data according to the Freedom of Information Act and 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget Control Number. The use of this form is voluntary. The public reporting burden for this form is included in the burden for preparing Exploration Plans and Development Operations Coordination Documents. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management Service, 1849 C Street, N.W., Washington, DC 20240.

MMS Form MMS-137 (August 2003 – Supersedes all previous editions of form MMS-137, which may not be used.) Page 3 of 3

Well Location Plat

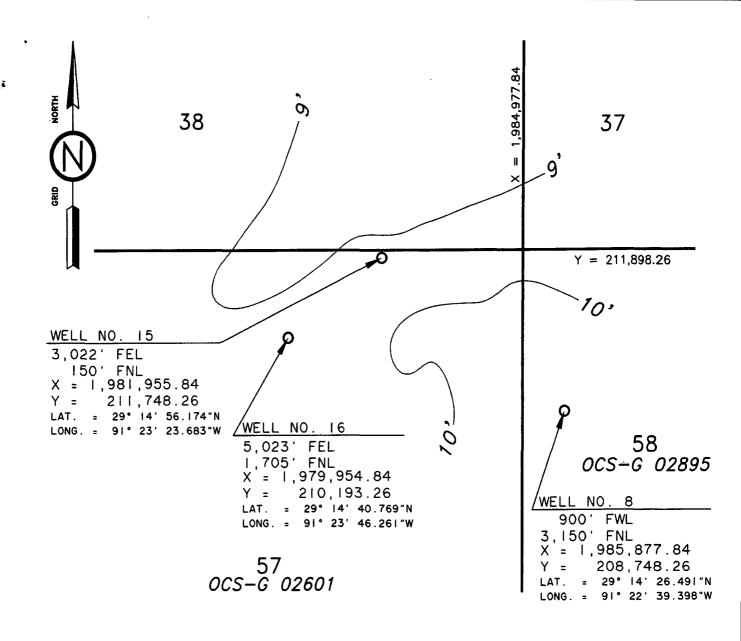
Attachment A-3 (Public Information)

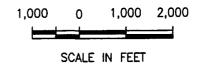




Bathymetry Map

Attachment A-4 (Public Information)





LEGEND

10'---- BATHYMETRIC CONTOURS IN 1' INTERVALS

NAD 27

LAMBERT

CLARKE 1866

LOUISIANA SOUTH

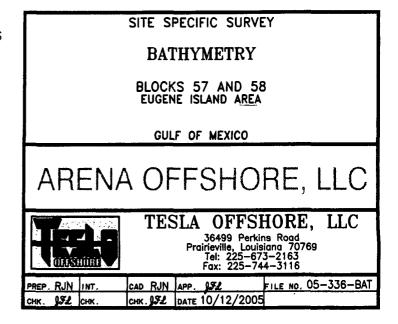
DATUM:

ZONE:

SPHEROID:

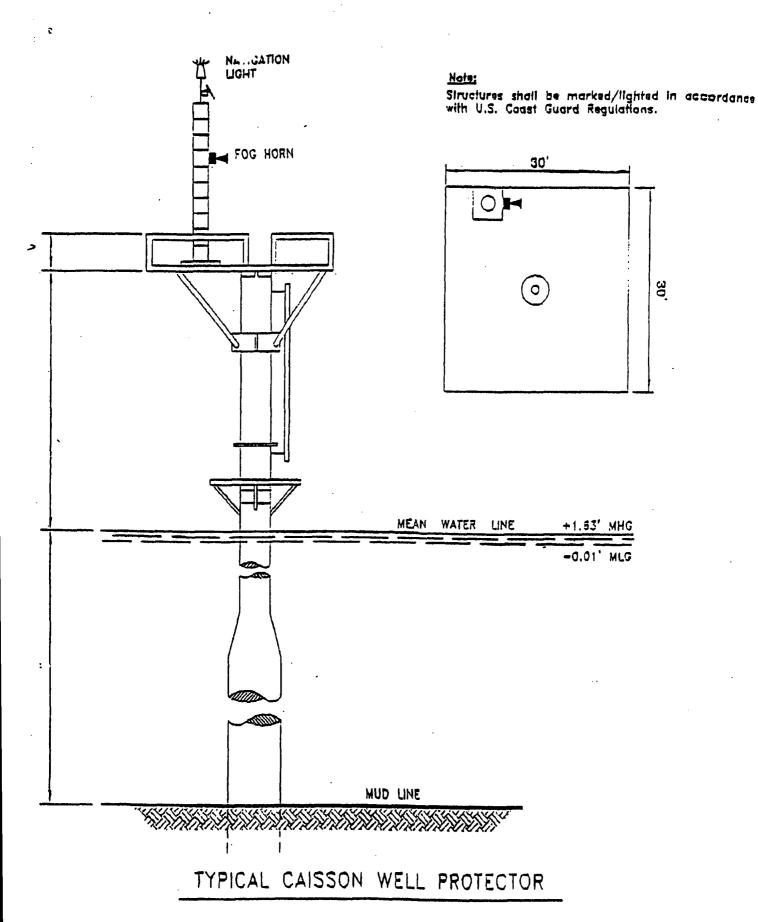
PROJECTION:

SURVEY PERFORMED BY TESLA OFFSHORE, LLC IN AUGUST, 2005



Structure Elevation Drawing

Attachment A-5 (Public Information)



SECTION B General Information

A. Contact

Questions or requests for additional information should be made to Arena's authorized representative for this project:

Natalie Schumann
R.E.M. Solutions, Inc.
17171 Park Row, Suite 390
Houston, Texas 77084
281.492.3243 (Phone)
281.492.6117 (Fax)
natalie@remsolutionsinc.com

B. Prospect Name

Arena does not refer to prospect names for their exploratory activities.

C. New or Unusual Technology

Arena does not propose using any new and/or unusual technology for the operations proposed in this Plan.

D. <u>Bonding Information</u>

In accordance with Title 30 CFR Part 256, Subpart I, Arena Offshore, LLC will conduct the proposed operations under Northstar Gulfsands' \$3,000,000 Areawide Development Bond.

As deemed warranted, Minerals Management Service will contact the designated operator in the event a supplemental bond is required for the proposed operations, as outlined in Notice to Lessees (NTL) 2003-N06 to cover plugging liability of the wellbores, removal of associated well protector structures and site clearance.

Arena is aware that such bonding may be imposed, and will submit accordingly upon notification from the Minerals Management Service.

E. Onshore Base and Support Vessels

The proposed surface disturbances in Eugene Island Block 57 will be located approximately 5.7 miles from the nearest Louisiana shoreline, and approximately 21 miles from the onshore support base to be located in Morgan City, Louisiana.

SECTION B General Information - Continued

Arena will use an existing onshore base to accomplish the following routine operations:

- Loading/Offloading point for equipment supporting the offshore operations,
- Dispatching personnel and equipment, and does not anticipate the need for any expansion of the selected facilities as a result of the activities proposed in this Plan,
- Temporary storage for materials and equipment
- 24-Hour Dispatcher

Personnel involved in the proposed operations will typically use their own vehicles as transportation to and from the selected onshore base; whereas the selected vendors will transport the equipment by a combination of trucks, boats and/or helicopters to the onshore base. The personnel and equipment will then be transported to the drilling rig via the transportation methods and frequencies shown below, taking the most direct route feasible as mandated by weather and traffic conditions:

Support Vessel	Drilling and Completion Trips Per Week
Crew Boat	7
Supply Boat	7
Helicopter	As Needed

The proposed operations are temporary in nature and do not require any immediate action to acquire additional land, expand existing base facilities.

A Vicinity Plat showing the surface location in Eugene Island Block 57 relative to the shoreline and onshore base is included as *Attachment B-1*.

F. <u>Lease Stipulations</u>

Under the Outer Continental Shelf Lands Act, the Minerals Management Service is charged with the responsibility of managing and regulating the exploration and development on the OCS.

As part of the regulatory process, an Environmental Impact Statement (EIS) is prepared for each lease sale, at which time mitigation measures are addressed in the form of lease stipulations, which then become part of the oil and gas lease terms and are therefore enforceable as part of that lease.

As part of this process, the designated operator proposing to conduct related exploratory and development activities, must review the applicable lease stipulations, as well as other special conditions, which may be imposed by the Minerals Management Service, and other governing agencies.

SECTION B General Information - Continued

Minerals Management Service did not invoke any stipulations for Lease OCS-G 02601, Eugene Island Block 57.

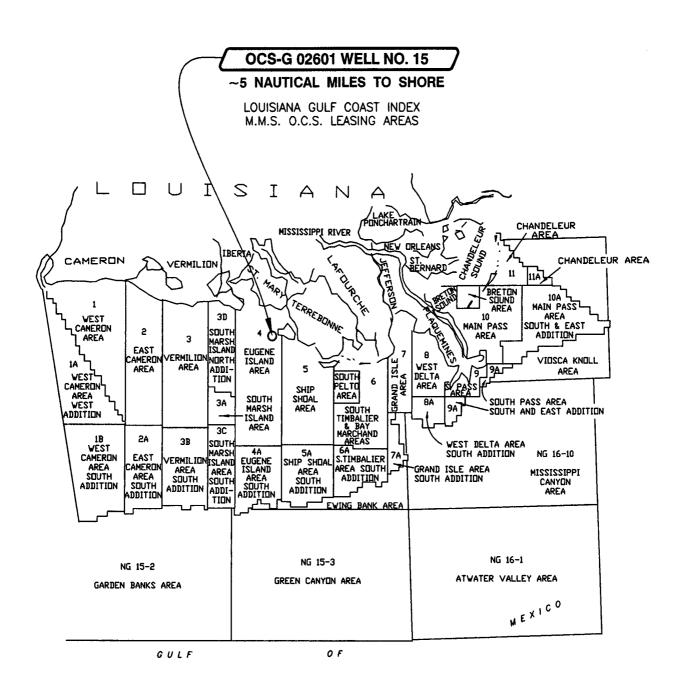
Special Conditions

Eugene Island Block 57 is located within the boundary of the "8G Zone" established for joint review by the designated state agency for comments on the proposed activity to determine if the activities impact a common reservoir(s) overlying state and federal acreage. Therefore, Arena will submit the required surface and bottom hole location information to the Louisiana Governor's Office in order to make this determination.

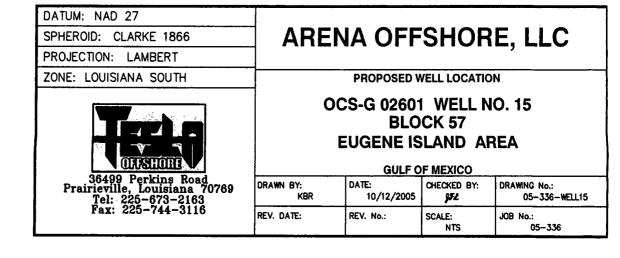
MMS has issued Notice to Lessees NTL 2004-G01 "Implementation of Seismic Mitigation Measures and Protected Species Observer Program", NTL 2003-G10 "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting" and NTL 2003-G11 "Marine Trash and Debris Awareness and Elimination" in an attempt to minimize or avoid potential adverse impacts to protected species (sea turtles, marine mammals, gulf sturgeon, and other federally protected species). Arena Offshore, Inc. will comply with the requirements of these notices.

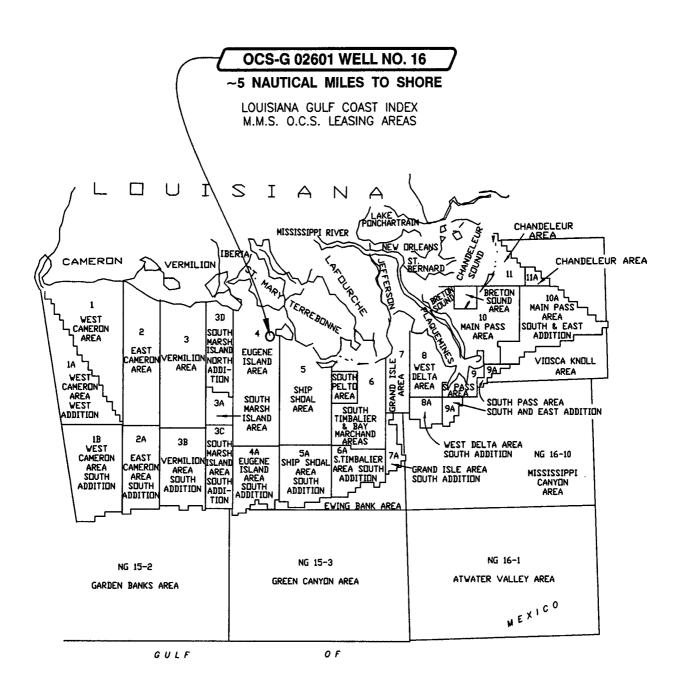
Vicinity Plat

Attachment B-1 (Public Information)

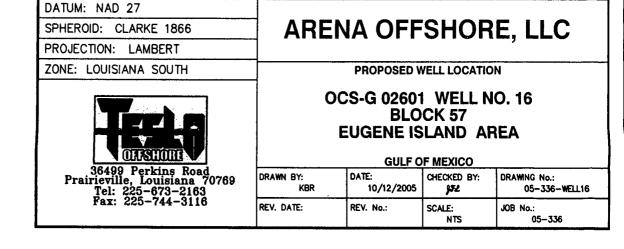


SHEET 1 OF 3





SHEET 1 OF 3



SECTION C Geological, Geophysical & H2S Information

A. Structure Contour Maps

Included as *Attachments C-1* are current structure maps (depth base and expressed in feet subsea) depicting the entire lease coverage area; drawn on the top of each prospective hydrocarbon sand. The maps depict each proposed bottom hole location and applicable geological cross section.

B. Interpreted Deep Seismic Lines

Included as Attachment C-2 is a copy of the migrated and annotated (shot point, time lines, well paths) of the deep seismic line within 500 feet of the proposed surface locations.

C. Geological Structure Cross Sections

Interpreted geological cross sections depicting the proposed well locations and depth of the proposed wells is included as *Attachment C-3*. Such cross sections correspond to each seismic line being submitted under separate cover.

D. Shallow Hazards Report

A High Resolution Geophysical Survey was conducted across portions of Eugene Island Blocks 57 and 58 during 2005 by Tesla Offshore on behalf of Arena Offshore, Inc. The purpose of the survey was to evaluate geologic conditions and inspect for potential hazards or constraints to lease development.

Copies of this report are being submitted to the Minerals Management Service under separate cover.

E. Shallow Hazards Assessment

A shallow hazards analysis has been prepared for the proposed surface locations, evaluating seafloor and subsurface geologic and manmade features and conditions, and is included as *Attachment C-4*.

F. High Resolution Seismic Lines

Included as Attachment C-5 (original copy only) is a copy of the annotated high resolution survey data lines for each surface location disturbance proposed in this Plan.

SECTION C Geological, Geophysical & H2S Information-Continued

G. Stratigraphic Column

A generalized biostratigraphic/lithostratigraphic column from the seafloor to the total depth of the proposed wells is not required for the proposed operations provided for in this Plan.

H. Time Vs. Depth Tables

Arena has determined that there is existing sufficient well control data for the target areas proposed in this plan; therefore, tables providing seismic time versus depth for the proposed well locations are not required.

I. Hydrogen Sulfide Classification

In accordance with Title 30 CFR 250.490, Arena requests that Eugene Island Block 57 be classified by the Minerals Management Service as an area where the absence of hydrogen sulfide has been confirmed based on the following *Attachment C-6*.

Structure Maps

Attachment C-1 (Proprietary Information)

Deep Seismic Lines

Attachment C-2 (Proprietary Information)

Cross Section Maps

Attachment C-3 (Proprietary Information)

Shallow Hazards Assessment Attachment C-4 (Public Information)



Tesla Offshore, LLC 36499 Perkins Road Prairieville, Louisiana 70769 Telephone: (225) 673-2163

Fax: (225) 744-3116

October 12, 2005

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

RE: Arena Offshore, LLC

Proposed OCS-G 02601 No. 15 Well Location

Block 57, Eugene Island Area

Archaeological & Shallow Hazard Analysis

Dear Staff:

Arena Offshore, LLC proposes to drill the OCS-G 02601 No. 15 Well from the following surface location:

• 150' FNL & 3,022' FEL of Block 57, Eugene Island Area

Tesla Offshore, LLC surveyed a site specific grid encompassing the proposed well in August of 2005 along 50-meter primary grid spacing with 900-meter tie lines. The newly acquired data supplements pervious archaeological and hazard reports already submitted on this lease OCS-G 02601. Arena Offshore, LLC requested this submittal of a shallow hazard analysis and archaeological assessment of the proposed drill site in compliance with NTL No. 98-20 and NTL No. 2005-G07 from the Minerals Management Service. Geophysical record copies are enclosed for the magnetometer, side scan sonar, subbottom profiler, echo sounder, and near trace seismic sections from the survey line nearest the proposed well site as required by the MMS in NTL No. 2003-G17.

- Water depth is 9 feet surrounding the proposed drill site.
- Seafloor soils are fluffy clay discharged in plumes from the Atchafalaya Bay.
- Identified man-made features include the abandoned Samedan 3" pipeline (Segment 4698) crossing 320' SW of the proposed well at the nearest point. Normal precautions will be taken when moving the drilling rig on to the proposed well location.
- Magnetic anomalies nearest the proposed well site included #41 approximately 150'
 NNE of the proposed drill site. The small anomaly (8 nT with 25' duration) was not
 offset by additional anomalies and is not a hazard or shipwreck. Rig moves and
 drilling operations will not be hindered by this tiny piece of wire or metal.
- Sonar data indicated that the proposed well site is free of obstructions and shipwrecks.

Arena Offshore, LLC Proposed OCS-G 02601 No. 15 Well Location Block 57, Eugene Island Area Archaeological & Shallow Hazard Analysis Page 2

• Subbottom data showed only 5 feet of penetration within the organically saturated, unconsolidated clays that are carried into the area in sedimentary plumes emanating from the Atchafalaya Bay. The sparker data were equally attenuated within the bubble phase methane and carbon dioxide generated by the decomposition of organic material entrained in the prodelta discharge. Pleistocene strata underlie 90 feet of upper Holocene sediment at the proposed well location. Normal precautions will be taken when driving surface casing. The nearby well logs will provide valuable information on the stratigraphy at the planned well. Processed 3-D data will be used to resolve bright spots and faults below the 500 milliseconds of recorded analog data.

The operator has identified the primary hazards to rig movements, anchor deployments, and drilling. Subbottom profiles indicated that the near-seafloor layers at the proposed well site exhibit low probability for the occurrence of prehistoric archaeological features. The proposed drilling will not disturb any shipwrecks.

The proposed well site, pipelines, and magnetic anomalies with designated avoidance criteria away from the well site will be marked with appropriate marine survey equipment during rig moves and drilling operations to comply with the MMS <u>On-Site Requirements</u> specified in NTL No. 98-20, Section IV, Item B.

In lieu of using buoys as stipulated in **Item B-1**, the operator requests MMS approval to mark potential hazards with best available technology using computer graphic screens that are integrated to DGPS positioning units aboard the drilling rig and all support vessels.

In further compliance with **Item B-2**, a map at a scale of 1:12,000 will be provided to key personnel on the drilling rig and anchor handling vessels. The field map will depict the location of the proposed well, existing pipelines, and designated magnetic anomalies.

Arena Offshore, LLC and subcontractors will apply the safest and best available technologies during rig moves and drilling operations.

Yours truly,

Robert J. Floyd Ph.D. Chief Geoscientist Marine Archaeologist

Robert of Floyd

TESLA OFFSHORE



Tesla Offshore, LLC 36499 Perkins Road Prairieville, Louisiana 70769 Telephone: (225) 673-2163

Fax: (225) 744-3116

October 12, 2005

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

RE: Arena Offshore, LLC

Proposed OCS-G 02601 No. 16 Well Location

Block 57, Eugene Island Area

Archaeological & Shallow Hazard Analysis

Dear Staff:

Arena Offshore, LLC proposes to drill the OCS-G 02601 No. 16 Well from the following surface location:

1,705' FNL & 5,023' FEL of Block 57, Eugene Island Area

Tesla Offshore, LLC surveyed a site specific grid encompassing the proposed well in August of 2005 along 50-meter primary grid spacing with 900-meter tie lines. The newly acquired data supplements pervious archaeological and hazard reports already submitted on this lease OCS-G 02601. Arena Offshore, LLC requested this submittal of a shallow hazard analysis and archaeological assessment of the proposed drill site in compliance with NTL No. 98-20 and NTL No. 2005-G07 from the Minerals Management Service. Geophysical record copies are enclosed for the magnetometer, side scan sonar, subbottom profiler, echo sounder, and near trace seismic sections from the survey line nearest the proposed well site as required by the MMS in NTL No. 2003-G17.

- Water depth is 9 feet surrounding the proposed drill site.
- Seafloor soils are fluffy clay discharged in plumes from the Atchafalaya Bay.
- Identified man-made features include the Northstar 8" pipeline (Segment 5085) crossing 350' north of the proposed well at the nearest point. Several additional pipelines cross farther north than the 8" pipeline, and normal precautions will be taken when moving the drilling rig on to the proposed well location.
- Magnetic anomalies nearest the proposed well site included #46 approximately 350'
 NE of the proposed drill site. The large anomaly (260 nT with 250' duration) was not
 offset by additional anomalies and is probably a piece of cable or wire lying parallel to
 the survey line. The recommended avoidance radius of 125' will be marked during rig
 moves and drilling operations. The anomaly is not a shipwreck.
- Sonar data indicated that the proposed well site is free of obstructions and shipwrecks.

Arena Offshore, LLC Proposed OCS-G 02601 No. 16 Well Location Block 57, Eugene Island Area Archaeological & Shallow Hazard Analysis Page 2

• Subbottom data showed only 5 feet of penetration within the organically saturated, unconsolidated clays that are carried into the area in sedimentary plumes emanating from the Atchafalaya Bay. The sparker data were equally attenuated within the bubble phase methane and carbon dioxide generated by the decomposition of organic material entrained in the prodelta discharge. Pleistocene strata underlie 90 feet of upper Holocene sediment at the proposed well location. Normal precautions will be taken when driving surface casing. The nearby well logs will provide valuable information on the stratigraphy at the planned well. Processed 3-D data will be used to resolve bright spots and faults below the 500 milliseconds of recorded analog data.

The operator has identified the primary hazards to rig movements, anchor deployments, and drilling. Subbottom profiles indicated that the near-seafloor layers at the proposed well site exhibit low probability for the occurrence of prehistoric archaeological features. The proposed drilling will not disturb any shipwrecks.

The proposed well site, pipelines, and magnetic anomalies with designated avoidance criteria away from the well site will be marked with appropriate marine survey equipment during rig moves and drilling operations to comply with the MMS <u>On-Site Requirements</u> specified in NTL No. 98-20, Section IV, Item B.

In lieu of using buoys as stipulated in **Item B-1**, the operator requests MMS approval to mark potential hazards with best available technology using computer graphic screens that are integrated to DGPS positioning units aboard the drilling rig and all support vessels.

In further compliance with **Item B-2**, a map at a scale of 1:12,000 will be provided to key personnel on the drilling rig and anchor handling vessels. The field map will depict the location of the proposed well, existing pipelines, and designated magnetic anomalies.

Arena Offshore, LLC and subcontractors will apply the safest and best available technologies during rig moves and drilling operations.

Yours truly,

Robert J. Floyd Ph.D. Chief Geoscientist

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Marine Archaeologist

Shallow Hazards Data Lines

Attachment C-5 (Proprietary Information)

H2S Determination Attachment C-6 (Proprietary Information)

SECTION D Biological and Physical Information

A. Chemosynthetic Information

The proposed seafloor disturbing activities are in water depths less than 400 meters (1312 feet); therefore, this section of the Plan is not applicable.

B. Topographic Features Information

MMS and the National Marine Fisheries Service (NMFS) have entered into a programmatic consultation agreement for Essential Fish Habitat that requires that no bottom disturbing activities, including anchors or cables from a semi-submersible drilling rig, may occur within 500 feet of the no-activity zone of a topographic feature. If such proposed bottom disturbing activities are within 500 feet of a no activity zone, the MMS is required to consult with the NMFS.

The activities proposed in this Plan are not affected by a topographic feature.

C. Live Bottom (Pinnacle Trend) Information

Certain leases are located in areas characterized by the existence of live bottoms. Live bottom areas are defined as seagrass communities; those areas that contain biological assemblages consisting of sessile invertebrates living upon and attached to naturally occurring hard or rocky formations with rough, broken, or smooth topography; and areas where the lithotope favors the accumulation of turtles, fishes, or other fauna. These leases contain a Live Bottom Stipulation to ensure that impacts from nearby oil and gas activities on these live bottom areas are mitigated to the greatest extent possible.

For each affected lease, the Live Bottom Stipulation requires that you prepare a live bottom survey report containing a bathymetry map prepared by using remote sensing techniques. This report must be submitted to the Gulf of Mexico OCS Region (GOMR) before you may conduct any drilling activities or install any structure, including lease term pipelines in accordance with NTL 99-G16.

Eugene Island Block 57 is not located within the vicinity of a proposed live bottom area.

D. Remotely Operated Vehicle (ROV Surveys)

Pursuant to NTL No. 2003-G03, operators may be required to conduct remote operated vehicle (ROV) surveys during pre-spudding and post-drilling operations for the purpose of biological and physical observations.

SECTION D Biological and Physical Information-Continued

Eugene Island Block 57 is not located within an area where ROV Surveys are required.

E. Archaeological Reports

In conjunction with this geophysical survey, an archaeological survey and report was also prepared to comply with the requirements of NTL 2005-G07, as Eugene Island Block 57 is located within a high probability historic area for potential archaeological resources.

This requirement provides protection of prehistoric and historic archaeological resources by requiring remote sensing surveys in areas designated to have a high probability for archaeological resources.

Copies of these reports have been previously submitted to the Minerals Management Service under separate cover.

SECTION E Wastes and Discharge/Disposal Information

The Minerals Management Service (MMS), U. S. Coast Guard (USCG) and the U.S. Environmental Protection Agency (EPA) regulate the overboard discharge and/or disposal of operational waste associated with drilling, completing, testing and/or production operations from oil and gas exploration and production activities.

Minerals Management Service regulations contained in Title 30 CFR 250.300 require operators to "prevent the unauthorized discharge of pollutants into offshore waters". These same regulations prohibit the intentional disposal of "equipment, cables, chains, containers, or other materials" offshore. Small items must be stored and transported in clearly marked containers and large objects must be individually marked. Additionally, items lost overboard must be recorded in the facility's daily log and reported to MMS as appropriate.

- U. S. Coast Guard regulations implement the Marine Pollution Research and Control Act (MARPOL) of 1987 requiring manned offshore rigs, platforms and associated vessels prohibit the dumping of all forms of solid waste at sea with the single exception of ground food wastes, which can be discharged if the facility is beyond 12 nautical miles from the nearest shore. This disposal ban covers all forms of solid waste including plastics, packing material, paper, glass, metal, and other refuse. These regulations also require preparation, monitoring and record keeping requirements for garbage generated on board these facilities. The drilling contractor must maintain a Waste Management Plan, in addition to preparation of a Daily Garbage Log for the handling of these types of waste. MODU's are equipped with bins for temporary storage of certain garbage. Other types of waste, such as food, may be discharged overboard if the discharge can pass through 25-millimeter type mesh screen. Prior to off loading and/or overboard disposal, an entry will be made in the Daily Garbage Log stating the approximate volume, the date of action, name of the vessel, and destination point.
- U. S. Environmental Protection Agency regulations address the disposal of oil and gas operational wastes under three Federal Acts. The Resource Conservation and Recovery Act (RCRA) which provides a framework for the safe disposal of discarded materials, regulating the management of solid and hazardous wastes. The direct disposal of operational wastes into offshore waters is limited under the authority of the Clean Water Act. And, when injected underground, oil and gas operational wastes are regulated by the Underground Injection Control program. If any wastes are classified as hazardous, they are to be properly transported using a uniform hazardous waste manifest, documented, and disposed at an approved hazardous waste facility.

A National Pollutant Discharge Elimination System (NPDES) permit, based on effluent limitation guidelines, is required for any discharges into offshore waters. Arena has requested coverage under the Region VI NPDES General Permit GMG290000 for discharges associated with exploration and development activities in Eugene Island Block 57 and will take applicable steps to ensure all offshore discharges associated with the proposed operations will be conducted in accordance with the permit.

SECTION E Wastes and Discharge/Disposal Information-Continued

A. Composition of Solid and Liquid Wastes

The major operational solid waste in the largest quantities generated from the proposed operations will be the drill cuttings, drilling and/or completion fluids. Other associated wastes include waste chemicals, cement wastes, sanitary and domestic waste, trash and debris, ballast water, storage displacement water, rig wash and deck drainage, hydraulic fluids, used oil, oily water and filters, and other miscellaneous minor discharges.

These wastes are generated into categories, being solid waste (trash and debris), nonhazardous oilfield waste (drilling fluids, nonhazardous waste including cement and oil filters), and hazardous wastes (waste paint or thinners).

The type of discharges included in this permit application allow for the following effluents to be discharged overboard, subject to certain limitations, prohibitions and recordkeeping requirements.

Overboard Discharges

In accordance with NTL 2003-G17, overboard discharges generated by the activities are not required for submittal in this Plan.

Disposed Wastes

The wastes detailed in *Attachment E-1* are those wastes generated by our proposed activities that are disposed of by means of offsite release, injection, encapsulation, or placement at either onshore or offshore permitted locations for the purpose of returning them back to the environment.

Arena will manifest these wastes prior to being offloaded from the MODU, and transported to shore for disposal at approved sites regulated by the applicable State. Additionally, Arena will comply with any approvals or reporting and recordkeeping requirements imposed by the State where ultimate disposal will occur.

Waste & Discharge Tables

Attachment E-1
(Public Information)

Arena Offshore, LLC Eugene Island Block 57 Examples of Wastes and Discharges Information

Disposal Table (Wastes to be disposed of, not discharged)

Type of Waste Approximate Composition	Amount*	Rate per day	Name/Location of Disposal Facility	Treatment and/or Storage, Transport and Disposal Method
Trash and debris	1,000 ft ³	3 ft ³ /day	Newpark Environmental Fourchon, LA	Transport in storage bins on crew boat to disposal facility
Chemical product wastes	50 bbl/yr	2 bbl/day	Newpark Environmental Fourchon, LA	Transport in containers to shore location
Chemical product wastes	100 bbl	2 bbl/day	Newpark Environmental Fourchon, LA	Transport in barrels on crew boat to shore location

^{*}can be expressed as a volume, weight, or rate

SECTION F Oil Spill Response and Chemical Information

A. Regional Oil Spill Response Plan (OSRP) Information

Effective March 4, 2005, Minerals Management Service approved Arena Offshore, LLC's (Arena's) Regional Oil Spill Response Plan (OSRP) for the Biennial update. Arena Offshore, LLC is the only entity covered under this OSRP. Activities proposed in this Joint Supplemental Exploration Plan will be covered by the Regional OSRP.

B. Oil Spill Removal Organizations (OSRO)

Arena utilizes Clean Gulf Associates (CGA) as its primary provider for equipment, which is an industry cooperative owning an inventory of oil spill clean-up equipment. CGA is supported by the Marine Spill Response Corporation's (MSRC), which is responsible for storing, inspecting, maintaining and dispatching CGA's equipment. The MSRC STARS network provides for the closest available personnel, as well as an MSRC supervisor to operate the equipment.

C. Worst-Case Scenario Comparison (WCD)

Category	Current Regional OSRP WCD	Proposed Exploration Plan WCD
Type of Activity	Exploratory	Drilling/Completion/Testing
Facility Surface Location	Eugene Island Block 100	Eugene Island Block 57
Facility Description	OCS 00796	Jack-Up Rig
Distance to Nearest Shoreline (Miles)	21	5.7
Volume: Storage Tanks (total) Facility Piping (total) Lease Term Pipeline		0 0
Uncontrolled Blowout (day) Potential 24 Hour Volume (Bbls.)	500	200 200
Type of Liquid Hydrocarbon	Condensate	Condensate
API Gravity	50°	40°

SECTION F Oil Spill Response and Chemical Information-Continued

Due to the estimated flow rates from an exploratory well blowout are speculative and temporary in nature, Arena will not modify their Regional OSRP to change the WCD.

Since Arena has the capability to respond to the worst-case discharge (WCD) spill scenario included in its Regional OSRP approved on March 4, 2005, and since the worst-case scenario determined for our EP does not replace the worst-case scenario in our Regional OSRP, I hereby certify that Arena has the capability to respond, to the maximum extent practicable, to a worst-case discharge, or a substantial threat of such a discharge, resulting from the activities proposed in our EP.

D. Facility Tanks, Production Vessels

The following table details the *tanks* (capacity greater than 25 bbls. or more) to be used to support the proposed activities (MODU and barges):

Type of Storage Tank	Type of Facility	Tank Capacity (bbls)	Number of Tanks	Total Capacity (bbls)	Fluid Gravity (API)
Fuel Oil	MODU	250	2	500	38° (Diesel)

E. Spill Response Sites

According to NTL 2003-G17, this section of the Plan is not applicable to the proposed operations.

F. Diesel Oil Supply Vessels

According to NTL 2003-G17, this section of the Plan is not applicable to the proposed operations.

G. Support Vessel Fuel Tanks

According to NTL 2003-G17, this section of the Plan is not applicable to the proposed operations.

H. Produced Liquid Hydrocarbon Transportation Vessels

Arena is proposing to conduct well testing operations on the proposed well locations. This process will include flaring the produced gas hydrocarbons and burning the liquid hydrocarbons.

I. Oil and Synthetic-Based Drilling Fluids

According to NTL 2003-G17, this section of the Plan is not applicable to the proposed operations.

SECTION F Oil Spill Response and Chemical Information (Continued)

J. Oil Characteristics

According to NTL 2003-G17, this section of the Plan is not applicable to the proposed operations.

I. Blowout Scenario

According to NTL 2003-G17, this section of the Plan is not applicable to the proposed operations.

L. Spill Discussion for NEPA Analysis

According to NTL 2003-G17, this section of the Plan is not applicable to the proposed operations.

M. Pollution Prevention Measures

According to NTL 2003-G17, this section of the Plan is not applicable to the proposed operations.

N. FGBNMS Monitoring Plans

According to NTL 2003-G17, this section of the Plan is not applicable to the proposed operations.

SECTION G Air Emissions Information

The primary air pollutants associated with OCS exploration activities are:

- Carbon Monoxide
- Particulate Matter
- Sulphur Oxides
- Nitrogen Oxides
- Volatile Organic Compounds

These offshore air emissions result mainly from the drilling rig operations, helicopters, and support vessels. These emissions occur mainly from combustion or burning of fuels and natural gas and from venting or evaporation of hydrocarbons. The combustion of fuels occurs primarily on diesel-powered generators, pumps or motors and from lighter fuel motors. Other air emissions can result from catastrophic events such as oil spills or blowouts.

A. Calculating Emissions

Included as *Attachment G-1* is the Projected Air Quality Emissions Report (Form MMS-138) for Plan Emissions addressing drilling, completion and testing operations utilizing a typical jack-up type drilling unit, with related support vessels and construction barge information.

B. Screening Questions

As evidenced by *Attachment G-1*, the worksheets were completed based on which questions responded with a yes.

C. Emission Reduction Measures

The projected air emissions are within the exemption level; therefore, no emission reduction measures are being proposed.

D. Verification of Non-Default Emissions Factors

Arena has elected to use the default emission factors as provided in Attachment G-1.

E. Non-Exempt Activities

The proposed activities are within the exemption amount as provided in Attachment G-1.

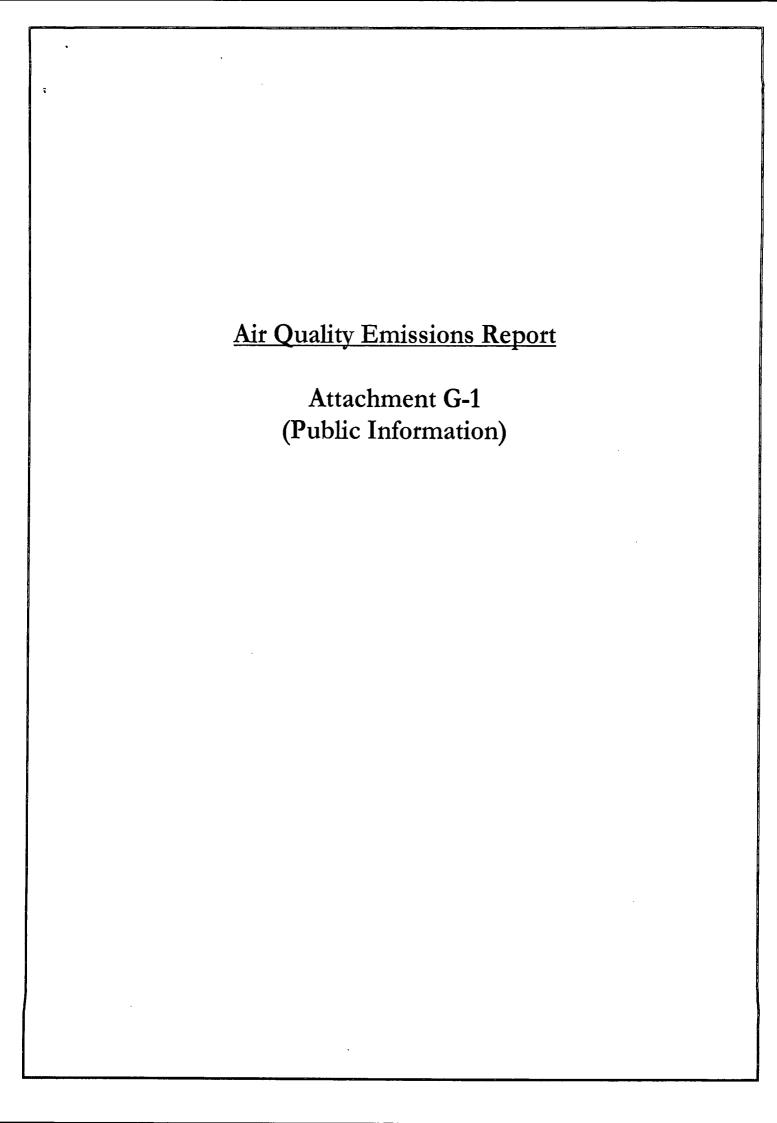
SECTION G Air Emissions Information-Continued

F. Review of Activities with Emissions Below the Exemption Level

The proposed activities are below the exemption amount and should not affect the air quality of an onshore area, as provided in *Attachment G-1*.

G. Modeling Report

The proposed activities are below the exemption amount and should not affect the air quality of an onshore area.



EXPLORATION PLAN (EP)
AIR QUALITY SCREENING CHECKLIST

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

	AIN JUAL II COUNCEIMING COECNES	OND Apploval Explics
COMPANY	Arena Offshore, Inc.	
AREA	Eugene Island	
BLOCK	57	
LEASE	G02601	
PLATFORM	NA	
WELL	15 and 16	
COMPANY CONTACT	Natalie Schumann	
TELEPHONE NO.	281.492.3243	
REMARKS	Drill, complete and test Wells No. 15 and 16 and install caissons us	sing the TODCO 150.

Screening Questions for EP's	Yes	No
Is any calculated Complex Total (CT) Emission amount (in tons associated with		
your proposed exploration activities more than 90% of the amounts calculated	ļ	x
using the following formulas: CT = 3400D ^{2/3} for CO, and CT = 33.3D for the		^
other air pollutants (where D = distance to shore in miles)?		
Does your emission calculations include any emission reduction measures or		×
modified emission factors?		
Are your proposed exploration activities located east of 87.5° W longitude?		Х
Do you expect to encounter H ₂ S at concentrations greater than 20 parts per million		×
(ppm)?		^
Do you propose to flare or vent natural gas for more than 48 continuous hours		х
from any proposed well?		
Do you propose to burn produced hydrocarbon liquids?	X	

Air Pollutant	Plan Emission Amounts ¹ (tons)	Calculated Exemption Amounts ² (tons)	Calculated Complex Total Emission Amounts ³ (tons)
Carbon monoxide (CO)	34.97	10849.14	
Particulate matter (PM)	4.22	189.81	
Sulphur dioxide (SO ₂)	20.35	189.81	
Nitrogen oxides (NOx)	143.33	189.81	
Volatile organic compounds (VOC)	4.87	189.81	

For activities proposed in your EP or DOCD, list the projected emissions calculated from the worksheets.

List the exemption amounts in your proposed activities calculated using the formulas in 30 CFR 250.303(d).

List the complex total emissions associated with your proposed activities calculated from the worksheets.

EMISSIONS CALCULATIONS 1ST YEAR

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL	T		CONTACT		PHONE	REMARKS					
Arena Offshore, Inc.	Eugene Island	57	G02601		15 and 16			Natalie Schuma		281,492,3243	KEMAKKS	-				· · · · · · · · · · · · · · · · · · ·
OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT, FUEL	RUN	TIME			M POUNDS F			r	FS	TIMATED TO	NS	
	Diesel Engines	HP	GAL/HR	GAL/D												
	Nat. Gas Engines	HP	SCF/HR	SCF/D												
	Burners	MMBTU/HR	SCF/HR	SCF/D	HR/D	DAYS	PM	SOx	NOx	voc	CO	PM	SOx	NOx	voc	CO
DRILLING	PRIME MOVER>600hp diesel	6450	311.535	7476.84	24	6	4.55	20.86	156.28	4.69	34.10	0.33	1.50	11.25	0.34	2.45
	PRIME MOVER>600hp 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
	PRIME MOVER>600hp diesel	0	0	0.00	0	1 0 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	BURNER diesel	0			0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	AUXILIARY EQUIP<600hp diesel	0	0	0.00	1 0	1 o 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(crew)	2600	125.58	3013.92	6	6	1.83	8.41	63.00	1.89	13.74	0.03	0.15	1.13	0.03	0.25
	VESSELS>600hp diesel(supply)	2600	125.58	3013.92	10	6	1.83	8.41	63.00	1.89	13.74	0.05	0.25	1.89	0.06	0.41
	VESSELS>600hp diesel(tugs)	4200	202.86	4868.64	12	1 1	2.96	13.58	101.76	3.05	22.20	0.02	0.08	0.61	0.02	0.13
FACILITY	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
INSTALLATION	MATERIAL TUG diesel	l o	0	0.00	0	lol	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(crew)	0	ō	0.00	Ŏ	Ö	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(supply)	0	0	0.00	0	o	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				<u> </u>	l	<u> </u>			l			
	TANK-	0	. 1		0	0				0.00					0.00	
ORILLING	OIL BURN	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WELL TEST	GAS FLARE		0		0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
20	005 YEAR TOTAL						11.17	51.25	384.03	11.52	83.79	0.43	1.99	14.89	0.45	3.25
EXEMPTION CALCULATION	ON DISTANCE FROM LAND IN MILES		<u> </u>	L	L	<u> </u>		<u></u>	<u> </u>	1		189.81	189.81	189.81	189.81	10849.14

EMISSIONS CALCULATIONS 2ND YEAR

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL		l	CONTACT	-	PHONE	REMARKS							
Arena Offshore, Inc.	Eugene Island	57	G02601	NA	15 and 16			Natalie Schuma	inn	281,492,3243								
OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT. FUEL	RUN	RUNTIME		MAXIMUM POUNDS PER HOUR					ESTIMATED TONS					
	Diesel Engines	HP	GAL/HR	GAL/D														
	Nat. Gas Engines	HP	SCF/HR	SCF/D														
		MMBTU/HR	SCF/HR	SCF/D	HR/D	DAYS	PM	SOx	NOx	VOC	СО	PM	SOx	NOx	voc	СО		
DRILLING	PRIME MOVER>600hp diesel	6450	311.535	7476.84	24	59	4.55	20.86	156.28	4.69	34.10	3.22	14.77	110.64	3.32	24.14		
	PRIME MOVER>600hp 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		
	PRIME MOVER>600hp 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		
	PRIME MOVER>600hp 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		
	BURNER diesel	0		Principle of the second	0	l 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	AUXILIARY EQUIP<600hp diesel	0	0	0.00	0	l 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	VESSELS>600hp diesel(crew)	2600	125.58	3013.92	6	59	1.83	8.41	63.00	1.89	13.74	0.32	1.49	11.15	0.33	2.43		
	VESSELS>600hp diesel(supply)	2600	125.58	3013.92	10	59	1.83	8.41	63.00	1.89	13.74	0.54	2.48	18.58	0.56	4.05		
	VESSELS>600hp diesel(tugs)	4200	202.86	4868.64	12	3	2.96	13.58	101.76	3.05	22.20	0.05	0.24	1.83	0.05	0.40		
FACILITY	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		
INSTALLATION	MATERIAL TUG diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	MISC.	BPD	SCF/HR	COUNT				<u> </u>	<u> </u>	L	<u> </u>				<u></u>	İ		
	TANK-	0			0	0				0.00					0.00			
DRILLING	OIL BURN	200			24	2	3.50	56.92	16.67	0.08	1.75	0.08	1.37	0.40	0.00	0.04		
WELL TEST	GAS FLARE	, i	418667		24	2		0.25	29.89	25.25	162.65		0.01	0.72	0.61	3.90		
2006	YEAR TOTAL						14.67	108.42	430.59	36.85	248.19	4.22	20.35	143.33	4.87	34.97		
EXEMPTION CALCULATION	MILES						<u> </u>	I	J			189.81	189.81	189.81	189.81	10849.14		
	5.7															1		

SUMMARY

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL
Arena Offshore, Inc.	Eugene Island	57	G02601	NA	15 and 16
Year		Emitted		Substance	
	РМ	SOx	NOx	voc	со
2005	0.43	1.99	14.89	0.45	3.25
2006	4.22	20.35	143.33	4.87	34.97
Allowable	189.81	189.81	189.81	189.81	10849.14

SECTION H Environmental Impact Analysis

A. IMPACT PRODUCING FACTORS (IPF'S)

The following matrix is utilized to identify the environmental resources that could be impacted by these IPF's. An "x" has been marked for each IPF category that Arena has determined may impact a particular environmental resource as a result of the proposed activities. For those cells which are footnoted, a statement is provided as to the applicability of the proposed activities, and where there may be an effect, an analysis of the effect is provided.

Environmental	Emissions	Effluents	Physical	Wastes	Accidents	Other
Resources	(air, noise, light, etc.)	(muds, cuttings, other discharges to the water	Disturbances To the seafloor (rig or anchor	Sent to Shore for Treatment	(e.g. oil spills, chemical spills, H2S releases)	IPF's identified
		column or seafloor	emplacement, etc.)	Or disposal	,	
Site Specific at Offshore						
Location						
Designated topographic						
feature						
Pinnacle Trend area live						
bottoms						
Eastern Gulf live bottoms						
Chemosynthetic						
communities						
Water quality					X	
Fisheries					X	
Marine mammals	X				X	
Sea turtles	X				X	
Air quality	X					
Shipwreck sites (known or			:			
potential)						
Prehistoric archaeological						
sites						
Vicinity of Offshore					-	
Location						
Essential fish habitat					X	
Marine and pelagic birds						
Public health and safety						
Coastal and Onshore						
Beaches					X	
Wetlands					X	
Shorebirds and coastal						
nesting birds					X	
Coastal wildlife refuges						
Wilderness areas						
Other Resources						

B. VICINITY OF OFFSHORE LOCATION ANALYSES

1. Designated Topographic Features

There are no anticipated effluents, physical disturbances to the seafloor, and accidents from the proposed activities that could cause impacts to topographic features. The proposed surface disturbance within Eugene Island Block 57 is located approximately 75 miles away from the closest designated topographic feature (Ewing Bank). The crests of designated topographic features in the northern Gulf are found below 10 m. In the event of an accidental oil spill from the proposed activities, the gravity of such oil (high gravity condensate and/or diesel fuel) would rise to the surface, quickly dissipate, and/or be swept clear by the currents moving around the bank; thereby avoiding the sessile biota.

2. Pinnacle Trend Live Bottoms

There are no anticipated effluents, physical disturbances to the seafloor, and accidents from the proposed activities that could cause impacts to a pinnacle trend area. The proposed surface disturbance within Eugene Island Block 57 is located a significant distance (> 100 miles) from the closest pinnacle trend live bottom stipulated block. The crests of the pinnacle trend area are much deeper than 20 m. In the event of an accidental oil spill from the proposed activities, the gravity of such oil (high gravity condensate and/or diesel fuel) would rise to the surface, quickly dissipate, and/or be swept clear by currents moving around the bank; and thus not impacting the pinnacles.

3. Eastern Gulf Live Bottoms

There are no anticipated effluents, physical disturbances to the seafloor, and accidents from the proposed activities that could cause impacts to Eastern Gulf live bottoms. The proposed surface disturbances within Eugene Island Block 57 is located a significant distance (>100 miles) from the closest pinnacle Eastern Gulf live bottom stipulated block. In the event of an accidental oil spill from the proposed activities, the gravity of such oil (high gravity condensate and/or diesel fuel) would rise to the surface, quickly dissipate, and/or be swept clear by currents moving around the bank; and would not be expected to cause adverse impacts to Eastern Gulf live bottoms because of the depth of the features and dilutions of spills.

4. Chemosynthetic Communities

Water depth at the proposed surface location range from 13 feet to 14 feet in Eugene Island Block 57. Therefore, the proposed activities are not located within the vicinity of any known chemosynthetic communities, which typically occur in water depths greater than 400 meters.

5. Water Quality

Accidental oil spill releases from the proposed activities, and cumulative similar discharge activity within the vicinity could potentially cause impacts to water quality. It is unlikely that an accidental oil spill release would occur from the proposed activities. In the event of such a release, the water quality would be temporarily affected by the dissolved components and small droplets. Currents and microbial degradation would remove the oil from the water column or dilute the constituents to background levels.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill. Arena will conduct the proposed activities under EPA's Region VI NPDES General Permit GMG290000 which authorizes the discharge of certain effluents, subject to certain limitations, prohibitions and recordkeeping requirements. As such, it is not anticipated these discharges will cause significant adverse impacts to water quality.

6. Fisheries

Accidental oil spill releases from the proposed activities, and cumulative similar discharge activity within the vicinity may potentially cause some detrimental effects on fisheries. It is unlikely a spill would occur; however, such a release in open waters closed to mobile adult finfish or shellfish would likely be sublethal and the extent of damage would be reduced to the capability of adult fish and shellfish to avoid a spill, to metabolize hydrocarbons, and to excrete both metabolites and parent compounds.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill. Arena will conduct the proposed activities under EPA's Region VI NPDES General Permit GMG290000 which authorizes the discharge of certain effluents, subject to certain limitations, prohibitions and recordkeeping requirements. As such, it is not anticipated these discharges will cause significant adverse impacts to water quality.

7. Marine Mammals

As a result of the proposed activities, marine mammals may be adversely impacted by traffic, noise, accidental oil spills, cumulative similar discharge activity, and loss of trash and debris. Chronic and sporadic sublethal effects could occur that may stress and/or weaken individuals of a local group or population and make them more susceptible to infection from

natural or anthropogenic sources. Few lethal effects are expected from accidental oil spill, chance collisions with service vessels and ingestion of plastic material.

The net results of any disturbance would depend on the size and percentage of the population affected, ecological importance of the disturbed area, environmental and biological parameters that influence an animal's sensitivity to disturbance and stress, and the accommodation time in response to prolonged disturbance (Geraci and St. Aubin, 1980). Collisions between cetaceans and ship could cause serious injury or death (Laist et al., 2001). Sperm whales are one of 11 whale species that are hit commonly by ships (Laist et al., 2001). Collisions between OCS vessels and cetaceans within the project area are expected to be unusual events.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill. Arena will conduct the proposed activities under EPA's Region VI NPDES General Permit GMG290000 which authorizes the discharge of certain effluents, subject to certain limitations, prohibitions and recordkeeping requirements. As such, it is not anticipated these discharges will cause significant adverse impacts to water quality. Additionally, Arena and its contractors will conduct the proposed activities under the additional criteria addressed by MMS in Notice to Lessee's (NTL's) 2003-G10 "Vessel Strike Avoidance and Injured/Dead Protective Species" and NTL 2003-G11 "Marine Trash & Debris Awareness & Elimination".

8. Sea Turtles

As a result of the proposed activities, sea turtles may be adversely impacted by traffic, noise, accidental oil spills, cumulative similar discharges, and loss of trash and debris. Small numbers of turtles could be killed or injured by chance collision with service vessels or by eating indigestible trash, particularly plastic items accidentally lost from drilling rigs, production facilities and service vessels. Drilling rigs and project vessels (construction barges) produce noise that could disrupt normal behavior patterns and crease some stress to sea turtles, making them more susceptible to disease. Accidental oil spill releases are potential threats which could have lethal effects on turtles. Contact and/or consumption of this released material could seriously affect individual sea turtles. Most OCS related impacts on sea turtles are expected to be sublethal. Chronic and/or avoidance of effected areas could cause declines in survival or productivity, resulting in gradual population declines.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which

address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill. Arena will conduct the proposed activities under EPA's Region VI NPDES General Permit GMG290000 which authorizes the discharge of certain effluents, subject to certain limitations, prohibitions and recordkeeping requirements.

As such, it is not anticipated these discharges will cause significant adverse impacts to water quality. Additionally, Arena and its contractors will conduct the proposed activities under the additional criteria addressed by MMS in Notice to Lessee's (NTL's) 2003-G10 "Vessel Strike Avoidance and Injured/Dead Protective Species" and NTL 2003-G11 "Marine Trash & Debris Awareness & Elimination".

9. Air Quality

The proposed activities are located approximately 5.7 miles to the nearest shoreline. There would be a limited degree of air quality degradation in the immediate vicinity of the proposed activities. Air quality analyses of the proposed activities are below the MMS exemption level.

10. Shipwreck Site (Known or Potential)

There are no physical disturbances to the seafloor which could impact known or potential shipwreck sites, as the review of high resolution shallow hazards data indicate there are no known or potential shipwreck sites located within the surveyed area.

11. Prehistoric Archaeological Sites

There are no physical disturbances to the seafloor which could cause impacts to prehistoric archaeological sites, as the review of high resolution shallow hazards data and supporting studies did not reflect the occurrence of prehistoric archaeological sites.

Site Specific Offshore Location Analyses

1. Essential Fish Habitat

An accidental oil spill that may occur as a result of the proposed activities has potential to cause some detrimental effects on essential fish habitat. It is unlikely that an accidental oil spill release would occur; however, if a spill were to occur in close proximity to finfish or shellfish, the effects would likely be sublethal and the extent of damage would be reduced to the capability of adult fish and shellfish to avoid a spill, to metabolize hydrocarbons, and to excrete both metabolites and parent compounds.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

2. Marine and Pelagic Birds

An accidental oil spill that may occur as a result of the proposed activities has potential to impact marine and pelagic birds, by the birds coming into contact with the released oil. It is unlikely that an accidental oil spill release would occur.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

3. Public Health and Safety Due to Accidents

There are no anticipated IPF's from the proposed activities that could impact the public health and safety. Arena has requested MMS approval to classify the proposed objective area as absent of hydrogen sulfide.

Coastal and Onshore Analyses

1. Beaches

An accidental oil spill release from the proposed activities could cause impacts to beaches. However, due to the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

2. Wetlands

An accidental oil spill release from the proposed activities could cause impacts to wetlands. However, due to the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

3. Shore Birds and Coastal Nesting Birds

An accidental oil spill release from the proposed activities could cause impacts to shore birds and coastal nesting birds. However, due to the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

4. Coastal Wildlife Refuges

An accidental oil spill release from the proposed activities could cause impacts to coastal wildlife refuges. However, due to the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which

address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

5. Wilderness Areas

An accidental oil spill release from the proposed activities could cause impacts to wilderness areas. However, due to the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Arena's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

Other Identified Environmental Resources

Arena has not identified any other environmental resources other than those addressed above.

Impacts on Proposed Activities

No impacts are expected on the proposed activities as a result of taking into consideration the site specific environmental conditions.

A High Resolution Shallow Hazards Survey was conducted, a report prepared in accordance with NTL 2005-G07 and NTL 98-20.

Based on the analysis of the referenced data, there are no surface or subsurface geological and manmade features and conditions that may adversely affect the proposed activities. Arena will institute procedures to avoid pipelines and abandoned wells within the vicinity of the proposed operations.

Alternatives

Arena did not consider any alternatives to reduce environmental impacts as a result of the proposed activities.

Mitigation Measures

Arena will not implement any mitigation measures to avoid, diminish, or eliminate potential environmental resources, other than those required by regulation and policy.

Consultation

Arena has not contacted any agencies or persons for consultation regarding potential impacts associated with the proposed activities. Therefore, a list of such entities is not being provided.

References

The following documents were utilized in preparing the Environmental Impact Assessment:

Document	Author	Dated
Shallow Hazards Survey	Tesla Offshore	2005
MMS Environmental Impact Statement Report No. 2002-15	Minerals Management Service	2002
NTL 2003-N06 "Supplemental Bond Procedures	Minerals Management Service	2003
NTL 2004-G01 "Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program"	Minerals Management Service	2004
NTL 2003-G10 "Vessel Strike Avoidance and Injured/Dead Protective Species"	Minerals Management Service	2003
NTL 2003-G11 "Marine Trash & Debris Awareness & Elimination"	Minerals Management Service	2003
NTL 2002-G09 "Regional and Subregional Oil Spill Response Plans"	Minerals Management Service	2002
NTL 2003-G17 "Guidance for Submitting Exploration Plans and Development Operations Coordination Documents"	Minerals Management Service	2003
NTL 2005-G07 "Archaeological Resource Surveys and Reports"	Minerals Management Service	2005
NTL 2000-G16 "Guidelines for General Lease Surety Bonds"	Minerals Management Service	2000
NTL 98-20 "Shallow Hazards Survey Requirements"	Minerals Management Service	1998
NTL 98-16 "Hydrogen Sulfide Requirements"	Minerals Management Service	1998
NPDES General Permit GMG290000	EPA – Region VI	2004
Regional Oil Spill Response Plan	Arena Offshore, LLC	2005

SECTION I CZM Consistency

Under direction of the Coastal Zone Management Act (CMZA), the States of Alabama, Florida, Louisiana, Mississippi and Texas developed Coastal Zone Management Programs (CZMP) to allow for the supervision of significant land and water use activities that take place within or that could significantly impact their respective coastal zones.

The proposed supplemental exploratory activities will not require Coastal Zone Management Consistency for the State of Louisiana.