

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. NMLC069515
2. Name of Operator CONOCOPHILLIPS COMPANY		6. If Indian, Allottee or Tribe Name
3a. Address MIDLAND, TX 79710		7. If Unit or CA/Agreement, Name and/or No.
3b. Phone No. (include area code) Ph: 970-385-1069		8. Well Name and No. ZIA HILLS 25E FED COM 402H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 25 T26S R32E NWNE 283FNL 2310FEL 32.011253 N Lat, 103.373820 W Lon		9. API Well No. 30-025-43364-00-X1
		10. Field and Pool or Exploratory Area WC025G08S263205N-UP WOLFCAMP
		11. County or Parish, State LEA COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Change to Original A
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	PD

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Change of name from War Hammer 25 Fed Com 14H to Zia Hills 25E Fed Com 402H. (320709) ✓

Change of BHL location.
Change from 36-26S-32E 330'FSL 2310'FEL
Change to 36-26S-32E 50'FSL 1320'FEL

See Attached

Carlsbad Field Office
OCD Hobbs

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

14. I hereby certify that the foregoing is true and correct. Electronic Submission #399948 verified by the BLM Well Information System For CONOCOPHILLIPS COMPANY, sent to the Hobbs Committed to AFMSS for processing by PRISCILLA PEREZ on 01/08/2018 (18PP0427SE)	
Name (Printed/Typed) DEIDRE DUFFY	Title PROJECT ECOLOGIST
Signature (Electronic Submission)	Date 01/08/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <u>ZOTA STEVENS</u>	Title <u>PETROLEUM ENGINEER</u>	Date <u>03/01/2018</u>
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		
Office Hobbs		

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

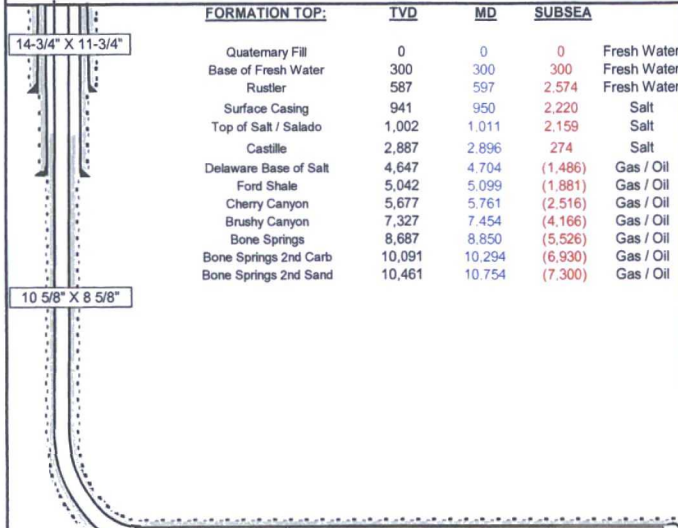
(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

WELL PLAN SUMMARY
1280 Extended Reach Single Lateral

Date: Mar 01, 2018
Version: 1
Prepared by: M. Smith

WELL: Zia Hills 25E Fed Com 402H			COUNTY/STATE: Lea, Co. NM			AFE: WAF OND		
SURFACE LOC: NWNE 25-T26S-R32E			API No.:			Drilling Network No.:		
BH LOC: SENE 36-T26S-R32E			BLM Permit:			Invoice Handler ID: VENNECP		
ELEVATIONS:			WH Coord.:			COST ESTIMATE		
GL	3,134.0'		LAT	32°	1'	12.08° N		
KB	+27.0'		LON	103°	37'	#####		
			(NAD-27)			COMPLETION		
						FACILITIES		
						TOTAL		



FORMATION TOP:		TVD	MD	SUBSEA	Notes
Quaternary Fill	0	0	0	Fresh Water	1) Ensure proper notifications are made to BLM A) Spud Notice - 24 hours before spud B) Running / Cementing all strings of casing - 4 hours C) BOP Tests - 4 hours 2) H2S equipment will be rigged up and functional. 500' before Delaware formation. If H2S is encountered, Onshore Order 6 along with Conocophillips H2S plan will be followed
Base of Fresh Water	300	300	300	Fresh Water	
Rustler	587	597	2,574	Fresh Water	
Surface Casing	941	950	2,220	Salt	
Top of Salt / Salado	1,002	1,011	2,159	Salt	
Castile	2,887	2,896	274	Salt	
Delaware Base of Salt	4,647	4,704	(1,486)	Gas / Oil	
Ford Shale	5,042	5,099	(1,881)	Gas / Oil	
Cherry Canyon	5,677	5,761	(2,516)	Gas / Oil	
Brushy Canyon	7,327	7,454	(4,166)	Gas / Oil	
Bone Springs	8,687	8,850	(5,526)	Gas / Oil	
Bone Springs 2nd Carb	10,091	10,294	(6,930)	Gas / Oil	
Bone Springs 2nd Sand	10,461	10,754	(7,300)	Gas / Oil	

8 5/8 in. shoe 4820' MD		TARGET	10,608	11,084	(7,447)	Gas / Oil
4805' TVD		Formation Dip Rate:	est > 90° dip			
		PBTD	10,608	11,084	(7,447)	Gas / Oil
Estimated BH Static Temperature (°F):		199				
Max. Anticipated BH Pressure:		0 500 psi/ft 5,304 psi				
Max Anticipated Surface Pressure:		2,970 psi				

CONTACTS		Office	Cell
Drilling Engineer:	Matt Smith	281-206-5199	432-269-6432
Geologist:	Josh Day	281-206-5620	423-512-0347
Onsite Drilling Rep.:	Greg Rivera	432-234-9399	
	Dennis Hously		
Drilling Supt.:	Scott Nicholson	432-688-9065	432-230-8010

DRILLING FLUID:	Type	Interval (MD)	Density (ppg)	Vis (sec/st)	PV (cP)	YP (#/100ft2)	pH	FL (mL)	LGS (% by vol)	NaCl (ppb sol)	Remarks
Surface:	Fresh Water	Surface - 941'	8.4-8.8	28-50	1-5	2-6	7.5-8.5	NC	< 5.0	10,000	Rig Tanks/Closed Loop
Intermediate:	Emulsified Brine	941' - 4820'	9-9.5	28-50	1-5	2-6	7.5-8.5	NC	< 5.0	180,000	Rig Tanks/Closed Loop
Production:	OBM	4820' - 17596'	9-9.5	50-70	18-25	8-14	9.5-10	< 8	< 8.0	400 - 00	Rig Tanks/Closed Loop

Reference Drilling Fluids Program									
CASING:	Hole	TOP (MD)	BTM (MD)	Length	Size	Wt	Grade	Connection	BOP:
Surface:	14 3/4"	27'	941'	914'	11 3/4"	47.00	J-55	BTC	Minimum - COP Class 3 Well Control Requirements
Intermediate:	10 5/8"	27'	4,820'	4,793'	8 5/8"	32.00	P-110	BTC	Rig - 13-5/8"x10M psi Rams / 4-1/16"x10M psi Manifold
Production:	7 7/8"	27'	17,596'	17,569'	5 1/2"	23.00	P-110	TXP	Stackup - Rotating Head, Annular Preventer, Pipe Ram, Blind Ram, Mud Cross (Choke & Kill Valves), Pipe Ram
CENTRALIZATION:									
Surface Casing:	1 per joint on first 3 joints								
Intermediate Casing:	Shoe joint, 1 per joint where DLS >0.6 "/100'								
Production Liner:	Rigid body , 1 every other joint from TD to estimated TOC, 1 every 4 joints above TOC								
									Mud Pit: Float Based Electronic PVT with Flow Sensor and Gravity Trip Tank, Alarms +/- 10 BBLs
									Wellhead: 13-5/8" x 10M psi (Casing Head - "A" Section)

CEMENT:	Hole	MD	TVD	Spacer	Lead	Tail	COMMENTS
Surface:	14-3/4"x11-3/4"	941'	941'	20 bbl FW	410 sx Class C + adds 12.8 ppg 1.73ft3/sk	420 sx Class C + adds 14.8 ppg 1.33 ft3/sk	Cemented to surface w/ 200%XS Add FiberBlock
Intermediate:	10-5/8"x8-5/8"	4,820'	4,805'	40 bbl Spacer	440 sx Poz/Class C + adds 11.8 ppg 2.7 ft3/sk	280 sx Class H adds 15.6 ppg 1.59 ft3/sk	Cemented to surface w/ 70%L / 30%T XS calc'd on 10.625" hole Add FiberBlock
Production:	7-7/8"x5-1/2"	17,596'	10,608'	40 bbl OBM spacer		2136 sx Class H + adds	Cemented 500' above Int Casing Depth 10% XS calc'd on 7.875" hole

DIRECTIONAL PLAN:											
Comments	MD (ft)	INC (deg)	AZI (deg)	TVD (ft)	NS (ft)	EW (ft)	DLS (°/100')	VS (ft)	SEC-T-R	Section Line Distance	
Build @ 1.5°/100'	2,600'	0	0	2,600'	0	0	0	0	25-T26S-R32E	283' FNL	2310' FEL
End Build @ 7°	3,084'	7	87	3,083'	2	31	1.5	3	25-T26S-R32E	281' FNL	2279' FEL
Intermediate Casing	4,820'	7	87	4,805'	13	249	0.0	23	25-T26S-R32E	271' FNL	2061' FEL
KOP, Build @ 8°/100'	9,952'	7	87	9,895'	44	898	0	85	25-T26S-R32E	239' FNL	1412' FEL
Landing Point	11,085'	90	180	10,609'	-675	995	8	811	25-T26S-R32E	958' FNL	1315' FEL
Toe Sleeve 2	17,266'	90	180	10,572'	-6857	1040	0	6,932	36-T26S-R32E	380' FSL	1320' FEL
FTP / Toe Sleeve 1	17,316'	90	180	10,572'	-6907	1040	0	6,982	36-T26S-R32E	330' FSL	1320' FEL
PBHL/TD	17,596'	90	180	10,572'	-7187	1040	0	7,262	36-T26S-R32E	50' FSL	1320' FEL
Reference Directional Plan											
MWD Surveys will be taken at 90' interval below surface casing, 30' while building curve, and every 90' while drilling lateral											

Reference Directional Plan									
MWD Surveys will be taken at 90' interval below surface casing, 30' while building curve, and every 90' while drilling lateral.									
FORMATION EVALUATION:									
Mud Logging -	One-Man:	First surface hole to TD. First intermediate hole to TD							
Mud Logging -	Two-Man:	Intermediate Casing Point to TD							
Open Hole -	PEX	None							
Cased Hole -	GR/CBL/USIT	None							
MWD -	GR	Surface Casing Shoe to TD							

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WELL PLAN SUMMARY

1280 Extended Reach Single Lateral

Date: Jan 08, 2018
Version: 1
Prepared by: M. Smith

WELL: Zia Hills 25E Fed Com 402H

COUNTY, STATE: Lea Co. NM

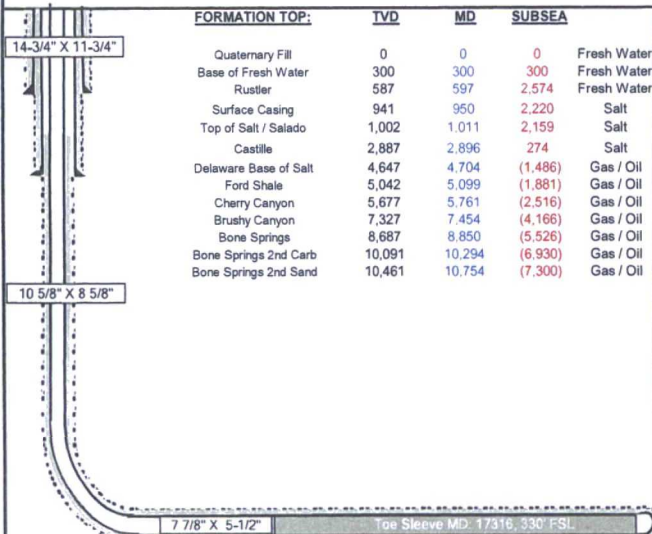
SURFACE LOC: NWNE 25-T26S-R32E 283' FNL 2310' FEL
BH LOC: SENE 36-T26S-R32E 50' FSL 1320' FEL

API No.:
BLM Permit:

AFE: WAF OND
Drilling Network No.:
Invoice Handler ID: VENNECP
COST ESTIMATE
DRILLING
COMPLETION
FACILITIES
TOTAL

ELEVATIONS: GL 3,134.0'
KB +27.0'

WH Coord.: LAT 32° 1' 12.08" N
(NAD-27) LON 103° 37' #####



Notes

- Ensure proper notifications are made to BLM
A) Spud Notice - 24 hours before spud
B) Running / Cementing all strings of casing - 4 hours
C) BOP Tests - 4 hours
- H2S equipment will be rigged up and functional, 500' before Delaware formation. If H2S is encountered, Onshore Order 6 along with ConocoPhillips H2S plan will be followed.

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Dennis Hously		
Drilling Supt.: Scott Nicholson	432-688-9065	432-230-8010

8 5/8 in. shoe 4820' MD
4805' TVD

TARGET	10,608	11,084	(7,447)	Gas / Oil
Formation Dip Rate:		est > 90° dip		
PBTD	10,608	11,084	(7,447)	Gas / Oil

Estimated BH Static Temperature (°F): 199
Max. Anticipated BH Pressure: 0.500 psiaft 5,304 psi
Max Anticipated Surface Pressure: 2,970 psi

DRILLING FLUID:	Type	Interval	Density	Vis	PV	YP	pH	FL	LGS	NaCl	Remarks
		(MD)	ppg	sec/st	cP	#/100ft2		mL	% by vol	ppb sol	
Surface:	Fresh Water	Surface - 941'	8.6	28-50	1-5	2-6	7.5-8.5	NC	< 5.0	10,000	Rig Tanks/Closed Loop
Intermediate:	Emulsified Brine	941' - 4820'	9.2	28-50	1-5	2-6	7.5-8.5	NC	< 5.0	180,000	Rig Tanks/Closed Loop
Production:	OBM	4820' - 17596'	9.2	50-70	18-25	8-14	9.5-10	< 8	< 8.0	400 - 00	Rig Tanks/Closed Loop

Reference Drilling Fluids Program

CASING:	Hole	TOP (MD)	BTM (MD)	Length	Size	Wt	Grade	Connection	BOP:
Surface:	14 3/4	27'	941'	914'	11 3/4	47.00	J-55	BTC	Minimum - COP Class 3 Well Control Requirements
Contingency									Rig 13-5/8"x10M psi Rams / 4-1/16"x10M psi Manifold
Intermediate:	10 5/8	27'	4,820'	4,793'	8 5/8	32.00	P-110	BTC	Stackup - Rotating Head, Annular Preventer,
Production:	7 7/8	27'	17,596'	17,569'	5 1/2	23.00	P-110	TXP	Pipe Ram, Blind Ram,
									Mud Cross (Choke & Kill Valves),
									Pipe Ram

CENTRALIZATION:

Surface Casing: 1 per joint on first 3 joints
Intermediate Casing: Shoe joint, 1 per joint where DLS > 0.6 "/100'
Production Liner: Rigid body, 1 every other joint from TD to estimated TOC, 1 every 4 joints above TOC

Mud Pit: Float Based Electronic PVT with Flow Sensor and Gravity Trip Tank, Alarms +/- 10 BBLS

Wellhead: 13-5/8" x 10M psi (Casing Head - "A" Section)

CEMENT:	Hole	MD	TVL	Spacer	Lead	Trail	COMMENTS
Surface:	14-3/4"x11-3/4"	941'	941'	20 bbl FW	410 sx Class C + adds 12.8 ppg 1.73ft3/sk	420 sx Class C+ adds 14.8 ppg 1.33 ft3/sk	Cemented to surface w/ 200%XS Add FiberBlock
Intermediate:	10-5/8"x8-5/8"	4,820'	4,805'	40 bbl Spacer	440 sx Poz/Class C + adds 11.8 ppg 2.7 ft3/sk	280 sx Class H adds 15.6 ppg 1.59 ft3/sk	Cemented to surface w/ 70%L / 30%T XS calc'd on 10.625" hole Add FiberBlock
Production:	7-7/8"x5-1/2"	17,596'	10,608'	40 bbl OBM spacer		2136 sx Class H + adds	Cemented 500' above Int Casing Depth 10% XS calc'd on 7.875" hole

Reference Cementing Recommendation

15.6 ppg 1.19ft3/sk

DIRECTIONAL PLAN:

Comments	MD (ft)	INC (deg)	AZI (deg)	TVL (ft)	NS (ft)	EW (ft)	DLS (°/100')	VS (ft)	SEC-T-R	Section Line Distance
Build @ 1.5°/100'	2,600'	0	0	2,600'	0	0	0	0	25-T26S-R32E	283' FNL 2310' FEL
End Build @ 7°	3,084'	7	87	3,083'	2	31	1.5	3	25-T26S-R32E	281' FNL 2279' FEL
Intermediate Casing	4,820'	7	87	4,805'	13	249	0.0	23	25-T26S-R32E	271' FNL 2061' FEL
KOP, Build @ 8°/100'	9,952'	7	87	9,895'	44	898	0	85	25-T26S-R32E	239' FNL 1412' FEL
Landing Point	11,085'	90	180	10,609'	-675	995	8	811	25-T26S-R32E	958' FNL 1315' FEL
Toe Sleeve 2	17,266'	90	180	10,572'	-6857	1040	0	6,932	36-T26S-R32E	380' FSL 1320' FEL
FTP / Toe Sleeve 1	17,316'	90	180	10,572'	-6907	1040	0	6,982	36-T26S-R32E	330' FSL 1320' FEL
PBHL/TD	17,596'	90	180	10,572'	-7187	1040	0	7,262	36-T26S-R32E	50' FSL 1320' FEL

Reference Directional Plan

MWD Surveys will be taken at 90° interval below surface casing, 30° while building curve, and every 90° while drilling lateral.

FORMATION EVALUATION:

Mud Logging - One-Man: First surface hole to TD, First intermediate hole to TD
Mud Logging - Two-Man: Intermediate Casing Point to TD
Open Hole - PEX None
Cased Hole - GR/CBL/USIT None
MWD - GR Surface Casing Shoe to TD

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Batch Drilling Order (Quad Pad)

<u>Surface</u>	<u>Intermediate</u>	<u>Lateral</u>
1) Well 1	1) Well 4	1) Well 1
2) Well 2	2) Well 3	2) Well 2
3) Well 3	3) Well 2	3) Well 3
4) Well 4	4) Well 1	4) Well 4

1-13/16" API 10,000
BX-151 Ring Gasket

13-5/8" API 10,000
BX-159 Ring Gasket

STANDARD

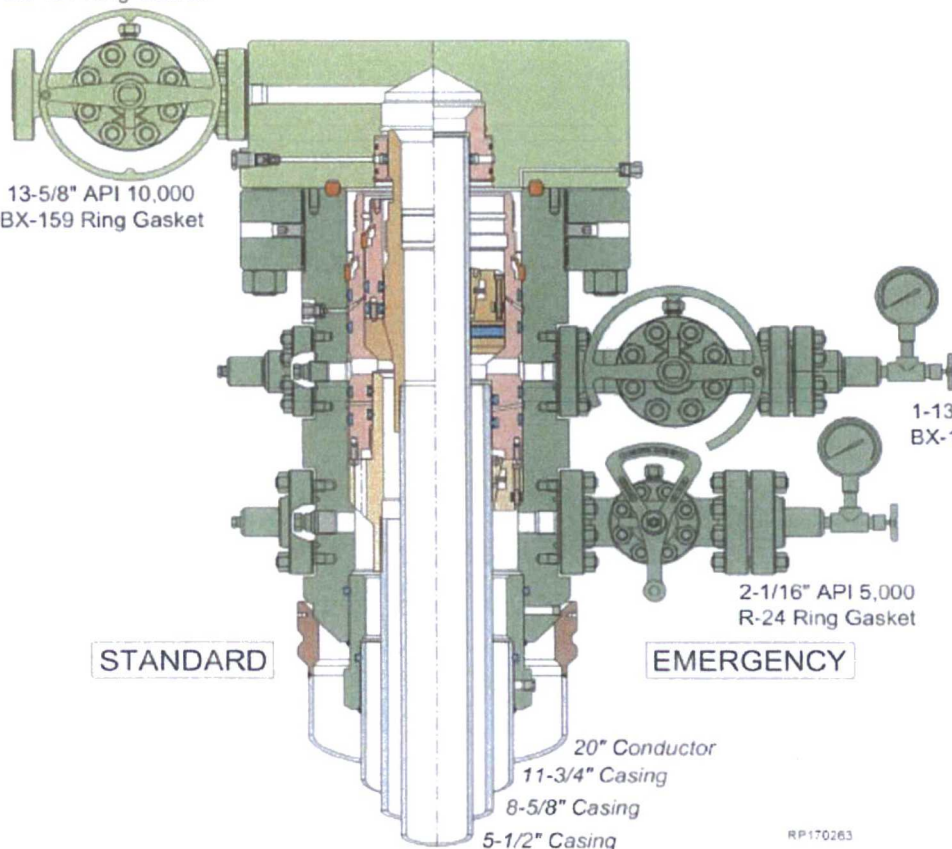
EMERGENCY

1-13/16" API 10,000
BX-151 Ring Gasket

2-1/16" API 5,000
R-24 Ring Gasket

20" Conductor
11-3/4" Casing
8-5/8" Casing
5-1/2" Casing

RP170263

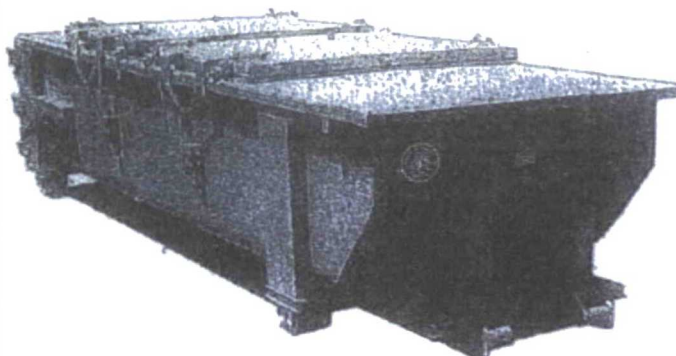


Waste will be hauled off daily to an approved disposal site

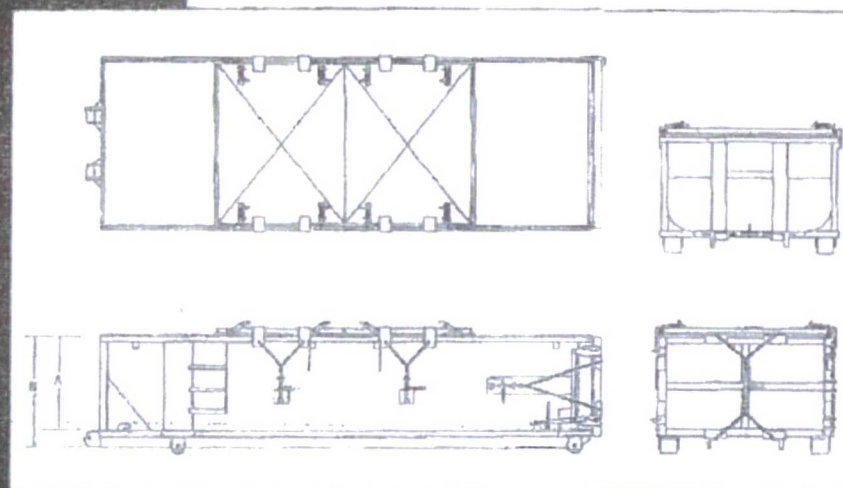
SPECIFICATIONS

FLOOR: 3/16" PL one piece
CROSS MEMBER: 3 x 4.1 channel 16" on center
WALLS: 3/16" PL solid welded with tubing top, inside liner hooks
DOOR: 3/16" PL with tubing frame
FRONT: 3/16" PL slant formed
PICK UP: Standard cable with 2" x 6" x 1/4" rails, gusset at each crossmember
WHEELS: 10 DIA x 9" long with grease fittings
DOOR LATCH: 3 independent ratchet binders with chains, vertical second latch
GASKETS: Extruded rubber seal with metal retainers
WELDS: All welds continuous except sub-structure crossmembers
FINISH: Coated inside and out with direct to metal, rust inhibiting acrylic enamel color coat
HYDROTESTING: Full capacity static test
DIMENSIONS: 22'-11" long (21'-8" inside), 88" wide (88" inside), see drawing for height
OPTIONS: Steel grit blast and special paint, Ampliroil, Hell and Dino pickup
ROOF: 3/16" PL roof panels with tubing and channel support frame
LIDS: (2) 68" x 90" metal rolling lids spring loaded, self raising
ROLLERS: 4 V-groove rollers with delrin bearings and grease fittings
OPENING: (2) 80" x 82" openings with 8" divider centered on container
LATCH (2) independent ratchet binders with chains per lid
GASKETS: Extruded rubber seal with metal retainers

Heavy Duty Split Metal Rolling Lid



CONT.	A	B
20 YD	41	53
25 YD	53	65
30 YD	65	77



Zia Hills 25E Fed Com 402H
NWNE 25-T26S-R32E

11-3/4" Surface Casing:

Surface Casing Depth (Ft.)	941
Surface Casing O.D. (In.)	11 3/4
Surface Casing ID (In.)	11
Heat O.D. (In.)	14 3/4
Excess (%)	200%
Volume Tail (Ss)	420
Yield Tail (Cu, Ft./Ss)	1.33
Yield Lead (Cu, Ft./Ss)	1.73
Shoe Joint (Ft.)	40
Shoe Volume (Cu, Ft.)	26.4
Lead Tail Volume (Cu, Ft.)	400
Calculated Total Volume (Cu, Ft.)	1,250
Catc. Tail Volume (Cu, Ft.)	547
Catc. Lead Volume (Cu, Ft.)	704
Catc. Lead Volume (Ss)	410

Lead Volume (bbls)	125.3
Tail Volume (bbls)	97.4
Displacement Volume (bbls)	105.9

Lead Cement Description:

Max Weight 12.8 ppg
Class C
5% BWOW NaCl
1.9% bwov SMS
0.004 gal/ftk Detergent
1/4 in/ftk Polygraph
3 in/ftk Gascon

Tail Cement Description:

Max Weight 14.8 ppg
Class C
2% bwov CaCl₂
1/4 in/ftk Polygraph
0.004 gal/ftk Detergent

8-5/8" Intermediate Casing (Lead):

Production Casing C.D. (In.)	8.625
Production Casing ID (In.)	7.921
Heat O.D. (In.)	10.63
Excess (%)	70%
Yield Lead (Cu, Ft./Ss)	2.7
Calculated Total Lead (Cu, Ft.)	1,185
Catc. Lead Volume (Ss)	440
Lead Volume (bbls)	211

8-5/8" Intermediate Casing (Tail):

Production Casing Depth (Ft.)	4,820'
Production Casing O.D. (In.)	8.625
Production Casing ID (In.)	7.921
Heat O.D. (In.)	10.63
Excess (%)	30%
Top Tail (Ft.) (1500' above shoe)	3,320'
Yield Tail (Cu, Ft./Ss)	1.59
Shoe Joint (Ft.)	90
Shoe Volume (Cu, Ft.)	30.8
Catc. Tail Volume (Cu, Ft.)	440
Required Tail Volume (Ss)	280
Tail Volume (bbls)	78
Displacement Volume (bbls)	288

Intermediate Lead Cement Description:

Max Weight 11.8 ppg
Class C
5% bwov NaCl
10% bwov Gel
0.3% bwov Retarder
0.004 gal/ftk Detergent
1/4 in/ftk Polygraph
3 in/ftk Gascon

Intermediate Tail Cement Description:

Max Weight 15.8 ppg
Class H
0.3% bwov Fluid Loss
0.1% bwov Retarder
0.004 gal/ftk Detergent
1/4 in/ftk Polygraph

5-1/2" Production Liner (Tail):

Intermediate Casing Depth (Ft.)	4,820'
Intermediate Casing O.D. (In.)	8.625
Intermediate Casing ID (In.)	7.921
Production Casing Top Depth (Ft.)	27'
Production Casing Depth (Ft.)	17,596'
Production Casing O.D. (In.)	5,500
Production Casing ID (In.)	4,670
Heat O.D. (In.)	7.88
Excess (%)	10%
Yield Tail (Cu, Ft./Ss)	1.19
Shoe Joint (Ft.)	120
Shoe Volume (Cu, Ft.)	14.3
10/C (500' above intermediate shoe)	4,320'
Catc. Tail Volume (Cu, Ft.)	2,541 2530,364
Required Tail Volume (Ss)	2136
Tail Volume (bbls)	453
Displacement Volume (bbls)	370

Production Liner Tail Cement Description:

Max Weight 15.8 ppg
Class H
0.5% bwov Fluid Loss
0.05% bwov Anti-Setting Agent
0.35% bwov Retarder
0.004 gal/ftk Detergent

Zia Hills 25E Fed Com 402H

NWNE 25-T26S-R32E

Lea, Co, NM

1/8/2018

SURFACE CASING DESIGN INFORMATION

Setting Depth: 941' MD 941' TVD

PIPE BODY DIMENSIONAL / PERFORMANCE DATA:

SIZE (Inches)	WEIGHT (LB/FT)	GRADE	CPLG TYPE	BORE ID (Inches)	DRIFT ID (Inches)	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
11.75	47	J-55	BTC	11	10.844	1,510 / 1,438	3,070 / 2,669	737 / 526

Surface Casing Test Pressure = 1,500 psi
Pressure Test Prior to Drill Out

CONNECTION DIMENSIONAL / PERFORMANCE DATA:

OD (Inches)	ID (Inches)	DRIFT (Inches)	CPLG TYPE	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
12.75	11	10.844	BTC	1,510 / 1,438	3,070 / 2,669	807 / 576

COP Minimum Design / Safety Factor
Burst 1.15 Collapse 1.05 Tension (Body & Connection) 1.40
BLM Actual Design / Safety Factors
Burst 7.30 Collapse 3.59 Tension (Body) 16.66
19.18

INTERMEDIATE CASING DESIGN INFORMATION

Setting Depth: 4,820' MD 4,805' TVD

PIPE BODY DIMENSIONAL / PERFORMANCE DATA:

SIZE (Inches)	WEIGHT (LB/FT)	GRADE	CPLG TYPE	BORE ID (Inches)	DRIFT ID (Inches)	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
8.625	32.0	P-110	BTC	7.921	7.875	3,420 / 3,257	7,860 / 6,834	1,006 / 718

Intermediate Casing Test Pressure = 1500 psi
Pressure Test Prior to Drill Out

CONNECTION DIMENSIONAL / PERFORMANCE DATA:

OD (Inches)	ID (Inches)	DRIFT (Inches)	CPLG TYPE	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
9.625	7.921	7.875	BTC	3,420 / 3,257	7,860 / 6,834	1,002 / 715

COP Minimum Design / Safety Factors
Burst 1.15 Collapse 1.05 Tension (Body & Connection) 1.40
BLM Actual Design / Safety Factors
Burst 3.42 Collapse 1.49 Tension (Body) 6.52
7.58

PRODUCTION LINER DESIGN INFORMATION

Setting Depth: 17,596' MD 10,572' TVD
Hanger: 27' MD / TVD

PIPE BODY DIMENSIONAL / PERFORMANCE DATA:

SIZE (Inches)	WEIGHT (LB/FT)	GRADE	CPLG TYPE	BORE ID (Inches)	DRIFT ID (Inches)	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
5.5	23	P-110	TXP	4.670	4.54	14,520 / 13,828	12,630 / 10,982	729 / 520

Production Casing Test Pressure = TBD

CONNECTION DIMENSIONAL / PERFORMANCE DATA:

OD (Inches)	ID (Inches)	DRIFT (Inches)	CPLG TYPE	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
6.1	4.670	4.54	TXP	14,520 / 13,828	12,630 / 10,982	729 / 520

COP Minimum Design / Safety Factors
Burst 1.15 Collapse 1.05 Tension (Body & Connection) 1.40
BLM Actual Design / Safety Factors
Burst 2.49 Collapse 2.19 Tension (Body) 2.63
3.06

BOPE Configuration & Specifications
13-5/8" x 10,000 psi System

Rotating Head (w/ fill up line)
 13-5/8" x 5k psi

Annular Preventer
 13-5/8" x 5k psi

Pipe Ram
 13-5/8" x 10k psi

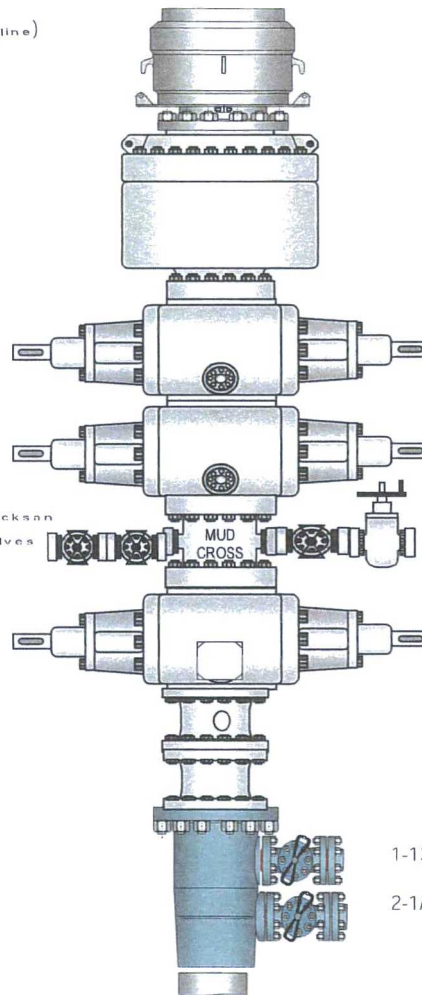
Blind Ram
 13-5/8" x 10k psi

Kill Line 2-1/16" x 5k Chicken
 (2) 2-1/16" x 5k Gate Valves
 Outer Check Valve

Pipe Ram
 13-5/8" x 10k psi

Spacer Spool
 13-5/8" x 10k psi

Casing Head
 13-5/8" x 10k psi



Choke Line 6" x 3" x 10k psi
 4-1/16" x 10k psi Inner Manual Valve
 4-1/16" x 10k psi Outer Remote HCR

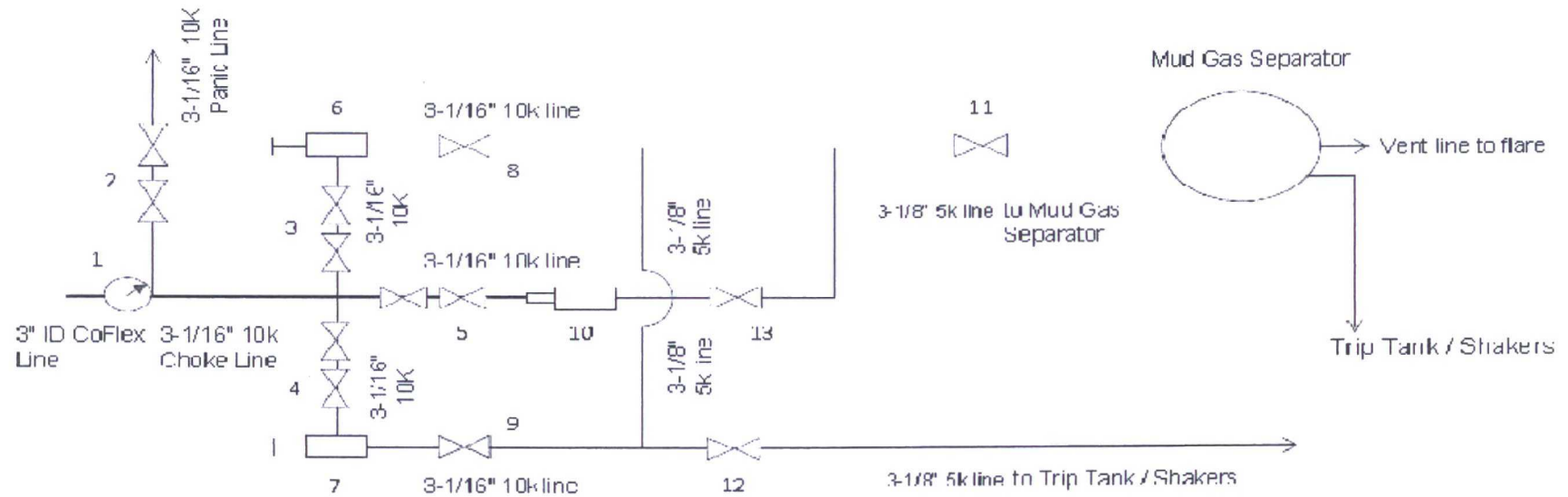
1-13/16" x 10k psi
 2-1/16" 5k psi

Variance is requested to to install a flexible choke line, instead of staright choke line prescribed in Onshore Order No 2,III.A.2.b

Choke Manifold 5M psi

CHOKE MANIFOLD ARRANGEMENT - 10M Choke

per Onshore Oil and Gas Order No. 2 utilizing 5M/10M Equipment



All Tees must be Targeted

Item	Description
1	Pressure Gauge
2	2 Gate Valves, 3-1/16" 10M
3	2 Gate Valves, 3-1/16" 10M
4	2 Gate Valves, 3-1/16" 1UM
5	2 Gate Valves, 3-1/16" 10M
6	Upper Manual Adjustable Choke, 4-1/16", 10M
7	Lower Manual Adjustable Choke, 4-1/16", 10M
8	Gate Valve, 3-1/16" 1UM
9	Gate Valve, 3-1/16" 10M
10	Remote Controlled Hydraulic Adjustable Choke, 4 1/16", 10M

- 11 Gate Valve, 3-1/0" 5M
- 12 Gate Valve, 3-1/8" 5M
- 13 Gate Valve, 3-1/16" 10M

The 10M Choke Manifold & Valves will be tested to rated working pressure.

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CONOCOPHILLIPS COMPANY
LEASE NO.:	NMLC069515
WELL NAME & NO.:	ZIA HILLS 25E FED COM 402H
SURFACE HOLE FOOTAGE:	283' FNL & 2310' FEL
BOTTOM HOLE FOOTAGE:	50' FSL & 1320' FEL; Sec. 36
LOCATION:	Section 25, T. 26 S., R 32 E., NMPM
COUNTY:	Lea County, New Mexico

COA

All pervious COA still apply expect the following:

H2S	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input checked="" type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP

A. Hydrogen Sulfide

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The 11 3/4 inch surface casing shall be set at approximately **950** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement).
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

- d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **8 5/8** inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Additonal cement maybe required. Excess calculates to 13%.**

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
 - c. The tests shall be done by an independent service company utilizing a test plug. The results of the test shall be reported to the appropriate BLM office.
 - d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE.

If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

- e. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes. This test shall be performed prior to the test at full stack pressure.
- g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

Waste Minimization Plan (WMP)

In the interest of resource development, submission of additional well gas capture development plan information is deferred but may be required by the BLM Authorized Officer at a later date.

ZS 030118

11 3/4	surface csg in a	14 3/4	inch hole.	Design Factors			SURFACE		
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	Weight	
"A"	47.00	J 55	BUTT	16.51	3.48	1.29	950	44,650	
"B"							0	0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500			Tail Cmt	does	circ to sfc.	Totals:	950	44,650	
Comparison of Proposed to Minimum Required Cement Volumes									
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
14 3/4	0.4336	830	1268	442	187	8.80	1318	2M	1.00

8 5/8	casing inside the	11 3/4	Design Factors				INTERMEDIATE		
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	Weight	
"A"	32.00	P 110	TXPBTC	6.52	1.44	1.51	4,820	154,240	
"B"							0	0	
w/8.4#/g mud, 30min Sfc Csg Test psig:						Totals:	4,820	154,240	
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		950	overlap.	
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg
10 5/8	0.2100	720	1633	1069	53	9.50	2892	3M	0.50
Class 'C' tail cmt yld > 1.35									

Tail cmt							Design Factors		PRODUCTION	
5 1/2	casing inside the	8 5/8								
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	Weight		
"A"	23.00	P 110	TXP	3.00	2.96	2.78	9,952	228,896		
"B"	23.00	P 110	TXP	9.40	2.53	2.78	7,644	175,812		
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,189										
B	would be:			51.12	2.79	if it were a vertical wellbore.				
No Pilot Hole Planned				MTD	Max VTD	Csg VD	Curve KOP	Dogleg°	Severity°	MEOC
				17596	10572	10572	9952	90	8	11085
The cement volume(s) are intended to achieve a top of				4620	ft from surface or a			200	overlap.	
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist	
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg	
7 7/8	0.1733	2136	2542	2254	13	9.50			0.84	