Public Information Copy

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE)

Submit original plus THREE copies, with ONE copy marked "Public Information." OMB Control No. 1010-0141
OMB Approval Expires 10/31/2014

1. PROPOSAL TO DRILL X NEW WELL SIDETRACK B						d ADDRESS		
4. WELL NAME (CURRENT) 5. SIDET OCS-Y 2280 #001 (Burger A) n/a	RACK NO. (CURRENT)	6. BYP	ASS NO. (CURRENT)	Shell Gulf of Mexico Inc.				
7. PROPOSED START DATE 8. PLAN 0	CONTROL NO. (NEW WELL	ONLY)			te 1000			
July 4, 2012 n/a				200	1 C Street			
9. API WELL NO. (CURRENT SIDETRACK / BYPASS) (12 DIG	SITS)	_		And	chorage, A	K 99503		
n/a	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							
10. Revision If revision, 11. please list changes:								
WELL AT TOTAL DEPTH (F	ROPOSED)		WEL	L AT	SURFACE			
12. LEASE NO.			17. LEASE NO.					
OCS-Y 2280			OCS-Y 2280					
13. AREA NAME			18. AREA NAME					
Posey			Posey					
14. BLOCK NO.			19. BLOCK NO.					
6764 (Lat. N71 deg 18' 30.92"; Long. W	163 deg 12' 43.17")		6764 (Lat. N71 deg 18	8' 30.92	2"; Long. W163	deg 12' 43.17")		
15. LATITUDE 11 (▼ NAD 83 / NAD 27)	D 27)	20. LATITUDE (
LIST OF	SIGNIFICANT MA	RKEF	S ANTICIPATED		2 1 7 1/2 2			
22. NAME 23. TO	OP (MD) 24. TOP (TVI	D)	22. NAME		23. TOP (MD)	24. TOP (TVD)		
25. LIST ALL ATTACHMENTS (Attach complete well prognosis + attachments required by 30 CFR 250.414 or 30 CFR 250.1617(c) and (d) as appropriate.) See the APD Table of Contents for all the documents associated with this APD submission.								
26. CONTACT NAME		27. CO	ONTACT TELEPHONE NO. 28. CONTACT E-MAIL ADDRESS			DRESS		
Jim Miller		907	7 646 7122 jim.miller@shell.com					
29. AUTHORIZING OFFICIAL (Type or print name)		30. TIT						
Susan Childs	aska Venture Support Integrator, Manager							
31. AUTHORIZING SIGNATURE Chi.Lob	January 31,2012							
9	THIS SPACE FOR E	OCEE III	SE ONLY	,		il vointe dive		
APPROVED: With Attached Conditions Without Conditions	BY	SEE U		TITLE				
API WELL NO. ASSIGNED TO THIS WELL				DATE				

Public Information Copy

Application for Permit to Drill (APD) Information Sheet

33) Que	33) Question Information Sheet						
Questions	Response	Remarks					
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?	☐ YES ☐ NO ☐ N/A						
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?	☐ YES ☐ NO ☐ N/A						
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?	☐ YES ☐ NO ☐ N/A						
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?	☐ YES ☐ NO ☐ N/A						
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)	☐ YES ☐ NO ☐ N/A						
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	☐ YES ☐ NO ☐ N/A						
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?	☐ YES ☐ NO ☐ N/A						

U.S. Department of the Interior

Bureau of Safety and Environmental Enforcement (BSEE) OMB Control No. 12810-0214 31, 2012
OMB Approval Expires 10/31/2014

Supplemental APD Information Sheet (Casing Design)

Operator Name: Shell Gulf of Mexico Inc.			2) Well Name (Proposed): 001 (Burger A) ST: BP:						
3) Bottom Hole Lease: OCS-Y 2280			4) Surface Lease: OCS-Y 2280						
			6)Type of Well:						
7) H ₂ S: [Absent	Known	x Unknown	8) H ₂ S Activ	vation Plan	Depth (TVD) (ft	i): o		
9) Rig Nam	e: Noble Disc	overer		10) SubSea	a BOP: □	⊐Yes		lo	
11) Water [Depth (ft): 1	50	12) RKB Hei	ght (ft):		13) Mineral Co	ode: n/a		
14) Drive P	ipe Size (in)	:	15) Drive Pip			16)Anchors	×Yes	□No	
			17) W	ell Design	Informati	on			
Interval Nu	ımber: 1			Type: Dri		Name: Structur	al		
Section	Casing	Casing	Casing	Burst		Collapse	Depth (ft)	Pore	
Number	Size (in)	Weight (#/ft)	Grade	Rating (psi)		Rating (psi)	MD TVD	Pressure (ppg)	
GENERAL	INFORMAT	ION	PREVENTE	L INFORMA	TION	TEST INFORM	MATION		
		1014	_	K IIII OKIIIA	11014				
Hole Size (,		Type			Annular Test (. ,		
Mud Weigh			Size (in)	· · · · · · · · · · · · · · · · · · ·		BOP/Diverter	. ,		
Mud Type (Wellhead Ra			Mud Test Wei			
Frac Gradie			Annular Rati	<u> </u>		Casing/Liner T			
Liner Top D			BOP/Diverte	r Rating (psi)	Formation Test (ppg)			
Cement Vo	lume (ft°)								
Interval Nu	ımber: 2			Type: Cas	sing	Name: Conduc	ctor		
Section	Casing	Casing	Casing	Burst		Collapse	Depth (ft)	Pore	
Number	Size (in)	Weight (#/ft)	Grade	Rating (psi)		Rating (psi)	MD TVD	Pressure (ppg)	
CENEDAL	INFORMAT	ION	DDEVENTE		TION	TEST INFORM	MATION		
		ION	PREVENTE	KINFORWIA	TION				
Hole Size (Туре			Annular Test (psi)			
Mud Weigh			Size (in)			BOP/Diverter Test (psi)			
Mud Type (Wellhead Ra	<u> </u>		Mud Test Weight (ppg)			
Frac Gradie			Annular Rati			Casing/Liner Test (psi)			
Liner Top D			BOP/Diverte	r Rating (psi)	Formation Tes	st (ppg)		
Cement Vo	lume (ft°)								
Interval Nu				Type: Ca	sing	Name: Surface	•		
Section Number	Casing Size (in)	Casing Weight (#/ft)	Casing Grade	Burst Rating (psi)		Collapse Rating (psi)	Depth (ft) MD TVD	Pore Pressure (ppg)	
	INFORMAT	ION	PREVENTE	RINFORMA	TION	TEST INFORM	MATION		
Hole Size (in)		Туре			Annular Test (psi)		
Mud Weigh			Size (in)			BOP/Diverter	<u>u / </u>		
Mud Type (Code		Wellhead Ra	iting (psi)		Mud Test Weight (ppg)			
Frac Gradie			Annular Rati	ng (psi)		Casing/Liner Test (psi)			
Liner Top D			BOP/Diverte	r Rating (psi)	Formation Test (ppg)			
Cement Volume (ft ³)					1				

PAPERWORK REDUCTION ACT OF 1995 (PRA) STATEMENT: The PRA (44 U.S.C. 3501 et. seq.) requires us to inform you that we collect this information to obtain knowledge of equipment and procedures to be used in drilling operations. BSEE uses the information to evaluate and approve or disapprove the adequacy of the equipment and/or procedures to safely perform the proposed drilling operation. Responses are mandatory (43 U.S.C. 1334). Proprietary data are covered under 30 CFR 250.197. 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 OMB Control Number. Public reporting burden for Forms BSEE-0123 and BSEE-0123S is estimated to average 100 hours per response. This includes 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, Bureau of Safety and Environmental Enforcement, 381 Elden Street, Herndon, VA 20170.

^{*} NOTE* For additional casing/liner intervals, please submit an additional Form 0123S.

1101-02b(1) APD Torepedo H ver. 1

U.S. Department of the Interior

Bureau of Safety and Environmental Enforcement (BSEE)

Received Regional Director - Alaska OCS BSEE Public Information Copy

Submit original plus THREE copies, with ONE copy marked "Public Information." January 31, 2012 OMB Control No. 1010-0141

OMB Approval Expires 10/31/2014

1. PROPOSAL TO DRILL X NEW WELL SIDETRACK BYPASS DEEPEN	2. BSEE OPERATOR NO. 00689 2. BSEE OPERATOR NO. (Submitting office)					
4. WELL NAME (CURRENT) OCS-Y 1941 #001 (Torpedo H) 5. SIDETRACK NO. (CURRENT) n/a	6. BYPASS NO. (CURRENT) n/a	Shell Offshore Inc. Suite 1000				
7. PROPOSED START DATE 8. PLAN CONTROL NO. (NEW WELL July 10, 2012 n/a	ONLY)	Anchorage, AK 99503				
9. API WELL NO. (CURRENT SIDETRACK / BYPASS) (12 DIGITS) n/a						
10. Revision If revision, please list changes:						
WELL AT TOTAL DEPTH (PROPOSED)	W	ELL AT SURFACE				
12. LEASE NO. OCS-Y 1941	17. LEASE NO. OCS-Y 1941					
13. AREA NAME Flaxman Island	18. AREA NAME Flaxman Island	l l				
14. BLOCK NO. 6610 (Lat. N70 deg 27' 01.62"; Long. W145 deg 49' 32.07")	19. BLOCK NO. 6610 (Lat. N70 deg	19. BLOCK NO. 6610 (Lat. N70 deg 27' 01.62"; Long. W145 deg 49' 32.07")				
15. LATITUDE (X NAD 83 / NAD 27) 16. LONGITUDE (X NAD 83 / NAD	20. LATITUDE (X) NAD 83 /	20. LATITUDE 21. LONGITUDE (
LIST OF SIGNIFICANT MA	RKERS ANTICIPATED					
22. NAME 23. TOP (MD) 24. TOP (TVE	22. NAME	23. TOP (MD) 24. TOP (TVD)				
25. LIST ALL ATTACHMENTS (Attach complete well prognosis + attachments required by 3	0 CFR 250.414 or 30 CFR 250.161	7(c) and (d) as appropriate.)				
See the APD Table of Contents for all the docu	uments associated w	vith this APD submission.				
26. CONTACT NAME Jim Miller	27. CONTACT TELEPHONE NO. 907 646 7122	28. CONTACT E-MAIL ADDRESS jim.miller@shell.com				
29. AUTHORIZING OFFICIAL (<i>Type or print name</i>) Susan Childs	30. TITLE Alaska Venture Suppo	TITLE aska Venture Support Integrator, Manager				
31. AUTHORIZING SIGNATURE WILLS	32. DATE Januar	January 31, 2012				
APPROVED: BY With Attached Conditions Without Conditions	SEE USE ONLY	TITLE				
API WELL NO. ASSIGNED TO THIS WELL						

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Application for Permit to Drill (APD) Information Sheet

33) Question Information Sheet							
Questions	Response	Remarks					
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?	☐ YES ☐ NO ☐ N/A						
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?	☐ YES ☐ NO ☐ N/A						
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?	☐ YES ☐ NO ☐ N/A						
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?	☐ YES ☐ NO ☐ N/A						
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)	☐ YES ☐ NO ☐ N/A						
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	☐ YES ☐ NO ☐ N/A						
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?	☐ YES ☐ NO ☐ N/A						

1101-02b(.\$) Department of the Uniterior

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OMB Control No. 1031010441 31, 2012

OMB Approval Expires 10/31/2014

Bureau of Safety and Environmental Enforcement (BSEE)

Supplemental APD Information Sheet (Casing Design)

1) Operator	Name: She	Il Offshore Inc.		2) Well Name (Proposed): 001 (Torpedo H) ST: BP:					
3) Bottom Hole Lease: OCS-Y 1941			4) Surface Lease: OCS-Y 1941						
-				6)Type of Well:					
	x Absent	Known	Unknown	8) H ₂ S Activation Plan Depth (TVD) (ft): N/A					
	e: CDU Kullul	<u></u>		10) SubSea		 ⊐Yes		lo	
	Depth (ft): 12		12) RKB Hei		, <u> </u>	13) Mineral Co			
	ipe Size (in)		15) Drive Pip			16)Anchors	× Yes	No	
,	.po 0.20 ()	·		ell Design					
Interval Nu	ımber: 1		11) **	Type: Dri		Name: Structur	·al		
	Casing	Casina	Casina		ve ripe			Doro	
Section Number	Size (in)	Casing Weight (#/ft)	Casing Grade	Burst Rating (psi)		Collapse Rating (psi)	Depth (ft) MD TVD	Pore Pressure (ppg)	
			<u> </u>						
GENERAL	INFORMAT	ION	PREVENTE	R INFORMA	TION	TEST INFORM	MATION		
Hole Size (in)		Туре			Annular Test (nsi)		
Mud Weigh			Size (in)			BOP/Diverter	. ,		
Mud Type (Wellhead Ra	itina (psi)		Mud Test Wei			
Frac Gradie			Annular Ratio			Casing/Liner T			
Liner Top D			BOP/Diverte)	Formation Tes			
Cement Vo			20172110110	r rating (por	/	T GITHAUGH TOO	, (PP9)		
	()		<u> </u>			l .			
Interval Number: 2				Type: Cas	ring	Name: Conduc	etor		
Section	Casing	Casing	Casing	Burst	ing .	Collapse	Depth (ft)	Pore	
Number	Size (in)	Weight (#/ft)	Grade	Rating (psi)		Rating (psi)	MD TVD	Pressure (ppg)	
GENERAL	INFORMAT	ION	PREVENTE	RINFORMATION		TEST INFORMATION			
Hole Size (Туре			Annular Test (psi)			
Mud Weigh			Size (in)			BOP/Diverter Test (psi)			
Mud Type (Wellhead Ra	ating (psi)		Mud Test Weight (ppg)			
Frac Gradie			Annular Ratio			Casing/Liner Test (psi)			
Liner Top D			BOP/Diverte	r Rating (psi)	Formation Tes	st (ppg)		
Cement Vo	lume (ft ³)		L						
Interval Nu				Type: Ca	sing	Name: Surface			
Section Number	Casing Size (in)	Casing Weight (#/ft)	Casing Grade	Burst Rating (psi)		Collapse Rating (psi)	Depth (ft) MD TVD	Pore Pressure (ppg)	
CENEDAL	INFORMAT	ION	PREVENTE		TION	TEST INFORM	ATION		
		ION		KINFORWA	TION	TEST INFORMATION			
Hole Size (Type			Annular Test (. ,		
Mud Weigh			Size (in)	.t / 1\		BOP/Diverter			
Mud Type (Wellhead Ra			Mud Test Weight (ppg)			
Frac Gradie			Annular Ratio	<u> </u>	`	Casing/Liner T			
Liner Top D Cement Vo			BOP/Diverte	r Kating (psi)	Formation Tes	ι (ppg)		
	iuiiie (IL)		1			1			

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^{*} NOTE* For additional casing/liner intervals, please submit an additional Form 0123S.

Burger A

- In the calculations for Burst Safety Factors for the 30" structural it states, "see MASP calcs" which were not provided for this string of casing. Fixed...removed Structural Casing From Calculations
- 250.414(g)
 - They state they will use permafrost cement, but do not include estimated depths to permafrost. Fixed...Although they will use permafrost cement, they don't expect to encounter any.
 - Also, if permafrost is present, need to address 250.415(d) Fixed...don't expect to encounter permafrost.
- On form BSEE-0123
 - 33) F IN the remarks states that the proposed well "will be drilled from a conical drilling unit, not from a platform." Fixed...changed to floating drillship.
- On form BSEE-0123s
 - o Interval Number 3 and 4 pore pressure listed, does not match the pore pressure plot provided Fixed interval 3, but not 4. Fixed on April 17th submittal.
 - Have to put the open hole section of the well on this form Fixed...open hole section included.

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OMB Approval Expires 10/31/2014

1. PROPOSAL TO DRILL X NEW WELL SIDETRACK BYPASS	DEEPEN 2. BS	EE OPERATOR NO.	3. OPERATOR NAME and ADDRESS (Submitting office) Shell Gulf of Mexico		
4. WELL NAME (CURRENT) 5. SIDETRACK N	IO. (CURRENT) 6. BY	PASS NO. (CURRENT)			
OCS-Y 2280 #001 (Burger A) n/a	n/a		Inc. Suite 1000		
7. PROPOSED START DATE 8. PLAN CONTRO	L NO. (NEW WELL ONLY)		3601 C Stree	at .	
July 4, 2012 n/a			Anchorage,		
9. API WELL NO. (CURRENT SIDETRACK / BYPASS) (12 DIGITS)			- / Wildrichage, /		
n/a					
10. Revision If revision, please list changes:					
WELL AT TOTAL DEPTH (PROP	OSED)	WE	LL AT SURFACE		
12. LEASE NO.		17. LEASE NO.			
OCS-Y 2280		OCS-Y 2280			
13. AREA NAME		18. AREA NAME			
Posey		Posey			
14. BLOCK NO.		19. BLOCK NO.			
6764 (Lat. N71 deg 18' 30.92"; Long. W163 de	g 12' 43.17")	6764 (Lat. N71 deg 1	8' 30.92"; Long. W16	3 deg 12' 43.17")	
15. LATITUDE 16. LONG	ITUDE	20. LATITUDE	21. LONGITUDE		
(∑ NAD 83 / □ NAD 27) (∑	NAD 83 / NAD 27)	(X NAD 83 / □NA	AD 27) (X NAD 83	3 / NAD 27)	
LIST OF SIGN	IIFICANT MARKE	RS ANTICIPATED			
22. NAME 23. TOP (MD)	24. TOP (TVD)	22. NAME	23. TOP (MD)	24. TOP (TVD)	
				+	
25. LIST ALL ATTACHMENTS (Attach complete well prognosis + attack	nments required by 30 CFR	250.414 or 30 CFR 250.1617(c	c) and (d) as appropriate.)		
See the APD Table of Contents for	all the docume	nts associated wi	th this APD sul	omission.	
26. CONTACT NAME	27. CC	ONTACT TELEPHONE NO.	28. CONTACT E-MAIL A	DDRESS	
Jim Miller	907	907 646 7122 jim.miller@shell.com			
29. AUTHORIZING OFFICIAL (Type or print name)	30. T				
Susan Childs	Ala	ska Venture Support	Integrator, Manag	jer	
31. AUTHORIZING SIGNATURE Clui.Low	DATE January 31,2012				
4	SPACE FOR DOCE !	ISE ONLY		17-1-10 Page 1	
APPROVED: B With Attached Conditions	S SPACE FOR BSEE U	JSE UNLT	TITLE		
☐ Without Conditions			DATE		
API WELL NO. ASSIGNED TO THIS WELL					

Application for Permit to Drill (APD) Information Sheet

33) Que	estion Inforn	nation Sheet
Questions	Response	Remarks
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?	☐ YES ☐ NO ☐ N/A	
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?	☐ YES ☐ NO ☐ N/A	
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D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?	☐ YES ☐ NO ☐ N/A	
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)	☐ YES ☐ NO ☐ N/A	
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G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?	☐ YES ☐ NO ☐ N/A	

U.S. Department of the Interior

Bureau of Safety and Environmental Enforcement (BSEE) OMB Control No. 10 Me0141 16, 2012
OMB Approval Expires 10/31/2014

Supplemental APD Information Sheet (Casing Design)

1) Operator	Name: She	II Gulf of Mexic	o Inc.	2) Well Name (Proposed): 001 (Burger A) ST: BP:					
3) Bottom Hole Lease: OCS-Y 2280			4) Surface Lease: OCS-Y 2280						
5) API Number: n/a			6)Type of Well:						
7) H ₂ S: [Absent	Known	x Unknown	8) H ₂ S Activ	vation Plan	Depth (TVD) (ft	i): o		
9) Rig Nam	e: Noble Disc	overer		10) SubSea	BOP: □	⊐Yes		lo	
	Depth (ft): 1		12) RKB Hei			13) Mineral Co	ode: n/a		
	ipe Size (in)		15) Drive Pip	0 ()	:	16)Anchors	× Yes	No	
	/ /			ell Design		· /			
Interval Nu	ımher: 1		,	Type: Dri		Name: Structur	rol		
		Casina	Casina		ve ripe			Doro	
Section Number	Casing Size (in)	Casing Weight (#/ft)	Casing Grade	Burst Rating (psi)		Collapse Rating (psi)	Depth (ft) MD TVD	Pore Pressure (ppg)	
			-			-			
GENERAL	INFORMAT	ION	PREVENTER	L R INFORMA	TION	TEST INFORM	MATION		
Hole Size (in)		Туре			Annular Test (psi)		
Mud Weigh	t (ppq)		Size (in)			BOP/Diverter			
Mud Type ((1 1 0 /		Wellhead Ra	itina (psi)		Mud Test Wei			
Frac Gradie			Annular Ratio	<u> </u>		Casing/Liner T	0 (1.1.07		
Liner Top D	(1 1 0 /		BOP/Diverte	<u> </u>)	Formation Tes			
Cement Vo			20.72.00.00	· · · · · · · · · · · · · · · · · · ·	/		/* (PP9)		
			<u> </u>						
Interval Nu	ımbar: o			Type: Cas	in a	Name: Conduc	otor		
Section	Casing	Casing	Casing	Burst	siriy	Collapse	Depth (ft)	Pore	
Number	Size (in)	Weight (#/ft)	Grade	Rating (psi)		Rating (psi)	MD TVD	Pressure (ppg)	
GENERAL	INFORMAT	ION	PREVENTE	R INFORMA	TION	TEST INFORM	MATION		
Hole Size (in)		Туре	ре			psi)		
Mud Weigh	t (ppg)		Size (in)			BOP/Diverter Test (psi)			
Mud Type (Code		Wellhead Ra	ating (psi)		Mud Test Weight (ppg)			
Frac Gradie	ent (ppg)		Annular Ratii	ng (psi)		Casing/Liner Test (psi)			
Liner Top D	Depth (ft)		BOP/Diverte	r Rating (psi)	Formation Test (ppg)			
Cement Vo	lume (ft ³)								
Interval Nu	ımber: 3			Type: Ca	sing	Name: Surface	,		
Section	Casing Size	Casing	Casing	Burst		Collapse	Depth (ft)	Pore	
Number	(in)	Weight (#/ft)	Grade	Rating (psi)		Rating (psi)	MD TVD	Pressure (ppg)	
			-			-			
GENERAL	INFORMAT	ION	PREVENTE	R INFORMA	TION	TEST INFORM	MATION		
Hole Size (Туре			Annular Test (
	,					<u> </u>	. ,		
Mud Weigh Mud Type (Size (in) Wellhead Ra	ting (poi)		BOP/Diverter			
			1	0 (1 /		Mud Test Weight (ppg)			
Frac Gradie			Annular Ratio	<u> </u>	`	Casing/Liner T	<u> </u>		
Liner Top D			BOP/Diverte	r raung (psi)	Formation Tes	ir (bbā)		
m emem vo	norme (III)		1			1			

PAPERWORK REDUCTION ACT OF 1995 (PRA) STATEMENT: The PRA (44 U.S.C. 3501 et. seq.) requires us to inform you that we collect this information to obtain knowledge of equipment and procedures to be used in drilling operations. BSEE uses the information to evaluate and approve or disapprove the adequacy of the equipment and/or procedures to safely perform the proposed drilling operation. Responses are mandatory (43 U.S.C. 1334). Proprietary data are covered under 30 CFR 250.197. 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 OMB Control Number. Public reporting burden for Forms BSEE-0123 and BSEE-0123S is estimated to average 100 hours per response. This includes 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, Bureau of Safety and Environmental Enforcement, 381 Elden Street, Herndon, VA 20170.

^{*} NOTE* For additional casing/liner intervals, please submit an additional Form 0123S.

U.S. Department of the Interior

Bureau of Safety and Environmental Enforcement (BSEE)

Public Information Copy 1101-02b(1) APD Torepedo H ver. 2

Submit original plus THREE copies, with ONE copy marked "Public Information." OMB Control No. 1010-0141

OMB Approval Expires 10/31/2014

PROPOSAL TO DRILL NEW WELL SIDETRACK BYPASS DEEPEN	2. BSEE OPERATOR NO. 00689	OPERATOR NAME and ADDRESS (Submitting office)			
E NEW YELL GOETHOOK E STATE OF THE STATE OF	00003	Shell Offshore Inc.			
4. WELL NAME (CURRENT) 5. SIDETRACK NO. (CURRENT)	6. BYPASS NO. (CURRENT)	Suite 1000			
OCS-Y 1941 #001 (Torpedo H) n/a	n/a	3601 C Street			
7. PROPOSED START DATE 8. PLAN CONTROL NO. (NEW WE	LL ONLY)	Anchorage, AK 99503			
July 10, 2012 n/a					
9. API WELL NO. (CURRENT SIDETRACK / BYPASS) (12 DIGITS)					
n/a					
10. Revision If revision, 11. please list changes:					
WELL AT TOTAL DEPTH (PROPOSED)	V	VELL AT SURFACE			
12. LEASE NO.	17. LEASE NO.	,			
OCS-Y 1941	OCS-Y 1941				
13. AREA NAME	18. AREA NAME				
Flaxman Island	Flaxman Island				
14. BLOCK NO.	19. BLOCK NO.				
6610 (Lat. N70 deg 27' 01.62"; Long. W145 deg 49' 32.07")	6610 (Lat. N70 de	6610 (Lat. N70 deg 27' 01.62"; Long. W145 deg 49' 32.07")			
15. LATITUDE 16. LONGITUDE	20. LATITUDE	20. LATITUDE 21. LONGITUDE			
(∑ NAD 83 / □ NAD 27) (∑ NAD 83 / □ N	(X NAD 83 / C	(X NAD 83 / NAD 27) (X NAD 83 / NAD 27)			
LIST OF SIGNIFICANT M	IARKERS ANTICIPATE	D			
22. NAME 23. TOP (MD) 24. TOP (T	VD) 22. NAME	23. TOP (MD) 24. TOP (TVD)			
	00.050.050.444 00.050.050.050.40	47(-)			
 LIST ALL ATTACHMENTS (Attach complete well prognosis + attachments required by 	y 30 CFR 250.414 of 30 CFR 250.16	17(c) and (d) as appropriate.)			
See the APD Table of Contents for all the do	cuments associated	with this APD submission.			
26. CONTACT NAME	27. CONTACT TELEPHONE NO	28. CONTACT E-MAIL ADDRESS			
Jim Miller	907 646 7122	jim.miller@shell.com			
29. AUTHORIZING OFFICIAL (Type or print name)	30. TITLE	- d lateranta - Marana			
Susan Childs		ort Integrator, Manager			
31. AUTHORIZING SIGNATURE	32. DATE Tamua	m 31,2012			
Jusa Milas		J - 1, - 1, -			
THIS SPACE FOR	BSEE USE ONLY				
APPROVED: BY With Attached Conditions		TITLE			
☐ Without Conditions		0.445			
API WELL NO. ASSIGNED TO THIS WELL		DATE			

Application for Permit to Drill (APD) Information Sheet

33) Question Information Sheet						
Questions	Response	Remarks				
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?	☐ YES ☐ NO ☐ N/A					
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?	☐ YES ☐ NO ☐ N/A					
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?	☐ YES ☐ NO ☐ N/A					
	_					
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?	☐ YES ☐ NO ☐ N/A					
	=					
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)	□ YES □ NO □ N/A					
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	☐ YES ☐ NO ☐ N/A					
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?	☐ YES ☐ NO ☐ N/A					

U.S. Department of the Interior

Bureau of Safety and Environmental Enforcement (BSEE)

101 002b (b) tAPD. To reped to H ver. 2

OMB Approval Expires 10/31/2014

Supplemental APD Information Sheet (Casing Design)

1) Operator Name: Shell Offshore Inc.			2) Well Name (Proposed): 001 (Torpedo H) ST: BP:						
3) Bottom Hole Lease: OCS-Y 1941			4) Surface Lease: OCS-Y 1941						
5) API Number: n/a			6)Type of Well:						
7) H ₂ S: [x Absent	Known	Unknown	8) H ₂ S Activ	8) H ₂ S Activation Plan Depth (TVD) (ft): N/A				
9) Rig Nam	e: CDU Kullul	k		10) SubSea	a BOP: □	⊐Yes		lo	
	Depth (ft): 12		12) RKB Hei	ght (ft):		13) Mineral Co	ode: n/a		
	ipe Size (in)		15) Drive Pip			16)Anchors	×Yes	No	
ĺ	. ,			ell Design					
Interval Nu	ımber: 1		,	Type: Dri		Name: Structur	ral		
Section	Casing	Casing	Casing	Burst		Collapse	Depth (ft)	Pore	
Number	Size (in)	Weight (#/ft)	Grade	Rating (psi)		Rating (psi)	MD TVD	Pressure (ppg)	
GENERAL	INFORMAT	ION	PREVENTE	R INFORMA	TION	TEST INFORM	MATION		
Hole Size (Туре			Annular Test (
Mud Weigh	,		Size (in)			BOP/Diverter	. ,		
Mud Type (Wellhead Ra	ting (pci)		Mud Test Wei	. ,		
			Annular Rati			1			
Frac Gradie			BOP/Diverte	0 (1 /	\	Casing/Liner 1			
Liner Top D Cement Vo			BOP/Diverte	r Raung (psi)	Formation Test (ppg)			
Cement vo	iume (it)								
1.4. 1.11									
Interval Nu				Type: Cas	sing	Name: Condu			
Section	Casing	Casing	Casing	Burst		Collapse	Depth (ft)	Pore	
Number	Size (in)	Weight (#/ft)	Grade	Rating (psi)		Rating (psi)	MD TVD	Pressure (ppg)	
GENERAL	INFORMAT	ION	PREVENTE	R INFORMA	TION	TEST INFORM	MATION		
Hole Size (Туре			Annular Test (psi)			
Mud Weigh			Size (in)			BOP/Diverter Test (psi)			
Mud Type (Wellhead Ra	ting (nei)		Mud Test Weight (ppg)			
Frac Gradie			Annular Rati	<u> </u>		Casing/Liner Test (psi)			
Liner Top D			BOP/Diverte)	Formation Test (pg)			
Cement Vo			BOI /Biverte	r realing (pai	,	T Officiation Tes	т (рру)		
Comone vo	idillo (it)								
Interval Nu	ımber: 3			Type: Ca	sina	Name: Surface	<u> </u>		
	Casing Size	Casing	Casing	Burst		Collapse	Depth (ft)	Pore	
Number	(in)	Weight (#/ft)	Grade	Rating (psi)		Rating (psi)	MD TVD	Pressure (ppg)	
GENERAL	INFORMAT	ION	PREVENTE	R INFORMA	TION	TEST INFORM	MATION		
Hole Size (Туре			Annular Test (nei)		
Mud Weigh			Size (in)			BOP/Diverter	. ,		
Mud Type (Wellhead Ra	ıtina (psi)		1	<u>u / </u>		
Frac Gradie			Annular Rati			Mud Test Weight (ppg) Casing/Liner Test (psi)			
Liner Top D			BOP/Diverte)	Formation Tes			
Cement Vo			DOI /DIVOITE	tating (pai	/	. Jilliadon 16s	~ (PP9)		
	/								

PAPERWORK REDUCTION ACT OF 1995 (PRA) STATEMENT: The PRA (44 U.S.C. 3501 et. seq.) requires us to inform you that we collect this information to obtain knowledge of equipment and procedures to be used in drilling operations. BSEE uses the information to evaluate and approve or disapprove the adequacy of the equipment and/or procedures to safely perform the proposed drilling operation. Responses are mandatory (43 U.S.C. 1334). Proprietary data are covered under 30 CFR 250.197. 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 OMB Control Number. Public reporting burden for Forms BSEE-0123 and BSEE-0123S is estimated to average 100 hours per response. This includes 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, Bureau of Safety and Environmental Enforcement, 381 Elden Street, Herndon, VA 20170.

^{*} NOTE* For additional casing/liner intervals, please submit an additional Form 0123S.



Shell Exploration & Production

Mark Fesmire Alaska Region Director Alaska OCS Region U.S. Department of Interior Bureau of Safety & Environmental Enforcementagional Director, Alaska OCS 3801 Centerpoint Drive, Suite 500 Anchorage, AK 99503-5823

MAR 1 62012

Shell 3601 C Street, Suite 1000 Anchorage, AK 99503 Tel. (907) 646-7112

Email Susan.Childs@Shell.com Passes of Selety and Environmental Enforcement Internet http://www.Shell.com/

Anchorage, Alaska

March 16, 2012

Re: Shell Gulf of Mexico Inc. - Application for Permit to Drill - Alaska Outer Continental Shelf Lease No. OCS-Y 2280; Area Name: Posey; Block No. 6764 Burger A (#001);

Second Submission of Information

Dear Mr. Fesmire:

Shell Gulf of Mexico Inc. (Shell) hereby submits additional information in support of its Application for Permit to Drill (APD) for the Burger A drill site (OCS-Y 2280 #001).

On January 31, 2011, Shell submitted initial information in support of its APD. The documents submitted on January 31 included all the subsurface information for the Burger A well. This second submission includes information related to surface operations and procedures, in addition to the re-submission of the subsurface information. Since the submission of the subsurface information, some of that information has been modified. The modifications result from changes to the well design and addressing requests for additional information, received February 21, 2012 from the Bureau of Safety and Environmental Enforcement (BSEE). The subsurface documents that have been modified are identified in the APD table of contents. This APD includes forms BSEE-0123 and BSEE-0123S. Note that BSEE-0123S has also been modified since submitted on January 31.

Shell asserts all materials submitted with this letter, except for the public information version of forms BSEE-0123 and -0123S, remain proprietary and are not subject to requests under the Freedom of Information Act (FOIA). Shell requests continuing confidentiality of the materials submitted herein, as well as any additional documentation supplied by Shell in support of this APD in response to requests for additional information by either BSEE, or Bureau of Ocean Energy Management. Shell will inform BSEE at the time of submittal if any additional documentation is not subject to FOIA assertion by Shell.

Please coordinate any requests for additional information through me at (907) 646-7112 or at Susan.Childs@Shell.com, or Pauline Ruddy at (907) 771-7243 or at Pauline.Ruddy@Shell.com.

Thank you,

Susan Childs

Alaska Venture Support Integrator, Manager

Torpedo H comments

-418h, 420a6 – wrong well name is referenced on 2nd page. (Sivulliq N vs. Torpedo H)

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE)

Submit original plus THREE copies, with ONE copy marked "Public Information."

OMB Control No. 70 200141
OMB Approval Expires 10/31/2014

1. PROPOSAL TO DRILL NEW WELL SIDETRACK	BYPASS	DEEPEN	2. BSE 0211	E OPERATOR NO. 17	3. OPERATOR NAME and ADDRESS (Submitting office) Shell Gulf of Mexico Inc.				
4. WELL NAME (CURRENT) 5.	SIDETRACK NO. (C	URRENT)	6. BYP	ASS NO. (CURRENT)					
OCS-Y 2280 #001 (Burger A) n	/a		n/a						
7. PROPOSED START DATE 8. I	ONLY)	Suite 1000 3601 C Street							
July 4, 2012 n	/a					chorage, A			
9. API WELL NO. (CURRENT SIDETRACK / BYPASS)	(12 DIGITS)					•			
n/a									
10. Revision If revision, 11. please list changes:									
WELL AT TOTAL DEPT	H (PROPOSI	ED)		WEI	L AT	SURFACE			
12. LEASE NO.				17. LEASE NO.					
OCS-Y 2280				OCS-Y 2280					
13. AREA NAME				18. AREA NAME					
Posey				Posey					
14. BLOCK NO.				19. BLOCK NO.					
6764 (Lat. N71 deg 18' 30.92"; Lon	g. W163 deg 12	' 43.17")		6764 (Lat. N71 deg 18' 30.92"; Long. W163 deg 12' 43.17")					
15. LATITUDE	16. LONGITUDI			20. LATITUDE		21. LONGITUDE			
(X NAD 83 / NAD 27)	(X NAD	83 / NAC	27)	27) (X NAD 83 / NAD 27) (X NAD 83 / NAD 27)					
LIST	OF SIGNIFIC	CANT MA	RKER	S ANTICIPATED					
22. NAME	23. TOP (MD)	24. TOP (TVD	22. NAME			23. TOP (MD)	24. TOP (TVD)		
							-		
									
25. LIST ALL ATTACHMENTS (Attach complete well pro	gnosis + attachment	s required by 3	0 CFR 25	0.414 or 30 CFR 250.1617(c) and (d)	as appropriate.)			
Con the ADD Table of Con	tanta far all	the deer		to apposint ad with	اطه ط	ADD aub	missism		
See the APD Table of Con	terits for all	the doct	imeni	is associated wit	an unis	S APD SUD	mission.		
26. CONTACT NAME			27. CON	TACT TELEPHONE NO.	28. CO	NTACT E-MAIL AD	DRESS		
Jim Miller			907 6	646 7122	jim.m	iller@shell.cor	n		
29. AUTHORIZING OFFICIAL (Type or print name)			30. TITI		1 may	Makeyor Andronasasasa			
Susan Childs				ka Venture Support	Integr	ator, Manage	r		
31. AUTHORIZING SIGNATURE Childs 32. DATE 4/17/12									
	THIS SPA	ACE FOR B	SEE US	SE ONLY					
APPROVED: With Attached Conditions Without Conditions	BY		•••••		TITLE				
API WELL NO. ASSIGNED TO THIS WELL					DATE				

Application for Permit to Drill (APD) Information Sheet

33) Question Information Sheet									
Questions	Re	esponse	Remarks						
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?		YES NO N/A							
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?		YES NO N/A	Water based drilling fluids will be used.						
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?		YES NO N/A	Kill weight mud will be stored on the drillship in sufficient quantities to kill any flows. Riser and BOP to be installed after setting conductor at -1244 feet below the mudline. All deeper portions of the well will be drilled with the riser installed. ROV monitoring will be in place.						
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?		YES NO N/A	Conductor casing to be installed at a depth of approximately 1244 feet below the mudline.						
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)	X 	YES NO N/A	Discharges from the proposed operation will be covered under the EPA NPDES Arctic General Permit, authorization number AKG-28-0005.						
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	 X	YES NO N/A	The proposed well will be drilled from a floating drillship, not from a platform.						
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?	X D	YES NO N/A							

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE)

OMB Approval Expires 10/31/2014

Supplemental APD Information Sheet (Casing Design)

1) Operator	Name: She	II Gulf of Mexic	o Inc.	2) Well Name (Proposed): 001 (Burger A) ST: BP:						
3) Bottom H	Hole Lease:			4) Surface Lease: OCS-Y 2280						
5) API Num	nber: n/a			6)Type of V	Vell:	Exploratory		evelopment		
7) H ₂ S: [Absent	Known	Unknown	8) H ₂ S Activ		Depth (TVD) (ft				
9) Rig Nam	e: Noble Disc	overer		10) SubSea	a BOP:	⊐Yes		lo		
	Depth (ft): 1		12) RKB Hei			13) Mineral Co				
,	ipe Size (in)		15) Drive Pip			16)Anchors	×Yes	No		
	()			ell Design						
Interval Nu	ımber:		,	Type:		Name:				
Section	Casing	Casing	Casing	Burst	I	Collapse	Depth (ft)	Pore		
Number	Size (in)	Weight (#/ft)	Casing Grade	Rating (psi)		Rating (psi)	MD TVD	Pressure (ppg)		
			-							
CENEDAL	INFORMAT		DDEVENTE	LINEODMA	TION	TEST INCODE	AATION			
	INFORMAT	ION	PREVENTER	RINFORMA	TION	TEST INFORM				
Hole Size (Туре			Annular Test (
Mud Weigh	11 07		Size (in)			BOP/Diverter				
Mud Type (Wellhead Ra	0 (1 /		Mud Test Wei	0 (110)			
Frac Gradie			Annular Ratii	0 0 /		Casing/Liner T				
Liner Top D			BOP/Diverte	r Rating (psi)	Formation Tes	st (ppg)			
Cement Vo	lume (ft ³)									
Interval Nu	ımber:			Type:		Name:				
Section	Casing	Casing	Casing	Burst		Collapse	Depth (ft)	Pore		
Number	Size (in)	Weight (#/ft)	Grade	Rating (psi)		Rating (psi)	MD TVD	Pressure (ppg)		
OFNEDAL	INFORMAT	ION	DDEVENTE	LINEODMA	TION	TECT INFORM	AATION			
	INFORMAT	ION	PREVENTE	KINFORMA	TION	TEST INFORMATION				
Hole Size (Туре			Annular Test (psi)				
Mud Weigh			Size (in)			BOP/Diverter Test (psi)				
Mud Type (Wellhead Ra			Mud Test Weight (ppg)				
Frac Gradie			Annular Ratii			Casing/Liner Test (psi)				
Liner Top D			BOP/Diverte	r Rating (psi)	Formation Tes	st (ppg)			
Cement Vo	lume (ft ³)									
Interval Nu	ımber:			Type:		Name:				
Section	Casing Size	Casing	Casing	Burst		Collapse	Depth (ft)	Pore		
Number	(in)	Weight (#/ft)	Grade	Rating (psi)		Rating (psi)	MD TVD	Pressure (ppg)		
			1							
GENEDAL	INFORMAT	ION	PREVENTE	INFORMA	TION	TEST INFORM	// ATION			
		1014		VIIII ONIVIA	11014					
Hole Size (,		Type			Annular Test (
Mud Weigh			Size (in)	C (- 1)		BOP/Diverter Test (psi)				
Mud Type (Wellhead Ra	0 (1 /		Mud Test Weight (ppg)				
Frac Gradie	0.10/		Annular Ratio	<u> </u>		Casing/Liner T				
Liner Top D			BOP/Diverte	r Ratıng (psi)	Formation Tes	st (ppg)			
Cement Vo	iume (ft°)									

PAPERWORK REDUCTION ACT OF 1995 (PRA) STATEMENT: The PRA (44 U.S.C. 3501 et. seq.) requires us to inform you that we collect this information to obtain knowledge of equipment and procedures to be used in drilling operations. BSEE uses the information to evaluate and approve or disapprove the adequacy of the equipment and/or procedures to safely perform the proposed drilling operation. Responses are mandatory (43 U.S.C. 1334). Proprietary data are covered under 30 CFR 250.197. 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 OMB Control Number. Public reporting burden for Forms BSEE-0123 and BSEE-0123S is estimated to average 100 hours per response. This includes 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, Bureau of Safety and Environmental Enforcement, 381 Elden Street, Herndon, VA 20170.

^{*} NOTE* For additional casing/liner intervals, please submit an additional Form 0123S.

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE)

Submit original plus THREE copies, with ONE copy marked "Public Information."

OMB Control No. 1010-0141
OMB Approval Expires 10/31/2014

PROPOSAL TO DRILL NEW WELL SIDETRACK	BYPASS] DEEPEN	2. BSE 0211	EE OPERATOR NO.	OPERATOR NAME and ADDRESS (Submitting office)			
			5 P)/D	100 NO VOLIDATION	She	ell Gulf Of	Mexico	
\$2.50 \$2.50	SIDETRACK NO. (CI n/a	URKENI)	6. BYP.	Inc				
CONTRACTOR OF THE PROPERTY OF	PLAN CONTROL NO	VIEW/MEII	00.5	3601 C Street				
The state of the s	plan control no 1/a	, (NEVV VVELL	JNLT			te 1000		
9. API WELL NO. (CURRENT SIDETRACK / BYPASS)						chorage Al	<	
9. API WELL NO. (CURRENT SIDETRACK/BYPASS) n/a	(12 DIGITS)				995	103		
10. Revision If revision, 11. please list changes:								
WELL AT TOTAL DEP	TH (PROPOSE	ED)		WEL	L AT	SURFACE		
12. LEASE NO.				17. LEASE NO.				
OCS-Y 2321				OCS-Y 2321				
13. AREA NAME				18. AREA NAME				
Posey				Posey				
14. BLOCK NO.		0		19. BLOCK NO.				
6912 (N71 deg 10' 24.03"; W163 d	eg 28' 18.52")			6912 (N71 deg 10' 24.03"; W163 deg 28' 18.52")				
15. LATITUDE 16. LONGITUDE (X NAD 83 / NAD 27) (X NAD 83 / NAD 83			- 1	20. LATITUDE 21. LONGITUDE (X NAD 83 / NAD 27) (X NAD 83 / NAD 27)				
The state of the s	COF SIGNIFIC	CANT MAI	RKER	RS ANTICIPATED				
22. NAME	23. TOP (MD)	24. TOP (TVD))	22. NAME		23. TOP (MD)	24. TOP (TVD)	
25. LIST ALL ATTACHMENTS (Attach complete well pr	ognosis + attachment:	s required by 30) CFR 25	50.414 or 30 CFR 250.1617(c)) and (d)	as appropriate.)		
See the APD Table of Cor	ntents for all	the docu	men	ts associated wit	h this	s APD sub	mission.	
26. CONTACT NAME								
Jim Miller			S200= 25 S	646 7122	jim.m	iller@shell.co	m	
29. AUTHORIZING OFFICIAL (Type or print name)	-		30. TITI		Intogr	eter Manage		
Susan Childs				ka Venture Support	Integra	ator, Manage	er e e e e e e e e e e e e e e e e e e	
31. AUTHORIZING SIGNATURE	eds		32. DAT	4/17/	12			
	THIS SPA	ACE FOR BS	SEE US	SE ONLY				
APPROVED: With Attached Conditions Without Conditions	BY	ICE LONG	?		TITLE			
API WELL NO. ASSIGNED TO THIS WELL					DATE			

Application for Permit to Drill (APD) Information Sheet

33) Question Information Sheet									
Questions	Re	esponse	Remarks						
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?		YES NO N/A							
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?		YES NO N/A	Water based drilling fluids will be used.						
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?		YES NO N/A	Kill weight mud will be stored on the drillship in sufficient quantities to kill any flows. Riser and BOP to be installed after setting conductor at -1244 feet below the mudline. All deeper portions of the well will be drilled with the riser installed. ROV monitoring will be in place.						
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?		YES NO N/A	Conductor casing to be installed at a depth of approximately 1244 feet below the mudline.						
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)		YES NO N/A	Discharges from the proposed operation will be covered under the EPA NPDES Arctic General Permit, authorization number AKG-28-0004.						
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	 	YES NO N/A	The proposed well will be drilled from a floating drillship, not from a platform.						
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?	X D	YES NO N/A							

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE) OMB Control No. 1010/A0041 17, 2012
OMB Approval Expires 10/31/2014

Supplemental APD Information Sheet (Casing Design)

1) Operator	Name: She	II Gulf of Mexic	co Inc.	2) Well Name (Proposed): 001 (Burger J) ST: BP:					
3) Bottom F	Hole Lease:			4) Surface Lease: OCS-Y 2321					
5) API Num	nber: n/a			6)Type of Well:					
7) H ₂ S: [Absent	Known	Unknown	8) H ₂ S Activ	vation Plan	Depth (TVD) (ft):		
9) Rig Nam	e: Noble Disc	overer		10) SubSea	a BOP: □	⊐Yes		lo	
11) Water [Depth (ft): 14	44	12) RKB Hei	ght (ft):		13) Mineral Co	ode: n/a		
	ipe Size (in)		15) Drive Pip			16)Anchors	×Yes	No	
			17) W	ell Design	Informati	on			
Interval Nu	ımber:			Type:		Name:			
Section	Casing	Casing	Casing	Burst		Collapse	Depth (ft)	Pore	
Number	Size (in)	Weight (#/ft)	Grade	Rating (psi)		Rating (psi)	MD TVD	Pressure (ppg)	
GENERAL	L INFORMAT	ION	PREVENTER	L R INFORMA	TION	TEST INFORM	I ЛАТІОN		
Hole Size (Туре			Annular Test (
Mud Weigh			Size (in)			BOP/Diverter			
Mud Type (11 1 0		Wellhead Ra	tina (nsi)		Mud Test Wei			
Frac Gradie			Annular Ratio			Casing/Liner T	0 1107		
Liner Top D			BOP/Diverte)	Formation Tes			
Cement Vo			BOF/Diverter	i italing (psi)	Torriation res	к (рру)		
OCITICITE VO	idilic (it)								
Interval Nu	ımbor.			Tuna		Nama			
		0 '	0 '	Type:	I	Name:	D 11- (ft)	D	
Section Number	Casing Size (in)	Casing Weight (#/ft)	Casing Grade	Burst Rating (psi)		Collapse Rating (psi)	Depth (ft) MD TVD	Pore Pressure (ppg)	
	INFORMAT	ION	PREVENTER	R INFORMA	TION	TEST INFORMATION			
Hole Size (in)		Туре			Annular Test (psi)			
Mud Weigh	t (ppg)		Size (in)			BOP/Diverter Test (psi)			
Mud Type (Code		Wellhead Ra	iting (psi)		Mud Test Weight (ppg)			
Frac Gradie			Annular Ratii	ng (psi)		Casing/Liner Test (psi)			
Liner Top D			BOP/Diverte	r Rating (psi)	Formation Tes	st (ppg)		
Cement Vo	lume (ft³)								
Interval Nu				Type:		Name:			
Section Number	Casing Size (in)	Casing Weight (#/ft)	Casing Grade	Burst Rating (psi)		Collapse Rating (psi)	Depth (ft) MD TVD	Pore Pressure (ppg)	
GENERAL	INFORMAT	ION	PREVENTE	R INFORMA	TION	TEST INFORM	MATION		
Hole Size (Туре			Annular Test (psi)		
Mud Weigh			Size (in)			BOP/Diverter			
Mud Type (Wellhead Ra			Mud Test Wei			
Frac Gradie			Annular Ratio			Casing/Liner T			
Liner Top D			BOP/Diverte	r Rating (psi)	Formation Tes	st (ppg)		
Cement Vo	lume (ft ³)								

PAPERWORK REDUCTION ACT OF 1995 (PRA) STATEMENT: The PRA (44 U.S.C. 3501 et. seq.) requires us to inform you that we collect this information to obtain knowledge of equipment and procedures to be used in drilling operations. BSEE uses the information to evaluate and approve or disapprove the adequacy of the equipment and/or procedures to safely perform the proposed drilling operation. Responses are mandatory (43 U.S.C. 1334). Proprietary data are covered under 30 CFR 250.197. 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 OMB Control Number. Public reporting burden for Forms BSEE-0123 and BSEE-0123s is estimated to average 100 hours per response. This includes 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, Bureau of Safety and Environmental Enforcement, 381 Elden Street, Herndon, VA 20170.

^{*} NOTE* For additional casing/liner intervals, please submit an additional Form 0123S.

U.S. Department of the Interior

Bureau of Safety and Environmental Enforcement (BSEE)

Submit original plus THREE copies, with ONE copy marked "Public Information."

OMB Control No. 1010-0141 OMB Approval Expires 10/31/2014

1. PROPOSAL TO DRILL		7	139 6	EE OPERATOR NO.	3. OPE	ERATOR NAME an	id ADDRESS
X NEW WELL SIDETRACK	BYPASS	DEEPEN	0211	10 55 6			
4. WELL NAME (CURRENT) 5. SII	DETRACK NO. (C	URRENT)	6. BYP	PASS NO. (CURRENT)	She	ell Gulf Of	Mexico
OCS-Y 2324 #001 (Burger V) n/a			n/a				20
7. PROPOSED START DATE 8. PL	AN CONTROL NO). (NEW WELL	ONLY)	3601 C Street			
July 4, 2012 n/a			5		- 100 March	te 1000	,
9. API WELL NO. (CURRENT SIDETRACK / BYPASS) (12					995	chorage Al	
n/a	. = 1 = 1 = 1				990	103	
If revision, 10. Revision 11. please list changes:							
WELL AT TOTAL DEPTH	(PROPOSI	ED)		WEL	L AT	SURFACE	
12. LEASE NO.				17. LEASE NO.			
OCS-Y 2324				OCS-Y 2324			
13. AREA NAME				18. AREA NAME	***************************************		
Posey				Posey			
14. BLOCK NO.				19. BLOCK NO.			
6915 (N71 deg 10' 33.39"; W163 deg	04' 21.23")			6915 (N71 deg 10' 3	3.39";	W163 deg 04'	21.23")
15. LATITUDE	16. LONGITUDE	E		20. LATITUDE		21. LONGITUDE	
(X NAD 83 / NAD 27)	(X NAD	83 / NAC	27)	(X NAD 83 / □NA	D 27)	(X NAD 83/	NAD 27)
	F SIGNIFIC	CANT MA	RKER	RS ANTICIPATED			
22. NAME 23	3. TOP (MD)	24. TOP (TVD))	22. NAME		23. TOP (MD)	24. TOP (TVD)
25. LIST ALL ATTACHMENTS (Attach complete well progn	osis + attachments	s required by 30	0 CFR 25	50.414 or 30 CFR 250.1617(c)	and (d)	as appropriate.)	
	8 2 /48	765 <u>2</u>			: 2C 21	7 S.L.	9 2
See the APD Table of Conte	ents for all	the docu	ımen	ts associated wit	h this	3 APD sub	mission.
26. CONTACT NAME			27. CON	NTACT TELEPHONE NO.	28. CON	NTACT E-MAIL AD	DRESS
Jim Miller				646 7122		iller@shell.cor	
29. AUTHORIZING OFFICIAL (Type or print name)			30. TITI				
Susan/Childs			Alas	ka Venture Support l	Integr	ator, Manage	r
31. AUTHORIZING SIGNATURE	1/		32. DA1	TE 1/17/1	2		
Susc Cul			1)	711111	_		
	THIS SPA	ACE FOR B	SEE US	SE ONLY			
APPROVED:	BY			,	TITLE		
With Attached Conditions Without Conditions							
					DATE		
API WELL NO. ASSIGNED TO THIS WELL							

Application for Permit to Drill (APD) Information Sheet

33) Question Information Sheet										
Questions	Re	esponse	Remarks							
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?		YES NO N/A								
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?		YES NO N/A	Water based drilling fluids will be used.							
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?	X 	YES NO N/A	Kill weight mud will be stored on the drillship in sufficient quantities to kill any flows. Riser and BOP to be installed after setting conductor at -1244 feet below the mudline. All deeper portions of the well will be drilled with the riser installed. ROV monitoring will be in place.							
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?		YES NO N/A	Conductor casing to be installed at a depth of approximately 1244 feet below the mudline.							
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)	X 	YES NO N/A	Discharges from the proposed operation will be covered under the EPA NPDES Arctic General Permit, authorization number AKG-28-0019.							
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	 	YES NO N/A	The proposed well will be drilled from a floating drillship, not from a platform.							
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?	X D	YES NO N/A								

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE) OMB Control No. 1010/April 17, 2012
OMB Approval Expires 10/31/2014

Supplemental APD Information Sheet (Casing Design)

PAPERWORK REDUCTION ACT OF 1995 (PRA) STATEMENT: The PRA (44 U.S.C. 3501 et. seq.) requires us to inform you that we collect this information to obtain knowledge of equipment and procedures to be used in drilling operations. BSEE uses the information to evaluate and approve or disapprove the adequacy of the equipment and/or procedures to safely perform the proposed drilling operation. Responses are mandatory (43 U.S.C. 1334). Proprietary data are covered under 30 CFR 250.197. 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 OMB Control Number. Public reporting burden for Forms BSEE-0123 and BSEE-0123s is estimated to average 100 hours per response. This includes 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, Bureau of Safety and Environmental Enforcement, 381 Elden Street, Herndon, VA 20170.

^{*} NOTE* For additional casing/liner intervals, please submit an additional Form 0123S.

U.S. Department of the Interior Bureau of Safety and Environmental

Enforcement (BSEE)

Submit original plus THREE copies, with ONE copy marked "Public Information."

OMB Control No. 1010-0141 OMB Approval Expires 10/31/2014

PROPOSAL TO DRILL NEW WELL SIDETRACK							3. OPERATOR NAME and ADDRESS (Submitting office)			
4. WELL NAME (CURRENT) 5. \$	SIDETRACK NO. (C	URRENT)	6. BYP	ASS NO. (CURRENT)	Shell Offshore Inc.					
OCS-Y 1805 #001 (Sivulliq N) n/	n/a			1 C Stree	τ					
7. PROPOSED START DATE 8. P	LAN CONTROL NO	ONLY)	Suite 1000 Anchorage AK							
July 10, 2012 n/	a				9950		`			
9. API WELL NO. (CURRENT SIDETRACK / BYPASS) (12 DIGITS)									
n/a	77									
10. Revision If revision, 11. please list changes:										
WELL AT TOTAL DEPT	H (PROPOSI	ED)		WEI	LL AT	SURFACE	h			
12. LEASE NO.				17. LEASE NO.						
OCS-Y 1805				OCS-Y 1805						
13. AREA NAME				18. AREA NAME						
Flaxman Island				Flaxman Island						
14. BLOCK NO.				19. BLOCK NO.						
6658 (N70 deg 23' 29.58"; W145 de	g 58' 52.53")			6658 (N70 deg 23' 29.58"; W145 deg 58' 52.53")						
15. LATITUDE (X NAD 83 / NAD 27)	E 83/		20. LATITUDE 21. LONGITUDE (X NAD 83 / NAD 27) (X NAD 83 / NAD 27)							
LIST	OF SIGNIFIC	CANT MA	RKER	RS ANTICIPATED						
22. NAME	23. TOP (MD)	24. TOP (TVD) 22. NAME		2	3. TOP (MD)	24. TOP (TVD)			
							-			
25. LIST ALL ATTACHMENTS (Attach complete well prog	gnosis + attachments	s required by 3	0 CFR 25	i0.414 or 30 CFR 250.1617(c	and (d) a	s appropriate.)				
26. CONTACT NAME			1							
Jim Miller			0.50.50.50	646 7122	jim.mil	ler@shell.co	m			
29. AUTHORIZING OFFICIAL (Type or print name)			30. TITI		Intoaro	tor Manag				
Susan Childs				ka Venture Support	integra	tor, Mariage	ər			
31. AUTHORIZING SIGNATURE SUSCI Childs 32. DATE 4/17/12										
	THIS SPA	ACE FOR B	SEE US	SE ONLY						
APPROVED: With Attached Conditions Without Conditions	BY				TITLE					
☐ Without Conditions : DATE API WELL NO. ASSIGNED TO THIS WELL										

Application for Permit to Drill (APD) Information Sheet

33) Question Information Sheet									
Questions	Re	esponse	Remarks						
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?		YES NO N/A							
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?		YES NO N/A	Water based drilling fluids will be used.						
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?		YES NO N/A	Kill weight mud will be stored on the drilling vessel in sufficient quantities to kill any flows. Riser and BOP to be installed after setting conductor at ~857 feet below the mudline. All deeper portions of the well will be drilled with the riser installed. ROV monitoring will be in place.						
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?		YES NO N/A	Conductor casing to be installed at a depth of approximately 857 feet below the mudline.						
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)		YES NO N/A	Discharges from the proposed operation will be covered under the EPA NPDES Arctic General Permit, authorization number AKG-28-0009.						
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	 X	YES NO N/A	The proposed well will be drilled from a floating drilling vessel, not from a platform.						
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?	X X	YES NO N/A							

OMB 1001140216(11)0A0P1D4Sivulliq N

Bureau of Safety and Environmental OMB Approval Expires 10/31/2014

Enforcement (BSEE)

U.S. Department of the Interior

Supplemental APD Information Sheet (Casing Design)

1) Operator	Name: She	Il Offshore Inc.		2) Well Name (Proposed): 001 (Sivulliq N) ST: BP:							
3) Bottom H	Hole Lease:			4) Surface) Surface Lease: OCS-Y 6658						
5) API Num	nber: n/a			6)Type of V	Vell:	Exploratory		evelopment			
7) H ₂ S: [Absent	Known	Unknown	8) H ₂ S Acti	vation Plan	Depth (TVD) (ff	i):				
9) Rig Nam	e: CDU Kullu	k		10) SubSea	a BOP: □⊠	⊐Yes		lo			
	Depth (ft): 1		12) RKB Hei			13) Mineral Co	ode: n/a				
	ipe Size (in)		15) Drive Pip		:	16)Anchors	× Yes	No			
	/ /			ell Design							
Interval Nu	ımber:		,	Type:		Name:					
Section	Casing	Casing	Casing	Burst	I	Collapse	Depth (ft)	Pore			
Number	Size (in)	Weight (#/ft)	Casing Grade	Rating (psi)		Rating (psi)	MD TVD	Pressure (ppg)			
GENERAL	INFORMAT	ION	PREVENTE	R INFORMA	TION	TEST INFOR	MATION				
Hole Size (in)		Туре			Annular Test (psi)				
Mud Weigh	t (ppg)		Size (in)			BOP/Diverter	Test (psi)				
Mud Type (Code		Wellhead Ra	iting (psi)		Mud Test Wei					
Frac Gradie	ent (ppg)		Annular Ratii	ng (psi)		Casing/Liner 1	Test (psi)				
Liner Top D			BOP/Diverte)	Formation Tes					
Cement Vo				0 (1	,	i omaton root (ppg)					
Interval Nu	ımber:			Type:		Name:					
Section	Casing	Casing	Casing	Burst		Collapse	Depth (ft)	Pore			
Number	Size (in)	Weight (#/ft)	Grade	Rating (psi)		Rating (psi)	MD TVD	Pressure (ppg)			
GENERAL	INFORMAT	ION	PREVENTE	R INFORMA	TION	TEST INFORM	MATION				
Hole Size (in)		Туре			Annular Test (psi)					
Mud Weigh	t (ppg)		Size (in)			BOP/Diverter Test (psi)					
Mud Type (Code		Wellhead Ra	iting (psi)		Mud Test Weight (ppg)					
Frac Gradie	ent (ppg)		Annular Rati	ng (psi)		Casing/Liner Test (psi)					
Liner Top D	Depth (ft)		BOP/Diverte	r Rating (psi)	Formation Tes	st (ppg)				
Cement Vo	lume (ft ³)										
Interval Nu	ımber:			Type:		Name:					
Section Number	Casing Size (in)	Casing Weight (#/ft)	Casing Grade	Burst Rating (psi)		Collapse Rating (psi)	Depth (ft) MD TVD	Pore Pressure (ppg)			
OFNEDAL	INFORMAT	101	DDEVENTE	D INCORMA	TION	TEOT INCODE	AATION				
	INFORMAT	ION	PREVENTE	RINFORMA	TION	TEST INFOR					
Hole Size (,		Туре			Annular Test (. ,				
Mud Weigh			Size (in)			BOP/Diverter					
Mud Type (Wellhead Ra	0 (1 /		Mud Test Weight (ppg)					
Frac Gradie			Annular Rati			Casing/Liner 1	<u> </u>				
Liner Top D			BOP/Diverte	r Rating (psi)	Formation Test (ppg)					
Cement Vo	lume (ft°)		I			I					

PAPERWORK REDUCTION ACT OF 1995 (PRA) STATEMENT: The PRA (44 U.S.C. 3501 et. seq.) requires us to inform you that we collect this information to obtain knowledge of equipment and procedures to be used in drilling operations. BSEE uses the information to evaluate and approve or disapprove the adequacy of the equipment and/or procedures to safely perform the proposed drilling operation. Responses are mandatory (43 U.S.C. 1334). Proprietary data are covered under 30 CFR 250.197. 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 OMB Control Number. Public reporting burden for Forms BSEE-0123 and BSEE-0123S is estimated to average 100 hours per response. This includes 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, Bureau of Safety and Environmental Enforcement, 381 Elden Street, Herndon, VA 20170.

^{*} NOTE* For additional casing/liner intervals, please submit an additional Form 0123S.

U.S. Department of the Interior Bureau of Safety and Environmental

Enforcement (BSEE)

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OMB Control No. 1010-0141 OMB Approval Expires 10/31/2014

1. PROPOSAL TO DRILL X NEW WELL SIDETRACK	BYPASS DEEPEN 2. BSEE			E OPERATOR NO. 39	OPERATOR NAME and ADDRESS (Submitting office)			
4. WELL NAME (CURRENT) 5.	SIDETRACK NO. (C	URRENT)	6. BYP	ASS NO. (CURRENT)	1,200,000,000	ell Offshore	Sec. Deservation	
OCS-Y 1941 #001 (Torpedo H) n					3601 C Street			
7. PROPOSED START DATE 8. I	ROPOSED START DATE 8. PLAN CONTROL NO. (NEW WELL ONLY)					Suite 1000		
July 10, 2012 n	/a			Anchorage AK 99503				
9. API WELL NO. (CURRENT SIDETRACK / BYPASS)	(12 DIGITS)		П		1 330	,00		
n/a							·	
10. Revision If revision, 11. please list changes:						8 <u></u>		
WELL AT TOTAL DEPT	H (PROPOS	ED)		WELL AT SURFACE				
12. LEASE NO.				17. LEASE NO.				
OCS-Y 1941		OCS-Y 1941						
13. AREA NAME				18. AREA NAME				
Flaxman Island				Flaxman Island				
14. BLOCK NO.				19. BLOCK NO.				
6610 (N70 deg 27' 01.62"; W145 de		6610 (N70 deg 27' 01.62"; W145 deg 49' 32.07")						
15. LATITUDE 16. LONGITUDE				20. LATITUDE 21. LONGITUDE				
(X NAD 83 / NAD 27) (X NAD 83 / NAD 27)				(∑ NAD 83 / □NAD 27) (∑ NAD 83 / □NAD 27)				
LIST	OF SIGNIFIC	CANT MA	RKEF	S ANTICIPATED				
22. NAME	23. TOP (MD)	24. TOP (TVD	22. NAME		23. TOP (MD)		24. TOP (TVD)	
							-	
		-						
25. LIST ALL ATTACHMENTS (Attach complete well prognosis + attachments required by 30 CFR 250.414 or 30 CFR 250.1617(c) and (d) as appropriate.)								
A SAN CONTRACTOR CONTRACTOR CONTRACTOR			POCONO SE BOY	27. CONTACT TELEPHONE NO.		28. CONTACT E-MAIL ADDRESS		
				646 7122 jim.miller@shell.com			m	
29. AUTHORIZING OFFICIAL (Type or print name)	rle ska Venture Support Integrator, Manager							
1								
31. AUTHORIZING SIGNATURE Childs			32. DA	2. DATE 4/17/12				
THIS SPACE FOR BSEE USE ONLY								
APPROVED: With Attached Conditions Without Conditions	BY				TITLE			
API WELL NO. ASSIGNED TO THIS WELL					DATE			

Application for Permit to Drill (APD) Information Sheet

33) Question Information Sheet								
Questions	Re	esponse	Remarks					
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?		YES NO N/A						
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?		YES NO N/A	Water based drilling fluids will be used.					
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?		YES NO N/A	Kill weight mud will be stored on the drilling vessel in sufficient quantities to kill any flows. Riser and BOP to be installed after setting conductor at ~1045 feet below the mudline. All deeper portions of the well will be drilled with the riser installed. ROV monitoring will be in place.					
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?		YES NO N/A	Conductor casing to be installed at a depth of approximately 1045 feet below the mudline.					
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)	X 	YES NO N/A	Discharges from the proposed operation will be covered under the EPA NPDES Arctic General Permit, authorization number AKG-28-0010.					
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.		YES NO N/A	The proposed well will be drilled from a floating drilling vessel, not from a platform.					
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?	X _	YES NO N/A						

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE)

OMB Approval Expires 10/31/2014

Supplemental APD Information Sheet (Casing Design)

Operator Name: Shell Offshore Inc.			2) Well Name (Proposed): 001 (Torpedo H) ST: BP:						
3) Bottom H	Hole Lease:			4) Surface Lease: OCS-Y 1941					
5) API Num	nber: n/a			6)Type of Well:					
7) H ₂ S: [Absent	Known	Unknown	8) H ₂ S Activ	vation Plan	Depth (TVD) (ft	i):		
9) Rig Nam	e: CDU Kullu	k		10) SubSea	a BOP: □X	⊐Yes		lo	
11) Water [Depth (ft): 1	20	12) RKB Hei						
14) Drive P	ipe Size (in)	:	15) Drive Pip	e Depth (ft):		16)Anchors	x Yes	No	
			17) W	'ell Design	Information	on			
Interval Nu	ımber:		•	Type:		Name:			
Section	Section Casing Casing		Casing	Burst		Collapse Depth (ft) Pore			
Number	Size (in)	Weight (#/ft)	Grade	Rating (psi)		Rating (psi)	MD TVD	Pressure (ppg)	
			<u> </u>						
GENERAL	INFORMAT	ION	PREVENTER	R INFORMA	TION	TEST INFORM	MATION		
Hole Size (Туре			Annular Test (psi)			
Mud Weigh			Size (in)			BOP/Diverter Test (psi)			
Mud Type (Wellhead Ra	tina (nsi)		Mud Test Weight (ppg)			
Frac Gradie			Annular Ratio	0 11 /		Casing/Liner Test (psi)			
Liner Top D			BOP/Diverte	<i>U</i> 11 /)	Formation Test (psg)			
Cement Vo			BOF/Diverter	r Rating (psi)	romation rest (ppg)			
CCITICITE VO	idific (it)								
Intonial Ni	ımah arı			Tuno		Nama			
Interval Nu		0 .		Type:	ı	Name:	D 11 (0)	-	
Section Number	Casing Size (in)	Casing Weight (#/ft)	Casing Grade	Burst Rating (psi)		Collapse Rating (psi)	Depth (ft) MD TVD	Pore Pressure (ppg)	
	INFORMAT	ION	PREVENTE	R INFORMA	TION	TEST INFORMATION			
Hole Size (in) Type					Annular Test (psi)				
Mud Weight (ppg) Size (in)					BOP/Diverter Test (psi)				
Mud Type (e Code Wellhead R			ting (psi)		Mud Test Weight (ppg)			
Frac Gradie	ent (ppg)		Annular Ratii	ng (psi)		Casing/Liner Test (psi)			
Liner Top D	Depth (ft)		BOP/Diverte	r Rating (psi)	Formation Test (ppg)			
Cement Vo	lume (ft ³)								
Interval Nu	ımber:			Type:		Name:			
Section Number	Casing Size (in)	Casing Weight (#/ft)	Casing Grade	Burst Rating (psi)		Collapse Rating (psi)	Depth (ft) MD TVD	Pore Pressure (ppg)	
								.,, .	
GENERAL INFORMATION PREVENTER			R INFORMA	TION	TEST INFORMATION				
Hole Size (in) Type				Annular Test (psi)					
Mud Weight (ppg) Size (in)					BOP/Diverter Test (psi)				
Mud Type Code Wellhead Ra			ting (psi)		Mud Test Weight (ppg)				
			Annular Ratio	ng (psi)		Casing/Liner Test (psi)			
W 1 07			BOP/Diverte	r Rating (psi)	Formation Test (ppg)			
Cement Volume (ft ³)									

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Shell Exploration & Production



APR 1 7 2012

Mark Fesmire, Alaska Region Director Alaska OCS Region U.S. Department of Interior Bureau of Safety & Environmental Enforcement 3801 Centerpoint Drive, Suite 500 Anchorage, AK 99503-5823 Regional Director, Alaska OCS

Shell

Anchorage, Alaska
Anchorage, AK 99503

Tel. (907) 646-7112

Email Susan.Childs@Shell.com

Internet http://www.Shell.com/

April 17, 2012

Re: Shell Gulf of Mexico Inc. - Applications for Permit to Drill for Burger A, F, J, R, S and V wells - Alaska Outer Continental Shelf, Chukchi Sea

Dear Mr. Fesmire:

Shell Gulf of Mexico Inc. (Shell) hereby submits Applications for Permit to Drill (APD) for the following drill sites in the Chukchi Sea:

- Lease # OCS-Y 2280, Posey Block 6764, Burger A (#001)
- Lease # OCS-Y 2267, Posey Block 6714, Burger F (#001)
- Lease # OCS-Y 2321, Posey Block 6912, Burger J (#001)
- Lease # OCS-Y 2294, Posey Block 6812, Burger R (#001)
- Lease # OCS-Y 2278, Posey Block 6762, Burger S (#001)
- Lease # OCS-Y 2324, Posey Block 6915, Burger V (#001)

The APD submittals for Burger F, J, R, S and V are new applications. The Burger A APD is the third submittal of information for this proposed well. The initial Burger A APD was submitted on January 31, 2012. On February 21, 2012, Shell received a request for additional information (RFAI) from the Bureau of Safety and Environmental Enforcement (BSEE) on the Burger A APD submittal. A second Burger A APD submittal, containing additional information and responses to BSEE's RFAIs occurred on March 16, 2012. On April 24, 2012, Shell received a second RFAI from BSEE on the Burger A APD submittal. This third APD submittal contains updated information and responses to BSEE's second RFAI on the Burger A APD, plus where applicable, BSEE's RFAIs have been addressed in the remaining new APDs for proposed drill sites at Burger.

These APD submittals are presented in the form of two volumes. One volume contains information that is specific to the drillship *Noble Discoverer* and the Burger Prospect area. Three copies of this information are submitted for the six Burger APDs. As per regulation 30 CFR 250.417(g) this information will only be submitted once, conditioned on being approved by BSEE. If this information changes, these changes will be submitted to BSEE. The second volume contains the subsurface information specific to each APD (e.g. Burger A, F, J, R, S and V). Three copies of this second volume are submitted for each drill site.

Department of Interior Bureau of Safety and Environmental Enforcement April 17, 2012 Page 2 of 2

In addition to the APD documents, also attached are the following:

- Signed BSEE-0123 forms for each APD drill site
- · A spreadsheet defining the second RFAI for Burger A APD from BSEE and Shell's responses
- A copy of an updated H₂S Contingency Plan (the H₂S Contingency Plan, submitted November 2011 with the Revised Chukchi Sea Exploration Plan, is not part of these APD submittals)

Shell requests that the Burger A APD submittal be given priority of review, followed by Burger J, Burger V, Burger F, Burger S then Burger R.

Shell asserts all materials submitted with this letter, except for the public information version of forms BSEE-0123 and -0123S, remain proprietary and are not subject to requests under the Freedom of Information Act (FOIA). Shell requests continuing confidentiality of the materials submitted herein, as well as any additional documentation supplied by Shell in support of this APD in response to requests for additional information by either BSEE, or Bureau of Ocean Energy Management. Shell will inform BSEE at the time of submittal if any additional documentation is not subject to FOIA assertion by Shell.

Please coordinate any requests for additional information through me at (907) 646-7112 or at Susan.Childs@Shell.com, or Pauline Ruddy at (907) 771-7243 or at Pauline.Ruddy@Shell.com.

Sincerely,

Susan Childs

AK Venture Support Integrator, Manager

un Child

Attachments:

BSEE RFAI Comment and Response spreadsheet

Signed BSEE-0123 Forms (Proprietary and Public)

M/V Noble Discoverer and Burger Area Specific Documents (3 copies)

Burger A APD documents (3 copies)

Burger F APD documents (3 copies)

Burger J APD documents (3 copies)

Burger R APD documents (3 copies)

Burger S APD documents (3 copies)

Burger V APD documents (3 copies)

H₂S Contingency Plan



Shell Exploration & Production



APR 1 7 2012

Regional Director, Alaska OCS

Passess of Safety and Environmental Enforcement

Anchorage, Alaska

3601 C Street, Suite 1000 Anchorage, AK 99503 Tel. (907) 646-7112

Shell

Email Susan.Childs@Shell.com Internet http://www.Shell.com/

Mark Fesmire, Alaska Region Director Alaska OCS Region U.S. Department of Interior Bureau of Safety & Environmental Enforcement 3801 Centerpoint Drive, Suite 500 Anchorage, AK 99503-5823

April 17, 2012

Re: Shell Offshore Inc. - Applications for Permit to Drill for Sivulliq N and G and Torpedo H and J wells - Alaska Outer Continental Shelf, Beaufort Sea

Dear Mr. Fesmire:

Shell Offshore Inc. (Shell) hereby submits Applications for Permit to Drill (APD) for the following drill sites in the Camden Bay area of the Beaufort Sea:

- Lease # OCS-Y 1805, Flaxman Island Block 6658, Sivullig N (#001)
- Lease # OCS-Y 1805, Flaxman Island Block 6658, Sivulliq G (#002)
- Lease # OCS-Y 1941, Flaxman Island Block 6610, Torpedo H (#001)
- Lease # OCS-Y 1936, Flaxman Island Block 6559, Torpedo J (#001)

The APD submittals for Sivulliq G and N, and Torpedo J are new applications. The Torpedo H APD is the third submittal of information for this proposed well. The initial Torpedo H APD was submitted on January 31, 2012. On February 21, 2012, Shell received a request for additional information (RFAI) from the Bureau of Safety and Environmental Enforcement (BSEE) on the Torpedo H APD submittal. A second Torpedo H APD submittal, containing additional information and responses to BSEE's RFAIs occurred on March 16, 2012. On April 24, 2012, Shell received a second RFAI from BSEE on the Torpedo H APD. This third APD submittal contains updated information and responses to BSEE's second RFAI on the Torpedo H APD, plus where applicable, BSEE's RFAIs have been addressed in the remaining APDs for proposed drill sites at Torpedo and Sivulliq.

These APD submittals are presented in the form of two volumes. One volume contains information that is specific to the conical drilling unit *Kulluk* and the Sivulliq and Torpedo Prospects area. Three copies of this information are submitted for the four Sivulliq and Torpedo APDs. As per regulation 30 CFR 250.417(g) this information will only be submitted once, conditioned on being approved by BSEE. If this information changes, these changes will be submitted to BSEE. The second volume contains the subsurface information specific to each APD (e.g., Sivulliq G, N or Torpedo H or J). Three copies of this second volume are submitted for each drill site.

In addition to the APD documents, also attached are the following:

- Signed BSEE-0123 forms for each APD;
- Spreadsheet defining the second RFAI for Torpedo H APD from BSEE and Shell's responses.

Department of Interior Bureau of Safety and Environmental Enforcement April 17, 2012 Page 2 of 2

Shell requests that the Torpedo H APD submittal be given priority of review, followed by Sivulliq N, Torpedo J and Sivulliq G.

Shell asserts all materials submitted with this letter, except for the public information version of forms BSEE-0123 and -0123S, remain proprietary and are not subject to requests under the Freedom of Information Act (FOIA). Shell requests continuing confidentiality of the materials submitted herein, as well as any additional documentation supplied by Shell in support of this APD in response to requests for additional information by either BSEE, or Bureau of Ocean Energy Management. Shell will inform BSEE at the time of submittal if any additional documentation is not subject to FOIA assertion by Shell.

Please coordinate any requests for additional information through me at (907) 646-7112 or at Susan.Childs@Shell.com, or Pauline Ruddy at (907) 771-7243 or at Pauline.Ruddy@Shell.com.

Sincerely.

Susan Childs

AK Venture Support Integrator, Manager

Attachments:

BSEE RFAI Comment and Response spreadsheet

Signed BSEE-0123 Forms (Proprietary and Public)

Kulluk, Torpedo and Sivulliq Area Specific Documents (3 copies)

Sivulliq G APD documents (3 copies)

Sivulliq N APD documents (3 copies)

Torpedo H APD documents (3 copies)

Torpedo J APD documents (3 copies)

Burger A

- Interval 2 has wrong diverter rating Fixed
- Interval 3 pore pressure does not match plot Fixed
- Interval 4 casing test is not 500 above masp Fixed
- 12 & 14 do have to be filled out on BSEE-123s Fixed
- Need to be consistent in saying what they will test to between departures, procedures and forms Fixed
- Fill up line waiver is not necessary Not Fixed Fixed July 18
- Request not testing at casing point unless 7 day test due, but in drilling procedure it states they
 will be testing at the casing point...need to be consistent. Fixed
- On surface casing, used wrong burst pressure in calculation Fixed
- No BOP control diagrams Fixed
- Third party verifications are still provisional Not Fixed Part of APD Approval Letter
- No USCG letter of compliance Not Fixed Fixed July 18
- Normal minimal water depth is listed at 300 ft on specs yet water depth for well is 150 Not Fixed Fixed July 18
- Requesting waiver to not have flare system, yet plan talks about. Not Fixed Fixed July 18
- Areas in plan that state n/a because only applicapable to h2s present or unknown. Classified as h2s unknown. Not Fixed Fixed July 18
- Contact info for BSEE needs updating. Not Fixed Fixed July 18
- States attending vessels will be identified...when? Not Fixed Fixed July 18
- Noble Safety Policy Manual SPM-505 4.1.3 bullet 2 states that in addition to the above, the fire
 watch shall make periodic checks with gas monitoring equipment. 250.113 (c) (2)(iv) states
 must maintain a continuous surveillance with a portable gas detector during welding and
 burning operation if welding occurs in an area not equipped with a gas detector. Not Fixed Fixed
 July 18
- Don't see any standards or requirements for welders 250.110(a) written within the plan. Fixed
- Provide test procedures for a successful test for proper installation of casing. Fixed
- Are there 18 or 20 dedicated deadman bottles? Not Fixed Fixed July 18

Burger J

- 15 & 16 do not have to be filled out on BSEE-123 Fixed
- 12 & 14 do have to be filled out on BSEE-123s but 16 does Fixed
- Need to be consistent in saying what they will test to between departures, procedures and forms Fixed
- Fill up line waiver is not necessary Not Fixed Fixed July 18
- Request not testing at casing point unless 7 day test due, but in drilling procedure it states they
 will be testing at the casing point...need to be consistent. Fixed
- On surface casing, used wrong burst pressure in calculation Fixed
- No BOP control diagrams Fixed
- Third party verifications are still provisional Not Fixed Part of APD Approval Letter
- No USCG letter of compliance Not Fixed Fixed July 18
- Normal minimal water depth is listed at 300 ft on specs yet water depth for well is 150 Not Fixed
 Fixed July 18
- Requesting waiver to not have flare system, yet plan talks about. Not Fixed Fixed July 18
- Areas in plan that state n/a because only applicapable to h2s present or unknown. Classified as h2s unknown. Not Fixed Fixed July 18
- Contact info for BSEE needs updating. Not Fixed Fixed July 18
- States attending vessels will be identified...when? Not Fixed Fixed July 18
- Noble Safety Policy Manual SPM-505 4.1.3 bullet 2 states that in addition to the above, the fire
 watch shall make periodic checks with gas monitoring equipment. 250.113 (c) (2)(iv) states
 must maintain a continuous surveillance with a portable gas detector during welding and
 burning operation if welding occurs in an area not equipped with a gas detector. Not Fixed
 July 18
- Don't see any standards or requirements for welders 250.110(a) written within the plan. Fixed
- Provide test procedures for a successful test for proper installation of casing. Fixed
- Are there 18 or 20 dedicated deadman bottles? Not Fixed Fixed July 18

Burger A

- Three copies of the APD need to be submitted and only one public copy. In the future, do not
 include the public copy as part of the APD binder; submit them along with the APD. Hopefully
 will fix for future submittals
- Requested departure from 250.443(e) is not necessary. Either remove from departure page or change to "info." Fixed
- The cement volumes listed for interval 2 and 3 are less than the BSEE calculated necessary cement volumes. Fixed with cementing strategy letter submitted
- Independent third party verification of the BOP stack are provisional...when will we receive non provisional verification? Not Fixed Part of APD Approval Letter
- No USCG Certificate of Inspection or Letter of Compliance present. Fixed
- The welding plan letter dated June 9th still states that only periodic monitoring will occur if outside the safe welding area. Per 30 CFR 250.113(c)(2)(iv), this is unacceptable. Fixed
- Are there 18 or 20 bottles for the Deadman? This needs to be made clear within the APD. Fixed

Burger J

- Three copies of the APD need to be submitted and only one public copy. In the future, do not
 include the public copy as part of the APD binder; submit them along with the APD. Fix for
 future
- Requested departure from 250.443(e) is not necessary. Either remove from departure page or change to "info." Fixed
- The cement volumes listed for interval 2 and 3 are less than the BSEE calculated necessary cement volumes. Fixed with cementing strategy letter submitted
- Independent third party verification of the BOP stack are provisional...when will we receive non provisional verification? Not Fixed Part of APD Approval Letter
- No USCG Certificate of Inspection or Letter of Compliance present. Fixed
- The welding plan letter dated June 9th still states that only periodic monitoring will occur if outside the safe welding area. Per 30 CFR 250.113(c)(2)(iv), this is unacceptable. Fixed
- Are there 18 or 20 bottles for the Deadman? This needs to be made clear within the APD. Fixed

Shell



Shell Exploration & Production

Mark Fesmire, Alaska Region Director REGEIV Alaska OCS Region U.S. Department of Interior Bureau of Safety & Environmental Enforcement 3801 Centerpoint Drive, Suite 500 Anchorage, AK 99503-5823

3601 C Street, Suite 1000 Anchorage, AK 99503 Tel. (907) 646-7112 Email Susan.Childs@Shell.com Internet http://www.Shell.com/

Regional Director, Alaska OCS Repeated Safety and Environmental Enforcement Anchorage, Alaska

June 11, 2012

Shell Gulf of Mexico Inc. - Revised and new Information in support of Applications for Re: Permit to Drill for Burger A, F, J, R, S and V wells - Alaska Outer Continental Shelf, Chukchi Sea

JUN 11 2012

Dear Mr. Fesmire:

Shell Gulf of Mexico Inc. (Shell) hereby submits revised and new information for the Applications for Permit to Drill (APD) for the following drill sites in the Chukchi Sea:

- Lease # OCS-Y 2280, Posey Block 6764, Burger A (#001)
- Lease # OCS-Y 2267, Posey Block 6714, Burger F (#001)
- Lease # OCS-Y 2321, Posey Block 6912, Burger J (#001)
- Lease # OCS-Y 2294, Posey Block 6812, Burger R (#001)
- Lease # OCS-Y 2278, Posey Block 6762, Burger S (#001)
- Lease # OCS-Y 2324, Posey Block 6915, Burger V (#001)

This information is supplied either at the request of the Bureau of Safety and Environmental Enforcement (BSEE) or is a new document in support of the APD submittal. Only revised or new documents are included in this submission. Documents that have not been revised since the last submission of information (April 17, 2012) are not included.

In addition to the APD documents, also attached are the following:

- Signed BSEE-0123 (public version) forms for each APD drill site
- A copy of an updated H₂S Contingency Plan (this plan is non-confidential; the original H₂S Contingency Plan, was submitted November 2011 with the Revised Chukchi Sea Exploration
- A compact disc with information pertaining to the downhole tools to be used on the Burger wells

Shell requests that the Burger A APD submittal be given priority of review, followed by Burger J, Burger V, Burger F, Burger S then Burger R.

Shell asserts all materials submitted with this letter, except for the public information version of forms BSEE-0123 and -0123S and the H2S Contingency Plan, remain proprietary and are not subject to requests under the Freedom of Information Act (FOIA).

Department of Interior Bureau of Safety and Environmental Enforcement June 11, 2012 Page 2 of 2

Shell requests continuing confidentiality of the materials submitted herein, as well as any additional documentation supplied by Shell in support of this APD in response to requests for additional information by either BSEE, or Bureau of Ocean Energy Management.

Please coordinate any requests for additional information through me at (907) 646-7112 or at Susan.Childs@Shell.com, or Pauline Ruddy at (907) 771-7243 or at Pauline.Ruddy@Shell.com.

Thank you.

Susan Childs

Alaska Venture Support Integrator, Manager

Attachments:

Signed BSEE-0123 Forms (Public)

M/V Noble Discoverer and Burger Area Specific Documents (3 copies)

Burger A APD documents (3 copies)

Burger F APD documents (3 copies)

Burger J APD documents (3 copies)

Burger R APD documents (3 copies)

Burger S APD documents (3 copies)

Burger V APD documents (3 copies)

H2S Contingency Plan

Public Information Copy Submit original plus THREE copies,

U.S. Department of the Interior

Bureau of Safety and Environmental

Enforcement (BSEE)

Submit original plus THREE copies,

with ONE copy marked "Public Information."

OMB Control No. 1010-0141
OMB Approval Expires 10/31/2014

Application for Permit to Drill (APD)

PROPOSAL TO DRILL NEW WELL SIDETRACK	BYPASS [2. BSE 021	EE OPERATOR NO. 17	3. OPERATOR NAME and ADDRESS (Submitting office)						
4. WELL NAME (CURRENT)	5. SIDETRACK NO. (C	6. BYF	PASS NO. (CURRENT)		ell Gulf of	Mexico				
OCS-Y 12280 #001 (Burger A)	n/a		Inc							
7. PROPOSED START DATE	8. PLAN CONTROL NO	. (NEW WELL	ONLY)			te 1000 01 C Stree				
July 4, 2012	n/a				2000	chorage, A	165 morrowski neverina			
9. API WELL NO. (CURRENT SIDETRACK / BYPA	SS) (12 DIGITS)				17"	onorago, r				
n/a										
10. Revision If revision, please list changes:										
WELL AT TOTAL DE	PTH (PROPOSI	ED)		WEI	LL AT	SURFACE				
12. LEASE NO.				17. LEASE NO.						
				OCS-Y 2280						
13. AREA NAME				18. AREA NAME						
				Posey						
14. BLOCK NO.				19. BLOCK NO.						
			6764 (N71 deg 18' 30.92"; W163 deg 12' 43.17")							
15. LATITUDE	16. LONGITUD	E		20. LATITUDE 21. LONGITUDE						
(NAD 83 / NAD 27)	(NAD	83/ NAC	27)	(X NAD 83 / NAD 27) (X NAD 83 / NAD 27)						
	IST OF SIGNIFIC	CANT MA	RKE	RS ANTICIPATED	-		-			
22. NAME	23. TOP (MD)	24. TOP (TVD								
							8			
25. LIST ALL ATTACHMENTS (Attach complete we	Il prognosis + attachment	ts required by 3	0 CFR 2	50.414 or 30 CFR 250.1617(c	c) and (d) as appropriate.)				
		3.7								
26. CONTACT NAME			27 CO	NTACT TELEPHONE NO.	28 CO	NTACT E-MAIL A	DDRESS			
Jim Miller				646 7122		niller@shell.co				
29. AUTHORIZING OFFICIAL (Type or print name	9)		30. TITLE							
Susan Childs			Alaska Venture Support Integrator, Manager							
31. AUTHORIZING SIGNATURE		32. DATE 6-11-2012								
Louis			-							
APPROVED		ACE FOR B	SEE U	SE ONLY	TITLE					
APPROVED: With Attached Conditions	BY				inte					
Without Conditions	İ		•••••		PATE					
API WELL NO. ASSIGNED TO THIS WELL				DATE						

Application for Permit to Drill (APD) Information Sheet

33) Que	estic	on Inform	nation Sheet
Questions		esponse	Remarks
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?		YES NO N/A	
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?		YES NO N/A	Water based drilling fluids will be used.
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?		YES NO N/A	Kill weight mud will be stored on the drilling vessel in sufficient quantities to kill any flows. Riser and BOP to be installed after setting conductor at -1244 feet below the mudline. All deeper portions of the well will be drilled with the riser installed. ROV monitoring will be in place.
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?	ROO	YES NO N/A	Conductor casing to be installed at a depth of approximately 1244 feet below the mudline.
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)		YES NO N/A	Discharges from the proposed operation will be covered under the EPA NPDES Arctic General Permit, authorization number AKG-28-0005.
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.		YES NO N/A	The proposed well will be drilled from a floating drillship, not from a platform.
		E-(17-24)	
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?		YES NO N/A	

BSEE Form BSEE-0123 (October 2011 - Supersedes all previous versions of this form which may not be used.) Page 2 of 2

Public Information Copy

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE)

Submit original plus THREE copies, with ONE copy marked "Public Information." OMB Control No. 1010-0141 OMB Approval Expires 10/31/2014

Application for Permit to Drill (APD)

1. PROPOSAL TO DRILL X NEW WELL SIDETRACK	BYPASS DEEPEN	2. BSE 021	EE OPERATOR NO. 17	OPERATOR NAME and ADDRES (Submitting office)						
4. WELL NAME (CURRENT)	6. BYF	PASS NO. (CURRENT)	Shell Gulf Of Mexico Inc.							
OCS-Y 2321 #001 (Burger J)	n/a	91 n 1 <u> </u>	et .							
7. PROPOSED START DATE	8 PLAN CONTROL NO. (NEW WE	LL ONLY)	3	1000	01 C Stree ite 1000					
July 4, 2012	n/a			An	chorage A	K				
9. API WELL NO. (CURRENT SIDETRACK / BYPAS n/a	S) (12 DIGITS)			998	503					
10. Revision If revision, please list changes:										
WELL AT TOTAL DE	PTH (PROPOSED)	- Id	WE	LL A7	SURFACE					
12. LEASE NO.			17. LEASE NO.							
			OCS-Y 2321							
13. AREA NAME			18. AREA NAME							
			Posey							
14. BLOCK NO.			19. BLOCK NO.							
			6912 (N71 deg 10' 24.03"; W163 deg 28' 18.52")							
15. LATITUDE (NAD 83 / NAD 27)	NAD 27)	20. LATITUDE 21, LONGITUDE 27) (X NAD 83 / NAD 27) (X NAD 83 / NAD 27)								
LI	ST OF SIGNIFICANT N	MARKER	RS ANTICIPATED		ved a series					
22. NAME	23. TOP (MD) 24. TOP (TVD)	22. NAME		23. TOP (MD)	24. TOP (TVD)				
25. LIST ALL ATTACHMENTS (Allach complete well	prognosis + attachments required t	y 30 CFR 2	50.414 or 30 CFR 250.1617(c) and (d) as appropriate.)					
See the APD Table of C	ontents for all the do	cumen	its associated wi	th th	is APD sub	omission.				
26. CONTACT NAME		27. CO	NTACT TELEPHONE NO.	28. CC	NTACT E-MAIL A	DDRESS				
Jim Miller		907	646 7122	Jim.r	nliler@shell.co	om				
29. AUTHORIZING OFFICIAL (Type or print name			30. TITLE							
Susan Childs 31. AUTHORIZING SIGNATURE			Alaska Venture Support Integrator, Manager 32. DATE							
Seese (dild	6-11-20)12							
	THIS SPACE FOR	R BSEE U	SE ONLY							
APPROVED: With Attached Conditions Without Conditions	BY			TITLE						
API WELL NO. ASSIGNED TO THIS WELL			DATE							

Application for Permit to Drill (APD) Information Sheet

33) Question Information Sheet								
Questions	Re	esponse	Remarks					
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?		YES NO N/A						
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?		YES NO N/A	Water based drilling fluids will be used.					
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?		YES NO N/A	Kill weight mud will be stored on the drillship in sufficient quantities to kill any flows. Riser and EOP to be installed after satting conductor at -1244 feet below the mudline. All deeper portions of the well will be drilled with the riser installed. EOV monitoring will be in place.					
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?		YES NO N/A	Conductor casing to be installed at a depth of approximately 1244 feet below the mudline.					
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)	X -	YES NO N/A	Discharges from the proposed operation will be covered under the EPA NPDES Arctic General Permit, authorization number AKG-28-0004.					
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.		YES NO N/A	The proposed well will be drilled from a floating drillship, not from a platform.					
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?		YES NO N/A						

BSEE Form BSEE-0123 (October 2011 - Supersedes all previous versions of this form which may not be used.) Page 2 of 2

Public Information Copy

Submit original plus THREE copies, with ONE copy marked "Public Information." OMB Control No. 1010-0141
OMB Approval Expires 10/31/2014

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE)

Application for Permit to Drill (APD)

PROPOSAL TO DRILL NEW WELL SIDETRACK	BYPASS [DEEPEN	2. BS 021	EE OPERATOR NO. 17	(St	ERATOR NAME a		
	SIDETRACK NO. (CURRENT)	PASS NO. (CURRENT)	Shell Gulf Of Mexico Inc.				
	OCS-Y 2324 #001 (Burger V) n/a n/a							
	PLAN CONTROL N	IO. (NEW WELL	ONLY)		Sui	te 1000		
July 4, 2012	n/a					chorage A	K	
9. API WELL NO. (CURRENT SIDETRACK / BYPASS) n/a	(12 DIGITS)				995	503		
10. Revision If revision, please list changes:								
WELL AT TOTAL DEP	TH (PROPOS	SED)	ajol .	WE	LL AT	SURFACE		
12. LEASE NO.				17. LEASE NO.				
				OCS-Y 2324				
13. AREA NAME				18. AREA NAME				
				Posey				
14. BLOCK NO.				19. BLOCK NO.				
				6915 (N71 deg 120	33.39	; W163 deg 0	4' 21.23")	
15. LATITUDE	16. LONGITU	DE	-	20. LATITUDE		21. LONGITUDE		
(NAD 83 / NAD 27)	(NA	D 83/ NA	D 27)	(X NAD 83 / NAD 27) (X NAD 83 / NAD 27)				
LIS	T OF SIGNIF	ICANT MA	RKF	RS ANTICIPATED				
22. NAME	23, TOP (MD)	24. TOP (TV	and the second second				24. TOP (TVD)	
		-						
= =	-							
25. LIST ALL ATTACHMENTS (Attach complete well po							mission.	
26. CONTACT NAME			27. CO	NTACT TELEPHONE NO.	28. CO	NTACT E-MAIL A	DDRESS	
Jim Miller			907	646 7122	Jim.m	niller@shell.co	om	
29. AUTHORIZING OFFICIAL (Type or print name)			30. TI). TITLE				
Susan Childs			Alas	Alaska Venture Support Integrator, Manager				
31. AUTHORIZING SIGNATURE Seuse	Child	•	32. D/	6-11-20	12			
	THIS SI	PACE FOR E	SEE U	SE ONLY				
APPROVED: With Attached Conditions Without Conditions	BY	••••••			TITLE			
API WELL NO. ASSIGNED TO THIS WELL					DATE			

Application for Permit to Drill (APD) Information Sheet

33) Que	estion Inform	nation Sheet
Questions	Response	Remarks
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?	□ YES □ NO □ N/A	
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?	☐ YES ☐ NO ☑ N/A	Water based drilling fluids will be used.
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?	☐ YES ☐ NO ☐ N/A	Kill weight mud will be stored on the drillship in sufficient quantities to kill any flows. Riser and BOP to be installed after setting conductor at -1244 feet below the mudline. All deaper portions of the well will be drilled with the riser installed. BOV monitoring will be in place.
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?	YES NO N/A	Conductor casing to be installed at a depth of approximately 1244 feet below the mudline.
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)	⊠ YES □ NO □ N/A	Discharges from the proposed operation will be covered under the EPA NPDES Arctic General Permit, authorization number AKG-28-0019.
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	☐ YES ☐ NO 図 N/A	The proposed well will be drilled from a floating drillship, not from a platform.
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?	☐ YES ☑ NO ☐ N/A	

BSEE Form BSEE-0123 (October 2011 - Supersedes all previous versions of this form which may not be used.) Page 2 of 2

Public Information Copy

Submit original plus THREE copies, with ONE copy marked "Public Information." OMB Control No. 1010-0141
OMB Approval Expires 10/31/2014

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE)

Application for Permit to Drill (APD)

PROPOSAL TO DRILL NEW WELL SIDETRACK	BYPASS DE	The state of the s	EE OPERATOR NO.	3. OPERATOR NAME and ADDRESS (Submitting office) Shell Offshore Inc.			
4. WELL NAME (CURRENT)	5. SIDETRACK NO. (CURF	15 m landed	PASS NO. (CURRENT)	Shell Offshore Inc. 3601 C Street			
OCS-Y 1805 #001 (Sivulliq N)	n/a	n/a	THE CO. LET	0.0000000000000000000000000000000000000	te 1000		
7. PROPOSED START DATE	8, PLAN CONTROL NO. (N	EW WELL ONLY)			chorage A	K	
July 10, 2012	n/a			995	503		
9. API WELL NO. (CURRENT SIDETRACK / BYPA n/a	3S) (12 DIGITS)		3000				
10. Revision If revision, please list changes:							
WELL AT TOTAL DE	PTH (PROPOSED)	WE	LL AT	SURFACE		
12. LEASE NO.			17. LEASE NO.				
			OCS-Y 1805				
13. AREA NAME			18. AREA NAME				
			Flaxman Island				
14. BLOCK NO.			19. BLOCK NO.				
			6658 (N70 deg 23'	29.58";	W145 deg 58	52.53")	
15. LATITUDE (NAD 83 / NAD 27)	□ NAD 27)	20. LATITUDE 21. LONGITUDE (X) NAD 83 / NAD 27) (X) NAD 83 / NAD 27)					
L	IST OF SIGNIFICA	NT MARKE	RS ANTICIPATED				
22. NAME	23. TOP (MD) 24.	TOP (TVD)	22. NAME		23. TOP (MD)	24. TOP (TVD)	
						THE RESERVE	
25. LIST ALL ATTACHMENTS (Attach complete we	Il proposie + attachmente re	oulead by 30 CEP	250 414 or 30 CER 250 1617	(c) and (d	as anomodala l		
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26. CONTACT NAME		27. C	ONTACT TELEPHONE NO.	28. CO	NTACT E-MAIL A	DDRESS	
Jim Miller		907	646 7122	jim.n	niller@shell.co	om	
29. AUTHORIZING OFFICIAL (Type or print name	i)	The state of the s	TITLE				
Susan Childs Alaska Venture Support Integrator, Manager							
31. AUTHORIZING SIGNATURE Seems	Child	32. D	6-11-20	012			
	THIS SPAC	E FOR BSEE (ISE ONLY	.,			
APPROVED: With Attached Conditions Without Conditions	BY			TITLE			
API WELL NO. ASSIGNED TO THIS WELL				DATE			

Application for Permit to Drill (APD) Information Sheet

22) 0	ation Inform	wattan Ohaat								
33) Question Information Sheet										
Questions	Response	Remarks								
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?	☐ YES ☐ NO ☐ N/A									
	Im wee									
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?	☐ YES ☐ NO 図 N/A	Water based drilling fluids will be used.								
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?	☐ YES ☐ NO ☐ N/A	Kill weight mud will be stored on the drilling vessel in sufficient quantities to kill any flows. Riser and BOP to be installed after setting conductor at -857 feet below the mudline. All deeper portions of the well will be drilled with the riser installed. ROV monitoring will be in place.								
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?	☐ YES ☐ NO ☑ N/A	Conductor casing to be installed at a depth of approximately 857 feet below the mudline.								
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)	YES NO N/A	Discharges from the proposed operation will be covered under the EPA NPDES Arctic General Permit, authorization number AKG-28-0009.								
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	☐ YES ☐ NO ☒ N/A	The proposed well will be drilled from a floating drilling vessel, not from a platform.								
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?	☐ YES ☑ NO ☐ N/A									

BSEE Form BSEE-0123 (October 2011 - Supersedes all previous versions of this form which may not be used.) Page 2 of 2

Public Information Copy

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE)

Submit original plus THREE copies, with ONE copy marked "Public Information." OMB Control No. 1010-0141 OMB Approval Expires 10/31/2014

Application for Permit to Drill (APD)

PROPOSAL TO DRILL NEW WELL SIDETRACK NEW WELL SIDETRACK NEW WELL SIDETRACK NEW WELL SIDETRACK		2. BSEE OPERATOR NO. 00689		3. OPERATOR NAME and ADDRESS (Submitting office)				
4. WELL NAME (CURRENT)				PASS NO. (CURRENT)	1990000	ell Offshor 01 C Stree		
	OCS-Y 1941 #001 (Torpedo H) n/a n/a						•	
7. PROPOSED START DATE	8. PLAN CONTROL N	O. (NEW WELL	ONLY)			ite 1000 chorage A	K	
July 10, 2012	n/a				998	503		
9. API WELL NO. (CURRENT SIDETRACK / BYPAS n/a	S) (12 DIGITS)			11				
10. Revision 11. please list changes:								
WELL AT TOTAL DE	PTH (PROPOS	ED)		WE	LL AT	SURFACE		
12. LEASE NO.				17. LEASE NO.				
				OCS-Y 1941				
13. AREA NAME				18. AREA NAME				
				Flaxman Island				
14. BLOCK NO.				19. BLOCK NO.				
				6610 (N70 deg 27'	01.62";	W145 deg 49	9' 32.07")	
15. LATITUDE (NAD 83/ NAD 27)	D 27)	20. LATITUDE						
LI	ST OF SIGNIFI	CANT MA	RKE	RS ANTICIPATED				
22. NAME	23. TOP (MD)	24. TOP (TV	D)	22. NAME		23. TOP (MD)	24. TOP (TVD)	
25. LIST ALL ATTACHMENTS (Attach complete well	prognosis + attachmen	ats required by	30 CFR 2	250.414 or 30 CFR 250.1617	(c) and (d) as appropriate.)		
26. CONTACT NAME		-	27. CC	INTACT TELEPHONE NO.	28. CONTACT E-MAIL ADDRESS			
Jim Miller			907	646 7122	jim.miller@shell.com			
29. AUTHORIZING OFFICIAL (Type or print name			10000000	IO. TITLE				
Susan Childs			Ala	Alaska Venture Support Integrator, Manager				
31. AUTHORIZING SIGNATURE Seusce	Child		32. D/	6-11-20	12	11/1/11/11		
	THIS SF	ACE FOR E	SEEU	ISE ONLY				
APPROVED: With Attached Conditions Without Conditions	BY	*************	•••••		TITLE			
API WELL NO. ASSIGNED TO THIS WELL				DATE				

Application for Permit to Drill (APD) Information Sheet

22) 0	Man In	
	estion in	formation Sheet
Questions	Respon	nse Remarks
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?	YES NO N/A	
The second section of the second seco		
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?	☐ YES ☐ NO 図 N/A	Water based drilling fluids will be used.
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?	☐ YES ☐ NO ☐ N/A	Kill weight mud will be stored on the drilling vessel in sufficient quantities to kill any flows. Riser and BOF to be installed after setting conductor at -1045 feet below the mudline. All deeper portions of the well will be drilled with the riser installed. ROV monitoring will be in place.
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?	☐ YES ☐ NO ☑ N/A	Conductor casing to be installed at a depth of approximately 1045 feet below the mudline.
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)	☐ YES ☐ NO ☐ N/A	Discharges from the proposed operation will be covered under the EPA NPDES Arctic General Permit, authorization number AKG-28-0010.
	EZSKAS	
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	☐ YES ☐ NO ☑ N/A	The proposed well will be drilled from a floating drilling vessel, not from a platform.
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?	☐ YES ☑ NO ☐ N/A	

BSEE Form BSEE-0123 (October 2011 - Supersedes all previous versions of this form which may not be used.) Page 2 of 2



Mark Fesmire, Alaska Region Director
Alaska OCS Region
U.S. Department of Interior
Bureau of Safety & Environmental Enforcement
3801 Centerpoint Drive, Suite 500
Anchorage, AK 99503-5823

Regional Director, Alaska OCS Bisseau of Salety and Environmental Enforcement Anchorage, Alaska

JUN 1 1 2012

Shell 3601 C Street, Suite 1000 Anchorage, AK 99503 Tel. (907) 646-7112 Email Susan.Childs@Shell.com Internet http://www.Shell.com/

June 11, 2012

Re: Shell Offshore Inc. - Revised and new Information in support of Applications for Permit to Drill for Sivulliq N and G and Torpedo H and J wells - Alaska Outer Continental Shelf, Beaufort Sea

Dear Mr. Fesmire:

Shell Offshore Inc. (Shell) hereby submits revised and new information for the Applications for Permit to Drill (APD) for the following drill sites in the Camden Bay area of the Beaufort Sea:

- Lease # OCS-Y 1805, Flaxman Island Block 6658, Sivulliq N (#001)
- Lease # OCS-Y 1805, Flaxman Island Block 6658, Sivulliq G (#002)
- Lease # OCS-Y 1941, Flaxman Island Block 6610, Torpedo H (#001)
- Lease # OCS-Y 1936, Flaxman Island Block 6559, Torpedo J (#001)

This information is supplied either at the request of the Bureau of Safety and Environmental Enforcement (BSEE) or is a new document in support of the APD submittal. Only revised or new documents are included in this submission. Documents that have not been revised since the last submission of information (April 17, 2012) are not included.

In addition to the APD documents, also attached are the following:

- Signed BSEE-0123 (public version) forms for each APD drill site
- A compact disc with information pertaining to the downhole tools to be used on the Torpedo and Sivulliq wells

Shell requests that the Torpedo H APD submittal be given priority of review, followed by Sivulliq N, Torpedo J and Sivulliq G.

Shell asserts all materials submitted with this letter, except for the public information version of forms BSEE-0123 and -0123S, remain proprietary and are not subject to requests under the Freedom of Information Act (FOIA). Shell requests continuing confidentiality of the materials submitted herein, as well as any additional documentation supplied by Shell in support of this APD in response to requests for additional information by either BSEE, or Bureau of Ocean Energy Management.

Please coordinate any requests for additional information through me at (907) 646-7112 or at Susan.Childs@Shell.com, or Pauline Ruddy at (907) 771-7243 or at Pauline.Ruddy@Shell.com.

Department of Interior Bureau of Safety and Environmental Enforcement June 11, 2012 Page 2 of 2

Thank you.

Susan Childs

Alaska Venture Support Integrator, Manager

Attachments:

Signed BSEE-0123 Forms (Public)

Kulluk, Torpedo and Sivulliq Area Specific Documents (3 copies)

Sivulliq G APD documents (3 copies)

Sivulliq N APD documents (3 copies)

Torpedo H APD documents (3 copies)

Torpedo J APD documents (3 copies)



Mark Fesmire, Alaska Region Director Alaska OCS Region U.S. Department of Interior Bureau of Safety & Environmental Enforcement Hegronau Unecion, Austral Enforcement Email Susan. Childs@Shell.com Anchorage, AK 99503-5823

REGETV

JUN 1 2 2012

3601 C Street, Suite 1000 Anchorage, AK 99503

Shell

Internet http://www.Shell.com/

June 12, 2012

Shell Offshore Inc. and Shell Gulf of Mexico Inc. (Shell) submission of Wellbore Re: Containment Screening Tool (WCST) electronic files for the Chukchi Sea and Camden Bay drill sites

Dear Mr. Fesmire:

Shell hereby submits the attached compact disc containing the electronic files used for the wellbore containment screening tool (WCST) calculations. Included are WCST analyses for the Chukchi Sea drill sites (Burger A, F, J, R, S and V) and the Camden Bay drill sites (Sivulliq G and N; Torpedo H and J).

Shell requests continuing confidentiality of the materials submitted herein, as well as any additional documentation supplied by Shell in support of this APD in response to requests for additional information by either Bureau of Safety and Environmental Enforcement, or Bureau of Ocean Energy Management.

Please coordinate any requests for additional information through me at (907) 646-7112 or at Susan, Childs@Shell.com, or Pauline Ruddy at (907) 771-7243 or at Pauline, Ruddy@Shell.com,

Sincerely.

Susan Childs

AK Venture Support Integrator, Manager

Attachment:

WCST electronic files (cd)

Disk Resubmitted June 21, 2012



Mark Fesmire, Alaska Region Director Alaska OCS Region U.S. Department of Interior Bureau of Safety & Environmental Enforcementaglonal Director, Alaska OCS 3801 Centerpoint Drive, Suite 500 Remark of Salety and Environmental Enforcement Anchorage, AK 99503-5823

REGETVER JUN 1 3 2012

Anchorage, Alaska

Shell 3601 C Street, Suite 1000 Anchorage, AK 99503 Tel. (907) 646-7112 Email Susan.Childs@Shell.com Internet http://www.Shell.com/

June 13, 2012

Re:

Shell Gulf of Mexico Inc. - Digital files of the revised and new information in support of Applications for Permit to Drill for Burger A, F, J, R, S and V wells - Alaska Outer Continental Shelf, Chukchi Sea

Dear Mr. Fesmire:

Shell Gulf of Mexico Inc. (Shell), at the request of the Bureau of Safety and Environmental Enforcement (BSEE), hereby submits digital copies of the revised and new information (sent in hard copy form on June 11, 2012) for the Applications for Permit to Drill (APD) for the Chukchi Sea drill sites Burger A, F, J, R, S and V.

Also included are three paper copies of the Level 1 Well Containment Screening Tool (WCST) analysis for Burger S, hole section 12.25". This analysis was missing from the hard copy submission on June 11, 2012. The complete Burger A WCST analysis is contained in the attached Burger A digital file.

Shell asserts all materials submitted with this letter, except for the public information version of form BSEE-0123S, remain proprietary and are not subject to requests under the Freedom of Information Act. Shell requests continuing confidentiality of the materials submitted herein, as well as any additional documentation supplied by Shell in support of this APD in response to requests for additional information by either BSEE, or Bureau of Ocean Energy Management.

Please coordinate any requests for additional information through me at (907) 646-7112 or at Susan. Childs @Shell.com, or Pauline Ruddy at (907) 771-7243 or at Pauline. Ruddy @Shell.com.

Sincerely.

Susan Childs

AK Venture Support Integrator, Manager

Attachments:

Digital copies of Chukchi Sea APD information (7 CDs)

Copies of the Level 1 WCST for the 12.25" section for drill site Burger S

original disk did not meet DSEE Record Requirements Disks lesubmilled June 21,2012



Shell

Mark Fesmire, Alaska Region Director Alaska OCS Region U.S. Department of Interior

Bureau of Safety & Environmental Enforcement JUN 1 3 2012 3801 Centerpoint Drive, Suite 500 Anchorage, AK 99503-5823

Regional Director, Alaska OCS Dureau of Safety and Environmental Enforcement Anchorage, Alaska

3601 C Street, Suite 1000 Anchorage, AK 99503 Tel. (907) 646-7112

Email Susan.Childs@Shell.com Internet http://www.Shell.com/

June 13, 2012

Shell Offshore Inc. - Digital files of the revised and new information in support of Re: Applications for Permit to Drill for drill sites Sivulliq G and N and Torpedo H and J -Alaska Outer Continental Shelf, Beaufort Sea

Dear Mr. Fesmire:

Shell Offshore Inc. (Shell), at the request of the Bureau of Safety and Environmental Enforcement (BSEE), hereby submits digital copies of the revised and new information (sent in hard copy form on June 11, 2012) for the Applications for Permit to Drill (APD) for the Camden Bay drill sites Sivulliq G and N and Torpedo H and J.

Shell asserts all materials submitted with this letter, except for the public information version of form BSEE-0123S, remain proprietary and are not subject to requests under the Freedom of Information Act. Shell requests continuing confidentiality of the materials submitted herein, as well as any additional documentation supplied by Shell in support of this APD in response to requests for additional information by either BSEE, or Bureau of Ocean Energy Management.

Please coordinate any requests for additional information through me at (907) 646-7112 or at Susan, Childs & Shell.com, or Pauline Ruddy at (907) 771-7243 or at Pauline, Ruddy & Shell.com.

Sincerely,

Susan Childs

AK Venture Support Integrator, Manager

Attachment:

Digital copies of Beaufort Sea APD information (5 CDs)

Beaufort Sea APDs

For all APDs:

In the new sets of waivers that we received in July, the reference to 30 CFR 250.488 should be 30 CFR 250.248.



Mark Fesmire, Alaska Region Director
Alaska OCS Region
U.S. Department of Interior
Bureau of Safety & Environmental Enforcement
3801 Centerpoint Drive, Suite 500
Anchorage, AK 99503-5823

Regional Director, Alaska OCS Diseased Balaty and Environmental Enforcement Anchorage, Alaska

JUL 3 1 2012

Shell 3601 C Street, Suite 1000 Anchorage, AK 99503 Tel. (907) 646-7112 Email Susan.Childs@Shell.com Internet http://www.Shell.com/

July 31, 2012

Re: Shell Gulf of Mexico Inc. – Revised information in support of Applications for Permit to Drill for Burger A, F, J, R, S and V wells – Alaska Outer Continental Shelf, Chukchi Sea

Dear Mr. Fesmire:

In response to a verbal request from the Bureau of Safety and Environmental Enforcement (BSEE) on July 28, 2012, Shell Gulf of Mexico Inc. (Shell) hereby submits the following revised information for the Applications for Permit to Drill (APD) for drill sites in the Chukchi Sea. The information includes:

- For all Burger drill sites: Waivers to Regulations document
- Burger J: Form BSEE-0123S, wellbore sketch and cementing plan
- Burger R: Form BSEE-0123S and wellbore sketch

Shell asserts all materials submitted with this letter remain proprietary and are not subject to requests under the Freedom of Information Act. Shell requests continuing confidentiality of the materials submitted herein, as well as any additional documentation supplied by Shell in support of this APD in response to requests for additional information by either BSEE, or Bureau of Ocean Energy Management.

Please coordinate any requests for additional information through me at (907) 646-7112 or at Susan.Childs@Shell.com, or Pauline Ruddy at (907) 771-7243 or at Pauline.Ruddy@Shell.com.

Sincerely,

Susan Childs

AK Venture Support Integrator, Manager

Attachments:

Burger A, F, J, R, S and V APD documents (3 copies each and compact disks)



Mark Fesmire, Alaska Region Director Alaska OCS Region U.S. Department of Interior Bureau of Safety & Environmental Enforcement 3801 Centerpoint Drive, Suite 500 Anchorage, AK 99503-5823

JUL 3 1 2012

Regional Director, Alaska OCS

Anchorage, Alaska

Shell 3601 C Street, Suite 1000 Anchorage, AK 99503 Tel. (907) 646-7112

of Belotyand Environmental Enterange Email Susan. Childs@Shell.com Internet http://www.Shell.com/

July 31, 2012

Shell Offshore Inc. - Revised information in support of Applications for Permit to Drill for Re: Sivulliq N and G and Torpedo H and J wells - Alaska Outer Continental Shelf, Beaufort Sea

Dear Mr. Fesmire:

In response to a verbal request from the Bureau of Safety and Environmental Enforcement (BSEE) on July 28, 2012, Shell Offshore Inc. (Shell) hereby submits revised information for the Applications for Permit to Drill (APD) for drill sites in the Camden Bay area of the Beaufort Sea. This information includes:

- For all Camden Bay drill sites: Waivers to Regulations document
- Torpedo H: wellbore sketch
- Torpedo J: wellbore sketch

Shell asserts all materials submitted with this letter remain proprietary and are not subject to requests under the Freedom of Information Act. Shell requests continuing confidentiality of the materials submitted herein, as well as any additional documentation supplied by Shell in support of this APD in response to requests for additional information by either BSEE, or Bureau of Ocean Energy Management.

Please coordinate any requests for additional information through me at (907) 646-7112 or at Susan. Childs @Shell.com, or Pauline Ruddy at (907) 771-7243 or at Pauline. Ruddy @Shell.com.

Sincerely.

Susan Childs

AK Venture Support Integrator, Manager

Attachments:

Sivullig G and N and Torpedo H and J APD documents (3 copies each and compact disks)



Shell

Mark Fesmire, Alaska Region Director Alaska OCS Region U.S. Department of Interior Bureau of Safety & Environmental Enforcement AUG 0 9 2012

3801 Centerpoint Drive, Suite 500 Anchorage, AK 99503-5823

Regional Director, Alaska OCS and Bellety and Environmental Enforcement Anchorage, Alaska

3601 C Street, Suite 1000 Anchorage, AK 99503 Tel. (907) 646-7112 Email Susan.Childs@Shell.com

Internet http://www.Shell.com/

August 9, 2012

Re:

Shell Gulf of Mexico Inc. - Revised information in support of Applications for Permit to Drill (APD) for Burger A, F, J, R, S and V wells - Alaska Outer Continental Shelf, Chukchi Sea

Dear Mr. Fesmire:

Shell Gulf of Mexico Inc. (Shell) is submitting an updated Verification of BOP Compatibility (30 CFR 250.416(f)) for drill sites Burger A, F, J, R, S and V.

Shell asserts all materials submitted with this letter remain proprietary and are not subject to requests under the Freedom of Information Act. Shell requests continuing confidentiality of the materials submitted herein, as well as any additional documentation supplied by Shell in support of this APD in response to requests for additional information by either Bureau of Safety and Environmental Enforcement, or Bureau of Ocean Energy Management.

Please coordinate any requests for additional information through me at (907) 646-7112 or at Susan.Childs@Shell.com, or Pauline Ruddy at (907) 771-7243 or at Pauline.Ruddy@Shell.com.

Sincerely,

Susan Childs

AK Venture Support Integrator, Manager

Attachments:

Paper and digital copies of updated Chukchi Sea APD information



Shell

3601 C Street, Suite 1000 Anchorage, AK 99503 Tel. (907) 646-7112

Email Susan.Childs@Shell.com Internet http://www.Shell.com/

Mark Fesmire, Alaska Region Director Alaska OCS Region U.S. Department of Interior Bureau of Safety & Environmental Enforcement

3801 Centerpoint Drive, Suite 500

Anchorage, AK 99503-5823

August 15, 2012

Re: Shell Offshore Inc. - Revised information in support of Applications for Permit to Drill (APD) for Sivulliq G and N wells - Alaska Outer Continental Shelf, Beaufort Sea

RECEIV

AUG 1 5 2012

Regional Director, Alaska OCS and Salaty and Environmental Enlorgement

Anchorage, Alaska

Dear Mr. Fesmire:

Shell Offshore Inc. (Shell) is submitting an updated Verification of BOP Compatibility (30 CFR 250.416(f)) for drill sites Sivulliq G and N.

Shell asserts all materials submitted with this letter remain proprietary and are not subject to requests under the Freedom of Information Act. Shell requests continuing confidentiality of the materials submitted herein, as well as any additional documentation supplied by Shell in support of this APD in response to requests for additional information by either Bureau of Safety and Environmental Enforcement, or Bureau of Ocean Energy Management.

Please coordinate any requests for additional information through me at (907) 646-7112 or at Susan, Childs@Shell.com, or Pauline Ruddy at (907) 771-7243 or at Pauline.Ruddy@Shell.com.

Sincerely.

Susan Childs

AK Venture Support Integrator, Manager

Attachments:

Paper and digital copies of updated Sivullig G and N APD information

Public Information Copy

U.S. Department of the Interior

Bureau of Safety and Environmental Enforcement (BSEE) Submit original plus THREE copies, with ONE copy marked "Public Information."

OMB Control No. 1010-0141
OMB Approval Expires 10/31/2014

Application for Permit to Drill (APD)

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4. WELL NAME (CUR	RENT)		5. SIDETRACK NO. (C	SIDETRACK NO. (CURRENT) 6. BYPASS NO. (CURRENT)				Shell Gulf of Mexico			
		(Burger A)	n/a		n/a		Inc. Suite 1000				
7. PROPOSED STAR	T DATE		8. PLAN CONTROL NO). (NEW WELL	ONLY)			01 C Stree	t		
July 4, 20	12		n/a					chorage, A	Contract of the second		
9. API WELL NO. (CU	RRENT SID	ETRACK / BYPAS	SS) (12 DIGITS)				7	3-1			
n/a											
10. Revi	sion 11.	If revision, please list changes:						77			
W	ELL AT	TOTAL DE	PTH (PROPOS	ED)	18	WE	LL A	SURFACE			
12. LEASE NO.						17. LEASE NO.					
OCS-Y 2	280					OCS-Y 2280					
13. AREA NAME						18. AREA NAME					
Posey						Posey					
14. BLOCK NO.						19. BLOCK NO.					
6764 (Lat	. N71 de	g 18' 30.92"; L	ong. W163 deg 12	2' 43.17")		6764 (Lat. N71 deg	18' 30.9	2"; Long. W163	3 deg 12' 43.17")		
15. LATITUDE	D 83 /	NAD 27)	16. LONGITUD	9E 983 / NAC	27)	20. LATITUDE (X NAD 83 / N	AD 27)	21. LONGITUDE (X NAD 83	/ NAD 27)		
		LI	ST OF SIGNIFI	CANT MA	RKEF	RS ANTICIPATED					
22. NAME			23. TOP (MD)	24. TOP (TVD))	22. NAME		23. TOP (MD)	24. TOP (TVD)		
						ts associated w			mission.		
26. CONTACT NAME					27. CO	NTACT TELEPHONE NO.	28. CO	NTACT E-MAIL A	DDRESS		
Jim Miller					907	646 7122	jim.n	niller@shell.co	m		
29. AUTHORIZING O		pe or print name)		30. TITLE						
Susan Childs					Alas	ska Venture Suppor	t Integ	rator, Manag	er		
31. AUTHORIZING SI	GNATURE	Seene	hild		32. DA Ap	TE ril 16, 201	2				
- CONTROL - CONT	Attached Cou ut Condition	8	THIS SP	ACE FOR B	SEE V	SE ONLY		Alaska Sienal 30/201	BSER Director		

Public Information Copy

Application for Permit to Drill (APD) Information Sheet

33) Question Information Sheet									
Questions	Re	esponse	Remarks						
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?		YES NO N/A							
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?		YES NO N/A	Water based drilling fluids will be used.						
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?		YES NO N/A	Kill weight mud will be stored on the drillship in sufficient quantities to kill any flows. Riser and BOP to be installed after setting conductor at -1244 feet below the mudline. All deeper portions of the well will be drilled with the riser installed. ROV monitoring will be in place.						
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?		YES NO N/A	Conductor casing to be installed at a depth of approximately 1244 feet below the mudline.						
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)		YES NO N/A	Discharges from the proposed operation will be covered under the EPA NPDES Arctic General Permit, authorization number AKG-28-0005.						
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.		YES NO N/A	The proposed well will be drilled from a floating drillship, not from a platform.						
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?		YES NO N/A							

BSEE Form BSEE-0123 (October 2011 - Supersedes all previous versions of this form which may not be used.) Page 2 of 2



U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE)

marked "Public Information."

Submit original plus THREE copies, with ONE copy SEP 1 2 2012 MB Control No. 1014-0018 OMB Approval Expires 10/31/2014
Regional Director, Alaska OCS
Bureau of Salety and Environmental Enforcement

Application for Permit to Modify (APM)

	T T T T T T T T T T T T T T T T T T T	3. BYPASS NO	(CURRENT)	4. OPERATOR NAME and ADDRESS			
I. WELL NAME (CURRENT)	2. SIDETRACK NO.	3. BTPA55 NO	. (CORREIN)	(Submitting office)			
POSEY 6764 OCS-Y 2280 001	(CURRENT)	00		Shell Gulf of Mexico Inc.			
5. API WELL NO. (12 digits)	6. START DATE (Propo	sed) 7. ESTIMATED DURATION (DAYS)		3601 C Street Suite 1000			
	09/09/2012	1 day		Anchorage, AK 99503			
55-352-0000200	TO THE TANK THE SHOW THE PROPERTY OF THE	1 day					
	If revision, please list changes:			,			
Revision	list changes.						
WELL AT TOTAL D		WELL AT SURFACE					
0. LEASE NO. OCS-Y 2280	1	OCS-Y 2280					
11. AREA NAME		14, AREA NAME					
POSEY		POSEY					
12. BLOCK NO.	ľ	15. BLOCK NO. 6764					
6764			Mode				
		ed or Completed	WORK				
16. PROPOSED OR COMPLETED WORK PLEASE SELECT ONLY ONE PRIMARY T	(Describe in Section 17)	ANV SECONDARY TV	PES AS NECESSA	RY.			
PLEASE SELECT ONLY ONE PRIMARY I ☐ Enhance Production	Workover:	IANT SECONDART TI	☐ Completion:				
☐ Acidize	☐ Change Tubing			nitial Completion			
	☐ Casing Pressur			Reperforation			
☐ Artifical Lift ☐ Wash/Desand Well	Casing r ressar	o i topan		Change Zone			
		Nell Bore:		Modify Perforations			
☐ Jet Well	☐ Permanent Aba						
Utility	☐ Temporary Aba		☐ Information:				
☐ Initial Injection Well	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	П о <i>t</i>					
☐ Additional Fluids for Injection		Jeliack/Dypass					
Other Operations	☐ Site Clearance		Ц	Change Well Name			
☐ Describe Operation(s)							
18. LIST ALL ATTACHMENTS (Attach con 250.1712(a) through (g); 250.1721(a) through 19. Rig Name or Primary Unit (e.g., Wirelin	gh (h); 250.1722(a) throug e Unit, Coil Tubing, Snubl	ping Unit, etc.)	30 CFR 250.513(a	a) through (d); 250.613(a) through (d);			
Mobile Offshore Drilling Ur	nit Noble Discov	erer					
20. The greater of SITP or MASP (psi): N/	A 21. Type of Safety Va	lve (SV): SCSSV _	_SSCSV _X_N/A	22. SV Depth BML (ft): N/A			
23. Rig BOP (Ran		24.		Rig BOP (Annular)			
Size: Working Pressure	Test Pressure	Working Pres	sure	Test Pressure			
(inches) (psi)	(psi)	(psi)		(psi)			
N/A							
		ng Unit BOP:		27. Wireline Lubricator:			
25. Coiled Tubing BOP: Working Pressure BOP Test Pressure	26. Snubbi Working Press		st Pressure	Working Pressure Test Pressure			
The state of the s	(psi)	(p:		(psi) (psi)			
(psi) (psi)		5.75	NI/A	Low/High: N/A N/A			
N/A Low/High: N/A	N/A	- Lo	w/High:				
28. CONTACT NAME:	NTACT TELEPHONE	10.:	 CONTACT E-MAIL ADDRESS: John.A.Henley@shell.com 				
John A. Henley	The second secon	281.795.0250	32 TITLE	John A. Terney@arten.com			
31. AUTHORIZING OFFICIAL (Type or print name) 32. TITLE Dilling Superintendent							
33. AUTHORIZING SIGNATURE	7×		34. DATE	1 / 12/12			
din Me			<u>Je</u>	PILLIC			
//	THIS SI	PACE FOR BSEE US	EONLY				
APPROVED BY:	TITLE			DATE			
				RESIDENT DE LA COMPANION DE LA			

Application for Permit to Modify (APM) Information Sheet

35) Question Information								
Questions	Re	esponse	Remarks					
a) Is H ₂ S present in the well? If yes, then comment on the inclusion of a Contingency Plan for this operation.		YES NO N/A	Current status is H2S unknown. Shell has an H2S contingency plan in place in the event that H2S is present during drilling.					
b) Is this proposed operation the only lease holding activity for the subject lease? If yes, then comment.		YES NO N/A						
c) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.		YES NO N/A						
d) If sands are to be commingled for this completion, has aproval been obtained?		YES NO N/A						
e) Will the completed interval be within 500 feet of a block line? If yes, then comment.		YES NO N/A						
f) For permanent abandonment, will casings be cut 15 feet below the mudline? If no, then comment.		YES NO N/A						

PAPERWORK REDUCTION ACT OF 1995 (PRA) STATEMENT. The PRA (44 U.S.C. 3501 et. seq.) requires us to inform you that we collect this information to obtain knowledge of equipment and procedures to be used in drilling operations. BSEE uses the information to evaluate and approve or disapprove the adequacy of the equipment and/or procedures to safely perform the proposed drilling operation. Responses are mandatory (43 U.S.C. 1334). Proprietary data are covered under 30 CFR 250.197. 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 OMB Control Number. Public reporting burden for Form BSEE-0124 is estimated to average 17 hours per response. This includes 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, Bureau of Safety and Environmental Enforcement, 381 Elden Street, Herndon, VA 20170.

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE)

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OMB Control No. 1014-0018 SEP 2 4 2010 Approval Expires 10/31/2014

Regional Director, Alaska OCS

A	Application for	or Perr	nit to Modify	(APM	Environmental Enforcement			
1. WELL NAME (CURRENT)	2. SIDETRACK NO.	3.	BYPASS NO. (CURRE	NT)	4. OPERATOR NAME and ADDRESS			
POSEY 6764 OCS-Y 2280 001	(CURRENT)	almi is	00		(Submitting office)			
5. API WELL NO. (12 digits)	6. START DATE (Proposed)		7. ESTIMATED DURATION (DAYS		Shell Gulf of Mexico Inc. 3601 C Street Suite 1000			
55-352-0000200	09/09/2012		1 day		Anchorage, AK 99503			
8. Revision	If revision, please list changes:							
WELL AT TOTAL DE	PTH	WELL AT SURFACE						
10. LEASE NO. OCS-Y 2280		13. LEASE OCS	NO. -Y 2280					
11. AREA NAME POSEY		14. AREA NAME POSEY						
12. BLOCK NO. 6764		15. BLOCK 6764	NO.					
	Propos	ed or Co	ompleted Work					
16. PROPOSED OR COMPLETED WORK (
PLEASE SELECT ONLY ONE PRIMARY TO		MANY SEC	ONDARY TYPES AS NE		4			
☐ Enhance Production ☐ Acidize	☐ Workover: ☐ Change Tubing	,	☐ Comp		ial Completion			
☐ Artifical Lift	☐ Casing Pressu				eperforation			
☐ Wash/Desand Well					ange Zone			
☐ Jet Well		Well Bore:			dify Perforations			
☐ Utility	☐ Permanent Aba	andonment						
☐ Initial Injection Well		andonment	☐ Inform					
Additional Fluids for Injection	☐ Plugback to Sig	detrack/Byp	ass		face Location Plat			
☐ Other Operations	☐ Site Clearance			□ Ch	ange Well Name			
☐ Describe Operation(s)								
17. BRIEFLY DESCRIBE PROPOSED OPE	DATIONS (Attack access	a a i a l						
See following sheet for list of	of documents in	n suppo	ort of this APM.					
18. LIST ALL ATTACHMENTS (Attach comp	lete well prognosis and	attachments	required by 30 CFR 25	50.513(a) th	arough (d); 250.613(a) through (d);			
250.1712(a) through (g); 250.1721(a) through	n (h); 250.1722(a) throug	th (d); or 25	0.1743(a).					
19. Rig Name or Primary Unit (e.g., Wireline	Unit. Coil Tubing, Snubb	oina Unit. et	c.)					
	a will be as the first							
Mobile Offshore Drilling Uni	t Noble Discov	erer						
20. The greater of SITP or MASP (psi): N/A	The second second second second second	lve (SV):	_scssvsscsv _	X_N/A	22. SV Depth BML (ft): N/A			
23. Rig BOP (Rams)	24		1	Rig BOP (Annular)			
Size: Working Pressure	Test Pressure		orking Pressure		st Pressure			
(inches) (psi)	(psi)	100	si)	(ps	10			
N/A N/A	Low/High: N/A	_ -	N/A	Lov	w/High: N/A			
25. Coiled Tubing BOP:	26. Snubbir	ng Unit BO	P:	27.	Wireline Lubricator:			
Working Pressure BOP Test Pressure	Working Press		Test Pressure		Working Pressure Test Pressure			
(psi) (psi)	(psi)		(psi)		(psi) (psi)			
N/A Low/High: N/A	N/A		Low/High: N/	<u>A_</u>	Low/High: N/A N/A			
28. CONTACT NAME: 29. CONTACT TELEPHONE NO.: 30. CONTACT E-MAIL ADDRESS: John A. Henley +1.281.795.0250 John.A.Henley@shell.com								
 AUTHORIZING OFFICIAL (Type or prin Jim Miller 	t name)		32. TITLE Drilling	g Superin	itendent			
33. AUTHORIZING SIGNATURE	34. DATE							
you flett			2012-9	9-24				
/		ACE FOR	BSEE USE ONLY					
APPROVED BY:	TITLE			DA	TE			

Application for Permit to Modify (APM) Information Sheet

35) Question Information							
Questions	Respo	nse	Remarks				
a) Is H ₂ S present in the well? If yes, then comment on the inclusion of a Contingency Plan for this operation.	☐ YES)	Current status is H2S unknown. Shell has an H2S contingency plan in place in the event that H2S is present during drilling.				
b) Is this proposed operation the only lease holding activity for the subject lease? If yes, then comment.	☐ YES)					
c) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	☐ YES)					
d) If sands are to be commingled for this completion, has aproval been obtained?	☐ YES)					
e) Will the completed interval be within 500 feet of a block line? If yes, then comment.	☐ YES)					
f) For permanent abandonment, will casings be cut 15 feet below the mudline? If no, then comment.	□ YE:□ NC☒ N/A)					

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MB Control No. 1014-0018 OCT 1 02012 MB Control No. 1014-0015

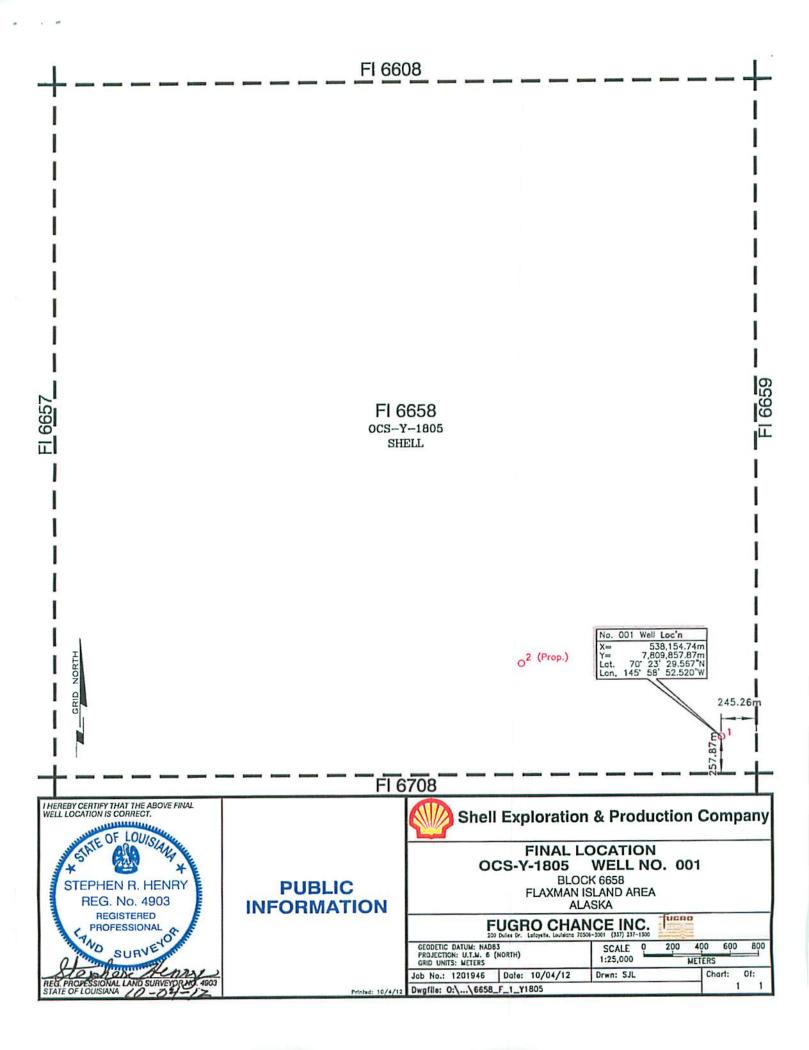
Application for Permit to Modify (APM) horage, Alaska

1. WELL NAME (CURRENT)	2. SIDETRACK NO.		3. BYPASS N	O. (CURRENT)	1 No. 1 State Control		E and ADDRESS	
FI 6658 OCS-Y 1805 001 (Sivulliq N)	(CURRENT)	00		14	(Submitting office) Shell Offshore Inc. 3601 C Street Suite 1000			
5. API WELL NO. (12 digits)	6. START DATE (Prop	oosed) 7. ESTIMATED DURATION (DAY		6/1				
55-171-0001300	10/08/2012	n/a		And	chorage, Al	K, 99503		
9. If revision, please list changes:								
WELL AT TOTAL DE	PTH			WELL A	T SURFA	CE		
10. LEASE NO. OCS-Y 1805		13. LEASE NO. OCS-Y 1805						
11. AREA NAME Flaxman Island			14. AREA NAME Flaxman Island					
12. BLOCK NO. 6658			15, BLOCK NO. 6658					
	Propos	ed or	Completed	Work				
16. PROPOSED OR COMPLETED WORK (
PLEASE SELECT ONLY ONE PRIMARY TY		MANY SE	CONDARY		ARY.			
☐ Enhance Production ☐ Acidize	☐ Workover: ☐ Change Tubing			☐ Completion:	Initial Comp	Nation		
☐ Artifical Lift	☐ Casing Pressur				Reperforation			
☐ Wash/Desand Well	— Casing Freeza	ro repuii			Change Zor			
☐ Jet Well	☐ Abandonment of N	Well Bor	e:		Modify Perf	orations		
☐ Utility	☐ Permanent Aba	andonme	nt					
☐ Initial Injection Well	☐ Temporary Aba	andonme	nt	☐ Information:				
Additional Fluids for Injection	Plugback to Sid							
Other Operations	☐ Site Clearance				Change We	II Name		
□ Describe Operation(s)								
17. BRIEFLY DESCRIBE PROPOSED OPERATIONS (Attach prognosis):								
See attached Final Well Location figure.								
18. LIST ALL ATTACHMENTS (Attach complete well prognosis and attachments required by 30 CFR 250.513(a) through (d); 250.613(a) through (d); 250.1712(a) through (g); 250.1721(a) through (h); 250.1722(a) through (d); or 250.1743(a).								
19. Rig Name or Primary Unit (e.g., Wireline	Unit, Coil Tubing, Snubt	oing Unit,	etc.)					
Kulluk								
20. The greater of SITP or MASP (psi): n/a		lve (SV):	scssv_	_SSCSV _x_N/A		V Depth BML	(ft): _n/a	
23. Rig BOP (Rams)			24.		-	(Annular)		
Size: Working Pressure (inches) (psi)	Test Pressure (psi)		Working Press (psi)	sure	Test Pressu (psi)	re		
n/a n/a	0.050.000.00		n/a		33	n/a		
11/a 11/a	Low/High: n/a	-	11/4		Low/High: _	11/4		
25. Coiled Tubing BOP:	26. Snubbir	ng Unit E	15.501		27. Wirelin	ne Lubricator		
Working Pressure BOP Test Pressure	Working Press	ure		st Pressure		Pressure	Test Pressure	
(psi) (psi)	(psi) n/a		(ps	,	(psi)	nla	n/a	
n/a Low/High: n/a	. <u>11/a</u>	0	Lov	_{//High:} n/a	Low/Hig	_{h:} _n/a		
28. CONTACT NAME: Shawn Gelsinger	NTACT TELEPHONE NO.: 3-594-8531					IL ADDRESS: er@shell.com		
31. AUTHORIZING OFFICIAL (Type or print name) Jim Miller 32. TITLE Drilling Superintendent								
33. AUTHORIZING SIGNATURE	34. DATE 2012-10-08							
700 11400								
APPROVED BY:	THIS SP	ACE FO	R BSEE USE	ONLY	DATE			

Application for Permit to Modify (APM) Information Sheet

	35) Question Information						
Questions	Response	Remarks					
a) Is H ₂ S present in the well? If yes, then comment on the inclusion of a Contingency Plan for this operation.	☐ YES ☑ NO ☐ N/A						
b) Is this proposed operation the only lease holding activity for the subject lease? If yes, then comment.	☐ YES ☑ NO ☐ N/A						
c) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	☐ YES ☐ NO ☑ N/A						
d) If sands are to be commingled for this completion, has aproval been obtained?	☐ YES ☐ NO ☑ N/A						
e) Will the completed interval be within 500 feet of a block line? If yes, then comment.	☐ YES ☐ NO ☑ N/A						
f) For permanent abandonment, will casings be cut 15 feet below the mudline? If no, then comment.	☐ YES ☐ NO ☑ N/A						

PAPERWORK REDUCTION ACT OF 1995 (PRA) STATEMENT. The PRA (44 U.S.C. 3501 et. seq.) requires us to inform you that we collect this information to obtain knowledge of equipment and procedures to be used in drilling operations. BSEE uses the information to evaluate and approve or disapprove the adequacy of the equipment and/or procedures to safely perform the proposed drilling operation. Responses are mandatory (43 U.S.C. 1334). Proprietary data are covered under 30 CFR 250.197. 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 OMB Control Number. Public reporting burden for Form BSEE-0124 is estimated to average 17 hours per response. This includes 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, Bureau of Safety and Environmental Enforcement, 381 Elden Street, Herndon, VA 20170.



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OMB Control No. 1014 Anglorist Control No. 1014

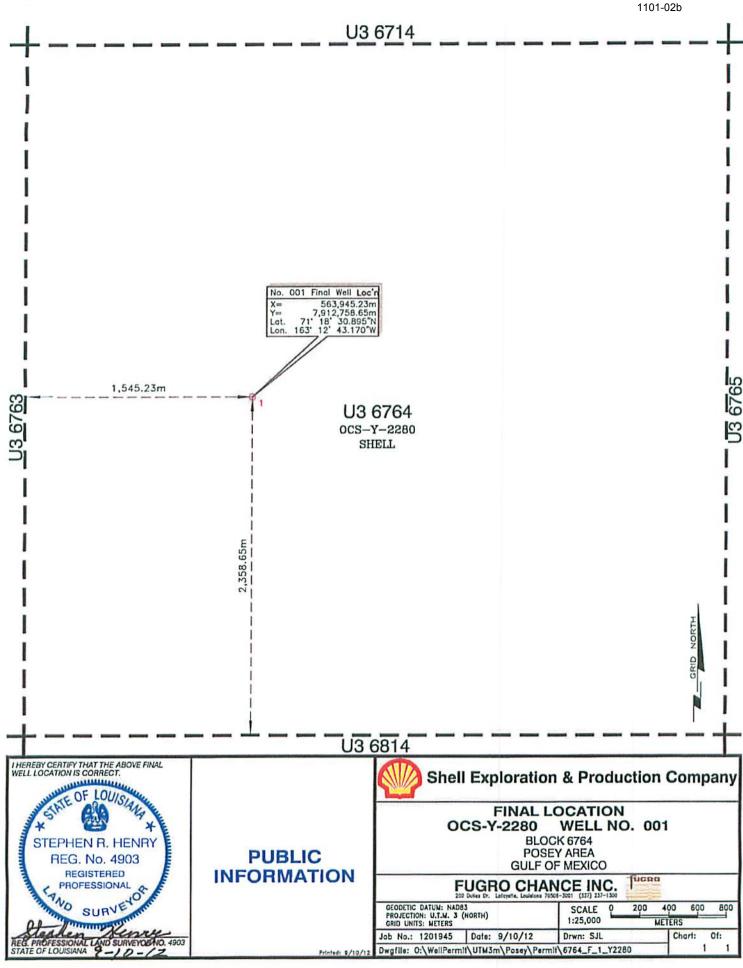
Application for Permit to Modify (APM)

1. WELL NAME (CURRENT) Posey 6764 OCS-Y 2280 001(Burger A)	2. SIDETRACK NO. (CURRENT)	3. BYPASS	NO. (CURRENT)	4. OPERATOR NAME and ADDRESS (Submitting office) Shell Gulf of Mexico Inc.			
5. API WELL NO. (12 digits)	6. START DATE (Pro	posed) 7. ESTIMATE	ED DURATION (DAYS	Shell Gulf of Mexico Inc. 3601 C Street Suite 1000			
55-352-0000200	9/10/2012	n/a		Anchorage, AK, 99503			
8. Revision	If revision, please list changes:	- 1 2	-				
WELL AT TOTAL DI	EPTH		WELL AT	SURFACE			
10. LEASE NO. OCS-Y 2280		13. LEASE NO. OCS-Y 228	0				
11. AREA NAME Posey	14, AREA NAME Posey						
12. BLOCK NO. 6764	15. BLOCK NO. 6764						
	Propo	sed or Complete	d Work				
16. PROPOSED OR COMPLETED WORK (
PLEASE SELECT ONLY ONE PRIMARY T	YPE IN BOLD AND AS			RY.			
☐ Enhance Production	☐ Workover:		☐ Completion:	Wal Countries			
Acidize	Change Tubin		_ :	nitial Completion			
Artifical Lift	☐ Casing Press	ure Repair		Reperforation			
☐ Wash/Desand Well	п.,			change Zone			
☐ Jet Well	☐ Abandonment of		L 1	Modify Perforations			
Utility	Permanent At		☐ Information:				
Initial Injection Well	☐ Temporary At						
Additional Fluids for Injection		idetrack/Bypass	Daniel Da				
☐ Other Operations ☐ Describe Operation(s)	☐ Site Clearance	е		change Well Name			
17. BRIEFLY DESCRIBE PROPOSED OPE	RATIONS (Attach progr	nosis):					
n/a	, , , , , , , , , , , , , , , , , , , ,						
18. LIST ALL ATTACHMENTS (Attach comp 250. 1712(a) through (g); 250. 1721(a) through			by 30 CFR 250.513(a)	through (d); 250.613(a) through (d);			
See attached Well Final Lo							
19. Rig Name or Primary Unit (e.g., Wireline	Unit, Coil Tubing, Snub	bing Unit, etc.)					
Noble Discoverer							
20. The greater of SITP or MASP (psi): n/a	21. Type of Safety Va	alve (SV): SCSSV	SSCSV _x_N/A	22. SV Depth BML (ft): n/a			
23. Rig BOP (Rams Size: Working Pressure	5)	24.		Rig BOP (Annular)			
	Test Pressure	Working Pres		est Pressure			
(inches) (psi)	(psi)	(psi)		psi)			
n/a n/a	Low/High: n/a	<u>n/a</u>	L	ow/High:n/a			
25. Coiled Tubing BOP:		ing Unit BOP:		7. Wireline Lubricator:			
Working Pressure BOP Test Pressure	Working Pres		est Pressure	Working Pressure Test Pressure			
(psi) (psi)	(psi)		isi)	(psi) (psi)			
n/a Low/High: n/a	n/a	_ Lo	ow/High: n/a	Low/High: n/a n/a			
28. CONTACT NAME: John A. Henley		ONTACT TELEPHONE I B1-795-0250	NO.:	30. CONTACT E-MAIL ADDRESS: john.a.henley@shell.com			
31. AUTHORIZING OFFICIAL (Type or prin			32. TITLE				
Jim Miller 33. AUTHORIZING SHAMPURE)			Drilling Super	intendent			
-dim//1, +1			2012-9-11				
7 / fru							
		PACE FOR BSEE US					
APPROVED BY:	TITLE			ATE			

Application for Permit to Modify (APM) Information Sheet

35) Question Information							
Questions	Re	esponse	Remarks				
a) Is H ₂ S present in the well? If yes, then comment on the inclusion of a Contingency Plan for this operation.		YES NO N/A	Current status is H2S unknown. Shell has an H2S contingency plan in place in the event that H2S is present during drilling.				
b) Is this proposed operation the only lease holding activity for the subject lease? If yes, then comment.		YES NO N/A					
c) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.		YES NO N/A					
d) If sands are to be commingled for this completion, has aproval been obtained?		YES NO N/A					
e) Will the completed interval be within 500 feet of a block line? If yes, then comment.		YES NO N/A					
f) For permanent abandonment, will casings be cut 15 feet below the mudline? If no, then comment.		YES NO N/A					

PAPERWORK REDUCTION ACT OF 1995 (PRA) STATEMENT. The PRA (44 U.S.C. 3501 et. seq.) requires us to inform you that we collect this information to obtain knowledge of equipment and procedures to be used in drilling operations. BSEE uses the information to evaluate and approve or disapprove the adequacy of the equipment and/or procedures to safely perform the proposed drilling operation. Responses are mandatory (43 U.S.C. 1334). Proprietary data are covered under 30 CFR 250.197. 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 OMB Control Number. Public reporting burden for Form BSEE-0124 is estimated to average 17 hours per response. This includes 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, Bureau of Safety and Environmental Enforcement, 381 Elden Street, Herndon, VA 20170.



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U.S. Department of the Interior

Bureau of Safety and Environmental Enforcement (BSEE)

Submit original plus THREE copies, with ONE copy marked "Public Information."

OMB Control No. 1010-0141 OMB Approval Expires 10/31/2014

Application for Permit to Drill (APD)

PROPOSAL TO DRILL NEW WELL SIDETRACK		BSEE OPERATOR NO. 00689	3. OPERATOR NAME and ADDRESS (Submitting office)					
4. WELL NAME (CURRENT)	5. SIDETRACK NO. (CU	RRENT) 6.	BYPASS NO. (CURRENT)	Shell Offsho				
OCS-Y 1805 #001 (Sivulliq N)	n/a	r	n/a	3601 C Stre	et			
7. PROPOSED START DATE	8. PLAN CONTROL NO.	(NEW WELL ONL	Suite 1000 Anchorage AK					
July 10, 2012	n/a			99503				
9. API WELL NO. (CURRENT SIDETRACK / BYP. n/a	ASS) (12 DIGITS)		20					
10. Revision If revision, 11. please list changes:								
WELL AT TOTAL D	EPTH (PROPOSE	W	ELL AT SURFAC	E				
12. LEASE NO.		17. LEASE NO.						
OCS-Y 1805		OCS-Y 1805						
13. AREA NAME		18. AREA NAME						
Flaxman Island			Flaxman Island		68			
14. BLOCK NO.			19. BLOCK NO.					
6658 (N70 deg 23' 29.58"; W1	45 deg 58' 52.53")		6658 (N70 deg 23' 29.58"; W145 deg 58' 52.53")					
15. LATITUDE	16. LONGITUDE		20. LATITUDE	20. LATITUDE 21. LONGITUDE				
(X NAD 83 / NAD 27)	(X NAD 8	3 / NAD 27	(X NAD 83 /	NAD 27) (X NAD	83 / NAD 27)			
	IST OF SIGNIFIC	ANT MARK	CERS ANTICIPATED					
22. NAME	23. TOP (MD)	24. TOP (TVD)	22. NAME	23. TOP (MD)	24. TOP (TVD)			
25. LIST ALL ATTACHMENTS (Attach complete w	rell prognosis + attachments	required by 30 Ci	FR 250.414 or 30 CFR 250.161	7(c) and (d) as appropriate	p.)			
·								
26. CONTACT NAME		27	27. CONTACT TELEPHONE NO. 28. CONTACT E-MAIL ADDRESS					
Jim Miller		9	907 646 7122 jim.miller@shell.com					
29. AUTHORIZING OFFICIAL (Type or print name	ne)		TITLE					
Susan Childs				laska Venture Support Integrator, Manager				
31. AUTHORIZING SIGNATURE Sun Co	Vulde		. DATE April 16, 2012					
	THIS SPA	CE FOR BSÉ	E USE ONLY		/ A			
APPROVED: With Attached Conditions Without Conditions	BY	Jal 2	5. /	ALQ 5	mat Di Ka ocs			
API WELL NO. ASSIGNED TO THIS WELL	//			DATE	0 2012			

Public Information Copy

Application for Permit to Drill (APD) Information Sheet

33) Question Information Sheet						
Questions	R	esponse	Remarks			
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?		YES NO N/A				
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?		YES NO N/A	Water based drilling fluids will be used.			
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?		YES NO N/A	Kill weight mud will be stored on the drilling vessel in sufficient quantities to kill any flows. Riser and BOP to be installed after setting conductor at -857 feet below the mudline. All deeper portions of the well will be drilled with the riser installed. ROV monitoring will be in place.			
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?		YES NO N/A	Conductor casing to be installed at a depth of approximately 857 feet below the mudline.			
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)	×	YES NO N/A	Discharges from the proposed operation will be covered under the EPA NPDES Arctic General Permit, authorization number AKG-28-0009.			
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.		YES NO N/A	The proposed well will be drilled from a floating drilling vessel, not from a platform.			
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?		YES NO N/A				

BSEE Form BSEE-0123 (October 2011 - Supersedes all previous versions of this form which may not be used.) Page 2 of 2

United States Department of the Interior

BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT

Alaska OCS Region 3801 Centerpoint Drive, Suite 500 Anchorage, Alaska 99503-5823

SEP 20 2012

Memorandum

To: Shell Gulf of Mexico

From: Mark Fesmire, JD, PE

Regional Director

Subject: Return of Proprietary Applications for Permit to Modify (APM)

BSEE Alaska is returning 3 Proprietary copies of the APD submitted on 11 September 2012, and 3 Proprietary copies of the APD submitted on 12 September 2012 for the Burger A well. We are returning at the request of Shell Gulf of Mexico that they be withdrawn.

Received by: W.4 Seas Date: 9/20/12

Also given public informations copies of APM's Submitted on Sept 11 and Sept 12.

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE) Submit original plus THREE copies, with ONE copy marked "Public Information."

OMB Control No. 10 10 10 18
OMB Approval Expires 10 3 14
Anchorage

Application for Permit to Modify (APM)

1. WELL NAME (CURRENT)	2. SIDETRACK NO.		3. BYPASS NO). (CURRENT)	4. OPERATOR NAME and ADDR			
POSEY 6764 OCS-Y 2280 001	(CURRENT)		00		4. OPERATOR NAME and ADDRESS AND Alaska (Submitting office) Shell Gulf of Mexico Inc. 3601 C Street Suite 1000 Anchorage, AK 99503			
5. API WELL NO. (12 digits)	6. START DATE (Pro	posed)	7. ESTIMATED	DURATION (DAYS)	Shell Gulf of Mexico Inc.			
55-352-0000200	09/20/2012	2 day			Anchorage, AK 99503			
8. Revision	9. If revision, please							
WELL AT TOTAL DE	PTH			WELL AT	SURFACE			
10. LEASE NO. OCS-Y 2280		13, LEAS OC	SE NO. S-Y 2280					
11. AREA NAME POSEY			A NAME SEY					
12. BLOCK NO. 6764		15. BLO 676						
Proposed or Completed Work								
16. PROPOSED OR COMPLETED WORK (
PLEASE SELECT ONLY ONE PRIMARY TY ☐ Enhance Production	PE IN BOLD AND AS Workover:	MANY SE	CONDARY TYP	PES AS NECESSAR Completion:	Υ.			
☐ Acidize	☐ Change Tubin	a			itial Completion			
☐ Artifical Lift	☐ Casing Pressu	_			eperforation			
☐ Wash/Desand Well	6000 VV VV6450 10 75 74 74 75 75 76	10-23-0-22-0-3		□ ct	nange Zone			
☐ Jet Well		Well Bor	e:	□ M	odify Perforations			
□ Utility	Permanent Ab	andonme	ent					
☐ Initial Injection Well	☑ Temporary Ab			☐ Information:	10 VIV. 170 180 180 1			
Additional Fluids for Injection		detrack/Bypass Surface Location Plat						
Other Operations	☐ Site Clearance	•		□ cr	nange Well Name			
Describe Operation(s)								
17. BRIEFLY DESCRIBE PROPOSED OPEL See attachment: BSEE-124 18. LIST ALL ATTACHMENTS (Attach comp 250.1712(a) through (g); 250.1721(a) through	Proposed Op	eration attachme	nts required by	12.5	hrough (d); 250.613(a) through (d);			
19. Rig Name or Primary Unit (e.g., Wireline	Unit, Coil Tubing, Snub	bing Unit,	etc.)					
Mobile Offshore Drilling Uni	t Noble Discov	erer						
20. The greater of SITP or MASP (psi): N/A		lve (SV):	scssv	SSCSV X N/A	22. SV Depth BML (ft): N/A			
23. Rig BOP (Rams)			24.		Rig BOP (Annular)			
Size: Working Pressure (inches) (psi)	Test Pressure (psi)		Working Pressu (psi)		est Pressure			
(inches) (psi) N/A N/A			N/A		si) N/Δ			
N/A N/A	Low/High: N/A	-	13//3	Lo	w/High: N/A			
25. Coiled Tubing BOP:	20,5 (2) 1 (0.25 (0.00 (0.00 (0.00))	ng Unit B			. Wireline Lubricator:			
Working Pressure BOP Test Pressure	Working Press	ure	Test (psi)	Pressure	Working Pressure Test Pressure (psi) (psi)			
(psi) (psi) N/A Low/High: N/A	(psi) N/A			NI/A				
Low/High: IV/A	18/74	-	Low/F	High: N/A	Low/High: N/A N/A			
28. CONTACT NAME: John A. Henley	NTACT T 81.795.	ELEPHONE NO 0250		30. CONTACT E-MAIL ADDRESS: John.A.Henley@shell.com				
 AUTHORIZING OFFICIAL (Type or print Jim Miller) 	t name)		3	2. TITLE Drilling Superi	ntendent			
33. AUTHORIZING SIGNATURE			3	4. DATE				
Jan Wett				2012-9-24				
		ACE FO	R BSEE USE					
APPROVED BY:	TITLE			DA	ΥE			

Application for Permit to Modify (APM) Information Sheet

35) Question Information						
Questions	Re	esponse	Remarks			
a) Is H ₂ S present in the well? If yes, then comment on the inclusion of a Contingency Plan for this operation.		YES NO N/A	Current status is H2S unknown. Shell has an H2S contingency plan in place in the event that H2S is present during drilling.			
b) Is this proposed operation the only lease holding activity for the subject lease? If yes, then comment.		YES NO N/A				
c) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.		YES NO N/A				
d) If sands are to be commingled for this completion, has aproval been obtained?		YES NO N/A				
e) Will the completed interval be within 500 feet of a block line? If yes, then comment.		YES NO N/A				
f) For permanent abandonment, will casings be cut 15 feet below the mudline? If no, then comment.		YES NO N/A				

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE) Submit original plus THREE copies, with ONE copy marked *Public Information.*

SEP 2 1 2012 Control No. 1014-0018 OMB Approval Expires 10/31/2014

Application for Permit to Modify (APM) nchorage, Alaska

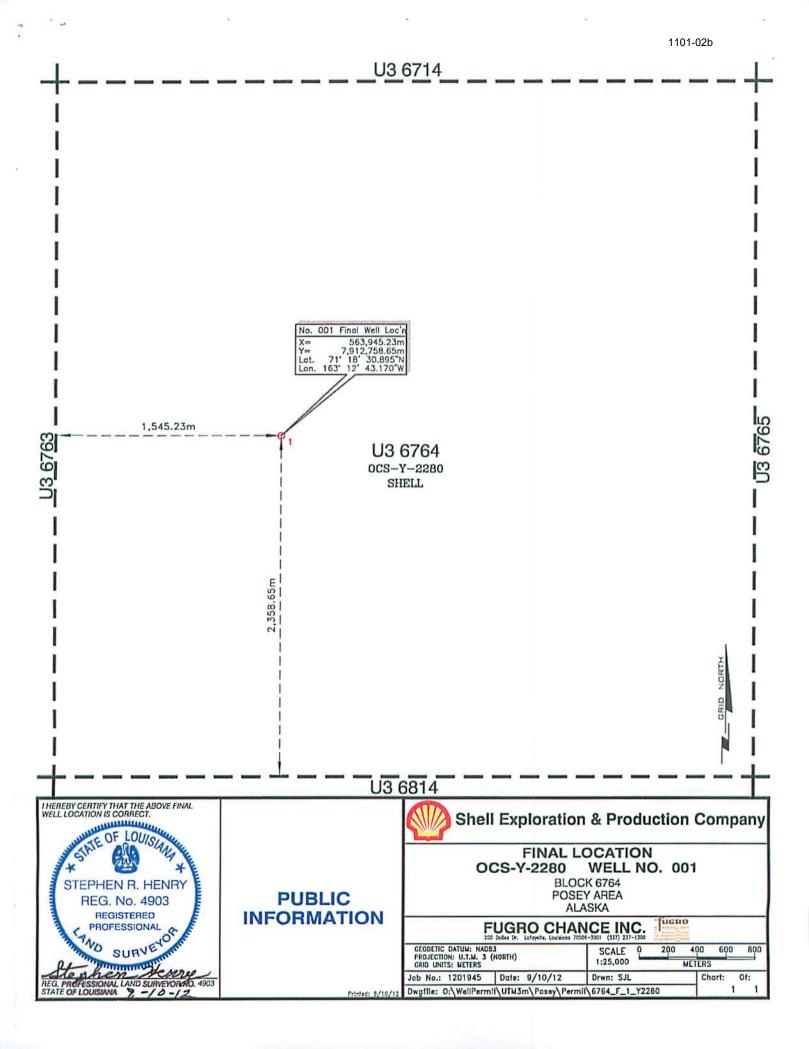
Application for Permit to Modify (APM) nchorage, Alaska

1. WELL NAME (CURRENT) Posey 6764 OCS-Y 2280 001(Burger A)	2. SIDETRACK NO. (CURRENT)		ASS NO. (CURRENT)	4. OPERATOR NAME and ADDRESS (Submitting office)			
5. API WELL NO. (12 digits)	6. START DATE (Propo		MATED DURATION (DAYS)	Shell Gulf of Mexico Inc.			
55-352-0000200	9/21/2012	n/a		3601 C Street Suite 1000 Anchorage, AK, 99503			
Revision	If revision, please list changes:						
WELL AT TOTAL DE	PTH	WELL AT SURFACE					
OCS-Y 2280	1:	OCS-Y 2	2280				
I. AREA NAME Posey	14	4. AREA NAME Posey		All II			
2. BLOCK NO. 6764	1:	6764 BLOCK NO.					
	Propose	d or Compl	eted Work				
B. PROPOSED OR COMPLETED WORK (Describe in Section 17)						
LEASE SELECT ONLY ONE PRIMARY TY	PE IN BOLD AND AS MA	NY SECONDA		Y			
Enhance Production	☐ Workover:		Completion:	ML			
☐ Acidize	☐ Change Tubing			ial Completion			
Artifical Lift	Casing Pressure	Repair		perforation			
☐ Wash/Desand Well				ange Zone			
☐ Jet Well	☐ Abandonment of W		LI Mo	dify Perforations			
Utility	Permanent Aban						
Initial Injection Well	☐ Temporary Aban		☐ Information:				
☐ Additional Fluids for Injection	Plugback to Side	track/Bypass		rface Location Plat			
Other Operations Describe Operation(s)	☐ Site Clearance		□ ch	ange Well Name			
8. LIST ALL ATTACHMENTS (Attach comp 50.1712(a) through (g); 250.1721(a) through 9. Rig Name or Primary Unit (e.g., Wireline	(h); 250.1722(a) Ihrough	(d): or 250.1743	red by 30 CFR 250.513(a) II (a).	nrough (d); 250.613(a) Ihrough (d);			
Noble Discoverer							
0. The greater of SITP or MASP (psi): n/a				22. SV Depth BML (ft): n/a			
Rig BOP (Rams)	Test Pressure	24.		Rig BOP (Annular)			
ze: Working Pressure nches) (psi)	(psi)	(psi)	Pressure (ps				
		n/a		All the second s			
<u>n/a</u> <u>n/a</u>	Low/High: n/a	11/a	Lov	w/High: n/a			
Colled Tubing BOP:		Unit BOP:		Wireline Lubricator: Working Pressure Test Pressure			
Norking Pressure BOP Test Pressure (psi) (psi)	Working Pressure (psi)			(psi) (psi)			
n/a Low/High: n/a	<u>n/a</u>	and the same of the same		Lowrigh.			
28. CONTACT NAME: 29. CONTACT TELEPHONE NO.: 30. CONTACT E-MAIL ADDRESS: John A. Henley 1-281-795-0250 john.a.henley@shell.com							
. AUTHORIZING OFFICIAL (Type or print Jim Milley	t name)		32. TITLE Drilling Superin	tendent			
AUTHORIZING SIGNATURE			34. DATE 2012-9-21				
1			Was all W				
PPROVED BY:	THIS SPACE	CE FOR BSEE	USE ONLY DAT	re			
Priorito Di.	111111		DA.				



Application for Permit to Modify (APM) Information Sheet

	35) Questio	n Information
Questions	Response	Remarks
a) Is H ₂ S present in the well? If yes, then comment on the inclusion of a Contingency Plan for this operation.	☐ YES ☑ NO ☐ N/A	Current status is H2S unknown. Shell has an H2S contingency plan in place in the event that H2S is present during drilling.
b) Is this proposed operation the only lease holding activity for the subject lease? If yes, then comment.	☐ YES ☐ NO ☑ N/A	
c) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	☐ YES ☐ NO ☑ N/A	
d) If sands are to be commingled for this completion, has aproval been obtained?	☐ YES ☐ NO ☑ N/A	
e) Will the completed interval be within 500 feet of a block line? If yes, then comment.	☐ YES ☐ NO ☑ N/A	
f) For permanent abandonment, will casings be cut 15 feet below the mudline? If no, then comment.	☐ YES ☐ NO ☑ N/A	



REGEIVED

U.S. Department of the Interior

Bureau of Safety and Environmental Enforcement (BSEE) Submit original plus THREE copies, with ONE copy marked "Public Information." AUG 0 9 2012 OMB Control No. 1010-0141 Approval Expires 10/31/2014

Regional Director, Alaska OCS

Application for Permit to Driff (App) wonmental Enforcement

PROPOSAL TO DRILL NEW WELL SIDETRACK	BYPASS DEE		E OPERATOR NO.	(S	3. OPERATOR NAME and ADDRESS (Submitting office)		
4. WELL NAME (CURRENT)	5. SIDETRACK NO. (CURRE		PASS NO. (CURRENT)	Shell Gulf Of Mexico Inc.			
OCS-Y 2321 #001 (Burger J)	n/a	n/a	3601 C Street			t	
7. PROPOSED START DATE	8. PLAN CONTROL NO. (NE	W WELL ONLY)		Su	ite 1000		
July 4, 2012	n/a			An	chorage Al	K	
9. API WELL NO. (CURRENT SIDETRACK / BYF	PASS) (12 DIGITS)	197		99	503		
10. Revision If revision, please list changes:					/ = -		
WELL AT TOTAL I	EPTH (PROPOSED)	004	W	ELL A	SURFACE	e Brandes	
12. LEASE NO.			17. LEASE NO.			-	
OCS-Y 2321			OCS-Y 2321			1	
13. AREA NAME			18. AREA NAME				
Posey			Posey			-	
14. BLOCK NO.			19. BLOCK NO.				
6912 (N71 deg 10' 24.03"; W	163 dea 28' 18 52")		6912 (N71 deg 10' 24.03"; W163 deg 28' 18.52")				
	16. LONGITUDE			24.00		A	
15. LATITUDE (X NAD 83 / NAD 27)	☐ NAD 27)	20. LATITUDE (X NAD 83 / NAD 27) 21. LONGITUDE (X NAD 83 / NAD 27)			en a <u>nnua</u> en el manual de constant		
	LIST OF SIGNIFICAN	NT MARKE	RS ANTICIPATE)			
22. NAME	23. TOP (MD) 24. T	TOP (TVD)	22. NAME		23. TOP (MD)	24. TOP (TVD)	
				43177			
25. LIST ALL ATTACHMENTS (Attach complete	wall prognesis + attachments room	uimd by 20 CER 2	E0 414 or 20 CER 250 161	7/a) and /a	1) as assemble to 1		
See the APD Table of		***************************************				omission.	
26. CONTACT NAME Jim Miller		and the second	NTACT TELEPHONE NO. 646 7122	28. CONTACT E-MAIL ADDRESS jim.miller@shell.com			
29. AUTHORIZING OFFICIAL (Type or print na	me)	30. TI). TITLE				
Susan Childs		Alas	laska Venture Support Integrator, Manager				
31. AUTHORIZING SIGNATURE	1000000	32. DATE August 9, 2012					
7			2				
APPROVED: With Attached Conditions Without Conditions	THIS SPACE	FOR BSEE U	SEONLY	TITLE		enional Di	
API WELL NO. ASSIGNED TO THIS WELL			7	DATE	9/22/	2012	



Application for Permit to Drill (APD) Information Sheet

Region to Director, Alestia CCS Transport Solly on Economic Consumers And Arrange Linesa

33) Que	stic	on Inform	33) Question Information Sheet						
Questions	Re	esponse	Remarks						
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?		YES NO N/A							
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?		YES NO N/A	Water based drilling fluids will be used.						
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?		YES NO N/A	Kill weight mud will be stored on the drillship in sufficient quantities to kill any flows. Riser and BOP to be installed after setting conductor at -1244 feet below the mudline. All deeper portions of the well will be drilled with the riser installed. ROV monitoring will be in place.						
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?		YES NO N/A	Conductor casing to be installed at a depth of approximately 1244 feet below the mudline.						
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)		YES NO N/A	Discharges from the proposed operation will be covered under the EPA NPDES Arctic General Permit, authorization number AKG-28-0004.						
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.		YES NO N/A	The proposed well will be drilled from a floating drillship, not from a platform.						
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?	 X	YES NO N/A							

BSEE Form BSEE-0123 (October 2011 - Supersedes all previous versions of this form which may not be used.) Page 2 of 2





U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE) Submit original plus THREE copies, with ONE copy marked "Public Information."

2 1 20/19 Control No. 1014-0018 OMB Approval Expires 10/31/2014

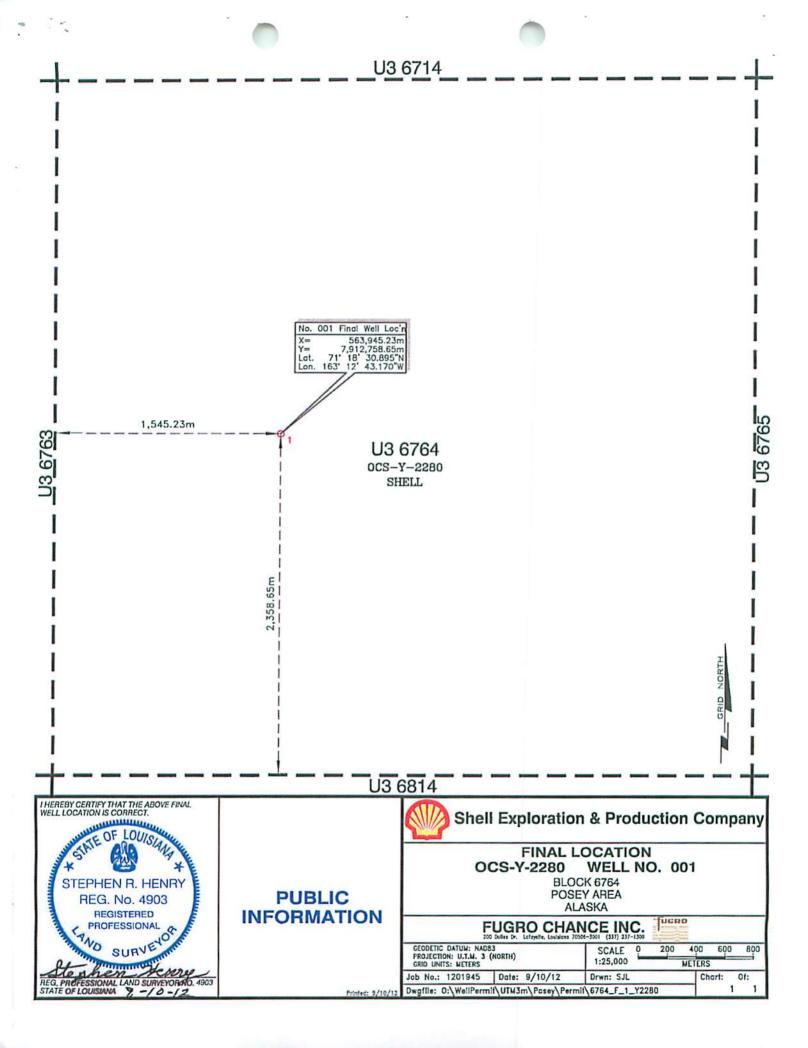
Application for Permit to Modify (APM) nchorage, Alaska

WELL NAME (CURRENT) Posey 6764 OCS-Y 2280 001(Burger A)	2. SIDETRACK NO. (CURRENT)		3. BYPASS NO. (CU	The second secon	4. OPERATOR NAME and ADDRESS (Submitting office)			
5. API WELL NO. (12 digits)	6. START DATE (Proposed)		7. ESTIMATED DURATION (DAYS)		Shell Gulf of Mexico Inc.			
55-352-0000200	9/21/2012	Joseph	n/a		3601 C Street Suite 1000 Anchorage, AK, 99503			
8. Revision	If revision, please list changes:							
WELL AT TOTAL D	EPTH	la t		WELL AT	SURFACE			
IO. LEASE NO. OCS-Y 2280		13. LEA	SE NO. S-Y 2280					
11, AREA NAME Posey		14. AREA NAME Posey						
12. BLOCK NO. 6764		15. BLO 676	ск NO. 34					
	Propos	ed or	Completed Wor	k				
6. PROPOSED OR COMPLETED WORK		011 01	- Simpleton Wol					
PLEASE SELECT ONLY ONE PRIMARY T		MANY S	ECONDARY TYPES	AS NECESSARY	7.			
☐ Enhance Production	☐ Workover:			Completion:				
☐ Acidize	☐ Change Tubing			_	ial Completion			
☐ Artifical Lift	☐ Casing Pressur	e Repair	•	_	perforation			
☐ Wash/Desand Well	_			_	ange Zone			
☐ Jet Well	☐ Abandonment of \			☐ Mo	dify Perforations			
Unity	Permanent Aba							
Initial Injection Well	☐ Temporary Aba		F2	nformation:				
☐ Additional Fluids for Injection	Plugback to Sic	detrack/B	lypass		face Location Plat			
Other Operations	☐ Site Clearance			☐ Ch	ange Well Name			
☐ Describe Operation(s)								
7. BRIEFLY DESCRIBE PROPOSED OPE See attached Final Well Lo B. LIST ALL ATTACHMENTS (Attach comp 50.1712(a) through (g): 250.1721(a) through	cation figure.	ittachma	nts required by 30 Cl 250.1743(a).	PR 250.513(a) th	rough (d); 250.613(a) lhrough (d);			
9. Rig Name or Primary Unit (e.g., Wireline Noble Discoverer	Unit, Coll Tubing, Snubb	ing Unit,	etc.)					
0. The greater of SITP or MASP (psi): n/a	21. Type of Safety Val-	ve (SV):	scssvsscs	SV <u>x</u> N/A	22. SV Depth BML (ft):n/a			
). Rig BOP (Rams			24.		Rig BOP (Annular)			
ze: Working Pressure	Test Pressure		Working Pressure		t Pressure			
nches) (psi)	(psi)		(psi)	(psi				
<u>n/a</u> <u>n/a</u>	Low/High: n/a	21	n/a	Lov	wHigh:n/a			
. Colled Tubing BOP:	26. Snubbin	g Unit B	OP:	27.	Wireline Lubricator:			
Norking Pressure BOP Test Pressure	Working Pressu	re	Test Press	ure	Working Pressure Test Pressure			
n/a (psi) (psi) Low/High: n/a	(psi) n/a		(psl) Low/High: _		(psi) (psi) Low/High: n/a n/a			
. CONTACT NAME:			ELEPHONE NO.:		30. CONTACT E-MAIL ADDRESS:			
John A. Henley . AUTHORIZING OFFICIAL (Type or prin	1.54.75.75.75	-795-0	250 32, TI	TLE	john.a.henley@shell.com			
Jim Milleg	1900 to 650 F8			illing Superin	tendent			
. AUTHORIZING SIGNATURE			34, DA					
Gran Litto			20	12-9-21				
	THIS COL	CE EC	D DOCK HOE ONLY	/				
PROVED BY	TITLE		Regional	DAT	9/27/2012			
/m/2.72	1/195	19	regional	DIL	1/2/1/2019			



Application for Permit to Modify (APM) Information Sheet

35) Question Information						
Questions	Re	esponse	Remarks			
a) Is H ₂ S present in the well? If yes, then comment on the inclusion of a Contingency Plan for this operation.	□ ×	YES NO N/A	Current status is H2S unknown. Shell has an H2S contingency plan in place in the event that H2S is present during drilling.			
b) Is this proposed operation the only lease holding activity for the subject lease? If yes, then comment.		YES NO N/A				
c) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.		YES NO N/A				
d) If sands are to be commingled for this completion, has aproval been obtained?		YES NO N/A				
e) Will the completed interval be within 500 feet of a block line? If yes, then comment.		YES NO N/A				
f) For permanent abandonment, will casings be cut 15 feet below the mudline? If no, then comment.		YES NO N/A				



OMB Control No. 10 11-0018
OMB Approval Expires 10/37-29-14
Anchorage

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE)

Submit original plus THREE copies, with ONE copy marked "Public Information."

Application for Permit to Modify (APM)

1. WELL NAME (CURRENT)	(CURRENT)	00	NO. (CURRENT)	(Submitting office) Shell Gulf of Mexico Inc. 3601 C Street Suite 1000 Anchorage, AK 99503			
POSEY 6764 OCS-Y 2280 001 5. API WELL NO. (12 digits)	6. START DATE (Propo		TED DURATION (DAYS)				
55-352-0000200	09/20/2012	2 day		3601 C Street Suite 1000 Anchorage, AK 99503			
8. Revision	If revision, please list changes:		FA.				
WELL AT TOTAL DE	EPTH		WELL AT	SURFACE			
10. LEASE NO. OCS-Y 2280		13. LEASE NO. OCS-Y 2280					
11. AREA NAME POSEY	1	14. AREA NAME POSEY					
12. BLOCK NO. 6764	1	15. BLOCK NO. 6764					
0101	Propose	ed or Complete	ed Work				
PLEASE SELECT ONLY ONE PRIMARY TO Enhance Production Acidize Artifical Lift Wash/Desand Well Jet Well Utility Initial Injection Well Additional Fluids for Injection Other Operations Describe Operation(s)	□ Workover: □ Change Tubing □ Casing Pressure ■ Abandonment of W □ Permanent Abar □ Temporary Abar □ Plugback to Side □ Site Clearance	e Repair Vell Bore: Indonment Indonment Indonment Indonment	Completion: Ini Re CI Mi	itial Completion eperforation nange Zone odify Perforations urface Location Plat nange Well Name			
See attachment: BSEE-124 18. LIST ALL ATTACHMENTS (Attach complete 19: 250.1712(a) through (g); 250.1721(a) through 19. Rig Name or Primary Unit (e.g., Wireline Mobile Offshore Drilling Unit (e.g., Wireling Unit (e.g.	lete well prognosis and at a (h); 250.1722(a) through Unit, Coil Tubing, Snubbi	ttachments required (d); or 250.1743(a). ng Unit, etc.)	by 30 CFR 250.513(a) t	hrough (d); 250.613(a) through (d);			
20. The greater of SITP or MASP (psi): N/A			SSCSV X N/A	22. SV Depth BML (ft): N/A			
23. Rig BOP (Rams		24.		Rig BOP (Annular)			
Size: Working Pressure (inches) (psi) N/A N/A	Test Pressure (psi) Low/High: N/A	Working Pre (psi) N/A	(p:	est Pressure si) ww/High:N/A			
5. Coiled Tubing BOP:		Unit BOP:		. Wireline Lubricator:			
Working Pressure BOP Test Pressure (psi) (psi) N/A Low/High: N/A	Working Pressur (psi) N/A	(est Pressure psi) ow/High: N/A	Working Pressure Test Pressure (psi) (psi) Low/High: N/A			
8. CONTACT NAME: John A. Henley		TACT TELEPHONE 1.795.0250	our agus	30. CONTACT E-MAIL ADDRESS: John.A.Henley@shell.com			
1. AUTHORIZING OFFICIAL (Type or prin Jim Miller 13. AUTHORIZING SIGNATURE	t name)		32. TITLE Drilling Superir 34. DATE 2012-9-24				
APPROVEDAY:	TITLE	ROGION	DA	9/22/2012			

Application for Permit to Modify (APM) Information Sheet

35) Question Information						
Questions	Re	esponse	Remarks			
a) Is H ₂ S present in the well? If yes, then comment on the inclusion of a Contingency Plan for this operation.		YES NO N/A	Current status is H2S unknown. Shell has an H2S contingency plan in place in the event that H2S is present during drilling.			
b) Is this proposed operation the only lease holding activity for the subject lease? If yes, then comment.		YES NO N/A				
c) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.		YES NO N/A				
d) If sands are to be commingled for this completion, has aproval been obtained?		YES NO N/A				
e) Will the completed interval be within 500 feet of a block line? If yes, then comment.		YES NO N/A				
	11					
f) For permanent abandonment, will casings be cut 15 feet below the mudline? If no, then comment.		YES NO N/A				



Submit original plus THREE copies, with ONE marked "Public Information."



OMB Control No. 1014-0018 2 4 20M9 Approval Expires 10/31/2014

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE)

Regional Director, Alaska OCS
Application for Permit to Modified SPMMEnvironmental Enforcement

	Application	01 1 0	Time to i	nouny (Alan	Mrana Alaska		
1. WELL NAME (CURRENT) POSEY 6764 OCS-Y 2280 001	2. SIDETRACK NO. (CURRENT)	a Inf	3. BYPASS N	O. (CURRENT)	4. OPERATOR NAME and ADDRESS (Submitting office)		
5. API WELL NO. (12 digits)	6. START DATE (Pro	posed)	sed) 7. ESTIMATED DURATION (DAY		Shell Gulf of Mexico Inc.		
55-352-0000200	09/09/2012		1 day		3601 C Street Suite 1000 Anchorage, AK 99503		
8.	9. If revision, please		On the Control of				
Revision	list changes:						
WELL AT TOTAL D	EPTH			WELL AT	SURFACE		
10. LEASE NO. OCS-Y 2280		13. LEA	SE NO. SS-Y 2280)	- <u>1</u> -		
11. AREA NAME POSEY			SEY	7331			
12. BLOCK NO. 6764		15. BLO 67	CK NO. 34				
	Propos	sed or	Completed	Work			
16. PROPOSED OR COMPLETED WORK							
PLEASE SELECT ONLY ONE PRIMARY T		MANY S	ECONDARY TY		RY.		
☐ Enhance Production ☐ Acidize	☐ Workover: ☐ Change Tubin			☐ Completion:	itial Completion		
☐ Artifical Lift	☐ Casing Pressu		r		eperforation		
☐ Wash/Desand Well					hange Zone		
☐ Jet Well				□ M	odify Perforations		
☐ Utility ☐ Initial Injection Well	Permanent Ab		2007	☐ Information:			
Additional Fluids for Injection					urface Location Plat		
Other Operations	☐ Site Clearance		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		hange Well Name		
☐ Describe Operation(s)							
17. BRIEFLY DESCRIBE PROPOSED OPE	RATIONS (Attach progr	nosis):					
See following sheet for list			port of this	s APM.			
18. LIST ALL ATTACHMENTS (Attach com, 250.1712(a) through (g); 250.1721(a) through				30 CFR 250.513(a)	through (d); 250.613(a) through (d);		
19. Rig Name or Primary Unit (e.g., Wireline	Unit. Coil Tubing, Snub	bing Unit	etc.)				
Mobile Offshore Drilling Un	AT THE PARTY OF THE PARTY.						
20. The greater of SITP or MASP (psi): N/A	21. Type of Safety Va	lve (SV):	scssv_	_SSCSV X N/A	22. SV Depth BML (ft): N/A		
23. Rig BOP (Rams			24.		Rig BOP (Annular)		
Size: Working Pressure (inches) (psi)	Test Pressure (psi)		Working Press (psi)		est Pressure		
(inches) (psi) N/A			N/A		osi) N/Δ		
N/A	Low/High: N/A		14// 1	L	pw/High: N/A		
25. Coiled Tubing BOP:		ng Unit I			7. Wireline Lubricator:		
Working Pressure BOP Test Pressure	Working Press	sure		t Pressure	Working Pressure Test Pressure		
N/A (psi) (p	(psi) N/A		(psi	//High: N/A	(psi) Low/High: N/A N/A		
		-					
28. CONTACT NAME: John A. Henley	+1.2	81.795	0250		30. CONTACT E-MAIL ADDRESS: John.A.Henley@shell.com		
 AUTHORIZING OFFICIAL (Type or prin Jim Miller 	nt name)			32. TITLE Drilling Superi	ntendent		
33. AUTHORIZING SIGNATURE	6			34. DATE 2012-9-24			
y leve							
APPROVEDBY.	THIS SF	PACE FO	OR BSEE USE		ATE .		
1/1/5/2		. 0	egioda		9/27/2012		
I was en	PIASK	2/10	310000	BIT	1 0010		



Application for Permit to Modify (APM) Information Sheet

35) Question Information									
Questions	Re	esponse	Remarks						
a) Is H ₂ S present in the well? If yes, then comment on the inclusion of a Contingency Plan for this operation.		YES NO N/A	Current status is H2S unknown. Shell has an H2S contingency plan in place in the event that H2S is present during drilling.						
b) Is this proposed operation the only lease holding activity for the subject lease? If yes, then comment.		YES NO N/A							
c) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.		YES NO N/A							
d) If sands are to be commingled for this completion, has aproval been obtained?		YES NO N/A							
e) Will the completed interval be within 500 feet of a block line? If yes, then comment.		YES NO N/A							
f) For permanent abandonment, will casings be cut 15 feet below the mudline? If no, then comment.		YES NO N/A							



United States Department of the Interior

BUREAU OF OCEAN ENERGY MANAGEMENT

Alaska OCS Region 3801 Centerpoint Drive, Suite 500 Anchorage, Alaska 99503-5823

OCT 1 0 2012

Shell Exploration and Production AK Venture Support Integrator Attn: Susan Childs, Manager 3601 C Street, Suite 1000 Anchorage, Alaska 99503 REGEIVED

OCT 1 0 2012

Regional Director, Alaska OCS Bureau of Safety and Environmental Enforcement Anchorage, Alaska

Dear Ms. Childs:

The Bureau of Ocean Energy Management (BOEM) received notification from Shell on October 2, 2012, concerning plans for pre-positioning anchors at the Burger J well location. Shell proposes to set anchors approximately 1,018 meters from the well site (Ruddy email, 10/2/12). The proposed mooring pattern is a deviation from Shell's Revised 2012 OCS Lease Exploration Plan (2012 Shell EP) for the Chukchi Sea. The 2012 Shell EP denotes a mooring radius of 795 meters from well site.

BOEM has determined that its site clearance analysis covers an area extending beyond that proposed by Shell for setting anchors, and the geographic conditions within the expanded mooring pattern are substantially similar; therefore, there are no changes from what we previously analyzed that are relevant to environmental concerns. Based upon this determination, BOEM has no objection to Shell setting anchors for the Burger J well at a distance approximately 1,018 meters from the well site.

If you have questions or concerning this matter, please contact me at (907) 334-5273.

Sincerely,

David W. Johnston, Regional Supervisor

Office of Leasing and Plans

cc: Tommy Beaudreau, Bureau Ocean Energy Management
Jim Kendall, Bureau of Ocean Energy Management
James Watson, Bureau of Safety and Environmental Enforcement
Mark Fesmire, Bureau of Safety and Environmental Enforcement
Jeffrey Missal, Bureau of Safety and Environmental Enforcement



U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE) Submit original plus THREE copies, with ONE copy marked "Public Information."

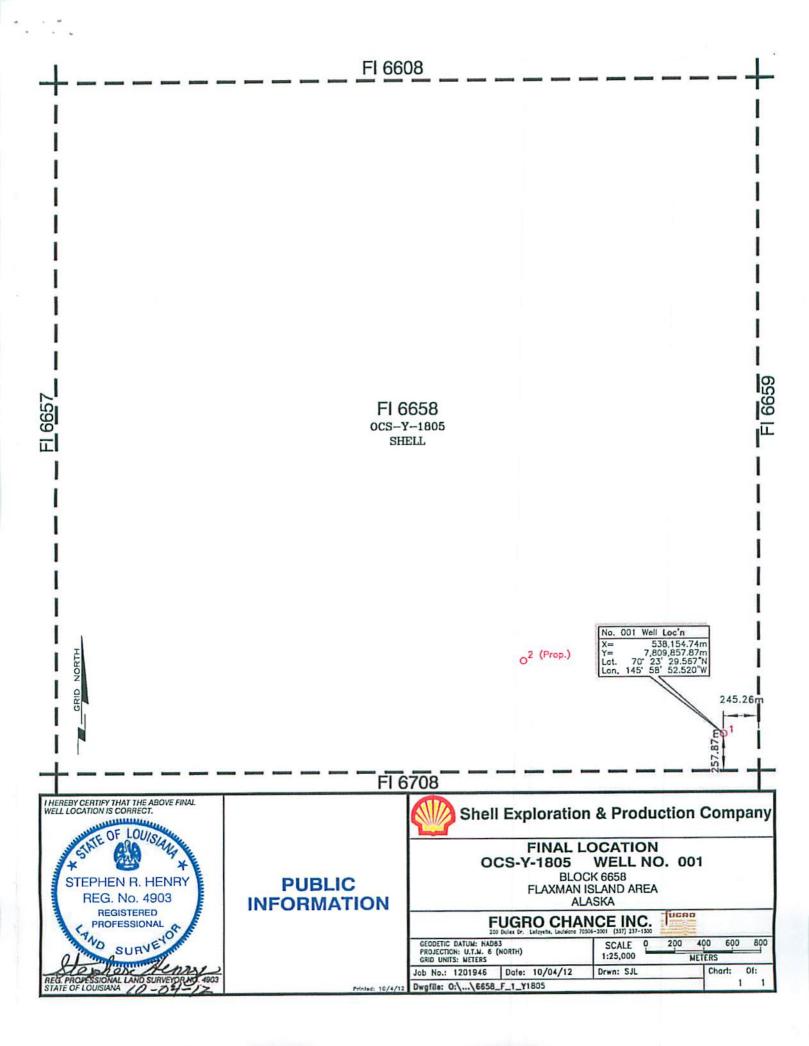
OCT 1 0 2019 MB Control No. 1014-0018 pproval Expires 10/31/2014

Application for Permit to Modify (APM) barge, Aleste

Application for Ferritt to Modify (Al Amoiorage, Alaska								
1. WELL NAME (CURRENT) FI 6658 OCS-Y 1805 001 (Sivulliq N)	2. SIDETRACK NO. (CURRENT) 00		3. BYPASS NO. (CURRENT) 00			OPERATOR NAME and ADDRESS (Submitting office)		
5. API WELL NO. (12 digits)	6. START DATE (Prop	nacadi	7. ESTIMATED DURATION (DAYS)		6/	Shell Offshore In	nc.	
	T CONTROL CONTROL AND CONTROL	posed)	34.		"	3601 C Street S		
55-171-0001300	10/08/2012		n/a			Anchorage, AK,	99503	
B. 9. If revision, please list changes:								
WELL AT TOTAL DI	PTH			WELL A	TS	URFACE		
10. LEASE NO. OCS-Y 1805		13. LEA	SE NO. 2S-Y 1805					
11. AREA NAME Flaxman Island			A NAME IXman Isla	nd				
12. BLOCK NO. 6658		15, BLO 66						
	Propos	sed or	Completed	Work				
16. PROPOSED OR COMPLETED WORK (Describe in Section 17)					and the second second		
PLEASE SELECT ONLY ONE PRIMARY T	PE IN BOLD AND AS I	MANY S	ECONDARY TY		ARY.			
☐ Enhance Production ☐ Acidize	☐ Workover: ☐ Change Tubing			☐ Completion:	Initi-	al Completion		
Artifical Lift	☐ Casing Pressu		ř	_		erforation		
☐ Wash/Desand Well	— Cashig Fressa	i o i vopoi				nge Zone		
☐ Jet Well	☐ Abandonment of	Well Bor	e:			lify Perforations		
□ Utility	☐ Permanent Ab	andonme	ent					
☐ Initial Injection Well	☐ Temporary Aba	andonme	ent	☐ Information:				
Additional Fluids for Injection	☐ Plugback to Si		Bypass	_		ace Location Plat		
Other Operations	☐ Site Clearance				Cha	inge Well Name		
☐ Describe Operation(s)								
17. BRIEFLY DESCRIBE PROPOSED OPE	RATIONS (Attach progn	osis):						
See attached Final Well Lo	Market Company of the Company							
 LIST ALL ATTACHMENTS (Attach comp 250, 1712(a) through (g); 250, 1721(a) through 				30 CFR 250.513(a	a) thi	rough (d); 250.613(a) th	rough (d);	
19. Rig Name or Primary Unit (e.g., Wireline	Unit, Coil Tubing, Snubl	bing Unit	, etc.)		_			
Kulluk								
20. The greater of SITP or MASP (psi): n/a	21. Type of Safety Va	lve (SV):	scssv_	_SSCSV _x_N/A		22. SV Depth BML (ft): <u>n/a</u>	
23. Rig BOP (Rams			24.		_	ig BOP (Annular)		
Size: Working Pressure	Test Pressure		Working Press			t Pressure		
(inches) (psi)	(psi)		n/a		(psi			
<u>n/a</u> <u>n/a</u>	Low/High: n/a	_	11/d		Low	_{//High:} _n/a		
25. Coiled Tubing BOP:	26. Snubbit	ng Unit E	BOP:		27.	Wireline Lubricator:		
Working Pressure BOP Test Pressure	Working Press	ure	Tes	t Pressure	,	Working Pressure	Test Pressure	
(psi) (psi)	(psi)		(psi	22		(psi)	(psi)	
n/a Low/High: n/a	n/a	-	Low	/High: _n/a_	,	_{Low/High:} n/a	n/a	
28. CONTACT NAME: 29. CONTACT TELEPHONE NO.: 30. CONTACT E-MAIL ADDRESS: Shawn Gelsinger 1-713-594-8531 shawn.gelsinger@shell.con								
31. AUTHORIZING OFFICIAL (Type or prin	t name)			32. TITLE	orini	tendent		
Jim Miller Drilling Superintendent 33. AUTHORIZING SIGNATURE 34. DATE								
4 m 1/ tello 2012-10-08								
1 111	. THIS SE	PACE E	OR BSEE USE	ONLY				
Approved BY	TITLE PL	nka	005	***************************************	DAT	E		
Plant I - 1 Regional Director 10/10/12								

Application for Permit to Modify (APM) Information Sheet

35) Question Information								
Questions	Response	Remarks						
a) Is H ₂ S present in the well? If yes, then comment on the inclusion of a Contingency Plan for this operation.	☐ YES ☑ NO ☐ N/A							
b) Is this proposed operation the only lease holding activity for the subject lease? If yes, then comment.	☐ YES ☐ NO ☐ N/A							
c) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	☐ YES ☐ NO ☑ N/A							
d) If sands are to be commingled for this completion, has aproval been obtained?	☐ YES ☐ NO ☑ N/A							
e) Will the completed interval be within 500 feet of a block line? If yes, then comment.	☐ YES ☐ NO ☑ N/A							
f) For permanent abandonment, will casings be cut 15 feet below the mudline? If no, then comment.	☐ YES ☐ NO ☑ N/A							





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1 2 20 pMB Control No. 1014-0018 OMB Approval Expires 10/31/2014

Regional Director, Alaska CCS

Bureau of Safety and Environmental Enforcement

Application for Permit to Modify (APM) horage, Alaska

[2. SIDETRACK NO. 19 DIRECT NO. 19 D 3. BYPASS NO. (CURRENT) 4. OPERATOR NAME and ADDRESS 1. WELL NAME (CURRENT) (Submitting office)

POSEY 6764 OCS-Y 2280 001	00		00		Shell Gulf of Mexico Inc.		
5. API WELL NO. (12 digits)	6. START DATE (Prop	posed)	7. ESTIMATED DURATION (DAYS		3601 C Street Suite 1000		
55-352-0000200	10/15/2012		2 day		Anchorage, AK 99503		
B. Revision	9. If revision, please list changes:						
WELL AT TOTAL DE	PTH			AT :	SURFACE		
0. LEASE NO. OCS-Y 2280		13. LEA	SE NO. CS-Y 2280				
1. AREA NAME POSEY			SEY		ili .		
2. BLOCK NO. 6764		15. BLC 67	оск no. 64				
	Propos	sed or	Completed Work				
6. PROPOSED OR COMPLETED WORK (Describe in Section 17)						
PLEASE SELECT ONLY ONE PRIMARY TY		MANY S			γ.		
☐ Enhance Production	☐ Workover:		☐ Completic		tial Completion		
Acidize	Change Tubing			13.55	perforation		
Artifical Lift	☐ Casing Pressu	ге кера			A TOTAL CONTRACTOR OF THE PARTY		
Wash/Desand Well	[V] A1 - 1	M-11 D-			nange Zone		
☐ Jet Well	☑ Abandonment of			M	odify Perforations		
Utility	Permanent Ab		ANCHOL I I				
☐ Initial Injection Well	☐ Temporary Ab						
Additional Fluids for Injection	☐ Plugback to Si		Bypass \square		Surface Location Plat		
Other Operations	☐ Site Clearance	1		Ch	Change Well Name		
Describe Operation(s)							
17. BRIEFLY DESCRIBE PROPOSED OPE	DATIONS (Attach progr	ocie):		_			
TA the Burger A well between the 20	12 and 2013 open w	vater se	easons. See attached 30CF	R 25	0.1721.pdf for necessary references		
18. LIST ALL ATTACHMENTS (Attach comp 250.1712(a) through (g); 250.1721(a) through				13(a) t	hrough (d); 250.613(a) through (d);		
19. Rig Name or Primary Unit (e.g., Wireline	Unit, Coil Tubing, Snub	bing Uni	t, etc.)	-			
Mobile Offshore Drilling Un							
20. The greater of SITP or MASP (psi): N/A	21. Type of Safety Va	lve (SV)	:scssvsscsv_X_n	/A	22. SV Depth BML (ft): N/A		
3. Rig BOP (Rams			24.		Rig BOP (Annular)		
Size: Working Pressure	Test Pressure		Working Pressure	Τe	Test Pressure		
(inches) (psi)	(psi)		(psi)		si)		
N/A N/A	Low/High: N/A	_	N/A	Lo	ow/High: N/A		
25. Coiled Tubing BOP:	26. Snubbi	ng Unit	BOP:	27	. Wireline Lubricator:		
Working Pressure BOP Test Pressure	Working Press		Test Pressure		Working Pressure Test Pressure		
(psi) (psi)	(psi)		(psi)		(psi) (psi)		
N/A Low/High: N/A	N/A	_	Low/High: N/A		Low/High: N/A N/A		
28. CONTACT NAME:		TELEPHONE NO.:		30. CONTACT E-MAIL ADDRESS:			
John A. Henley 31. AUTHORIZING OFFICIAL (Type or prin		81.795	32. TITLE	20031094	John.A.Henley@shell.com		
Jim Miller			Drilling S	uperi	ntendent		
33. AUTHORIZING SIGNATURE	3		34. DATE October	12, 20	012		
1 700	TUIC CI	DACE	OR BSEE USE ONLY				
APPROVED BY:	TITLE	AUL /	ON DOLL DOLL ONLY	D	ATE		
The State of the S							

Application for Permit to Modify (APM) Information Sheet

35) Question Information								
Questions	Re	esponse	Remarks					
a) Is H ₂ S present in the well? If yes, then comment on the inclusion of a Contingency Plan for this operation.		YES NO N/A	Current status is H2S unknown. Shell has an H2S contingency plan in place in the event that H2S is present during drilling.					
b) Is this proposed operation the only lease holding activity for the subject lease? If yes, then comment.		YES NO N/A						
c) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.		YES NO N/A						
d) If sands are to be commingled for this completion, has aproval been obtained?		YES NO N/A						
e) Will the completed interval be within 500 feet of a block line? If yes, then comment.		YES NO N/A						
f) For permanent abandonment, will casings be cut 15 feet below the mudline? If no, then comment.		YES NO N/A						





U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE)

Submit original plus THREE copies, with ONE copy marked "Public Information."

OCT 1 2 20 PMB Control No. 1014-0018 OMB Approval Expires 10/31/2014

Regional Director, Alaska OCS

Bureau of Safety and Environmental Enforcement

Application for Permit to Modify (APM) horage, Alaska

1. WELL NAME (CURRENT) POSEY 6764 OCS-Y 2280 001	2. SIDETRACK NO. (CURRENT)		NO. (CURRENT)	4. OPERATOR NAME and ADDRESS (Submitting office)					
5. API WELL NO. (12 digits)	6. START DATE (Propo	osed) 7. ESTIMATE	ED DURATION (DAYS)	Shell Gulf of Mexico Inc. 3601 C Street Suite 1000					
55-352-0000200	10/15/2012	2 day		Anchorage, AK 99503					
8. Revision	If revision, please list changes:			7519 - 1 III II 84 1					
WELL AT TOTAL DI	A STATE OF THE PARTY OF THE PAR			SURFACE					
10. LEASE NO. OCS-Y 2280		OCS-Y 228	0						
11. AREA NAME POSEY		14. AREA NAME POSEY							
12. BLOCK NO. 6764		15. BLOCK NO. 6764							
	Propos	ed or Complete	d Work						
18. LIST ALL ATTACHMENTS (Attach comp 250.1712(a) through (g); 250.1721(a) through 19. Rig Name or Primary Unit (e.g., Wireline Mobile Offshore Drilling Un	MORE IN BOLD AND AS MORE Workover: Change Tubing Casing Pressure Abandonment of V Permanent Aba Temporary Aba Plugback to Sid Site Clearance RATIONS (Attach prognot) 12 and 2013 open with (h): 250.1722(a) through Unit, Coil Tubing, Snubb it Noble Discove	e Repair Vell Bore: Indonment Indonment Idetrack/Bypass Disis): Indetraction service of the properties of the properti	Completion: In Richard City M Information: Signature City City City City City City City City	itial Completion eperforation hange Zone odify Perforations urface Location Plat hange Well Name 50.1721.pdf for necessary references. through (d); 250.613(a) through (d);					
20. The greater of SITP or MASP (psi): N/A	21. Type of Safety Val	ve (SV): SCSSV	sscsv X N/A	22. SV Depth BML (ft): N/A					
23. Rig BOP (Rams		24.		Rig BOP (Annular)					
Size: Working Pressure (inches) (psi) N/A N/A	Test Pressure (psi) Low/High: N/A	Working Pre (psi) N/A	(t	est Pressure osi) ow/High: N/A					
25. Coiled Tubing BOP:		ng Unit BOP:		7. Wireline Lubricator:					
Working Pressure	Working Pressu (psi) N/A	(1	est Pressure psi) ow/High: N/A	Working Pressure					
28. CONTACT NAME: John A. Henley		NTACT TELEPHONE 81.795.0250	NO.:	30. CONTACT E-MAIL ADDRESS: John.A.Henley@shell.com					
31. AUTHORIZING OFFICIAL (Type or prid Jim Miller	nt name)		32. TITLE Drilling Super	intendent					
33. AUTHORIZING SIGNATURE	5		34. DATE October 12, 2	2012					
APPROVED BY		OCS K		10/13/12					

Application for Permit to Modify (APM) Information Sheet

35) Question Information								
Questions	Re	esponse	Remarks					
a) Is H ₂ S present in the well? If yes, then comment on the inclusion of a Contingency Plan for this operation.		YES NO N/A	Current status is H2S unknown. Shell has an H2S contingency plan in place in the event that H2S is present during drilling.					
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c) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.		YES NO N/A						
d) If sands are to be commingled for this completion, has aproval been obtained?		YES NO N/A						
e) Will the completed interval be within 500 feet of a block line? If yes, then comment.		YES NO N/A						
f) For permanent abandonment, will casings be cut 15 feet below the mudline? If no, then comment.		YES NO N/A						

U.S. Department of the Interior

Bureau of Safety and Environmental Enforcement (BSEE)



Application for Permit to Drill (APD) 9 2012

1. PROPOSAL TO DRILL X NEW WELL SIDETRACK	BYPASS	DEEPEN	2. BSE 0211				Stop Delika Of Same and ADDRESS involved a first and ADDRESS and A			
4. WELL NAME (CURRENT) OCS-Y 2324 #001 (Burger V)	5. SIDETRACK NO. (CURRENT) n/a			6. BYPASS NO. (CURRENT) n/a						
7. PROPOSED START DATE				1 C Street e 1000						
July 4, 2012	n/a						horage Ak			
9. API WELL NO. (CURRENT SIDETRACK / BYPAS n/a	SS) (12 DIGITS)					9950		,		
10. Revision If revision, please list changes:										
WELL AT TOTAL DE	PTH (PROPOSE	ED)		III Martin	WEL	LAT	SURFACE			
12. LEASE NO.				17. LEASE NO.						
OCS-Y 2324				OCS-Y 2324						
13. AREA NAME				18. AREA NAME						
Posey				Posey						
14. BLOCK NO.		-		19. BLOCK NO.			-			
6915 (N71 deg 10' 33.39"; W16	3 deg 04' 21.23")			6915 (N71 deg 10' 33.39"; W163 deg 04' 21.23")						
15. LATITUDE	16. LONGITUDE			20. LATITUDE	r _k T		21. LONGITUDE			
(X NAD 83 / NAD 27)	(X NAD	83 / NAE	27)	(X NAD 83/	LNAD	27)	(X NAD 83)	NAD 27)		
L	IST OF SIGNIFIC	CANT MA	RKE	RS ANTICIPA	TED					
22. NAME	23. TOP (MD)	24. TOP (TVD		22. NAME			23. TOP (MD)	24. TOP (TVD)		
				****	+					
25. LIST ALL ATTACHMENTS (Attach complete we								mission.		
26. CONTACT NAME Jim Miller			27. CONTACT TELEPHONE NO. 28. CONTACT E-MAIL ADDRES jim.miller@shell.com							
 AUTHORIZING OFFICIAL (Type or print named) Susan Childs 	1000000	о. тітье Alaska Venture Support Integrator, Manager								
31. AUTHORIZING SIGNATURE		2. DATE August 9, 2012								
APPROVED: With Attached Conditions Without Conditions	THIS SP	ACE FOR B	SEE	SE ONLY		TITLE/	Regiona EE (l Directo		
API WELL NO. ASSIGNED TO THIS WELL	5-3/2/	1000	00-	7-00		10	/18/	2012		



Application for Permit to Drill (APD) Information Sheet

33) Question Information Sheet								
Questions	Re	esponse	Remarks					
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?		YES NO N/A						
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?		YES NO N/A	Water based drilling fluids will be used.					
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?		YES NO N/A	Kill weight mud will be stored on the drillship in sufficient quantities to kill any flows. Riser and BOP to be installed after setting conductor at -1244 feet below the mudline. All deeper portions of the well will be drilled with the riser installed. ROV monitoring will be in place.					
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?		YES NO N/A	Conductor casing to be installed at a depth of approximately 1244 feet below the mudline.					
Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)		YES NO N/A	Discharges from the proposed operation will be covered under the EPA NPDES Arctic General Permit, authorization number AKG-28-0019.					
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.		YES NO N/A	The proposed well will be drilled from a floating drillship, not from a platform.					
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?	□	YES NO N/A						

BSEE Form BSEE-0123 (October 2011 - Supersedes all previous versions of this form which may not be used.) Page 2 of 2

U.S. Department of the Interior

Public Information Submit original plus THREE copies, with ONE copy marked "Public Information."

OMB Control No. 1010-0141 OMB Approval Expires 10/31/2014

Bureau of Safety and Environmental Enforcement (BSEE)

Application for Permit to Drill (APD)

PROPOSAL TO DRILL NEWWELL SIDETRACK	BYPASS DEE	2. BS EPEN 006	EE OPERATOR NO. 89	3.	OPERATOR NAME and ADDRESS (Submitting office)			
4. WELL NAME (CURRENT)	5. SIDETRACK NO. (CURRE	ENT) 6. BY	PASS NO. (CURREN	1)	Shell Offshor	Control of the December 1		
OCS-Y 1941 #001 (Torpedo H)	E. A. L. S. C. S.			3601 C Stree	et			
7. PROPOSED START DATE	8. PLAN CONTROL NO. (NE	Suite 1000						
July 10, 2012	n/a				Anchorage A 99503			
9. API WELL NO. (CURRENT SIDETRACK / BYPA	SS) (12 DIGITS)			- ·	REGE			
n/a					M	الما الما الما الما الما الما الما الما		
/ If revision,					OCT	1 5 2012		
10. Revision 11. please list changes:					Demand Safetyand F	ctor, Alaska OCS Environmental Enforcement		
WELL AT TOTAL DE	EPTH (PROPOSED)			WELL	AT SURFACE	age, Alaska		
12. LEASE NO.			17. LEASE NO.	-				
OCS-Y 1941			OCS-Y 1941					
13. AREA NAME			18. AREA NAME					
Flaxman Island			Flaxman Islan	nd				
14. BLOCK NO.			19. BLOCK NO.			_		
6610 (N70 deg 27' 01.62"; W14	45 deg 49' 32.07")		- Service Control of the Control	g 27' 01.6	62"; W145 deg 4	9' 32.07")		
15. LATITUDE	16. LONGITUDE	20. LATITUDE		21. LONGITUDE				
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22. NAME	23. TOP (MD) 24.	TOP (TVD)	22. NAME		23. TOP (MD)	24. TOP (TVD)		
		-	-					
			1					
25. LIST ALL ATTACHMENTS (Attach complete we	ell prognosis + attachments req	uired by 30 CFR	250.414 or 30 CFR 25	50.1617(c) ar	nd (d) as appropriate.)			
Oce the ADD Table of (Cantanta for all the	dooumo	ata assasiat	ad with	this ADD au	hmission		
See the APD Table of C	contents for all the	e docume	ils associate	ed with	IIIS APD Su	DITIISSIOTI.		
26. CONTACT NAME		27. C	ONTACT TELEPHON	E NO. 28	28. CONTACT E-MAIL ADDRESS			
Jim Miller		907	jim.miller@shell.com					
29. AUTHORIZING OFFICIAL (Type or print name	10)		TITLE					
Susan Childs		Ala	aska Venture Support Integrator, Manager					
31. AUTHORIZING SIGNATURE	1.11	DATE						
Sun a	ulde	Oc	tober 15, 2012					
APPROVED: With Attached Conditions Without Conditions	THIS SPACE	FOR BSEE	SE ONLY		DDCE H	nal Duw		
API WELL NO. ASSIGNED TO THIS WELL	5-17/-0	2017-	00		10/18/			

Application for Permit to Drill (APD) Information Sheet

33) Question Information Sheet								
Questions	Re	esponse	Remarks					
A) Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?		YES NO N/A						
B) If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?		YES NO N/A	Water based drilling fluids will be used.					
C) If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?		YES NO N/A	Kill weight mud will be stored on the drilling vessel in sufficient quantities to kill any flows. Riser and BOP to be installed after setting conductor at -1045 feet below the mudline. All deeper portions of the well will be drilled with the riser installed. ROV monitoring will be in place.					
D) If requesting a waiver of the conductor casing, have you submitted a log to BSEE District Office that is with in 500 feet of the proposed bottom hole location for the proposed surface casing point?		YES NO N/A	Conductor casing to be installed at a depth of approximately 1045 feet below the mudline.					
E) Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in remarks for this question)		YES NO N/A	Discharges from the proposed operation will be covered under the EPA NPDES Arctic General Permit, authorization number AKG-28-0010.					
F) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.		YES NO N/A	The proposed well will be drilled from a floating drilling vessel, not from a platform.					
	1000							
G) Is the calculated daily volume possible from an uncontrolled blowout of this well greater than the daily volume included in the worst case discharge scenario in the approved oil spill response plan?		YES NO N/A						

BSEE Form BSEE-0123 (October 2011 - Supersedes all previous versions of this form which may not be used.) Page 2 of 2

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE) Submit original plus THREE copies, with ONE copy marked "Public Information."

OMB Control No. 1014-0018 OMB Approval Expires 10/31/2014

Application for Permit to Modify (APM) 4. OPERATOR NAME and ADDRESS 3. BYPASS NO. (CURRENT) 1. WELL NAME (CURRENT) 2. SIDETRACK NO. (Submitting office) glonal Director, Alaska (CURRENT) FI 6658 OCS-Y 1805 001 00 Shell Offshore Inc. 7. ESTIMATED DURATION (DAYS) 5. API WELL NO. (12 digits) 6. START DATE (Proposed) 3601 C Street Stiffe 1000 Alaska Anchorage, AK 99503 55-171-0001300 10/27/2012 2 day If revision, please list changes: Revision WELL AT SURFACE WELL AT TOTAL DEPTH 10. LEASE NO. OCS-Y 1805 13. LEASE NO. OCS-Y 1805 14. AREA NAME 11, AREA NAME Flaxman Island Flaxman Island BLOCK NO. 6658 12. BLOCK NO. 6658 Proposed or Completed Work 16. PROPOSED OR COMPLETED WORK (Describe in Section 17) PLEASE SELECT ONLY ONE PRIMARY TYPE IN BOLD AND AS MANY SECONDARY TYPES AS NECESSARY. ☐ Completion: ☐ Enhance Production ☐ Workover: ☐ Acidize ☐ Change Tubing Initial Completion ☐ Artifical Lift ☐ Casing Pressure Repair Reperforation ☐ Wash/Desand Well Change Zone ☐ Jet Well Abandonment of Well Bore: Modify Perforations ☐ Permanent Abandonment ☐ Utility ☐ Information: ☐ Initial Injection Well Additional Fluids for Injection ☐ Plugback to Sidetrack/Bypass Surface Location Plat Other Operations ☐ Site Clearance Change Well Name ☐ Describe Operation(s) 17. BRIEFLY DESCRIBE PROPOSED OPERATIONS (Attach prognosis): TA the Sivullig N well between the 2012 and 2013 open water seasons. See attached documents for necessary references. 18. LIST ALL ATTACHMENTS (Attach complete well prognosis and attachments required by 30 CFR 250.513(a) through (d); 250.613(a) through (d); 250.1712(a) through (g); 250.1721(a) through (h); 250.1722(a) through (d); or 250.1743(a) 19. Rig Name or Primary Unit (e.g., Wireline Unit, Coil Tubing, Snubbing Unit, etc.) Shell Kulluk 20. The greater of SITP or MASP (psi): N/A 21. Type of Safety Valve (SV): SCSSV SSCSV X N/A 22. SV Depth BML (ft): N/A Rig BOP (Rams) Rig BOP (Annular) Size Working Pressure Test Pressure Working Pressure Test Pressure (inches) (psi) (psi) (psi) (psi) Low/High: N/A N/A Low/High: N/A N/A N/A Snubbing Unit BOP: Coiled Tubing BOP: Wireline Lubricator: 26. Test Pressure Working Pressure Test Pressure Working Pressure BOP Test Pressure Working Pressure (psi) (psi) (psi) (psi) (psi) Low/High: N/A N/A Low/High: N/A N/A N/A Low/High: N/A 29. CONTACT TELEPHONE NO.: 30. CONTACT E-MAIL ADDRESS 28. CONTACT NAME 1-713-594-8531 shawn.gelsinger@shell.com Shawn Gelsinger 31. AUTHORIZING OFFICIAL (Type or print name) 32. TITLE Jim Miller **Drilling Superintendent** 33. AUTHORIZING SIGNATURE October 30, 2012 THIS SPACE FOR BSEE USE ONLY ROVED BY TITLE

Application for Permit to Modify (APM) Information Sheet

35) Question Information				
Questions	Response	Remarks		
a) Is H₂S present in the well? If yes, then comment on the inclusion of a Contingency Plan for this operation.	☐ YES ☑ NO ☐ N/A			
b) Is this proposed operation the only lease holding activity for the subject lease? If yes, then comment.	☐ YES ☐ NO ☐ N/A			
c) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	☐ YES ☐ NO ☑ N/A			
		The limit of the second se		
d) If sands are to be commingled for this completion, has aproval been obtained?	☐ YES ☐ NO ☑ N/A			
e) Will the completed interval be within 500 feet of a block line? If yes, then comment.	☐ YES ☐ NO ☑ N/A			
f) For permanent abandonment, will casings be cut 15 feet below the mudline? If no, then comment.	☐ YES ☐ NO ☑ N/A			

U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE)

Submit original plus THREE copies, with ONE copy marked "Public Information."

OMB Control No. 1014-0018 OMB Approvel Expires 10/31/2014

Application for Permit to Modify (APM) 4. OPERATOR NAME and ADDRESS 2. SIDETRACK NO. 3. BYPASS NO. (CURRENT) 1. WELL NAME (CURRENT) (Submitting office) gional Director, Alaska (CURRENT) FI 6658 OCS-Y 1805 001 00 Shell Offshore Inc. and Environmental forcement 7. ESTIMATED DURATION (DAYS) 5. API WELL NO. (12 digits) START DATE (Proposed) 3601 C Street Suffe 1000 Alaska Anchorage, AK 99503 55-171-0001300 10/27/2012 2 day If revision, please list changes: Revision WELL AT SURFACE WELL AT TOTAL DEPTH 13. LEASE NO. OCS-Y 1805 10. LEASE NO. OCS-Y 1805 14. AREA NAME 11. AREA NAME Flaxman Island Flaxman Island 15. BLOCK NO. 6658 12. BLOCK NO. 6658 Proposed or Completed Work 16. PROPOSED OR COMPLETED WORK (Describe in Section 17) PLEASE SELECT ONLY ONE PRIMARY TYPE IN BOLD AND AS MANY SECONDARY TYPES AS NECESSARY. ☐ Completion: ☐ Enhance Production ☐ Workover: ☐ Acidize ☐ Change Tubing Initial Completion ☐ Artifical Lift ☐ Casing Pressure Repair Reperforation Change Zone ☐ Wash/Desand Well ☐ Jet Well Abandonment of Well Bore: Modify Perforations ☐ Utility ☐ Permanent Abandonment ☐ Initial Injection Well ☐ Information: ☐ Plugback to Sidetrack/Bypass Surface Location Plat Additional Fluids for Injection ☐ Site Clearance Change Well Name Other Operations ☐ Describe Operation(s) 17. BRIEFLY DESCRIBE PROPOSED OPERATIONS (Attach prognosis): TA the Sivulliq N well between the 2012 and 2013 open water seasons. See attached documents for necessary references. 18. LIST ALL ATTACHMENTS (Attach complete well prognosis and attachments required by 30 CFR 250.513(a) through (d); 250.613(a) through (d); 250.1712(a) through (g): 250.1721(a) through (h): 250.1722(a) through (d); or 250.1743(a) 19. Rig Name or Primary Unit (e.g., Wireline Unit, Coil Tubing, Snubbing Unit, etc.) Shell Kulluk 22. SV Depth BML (ft): N/A 20. The greater of SITP or MASP (psi): N/A 21. Type of Safety Valve (SV): SCSSV SSCSV X N/A Rig BOP (Annular) Rig BOP (Rams) Test Pressure Working Pressure Size Working Pressure Test Pressure (psi) (psi) (psi) (inches) (psi) Low/High: N/A Low/High: N/A N/A N/A N/A Coiled Tubing BOP: Snubbing Unit BOP: Wireline Lubricator: Working Pressure BOP Test Pressure Working Pressure Test Pressure Working Pressure Test Pressure (psi) (psi) (psi) (psi) (psi) (psi) Low/High: N/A Low/High: N/A N/A Low/High: N/A N/A N/A 29. CONTACT TELEPHONE NO .: 30. CONTACT E-MAIL ADDRESS: 28. CONTACT NAME 1-713-594-8531 shawn.gelsinger@shell.com Shawn Gelsinger 31. AUTHORIZING OFFICIAL (Type or print name) **Drilling Superintendent** Jim Miller 33. AUTHORIZING SIGNA October 30, 2012

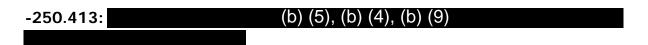
Application for Permit to Modify (APM) Information Sheet

35) Question Information			
Questions	Response	Remarks	
a) Is H ₂ S present in the well? If yes, then comment on the inclusion of a Contingency Plan for this operation.	☐ YES ☑ NO ☐ N/A		
b) Is this proposed operation the only lease holding activity for the subject lease? If yes, then comment.	☐ YES ☑ NO ☐ N/A		
c) Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	☐ YES ☐ NO ☑ N/A		
The second secon			
d) If sands are to be commingled for this completion, has aproval been obtained?	☐ YES ☐ NO ☒ N/A		
e) Will the completed interval be within 500 feet of a block line? If yes, then comment.	☐ YES ☐ NO ☑ N/A		
f) For permanent abandonment, will casings be cut 15 feet below the mudline? If no, then comment.	☐ YES ☐ NO ☑ N/A		

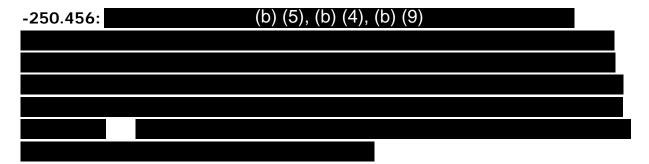
Beaufort Sea APDs

For all APDs:

In the new sets of waivers that we received in July, the reference to 30 CFR 250.488 should be 30 CFR 250.248.



- **-250.415:** The pages with the burst and collapse safety factors are titled "Tension Safety Factors". Request correction or clarification
- **-250.442:** On the deadman sizing requirements, the volume calculated indicates that 20 accumulator bottles are required. However, only 18 dedicated bottles are listed on the available fluid list. Request correction or clarification
- **-250.444:** On the choke statement, it refers to the "Burger J location". Should this be Burger A? Request correction or clarification



Chukchi Sea APDs

For all APDs:

In the new sets of waivers that we received in July, the reference to 30 CFR 250.488 should be 30 CFR 250.248.



From: Crumrine, Kathleen
To: <u>Tankersley, Yolanda J</u>

Subject: FW: Final Saftey Rule Questions

Date: Monday, September 17, 2012 12:59:00 PM

Can you do this?

From: Fesmire, Mark E

Sent: Monday, September 17, 2012 10:56 AM

To: Crumrine, Kathleen

Subject: RE: Final Saftey Rule Questions

It is ok with me. Send out a meeting request.

Mark

From: Crumrine, Kathleen

Sent: Monday, September 17, 2012 10:07 AM

To: Fesmire, Mark E; Shank, Michael L; Howell, Randy; Walker, Jeffrey

Subject: FW: Final Saftey Rule Questions

Importance: High

Can we have a meeting at 2:00 this afternoon in the conference room in the new space to discuss these questions from shell?

From: Sandy.Sears@shell.com [mailto:Sandy.Sears@shell.com]

Sent: Monday, September 17, 2012 9:43 AM

To: Crumrine, Kathleen

Subject: FW: Final Saftey Rule Questions

Importance: High

Kathleen – got a note from Kyle that he will up North for a few weeks. Could you weigh in on the following questions from the Shell drilling team?

Thanks, Sandy

771-7203

From: Sears, Sandy SEPCO-UAX/A/SD Sent: Monday, September 17, 2012 9:40 AM

To: Kyle Monkelien

Cc: Henley, John A SEPCO-UAO/W/D; Ruddy, Pauline M SEPCO-UAX/A/SD; Horner, Greg J SEPCO-

UAX/A/SD; Riley, Chris J SEPCO-UAO/W/D **Subject:** Final Saftey Rule Questions

Importance: High

Kyle,

I have a few questions posed by John Henley and the drilling team. Would appreciate if you can

offer some comments and advice.

Thanks, Sandy

In the event the well is suspended between seasons (TA) after the 20" casing is set / cemented.

1) Does the BSEE consider the 20" casing string as "the last casing string in the well" as referenced in the FSR?

In the BSEE on-line documentation of the FSR there are many comments / references to 30CFR 250.420(b)(3).

The feedback provided by the BSEE reads: "the operator must install two independent barriers to prevent flow in the event of a failure in the cement, and clarified that a dual float valve is not considered a barrier", ref page 20 on the following link.

2) In order to suspend the well two independent barriers to prevent flow are required, starting at the bottom. A Bridge Plug near the shoe track would replace the 'current industry thinking' about the barrier at the bottom of the well and then a surface plug (ref 250.1721(d).

250.1715(b)(1), reads that the first plug below the surface plug must be tested. For the case in 2) above, Shell would tag the bridge plug with 15k down to verify it its set.

3) Shell wants to verify that the BSEE is not expecting to see a positive pressure test of that barrier set near the shoe track when the BOP's are not installed on the well.

Best regards,
John A. Henley
Sr. Drilling Engineer
Shell Exploration & Production Company

One Shell Square, P. O. Box 61933, New Orleans, LA 70161-1933, United States of America

Tel: +1.504.728.4478 **Mob:** +1.281.795.0250

Email: john.a.henley@shell.com

Torpedo H comments

-418h, 420a6 – wrong well name is referenced on 2nd page. (Sivulliq N vs. Torpedo H)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 10

1200 Sixth Avenue, Suite 900 Seattle, WA 98101-3140

OFFICE OF THE REGIONAL ADMINISTRATOR

JUL 2 7 2012

Mr. Mark Fesmire Director of Alaska Region Bureau of Safety and Environmental Enforcement 3801 Centerpoint Drive, Suite 500 Anchorage, Alaska 99503-5820

REGEIVED

AUG 0 3 2012

Regional Director, Alaska OCS
Bureau of Safety and Environmental Enforcement
Anchorage, Alaska

Dear Mr. Fesmire:

The U.S. Environmental Protection Agency, Region 10, is contacting the Bureau of Safety and Environmental Enforcement to finalize the EPA's request for assistance in conducting inspections and collecting data on exploration facilities located on the Alaska outer continental shelf during the 2012 drilling season.

Our respective agency inspectors have been working cooperatively to develop procedures to assist BSEE inspectors in conducting inspections and collecting data related to exploration facilities covered by the National Pollutant Discharge Elimination System General Permit for Oil and Gas Exploration Facilities on the Outer Continental Shelf and Contiguous State Waters, NPDES Permit No. AKG-28-0000, and EPA-issued air quality permits. These procedures are based, in part, on the 1993 memorandum of agreement between the EPA and the Minerals Management Service that was intended to improve cooperation and coordination in oil and gas lease activities on the outer continental shelf.

Our proposed joint efforts will assist the EPA's ongoing OCS compliance and enforcement program and increase regulatory accountability of exploration facilities that are drilling in the OCS during the 2012 drilling season. The respective agency inspectors are in the process of developing the procedures for these joint efforts and in working through logistical and procedural issues that may arise during the drilling season.

Accordingly, I want to take this opportunity to recognize BSEE's ongoing assistance and to request your confirmation of our joint efforts for this drilling season. Please contact me or have your staff contact Mr. Rick Cool in our Office of Compliance and Enforcement at 206-553-6223 if you have any questions about this letter.

Sincerely,

Dennis J. McLerran Regional Administrator Memo

To:

File

From:

Mr. Mark E. Fesmire, P.E.

Regional Director - Alaska OCS Region

Bureau of Safety and Environmental Enforcement

Mr. David M. Moore

Chief - Oil Spill Response Division

Bureau of Safety and Environmental Enforcement

Date: 20 August 2012

Re:

Proposal by Shell to Drill Pilot Holes and Mud Line Cellars

The approved Shell OSRPs for the Chukchi and Beaufort Seas do not specify the proximity of the subsea containment and surface separation equipment (containment system), installed on the vessel Arctic Challenger, during activities that precede penetration into potential hydrocarbon-bearing zones. This memo concerns the technical risks associated with the construction of mudline cellars (MLCs) at the drill sites in the Chukchi and Beaufort Seas after the Arctic Challenger has been inspected and permits have been approved, but while the Arctic Challenger is still in transit.

It is our opinion that there would be little or no increase in the discharge risk associated with drilling activities to construct MLCs that would not penetrate liquid hydrocarbon-bearing zones if that work were to proceed without the Arctic Challenger on location. We reach that conclusion due to the multiple levels of safety practices and devices that are in place to prevent or address a loss of well control, coupled with the fact that the depth of the proposed drilling would not penetrate liquid hydrocarbon bearing zones.

The purpose of the subject containment system on the Arctic Challenger is to contain and recover liquid hydrocarbons escaping into the environment and, if engaged during a loss of well control, to contain and recover the maximum volume of oil released. It must be emphasized that, in the unlikely event of a loss of well control, this is the last element in a multi-redundant system intended to prevent environmental contamination. It is also important to note that this is an independent system that would not be used in the event of a loss of well control unless all other prevention and containment methods failed.

The first element in the multi-redundant system to prevent a loss of well control is the casing screening tool which is used to evaluate the casing design of each well and is completed before any drilling takes place. The screening tool requires that the casing string be designed to withstand all pressures that could conceivably occur during any operations in the well bore, including total emergency shut in. This is an improved design standard and this requirement was not in place prior to the Macondo well blowout in the Gulf of Mexico.

The next part of the multi-redundant system is the improvement in blowout preventers that will be used. Shell blowout preventers have been modified by the inclusion of an additional blind shear ram to facilitate the complete closure of the well in the event it becomes necessary. This ability is facilitated by the improved casing design. These critical pieces of well control equipment would be installed before drilling into any formations that would be under pressure and potentially contain hydrocarbons.

The presence of the capping stack and Shell's ability to deploy this piece of equipment to the sea floor adds the next redundancy to the system. The capping stack, which will be on an ice management vessel and available for immediate deployment from a location near the drilling operations, is designed to be used in one of two modes. The stack can be connected to the blowout preventer, well head, or casing to achieve a pressure tight seal which would result in a complete shut in of the well (again in concert with the casing design). In the event that conditions would not allow a complete shut in or there was a need to relieve pressure on the well head, the second mode of operation for the capping stack is that it can be connected to the surface portion of the containment system where the fluids will be routed to the surface, treated and disposed of or offloaded to a storage vessel. This is the first time in the redundancy tree that the containment system would be needed.

Finally, there is the containment system itself. Here, the subsurface portion of the system would be lowered to the well head or source of the leak and used to create a pressure sink in the sea which would facilitate the collection of liquid hydrocarbons, subsurface separation from much of the sea water, and transportation of the fluid to the surface portion of the containment system, where oily water is again processed and disposed of or offloaded to the storage vessel.

Shell's most recent proposed Chukchi Sea drilling procedure calls for a small pilot hole to be drilled to a depth of approximately 200 feet below the mud line. This drilling is to be performed at locations specifically chosen from the geophysical responses to the shallow hazards surveys. The drilling activities have essentially no probability of encountering oil and a very low probability of encountering natural gas, either in a small pocket or as methane hydrates at this depth. If gas is encountered, it will have no liquid component at this pressure.

in the unlikely event natural gas is encountered, conventional well control techniques will have a high likelihood of successfully controlling the event, and in fact would be the preferred method of controlling the well due to the fact that there would be no casing or cement in the hole during this part of the operation.

Given the product of this series of probabilities, there is an extremely low expectation of hydrocarbons to the surface, and virtually no expectation of oil to the surface, during the drilling of the pilot hole and MLC.

As noted above, one of the primary purposes of the containment system on the *Arctic Challenger* is to provide redundancy for the containment and recovery of liquid hydrocarbons. It is not designed to gather gas that is not in solution or entrained in oil, and would be of very little benefit in controlling a free gas phase flowing to the surface.

For these reasons, we believe that drilling pilot holes and construction of MLCs prior to the arrival of the *Arctic Challenger* to the Arctic Ocean does not increase the risk of oil contamination associated with the project.

The review and approval of the OSRPs did not assume that the containment system would be located in proximity to the *Discoverer* or the *Kulluk* during drilling that would not penetrate liquid hydrocarbon-bearing zones. The OSRPs specify that the spill response assets will be located nearby during drilling operations into hydrocarbon-bearing zones. The OSRPs refer to the respective Exploration Plans regarding the location of the containment system. The Chukchi Exploration Plan states that the containment system will be stationed "where it can be mobilized to the drill site when needed." The Beaufort Exploration plan does not specify a location for the containment system during drilling activities because it is not considered as a primary component of spill response. Based on the totality of engineering and geological factors set out above, our best professional judgment, and the lack of clarity in the Exploration Plans regarding the location or availability of the containment system, it is our determination that the containment system is not required to be located in the Arctic during drilling activities that will not penetrate potential liquid hydrocarbon-bearing zones.

¹ See e.a., Chukchl OSRP p. 1-2; Beaufort OSRP, p. 1-1.

² "The . . . sub-surface containment system and the barge containing the processing equipment will be . . . located as described in the revised . . . Exploration Plan." Chukchi OSRP, p. N-14; Beaufort OSRP, p. N-11.

³ Chukchi EP, p. 13-4; Beaufort EP, p. 9-4 states the

⁴ See e.a., Beaufort EP, p. 8-1 ("Location of Primary Oil Spill Equipment Base and Staging Area").

Memo to File

From: Mr. Mark E. Fesmire, P.E.

Regional Director - Alaska OCS Region

Bureau of Safety and Environmental Enforcement

Mr. David M. Moore

Chief - Oil Spill Response Division

Bureau of Safety and Environmental Enforcement

Date:

18 September 2012

Re:

Request by Shell to Drill Pilot Holes and Mud Line Cellars for All Proposed Wells in the Beaufort

and Chukchi Seas

Ref:

Memos dated 20 and 29 August 2012 from Mr. Mark Fesmire and Mr. David M. Moore -

Proposal by Shell to Drill Pilot Holes and Mud Line Cellars:

This memo addresses the latest request from Shell to conduct limited drilling on all proposed drilling locations in the Chukchi Sea (Burger Prospect) and the Beaufort Sea (Suvillik and Torpedo Prospects) similar to that approved by BSEE for the Burger A well. Drilling for each well would be limited to construction of a mud line cellar (MLC), drilling the pilot hole, and drilling to the depth necessary to allow running and cementing of the 20" casing string as described in applications for permit to drill. During these activities, the Arctic Challenger, which is the firm's oil containment system, would not be on location. All other oil spill response assets would be available as described in the applicable oil spill response plan.

As stated in our earlier opinion related to the Burger A well, there would be little or no increase in the oil discharge risk associated with drilling activities to construct MLCs and pilot holes, as such work would not result in the penetration of liquid hydrocarbon-bearing zones. Again, the drilling is to be performed at locations specifically chosen from the geophysical responses to the shallow hazards surveys. The drilling activities thus have essentially no probability of encountering oil and a very low probability of encountering natural gas, either in a small pocket or as methane hydrates at this depth. If gas is encountered, it will have no liquid component at this pressure.

Based on this information and our analysis of relevant data, it is our determination that the oil containment system is not required to be located in the Arctic during limited drilling activities that will not penetrate potential liquid hydrocarbon-bearing zones.



United States Department of the Interior

BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT

Alaska OCS Region 3801 Centerpoint Drive, Suite 500 Anchorage, Alaska 99503-5823

FEB 2 1 2012

Ms. Susan Childs Alaska Venture Support Integrator Manager Shell Offshore, Inc. 3601 C Street, Suite 1000 Anchorage, AK 99503

Dear Ms. Childs:

We have completed our initial review of the Proprietary Data submitted in support of your Application for Permit to Drill for the Burger A drill site. As the APD is as of yet incomplete, we were unable to determine whether certain issues that we found would be answered in a subsequent submittal. However, we have provided in the attached sheet, several inaccurate or incomplete items that can be addressed with your next submission, as well as questions that may indeed be answered later in the process.

Please be advised that at this time all submissions regarding this APD should be in the form of paper documents and that electronic submission of documents are not acceptable. These submissions should be directed to me at the above address. If you have any questions please contact Mr. Kyle Monkelien at 907-334-5307.

Sincerely,

Mark E. Fesmire, P.E. J.D.

Regional Director, BSEE AKCOS Region

Attachment

Burger A

- On form BSEE-0123
- o 33) F IN the remarks states that the proposed well "will be drilled from a conical drilling unit, not from a platform."

On form BSEE-0123s

- Have to put the open hole section of the well on this form for both wells
- Interval Number 3 and 4 pore pressure listed, does not match the pore pressure plot provided
- 250.414(g)
- o They state they will use permafrost cement, but do not include estimated depths to permafrost.
- o Also, if permafrost is present, need to address 250.415(d)

Chart entitled "Tension Safety Factors"

• In the calculations column for Burst Safety Factors for the 30" structural it states, "see MASP calcs". This calculation is not provided in the MASP worksheet.

Casing test pressure for Surface and Intermediate casings indicate that you plan to test to MASP + 500 psi. Test pressure per regulations says 70% of its minimum internal yield.

Regulations require that for BOP's: The high pressure test must equal the rated working pressure (15,000/10,000) of the equipment, or 500 psi above the (MASP) for the applicable section of hole. To test to any other pressure other than Working Pressure requires approval of the District Supervisor

Regulations require that for Annular's: The high pressure test must equal 70% of working pressure (10,000/10,000), or to a pressure approved in the APD. If you are requesting a different test pressure this should be indicated in request for departure section.

Burger A

- On form BSEE-0123
 - Question the date Fixed
 - o #33 has to be filled out on the public information copy Fixed
- On form BSEE-0123s
 - o #3, 7, and 8 don't have to be filled out on the public copy Fixed
 - o FG for interval 4 and 5 don't match pore pressure plot Fixed
- Fill up line departure is not necessary Not submitted as comment to Shell Fixed July 18
- Request for drilling of a bypass hole will require submittal of a new APD Acknowledged
- Will still need to provide an APM to perform abandonment procedures. Acknowledged
- No BOP control diagrams Acknowledges they still need Fixed June 11
- (b) (4), (b) (9)
- No 3rd party verification of BOP Stack Included West Engineering review...but provisional Part of APD Approval Letter
- Normal minimal water depth is listed at 300 ft, yet water depth at location is 150
- Noble Safety Policy Manual SPM-505 4.1.3 bullet 2 states that in addition to the above, the fire
 watch shall make periodic checks with gas monitoring equipment. 250.113 (c) (2)(iv) states
 must maintain a continuous surveillance with a portable gas detector during welding and
 burning operation if welding occurs in an area not equipped with a gas detector. Shell will revise
 Fixed July 18
- Don't see any standards or requirements for welders 250.110(a) Welders are certified to ABS 6G
 Standard
- There will be a minimum of two independent tested barriers across each flow path while drilling
 in any expected hydrocarbon-bearing zone at least one of which is mechanical? Be more
 specific? Letter from Les Skinner describing barriers
- All ROV intervention functions must be tested on the stump test. Fixed
- Seafloor tests should state what is being tested. Fixed
- No procedures submitted to test the deadman on stump test or seafloor Fixed
- H2S plan submitted with EP does not discuss the procedures for sustaining ignition and monitoring status of the flare as required by 250.490(f)(15) Submitted new H2S Plan

Burger A comments

- **-250.413:** No LOT on 9 5/8" casing shoe indicated on the "Wellbore Sketch (Drilling Prognosis)". Request correction
- **-250.415:** The pages with the burst and collapse safety factors are titled "Tension Safety Factors". Request correction or clarification
- **-250.442:** On the deadman sizing requirements, the volume calculated indicates that 20 accumulator bottles are required. However, only 18 dedicated bottles are listed on the available fluid list. Request correction or clarification
- **-250.444:** On the choke statement, it refers to the "Burger J location". Should this be Burger A? Request correction or clarification





United States Department of the Interior BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT

Alaska OCS Region 3801 Centerpoint Drive, Suite 500 Anchorage, Alaska 99503-5823

APR 0 4 2012

Ms. Susan Childs Alaska Venture Support Integrator Manager Shell Offshore, Inc. 3601 C Street, Suite 1000 Anchorage, AK 99503

Dear Ms. Childs:

On March 16, 2012, BSEE AK OCS received Shell's supplementation and further development of the Applications for Permits to Drill for the Flaxman Island OCS-Y 1941 No. 001 Torpedo H well and the Posey OCS-Y 2280 No. 001 Burger A well. The partial APD's were originally submitted to this office on January 31, 2012.

As Shell has pointed out in its applications, certain portions of those applications still remain to be completed and submitted. However, BSEE is continuing to review the submissions to the extent that is possible with the information currently available.

At your request, BSEE has expedited its initial review of the information submitted to date and attached to this letter is a preliminary list of the issues we would like Shell to address to facilitate our further review of the APD's. While this list may not be comprehensive, we believe it contains most of the issues for which we will be seeking clarification.

Please be advised that at this time all submissions regarding this APD should be in the form of paper documents and that electronic submission of documents are not acceptable. These submissions should be directed to me through our point of contact, Ms. Yolanda Tankersley, at the above address. If you have any questions please contact myself or Mr. Kyle Monkelien at 907-334-5300 and 907-334-5307 respectively.

Sincerely,

Mark E. Fesmire, P.E. J.D.

Regional Director, BSEE AKCOS Region

Attachments

OCS-Y 2280 No. 001 Burger A Comments

On form BSEE-0123

- Public information copy...only need one total (not one in each application)
- o Public information copy...need to fill out box #33

On for BSEE-0123s

- o Frac Gradients listed for Intervals 4 and 5 do not match PPFG Plot given
- Public information copy...only need one total (not one in each application)
- o Public information copy...box 3,7, and 8 don't need to be filled in
- Request for the drilling of a bypass hole will require the submittal of a new APD
- Will still need to provide an Application for Permit to Modify (APM) to perform the abandonment procedures.

250.415

 The pages with the burst and collapse safety factors are titled "Tension Safety Factors," please label correctly.

Tab 250.416 BOP

- o Need a 3rd party verification that the BOP stack is designed for specific equipment on rig and specific well design
- o Need a 3rd party verification regarding the stack has not been damaged or compromise
- o Need a 3rd party verification that the stack will operate in the conditions that it will be used.
- o Need the BOP control system diagrams.

• Tab 250.417

BSEE is assessing information provided to directly satisfy the requirements of 250.417(a), 250.417(b), 250.417(c)(2), 250.417(d), and 250.417(e) regarding the MODU capabilities and operational limitations associated with environmental conditions at the drill site and associated plans for responding to an emergency situation that may arise from hazardous environmental conditions. This information can be provided to varying degrees of detail in a number of documents supplemental to an APD. These include (1) pages of the MODU Operating Manual/Procedures; (2) IADC Standard Format Equipment List (operational capabilities and environmental limits); (3) Mooring Analysis; (4) Riser Analysis; (5) Class Report(s); (6) Critical Operations and Curtailment Procedures (COCP); and (7) Ice Management Plan. BSEE recognizes that quantification of the relationship between unit operations, unit capabilities/limitations, and environmental conditions (wind, waves, currents, sea ice) is extremely complex, with many variables, and subject to MODU operator expertise and professional judgment. However, in order for BSEE inspectors onboard the unit to maintain a relative knowledge of the environmental conditions that could result in an exceedance of the unit's operational capabilities, it is important that this type of information within the APD documentation be

accurate, readily accessible, and as consistent as possible. See below for some specific areas in question.

- o 250.417(b) Mooring Analysis: Discoverer Motion Mooring Analysis by Delmar Systems, Inc. is not signed reviewed or approved.
- 250.417(b) Mooring Analysis: 30 CFR 250.417(b) requires information that site-specific soil and oceanographic conditions are capable of supporting the proposed drilling unit. The information provided in the Discoverer Motion Mooring Analysis by Delmar Systems, Inc., incorporates oceanographic conditions but no site-specific soil conditions are provided evidencing soil properties (i.e. shear strength, stiffness).
- o 250.417(b) Mooring Analysis: The mooring line properties and major components of the proposed mooring lines listed in the Discoverer Motion Mooring Analysis by Delmar Systems, Inc. does not match the mooring system components listed in the IADC Standard Format Equipment List submitted for 250.417(c) (e.g. Stevshark vs. Stevepris anchors). Which document is accurate regarding the mooring system equipment and associated specifications?
- 250.417(b) Mooring Analysis: Figure 7-Detailed Elevation View of all line, on page 15 of the Noble Discoverer Motion Mooring Analysis by Delmar Systems, Inc. is not legible in the paper or electronic APD submittals. Please provide a legible copy of this figure.
- o 250.417(e) Critical Operations and Curtailment Plan (COCP): Note: Under 30 CFR 550.220(b), the term used is "procedures" not "plan". A Critical Operations and Curtailment "Plan" has been submitted with general "procedures" provided within this plan as well as within the submitted Ice Management Plan. BSEE understands that the Unit Operating Manual (or Rig Operations Procedures) maintained onboard the vessel is to contain guidance for the safe operation of the unit for both normal and envisaged emergency conditions and provide detailed well securing procedures. The COCP states that "thresholds will be established for weather and sea conditions that will control: equipment preparation to curtail operations; decision to cease drilling; hanging off drillstring or otherwise suspending the well; disconnecting riser; moving the drillship off the drill site". BSEE inspectors onboard the unit will be interested to know these thresholds before drilling commences, as they relate to a relative knowledge of the environmental conditions that could result in an exceedance of the unit's operational capabilities. Please be aware that documented "procedures" associated with drilling and vessel operations will be reviewed and become a component of the BSEE records as these procedures are established and provided to BSEE inspectors onboard the vessel.
- o 250.417(a),(c),(d) DNV Report:
 - DNV Classification Certificate Expires 2012-06-15.
 - Will an "Appendix to the Class Certificate" be issued stating assumptions for the assignment of class and restrictions regarding the use of the vessel which were established or assumed at the time of assignment of class (see DNV-OSS-101 Rules for Classification of Offshore Drilling and Support Units, Chapter1, Section 4, C-106)?

- Note: No optional class notation for cold climate operations. 2011 EP identifies the Discoverer as a ship-shaped monohull with sponsons added for iceresistance; sponsons designed and constructed to meet requirements of DNV Additional Class Notation "ICE-05". Is Shell to seek any optional class notations for cold climate (e.g. PC-7, Winterized Basic, Cold, or Arctic)?
- Note: No optional "Drill" notation. Drilling plant not classed.
- Note: Vessel not classed as a "Mobile Offshore Unit".
- 250.417(c) Riser analysis: As the load case driver for load case 1 (operability-drilling) is the LFJ differential angle of 1 degree, will the INTECSEA recommendation (2.8) for instrumentation to carefully monitor the LFJ differential angle be implemented?

Tab 250.418 Welding Plan

- Noble Safety Policy Manual SPM-505 4.1.3 bullet 2 states "that in addition to the above, the fire watch shall make periodic checks with gas monitoring equipment." 250.113 (c) (2)(iv) states must maintain a continuous surveillance with a portable gas detector during welding and burning operation if welding occurs in an area not equipped with a gas detector. (4.4.5.3 Reiterates the periodic surveillance.)
- Need standards or requirements for welders 250.110(a)

Tab 250,420

Sentence on second page..."there will be a minimum of two independent tested barriers
across each flow path while drilling in any expected hydrocarbon-bearing zone at least
one of which is mechanical? Please provide specifics about what the barriers are at each
point.

Tab 250.442:

 On the deadman sizing requirements, the volume calculated indicates that 20 accumulator bottles are required. However, only 18 dedicated bottles are listed on the available fluid list. Please confirm.

Tab 250.444:

o On the choke statement, it refers to the "Burger J location". We assume this should reference Burger A. Please correct.

Tab 250.449

- The BOP is function tested using the ROBOCOP unit controls to close one pipe ram and one blind shear ram and release the upper H-4 connector...all ROV intervention functions must be tested on the stump test.
- Procedures state The BOP is again function tested using the ROBOCOP unit...should specifically state what is being tested.

(b) (4), (b) (9)

- We will need an updated H2S plan for operations under this APD specifically an updated emergency contact list.
 - o H2S plan submitted with the Exploration Plan does not discuss the procedures for sustaining ignition and monitoring the status of the flare as required by 250.490(f)(15.
- Please be aware of the regulation at 250.459(a) that states a ventilation system capable of replacing the air once every 5 minutes or 1.0 cubic feet of air-volume flow per minute, per square foot of area, whichever is greater. Past inspections have not been able to confirm what the ventilation system in the drilling fluid-handling areas is.

OCS-Y 1941 No. 001 Torpedo H Comments

On form BSEE-0123

- Public information copy...only need one total (not one in each application)
- o Public information copy...need to fill out box #33

On for BSEE-0123s

- Public information copy...only need one total (not one in each application)
- o Public information copy...box 3,7, and 8 don't need to be filled in
- Request for the drilling of a bypass hole will require the submittal of a new APD
- Will still need to provide an Application for Permit to Modify (APM) to perform the abandonment procedures.

Tab 250.416 Diverter

- o Need to provide the diverter operating procedures for the Kulluk, not the Discoverer.
- o List Diverter burst strength.
- List rated working pressure of the 16" ball valve
- The diverter detailed drawings are unclear due to the fine detail and size. We would prefer a larger scale drawing to more accurately determine diverter pathways. (See Discoverer drawings)

Tab 250.416 BOP

- MASP that West engineering used for shearing was 1863 psi, yet highest calculated MASP is 3529 psi. Please evaluate at higher MASP.
- o Need a 3rd party verification that the BOP stack is designed for specific equipment on rig and specific well design
- o Need a 3rd party verification regarding the stack has not been damaged or compromised
- o Need a 3rd party verification that the stack will operate in the conditions that it will be used.
- Need the BOP control system diagrams.
- o BOP description provided is listed for Discoverer, not Kulluk.

Tab 250.417

General Comment: BSEE will be assessing information provided to directly satisfy the requirements of 250.417(a), 250.417(b), 250.417(c)(2), 250.417(d), and 250.417(e) regarding the MODU capabilities and operational limitations associated with environmental conditions at the drill site and associated plans for responding to an emergency situation that may arise from hazardous environmental conditions. This information has been provided to varying degrees of detail in a number of documents supplemental to the APD. These include (1) pages of the MODU Operating Manual/Procedures; (2) IADC Standard Format Equipment List (operational capabilities and environmental limits); (3) Mooring Analysis; (4) Riser Analysis; (5) Class Report(s); (6) Critical Operations and Curtailment Procedures (COCP); and (7) Ice Management Plan. BSEE recognizes that quantification of the relationship between unit operations, unit capabilities/limitations, and environmental conditions (wind, waves, currents, sea ice) is

extremely complex, with many variables, and subject to MODU operator expertise and professional judgment. However, in order for BSEE inspectors onboard the unit to maintain a relative knowledge of the environmental conditions that could result in an exceedance of the unit's operational capabilities, it is important that this type of information within the APD documentation be accurate, readily accessible, and as consistent as possible. See below for some specific areas in question.

- o 250.417(a),(c),(d) Operating Limits: Page 1 of 13 provided from Chapter 3-Vessel Operating Criteria. No information provided identifying where this page comes from?
- o 250.417(a),(c),(d) Operating Limits: Information provided on Page 1 of 13 from Chapter 3-Vessel Operating Criteria does not match some of the environmental limits information provided in the IADC Standard Format Equipment List submitted for 250.417(c). Specifically (Drilling): max wind velocity (50 vs. 30 knots), max pitch and roll (2° vs. 7°), max heave (12' drilling vs. 10' survival). Which document is considered accurate with regard to operating limits?
- o 250.417(b) Mooring Analysis: Kulluk Motion Mooring Analysis by Delmar Systems, Inc. is not signed reviewed or approved.
- o 250.417(b) Mooring Analysis: 30 CFR 250.417(b) requires information that site-specific soil and oceanographic conditions are capable of supporting the proposed drilling unit. The information provided in the Kulluk Motion Mooring Analysis by Delmar Systems, Inc., incorporates oceanographic conditions and discusses "ultimate holding capacity in site-specific lower and upper bound soils" but no site-specific soil conditions are provided evidencing soil properties (i.e. shear strength, stiffness).
- o 250.417(b) Mooring Analysis: The mooring line properties and major components of the proposed mooring lines listed in the Kulluk Motion Mooring Analysis by Delmar Systems, Inc. does not match the mooring system components listed in the IADC Standard Format Equipment List submitted for 250.417(c) (e.g. Stevshark vs. Bruce anchors). Which document is accurate regarding the mooring system equipment and associated specifications?
- o 250.417(b) Mooring Analysis: Figure 3-Detailed Elevation View of all line, on page 8 of the Kulluk Motion Mooring Analysis by Delmar Systems, Inc. is not legible in the paper or electronic APD submittals. Please provide a legible copy of this figure.
- 250.417(e) Critical Operations and Curtailment Plan (COCP): Note: Under 30 CFR 550.220(b), the term used is "procedures" not "plan". A Critical Operations and Curtailment "Plan" has been submitted with general "procedures" provided within this plan as well as within the submitted Ice Management Plan. BSEE understands that the Unit Operating Manual (or Rig Operations Procedures) maintained onboard the vessel is to contain guidance for the safe operation of the unit for both normal and envisaged emergency conditions and provide detailed well securing procedures. The COCP states that "thresholds will be established for weather and sea conditions that will control: equipment preparation to curtail operations; decision to cease drilling; hanging off drillstring or otherwise suspending the well; disconnecting riser; moving the drillship off

the drill site". BSEE inspectors onboard the unit will be interested to know these thresholds before drilling commences, as they relate to a relative knowledge of the environmental conditions that could result in an exceedance of the unit's operational capabilities. Please be aware that documented "procedures" associated with drilling and vessel operations will be reviewed and become a component of the BSEE records as these procedures are established and provided to BSEE inspectors onboard the vessel.

Tab 250.418 Welding Plan

- Noble Safety Policy Manual SPM-505 4.1.3 bullet 2 states "that in addition to the above, the fire watch shall make periodic checks with gas monitoring equipment." 250.113 (c) (2)(iv) states must maintain a continuous surveillance with a portable gas detector during welding and burning operation if welding occurs in an area not equipped with a gas detector. (4.4.5.3 Reiterates the periodic surveillance.)
- o Need standards or requirements for welders as required by 250.110(a) written within the plan.

Tab 250.420

- o Referred to Sivulliq N rather than Torpedo H on back side of statement
- o Last sentence on this page..."there will be a minimum of two independent tested barriers across each flow path while drilling in any expected hydrocarbon-bearing zone at least one of which is mechanical? Please provide specifics about what the barriers are at each point.

• Tab 250.449

- o The BOP is function tested using the ROBOCOP unit controls to close one pipe ram and one blind shear ram and release the upper H-4 connector...per 250.449(j) all rov intervention functions must be tested on the stump test.
- o Procedures state The BOP is again function tested using the ROBOCOP unit...should specifically state what is being tested.
- o No procedures have been submitted to test the autoshear/deadman system either on the stump or initial sea floor test. Since the documentation is for the Discoverer we are unsure as to whether the Kulluk has an autoshear /deadman system.
- Please be aware of the regulation at 250.459(a) that states a ventilation system capable of replacing the air once every 5 minutes or 1.0 cubic feet of air-volume flow per minute, per square foot of area, whichever is greater. This will need to be verified prior to commencing drilling operations.

Sivulliq N

- Three copies of the APD need to be submitted and only one public copy. In the future, do not
 include the public copy as part of the APD binder; submit them along with the APD. Hopefully
 will fix for future submittals
- 15 and 16 don't have to be filled out on public information BSEE-123 Fixed
- 12 and 14 don't have to be filled out on BSEE-123s while 16 does Fixed
- Fill up line waiver is not necessary Not Fixed Fixed July 18
- Request not testing at casing point unless 7 day test due, but in drilling procedure it states they will be testing at casing point...need to be consistent. Fixed
- "High pressure tests of rams and annulars will be done in accordance with the test pressures shown in the APD and drilling program." problem is these two different sections have two different pressures. Fixed
- (b) (4), (b) (9)
- Operating procedure provided for the Discoverer. Not Fixed Fixed July 18
- Description of BOP system and components provided is for Discoverer. Not Fixed Fixed July 18
- Don't see the BOP control diagrams. Fixed
- Third party verifications are still provisional. Not Fixed Fixed August 15th
- DNV report states it will be submitted when completed. Not Fixed Fixed August 8th
- USCG report states it will be submitted when completed. Not Fixed Fixed July 18
- Noble Safety Policy Manual SPM-505 4.1.3 bullet 2 states that in addition to the above, the fire
 watch shall make periodic checks with gas monitoring equipment. 250.113 (c) (2)(iv) states
 must maintain a continuous surveillance with a portable gas detector during welding and
 burning operation if welding occurs in an area not equipped with a gas detector. Not Fixed
 July 18
- Don't see any written standards or requirements for welders 250.110(a) Fixed
- Provide test procedures for a successful test for proper installation of casing. Fixed

Sivulliq N

- Three copies of the APD need to be submitted and only one public copy. In the future, do not
 include the public copy as part of the APD binder; submit them along with the APD. Hopefully
 will fix for future submittals
- Requested departure from 250.443(e) is not necessary. Either remove from departure page or change to "info." Fixed
- The cement volumes listed for interval 2 and 3 are less than the BSEE calculated necessary cement volumes. Fixed with cementing strategy letter submitted.
- The operating procedure provided is for the Noble Discoverer...please provide and operating procedure for the diverter while drilling and for while tripping pipe. Fixed
- Description of system and components provided for the Dead-Man/Auto-Shear system manual is for the Frontier Drilling Discoverer Rig. Fixed
- (b) (4), (b) (9)
- Independent third party verification of the BOP stack are provisional...when will we receive non provisional verification? Not Fixed Fixed August 15th
- Missing completed DNV report Not Fixed Fixed August 8th
- No USCG Certificate of Inspection or Letter of Compliance present. Fixed
- The welding plan letter dated June 9th still states that only periodic monitoring will occur if outside the safe welding area. Per 30 CFR 250.113(c)(2)(iv), this is unacceptable. Fixed

Chukchi Sea APDs

For all APDs:

In the new sets of waivers that we received in July, the reference to 30 CFR 250.488 should be 30 CFR 250.248.

(b) (4), (b) (9)			
(b) (4), (b) (9)			

Memo

To: File

From: Mark E. Fesmire, P.E., JD

Regional Director - Alaska OCS Region

Bureau of Safety and Environmental Enforcement

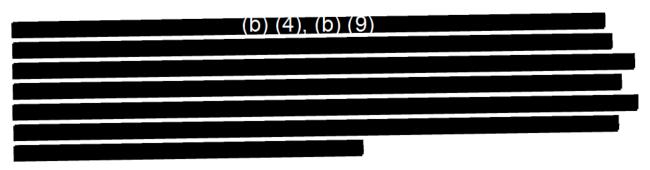
Mr. David M. Moore/

Chief - Oil Spill Response Division

Bureau of Safety and Environmental Enforcement

Date: 29 August 2012

Re: Proposal by Shell to Drill Pilot Holes and Mud Line Cellars



As stated in the 20 August memo, it is our opinion that there would be little or no increase in oil discharge risks associated with drilling activities that would not penetrate liquid hydrocarbon-bearing zones, if that work were to proceed to the 1470' (RKB) depth. At this depth, there is essentially no probability of encountering liquid hydrocarbons, and the well location was specifically established pursuant to the results of in-depth shallow hazard surveys to minimize the risks of encountering gas pockets or methane hydrate deposits. Also, records are available for a well location (Burger Y-1413) less than 4 miles away that support this conclusion and interpretation of the geology at the Burger "A" location.

For these reasons, and based on the analysis documented in the 20 August 2012 memo, it is our determination that the Arctic Challenger is not required to be located in the Arctic during the proposed, limited drilling activities as noted above.



United States Department of the Interior BUREAU OF SAFETYAND ENVIRONMENTAL ENFORCEMENT

Alaska OCS Region 3801 Centerpoint Drive, Suite 500 Anchorage, Alaska 99503-5823

Ms. Susan Childs Shell Gulf of Mexico, Inc. 3601 C Street, Suite 1334 Anchorage, AK 99503 United States of America

AUG 30 2012

1 1

Dear Ms. Childs:

The Alaska Region of the Bureau of Safety and Environmental Enforcement (BSEE) is in receipt of Shell's Application for a Permit to Drill (APD) Well Number 001, Burger A, on lease OCS Y-2280, Block 6764, in the Chukchi Sea (API number 55-352-0000200). The application was partially submitted and dated January 31, 2012 and completed on July 18th 2012. More recently, in a letter to BSEE from Shell Vice President Peter Slaiby, dated August 21, 2012, you sought "conditional approval" of the APD to allow for limited drilling operations before the arrival of the Arctic containment system. In particular, you requested permission to drill and set the 30" structural and the 20" surface casings. Your application has been reviewed for compliance with the Outer Continental Shelf Lands Act, 30 CFR Part 250 and other statutes and regulations applicable to APD's.

Upon completion of the testing and siting of the Arctic Containment System Shell will submit an Application for Permit to Modify, which, if approved, would allow Shell to continue operations outlined in the initial APD.

This approval is based on the findings below and subject to the conditions attached to this communication as Attachment A, <u>Conditions of Approval for the Burger A, Well #001</u> and Attachment B <u>Procedures for Well Data and Records Submittal</u>. It is also conditioned on Shell's compliance during the permitted activities with all applicable BSEE regulations and requirements, U.S. Coast Guard regulations and requirements, provisions in the Exploration Plan (EP) dated May 2011, as approved by the Bureau of Ocean Energy Management (BOEM), BOEM regulations and requirements, provisions in the Oil Spill Response Plan approved by BSEE, conditions of approval for all permits or authorizations issued by Federal agencies, all lease stipulations, and Notices to Lessees.

This approval is valid unless and until there is a material change to conditions or facts as presented in Shell's application.

If any provision contained in any plan or application conflicts with any provision or condition approved in writing by BSEE, the provision or condition approved by BSEE later in time will control. In the event another agency approves deviations from plans, permits or conditions initially issued by that agency, copies of such approvals must be sent to BSEE. Except when emergency action is required, a written request for authorization must be sent to BSEE for the bureau's review and approval prior to deviating from BSEE approved plans, applications, or conditions.

BSEE finds that you have provided sufficient data, as required with relation to the applicable provisions of 30 CFR 250.417, to show that the Mobile Offshore Drilling Unit Noble Discoverer is in compliance and

is hereby approved for all exploratory drilling operations conducted in the Chukchi Sea of the Arctic Outer Continental Shelf (OCS) pursuant to this application and the EP.

BSEE also finds that you have provided sufficient data, as required with relation to the applicable provisions of 30 CFR 250.417, to show that the designated relief well drilling unit Kulluk is in compliance, and is hereby approved, for all exploratory drilling operations conducted in the Chukchi Sea of the Arctic Outer Continental Shelf (OCS) pursuant to this application and to the EP. In the event hydrogen sulfide Is found during the drilling operations the Kulluk will be required to comply with 30 CFR 250.490 if used as a relief well rig.

BSEE further finds that Shell's proposed well capping and containment systems have been designed for the projected worst case discharge conditions. The intended uses of these systems are hereby approved. BSEE will require that a witnessed deployment test of the containment system in which Shell has demonstrated that it has the ability to successfully deploy the system and have it on location pursuant to the oil spill response plan prior to BSEE's consideration of Shell's request to drill below the 20 inch casing point.

BSEE hereby approves Shell's Welding and Burning Program and Hydrogen Sulfide Contingency Plans for operations conducted on the Noble Discoverer.

BSEE will provide a continuous inspection presence during drilling operations and will use Shell transportation and lodging for this purpose. As allowed in 30 CFR 250.133, Shell will request reimbursement for transportation based on the existing agreement between Shell, DOI Aviation Management Division and BSEE. Reimbursement for lodging must be submitted within 90 days of the completion of the drilling program. In addition BSEE will be conducting inspections and collecting data in regard to the EPA's National Pollutant Discharge Elimination System General Permit No. AKG-28-0000 and EPA issued air quality permits at the request of the EPA by letter dated July 27, 2012(copy enclosed).

After office hours, weekends, and holidays, all notifications relating to activities approved pursuant to this application should be made to the BSEE active duty officer at 855-277-2733 (toll free) and during business hours, all notifications should be made to the BSEE, active duty officer at (907) 334-5300.

Sincerely,

Mark Fesmire PE, JD Regional Director, BSEE

Attachments

cc: U.S. DOI, BOEM, AKOCSR, Regional Director

U.S. DOC, NOAA, NMFS

U.S. DOI, Fish and Wildlife

Conditions of Approval for the Burger A, #001 Well

- 1. The following waivers have been authorized:
 - a. Testing of casing strings as indicated on Form BSEE -0123S is approved.
 - b. Your request for a waiver to the requirements under 30 CFR 250. 423 (c) regarding a negative pressure test is approved.
 - c. Testing of the BOP components to the pressures indicated on Form BSEE -0123S is approved.
 - d. Your test pressure for the annular preventer as indicated on Form BSEE -0123S is approved.
 - e. Deployment of a remote BOP control panel intended to operate the BOP stack from the sea floor is approved.
 - f. Your request to test the deadman/autoshear system during the stump test only is approved.
 - g. Your requested method to temporarily abandon the proposed pilot hole is approved.
- 2. This office will conduct a predrill inspection of your drilling vessel prior to the start of operations.
- 3. Shell will not be able to drill below the 20 inch casing point without fulfilling the conditions stated in the letter accompanying these conditions.
- 4. No drilling activities may be conducted beyond each additional casing shoe unless specifically approved by the BSEE inspector on location. BSEE will evaluate the condition of the well, results of safety equipment tests, the nature and duration of the next phase of the drilling program, existing and forecasted environmental conditions, and the procedures under an approved contingency plan [30 CFR250.417(c)(2)] that addresses design and operating limitations of the drilling unit as well as the actions necessary (i.e. suspension, curtailment, or modification of drilling or rig operations) to remedy various operational or environmental situations in order to maintain safety and prevent damage to the environment; including implementing well capping and containment or relief well drilling plans.
- 5. Final certification of the blowout preventer system as required in 30 CFR 250.416 (f) shall be provided to this office prior to the initial use of the BOP on this well.
- 6. Data submission procedures and criteria for this well are listed in a attached document (Procedures for Well Data and Records Submittal)
- 7. Shell must submit a daily summary report on form BSEE-0133 to this office until the final status of the well is established (one copy). Daily marine mammal reports shall be attached to the form.
- 8. Shell must notify this office immediately in the event the well encounters shallow gas, abnormal pressure, or lost circulation.
- 9. Shell must provide this office with representative dry samples collected during the drilling of this well as soon as available. Shell is also requested to collect and retain a set of wet well cuttings for the Bureau of Ocean Energy Management. This request is voluntary and the samples are intended to provide for public access once the proprietary term for the samples is concluded. Further discussions related to this voluntary request can be concluded with appropriate BOEM representatives.
- 10. Shell must submit within thirty days of completion of the well all oceanographic and meteorological data collected during the drilling of this well.
- 11. Shell must submit an Application for Permit to Modify to change any approved portion of the APD prior to the commencement of the proposed operations. Verbal approval in an emergency

- may be granted, however written APM's must be submitted no later than the end of the 3rd business day following the verbal approval.
- 12. Shell shall notify this office as well as the onsite representative 24 hours in advance of a Blowout Preventer test.
- 13. Shell must submit form BSEE 0124 in advance of either temporarily or permanently abandoning this well. This form must contain all information required in 30 CFR 250, Subpart Q for abandonment of wells.

BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT ALASKA OCS REGION

Procedures for Well Data and Records Submittal

This document defines the procedures on how lessees/operators submit well records required by 30 CFR 250.468 and 469, and clarifies the specific well records you should submit, the submittal dates of the various well records, and the correct locations where you should send these well records.

The BSEE collects, verifies, and stores data by the well's unique 12-digit American Petroleum Institute (API) number we assign. The BSEE Alaska Outer Continental Shelf Region (AKOCS) uses the data collected to make informed regulatory decisions based on your timely submittal of complete and accurate well records. We define "submittal date" as the original date the data are due to the appropriate office.

According to 30 CFR 250.468(a), "you must submit copies of logs or charts of electrical, radioactive, sonic, and other well-logging operations; directional and vertical well surveys; velocity profiles and surveys; and analysis of cores to BSEE." Also, in accordance with 30 CFR 250.469(b), the AKOCS will also require submittal of paleontological reports as well as washed and dried samples collected from the well.

When to Submit Well Data Records

1. Field Data

As stated in the approval documents for these operations this office will take an active role in assess plans for the continuation of well activities. Shell will be expected to make available digital data and field prints electronically from the well site via a secure website data delivery system or equivalent to enable this review from this office. This should be done for all logging operations including pilot hole, surface, intermediate and final runs(both wireline and Logging While Drilling logs). This also includes detailed mud logging data.

2. Final Data

Operators should submit one copy of the digital data on a CD or DVD in a read-only format to the appropriate entity as outlined in Attachment 1. Each CD or DVD should be properly labeled with the Area, Block, OCS, Well Number, Well Suffix, API, and the data type (i.e., Paleo Report, Conventional Core Report, Vertical Seismic Survey, etc.). Digital and image NMR data must be submitted on separate physical media and nomenclature for NMR data files and tool codes should clearly identify them as NMR datasets.

Well records are divided into four groups for the timely submittal of the data.

 Well Log Data, Directional Surveys, Velocity Surveys, Analyses of Percussion Sidewall Cores, Wireline Formation Test Logs, Drill Stem Tests and Mudlogs/Reports

Submit:

Well log data,
Directional surveys,
Velocity surveys (time/depth pairs),
Percussion/rotary sidewall analysis of cores,
Wireline formation tests logs (summary log), and
Drill stem tests (initial report)

To be submitted within 30 days of the "Date Operations Completed" of the last logging run (MWD/LWD or wireline) that you report in Item 7 of the Open Hole Report (Form BSEE-0133S) for each 12-digit wellbore, sidetrack, and/or bypass. Note: "Date Operations Completed" for MWD/LWD is when the data is retrieved from the drill string.

b) Paleontological, Detailed Rotary Sidewall and Conventional Core Analyses, and Vertical Seismic Profile Reports and Information

For each wellbore in which these data were collected, submit no later than 90 days after the "TD DATE" you report in Item 10 of the Well Activity Report (Form BSEE-0133).

Detailed paleontological reports and information,
Detailed rotary sidewall and conventional core analyses/reports and information, and
Detailed vertical seismic profile reports

Submit these well records when the report is completed, even if the report is generated by you and/or third party (i.e., academic partners, non-lessee partners and/or consultants) years after the wellbore is completed.

c) Geochemical Analyses and PVT Analysis of Fluid Samples

For each wellbore in which these data were collected, submit geochemical analyses and/or PVT Analysis of Fluid Samples no later than 120 days after the "TD DATE" that you report in Item 10 of the Well Activity Report (Form BSEE-0133). Submit these well records when the report is completed, even if the

report is generated by you and/or third party (i.e., academic partners, non-lessee partners and/or consultants) years after the wellbore is completed.

d) End of Operations Report (Form BSEE-0125)

For each wellbore, submit an End of Operations Report (Form BSEE-0125) and all its attachments no later than 30 days after the "END DATE" you report in Item 10 of the Well Activity Report (Form BSEE-0133).

The BSEE AKOCS uses the Well Activity Report (Form BSEE-0133) and Open Hole Report (Form BSEE-0133S) to track well activity; therefore, it is crucial that you submit a complete and accurate report to the appropriate BSEE AKOCS District Office in a timely manner. We will treat delinquent and/or incomplete reports in the same manner as delinquent and/or incomplete well data, and such violations may result in the BSEE AKOCS exacting an appropriate remedy, such as issuing an Incident of Non-compliance (INC).

The BSEE AKOCS may request that you submit well logging data, directional surveys, velocity profiles and surveys, percussion sidewall analyses of cores, wireline formation tests, and drill stem tests before the 30- day limit when we determine that circumstances warrant such action. When we determine that circumstances so warrant, we may also request that you submit preliminary reports of analytical data, namely

Geochemical analyses/reports and information,
PVT analyses of fluid samples,
Detailed paleontological reports and information,
Detailed rotary sidewall core analysis and information, and
Detailed conventional core analysis and information before the
respective 90-day or 120-day limits.

The BSEE AKOCS recognizes that you need adequate time to submit complete and accurate well records. If you request it, BSEE AKOCS may grant you a departure under 30 CFR 250.142 for a new required date for submitting the data pertaining to that wellbore.

Where to Submit Well Records

Shell will need to coordinate access to field digital well logs with the following office. This office will also handle receipt of dry samples.

Bureau of Safety and Environmental Enforcement Alaska OCS Office 3801 Centerpoint Dr., Suite 500 Anchorage, AK 99503 Office Phone: 907-334-5300

Office Fax: 907-334-5302

Shell will provide final copies of all digital image and vector well log data and related reports to both the Alaska BSEE office and to:

A2D Technologies d/b/a TGS Geological Products and Services 1010 Common Street, Suite 2040 Attn: BSEE Well Records (Alaska) New Orleans, LA 70112

Office telephone: 504-524-3450

Fax: 504-524-3454

A "Well Records Submission Summary" in Attachment 1 of this NTL provides an overview of the various well records, including which entity receives which well records and the addresses and contact numbers of the appropriate BSEE AKOCS Offices, and A2D Technologies. We strongly recommend that you provide a transmittal letter when you submit any well records. This transmittal should contain the following information:

- Operator's Name
- Operator's Contact Name and Telephone Number
- Bottomhole Location: Area/Block/Lease/Well Name and Number/API Number
- Date Well Records Sent
- Detailed List of Well Records

It is your responsibility to ensure that the BSEE AKOCS and A2D Technologies receive all well data and information within the specific periods. If we notify you of delinquent data, we will initiate an appropriate remedy, such as issuing an Incident of Non-Compliance (INC). If you choose to use a third party to submit well data, it remains your responsibility to ensure that the data are timely received by the BSEE AKOCS and A2D Technologies. Realizing that you may need time beyond the specified deadlines to prepare unique data or information, we will address the submission of such on an individual basis. We will address INC's issued by the BSEE AKOCS Office for the delinquent data submittal at your yearly performance review or through other appropriate and timely measures.

Well Naming and Numbering

Show the API Number and well name assigned by the BSEE AKOCS Office on all well records you submit to us. You can find these on the approved Application for Permit to Drill (Form BSEE-0123) for the original hole, sidetracks, and/or bypasses.

Data Types and Formats

A. Well Log Data types

- a. Log Curve Requirements: Submit the following curve types and log images in final form, if the data were obtained in the open-hole portion of a wellbore, sidetrack, or bypass****:
- Acoustic or Sonic
- Bulk Density
- Caliper
- Conductivity
- Density Correction
- Dipmeter (computed)
- Gamma Ray
- Resistivity/Induction
- Spontaneous Potential
- Nuclear Magnetic Resonance *
- Mudlogs***
- Neutron
- Tension
- Porosity
- Borehole Image
- Equivalent circulation density
- Rwa
- Temperature
- Formation Tester**
- Rate of Penetration
- Photoelectric
- Slide Indicator

- b. Cased hole log data: Submit all curve types and log images as identified above for any cased hole logs collected in lieu of, or in addition to, open hole logs.
- * For the submittal of digital NMR vector curve data,. The following are examples of curve types are to be submitted, and are not limited to you should submit:
- Quality Control Curves
- Computed Curves
- T2 Bin Distributions

Due to NMR file sizes and complexities, the BSEE <u>now</u> requires that digital and image NMR data are submitted on separate physical media (separate from other well log data) to its logging contractor, A2D Technologies. Also, NMR data file and tool code nomenclature should clearly identify these data as NMR-related. We encourage direct submittal of the completed log data set from the acquiring service company.

- ** Formation Tester is considered any logging tool that collects pressure data and/or fluid samples from the borehole. Summary Print log images, pressure gradient plots, and preliminary sample analysis must be submitted. Formation Tester summary data should also be submitted in ASCII format. All detailed reports (i.e., PVT Analysis) generated from the samples collected from the borehole must be submitted in a timely manner (see Attachment 1).
- *** For mudlog specifications, see section Part I, Section G of this NTL. You will be required to submit an image file for these types of logs to A2D Technologies.
- ****Although API Recommended Practice (RP) 31A, Standard Form for Hardcopy Presentation of Downhole Well Log Data, is not incorporated by reference in BSEE regulation's, you may use it for guidance on providing complete and accurate well information.

Note: Do not submit digital data for Formation Tester, Borehole Image, and Computed Dipmeter to A2D Technologies.

c. Well Log Image File:

Submit image files in one of the formats listed below. For Formation Tester type logs, the summary logs will suffice. See Part I, Section H of this NTL for mudlog specifications.

- i. For all vertical wells, as defined in 30 CFR 250.461, submit image files for
- Measured depth (MD) 1-inch, or 2-inch correlation, and 5-inch formation evaluation logs and
- Any additional scales you obtained.
 - ii. For all non-vertical wells, as defined in 30 CFR 250.461, submit image files for
- True vertical depth (TVD) 1-inch, or 2-inch correlation and, 5-inch formation evaluation logs,
- Measured depth (MD) 1-inch, or 2-inch correlation, and 5-inch formation evaluation logs, and
- Any additional scales you obtained.

Detailed 5- inch image logs must be composited, but individual runs do not need to be spliced.

If logging data from more than one logging vendor are collected in a borehole, you may submit either an image of the logging data from all vendors composited into a single set of logs or a set of images of the composited logs from each individual vendor.

- d. Image File Formats: If the original log is in color, the submitted image file should also be in color.
 - i. The following image file formats are preferred:
- Computer Graphic Metafile (CGM) version 1-4
- Baker Metafile
- Schlumberger PDS (PDS files are usually for one logging run; any borehole with multiple runs should submit composited file format)
- Halliburton CGM
- Weatherford DPK

If the preferred formats listed above are not available, you may submit the image file in the Tag Image File Format (TIFF) with the following specifications:

- ii. Format (TIFF) with the following specifications:
 - 1. Black and White TIFF Images:
- Header tags as per TIFF standard
- Resolution 200 dpi
- Compression CCITT group IV
- Tiling No
- 2. Color TIFF Images:
- Header tags as per TIFF standard
- Resolution 200 dpi
- Palette color 256 colors
- File format LZW Compressed TIFF
- Tiling No

Clearly label each well log image with its associated API number, bottom hole lease number, well name, well name suffix, log type, scale and depth domain (MD or TVD).

e. Digital (Vector) Well Log Data: Submit composite digital curve data (one value per curve for each depth value and with individual tool runs merged) in the Canadian Well Log Society Log ASCII Standard (LAS), Version 2.0 format; and Digital Log Interchange Standard (DLIS) or Log Interchange Standard (LIS) format. Ensure that the curve data are in a MD composite layout, including full headers for each wireline and MWD/LWD logging tool run and curve description for all curves. Ensure that all required log curves (see Part A.1 of this NTL) represented on the log image file are included in the digital curve file. If you collect logging data from more than one logging vendor in a single borehole, submit a separate set of composited log curves from each individual vendor. Do not splice digital curves from different vendors to form a set of composited log curves.

- i. Full header information, should including the following:
- 12-digit API number
- well name suffix
- bottom hole lease number
- bottom hole area and block
- well name
- ii. Information for each tool run, should including the following:
- borehole fluids
- depth interval
- mud
- filtrate resistivity and temperatures
- casing information
- bottomhole or maximum recorded temperature
- circulation history information
- tool schematic
- tool calibration record

Full logging tool parameters (including matrix values), position of logging tool (i.e., centered or eccentered), and logging engineer's comments; and adequate curve description and

Tool -specific and service provider-specific curve and parameter mnemonics (names and abbreviations) maintained as originally acquired.

If a log is spliced, the splice depth should be clearly noted along with which files were used.

Submit digital and image logs on CD or DVD ROM (read-only memory). Digital and image logs may be submitted on the same CD or DVD.

Directional Surveys

Submit one digital copy of the final composite directional survey. For the Digital Directional Survey format, see NTL 2009-N10.

- Submit, on CD or DVD ROM these survey results coded in ASCII.
- According to 30 CFR 250.461(d) (2), "You must correct all surveys to Universal-Transverse-Mercator-Grid-north or Lambert-Grid-north after making the magnetic-to-true-north correction."

If your use of more than one vendor prevents the consolidation of the separate surveys within a well, submit the final composite survey from each vendor.

Velocity Profiles and Surveys

Vertical Seismic Profiles: Submit the results from all borehole seismic data (in cased or uncased holes), as well as concurrently run directional surveys for both vertical and directional wells, if they are different from directional surveys referred to in Part I, Section B of this NTL. Submit, on CD or DVD ROM, digitally recorded data in a industry standard format (LAS, DLIS, ASCII, CGM, TIFF, JPG, SEGY, DOC), that include, but are not limited to:

- Normal Incidence VSP:
- Acoustic Log Calibration Report;
- Final VSP and Corridor stacks for 2D data and final stacked and migrated volume for 3D VSP data;
- Composite plot with VSP, Corridor stacks, synthetic seismogram, and well logs;
- any referenced information within the report correlative with the acquisition, such as 2-way time indexed depths and velocities, survey parameters, digital images, and computed survey data and directional; and
- If acquired, format time/depth pairs.

Velocity Surveys (Time-Depth Pairs/Checkshots): Submit, on CD or DVD ROM, one digital copy coded in ASCII format (see Attachment 2 of this NTL). The report should include or be annotated with the following:

- API number
- Well name and number
- Well name suffix
- Contractor or service provider
- Contact name (phone number or e-mail address)

Note that the digital format has been modified to expand the columns for True Vertical Depth and One-Way Travel Time from 5 to 8 to include two decimal places for each column.

We encourage direct submittal of the completed survey from the acquiring service company.

Analysis of Conventional Cores, Percussion/Rotary Sidewall Cores, Wireline Formation Tests, and Drill Stem Tests

IF...

you conduct any of the following:

- Conventional cores descriptions and analysis
- Percussion/Rotary sidewall core analysis or equivalent,
- Wireline formation tests include any logs (summary logs are acceptable) and associated lab results, or
- Drill stem tests

THEN...

As soon as the final and/or revised conventional core, percussion/rotary sidewall core reports and/or data become available to you, send one digital copy of the entire, detailed report. Reports should include, but are not limited to the following:

- Standard analyses for porosity,
- Permeability
- Water saturation
- Core photos
- compaction analyses
- laser grain size analyses
- stressed brine porosity and permeability analyses
- rock mechanic studies
- water extraction and core gamma logs
- core photos

In addition, provide one copy of all studies you performed on the core(s) and tests for the purpose of describing and characterizing the reservoir architecture through detailed stratigraphic or depositional analyses. In certain situations, the BSEE AKOCS may require that you submit preliminary or interim reports .

Submit, on CD or DVD ROM, one copy of the description and analysis of the conventional core, the percussion/rotary sidewall core, wireline formation tests, and drill stem tests reports in the original digital format (i.e., WordPerfect, Word, Excel, Lotus 1-2-3). Any data acquired in a log format should be submitted as a log image.

Geochemical Analyses/Reports and Information

Submit one copy of the Geochemical Analyses/Reports and Information in the original digital format (i.e., WordPerfect, Word, Excel, Lotus 1-2-3, JPEG, CGM, TIFF) if you conducted any geochemical analyses/reports, including internal company or external contractor interpretation reports on

- Cuttings,
- Sidewall or conventional cores, and
- Fluid samples from the well. The term "sample" encompasses:
- Hydrocarbon gases, specifically methane through pentanes and C6+ hydrocarbons;
- Non-hydrocarbon gases (carbon dioxide, hydrogen sulfide, argon, helium, and radon); and
- Any liquid hydrocarbons (such as condensate, crude, and bitumen) encountered by the well in cuttings or shows and from any other well sampling or fluid testing.

The analyses, reports, and interpretations to be submitted include, but are not necessarily limited to, the following types of data:

- Total organic carbon
- Polynuclear aromatic hydrocarbons
- Rock-eval pyrolysis
- Stable isotope analyses of carbon & hydrogen
- Thermal chromatography-gas chromatography
- Compound-specific isotope ratio mass spectrometry
- Bulk pyrolysis & hydrous pyrolysis

- Isotope ratio mass spectrometry
- Gas chromatography
- Kerogen isolation & bitumen separation
- Pyrolysis/gas chromatography
- Organic petrography
- Complete saturated biomarker & aromatic hydrocarbon analysis by GC MS
- Vitrinite reflectance
- Elemental analysis of kerogen

In addition, submit all data and reports on geochemical characterization of produced oils, including

- All whole-oil GC, GC MS on oils,
- SARAH (or SARA),
- Isotopes on the fractions,
- Molecular and isotopic analyses of C1-C5 hydrocarbons metals data, and
- Any other geochemical data used from production samples intended for reservoir characterization studies.

Submit, on CD or DVD ROM, digitally recorded data in industry standard formats.

Detailed Paleontological Reports and Information

As soon as the final and/or revised paleontological information and/or data become available to you, submit one copy in digital format of the entire, detailed paleontological report(s), chart(s), striplog(s), checklist(s), and any other paleontological records. Include the following:

The range of samples taken,

- Sample analysis identifying fossils and lithology by MD,
- Summary and interpretation (based on identification of foraminifera, nannofossils, or other microfossils) of all biostratigraphic markers, zones, tops, or local markers,
- Description of paleontological ecological zones with water depth at the time of deposition (e.g., Middle Shelf/Neritic 20-100 meters, Outer Shelf/Neritic 100-200 meters),
- Sequence analysis interpretations based on histograms of faunal abundance,
- Identification of all rock units by depth to the top of relative chronostratigraphic stages (e.g., Upper Pleistocene, Middle Miocene, or Lower Oligocene), and
- Pleistocene, Middle Miocene, or Lower Oligocene), and
- Biostratigraphic chart noting the relative ages of the biostratigraphic zones you used in the detailed paleontological reports.

Submit, on CD or DVD ROM, one copy of the detailed paleontological report in the original digital format (i.e., WordPerfect, Word, Excel, Lotus 1-2-3, JPEG, CGM, TIFF).

Mudlogs and Reports

Submit one image copy of the following types of Mudlogs:

- Physical Formation Log
- Pore Pressure Log
- Engineering Log
- Show Report Log

Image File Formats for Mudlogs: If the original log is in color, the submitted image file must also be in color.

The following image file formats are preferred:

- Geologix geo draft file (.gdf)
- Geologix output data file (.odf)

If the preferred formats listed above are not available, submit the image file in the Tag Image File

Format (TIFF) with the following specifications:

Black and White TIFF Images

- Header tags as per TIFF standard
- Resolution 200 dpi
- Compression CCITT group IV
- Tiling No

Color TIFF Images

- Header tags as per TIFF standard
- Resolution 200 dpi
- Palette color 256 colors
- File format LZW Compressed TIFF
- Tiling No.

Submit one copy of the following types of Mudlogs reports, if collected:

- Show reports composite into one file
- Mud reports composite into one file
- End of Well reports composite into one file
- Daily Drilling reports composite into one file

Submit, on CD or DVD ROM, digitally recorded data in industry standard formats.

End of Operations Report (Form BSEE-0125) and Attachments

Pursuant to 30 CFR 250.465(a), you must submit End of Operations Report (Form BSEE-0125) and the required attachments.

Additional Information

Pursuant to 30 CFR 250.469(d), the BSEE AKOCS may require that you submit additional well reports or records for a specific well(s).

From: Fesmire, Mark E

To: <u>Crumrine, Kathleen; Monkelien, Kyle; Shank, Michael L; Walker, Jeffrey</u>

Subject: RE: 20" TA disucssion for Burger A w/ BSEE Date: Tuesday, September 18, 2012 9:32:02 AM

Kathy:

This is what we discussed and complies with the regulations. Please make sure this e-mail string is included in the record.

Mark

From: Crumrine, Kathleen

Sent: Tuesday, September 18, 2012 9:27 AM

To: Monkelien, Kyle; Fesmire, Mark E; Shank, Michael L; Walker, Jeffrey

Subject: FW: 20" TA disucssion for Burger A w/ BSEE

From: <u>John.A.Henley@shell.com</u> [mailto:John.A.Henley@shell.com]

Sent: Tuesday, September 18, 2012 9:16 AM **To:** Howell, Randy; Crumrine, Kathleen

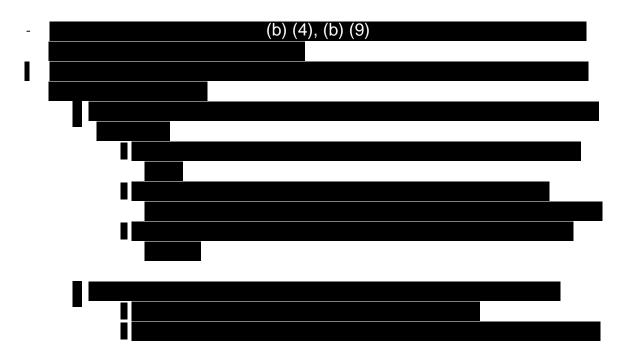
Cc: Monkelien, Kyle; Chris.Riley@shell.com; Jim.Miller@shell.com; Shawn.Gelsinger@shell.com;

Sandy.Sears@shell.com; Pauline.Ruddy@shell.com Subject: 20" TA disucssion for Burger A w/ BSEE

Randy & Kathleen:

(Please pass along to other who might have been left of the cc-list.)

To summarize our discussion:





Best regards,

John A. Henley

Sr. Drilling Engineer

Shell Exploration & Production Company

One Shell Square, P. O. Box 61933, New Orleans, LA 70161-1933, United States of America

Tel: +1.504.728.4478 **Mob:** +1.281.795.0250

Email: john.a.henley@shell.com



United States Department of the Interior

BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT

Alaska OCS Region 3801 Centerpoint Drive, Suite 500 Anchorage, Alaska 99503-5823

SEP 20 2012

Ms. Susan Childs Shell Gulf of Mexico 3601 C Street, Suite 1334 Anchorage, AK 99503

Dear Ms. Childs:

The Alaska Region of the Bureau of Safety and Environmental Enforcement (BSEE) is in receipt of Shell's Application for a Permit to Drill (APD) Well Number 001, Sivulliq N, on lease OCS Y-1805, Block 6658, in the Beaufort Sea (API number 55-171-0001300). A partial application was submitted and dated April 17, 2012 and completed on July 28, 2012. More recently, in a letter to BSEE from Alaska Venture Support Integrator, Manager Susan Childs, dated August 31, 2012, you sought "conditional approval" of this APD to allow for limited drilling operations before the arrival of the Arctic Containment System. In particular, you requested permission to drill and set the 30" structural casing and the 20" surface casing. Your application has been reviewed for compliance with the Outer Continental Shelf Lands Act, 30 CFR Part 250, and other statutes and regulations applicable to APDs. (b) (4), (b) (9)

Upon completion of the testing and siting of the Arctic Containment System, Shell will submit an Application for Permit to Modify, which, if approved, would allow Shell to continue operations outlined in the initial APD.

This APD approval is subject to the findings and the conditions attached to this communication as Attachment A, Conditions of Approval for the Sivulliq N, Well #001 and Attachment B, Procedures for Well Data and Records Submittal. It is also conditioned on Shell's compliance during the permitted activities with all applicable BSEE regulations and requirements, U.S. Coast Guard regulations and requirements, provisions in the Exploration Plan (EP) dated May, 2011 and the terms of its approval by the Bureau of Ocean Energy Management (BOEM), BOEM regulations, provisions in the Oil Spill Response Plan approved by BSEE, conditions of approval for all permits or authorizations issued by other Federal agencies, lease stipulations, and Notices to Lessees.

This approval is valid unless and until there is a material change to conditions or facts as presented in Shell's application.

If any provision contained in any plan or application conflicts with any provision or condition approved in writing by BSEE, the provision or condition approved by BSEE later in time will control. In the event another agency approves deviations from plans, permits, or conditions initially issued by that agency, copies of such approvals must be sent to BSEE.

BSEE finds that you have provided sufficient data, as required with relation to the applicable provisions of 30 CFR 250.417 to show that the Mobile Offshore Drilling Unit Kulluk is in compliance and is hereby approved for all exploratory drilling operations conducted in the Beaufort Sea of the Arctic Outer Continental Shelf (OCS) pursuant to this application and the EP.

BSEE also finds that you have provided sufficient data, as required by the applicable provisions of 30 CFR 250.417 to show that the designated relief well drilling unit Noble Discoverer is in compliance and is hereby approved for drilling operations conducted in the Beaufort Sea of the Arctic OCS pursuant to this application and the EP.

BSEE further finds that Shell's proposed well capping and containment systems have been designed for the projected worst case discharge. The intended uses of these systems are hereby approved. BSEE will require that a witnessed deployment test of the containment system demonstrating that Shell has the ability to successfully deploy the system and have it on location pursuant to the oil spill response plan prior to BSEE's consideration of Shell's request to drill below the 20 inch casing point.

BSEE hereby approves Shell's Welding and Burning Program for operations conducted on the Kulluk.

BSEE will provide a continuous inspection presence during drilling operations and will use Shell transportation and lodging for this purpose. As allowed in 30 CFR 250.133, Shell will request reimbursement for transportation, meals, and lodging based on the existing agreement between Shell, DOI Aviation Management Division and BSEE. Reimbursement requests must be submitted within 90 days of the completion of the drilling program. In addition, BSEE will conduct inspections and collect data in regard to the EPA's National Pollutant Discharge Elimination System General Permit No. AKG-28-0000 and EPA-issued air quality permits at the request of the EPA by letter dated July 27, 2012 (copy enclosed).

All notifications related to activities described in the approved applications should be made to the BSEE active duty officer at 907-334-5300 during business hours and 855-277-2733 (toll free) after business hours.

Sincerely,

Márk Fesmire PE, JD Regional Director

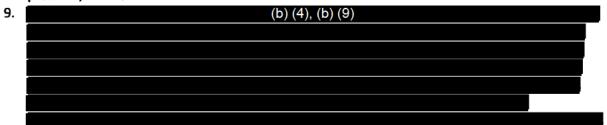
cc: U.S. DOI, BOEM, AKOCS, Regional Director

cc: U.S. DOC, NOAA, NMFS

cc: U.S. DOI, Fish and Wildlife Service

ATTACHMENT A Conditions of Approval for the Sivulliq N, #001 Well

- The following waivers have been authorized:
 - a. Testing of casing strings as indicated on Form BSEE -0123S is approved.
 - Your request for a waiver to the requirements under 30 CFR 250. 423 (c) regarding a negative pressure test is approved.
 - Testing of the BOP components to the pressures indicated on Form BSEE -0123S is approved.
 - d. Your test pressure for the annular preventer as indicated on Form BSEE -0123S is approved.
 - e. Deployment of a remote BOP control panel intended to operate the BOP stack from the sea floor is approved.
 - f. Your request to test the deadman/autoshear system during the stump test only is approved.
 - g. Your requested method to temporarily abandon the proposed pilot hole is approved.
- 2. This office will conduct a predrill inspection of your drilling vessel prior to the start of operations.
- 3. Shell will not be able to drill below the 20 inch casing point without fulfilling the conditions stated in the letter accompanying these conditions
- 4. No drilling activities may be conducted beyond each casing shoe unless specifically approved by the BSEE inspector on location. BSEE will evaluate the condition of the well, results of safety equipment tests, the nature and duration of the next phase of the drilling program, existing and forecasted environmental conditions, and the procedures under an approved contingency plan [30 CFR250.417(c)(2)] that addresses design and operating limitations of the drilling unit as well as the actions necessary (i.e. suspension, curtailment, or modification of drilling or rig operations) to remedy various operational or environmental situations in order to maintain safety and prevent damage to the environment; including implementing well capping and containment or relief well drilling plans.
- 5. Final certification of the blowout preventer system as required in 30 CFR 250.416 (f) shall be provided to this office prior to the initial use of the BOP on this well.
- 6. Data submission procedures and criteria for this well are listed in Attachment B <u>Procedures for Well Data and Records Submittal.</u>
- Shell must submit a daily summary report on form BSEE-0133 to this office until the final status
 of the well is established (one copy). Daily marine mammal reports shall be attached to the
 form.
- 8. Shell must notify this office immediately in the event the well encounters shallow gas, abnormal pressure, or lost circulation.



10. Shell must provide this office with representative dry samples collected during the drilling of this well as soon as available. Shell is also requested to collect and retain a set of wet well cuttings for the Bureau of Ocean Energy Management. This request is voluntary and the samples are

- intended to be made available to the public once the proprietary term for the samples is concluded. Further discussions related to this voluntary request can be concluded with appropriate BOEM representatives.
- 11. Shell must submit within thirty days of completion of the well all oceanographic and meteorological data collected during the drilling of this well.
- 12. Shell must submit an Application for Permit to Modify to change an approved portion of the APD prior to the commencement of the proposed operations. Verbal approval in an emergency may be granted, but written APMs must be submitted no later than the end of the 3rd business day following the oral approval.
- 13. Shell shall notify this office as well as the onsite representative 24 hours in advance of a Blowout Preventer test.
- 14. Shell must submit form BSEE 0124 in advance of either temporarily or permanently abandoning this well. This form must contain all information required in subpart Q for abandonment of wells.

BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT ALASKA OCS REGION

Procedures for Well Data and Records Submittal

This document defines the procedures on how lessees/operators submit well records required by 30 CFR 250.468 and 469, and clarifies the specific well records you should submit, the submittal dates of the various well records, and the correct locations where you should send these well records.

The BSEE collects, verifies, and stores data by the well's unique 12-digit American Petroleum Institute (API) number we assign. The BSEE Alaska Outer Continental Shelf Region (AKOCS) uses the data collected to make informed regulatory decisions based on your timely submittal of complete and accurate well records. We define "submittal date" as the original date the data are due to the appropriate office.

According to 30 CFR 250.468(a), "you must submit copies of logs or charts of electrical, radioactive, sonic, and other well-logging operations; directional and vertical well surveys; velocity profiles and surveys; and analysis of cores to BSEE." Also, in accordance with 30 CFR 250.469(b), the AKOCS will also require submittal of paleontological reports as well as washed and dried samples collected from the well.

When to Submit Well Data Records

1. Field Data

As stated in the approval documents for these operations this office will take an active role in assess plans for the continuation of well activities. Shell will be expected to make available digital data and field prints electronically from the wellsite via a secure website data delivery system or equivalent to enable this review. This should be done for all logging operations including pilot, surface, intermediate and final runs.

2. Final Data

Operators should submit one copy of the digital data on a CD or DVD in a read-only format to the appropriate entity as outlined in Attachment 1. Each CD or DVD should be properly labeled with the Area, Block, OCS, Well Number, Well Suffix, API, and the data type (i.e., Paleo Report, Conventional Core Report, Vertical Seismic Survey, etc.). Digital and image NMR data must be submitted on separate physical media and nomenclature for NMR data files and tool codes should clearly identify them as NMR datasets.

Well records are divided into four groups for the timely submittal of the data.

 Well Log Data, Directional Surveys, Velocity Surveys, Analyses of Percussion Sidewall Cores, Wireline Formation Test Logs, Drill Stem Tests and Mudlogs/Reports

Submit:

Well log data,
Directional surveys,
Velocity surveys (time/depth pairs),
Percussion/rotary sidewall analysis of cores,
Wireline formation tests logs (summary log), and
Drill stem tests (initial report)

To be submitted within 30 days of the "Date Operations Completed" of the last logging run (MWD/LWD or wireline) that you report in Item 7 of the Open Hole Report (Form BSEE-0133S) for each 12-digit wellbore, sidetrack, and/or bypass. Note: "Date Operations Completed" for MWD/LWD is when the data is retrieved from the drill string.

b) Paleontological, Detailed Rotary Sidewall and Conventional Core Analyses, and Vertical Seismic Profile Reports and Information

For each wellbore in which these data were collected, submit no later than 90 days after the "TD DATE" you report in Item 10 of the Well Activity Report (Form BSEE-0133).

Detailed paleontological reports and information,
Detailed rotary sidewall and conventional core analyses/reports and information, and
Detailed vertical seismic profile reports

Submit these well records when the report is completed, even if the report is generated by you and/or third party (i.e., academic partners, non-lessee partners and/or consultants) years after the wellbore is completed.

c) Geochemical Analyses and PVT Analysis of Fluid Samples

For each wellbore in which these data were collected, submit geochemical analyses and/or PVT Analysis of Fluid Samples no later than 120 days after the "TD DATE" that you report in Item 10 of the Well Activity Report (Form BSEE-0133). Submit these well records when the report is completed, even if the report is generated by you and/or third party (i.e., academic partners, non-lessee partners and/or consultants) years after the wellbore is completed.

d) End of Operations Report (Form BSEE-0125)

For each wellbore, submit an End of Operations Report (Form BSEE-0125) and all its attachments no later than 30 days after the "END DATE" you report in Item 10 of the Well Activity Report (Form BSEE-0133).

The BSEE AKOCS uses the Well Activity Report (Form BSEE-0133) and Open Hole Report (Form BSEE-0133S) to track well activity; therefore, it is crucial that you submit a complete and accurate report to the appropriate BSEE AKOCS District Office in a timely manner. We will treat delinquent and/or incomplete reports in the same manner as delinquent and/or incomplete well data, and such violations may result in the BSEE AKOCS exacting an appropriate remedy, such as issuing an Incident of Non-compliance (INC).

The BSEE AKOCS may request that you submit well logging data, directional surveys, velocity profiles and surveys, percussion sidewall analyses of cores, wireline formation tests, and drill stem tests before the 30- day limit when we determine that circumstances warrant such action. When we determine that circumstances so warrant, we may also request that you submit preliminary reports of analytical data, namely

Geochemical analyses/reports and information,
PVT analyses of fluid samples,
Detailed paleontological reports and information,
Detailed rotary sidewall core analysis and information, and
Detailed conventional core analysis and information before the
respective 90-day or 120-day limits.

The BSEE AKOCS recognizes that you need adequate time to submit complete and accurate well records. If you request it, BSEE AKOCS may grant you a departure under 30 CFR 250.142 for a new required date for submitting the data pertaining to that wellbore.

Where to Submit Well Records

Shell will need to coordinate access to field digital well logs with the following office. This office will also handle receipt of samples.

Bureau of Safety and Environmental Enforcement Alaska OCS Office 3801 Centerpoint Dr., Suite 500 Anchorage, AK 99503 Office Phone: 907-334-5300

Office Phone: 907-334-5300 Office Fax: 907-334-5302

Shell should provide final copies of all digital image and vector well log data and related reports

to

A2D Technologies d/b/a TGS Geological Products and Services 1010 Common Street, Suite 2040 Attn: BSEE Well Records (Alaska) New Orleans, LA 70112

Office telephone: 504-524-3450

Fax: 504-524-3454

A "Well Records Submission Summary" in this document provides an overview of the various well records, including which entity receives which well records and the addresses and contact numbers of the appropriate BSEE AKOCS Offices, and A2D Technologies. We strongly recommend that you provide a transmittal letter when you submit any well records. This transmittal should contain the following information:

- Operator's Name
- Operator's Contact Name and Telephone Number
- Bottomhole Location: Area/Block/Lease/Well Name and Number/API Number
- Date Well Records Sent
- Detailed List of Well Records

It is your responsibility to ensure that the BSEE AKOCS and A2D Technologies receive all well data and information within the specific periods. If we notify you of delinquent data, we will initiate an appropriate remedy, such as issuing an Incident of Non-Compliance (INC). If you choose to use a third party to submit well data, it remains your responsibility to ensure that the data are timely received by the BSEE AKOCS and A2D Technologies. Realizing that you may need time beyond the specified deadlines to prepare unique data or information, we will address the submission of such on an individual basis. We will address INC's issued by the BSEE AKOCS Office for the delinquent data submittal at your yearly performance review or through other appropriate and timely measures.

Well Naming and Numbering

Show the API Number and well name assigned by the BSEE AKOCS Office on all well records you submit to us. You can find these on the approved Application for Permit to Drill (Form BSEE-0123) for the original hole, sidetracks, and/or bypasses.

Data Types and Formats

A. Well Log Data types

- a. Log Curve Requirements: Submit the following curve types and log images in final form, if the data were obtained in the open-hole portion of a wellbore, sidetrack, or bypass****:
- Acoustic or Sonic
- Bulk Density
- Caliper
- Conductivity
- Density Correction
- Dipmeter (computed)
- Gamma Ray
- Resistivity/Induction
- Spontaneous
 - **Potential**
- Nuclear Magnetic
 Resonance *
- Mudlogs***
- Neutron
- Tension
- Porosity
- Borehole Image
- Equivalent circulation density
- Rwa
- Temperature
- Formation Tester**
- Rate of Penetration
- Photoelectric
- Slide Indicator

- b. Cased hole log data: Submit all curve types and log images as identified above for any cased hole logs collected in lieu of, or in addition to, open hole logs.
- * For the submittal of digital NMR vector curve data,. The following are examples of curve types are to be submitted, and are not limited to you should submit:
- Quality Control Curves
- Computed Curves
- T2 Bin Distributions

Due to NMR file sizes and complexities, the BSEE <u>now</u> requires that digital and image NMR data are submitted on separate physical media (separate from other well log data) to its logging contractor, A2D Technologies. Also, NMR data file and tool code nomenclature should clearly identify these data as NMR-related. We encourage direct submittal of the completed log data set from the acquiring service company.

- ** Formation Tester is considered any logging tool that collects pressure data and/or fluid samples from the borehole. Summary Print log images, pressure gradient plots, and preliminary sample analysis must be submitted. Formation Tester summary data should also be submitted in ASCII format. All detailed reports (i.e., PVT Analysis) generated from the samples collected from the borehole must be submitted in a timely manner (see Attachment 1).
- *** You will be required to submit an image file for these types of logs to A2D Technologies.
- ****Although API Recommended Practice (RP) 31A, Standard Form for Hardcopy Presentation of Downhole Well Log Data, is not incorporated by reference in BSEE regulations, you may use it for guidance on providing complete and accurate well information.

Note: Do not submit digital data for Formation Tester, Borehole Image, and Computed Dipmeter to A2D Technologies.

c. Well Log Image File:

Submit image files in one of the formats listed below. For Formation Tester type logs, the summary logs will suffice.

- For all vertical wells, as defined in 30 CFR 250.461, submit image files for
- Measured depth (MD) 1-inch, or 2-inch correlation, and 5-inch formation evaluation logs and
- Any additional scales you obtained.
 - ii. For all non-vertical wells, as defined in 30 CFR 250.461, submit image files for
- True vertical depth (TVD) 1-inch, or 2-inch correlation and, 5-inch formation evaluation logs,
- Measured depth (MD) 1-inch, or 2-inch correlation, and 5-inch formation evaluation logs, and
- Any additional scales you obtained.

Detailed 5- inch image logs must be composited, but individual runs do not need to be spliced.

If logging data from more than one logging vendor are collected in a borehole, you may submit either an image of the logging data from all vendors composited into a single set of logs or a set of images of the composited logs from each individual vendor.

- d. Image File Formats: If the original log is in color, the submitted image file should also be in color.
 - i. The following image file formats are preferred:
- Computer Graphic Metafile (CGM) version 1-4
- Baker Metafile
- Schlumberger PDS (PDS files are usually for one logging run; any borehole with multiple runs should submit composited file format)
- Halliburton CGM
- Weatherford DPK

If the preferred formats listed above are not available, you may submit the image file in the Tag Image File Format (TIFF) with the following specifications:

- ii. Format (TIFF) with the following specifications:
 - 1. Black and White TIFF Images:
- Header tags as per TIFF standard
- Resolution 200 dpi
- Compression CCITT group IV
- Tiling No
- 2. Color TIFF Images:
- Header tags as per TIFF standard
- Resolution 200 dpi
- Palette color 256 colors
- File format LZW Compressed TIFF
- Tiling No

Clearly label each well log image with its associated API number, bottom hole lease number, well name, well name suffix, log type, scale and depth domain (MD or TVD).

- e. Digital (Vector) Well Log Data: Submit composite digital curve data (one value per curve for each depth value and with individual tool runs merged) in the Canadian Well Log Society Log ASCII Standard (LAS), Version 2.0 format; and Digital Log Interchange Standard (DLIS) or Log Interchange Standard (LIS) format. Ensure that the curve data are in a MD composite layout, including full headers for each wireline and MWD/LWD logging tool run and curve description for all curves. Ensure that all required log curves represented on the log image file are included in the digital curve file. If you collect logging data from more than one logging vendor in a single borehole, submit a separate set of composited log curves from each individual vendor. Do not splice digital curves from different vendors to form a set of composited log curves.
 - i. Full header information, should including the following:

- 12-digit API number
- well name suffix
- bottom hole lease number
- bottom hole area and block
- well name
- ii. Information for each tool run, should including the following:
- borehole fluids
- depth interval
- mud
- filtrate resistivity and temperatures
- casing information
- bottomhole or maximum recorded temperature
- circulation history information
- tool schematic
- tool calibration record

Full logging tool parameters (including matrix values), position of logging tool (i.e., centered or eccentered), and logging engineer's comments; and adequate curve description and

Tool -specific and service provider-specific curve and parameter mnemonics (names and abbreviations) maintained as originally acquired.

If a log is spliced, the splice depth should be clearly noted along with which files were used.

Submit digital and image logs on CD or DVD ROM (read-only memory). Digital and image logs may be submitted on the same CD or DVD.

Directional Surveys

Submit one digital copy of the final composite directional survey. For the Digital Directional Survey format, see NTL 2009-N10.

- Submit, on CD or DVD ROM these survey results coded in ASCII.
- According to 30 CFR 250.461(d) (2), "You must correct all surveys to Universal-Transverse-Mercator-Grid-north or Lambert-Grid-north after making the magnetic-to-true-north correction."

If your use of more than one vendor prevents the consolidation of the separate surveys within a well, submit the final composite survey from each vendor.

Velocity Profiles and Surveys

Vertical Seismic Profiles: Submit the results from all borehole seismic data (in cased or uncased holes), as well as concurrently run directional surveys for both vertical and directional wells. Submit, on CD or

DVD ROM, digitally recorded data in a industry standard format (LAS, DLIS, ASCII, CGM, TIFF, JPG, SEGY, DOC), that include, but are not limited to:

- Normal Incidence VSP;
- Acoustic Log Calibration Report;
- Final VSP and Corridor stacks for 2D data and final stacked and migrated volume for 3D VSP data;
- Composite plot with VSP, Corridor stacks, synthetic seismogram, and well logs;
- any referenced information within the report correlative with the acquisition, such as 2-way time indexed depths and velocities, survey parameters, digital images, and computed survey data and directional; and
- If acquired, format time/depth pairs.

Velocity Surveys (Time-Depth Pairs/Checkshots): Submit, on CD or DVD ROM, one digital copy coded in ASCII format. The report should include or be annotated with the following:

- API number
- Well name and number
- Well name suffix
- Contractor or service provider
- Contact name (phone number or e-mail address)

Note that the digital format has been modified to expand the columns for True Vertical Depth and One-Way Travel Time from 5 to 8 to include two decimal places for each column.

We encourage direct submittal of the completed survey from the acquiring service company.

Analysis of Conventional Cores, Percussion/Rotary Sidewall Cores, Wireline Formation Tests, and Drill Stem Tests

IF...

you conduct any of the following:

- Conventional cores descriptions and analysis
- Percussion/Rotary sidewall core analysis or equivalent,
- Wireline formation tests include any logs (summary logs are acceptable) and associated lab
 results, or
- Drill stem tests

THEN...

As soon as the final and/or revised conventional core, percussion/rotary sidewall core reports and/or data become available to you, send one digital copy of the entire, detailed report. Reports should include, but are not limited to the following:

- Standard analyses for porosity,
- Permeability
- Water saturation

- Core photos
- compaction analyses
- laser grain size analyses
- stressed brine porosity and permeability analyses
- rock mechanic studies
- water extraction and core gamma logs
- core photos

In addition, provide one copy of all studies you performed on the core(s) and tests for the purpose of describing and characterizing the reservoir architecture through detailed stratigraphic or depositional analyses. In certain situations, the BSEE AKOCS may require that you submit preliminary or interim reports .

Submit, on CD or DVD ROM, one copy of the description and analysis of the conventional core, the percussion/rotary sidewall core, wireline formation tests, and drill stem tests reports in the original digital format. Any data acquired in a log format should be submitted as a log image.

Geochemical Analyses/Reports and Information

Submit one copy of the Geochemical Analyses/Reports and Information in the original digital format (i.e., WordPerfect, Word, Excel, Lotus 1-2-3, JPEG, CGM, TIFF) if you conducted any geochemical analyses/reports, including internal company or external contractor interpretation reports on

- Cuttings,
- Sidewall or conventional cores, and
- Fluid samples from the well. The term "sample" encompasses:
- Hydrocarbon gases, specifically methane through pentanes and C6+ hydrocarbons;
- Non-hydrocarbon gases (carbon dioxide, hydrogen sulfide, argon, helium, and radon); and
- Any liquid hydrocarbons (such as condensate, crude, and bitumen) encountered by the well in cuttings or shows and from any other well sampling or fluid testing.

The analyses, reports, and interpretations to be submitted include, but are not necessarily limited to, the following types of data:

- Total organic carbon
- Polynuclear aromatic hydrocarbons
- Rock-eval pyrolysis
- Stable isotope analyses of carbon & hydrogen
- Thermal chromatography-gas chromatography
- Compound-specific isotope ratio mass spectrometry
- Bulk pyrolysis & hydrous pyrolysis
- Isotope ratio mass spectrometry
- Gas chromatography
- Kerogen isolation & bitumen separation
- Pyrolysis/gas chromatography
- Organic petrography

- Complete saturated biomarker & aromatic hydrocarbon analysis by GC MS
- Vitrinite reflectance
- Elemental analysis of kerogen

In addition, submit all data and reports on geochemical characterization of produced oils, including

- All whole-oil GC, GC MS on oils,
- SARAH (or SARA),
- Isotopes on the fractions,
- Molecular and isotopic analyses of C1-C5 hydrocarbons metals data, and
- Any other geochemical data used from production samples intended for reservoir characterization studies.

Submit, on CD or DVD ROM, digitally recorded data in industry standard formats.

Detailed Paleontological Reports and Information

As soon as the final and/or revised paleontological information and/or data become available to you, submit one copy in digital format of the entire, detailed paleontological report(s), chart(s), striplog(s), checklist(s), and any other paleontological records. Include the following:

- The range of samples taken,
- · Sample analysis identifying fossils and lithology by MD,
- Summary and interpretation (based on identification of foraminifera, nannofossils, or other microfossils) of all biostratigraphic markers, zones, tops, or local markers,
- Description of paleontological ecological zones with water depth at the time of deposition (e.g., Middle Shelf/Neritic 20-100 meters, Outer Shelf/Neritic 100-200 meters),
- Sequence analysis interpretations based on histograms of faunal abundance,
- Identification of all rock units by depth to the top of relative chronostratigraphic stages (e.g., Upper Pleistocene, Middle Miocene, or Lower Oligocene), and
- Pleistocene, Middle Miocene, or Lower Oligocene), and
- Biostratigraphic chart noting the relative ages of the biostratigraphic zones you used in the detailed paleontological reports.

Submit, on CD or DVD ROM, one copy of the detailed paleontological report in the original digital format

Mudlogs and Reports

Submit one image copy of the following types of Mudlogs:

- Physical Formation Log
- Pore Pressure Log
- Engineering Log
- Show Report Log

Image File Formats for Mudlogs: If the original log is in color, the submitted image file must also be in color.

The following image file formats are preferred:

- Geologix geo draft file (.gdf)
- Geologix output data file (.odf)

If the preferred formats listed above are not available, submit the image file in the Tag Image File

Format (TIFF) with the following specifications:

Black and White TIFF Images

- Header tags as per TIFF standard
- Resolution 200 dpi
- Compression CCITT group IV
- Tiling No

Color TIFF Images

- Header tags as per TIFF standard
- Resolution 200 dpi
- Palette color 256 colors
- File format LZW Compressed TIFF
- Tiling No.

Submit one copy of the following types of Mudlogs reports, if collected:

- Show reports composite into one file
- Mud reports composite into one file
- End of Well reports composite into one file
- Daily Drilling reports composite into one file

Submit, on CD or DVD ROM, digitally recorded data in industry standard formats.

End of Operations Report (Form BSEE-0125) and Attachments

Pursuant to 30 CFR 250.465(a), you must submit End of Operations Report (Form BSEE-0125) and the required attachments.

Additional Information

Pursuant to 30 CFR 250.469(d), the BSEE AKOCS may require that you submit additional well reports or records for a specific well(s).



United States Department of the Interior BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT

Alaska OCS Region 3801 Centerpoint Drive, Suite 500 Anchorage, Alaska 99503-5823

SEP 27 2012

Ms. Susan Childs Shell Gulf of Mexico, Inc. 3601 C Street, Suite 1334 Anchorage, AK 99503 United States of America

Dear Ms. Childs:

The Alaska Region of the Bureau of Safety and Environmental Enforcement (BSEE) is in receipt of Shell's Application for a Permit to Drill (APD) Well Number 001, Burger J, on lease OCS Y-2321, Posey Block 6912, in the Chukchi Sea (API number 55-352-00004-00). An initial application was submitted April 2012 and completed August 2012. More recently, in a letter to BSEE from Shell Vice President Peter Slaiby, dated August 21, 2012, you sought "conditional approval" of the APD to allow for limited drilling operations before the arrival of the Arctic Containment System. In particular, you requested permission to drill and set the 30" structural and the 20" surface casings. Your application has been reviewed for compliance with the Outer Continental Shelf (OCS) Lands Act, 30 CFR Part 250 and other statutes and regulations applicable to APDs.

(b) (4), (b) (9)

Upon completion of the testing and siting of the Arctic Containment System Shell will submit an Application for Permit to Modify, which, if approved, would allow Shell to continue operations outlined in the initial APD.

This approval is based on the findings below and subject to the conditions attached to this communication as Attachment A, Conditions of Approval for the Burger J, Well #001 and Attachment B Procedures for Well Data and Records Submittal. It is also conditioned on Shell's compliance during the permitted activities with all applicable BSEE regulations and requirements, U.S. Coast Guard regulations and requirements, provisions in the Exploration Plan (EP) as approved by the Bureau of Ocean Energy Management (BOEM) December 2011, BOEM regulations and requirements, provisions in the Oil Spill Response Plan approved by BSEE, conditions of approval for all permits or authorizations issued by Federal agencies, all lease stipulations, and Notices to Lessees.

This approval is valid unless and until there is a material change to conditions or facts as presented in Shell's application.

If any provision contained in any plan or application conflicts with any provision or condition approved in writing by BSEE, the provision or condition approved by BSEE later in time will control. In the event another agency approves deviations from plans, permits or conditions initially issued by that agency, copies of such approvals must be sent to BSEE.

In a letter dated August 30, 2012 BSEE approved both the Noble Discoverer and the Kulluk for operations in the Arctic OCS. Also as stated in that letter, in the event hydrogen sulfide Is found during the drilling operations the Kulluk will be required to comply with 30 CFR 250.490 if used as a relief well rig.

BSEE further finds that Shell's proposed well capping and containment systems have been designed for the projected worst case discharge conditions. The intended uses of these systems are hereby approved. BSEE will require that a witnessed deployment test of the containment system in which Shell has demonstrated that it has the ability to successfully deploy the system and have it on location pursuant to the oil spill response plan prior to BSEE's consideration of Shell's request to drill below the 20 inch casing point.

In a letter dated August 30, 2012 BSEE approved Shell's Welding and Burning Program and Hydrogen Sulfide Contingency Plans for operations conducted on the Noble Discoverer.

BSEE will provide a continuous inspection presence during drilling operations and will use Shell transportation and lodging for this purpose. As allowed in 30 CFR 250.133, Shell will request reimbursement for transportation based on the existing agreement between Shell, DOI Aviation Management Division and BSEE. Reimbursement for meals and lodging must be submitted within 90 days of the completion of the drilling program. In addition BSEE will be conducting inspections and collecting data in regard to the EPA's National Pollutant Discharge Elimination System General Permit No. AKG-28-0000 and EPA issued air quality permits at the request of the EPA letter dated July 27, 2012(copy enclosed).

All notifications related to activities described in the approved applications should be made to the BSEE active duty officer at 907-334-5300 during business hours and 855-277-2733 (toll free) after business hours.

Sincerely,

Mark Fesmire PE, JD

Regional Director, BSEE

Attachments:

Attachment A, Conditions of Approval for the Burger J, Well #001 Attachment B, Procedures for Well Data and Records Submittal Attachment, EPA letter dated July 27, 2012 Attachment, Copy 3 of 3 Burger J APD Binder (1)

Cc: U.S. DOI, BOEM, AKOCS, Regional Director (Letter & Attachment A)

Cc: U.S. DOC, NOAA, NMFS (Letter & Attachment A)

Cc: U.S. DOI, Fish and Wildlife Service(Letter & Attachment A)

ATTACHMENT A Conditions of Approval for the Burger J, #001 Well

- 1. The following waivers have been authorized:
 - a. Testing of casing strings as indicated on Form BSEE -0123S is approved.
 - b. Your request for a waiver to the requirements under 30 CFR 250. 423 (c) regarding a negative pressure test is approved.
 - c. Testing of the BOP components to the pressures indicated on Form BSEE -0123S is approved.
 - d. Your test pressure for the annular preventer as indicated on Form BSEE -0123S is approved.
 - e. Deployment of a remote BOP control panel intended to operate the BOP stack from the sea floor is approved.
 - f. Your request to test the deadman/autoshear system during the stump test only is approved.
 - g. Your requested method to temporarily abandon the proposed pilot hole is approved.
 - h. Your request to eliminate the addition of a flare, to the Discoverer, for possible use during an H2S event is granted.
- 2. This office will conduct a predrill inspection of your drilling vessel prior to the start of operations.
- 3. Shell will not be able to drill below the 20 inch casing point without fulfilling the conditions stated in the letter accompanying these conditions.
- 4. No drilling activities may be conducted beyond each additional casing shoe unless specifically approved by the BSEE inspector on location. BSEE will evaluate the condition of the well, results of safety equipment tests, the nature and duration of the next phase of the drilling program, existing and forecasted environmental conditions, and the procedures under an approved contingency plan [30 CFR250.417(c)(2)] that addresses design and operating limitations of the drilling unit as well as the actions necessary (i.e. suspension, curtailment, or modification of drilling or rig operations) to remedy various operational or environmental situations in order to maintain safety and prevent damage to the environment; including implementing well capping and containment or relief well drilling plans.
- 5. Final certification of the blowout preventer system as required in 30 CFR 250.416 (f) shall be provided to this office prior to the initial use of the BOP on this well.
- 6. Data submission procedures and criteria for this well are listed in an attached document (Procedures for Well Data and Records Submittal)
- 7. Shell must submit a daily summary report on form BSEE-0133 to this office until the final status of the well is established (one copy). Daily marine mammal reports shall be attached to the form.
- 8. Shell must notify this office immediately in the event the well encounters shallow gas, abnormal pressure, or lost circulation.
- 9. Shell must provide this office with representative dry samples collected during the drilling of this well as soon as available. Shell is also requested to collect and retain a set of wet well cuttings for the Bureau of Ocean Energy Management. This request is voluntary and the samples are intended to provide for public access once the proprietary

- term for the samples is concluded. Further discussions related to this voluntary request can be concluded with appropriate BOEM representatives.
- 10. Shell must submit within thirty days of completion of the well all oceanographic and meteorological data collected during the drilling of this well.
- 11. Shell must submit an Application for Permit to Modify to change any approved portion of the APD prior to the commencement of the proposed operations. Verbal approval in an emergency may be granted, however written APM's must be submitted no later than the end of the 3rd business day following the verbal approval.
- 12. Shell shall notify this office as well as the onsite representative 24 hours in advance of a Blowout Preventer test.
- 13. Shell must submit form BSEE 0124 in advance of either temporarily or permanently abandoning this well. This form must contain all information required in 30 CFR 250, Subpart Q for abandonment of wells.

Attachment B

BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT ALASKA OCS REGION

Procedures for Well Data and Records Submittal

This document defines the procedures on how lessees/operators submit well records required by 30 CFR 250.468 and 469, and clarifies the specific well records you should submit, the submittal dates of the various well records, and the correct locations where you should send these well records.

The BSEE collects, verifies, and stores data by the well's unique 12-digit American Petroleum Institute (API) number we assign. The BSEE Alaska Outer Continental Shelf Region (AKOCS) uses the data collected to make informed regulatory decisions based on your timely submittal of complete and accurate well records. We define "submittal date" as the original date the data are due to the appropriate office.

According to 30 CFR 250.468(a), "you must submit copies of logs or charts of electrical, radioactive, sonic, and other well-logging operations; directional and vertical well surveys; velocity profiles and surveys; and analysis of cores to BSEE." Also, in accordance with 30 CFR 250.469(b), the AKOCS will also require submittal of paleontological reports as well as washed and dried samples collected from the well.

When to Submit Well Data Records

1. Field Data

As stated in the approval documents for these operations this office will take an active role in assess plans for the continuation of well activities. Shell will be expected to make available digital data and field prints electronically from the well site via a secure website data delivery system or equivalent to enable this review from this office. This should be done for all logging operations including pilot hole, surface, intermediate and final runs (both wireline and Measurement While Drilling logs). This also includes detailed mud logging data.

2. Final Data

Operators should submit one copy of the digital data on a CD or DVD in a readonly format to the appropriate entity as outlined in Attachment 1. Each CD or DVD should be properly labeled with the Area, Block, OCS, Well Number, Well Suffix, API, and the data type (i.e., Paleo Report, Conventional Core Report, Vertical Seismic Survey, etc.). Digital and image NMR data must be submitted on separate physical media and nomenclature for NMR data files and tool codes should clearly identify them as NMR datasets.

Well records are divided into four groups for the timely submittal of the data.

a) Well Log Data, Directional Surveys, Velocity Surveys, Analyses of Percussion Sidewall Cores, Wireline Formation Test Logs, Drill Stem Tests and Mudlogs/Reports

Submit:

Well log data,
Directional surveys,
Velocity surveys (time/depth pairs),
Percussion/rotary sidewall analysis of cores,
Wireline formation tests logs (summary log), and
Drill stem tests (initial report)

To be submitted within 30 days of the "Date Operations Completed" of the last logging run (MWD/LWD or wireline) that you report in Item 7 of the Open Hole Report (Form BSEE-0133S) for each 12-digit wellbore, sidetrack, and/or bypass. Note: "Date Operations Completed" for MWD/LWD is when the data is retrieved from the drill string.

b) Paleontological, Detailed Rotary Sidewall and Conventional Core Analyses, and Vertical Seismic Profile Reports and Information

For each wellbore in which these data were collected, submit no later than 90 days after the "TD DATE" you report in Item 10 of the Well Activity Report (Form BSEE-0133).

Detailed paleontological reports and information,
Detailed rotary sidewall and conventional core analyses/reports
and information, and
Detailed vertical seismic profile reports

Submit these well records when the report is completed, even if the report is generated by you and/or third party (i.e., academic partners, non-lessee partners and/or consultants) years after the wellbore is completed.

c) Geochemical Analyses and PVT Analysis of Fluid Samples

For each wellbore in which these data were collected, submit geochemical analyses and/or PVT Analysis of Fluid Samples no later than 120 days

after the "TD DATE" that you report in Item 10 of the Well Activity Report (Form BSEE-0133). Submit these well records when the report is completed, even if the report is generated by you and/or third party (i.e., academic partners, non-lessee partners and/or consultants) years after the wellbore is completed.

d) End of Operations Report (Form BSEE-0125)

For each wellbore, submit an End of Operations Report (Form BSEE-0125) and all its attachments no later than 30 days after the "END DATE" you report in Item 10 of the Well Activity Report (Form BSEE-0133).

The BSEE AKOCS uses the Well Activity Report (Form BSEE-0133) and Open Hole Report (Form BSEE-0133S) to track well activity; therefore, it is crucial that you submit a complete and accurate report to the appropriate BSEE AKOCS District Office in a timely manner. We will treat delinquent and/or incomplete reports in the same manner as delinquent and/or incomplete well data, and such violations may result in the BSEE AKOCS exacting an appropriate remedy, such as issuing an Incident of Non-compliance (INC).

The BSEE AKOCS may request that you submit well logging data, directional surveys, velocity profiles and surveys, percussion sidewall analyses of cores, wireline formation tests, and drill stem tests before the 30- day limit when we determine that circumstances warrant such action. When we determine that circumstances so warrant, we may also request that you submit preliminary reports of analytical data, namely

Geochemical analyses/reports and information,
PVT analyses of fluid samples,
Detailed paleontological reports and information,
Detailed rotary sidewall core analysis and information, and
Detailed conventional core analysis and information before the
respective 90-day or 120-day limits.

The BSEE AKOCS recognizes that you need adequate time to submit complete and accurate well records. If you request it, BSEE AKOCS may grant you a departure under 30 CFR 250.142 for a new required date for submitting the data pertaining to that wellbore.

Where to Submit Well Records

Shell will need to coordinate access to field digital well logs with the following office. This office will also handle receipt of dry samples.

Bureau of Safety and Environmental Enforcement Alaska OCS Office 3801 Centerpoint Dr., Suite 500 Anchorage, AK 99503 Office Phone: 907-334-5300

Office Fax: 907-334-5302

Shell will provide final copies of all digital image and vector well log data and related reports to both the Alaska BSEE office and to:

A2D Technologies d/b/a TGS Geological Products and Services 1010 Common Street, Suite 2040 Attn: BSEE Well Records (Alaska)

New Orleans, LA 70112

Office telephone: 504-524-3450

Fax: 504-524-3454

A "Well Records Submission Summary" in Attachment B of this document provides an overview of the various well records, including which entity receives which well records and the addresses and contact numbers of the appropriate BSEE AKOCS Offices, and A2D Technologies. We strongly recommend that you provide a transmittal letter when you submit any well records. This transmittal should contain the following information:

- Operator's Name
- Operator's Contact Name and Telephone Number
- Bottomhole Location: Area/Block/Lease/Well Name and Number/API Number
- Date Well Records Sent
- Detailed List of Well Records

It is your responsibility to ensure that the BSEE AKOCS and A2D Technologies receive all well data and information within the specific periods. If we notify you of delinquent data, we will initiate an appropriate remedy, such as issuing an Incident of Non-Compliance (INC). If you choose to use a third party to submit well data, it remains your responsibility to ensure that the data are timely received by the BSEE AKOCS and A2D Technologies. Realizing that you may need time beyond the specified deadlines to prepare unique data or information, we will address the submission of such on an individual basis. We will address INC's issued by the BSEE AKOCS Office for the delinquent data submittal at your yearly performance review or through other appropriate and timely measures.

Well Naming and Numbering

Show the API Number and well name assigned by the BSEE AKOCS Office on all well records you submit to us. You can find these on the approved Application for Permit to Drill (Form BSEE-0123) for the original hole, sidetracks, and/or bypasses.

Data Types and Formats

A. Well Log Data types

- a. Log Curve Requirements: Submit the following curve types and log images in final form, if the data were obtained in the open-hole portion of a wellbore, sidetrack, or bypass****:
- Acoustic or Sonic
- Bulk Density
- Caliper
- Conductivity
- Density Correction
- Dipmeter (computed)
- Gamma Ray
 Resistivity/Induction
- Spontaneous Potential
- Nuclear Magnetic
 - Resonance *
- Mudlogs***
- Neutron
- Tension
- Porosity
- Borehole Image
- Equivalent circulation density
- Rwa
- Temperature
- Formation Tester**
- Rate of Penetration
- Photoelectric
- Slide Indicator

- b. Cased hole log data: Submit all curve types and log images as identified above for any cased hole logs collected in lieu of, or in addition to, open hole logs.
- * For the submittal of digital NMR vector curve data, The following are examples of curve types are to be submitted, and are not limited to you should submit:
- Quality Control Curves
- Computed Curves
- T2 Bin Distributions

Due to NMR file sizes and complexities, the BSEE <u>now</u> requires that digital and image NMR data are submitted on separate physical media (separate from other well log data) to its logging contractor, A2D Technologies. Also, NMR data file and tool code nomenclature should clearly identify these data as NMR-related. We encourage direct submittal of the completed log data set from the acquiring service company.

- ** Formation Tester is considered any logging tool that collects pressure data and/or fluid samples from the borehole. Summary Print log images, pressure gradient plots, and preliminary sample analysis must be submitted. Formation Tester summary data should also be submitted in ASCII format. All detailed reports (i.e., PVT Analysis) generated from the samples collected from the borehole must be submitted in a timely manner (see Attachment 1).
- *** You will be required to submit an image file for these types of logs to A2D Technologies.
- ****Although API Recommended Practice (RP) 31A, Standard Form for Hardcopy Presentation of Downhole Well Log Data, is not incorporated by reference in BSEE regulations, you may use it for guidance on providing complete and accurate well information.

Note: Do not submit digital data for Formation Tester, Borehole Image, and Computed Dipmeter to A2D Technologies.

c. Well Log Image File:

Submit image files in one of the formats listed below. For Formation Tester type logs, the summary logs will suffice

- i. For all vertical wells, as defined in 30 CFR 250.461, submit image files for
- Measured depth (MD) 1-inch, or 2-inch correlation, and 5-inch formation evaluation logs and
- Any additional scales you obtained.
 - ii. For all non-vertical wells, as defined in 30 CFR 250.461, submit image files for
- True vertical depth (TVD) 1-inch, or 2-inch correlation and, 5-inch formation evaluation logs,
- Measured depth (MD) 1-inch, or 2-inch correlation, and 5-inch formation evaluation logs, and
- Any additional scales you obtained.

Detailed 5- inch image logs must be composited, but individual runs do not need to be spliced.

If logging data from more than one logging vendor are collected in a borehole, you may submit either an image of the logging data from all vendors composited into a single set of logs or a set of images of the composited logs from each individual vendor.

- d. Image File Formats: If the original log is in color, the submitted image file should also be in color.
 - i. The following image file formats are preferred:
- Computer Graphic Metafile (CGM) version 1-4
- Baker Metafile
- Schlumberger PDS (PDS files are usually for one logging run; any borehole with multiple runs should submit composited file format)
- Halliburton CGM
- Weatherford DPK

If the preferred formats listed above are not available, you may submit the image file in the Tag Image File Format (TIFF) with the following specifications:

- ii. Format (TIFF) with the following specifications:
 - 1. Black and White TIFF Images:
- Header tags as per TIFF standard
- Resolution 200 dpi
- Compression CCITT group IV
- Tiling No
- 2. Color TIFF Images:
- Header tags as per TIFF standard
- Resolution 200 dpi
- Palette color 256 colors
- File format LZW Compressed TIFF
- Tiling No

Clearly label each well log image with its associated API number, bottom hole lease number, well name, well name suffix, log type, scale and depth domain (MD or TVD).

e. Digital (Vector) Well Log Data: Submit composite digital curve data (one value per curve for each depth value and with individual tool runs merged) in the Canadian Well Log Society Log ASCII Standard (LAS), Version 2.0 formats; and Digital Log Interchange Standard (DLIS) or Log Interchange Standard (LIS) format. Ensure that the curve data are in a MD composite layout, including full headers for each wireline and MWD/LWD logging tool run and curve description for all curves. Ensure that all required log curves represented on the log image file are included in the digital curve file. If you collect logging data from more

than one logging vendor in a single borehole, submit a separate set of composited log curves from each individual vendor. Do not splice digital curves from different vendors to form a set of composited log curves.

- i. Full header information, should including the following:
- 12-digit API number
- well name suffix
- bottom hole lease number
- bottom hole area and block
- well name
 - ii. Information for each tool run, should including the following:
- borehole fluids
- depth interval
- mud
- filtrate resistivity and temperatures
- casing information
- bottomhole or maximum recorded temperature
- circulation history information
- tool schematic
- tool calibration record

Full logging tool parameters (including matrix values), position of logging tool (i.e., centered or eccentered), and logging engineer's comments; and adequate curve description and

Tool -specific and service provider-specific curve and parameter mnemonics (names and abbreviations) maintained as originally acquired.

If a log is spliced, the splice depth should be clearly noted along with which files were used.

Submit digital and image logs on CD or DVD ROM (read-only memory). Digital and image logs may be submitted on the same CD or DVD.

Directional Surveys

Submit one digital copy of the final composite directional survey. For the Digital Directional Survey format, see NTL 2009-N10.

- Submit, on CD or DVD ROM these survey results coded in ASCII.
- According to 30 CFR 250.461(d) (2), "You must correct all surveys to Universal-Transverse- Mercator-Grid-north or Lambert-Grid-north after making the magnetic-to-true-north correction."

If your use of more than one vendor prevents the consolidation of the separate surveys within a well, submit the final composite survey from each vendor.

Velocity Profiles and Surveys

Vertical Seismic Profiles: Submit the results from all borehole seismic data (in cased or uncased holes), as well as concurrently run directional surveys for both vertical and directional wells. Submit, on CD or DVD ROM, digitally recorded data in an industry standard format (LAS, DLIS, ASCII, CGM, TIFF, JPG, SEGY, DOC), that include, but are not limited to:

- Normal Incidence VSP;
- Acoustic Log Calibration Report;
- Final VSP and Corridor stacks for 2D data and final stacked and migrated volume for 3D VSP data:
- Composite plot with VSP, Corridor stacks, synthetic seismogram, and well logs;
- any referenced information within the report correlative with the acquisition, such as 2-way time indexed depths and velocities, survey parameters, digital images, and computed survey data and directional; and
- If acquired, format time/depth pairs.

Velocity Surveys (Time-Depth Pairs/Checkshots): Submit, on CD or DVD ROM, one digital copy coded in ASCII format. The report should include or be annotated with the following:

- API number
- Well name and number
- Well name suffix
- Contractor or service provider
- Contact name (phone number or e-mail address)

Note that the digital format has been modified to expand the columns for True Vertical Depth and One- Way Travel Time from 5 to 8 to include two decimal places for each column.

We encourage direct submittal of the completed survey from the acquiring service company.

Analysis of Conventional Cores, Percussion/Rotary Sidewall Cores, Wireline Formation Tests, and Drill Stem Tests

IF...

you conduct any of the following:

- Conventional cores descriptions and analysis
- Percussion/Rotary sidewall core analysis or equivalent,
- Wireline formation tests include any logs (summary logs are acceptable) and associated lab results, or
- Drill stem tests

THEN...

As soon as the final and/or revised conventional core, percussion/rotary sidewall core reports and/or data become available to you, send one digital copy of the entire, detailed report. Reports should include, but are not limited to the following:

- Standard analyses for porosity,
- Permeability
- Water saturation
- Core photos
- compaction analyses
- laser grain size analyses
- stressed brine porosity and permeability analyses
- rock mechanic studies
- water extraction and core gamma logs
- core photos

In addition, provide one copy of all studies you performed on the core(s) and tests for the purpose of describing and characterizing the reservoir architecture through detailed stratigraphic or depositional analyses. In certain situations, the BSEE AKOCS may require that you submit preliminary or interim reports.

Submit, on CD or DVD ROM, one copy of the description and analysis of the conventional core, the percussion/rotary sidewall core, wireline formation tests, and drill stem tests reports in the original digital format. Any data acquired in a log format should be submitted as a log image.

Geochemical Analyses/Reports and Information

Submit one copy of the Geochemical Analyses/Reports and Information in the original digital format. If you conducted any geochemical analyses/reports, including internal company or external contractor interpretation reports on

- Cuttings,
- Sidewall or conventional cores, and
- Fluid samples from the well. The term "sample" encompasses:
- Hydrocarbon gases, specifically methane through pentanes and C6+ hydrocarbons;
- Non-hydrocarbon gases (carbon dioxide, hydrogen sulfide, argon, helium, and radon); and
- Any liquid hydrocarbons (such as condensate, crude, and bitumen) encountered by the well in cuttings or shows and from any other well sampling or fluid testing.

The analyses, reports, and interpretations to be submitted include, but are not necessarily limited to, the following types of data:

- Total organic carbon
- Polynuclear aromatic hydrocarbons
- Rock-eval pyrolysis

- Stable isotope analyses of carbon & hydrogen
- Thermal chromatography-gas chromatography
- Compound-specific isotope ratio mass spectrometry
- Bulk pyrolysis & hydrous pyrolysis
- Isotope ratio mass spectrometry
- Gas chromatography
- Kerogen isolation & bitumen separation
- Pyrolysis/gas chromatography
- Organic petrography
- Complete saturated biomarker & aromatic hydrocarbon analysis by GC MS
- Vitrinite reflectance
- Elemental analysis of kerogen

In addition, submit all data and reports on geochemical characterization of produced oils, including

- All whole-oil GC, GC MS on oils,
- SARAH (or SARA),
- Isotopes on the fractions,
- Molecular and isotopic analyses of C1-C5 hydrocarbons metals data, and
- Any other geochemical data used from production samples intended for reservoir characterization studies.

Submit, on CD or DVD ROM, digitally recorded data in industry standard formats.

Detailed Paleontological Reports and Information

As soon as the final and/or revised paleontological information and/or data become available to you, submit one copy in digital format of the entire, detailed paleontological report(s), chart(s), striplog(s), checklist(s), and any other paleontological records. Include the following:

The range of samples taken,

- Sample analysis identifying fossils and lithology by MD,
- Summary and interpretation (based on identification of foraminifera, nannofossils, or other microfossils) of all biostratigraphic markers, zones, tops, or local markers,
- Description of paleontological ecological zones with water depth at the time of deposition (e.g., Middle Shelf/Neritic 20-100 meters, Outer Shelf/Neritic 100-200 meters),
- Sequence analysis interpretations based on histograms of faunal abundance,
- Identification of all rock units by depth to the top of relative chronostratigraphic stages (e.g., Upper Pleistocene, Middle Miocene, or Lower Oligocene), and
- Pleistocene, Middle Miocene, or Lower Oligocene), and
- Biostratigraphic chart noting the relative ages of the biostratigraphic zones you used in the detailed paleontological reports.

Submit, on CD or DVD ROM, one copy of the detailed paleontological report in the original digital format.

Mudlogs and Reports

Submit one image copy of the following types of Mudlogs:

- Physical Formation Log
- Pore Pressure Log
- Engineering Log
- Show Report Log

Image File Formats for Mudlogs: If the original log is in color, the submitted image file must also be in color.

The following image file formats are preferred:

- Geologix geo draft file (.gdf)
- Geologix output data file (.odf)

If the preferred formats listed above are not available, submit the image file in the Tag Image File

Format (TIFF) with the following specifications:

Black and White TIFF Images

- Header tags as per TIFF standard
- Resolution 200 dpi
- Compression CCITT group IV
- Tiling No

Color TIFF Images

- Header tags as per TIFF standard
- Resolution 200 dpi
- Palette color 256 colors
- File format LZW Compressed TIFF
- Tiling No.

Submit one copy of the following types of Mudlogs reports, if collected:

- Show reports composite into one file
- Mud reports composite into one file
- End of Well reports composite into one file
- Daily Drilling reports composite into one file

Submit, on CD or DVD ROM, digitally recorded data in industry standard formats.

End of Operations Report (Form BSEE-0125) and Attachments

Pursuant to 30 CFR 250.465(a), you must submit End of Operations Report (Form BSEE-0125) and the required attachments.

Additional Information

Pursuant to 30 CFR 250.469(d), the BSEE AKOCS may require that you submit additional well reports or records for a specific well(s).



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 10

1200 Sixth Avenue, Suite 900 Seattle, WA 98101-3140

OFFICE OF THE REGIONAL ADMINISTRATOR

JUL 2 7 2012

Mr. Mark Fesmire
Director of Alaska Region
Bureau of Safety and Environmental Enforcement
3801 Centerpoint Drive, Suite 500
Anchorage, Alaska 99503-5820

RECEIVED

Regional Director, Alaska OCS Bereaud Salety and Enforcemental Enforcement Anchorage, Alaska

Dear Mr. Fesmire:

The U.S. Environmental Protection Agency, Region 10, is contacting the Bureau of Safety and Environmental Enforcement to finalize the EPA's request for assistance in conducting inspections and collecting data on exploration facilities located on the Alaska outer continental shelf during the 2012 drilling season.

Our respective agency inspectors have been working cooperatively to develop procedures to assist BSEE inspectors in conducting inspections and collecting data related to exploration facilities covered by the National Pollutant Discharge Elimination System General Permit for Oil and Gas Exploration Facilities on the Outer Continental Shelf and Contiguous State Waters, NPDES Permit No. AKG-28-0000, and EPA-issued air quality permits. These procedures are based, in part, on the 1993 memorandum of agreement between the EPA and the Minerals Management Service that was intended to improve cooperation and coordination in oil and gas lease activities on the outer continental shelf.

Our proposed joint efforts will assist the EPA's ongoing OCS compliance and enforcement program and increase regulatory accountability of exploration facilities that are drilling in the OCS during the 2012 drilling season. The respective agency inspectors are in the process of developing the procedures for these joint efforts and in working through logistical and procedural issues that may arise during the drilling season.

Accordingly, I want to take this opportunity to recognize BSEE's ongoing assistance and to request your confirmation of our joint efforts for this drilling season. Please contact me or have your staff contact Mr. Rick Cool in our Office of Compliance and Enforcement at 206-553-6223 if you have any questions about this letter.

Sincerely,

Dennis J. McLerran Regional Administrator From: <u>John.A.Henley@shell.com</u>

To: Monkelien, Kyle

Cc: Pauline.Ruddy@shell.com; Jim.Miller@shell.com; Chris.Riley@shell.com; donald.brown@shell.com; Fesmire.

Mark E

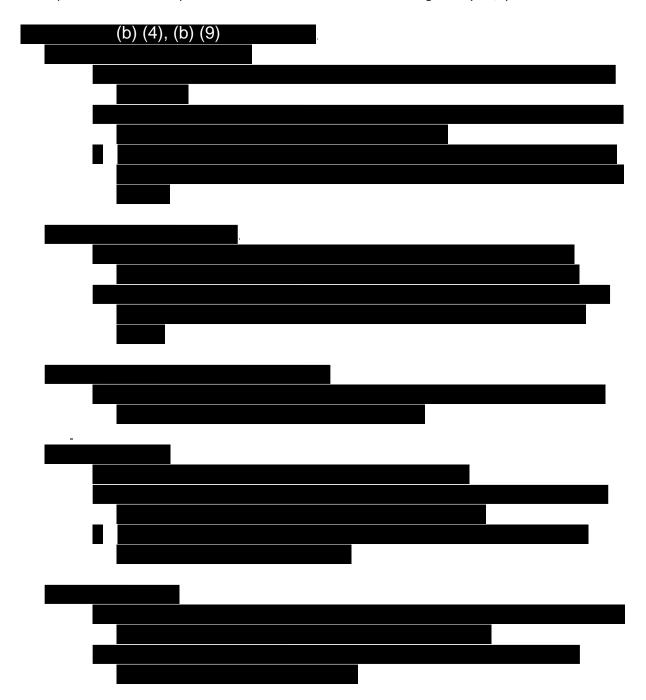
Subject: Confidential - (b) (4), (b) (9)

Date: Tuesday, October 09, 2012 4:43:16 PM

Kyle:

Per our phone conversation, see the contingency summary below.

We'll proceed with these protocols unless we hear from something from you / your office.



Best regards,
John A. Henley
Sr. Drilling Engineer
Shell Exploration & Production Company

One Shell Square, P. O. Box 61933, New Orleans, LA 70161-1933, United States of America

Tel: +1.504.728.4478 **Mob:** +1.281.795.0250

Email: john.a.henley@shell.com



United States Department of the Interior

Alaska OCS Region 3801 Centerpoint Drive, Suite 500 Anchorage, Alaska 99503-5823

OCT 18 2012

Ms. Susan Childs Shell Gulf of Mexico, Inc. 3601 C Street, Suite 1334 Anchorage, AK 99503 United States of America

Dear Ms. Childs:

The Alaska Region of the Bureau of Safety and Environmental Enforcement (BSEE) is in receipt of Shell's Application for a Permit to Drill (APD) Well Number 001, Burger V, on lease OCS Y-2324, Posey Block 6915, in the Chukchi Sea (API number 55-352-00007-00). An initial application was submitted April 2012 and completed September 2012. In a letter to BSEE from Shell Vice President Peter Slaiby, dated August 21, 2012, you sought "conditional approval" of the APD to allow for limited drilling operations before the arrival of the Arctic Containment System. In particular, you requested permission to drill and set the 30" structural and the 20" surface casings. Your application has been reviewed for compliance with the Outer Continental Shelf (OCS) Lands Act, 30 CFR Part 250 and other statutes and regulations applicable to APDs.

(b) (4), (b) (9)

Upon completion of the testing and siting of the Arctic Containment System Shell will submit an Application for Permit to Modify, which, if approved, would allow Shell to continue operations outlined in the initial APD.

This approval is based on the findings below and subject to the conditions attached to this communication as Attachment A, Conditions of Approval for the Burger V, Well #001 and Attachment B Procedures for Well Data and Records Submittal. It is also conditioned on Shell's compliance during the permitted activities with all applicable BSEE regulations and requirements, U.S. Coast Guard regulations and requirements, provisions in the Exploration Plan (EP) as approved by the Bureau of Ocean Energy Management (BOEM) December 2011, BOEM regulations and requirements, provisions in the Oil Spill Response Plan approved by BSEE, conditions of approval for all permits or authorizations issued by Federal agencies, all lease stipulations, and Notices to Lessees.

This approval is valid unless and until there is a material change to conditions or facts as presented in Shell's application.

If any provision contained in any plan or application conflicts with any provision or condition approved in writing by BSEE, the provision or condition approved by BSEE later in time will control. In the event another agency approves deviations from plans, permits or conditions initially issued by that agency, copies of such approvals must be sent to BSEE.

In a letter dated August 30, 2012 BSEE approved both the Noble Discoverer and the Kulluk for operations in the Arctic OCS. Also as stated in that letter, in the event hydrogen sulfide Is found during the drilling operations the Kulluk will be required to comply with 30 CFR 250.490 if used as a relief well rig.

BSEE further finds that Shell's proposed well capping and containment systems have been designed for the projected worst case discharge conditions. The intended uses of these systems are hereby approved. BSEE will require that a witnessed deployment test of the containment system in which Shell has demonstrated that it has the ability to successfully deploy the system and have it on location pursuant to the oil spill response plan prior to BSEE's consideration of Shell's request to drill below the 20 inch casing point.

In a letter dated August 30, 2012 BSEE approved Shell's Welding and Burning Program and Hydrogen Sulfide Contingency Plans for operations conducted on the Noble Discoverer.

BSEE will provide a continuous inspection presence during drilling operations and will use Shell transportation and lodging for this purpose. As allowed in 30 CFR 250.133, Shell will request reimbursement for transportation based on the existing agreement between Shell, DOI Aviation Management Division and BSEE. Reimbursement for meals and lodging must be submitted within 90 days of the completion of the drilling program. In addition BSEE will be conducting inspections and collecting data in regard to the EPA's National Pollutant Discharge Elimination System General Permit No. AKG-28-0000 and EPA issued air quality permits at the request of the EPA by letter dated July 27, 2012(copy enclosed).

All notifications related to activities described in the approved applications should be made to the BSEE active duty officer at 907-334-5300 during business hours and 855-277-2733 (toll free) after business hours.

Sincerely,

Mark Fesmire PE, JD Regional Director, BSEE

Cc: U.S. DOI, BOEM, AKOCS, Regional Director

Cc: U.S. DOC, NOAA, NMFS

Cc: U.S. DOI, Fish and Wildlife Service

ATTACHMENT A Conditions of Approval for the Burger V, #001 Well

- 1. The following waivers have been authorized:
 - a. Testing of casing strings as indicated on Form BSEE -0123S is approved.
 - b. Your request for a waiver to the requirements under 30 CFR 250. 423 (c) regarding a negative pressure test is approved.
 - c. Testing of the BOP components to the pressures indicated on Form BSEE -0123S is approved.
 - d. Your test pressure for the annular preventer as indicated on Form BSEE -0123S is approved.
 - e. Deployment of a remote BOP control panel intended to operate the BOP stack from the sea floor is approved.
 - f. Your request to test the deadman/autoshear system during the stump test only is approved.
 - g. Your requested method to temporarily abandon the proposed pilot hole is approved.
 - h. Your request to eliminate the addition of a flare, to the Discoverer, for possible use during an H2S event is granted.
- 2. This office will conduct a predrill inspection of your drilling vessel prior to the start of operations.
- 3. Shell will not be able to drill below the 20 inch casing point without fulfilling the conditions stated in the letter accompanying these conditions.
- 4. No drilling activities may be conducted beyond each additional casing shoe unless specifically approved by the BSEE inspector on location. BSEE will evaluate the condition of the well, results of safety equipment tests, the nature and duration of the next phase of the drilling program, existing and forecasted environmental conditions, and the procedures under an approved contingency plan [30 CFR250.417(c)(2)] that addresses design and operating limitations of the drilling unit as well as the actions necessary (i.e. suspension, curtailment, or modification of drilling or rig operations) to remedy various operational or environmental situations in order to maintain safety and prevent damage to the environment; including implementing well capping and containment or relief well drilling plans.
- 5. Final certification of the blowout preventer system as required in 30 CFR 250.416 (f) shall be provided to this office prior to the initial use of the BOP on this well.
- 6. Data submission procedures and criteria for this well are listed in an attached document (Procedures for Well Data and Records Submittal)
- 7. Shell must submit a daily summary report on form BSEE-0133 to this office until the final status of the well is established (one copy). Daily marine mammal reports shall be attached to the form.
- 8. Shell must notify this office immediately in the event the well encounters shallow gas, abnormal pressure, or lost circulation.
- 9. Shell must provide this office with representative dry samples collected during the drilling of this well as soon as available. Shell is also requested to collect and retain a set of wet well cuttings for the Bureau of Ocean Energy Management. This request is voluntary and the samples are intended to provide for public access once the proprietary

- term for the samples is concluded. Further discussions related to this voluntary request can be concluded with appropriate BOEM representatives.
- 10. Shell must submit within thirty days of completion of the well all oceanographic and meteorological data collected during the drilling of this well.
- 11. Shell must submit an Application for Permit to Modify to change any approved portion of the APD prior to the commencement of the proposed operations. Verbal approval in an emergency may be granted, however written APM's must be submitted no later than the end of the 3rd business day following the verbal approval.
- 12. Shell shall notify this office as well as the onsite representative 24 hours in advance of a Blowout Preventer test.
- 13. Shell must submit form BSEE 0124 in advance of either temporarily or permanently abandoning this well. This form must contain all information required in 30 CFR 250, Subpart Q for abandonment of wells.

Attachment B

BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT ALASKA OCS REGION

Procedures for Well Data and Records Submittal

This document defines the procedures on how lessees/operators submit well records required by 30 CFR 250.468 and 469, and clarifies the specific well records you should submit, the submittal dates of the various well records, and the correct locations where you should send these well records.

The BSEE collects, verifies, and stores data by the well's unique 12-digit American Petroleum Institute (API) number we assign. The BSEE Alaska Outer Continental Shelf Region (AKOCS) uses the data collected to make informed regulatory decisions based on your timely submittal of complete and accurate well records. We define "submittal date" as the original date the data are due to the appropriate office.

According to 30 CFR 250.468(a), "you must submit copies of logs or charts of electrical, radioactive, sonic, and other well-logging operations; directional and vertical well surveys; velocity profiles and surveys; and analysis of cores to BSEE." Also, in accordance with 30 CFR 250.469(b), the AKOCS will also require submittal of paleontological reports as well as washed and dried samples collected from the well.

When to Submit Well Data Records

1. Field Data

As stated in the approval documents for these operations this office will take an active role in assess plans for the continuation of well activities. Shell will be expected to make available digital data and field prints electronically from the well site via a secure website data delivery system or equivalent to enable this review from this office. This should be done for all logging operations including pilot hole, surface, intermediate and final runs (both wireline and Measurement While Drilling logs). This also includes detailed mud logging data.

2. Final Data

Operators should submit one copy of the digital data on a CD or DVD in a readonly format to the appropriate entity as outlined in Attachment 1. Each CD or DVD should be properly labeled with the Area, Block, OCS, Well Number, Well Suffix, API, and the data type (i.e., Paleo Report, Conventional Core Report, Vertical Seismic Survey, etc.). Digital and image NMR data must be submitted on separate physical media and nomenclature for NMR data files and tool codes should clearly identify them as NMR datasets.

Well records are divided into four groups for the timely submittal of the data.

a) Well Log Data, Directional Surveys, Velocity Surveys, Analyses of Percussion Sidewall Cores, Wireline Formation Test Logs, Drill Stem Tests and Mudlogs/Reports

Submit:

Well log data,
Directional surveys,
Velocity surveys (time/depth pairs),
Percussion/rotary sidewall analysis of cores,
Wireline formation tests logs (summary log), and
Drill stem tests (initial report)

To be submitted within 30 days of the "Date Operations Completed" of the last logging run (MWD/LWD or wireline) that you report in Item 7 of the Open Hole Report (Form BSEE-0133S) for each 12-digit wellbore, sidetrack, and/or bypass. Note: "Date Operations Completed" for MWD/LWD is when the data is retrieved from the drill string.

b) Paleontological, Detailed Rotary Sidewall and Conventional Core Analyses, and Vertical Seismic Profile Reports and Information

For each wellbore in which these data were collected, submit no later than 90 days after the "TD DATE" you report in Item 10 of the Well Activity Report (Form BSEE-0133).

Detailed paleontological reports and information,
Detailed rotary sidewall and conventional core analyses/reports
and information, and
Detailed vertical seismic profile reports

Submit these well records when the report is completed, even if the report is generated by you and/or third party (i.e., academic partners, non-lessee partners and/or consultants) years after the wellbore is completed.

c) Geochemical Analyses and PVT Analysis of Fluid Samples

For each wellbore in which these data were collected, submit geochemical analyses and/or PVT Analysis of Fluid Samples no later than 120 days

after the "TD DATE" that you report in Item 10 of the Well Activity Report (Form BSEE-0133). Submit these well records when the report is completed, even if the report is generated by you and/or third party (i.e., academic partners, non-lessee partners and/or consultants) years after the wellbore is completed.

d) End of Operations Report (Form BSEE-0125)

For each wellbore, submit an End of Operations Report (Form BSEE-0125) and all its attachments no later than 30 days after the "END DATE" you report in Item 10 of the Well Activity Report (Form BSEE-0133).

The BSEE AKOCS uses the Well Activity Report (Form BSEE-0133) and Open Hole Report (Form BSEE-0133S) to track well activity; therefore, it is crucial that you submit a complete and accurate report to the appropriate BSEE AKOCS District Office in a timely manner. We will treat delinquent and/or incomplete reports in the same manner as delinquent and/or incomplete well data, and such violations may result in the BSEE AKOCS exacting an appropriate remedy, such as issuing an Incident of Non-compliance (INC).

The BSEE AKOCS may request that you submit well logging data, directional surveys, velocity profiles and surveys, percussion sidewall analyses of cores, wireline formation tests, and drill stem tests before the 30- day limit when we determine that circumstances warrant such action. When we determine that circumstances so warrant, we may also request that you submit preliminary reports of analytical data, namely

Geochemical analyses/reports and information,
PVT analyses of fluid samples,
Detailed paleontological reports and information,
Detailed rotary sidewall core analysis and information, and
Detailed conventional core analysis and information before the
respective 90-day or 120-day limits.

The BSEE AKOCS recognizes that you need adequate time to submit complete and accurate well records. If you request it, BSEE AKOCS may grant you a departure under 30 CFR 250.142 for a new required date for submitting the data pertaining to that wellbore.

Where to Submit Well Records

Shell will need to coordinate access to field digital well logs with the following office. This office will also handle receipt of dry samples.

Bureau of Safety and Environmental Enforcement Alaska OCS Office 3801 Centerpoint Dr., Suite 500 Anchorage, AK 99503 Office Phone: 907-334-5300

Office Phone: 907-334-5300 Office Fax: 907-334-5302

Shell will provide final copies of all digital image and vector well log data and related reports to both the Alaska BSEE office and to:

A2D Technologies d/b/a TGS Geological Products and Services 1010 Common Street, Suite 2040 Attn: BSEE Well Records (Alaska)

New Orleans, LA 70112

Office telephone: 504-524-3450

Fax: 504-524-3454

A "Well Records Submission Summary" in Attachment B of this document provides an overview of the various well records, including which entity receives which well records and the addresses and contact numbers of the appropriate BSEE AKOCS Offices, and A2D Technologies. We strongly recommend that you provide a transmittal letter when you submit any well records. This transmittal should contain the following information:

- Operator's Name
- Operator's Contact Name and Telephone Number
- Bottomhole Location: Area/Block/Lease/Well Name and Number/API Number
- Date Well Records Sent
- Detailed List of Well Records

It is your responsibility to ensure that the BSEE AKOCS and A2D Technologies receive all well data and information within the specific periods. If we notify you of delinquent data, we will initiate an appropriate remedy, such as issuing an Incident of Non-Compliance (INC). If you choose to use a third party to submit well data, it remains your responsibility to ensure that the data are timely received by the BSEE AKOCS and A2D Technologies. Realizing that you may need time beyond the specified deadlines to prepare unique data or information, we will address the submission of such on an individual basis. We will address INC's issued by the BSEE AKOCS Office for the delinquent data submittal at your yearly performance review or through other appropriate and timely measures.

Well Naming and Numbering

Show the API Number and well name assigned by the BSEE AKOCS Office on all well records you submit to us. You can find these on the approved Application for Permit to Drill (Form BSEE-0123) for the original hole, sidetracks, and/or bypasses.

Data Types and Formats

A. Well Log Data types

- a. Log Curve Requirements: Submit the following curve types and log images in final form, if the data were obtained in the open-hole portion of a wellbore, sidetrack, or bypass****:
- Acoustic or Sonic
- Bulk Density
- Caliper
- Conductivity
- Density Correction
- Dipmeter (computed)
- Gamma Ray
 Resistivity/Induction
- Spontaneous Potential
- Nuclear Magnetic Resonance *
- Mudlogs***
- Neutron
- Tension
- Porosity
- Borehole Image
- Equivalent circulation density
- Rwa
- Temperature
- Formation Tester**
- Rate of Penetration
- Photoelectric
- Slide Indicator

- b. Cased hole log data: Submit all curve types and log images as identified above for any cased hole logs collected in lieu of, or in addition to, open hole logs.
- * For the submittal of digital NMR vector curve data, The following are examples of curve types are to be submitted, and are not limited to you should submit:
- Quality Control Curves
- Computed Curves
- T2 Bin Distributions

Due to NMR file sizes and complexities, the BSEE <u>now</u> requires that digital and image NMR data are submitted on separate physical media (separate from other well log data) to its logging contractor, A2D Technologies. Also, NMR data file and tool code nomenclature should clearly identify these data as NMR-related. We encourage direct submittal of the completed log data set from the acquiring service company.

- ** Formation Tester is considered any logging tool that collects pressure data and/or fluid samples from the borehole. Summary Print log images, pressure gradient plots, and preliminary sample analysis must be submitted. Formation Tester summary data should also be submitted in ASCII format. All detailed reports (i.e., PVT Analysis) generated from the samples collected from the borehole must be submitted in a timely manner (see Attachment 1).
- *** You will be required to submit an image file for these types of logs to A2D Technologies.
- ****Although API Recommended Practice (RP) 31A, Standard Form for Hardcopy Presentation of Downhole Well Log Data, is not incorporated by reference in BSEE regulations, you may use it for guidance on providing complete and accurate well information.

Note: Do not submit digital data for Formation Tester, Borehole Image, and Computed Dipmeter to A2D Technologies.

c. Well Log Image File:

Submit image files in one of the formats listed below. For Formation Tester type logs, the summary logs will suffice

- i. For all vertical wells, as defined in 30 CFR 250.461, submit image files for
- Measured depth (MD) 1-inch, or 2-inch correlation, and 5-inch formation evaluation logs and
- Any additional scales you obtained.
 - ii. For all non-vertical wells, as defined in 30 CFR 250.461, submit image files for
- True vertical depth (TVD) 1-inch, or 2-inch correlation and, 5-inch formation evaluation logs,
- Measured depth (MD) 1-inch, or 2-inch correlation, and 5-inch formation evaluation logs, and
- Any additional scales you obtained.

Detailed 5- inch image logs must be composited, but individual runs do not need to be spliced.

If logging data from more than one logging vendor are collected in a borehole, you may submit either an image of the logging data from all vendors composited into a single set of logs or a set of images of the composited logs from each individual vendor.

- d. Image File Formats: If the original log is in color, the submitted image file should also be in color.
 - i. The following image file formats are preferred:
- Computer Graphic Metafile (CGM) version 1-4
- Baker Metafile
- Schlumberger PDS (PDS files are usually for one logging run; any borehole with multiple runs should submit composited file format)
- Halliburton CGM
- Weatherford DPK

If the preferred formats listed above are not available, you may submit the image file in the Tag Image File Format (TIFF) with the following specifications:

- ii. Format (TIFF) with the following specifications:
 - 1. Black and White TIFF Images:
- Header tags as per TIFF standard
- Resolution 200 dpi
- Compression CCITT group IV
- Tiling No
- 2. Color TIFF Images:
- Header tags as per TIFF standard
- Resolution 200 dpi
- Palette color 256 colors
- File format LZW Compressed TIFF
- Tiling No

Clearly label each well log image with its associated API number, bottom hole lease number, well name, well name suffix, log type, scale and depth domain (MD or TVD).

e. Digital (Vector) Well Log Data: Submit composite digital curve data (one value per curve for each depth value and with individual tool runs merged) in the Canadian Well Log Society Log ASCII Standard (LAS), Version 2.0 formats; and Digital Log Interchange Standard (DLIS) or Log Interchange Standard (LIS) format. Ensure that the curve data are in a MD composite layout, including full headers for each wireline and MWD/LWD logging tool run and curve description for all curves. Ensure that all required log curves represented on the log image file are included in the digital curve file. If you collect logging data from more

than one logging vendor in a single borehole, submit a separate set of composited log curves from each individual vendor. Do not splice digital curves from different vendors to form a set of composited log curves.

- i. Full header information, should including the following:
- 12-digit API number
- well name suffix
- bottom hole lease number
- bottom hole area and block
- well name
 - ii. Information for each tool run, should including the following:
- borehole fluids
- depth interval
- mud
- filtrate resistivity and temperatures
- casing information
- bottomhole or maximum recorded temperature
- circulation history information
- tool schematic
- tool calibration record

Full logging tool parameters (including matrix values), position of logging tool (i.e., centered or eccentered), and logging engineer's comments; and adequate curve description and

Tool -specific and service provider-specific curve and parameter mnemonics (names and abbreviations) maintained as originally acquired.

If a log is spliced, the splice depth should be clearly noted along with which files were used.

Submit digital and image logs on CD or DVD ROM (read-only memory). Digital and image logs may be submitted on the same CD or DVD.

Directional Surveys

Submit one digital copy of the final composite directional survey. For the Digital Directional Survey format, see NTL 2009-N10.

- Submit, on CD or DVD ROM these survey results coded in ASCII.
- According to 30 CFR 250.461(d) (2), "You must correct all surveys to Universal-Transverse- Mercator-Grid-north or Lambert-Grid-north after making the magnetic-to-true-north correction."

If your use of more than one vendor prevents the consolidation of the separate surveys within a well, submit the final composite survey from each vendor.

Velocity Profiles and Surveys

Vertical Seismic Profiles: Submit the results from all borehole seismic data (in cased or uncased holes), as well as concurrently run directional surveys for both vertical and directional wells. Submit, on CD or DVD ROM, digitally recorded data in an industry standard format (LAS, DLIS, ASCII, CGM, TIFF, JPG, SEGY, DOC), that include, but are not limited to:

- Normal Incidence VSP;
- Acoustic Log Calibration Report;
- Final VSP and Corridor stacks for 2D data and final stacked and migrated volume for 3D VSP data;
- Composite plot with VSP, Corridor stacks, synthetic seismogram, and well logs;
- any referenced information within the report correlative with the acquisition, such as 2way time indexed depths and velocities, survey parameters, digital images, and computed survey data and directional; and
- If acquired, format time/depth pairs.

Velocity Surveys (Time-Depth Pairs/Checkshots): Submit, on CD or DVD ROM, one digital copy coded in ASCII format. The report should include or be annotated with the following:

- API number
- Well name and number
- Well name suffix
- Contractor or service provider
- Contact name (phone number or e-mail address)

Note that the digital format has been modified to expand the columns for True Vertical Depth and One- Way Travel Time from 5 to 8 to include two decimal places for each column.

We encourage direct submittal of the completed survey from the acquiring service company.

Analysis of Conventional Cores, Percussion/Rotary Sidewall Cores, Wireline Formation Tests, and Drill Stem Tests

IF...

you conduct any of the following:

- Conventional cores descriptions and analysis
- Percussion/Rotary sidewall core analysis or equivalent,
- Wireline formation tests include any logs (summary logs are acceptable) and associated lab results, or
- Drill stem tests

THEN...

As soon as the final and/or revised conventional core, percussion/rotary sidewall core reports and/or data become available to you, send one digital copy of the entire, detailed report. Reports should include, but are not limited to the following:

- Standard analyses for porosity,
- Permeability
- Water saturation
- Core photos
- compaction analyses
- laser grain size analyses
- stressed brine porosity and permeability analyses
- rock mechanic studies
- water extraction and core gamma logs
- core photos

In addition, provide one copy of all studies you performed on the core(s) and tests for the purpose of describing and characterizing the reservoir architecture through detailed stratigraphic or depositional analyses. In certain situations, the BSEE AKOCS may require that you submit preliminary or interim reports.

Submit, on CD or DVD ROM, one copy of the description and analysis of the conventional core, the percussion/rotary sidewall core, wireline formation tests, and drill stem tests reports in the original digital format. Any data acquired in a log format should be submitted as a log image.

Geochemical Analyses/Reports and Information

Submit one copy of the Geochemical Analyses/Reports and Information in the original digital format. If you conducted any geochemical analyses/reports, including internal company or external contractor interpretation reports on

- Cuttings,
- Sidewall or conventional cores, and
- Fluid samples from the well. The term "sample" encompasses:
- Hydrocarbon gases, specifically methane through pentanes and C6+ hydrocarbons;
- Non-hydrocarbon gases (carbon dioxide, hydrogen sulfide, argon, helium, and radon); and
- Any liquid hydrocarbons (such as condensate, crude, and bitumen) encountered by the well in cuttings or shows and from any other well sampling or fluid testing.

The analyses, reports, and interpretations to be submitted include, but are not necessarily limited to, the following types of data:

- Total organic carbon
- Polynuclear aromatic hydrocarbons
- Rock-eval pyrolysis

- Stable isotope analyses of carbon & hydrogen
- Thermal chromatography-gas chromatography
- Compound-specific isotope ratio mass spectrometry
- Bulk pyrolysis & hydrous pyrolysis
- Isotope ratio mass spectrometry
- Gas chromatography
- Kerogen isolation & bitumen separation
- Pyrolysis/gas chromatography
- Organic petrography
- Complete saturated biomarker & aromatic hydrocarbon analysis by GC MS
- Vitrinite reflectance
- Elemental analysis of kerogen

In addition, submit all data and reports on geochemical characterization of produced oils, including

- All whole-oil GC, GC MS on oils,
- SARAH (or SARA),
- Isotopes on the fractions,
- Molecular and isotopic analyses of C1-C5 hydrocarbons metals data, and
- Any other geochemical data used from production samples intended for reservoir characterization studies.

Submit, on CD or DVD ROM, digitally recorded data in industry standard formats.

Detailed Paleontological Reports and Information

As soon as the final and/or revised paleontological information and/or data become available to you, submit one copy in digital format of the entire, detailed paleontological report(s), chart(s), striplog(s), checklist(s), and any other paleontological records. Include the following:

The range of samples taken,

- Sample analysis identifying fossils and lithology by MD,
- Summary and interpretation (based on identification of foraminifera, nannofossils, or other microfossils) of all biostratigraphic markers, zones, tops, or local markers,
- Description of paleontological ecological zones with water depth at the time of deposition (e.g., Middle Shelf/Neritic 20-100 meters, Outer Shelf/Neritic 100-200 meters),
- Sequence analysis interpretations based on histograms of faunal abundance,
- Identification of all rock units by depth to the top of relative chronostratigraphic stages (e.g., Upper Pleistocene, Middle Miocene, or Lower Oligocene), and
- Pleistocene, Middle Miocene, or Lower Oligocene), and
- Biostratigraphic chart noting the relative ages of the biostratigraphic zones you used in the detailed paleontological reports.

Submit, on CD or DVD ROM, one copy of the detailed paleontological report in the original digital format.

Mudlogs and Reports

Submit one image copy of the following types of Mudlogs:

- Physical Formation Log
- Pore Pressure Log
- Engineering Log
- Show Report Log

Image File Formats for Mudlogs: If the original log is in color, the submitted image file must also be in color.

The following image file formats are preferred:

- Geologix geo draft file (.gdf)
- Geologix output data file (.odf)

If the preferred formats listed above are not available, submit the image file in the Tag Image File

Format (TIFF) with the following specifications:

Black and White TIFF Images

- Header tags as per TIFF standard
- Resolution 200 dpi
- Compression CCITT group IV
- Tiling No

Color TIFF Images

- Header tags as per TIFF standard
- Resolution 200 dpi
- Palette color 256 colors
- File format LZW Compressed TIFF
- Tiling No.

Submit one copy of the following types of Mudlogs reports, if collected:

- Show reports composite into one file
- Mud reports composite into one file
- End of Well reports composite into one file
- Daily Drilling reports composite into one file

Submit, on CD or DVD ROM, digitally recorded data in industry standard formats.

End of Operations Report (Form BSEE-0125) and Attachments

Pursuant to 30 CFR 250.465(a), you must submit End of Operations Report (Form BSEE-0125) and the required attachments.

Additional Information

Pursuant to 30 CFR 250.469(d), the BSEE AKOCS may require that you submit additional well reports or records for a specific well(s).



United States Department of the Interior BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT

Alaska OCS Region 3801 Centerpoint Drive, Suite 500 Anchorage, Alaska 99503-5823

OCT 18 2012

Ms. Susan Childs Shell Offshore Inc. 3601 C Street, Suite 1334 Anchorage, AK 99503 United States of America

Dear Ms. Childs:

The Alaska Region of the Bureau of Safety and Environmental Enforcement (BSEE) is in receipt of Shell's Application for a Permit to Drill (APD) Well Number 001, Torpedo H, on lease OCS Y-1941, Flaxman Island Block 6912, in the Beaufort Sea (API number 55-171-00017-00). An initial application was submitted January 2012, completed October 2012. In a letter to BSEE from Alaska Venture Support Integrator, Manager Susan Childs, dated August 31, 2012, you sought "conditional approval" of the APD to allow for limited drilling operations before the arrival of the Arctic Containment System. In particular, you requested permission to drill and set the 30" structural and the 20" surface casings. Your application has been reviewed for compliance with the Outer Continental Shelf (OCS) Lands Act, 30 CFR Part 250 and other statutes and regulations applicable to APDs.

(b) (4), (b) (9)

Upon completion of the testing and siting of the Arctic Containment System Shell will submit an Application for Permit to Modify, which, if approved, would allow Shell to continue operations outlined in the initial APD.

This approval is based on the findings below and subject to the conditions attached to this communication as Attachment A, Conditions of Approval for the Torpedo H, Well #001 and Attachment B Procedures for Well Data and Records Submittal. It is also conditioned on Shell's compliance during the permitted activities with all applicable BSEE regulations and requirements, U.S. Coast Guard regulations and requirements, provisions in the Exploration Plan (EP) as approved by the Bureau of Ocean Energy Management (BOEM) August 2011, BOEM regulations and requirements, provisions in the Oil Spill Response Plan approved by BSEE, conditions of approval for all permits or authorizations issued by Federal agencies, all lease stipulations, and Notices to Lessees.

This approval is valid unless and until there is a material change to conditions or facts as presented in Shell's application.

If any provision contained in any plan or application conflicts with any provision or condition approved in writing by BSEE, the provision or condition approved by BSEE later in time will

control. In the event another agency approves deviations from plans, permits or conditions initially issued by that agency, copies of such approvals must be sent to BSEE.

In a letter dated September 20, 2012 BSEE approved both the Kulluk and Noble Discoverer for operations in the Beaufort Sea of the Arctic OCS.

BSEE further finds that Shell's proposed well capping and containment systems have been designed for the projected worst case discharge conditions. The intended uses of these systems are hereby approved. BSEE will require that a witnessed deployment test of the containment system in which Shell has demonstrated that it has the ability to successfully deploy the system and have it on location pursuant to the oil spill response plan prior to BSEE's consideration of Shell's request to drill below the 20 inch casing point.

In a letter dated September 20, 2012 BSEE approved Shell's Welding and Burning Program for operations conducted on the Kulluk.

BSEE will provide a continuous inspection presence during drilling operations and will use Shell transportation and lodging for this purpose. As allowed in 30 CFR 250.133, Shell will request reimbursement for transportation based on the existing agreement between Shell, DOI Aviation Management Division and BSEE. Reimbursement for meals and lodging must be submitted within 90 days of the completion of the drilling program. In addition BSEE will be conducting inspections and collecting data in regard to the EPA's National Pollutant Discharge Elimination System General Permit No. AKG-28-0000 and EPA issued air quality permits at the request of the EPA by letter dated July 27, 2012(copy enclosed).

All notifications related to activities described in the approved applications should be made to the BSEE active duty officer at 907-334-5300 during business hours and 855-277-2733 (toll free) after business hours.

Sincerely,

Mark Fesmire PE, JD Regional Director, BSEE

Cc: U.S. DOI, BOEM, AKOCS, Regional Director

Cc: U.S. DOC, NOAA, NMFS

Cc: U.S. DOI, Fish and Wildlife Service

ATTACHMENT A Conditions of Approval for the Torpedo H, #001 Well

- 1. The following waivers have been authorized:
 - a. Testing of casing strings as indicated on Form BSEE -0123S is approved.
 - b. Your request for a waiver to the requirements under 30 CFR 250. 423 (c) regarding a negative pressure test is approved.
 - c. Testing of the BOP components to the pressures indicated on Form BSEE -0123S is approved.
 - d. Your test pressure for the annular preventer as indicated on Form BSEE -0123S is approved.
 - e. Deployment of a remote BOP control panel intended to operate the BOP stack from the sea floor is approved.
 - f. Your request to test the deadman/autoshear system during the stump test only is approved.
 - g. Your requested method to temporarily abandon the proposed pilot hole is approved.
- 2. This office will conduct a predrill inspection of your drilling vessel prior to the start of operations.
- 3. Shell will not be able to drill below the 20 inch casing point without fulfilling the conditions stated in the letter accompanying these conditions.
- 4. No drilling activities may be conducted beyond each additional casing shoe unless specifically approved by the BSEE inspector on location. BSEE will evaluate the condition of the well, results of safety equipment tests, the nature and duration of the next phase of the drilling program, existing and forecasted environmental conditions, and the procedures under an approved contingency plan [30 CFR250.417(c)(2)] that addresses design and operating limitations of the drilling unit as well as the actions necessary (i.e. suspension, curtailment, or modification of drilling or rig operations) to remedy various operational or environmental situations in order to maintain safety and prevent damage to the environment; including implementing well capping and containment or relief well drilling plans.
- 5. Final certification of the blowout preventer system as required in 30 CFR 250.416 (f) shall be provided to this office prior to the initial use of the BOP on this well.
- 6. Data submission procedures and criteria for this well are listed in an attached document (Procedures for Well Data and Records Submittal)
- 7. Shell must submit a daily summary report on form BSEE-0133 to this office until the final status of the well is established (one copy). Daily marine mammal reports shall be attached to the form.
- 8. Shell must notify this office immediately in the event the well encounters shallow gas, abnormal pressure, or lost circulation.
- 9. Shell must provide this office with representative dry samples collected during the drilling of this well as soon as available. Shell is also requested to collect and retain a set of wet well cuttings for the Bureau of Ocean Energy Management. This request is voluntary and the samples are intended to provide for public access once the proprietary term for the samples is concluded. Further discussions related to this voluntary request can be concluded with appropriate BOEM representatives.

- 10. Shell must submit within thirty days of completion of the well all oceanographic and meteorological data collected during the drilling of this well.
- 11. Shell must submit an Application for Permit to Modify to change any approved portion of the APD prior to the commencement of the proposed operations. Verbal approval in an emergency may be granted, however written APM's must be submitted no later than the end of the 3rd business day following the verbal approval.
- 12. Shell shall notify this office as well as the onsite representative 24 hours in advance of a Blowout Preventer test.
- 13. Shell must submit form BSEE 0124 in advance of either temporarily or permanently abandoning this well. This form must contain all information required in 30 CFR 250, Subpart Q for abandonment of wells.

BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT ALASKA OCS REGION

Procedures for Well Data and Records Submittal

This document defines the procedures on how lessees/operators submit well records required by 30 CFR 250.468 and 469, and clarifies the specific well records you should submit, the submittal dates of the various well records, and the correct locations where you should send these well records.

The BSEE collects, verifies, and stores data by the well's unique 12-digit American Petroleum Institute (API) number we assign. The BSEE Alaska Outer Continental Shelf Region (AKOCS) uses the data collected to make informed regulatory decisions based on your timely submittal of complete and accurate well records. We define "submittal date" as the original date the data are due to the appropriate office.

According to 30 CFR 250.468(a), "you must submit copies of logs or charts of electrical, radioactive, sonic, and other well-logging operations; directional and vertical well surveys; velocity profiles and surveys; and analysis of cores to BSEE." Also, in accordance with 30 CFR 250.469(b), the AKOCS will also require submittal of paleontological reports as well as washed and dried samples collected from the well.

When to Submit Well Data Records

1. Field Data

As stated in the approval documents for these operations this office will take an active role in assess plans for the continuation of well activities. Shell will be expected to make available digital data and field prints electronically from the well site via a secure website data delivery system or equivalent to enable this review from this office. This should be done for all logging operations including pilot hole, surface, intermediate and final runs (both wireline and Measurement While Drilling logs). This also includes detailed mud logging data.

2. Final Data

Operators should submit one copy of the digital data on a CD or DVD in a readonly format to the appropriate entity as outlined in Attachment 1. Each CD or DVD should be properly labeled with the Area, Block, OCS, Well Number, Well Suffix, API, and the data type (i.e., Paleo Report, Conventional Core Report, Vertical Seismic Survey, etc.). Digital and image NMR data must be submitted on separate physical media and nomenclature for NMR data files and tool codes should clearly identify them as NMR datasets.

Well records are divided into four groups for the timely submittal of the data.

a) Well Log Data, Directional Surveys, Velocity Surveys, Analyses of Percussion Sidewall Cores, Wireline Formation Test Logs, Drill Stem Tests and Mudlogs/Reports

Submit:

Well log data,
Directional surveys,
Velocity surveys (time/depth pairs),
Percussion/rotary sidewall analysis of cores,
Wireline formation tests logs (summary log), and
Drill stem tests (initial report)

To be submitted within 30 days of the "Date Operations Completed" of the last logging run (MWD/LWD or wireline) that you report in Item 7 of the Open Hole Report (Form BSEE-0133S) for each 12-digit wellbore, sidetrack, and/or bypass. Note: "Date Operations Completed" for MWD/LWD is when the data is retrieved from the drill string.

b) Paleontological, Detailed Rotary Sidewall and Conventional Core Analyses, and Vertical Seismic Profile Reports and Information

For each wellbore in which these data were collected, submit no later than 90 days after the "TD DATE" you report in Item 10 of the Well Activity Report (Form BSEE-0133).

Detailed paleontological reports and information,
Detailed rotary sidewall and conventional core analyses/reports
and information, and
Detailed vertical seismic profile reports

Submit these well records when the report is completed, even if the report is generated by you and/or third party (i.e., academic partners, non-lessee partners and/or consultants) years after the wellbore is completed.

c) Geochemical Analyses and PVT Analysis of Fluid Samples

For each wellbore in which these data were collected, submit geochemical analyses and/or PVT Analysis of Fluid Samples no later than 120 days after the "TD DATE" that you report in Item 10 of the Well Activity

Report (Form BSEE-0133). Submit these well records when the report is completed, even if the report is generated by you and/or third party (i.e., academic partners, non-lessee partners and/or consultants) years after the wellbore is completed.

d) End of Operations Report (Form BSEE-0125)

For each wellbore, submit an End of Operations Report (Form BSEE-0125) and all its attachments no later than 30 days after the "END DATE" you report in Item 10 of the Well Activity Report (Form BSEE-0133).

The BSEE AKOCS uses the Well Activity Report (Form BSEE-0133) and Open Hole Report (Form BSEE-0133S) to track well activity; therefore, it is crucial that you submit a complete and accurate report to the appropriate BSEE AKOCS District Office in a timely manner. We will treat delinquent and/or incomplete reports in the same manner as delinquent and/or incomplete well data, and such violations may result in the BSEE AKOCS exacting an appropriate remedy, such as issuing an Incident of Non-compliance (INC).

The BSEE AKOCS may request that you submit well logging data, directional surveys, velocity profiles and surveys, percussion sidewall analyses of cores, wireline formation tests, and drill stem tests before the 30- day limit when we determine that circumstances warrant such action. When we determine that circumstances so warrant, we may also request that you submit preliminary reports of analytical data, namely

Geochemical analyses/reports and information,
PVT analyses of fluid samples,
Detailed paleontological reports and information,
Detailed rotary sidewall core analysis and information, and
Detailed conventional core analysis and information before the
respective 90-day or 120-day limits.

The BSEE AKOCS recognizes that you need adequate time to submit complete and accurate well records. If you request it, BSEE AKOCS may grant you a departure under 30 CFR 250.142 for a new required date for submitting the data pertaining to that wellbore.

Where to Submit Well Records

Shell will need to coordinate access to field digital well logs with the following office. This office will also handle receipt of dry samples.

Bureau of Safety and Environmental Enforcement Alaska OCS Office 3801 Centerpoint Dr., Suite 500 Anchorage, AK 99503 Office Phone: 907-334-5300

Office Fax: 907-334-5302

Shell will provide final copies of all digital image and vector well log data and related reports to both the Alaska BSEE office and to:

A2D Technologies d/b/a TGS Geological Products and Services 1010 Common Street, Suite 2040 Attn: BSEE Well Records (Alaska) New Orleans, LA 70112

Office telephone: 504-524-3450

Fax: 504-524-3454

A "Well Records Submission Summary" in Attachment B of this document provides an overview of the various well records, including which entity receives which well records and the addresses and contact numbers of the appropriate BSEE AKOCS Offices, and A2D Technologies. We strongly recommend that you provide a transmittal letter when you submit any well records. This transmittal should contain the following information:

- Operator's Name
- Operator's Contact Name and Telephone Number
- Bottomhole Location: Area/Block/Lease/Well Name and Number/API Number
- Date Well Records Sent
- Detailed List of Well Records

It is your responsibility to ensure that the BSEE AKOCS and A2D Technologies receive all well data and information within the specific periods. If we notify you of delinquent data, we will initiate an appropriate remedy, such as issuing an Incident of Non-Compliance (INC). If you choose to use a third party to submit well data, it remains your responsibility to ensure that the data are timely received by the BSEE AKOCS and A2D Technologies. Realizing that you may need time beyond the specified deadlines to prepare unique data or information, we will address the submission of such on an individual basis. We will address INC's issued by the BSEE AKOCS Office for the delinquent data submittal at your yearly performance review or through other appropriate and timely measures.

Well Naming and Numbering

Show the API Number and well name assigned by the BSEE AKOCS Office on all well records you submit to us. You can find these on the approved Application for Permit to Drill (Form BSEE-0123) for the original hole, sidetracks, and/or bypasses.

Data Types and Formats

A. Well Log Data types

- a. Log Curve Requirements: Submit the following curve types and log images in final form, if the data were obtained in the open-hole portion of a wellbore, sidetrack, or bypass****:
- Acoustic or Sonic
- Bulk Density
- Caliper
- Conductivity
- Density Correction
- Dipmeter (computed)
- Gamma Ray
 Resistivity/Induction
- Spontaneous Potential
- Nuclear Magnetic Resonance *
- Mudlogs***
- Neutron
- Tension
- 1 01131011
- Porosity
- Borehole Image
- Equivalent circulation density
- Rwa
- Temperature
- Formation Tester**
- Rate of Penetration
- Photoelectric
- Slide Indicator

- b. Cased hole log data: Submit all curve types and log images as identified above for any cased hole logs collected in lieu of, or in addition to, open hole logs.
- * For the submittal of digital NMR vector curve data, The following are examples of curve types are to be submitted, and are not limited to you should submit:
- Quality Control Curves
- Computed Curves
- T2 Bin Distributions

Due to NMR file sizes and complexities, the BSEE <u>now</u> requires that digital and image NMR data are submitted on separate physical media (separate from other well log data) to its logging contractor, A2D Technologies. Also, NMR data file and tool code nomenclature should clearly identify these data as NMR-related. We encourage direct submittal of the completed log data set from the acquiring service company.

- ** Formation Tester is considered any logging tool that collects pressure data and/or fluid samples from the borehole. Summary Print log images, pressure gradient plots, and preliminary sample analysis must be submitted. Formation Tester summary data should also be submitted in ASCII format. All detailed reports (i.e., PVT Analysis) generated from the samples collected from the borehole must be submitted in a timely manner (see Attachment 1).
- *** You will be required to submit an image file for these types of logs to A2D Technologies.
- ****Although API Recommended Practice (RP) 31A, Standard Form for Hardcopy Presentation of Downhole Well Log Data, is not incorporated by reference in BSEE regulations, you may use it for guidance on providing complete and accurate well information.

Note: Do not submit digital data for Formation Tester, Borehole Image, and Computed Dipmeter to A2D Technologies.

c. Well Log Image File:

Submit image files in one of the formats listed below. For Formation Tester type logs, the summary logs will suffice

- i. For all vertical wells, as defined in 30 CFR 250.461, submit image files for
- Measured depth (MD) 1-inch, or 2-inch correlation, and 5-inch formation evaluation logs and
- Any additional scales you obtained.
 - ii. For all non-vertical wells, as defined in 30 CFR 250.461, submit image files for
- True vertical depth (TVD) 1-inch, or 2-inch correlation and, 5-inch formation evaluation logs,
- Measured depth (MD) 1-inch, or 2-inch correlation, and 5-inch formation evaluation logs, and
- Any additional scales you obtained.

Detailed 5- inch image logs must be composited, but individual runs do not need to be spliced.

If logging data from more than one logging vendor are collected in a borehole, you may submit either an image of the logging data from all vendors composited into a single set of logs or a set of images of the composited logs from each individual vendor.

- d. Image File Formats: If the original log is in color, the submitted image file should also be in color.
 - i. The following image file formats are preferred:
- Computer Graphic Metafile (CGM) version 1-4
- Baker Metafile
- Schlumberger PDS (PDS files are usually for one logging run; any borehole with multiple runs should submit composited file format)
- Halliburton CGM
- Weatherford DPK

If the preferred formats listed above are not available, you may submit the image file in the Tag Image File Format (TIFF) with the following specifications:

- ii. Format (TIFF) with the following specifications:
 - 1. Black and White TIFF Images:
- Header tags as per TIFF standard
- Resolution 200 dpi
- Compression CCITT group IV
- Tiling No
- 2. Color TIFF Images:
- Header tags as per TIFF standard
- Resolution 200 dpi
- Palette color 256 colors
- File format LZW Compressed TIFF
- Tiling No

Clearly label each well log image with its associated API number, bottom hole lease number, well name, well name suffix, log type, scale and depth domain (MD or TVD).

e. Digital (Vector) Well Log Data: Submit composite digital curve data (one value per curve for each depth value and with individual tool runs merged) in the Canadian Well Log Society Log ASCII Standard (LAS), Version 2.0 formats; and Digital Log Interchange Standard (DLIS) or Log Interchange Standard (LIS) format. Ensure that the curve data are in a MD composite layout, including full headers for each wireline and MWD/LWD logging tool run and curve description for all curves. Ensure that all required log curves represented on the log image file are included in the digital curve file. If you collect logging data from more

than one logging vendor in a single borehole, submit a separate set of composited log curves from each individual vendor. Do not splice digital curves from different vendors to form a set of composited log curves.

- i. Full header information, should including the following:
- 12-digit API number
- well name suffix
- bottom hole lease number
- bottom hole area and block
- well name
 - ii. Information for each tool run, should including the following:
- borehole fluids
- depth interval
- mud
- filtrate resistivity and temperatures
- casing information
- bottomhole or maximum recorded temperature
- circulation history information
- tool schematic
- tool calibration record

Full logging tool parameters (including matrix values), position of logging tool (i.e., centered or eccentered), and logging engineer's comments; and adequate curve description and

Tool -specific and service provider-specific curve and parameter mnemonics (names and abbreviations) maintained as originally acquired.

If a log is spliced, the splice depth should be clearly noted along with which files were used.

Submit digital and image logs on CD or DVD ROM (read-only memory). Digital and image logs may be submitted on the same CD or DVD.

Directional Surveys

Submit one digital copy of the final composite directional survey. For the Digital Directional Survey format, see NTL 2009-N10.

- Submit, on CD or DVD ROM these survey results coded in ASCII.
- According to 30 CFR 250.461(d) (2), "You must correct all surveys to Universal-Transverse- Mercator-Grid-north or Lambert-Grid-north after making the magnetic-to-true-north correction."

If your use of more than one vendor prevents the consolidation of the separate surveys within a well, submit the final composite survey from each vendor.

Velocity Profiles and Surveys

Vertical Seismic Profiles: Submit the results from all borehole seismic data (in cased or uncased holes), as well as concurrently run directional surveys for both vertical and directional wells. Submit, on CD or DVD ROM, digitally recorded data in an industry standard format (LAS, DLIS, ASCII, CGM, TIFF, JPG, SEGY, DOC), that include, but are not limited to:

- Normal Incidence VSP;
- Acoustic Log Calibration Report;
- Final VSP and Corridor stacks for 2D data and final stacked and migrated volume for 3D VSP data:
- Composite plot with VSP, Corridor stacks, synthetic seismogram, and well logs;
- any referenced information within the report correlative with the acquisition, such as 2way time indexed depths and velocities, survey parameters, digital images, and computed survey data and directional; and
- If acquired, format time/depth pairs.

Velocity Surveys (Time-Depth Pairs/Checkshots): Submit, on CD or DVD ROM, one digital copy coded in ASCII format. The report should include or be annotated with the following:

- API number
- Well name and number
- Well name suffix
- Contractor or service provider
- Contact name (phone number or e-mail address)

Note that the digital format has been modified to expand the columns for True Vertical Depth and One- Way Travel Time from 5 to 8 to include two decimal places for each column.

We encourage direct submittal of the completed survey from the acquiring service company.

Analysis of Conventional Cores, Percussion/Rotary Sidewall Cores, Wireline Formation Tests, and Drill Stem Tests

IF...

you conduct any of the following:

- Conventional cores descriptions and analysis
- Percussion/Rotary sidewall core analysis or equivalent,
- Wireline formation tests include any logs (summary logs are acceptable) and associated lab results, or
- Drill stem tests

THEN...

As soon as the final and/or revised conventional core, percussion/rotary sidewall core reports and/or data become available to you, send one digital copy of the entire, detailed report. Reports should include, but are not limited to the following:

- Standard analyses for porosity,
- Permeability
- Water saturation
- Core photos
- compaction analyses
- laser grain size analyses
- stressed brine porosity and permeability analyses
- rock mechanic studies
- water extraction and core gamma logs
- core photos

In addition, provide one copy of all studies you performed on the core(s) and tests for the purpose of describing and characterizing the reservoir architecture through detailed stratigraphic or depositional analyses. In certain situations, the BSEE AKOCS may require that you submit preliminary or interim reports.

Submit, on CD or DVD ROM, one copy of the description and analysis of the conventional core, the percussion/rotary sidewall core, wireline formation tests, and drill stem tests reports in the original digital format. Any data acquired in a log format should be submitted as a log image.

Geochemical Analyses/Reports and Information

Submit one copy of the Geochemical Analyses/Reports and Information in the original digital format. If you conducted any geochemical analyses/reports, including internal company or external contractor interpretation reports on

- Cuttings,
- Sidewall or conventional cores, and
- Fluid samples from the well. The term "sample" encompasses:
- Hydrocarbon gases, specifically methane through pentanes and C6+ hydrocarbons;
- Non-hydrocarbon gases (carbon dioxide, hydrogen sulfide, argon, helium, and radon); and
- Any liquid hydrocarbons (such as condensate, crude, and bitumen) encountered by the well in cuttings or shows and from any other well sampling or fluid testing.

The analyses, reports, and interpretations to be submitted include, but are not necessarily limited to, the following types of data:

- Total organic carbon
- Polynuclear aromatic hydrocarbons
- Rock-eval pyrolysis

- Stable isotope analyses of carbon & hydrogen
- Thermal chromatography-gas chromatography
- Compound-specific isotope ratio mass spectrometry
- Bulk pyrolysis & hydrous pyrolysis
- Isotope ratio mass spectrometry
- Gas chromatography
- Kerogen isolation & bitumen separation
- Pyrolysis/gas chromatography
- Organic petrography
- Complete saturated biomarker & aromatic hydrocarbon analysis by GC MS
- Vitrinite reflectance
- Elemental analysis of kerogen

In addition, submit all data and reports on geochemical characterization of produced oils, including

- All whole-oil GC, GC MS on oils,
- SARAH (or SARA),
- Isotopes on the fractions,
- Molecular and isotopic analyses of C1-C5 hydrocarbons metals data, and
- Any other geochemical data used from production samples intended for reservoir characterization studies.

Submit, on CD or DVD ROM, digitally recorded data in industry standard formats.

Detailed Paleontological Reports and Information

As soon as the final and/or revised paleontological information and/or data become available to you, submit one copy in digital format of the entire, detailed paleontological report(s), chart(s), striplog(s), checklist(s), and any other paleontological records. Include the following:

The range of samples taken,

- Sample analysis identifying fossils and lithology by MD,
- Summary and interpretation (based on identification of foraminifera, nannofossils, or other microfossils) of all biostratigraphic markers, zones, tops, or local markers,
- Description of paleontological ecological zones with water depth at the time of deposition (e.g., Middle Shelf/Neritic 20-100 meters, Outer Shelf/Neritic 100-200 meters),
- Sequence analysis interpretations based on histograms of faunal abundance,
- Identification of all rock units by depth to the top of relative chronostratigraphic stages (e.g., Upper Pleistocene, Middle Miocene, or Lower Oligocene), and
- Pleistocene, Middle Miocene, or Lower Oligocene), and
- Biostratigraphic chart noting the relative ages of the biostratigraphic zones you used in the detailed paleontological reports.

Submit, on CD or DVD ROM, one copy of the detailed paleontological report in the original digital format.

Mudlogs and Reports

Submit one image copy of the following types of Mudlogs:

- Physical Formation Log
- Pore Pressure Log
- Engineering Log
- Show Report Log

Image File Formats for Mudlogs: If the original log is in color, the submitted image file must also be in color.

The following image file formats are preferred:

- Geologix geo draft file (.gdf)
- Geologix output data file (.odf)

If the preferred formats listed above are not available, submit the image file in the Tag Image File

Format (TIFF) with the following specifications:

Black and White TIFF Images

- Header tags as per TIFF standard
- Resolution 200 dpi
- Compression CCITT group IV
- Tiling No

Color TIFF Images

- Header tags as per TIFF standard
- Resolution 200 dpi
- Palette color 256 colors
- File format LZW Compressed TIFF
- Tiling No.

Submit one copy of the following types of Mudlogs reports, if collected:

- Show reports composite into one file
- Mud reports composite into one file
- End of Well reports composite into one file
- Daily Drilling reports composite into one file

Submit, on CD or DVD ROM, digitally recorded data in industry standard formats.

End of Operations Report (Form BSEE-0125) and Attachments

Pursuant to 30 CFR 250.465(a), you must submit End of Operations Report (Form BSEE-0125) and the required attachments.

Additional Information

Pursuant to 30 CFR 250.469(d), the BSEE AKOCS may require that you submit additional well reports or records for a specific well(s).