Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

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 reverse side.

5. Lease Serial No.
NMNM109756

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
PEACHES 19 FEDERAL 4H

2. Name of Operator
OXY USA INCORPORATED
Contact: DAVID STEWART

9. API Well No.
30-015-42030-00-X1

3a. Address
5 GREENWAY PLAZA STE 110
HOUSTON, TX 77046-0521

3b. Phone No. (include area code)
Ph: 432.685.5717

10. Field and Pool, or Exploratory
COTTONWOOD DRAW

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 19 T25S R27E Lot 1 0150FNL 0660FWL
32.122100 N Lat, 104.235336 W Lon

11. County or Parish, and State
EDDY COUNTY, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original A PD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

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 recomplete 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 shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

OXY USA Inc. respectfully requests approval for the following changes to the drilling plan:

Proposed TD - 12500'M 7797'V

1. Request casing design modification, to drill the well with smaller csg sizes. 14-3/4" surface hole w/ 10-3/4" csg, 9-7/8" intermediate hole w/ 7-5/8" csg and 6-3/4" production hole w/ 5-1/2 & 4-1/2" csg. Details are below.

a.Surface Casing
10-3/4" 45.5# J-55 BT&C new csg @ 0-350', 14-3/4" hole w/ 8.4# mud

Coll Rating (psi)-2090 Burst Rating (psi)-3580

SEE ATTACHED FOR CONDITIONS OF APPROVAL

NM OIL CONSERVATION
ARTESIA DISTRICT
AUG 10 2015
RECEIVED

8/12/15
Accepted for record
NMOCD

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #308065 verified by the BLM Well Information System
For OXY USA INCORPORATED, sent to the Carlsbad
Committed to AFMSS for processing by CHRISTOPHER WALLS on 08/06/2015 (15CRW0092SE)

Name *(Printed/Typed)* DAVID STEWART — Title REGULATORY ADVISOR

Signature (Electronic Submission) — Date 07/06/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

APPROVED
AUG - 6 2015
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

Approved By _____ Title _____ Date

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

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.

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

Additional data for EC transaction #308065 that would not fit on the form

32. Additional remarks, continued

SF Coll-15.98 SF Burst-1.42 SF Ten-5.94

b.Intermediate Casing
7-5/8" 26.4# J-55 BT&C new csg @ 0-1950', 9-7/8" hole w/ 10.0# mud

Coll Rating (psi)-3400 Burst Rating (psi)-6020
SF Coll-8.17 SF Burst-1.39 SF Ten-4.23

c.Production Casing
5-1/2" 20# P-110 USF new csg @ 0-8124'M, 6-3/4" hole w/ 9.2# mud
Coll Rating (psi)-11100 Burst Rating (psi)-12600
SF Coll-2.67 SF Burst-1.26 SF Ten-2.30

4-1/2" 13.5# P-110 BT&C new csg @ 8125-12500'M, 6-3/4" hole w/ 9.2# mud
Coll Rating (psi)-10670 Burst Rating (psi)-12410
SF Coll-2.57 SF Burst-1.25 SF Ten-3.05

Collapse and burst loads calculated using Stress Check with anticipated loads, see attached for design assumptions

2. Cement program adjustment to the new bit/casing sizes. Cement program modifications detailed below.

a. Surface - Circulate cement to surface w/ 380sx PP cmt w/ 2% CaCl2, 14.8ppg 1.35 yield 1415# 24hr CS 150% Excess.

b. Intermediate - Circulate cement to surface w/ 340sx HES light PP cmt w/ 5% Salt + .1% HR-800, 12.9ppg 1.85 yield 824# 24hs CS 125% Excess followed by 200sx PP cmt, 14.8ppg 1.33 yield 1789# 24hr CS 125% Excess.

c. Production - Cement w/ 200sx Tuned Light (TM) system cmt w/ 3#/sx Kol-Seal + .125#/sx Poly-E-Flake + .8% HR-601, 10.2ppg 3.05 yield 555# 24hr CS 25% Excess followed by 520sx Super H cmt w/ 3#/sx salt + .1% HR-800 + .3% CFR-3 + .5% Halad(R)-344 + 2#/sx Kol-Seal, 13.2ppg 1.65 yield 1462# 24hr CS 25% Excess. Estimated TOC @ 1450'.

Description of Cement Additives: Calcium Chloride, Salt (Accelerator); CFR-3 (Dispersant); Kol-Seal, Poly-E-Flake (Lost Circulation Additive); Halad-344 (Low Fluid Loss Control); HR-601, HR-800 (Retarder)
The above cement volumes could be revised pending the caliper measurement.

3. Mud Program

Depth	Mud WT	Vis Sec	Fluid Loss	Type
0-350'	8.5-9.0	40-55	50-75cc/30min	EnerSeal Spud Mud (MMH)
350-1950'	9.8-10	28-32	NC	NaCl Brine
1950-TD	8.8-9.6	38-50	50-75cc/30min	EnerSeal (MMH)

4. The Operator will connect the BOP choke outlet to the choke manifold using a hose that meets all BLM requirements and will be inspected and approved by BLM personnel prior to spud.

OXY

Eddy County, NM (NAD 27 NME)
Peaches 19 Fed 4H
Peaches 19 Fed 4H

OH

Plan: Plan #1

Standard Planning Report

19 February, 2015

Scientific Drilling

www.scientificdrilling.com

OXY Permian

TGM

Azimuths to Grid North
True North: -0.05°
Magnetic North: 7.63°

Magnetic Field
Strength: 48229.8snT
Dip Angle: 59.90°
Date: 2/19/2015
Model: HDGM

To convert Magnetic North to Grid, Add 7.63°
To convert True North to Grid, Subtract 0.05°

RT KB=24' @ 3246.90usft (H&P 474)
Gr@ 3222.90

Peaches 19 Fed 4H

Eddy County, NM (NAD 27 NME)

Northing: 408156.30

Easting: 530338.30

Plan #1

WELL DETAILS: Peaches 19 Fed 4H

Ground Level: 3222.90

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	408156.30	530338.30	32° 7' 19.561 N	104° 14' 7.210 W

SECTION DETAILS:

MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7224.04	0.00	0.00	7224.04	0.00	0.00	0.00	0.00	0.00	
8124.04	90.00	178.64	7797.00	-572.80	13.58	10.00	178.64	572.96	
12499.73	90.00	178.64	7797.00	-4947.26	117.25	0.00	0.00	4948.65	PBHL

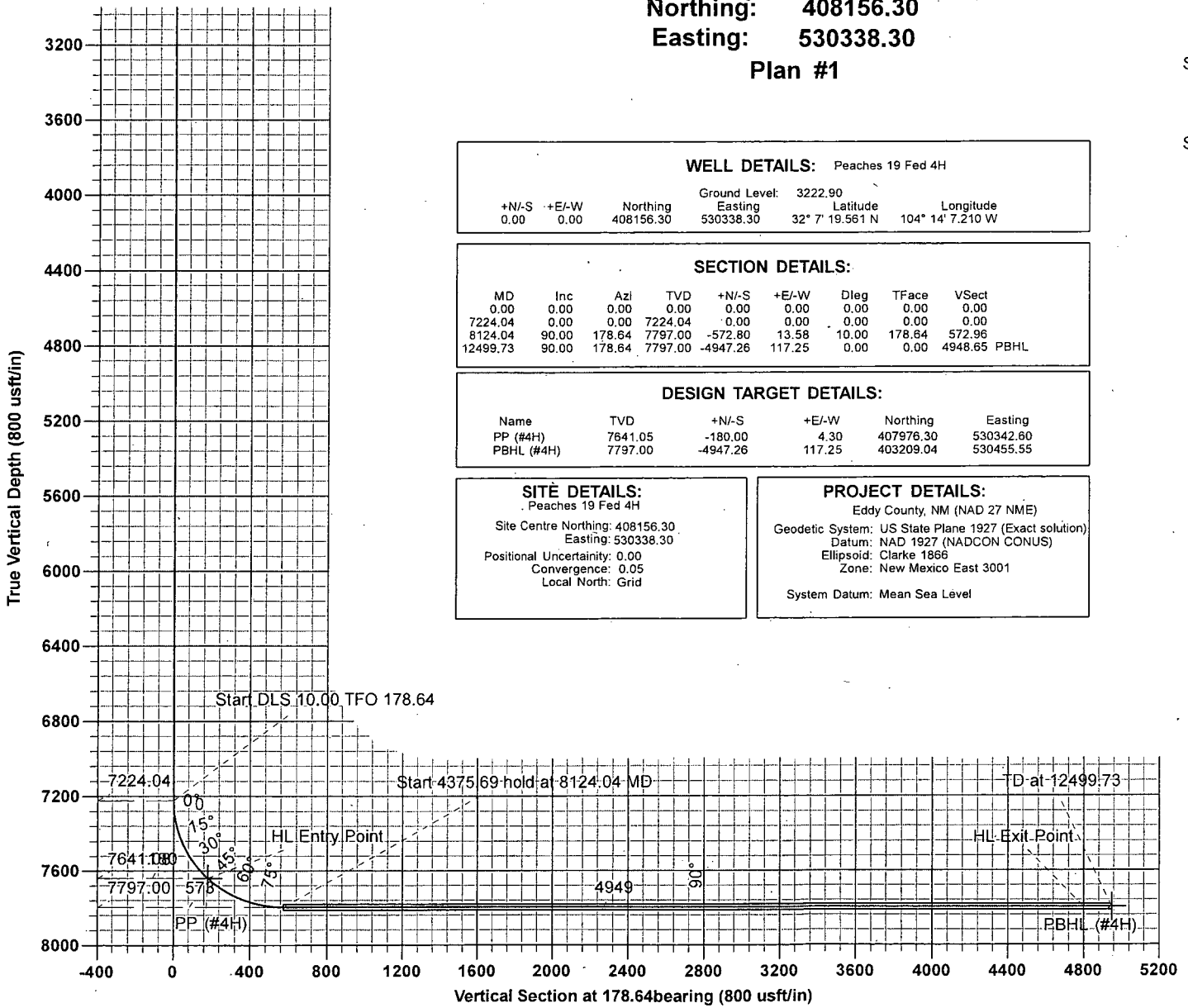
DESIGN TARGET DETAILS:

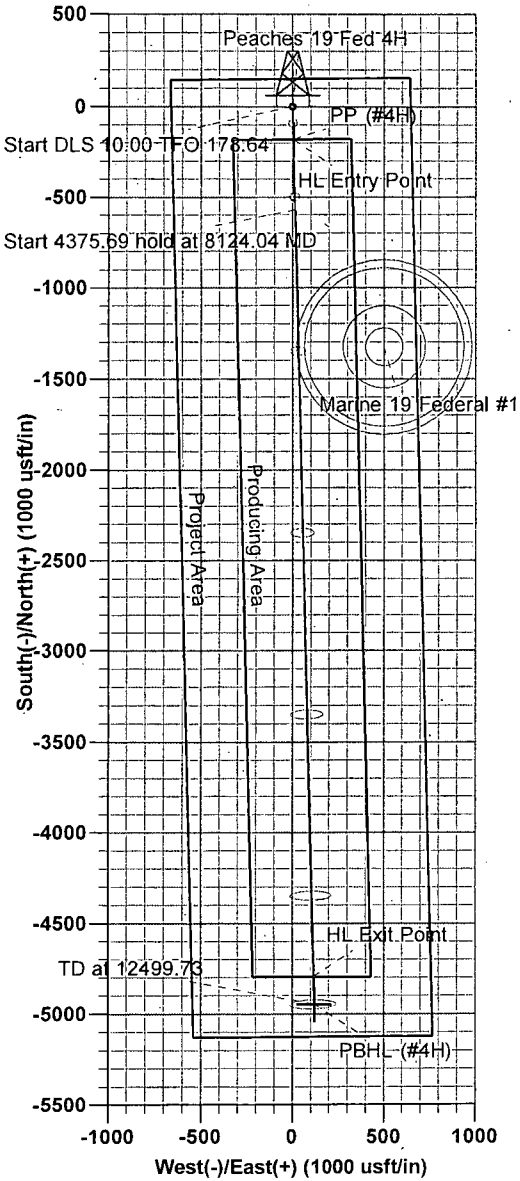
Name	TVD	+N/-S	+E/-W	Northing	Easting
PP (#4H)	7641.05	-180.00	4.30	407976.30	530342.60
PBHL (#4H)	7797.00	-4947.26	117.25	403209.04	530455.55

SITE DETAILS:
Peaches 19 Fed 4H
Site Centre Northing: 408156.30
Easting: 530338.30
Positional Uncertainity: 0.00
Convergence: 0.05
Local North: Grid

PROJECT DETAILS:
Eddy County, NM (NAD 27 NME)
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001

System Datum: Mean Sea Level





Database:	Midland District	Local Co-ordinate Reference:	Well Peaches 19 Fed 4H
Company:	OXY	TVD Reference:	KB=24' @ 3246.90usft (H&P 474)
Project:	Eddy County NM (NAD 27 NME)	MD Reference:	KB=24' @ 3246.90usft (H&P 474)
Site:	Peaches 19 Fed 4H	North Reference:	Grid
Well:	Peaches 19 Fed 4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project Eddy County NM (NAD 27 NME) New Mexico

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Peaches 19 Fed 4H

Site Position:		**Northing:**	408,156.30 usft	**Latitude:**	32° 7' 19.561 N
From:	Map	**Easting:**	530,338.30 usft	**Longitude:**	104° 14' 7.210 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.05 °

Well Peaches 19 Fed 4H

Well Position	**+N/-S**	0.00 usft	**Northing:**	408,156.30 usft	**Latitude:**	32° 7' 19.561 N
	+E/-W	0.00 usft	**Easting:**	530,338.30 usft	**Longitude:**	104° 14' 7.210 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,222.90 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	2/19/2015	7.68	59.90	48,230

Design Plan #1

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (bearing)
	0.00	0.00	0.00	178.64

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,224.04	0.00	0.00	7,224.04	0.00	0.00	0.00	0.00	0.00	0.00	
8,124.04	90.00	178.64	7,797.00	-572.80	13.58	10.00	10.00	19.85	178.64	
12,499.73	90.00	178.64	7,797.00	-4,947.26	117.25	0.00	0.00	0.00	0.00	PBHL (#4H)

Database:	Midland District	Local Co-ordinate Reference:	Well Peaches 19 Fed 4H
Company:	OXY	TVD Reference:	KB=24 @ 3246.90usft (H&P 474)
Project:	Eddy County - NM (NAD 27 NME)	MD Reference:	KB=24 @ 3246.90usft (H&P 474)
Site:	Peaches 19 Fed 4H	North Reference:	Grid
Well:	Peaches 19 Fed 4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00

Database:	Midland District	Local Co-ordinate Reference:	Well Peaches 19 Fed 4H
Company:	OXY	TVD Reference:	KB=24 @ 3246.90usft (H&P 474)
Project:	Eddy County, NM (NAD 27 NME)	MD Reference:	KB=24 @ 3246.90usft (H&P 474)
Site:	Peaches 19 Fed 4H	North Reference:	Grid
Well:	Peaches 19 Fed 4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,224.04	0.00	0.00	7,224.04	0.00	0.00	0.00	0.00	0.00	0.00
Start DLS 10.00 TFO 178.64									
7,250.00	2.60	178.64	7,249.99	-0.59	0.01	0.59	10.00	10.00	0.00
7,300.00	7.60	178.64	7,299.78	-5.03	0.12	5.03	10.00	10.00	0.00
7,350.00	12.60	178.64	7,348.99	-13.79	0.33	13.79	10.00	10.00	0.00
7,400.00	17.60	178.64	7,397.25	-26.80	0.64	26.81	10.00	10.00	0.00
7,450.00	22.60	178.64	7,444.19	-43.97	1.04	43.98	10.00	10.00	0.00
7,500.00	27.60	178.64	7,489.45	-65.16	1.54	65.18	10.00	10.00	0.00
7,550.00	32.60	178.64	7,532.70	-90.22	2.14	90.25	10.00	10.00	0.00
7,600.00	37.60	178.64	7,573.60	-118.95	2.82	118.98	10.00	10.00	0.00
7,650.00	42.60	178.64	7,611.83	-151.14	3.58	151.18	10.00	10.00	0.00
7,691.12	46.71	178.64	7,641.08	-180.02	4.27	180.07	10.00	10.00	0.00
HL Entry Point									
7,700.00	47.60	178.64	7,647.12	-186.53	4.42	186.58	10.00	10.00	0.00
7,750.00	52.60	178.64	7,679.18	-224.86	5.33	224.93	10.00	10.00	0.00
7,800.00	57.60	178.64	7,707.78	-265.84	6.30	265.92	10.00	10.00	0.00
7,850.00	62.60	178.64	7,732.70	-309.16	7.33	309.25	10.00	10.00	0.00
7,900.00	67.60	178.64	7,753.75	-354.48	8.40	354.58	10.00	10.00	0.00
7,950.00	72.60	178.64	7,770.77	-401.47	9.51	401.58	10.00	10.00	0.00
8,000.00	77.60	178.64	7,783.62	-449.76	10.66	449.88	10.00	10.00	0.00
8,050.00	82.60	178.64	7,792.22	-498.98	11.83	499.12	10.00	10.00	0.00
8,100.00	87.60	178.64	7,796.49	-548.77	13.01	548.92	10.00	10.00	0.00
8,124.04	90.00	178.64	7,797.00	-572.80	13.58	572.96	10.00	10.00	0.00
Start 4375.69 hold at 8124.04 MD									
8,200.00	90.00	178.64	7,797.00	-648.74	15.38	648.92	0.00	0.00	0.00
8,300.00	90.00	178.64	7,797.00	-748.71	17.74	748.92	0.00	0.00	0.00
8,400.00	90.00	178.64	7,797.00	-848.68	20.11	848.92	0.00	0.00	0.00
8,500.00	90.00	178.64	7,797.00	-948.65	22.48	948.92	0.00	0.00	0.00
8,600.00	90.00	178.64	7,797.00	-1,048.62	24.85	1,048.92	0.00	0.00	0.00
8,700.00	90.00	178.64	7,797.00	-1,148.60	27.22	1,148.92	0.00	0.00	0.00
8,800.00	90.00	178.64	7,797.00	-1,248.57	29.59	1,248.92	0.00	0.00	0.00
8,900.00	90.00	178.64	7,797.00	-1,348.54	31.96	1,348.92	0.00	0.00	0.00
9,000.00	90.00	178.64	7,797.00	-1,448.51	34.33	1,448.92	0.00	0.00	0.00
9,100.00	90.00	178.64	7,797.00	-1,548.48	36.70	1,548.92	0.00	0.00	0.00

Database:	Midland District	Local Co-ordinate Reference:	Well Peaches 19 Fed 4H
Company:	OXY	TVD Reference:	KB=24 @ 3246.90usft (H&P 474)
Project:	Eddy County, NM (NAD 27-NME)	MD Reference:	KB=24 @ 3246.90usft (H&P 474)
Site:	Peaches 19 Fed 4H	North Reference:	Grid
Well:	Peaches 19 Fed 4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,200.00	90.00	178.64	7,797.00	-1,648.45	39.07	1,648.92	0.00	0.00	0.00
9,300.00	90.00	178.64	7,797.00	-1,748.43	41.44	1,748.92	0.00	0.00	0.00
9,400.00	90.00	178.64	7,797.00	-1,848.40	43.81	1,848.92	0.00	0.00	0.00
9,500.00	90.00	178.64	7,797.00	-1,948.37	46.18	1,948.92	0.00	0.00	0.00
9,600.00	90.00	178.64	7,797.00	-2,048.34	48.55	2,048.92	0.00	0.00	0.00
9,700.00	90.00	178.64	7,797.00	-2,148.31	50.92	2,148.92	0.00	0.00	0.00
9,800.00	90.00	178.64	7,797.00	-2,248.29	53.28	2,248.92	0.00	0.00	0.00
9,900.00	90.00	178.64	7,797.00	-2,348.26	55.65	2,348.92	0.00	0.00	0.00
10,000.00	90.00	178.64	7,797.00	-2,448.23	58.02	2,448.92	0.00	0.00	0.00
10,100.00	90.00	178.64	7,797.00	-2,548.20	60.39	2,548.92	0.00	0.00	0.00
10,200.00	90.00	178.64	7,797.00	-2,648.17	62.76	2,648.92	0.00	0.00	0.00
10,300.00	90.00	178.64	7,797.00	-2,748.15	65.13	2,748.92	0.00	0.00	0.00
10,400.00	90.00	178.64	7,797.00	-2,848.12	67.50	2,848.92	0.00	0.00	0.00
10,500.00	90.00	178.64	7,797.00	-2,948.09	69.87	2,948.92	0.00	0.00	0.00
10,600.00	90.00	178.64	7,797.00	-3,048.06	72.24	3,048.92	0.00	0.00	0.00
10,700.00	90.00	178.64	7,797.00	-3,148.03	74.61	3,148.92	0.00	0.00	0.00
10,800.00	90.00	178.64	7,797.00	-3,248.01	76.98	3,248.92	0.00	0.00	0.00
10,900.00	90.00	178.64	7,797.00	-3,347.98	79.35	3,348.92	0.00	0.00	0.00
11,000.00	90.00	178.64	7,797.00	-3,447.95	81.72	3,448.92	0.00	0.00	0.00
11,100.00	90.00	178.64	7,797.00	-3,547.92	84.09	3,548.92	0.00	0.00	0.00
11,200.00	90.00	178.64	7,797.00	-3,647.89	86.46	3,648.92	0.00	0.00	0.00
11,300.00	90.00	178.64	7,797.00	-3,747.87	88.82	3,748.92	0.00	0.00	0.00
11,400.00	90.00	178.64	7,797.00	-3,847.84	91.19	3,848.92	0.00	0.00	0.00
11,500.00	90.00	178.64	7,797.00	-3,947.81	93.56	3,948.92	0.00	0.00	0.00
11,600.00	90.00	178.64	7,797.00	-4,047.78	95.93	4,048.92	0.00	0.00	0.00
11,700.00	90.00	178.64	7,797.00	-4,147.75	98.30	4,148.92	0.00	0.00	0.00
11,800.00	90.00	178.64	7,797.00	-4,247.73	100.67	4,248.92	0.00	0.00	0.00
11,900.00	90.00	178.64	7,797.00	-4,347.70	103.04	4,348.92	0.00	0.00	0.00
12,000.00	90.00	178.64	7,797.00	-4,447.67	105.41	4,448.92	0.00	0.00	0.00
12,100.00	90.00	178.64	7,797.00	-4,547.64	107.78	4,548.92	0.00	0.00	0.00
12,200.00	90.00	178.64	7,797.00	-4,647.61	110.15	4,648.92	0.00	0.00	0.00
12,300.00	90.00	178.64	7,797.00	-4,747.58	112.52	4,748.92	0.00	0.00	0.00
12,349.68	90.00	178.64	7,797.00	-4,797.25	113.69	4,798.60	0.00	0.00	0.00
HL Exit Point									
12,400.00	90.00	178.64	7,797.00	-4,847.56	114.89	4,848.92	0.00	0.00	0.00
12,499.73	90.00	178.64	7,797.00	-4,947.26	117.25	4,948.65	0.00	0.00	0.00
TD at 12499.73									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PP (#4H)	0.00	0.00	7,641.05	-180.00	4.30	407,976.30	530,342.60	32° 7' 17.779 N	104° 14' 7.162 W
- plan misses target center by 0.03usft at 7691.09usft MD (7641.05 TVD, -180.00 N, 4.27 E)									
- Point									
PBHL (#4H)	90.00	178.64	7,797.00	-4,947.26	117.25	403,209.04	530,455.55	32° 6' 30.599 N	104° 14' 5.899 W
- plan hits target center									
- Rectangle (sides W0.00 H30.00 D4,375.69)									

Database:	Midland District	**Local Co-ordinate Reference:**	Well Peaches 19 Fed 4H
Company:	OXY	**TVD Reference:**	KB=24 @ 3246.90usft (H&P 474)
Project:	Eddy County NM (NAD 27 NME)	**MD Reference:**	KB=24 @ 3246.90usft (H&P 474)
Site:	Peaches 19 Fed 4H	**North Reference:**	Grid
Well:	Peaches 19 Fed 4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
7,224.04	7,224.04	0.00	0.00	Start DLS 10.00 TFO 178.64
7,691.12	7,641.08	-180.02	4.27	HL Entry Point
8,124.04	7,797.00	-572.80	13.58	Start 4375.69 hold at 8124.04 MD
12,349.68	7,797.00	-4,797.25	113.69	HL Exit Point
12,499.73	7,797.00	-4,947.26	117.25	TD at 12499.73

OXY USA Inc.
Peaches 19 Federal

Casing Design Assumptions:

Burst Loads

CSG Test (Surface)

- Internal: Displacement fluid + 70% CSG Burst rating
- External: Pore Pressure from section TD to surface

CSG Test (Intermediate)

- Internal: Displacement fluid + 70% CSG Burst rating
- External: Pore Pressure from the Intermediate hole TD to Surface CSG shoe and MW of the drilling mud that was in the hole when the CSG was run to surface

CSG Test (Production)

- Internal: Fresh water displacement fluid + 80% CSG Burst rating
- External: Pore Pressure from the well TD the Intermediate CSG shoe and MW of the drilling mud that was in the hole when the CSG was run to surface

Gas Kick (Surface/Intermediate)

- Internal: Gas Kick based on Pore Pressure or Fracture Gradient @ CSG shoe with a gas 0.115psi/ft Gas gradient to surface while drilling the next hole section (e.g. Gas Kick while drilling the production hole section is a burst load used to design the intermediate CSG)
- External: Pore Pressure from section TD to previous CSG shoe and MW of the drilling mud that was in the hole when the CSG was run to surface

Stimulation (Production)

- Internal: Displacement fluid + Max Frac treating pressure (not to exceed 80% CSG Burst rating)
- External: Pore Pressure from the well TD to the Intermediate CSG shoe and 8.5 ppg MWE to surface

Collapse Loads

Lost Circulation (Surface/Intermediate)

- Internal: Losses experienced while drilling the next hole section (e.g. losses while drilling the production hole section are used as a collapse load to design the intermediate CSG). After losses there will be a column of mud inside the CSG with an equivalent weight to the Pore Pressure of the lost circulation zone
- External: MW of the drilling mud that was in the hole when the CSG was run

Cementing (Surface/Intermediate/Production)

- Internal: Displacement Fluid
- External: Cement Slurries to TOC, MW to surface

Full Evacuation (Production)

- Internal: Atmospheric Pressure
- External: MW of the drilling mud that was in the hole when the CSG was run

Tension Loads

Running CSG (Surface/Intermediate/Production)

- Axial load of the buoyant weight of the string plus either 100 klb over-pull or string weight in air, whichever is less

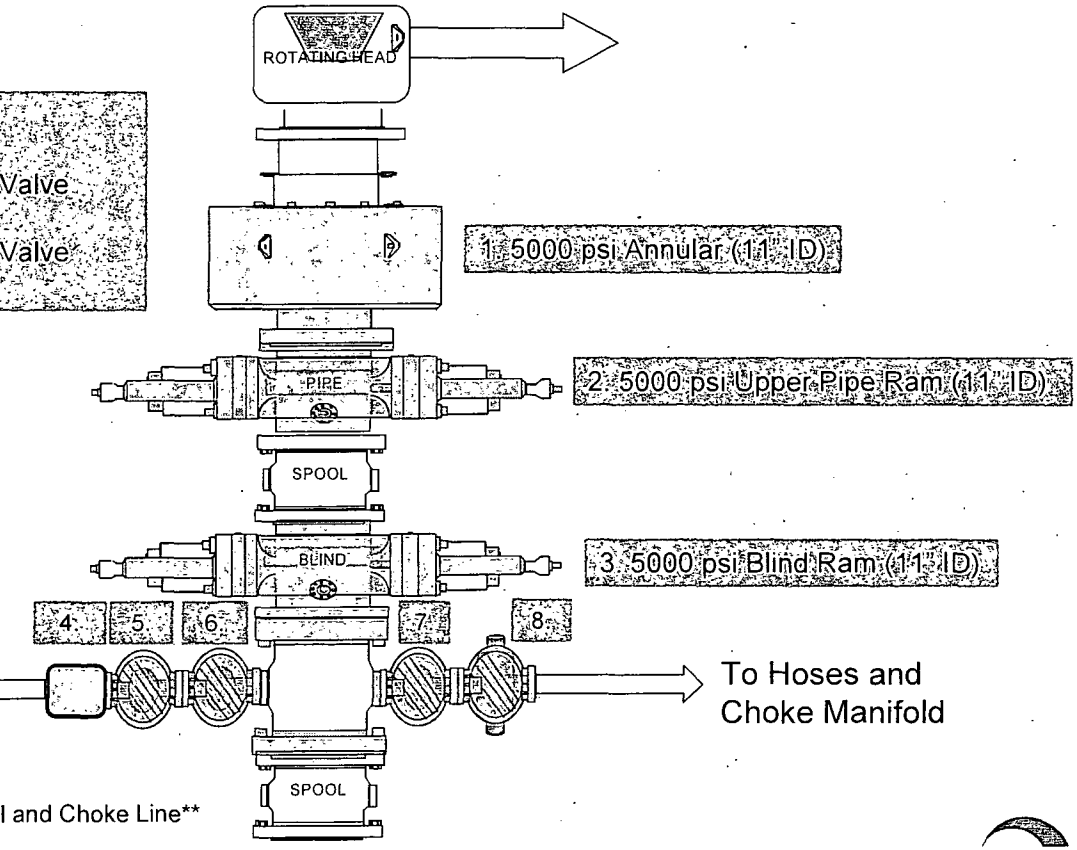
Green Cement (Surface/Intermediate/Production)

- Axial load of the buoyant weight of the string plus the cement plug bump pressure (Final displacement pressure + 500 psi)

Burst, Collapse and Tensile SF are calculated using Landmark's Stress Check (Casing Design) software.

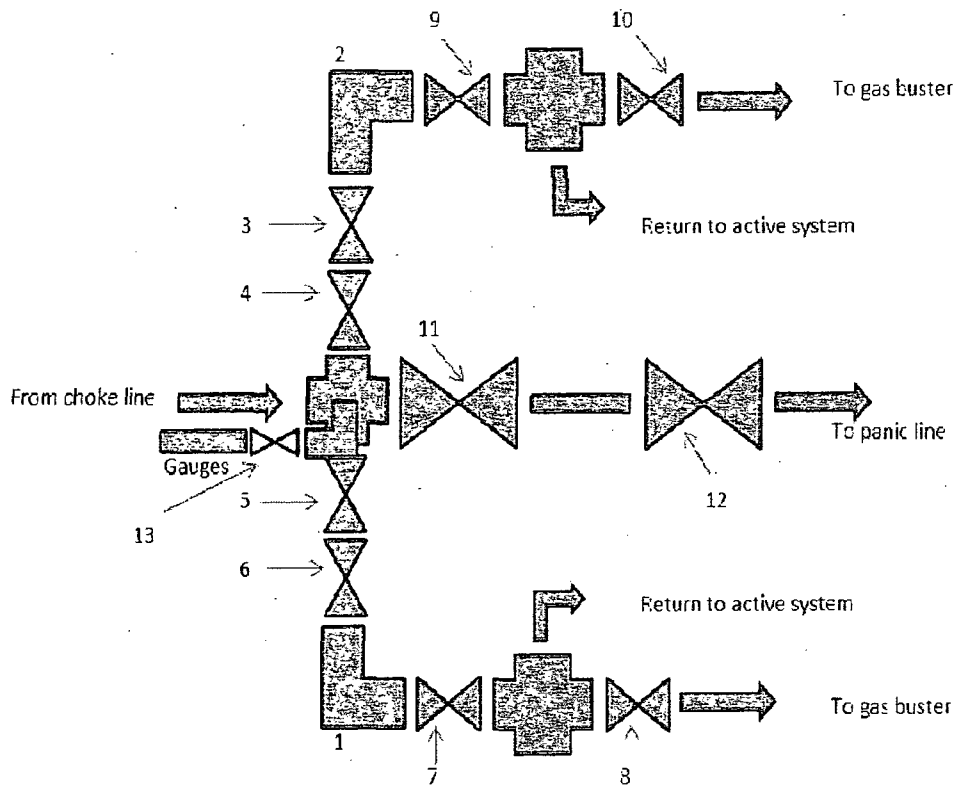
5M BOP Stack

Mud Cross Valves
4. 5M Check Valve
5. Outside 5M Kill Line Valve
6. Inside 5M Kill Line
7. Outside 5M Kill Line Valve
8. 5M HCR Valve



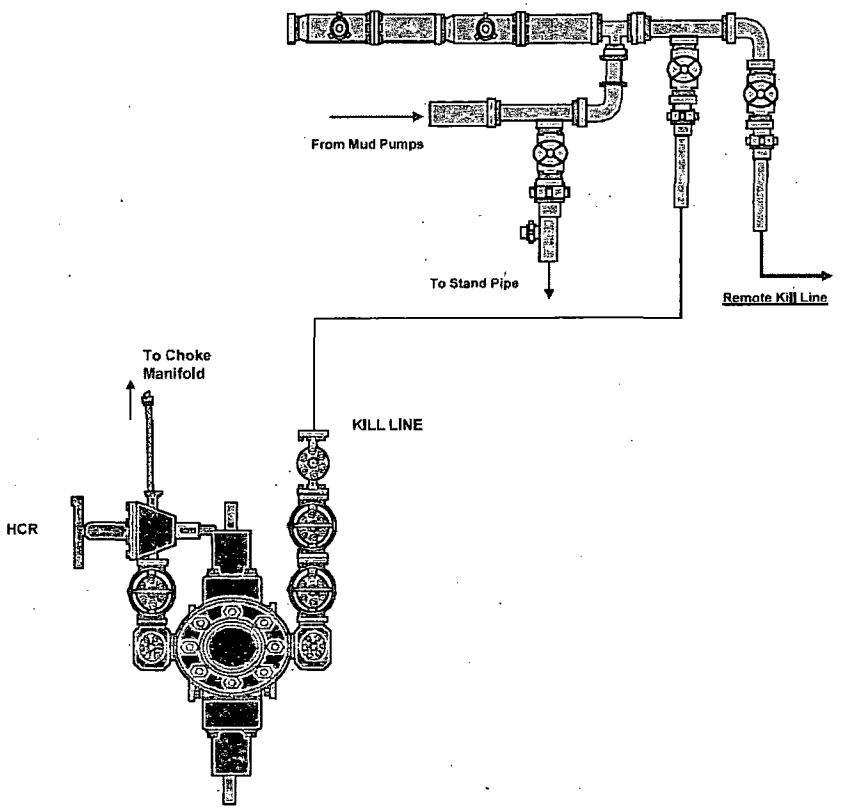
** Minimum ID = 2-1/16" on Kill and Choke Line**

5M Choke Panel



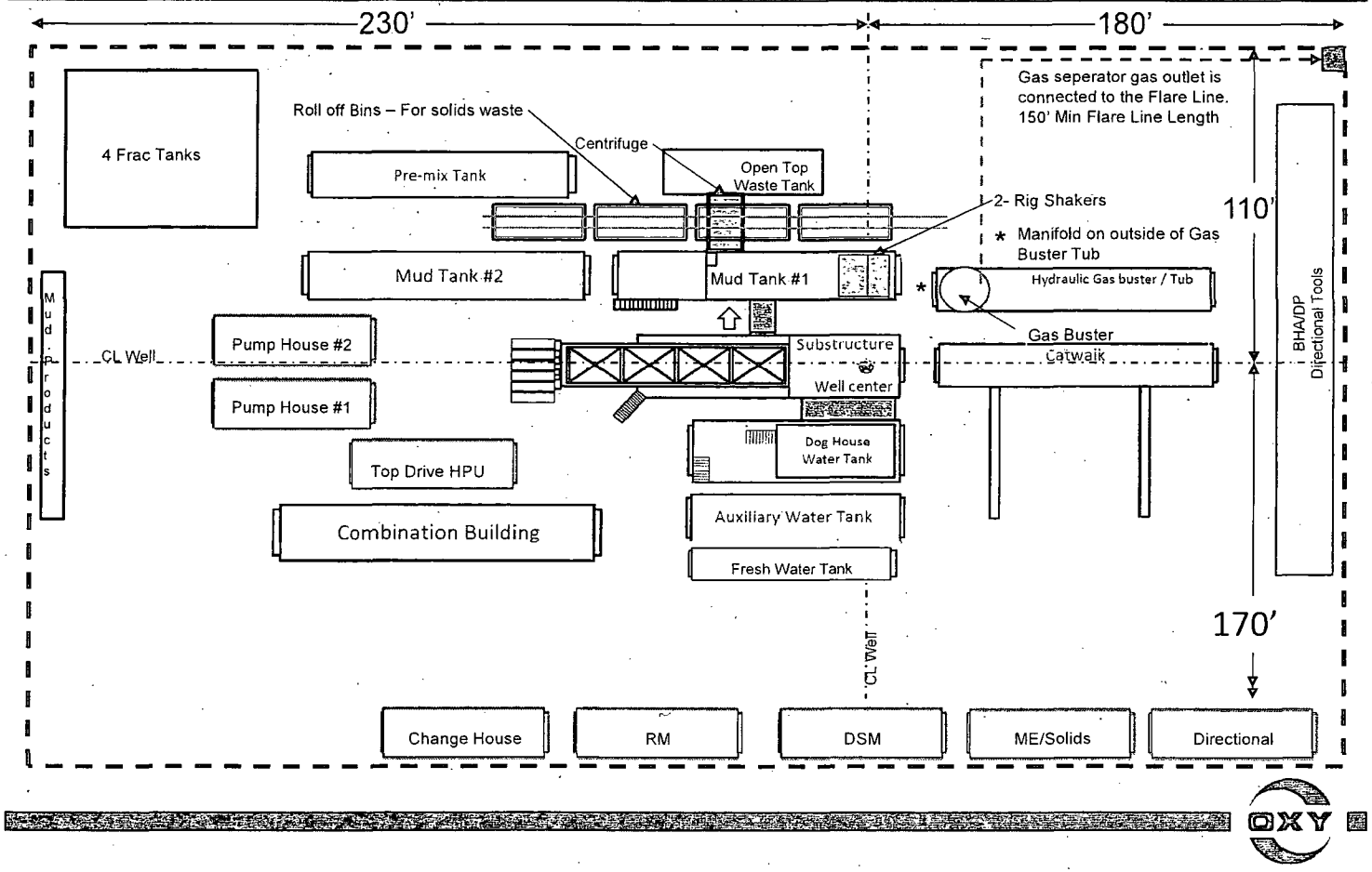
1- POWER CHOKE
2- MANUAL CHOKE
3- 2 1/16" CHOKEMANIFOLD VALVE
4- 2 1/16" CHOKEMANIFOLD VALVE
5- 2 1/16" CHOKEMANIFOLD VALVE
6- 2 1/16" CHOKEMANIFOLD VALVE
7- 2 1/16" CHOKEMANIFOLD VALVE
8- 2 1/16" CHOKEMANIFOLD VALVE
9- 2 1/16" CHOKEMANIFOLD VALVE
10- 2 1/16" CHOKEMANIFOLD VALVE
11- 3" CHOKEMANIFOLD VALVE
12- 3" CHOKEMANIFOLD VALVE
13- 2 1/16 CHOKE MANIFOLD VALVE

10M Remote Kill Line Schematic



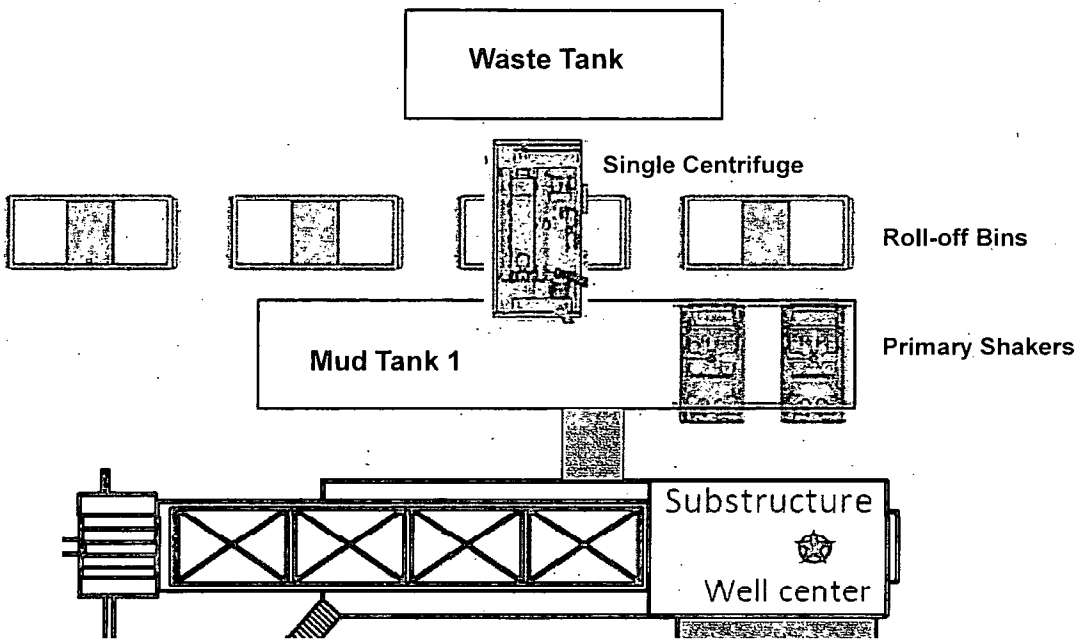
Oxy Single Centrifuge - Closed Loop System

New Mexico – Canelson Drilling Rig



Oxy Single Centrifuge - Closed Loop System

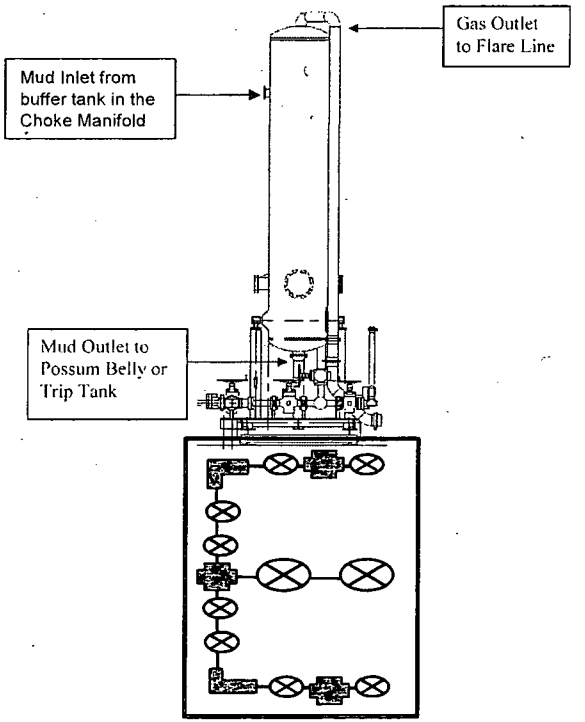
New Mexico – Canelson Drilling Rig



Choke Manifold – Gas Separator

New Mexico – Canelson Drilling Rig

Choke Manifold – Gas Separator (Side View)

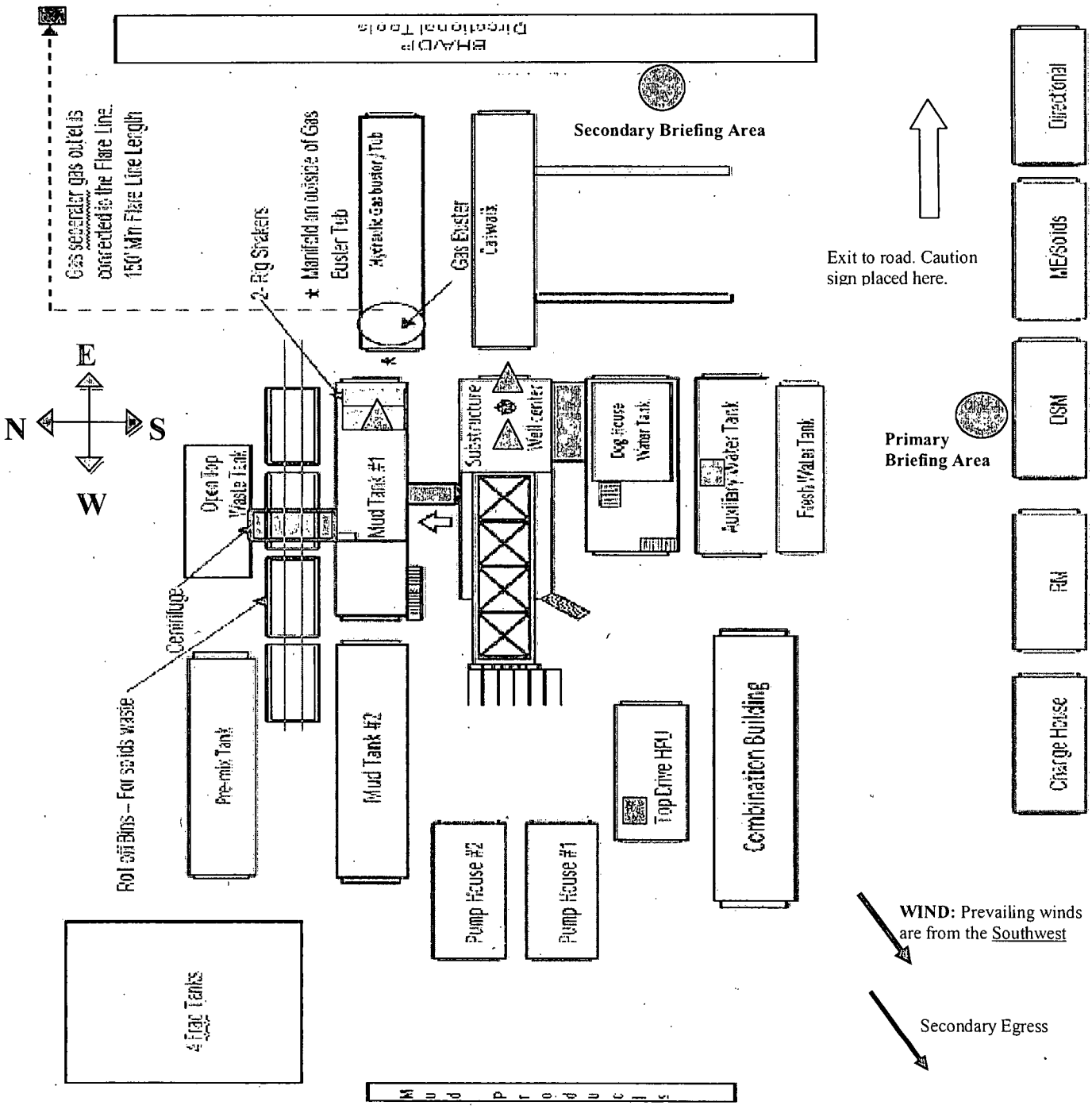


Permian Drilling
Hydrogen Sulfide Drilling Operations Plan
Peaches 19 Federal 4H

Open drill site. No homes or buildings are near the proposed location.

1. Escape

   Personnel shall escape upwind of wellbore in the event of an emergency gas release. Escape can take place through the lease road on the SOUTHEAST side of the location. Personnel need to move to a safe distance and block the entrance to location. If the primary route is not an option due to the wind direction, then a secondary egress route should be taken.



▲	H2S Detectors. At least three detectors will be installed: bell nipple, rig floor and Shakers.
	Briefing Areas. At least two briefing areas will be placed, 90 deg off.
▣	Wind direction indicators. Visible from rig floor and from the mud pits area.

A gas buster is connected to both the choke manifold and flowline outlets.

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**OXY USA Inc.**
LEASE NO.:	**NMNM-109756**
WELL NAME & NO.:	**Peaches 19 Federal 4H**
SURFACE HOLE FOOTAGE:	**0150' FNL & 0660' FWL**
BOTTOM HOLE FOOTAGE	**0180' FSL & 0660' FWL**
LOCATION:	**Section 18, T. 25 S., R 27 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

DRILLING

A. DRILLING OPERATIONS 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)

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

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. Operator has stated that they will have monitoring equipment in place prior to drilling out of the surface shoe. If Hydrogen Sulfide is encountered, report measured amounts and formations to the BLM.**

2. 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. 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 is located, this does not include the dog house or stairway area.

4. **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.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. 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.).
Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Medium Cave/Karst
Possible water flows in the Salado and Delaware.
Possible lost circulation in the Delaware.

1. The **10-3/4** inch surface casing shall be set at approximately **350** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**

    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 is to include the lead cement slurry.

    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.

Formation below the 10-3/4 inch shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing, which shall be set at approximately **1950** feet, is:

   ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

If cement does not circulate to surface on the intermediate casing, the cement on the production casing must come to surface.

Formation below the 7-5/8 inch shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

3. The minimum required fill of cement behind the **5-1/2 X 4-1/2** inch production casing is:

   ☒ Cement as proposed by operator. Operator shall provide method of verification.

4. 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.

C. 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. Variance approved to use flex line from BOP to choke manifold. 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.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) psi (Installing 10M testing to 5,000 psi).**

    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. **Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.**
    e. **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.**

5M 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. 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. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.

   c. 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 with a corresponding chart (i.e. two hour clock-two hour chart, one hour clock-one hour chart).

   d. The results of the test shall be reported to the appropriate BLM office.

   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 if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. 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.

KGR 08062015