

Operator Name/Number:	OXY USA Inc.	16696
Lease Name/Number:	Copperhead 18 DM State #2H	305098
Pool Name/Number:	Triple X Bone Spring, West	1st Bone Spring 96674
Surface Location:	30 FNL 1270 FWL C Sec 18 T24S R33E	
Top Perf:	340 FNL 928 FWL D(1) Sec 18 T24S R33E	
Bottom Perf:	340 FSL 940 FWL M(4) Sec 18 T24S R33E	
Bottom Hole Location:	180 FSL 940 FWL M(4) Sec 18 T24S R33E	

C-102 Plats: 10/7/14 11/18/14 12/15/14 Elevation: 3570.2' GL Objective: 1st Bone Spring

Proposed TD:	Horizontal Lateral	9520'	TVD	14276'	TMD	
SL - Lat: 32.2247393	Long: 103.6152131		X=722071.31	Y=446221.28		NAD - 1927
TP - Lat: 32.2238877	Long: 103.6163196		X=721731.18	Y=445909.19		NAD - 1927
BP - Lat: 32.2112395	Long: 103.6162938		X=721769.87	Y=441308.09		NAD - 1927
TD - Lat: 32.2107997	Long: 103.6162929		X=721771.22	Y=441148.09		NAD - 1927

30-025-42346

Casing Program:

Hole Size	Interval	OD Csg	Weight	Collar	Grade	Condition	Collapse Design Factor	Burst Design Factor	Tension Design Factor
14-3/4"	0-1230'	11-3/4"	47	BT&C	J55	New	1.42	3.16	4.97
				Hole filled with 8.5-8.8# Mud			1514#	3072#	
10-5/8"	0-5050'	8-5/8"	32	BT&C	J-55	New	1.23	1.52	1.78
				Hole filled with 9.8-10.2# Mud			2533#	3928#	
7-7/8"	0-14276'	5-1/2"	17	BT&C	P-110	New	1.59	1.2	2.28
				Hole filled with 8.8-9.2# Mud			7480#	10640#	

Collapse and burst loads calculated using Stress Check with anticipated loads

Cement Program:

- a. 11-3/4" Surface Circulate cement to surface w/ 515sx PPC cmt w/ 4% Bentonite + 1% CaCl₂ + .25#/sx Poly-E-Flake, 13.5ppg 1.73 yield 888# 24hr CS 125% Excess followed by 250sx PPC cmt w/ 1% CaCl₂, 14.8ppg 1.34 yield 1416# 24hr CS 125% Excess
- b. 8-5/8" Intermediate Circulate cement to surface w/ 950sx HES Light PPC cmt w/ 5% salt + .25% HR-800, 12.9ppg 1.85 yield 771# 24hr CS 125% Excess followed by 310sx PPC cmt, 14.8ppg 1.33 yield 1779# 24hr CS 125% Excess
- c. 5-1/2" Production Cement w/ 560sx Tuned Light cmt w/ 1#/sx Kol-Seal + .1#/sx Poly-E-Flake + .35 #/sx HR-601, 10.2ppg 3.06 yield 550# 24hr CS 100% Excess followed by 820sx Super H cmt w/ 3#/sx salt + .3% CFR-3 + .5% Halad-344 + .1% HR-800 + 2#/sx Kol-Seal, 13.2ppg 1.66 yield 900# 24hr CS 40% Excess. Calc TOC-4000'

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.

Proposed Mud Circulation System:

Depth	Mud Wt. ppg	Visc sec	Fluid Loss	Type System
0 - 1230'	8.5-8.8	28-38	NC	Fresh Water/Spud Mud
1230 - 5050'	9.8-10.2	28-32	NC	Fresh water/NaCl Brine
5050 - 14276'	8.8-9.2	28-34	NC	Cut Brine/Sweeps

Pump high viscosity sweeps as needed for hole cleaning. The mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times. Appropriately weighted mud will be used to isolate potential gas, oil, water zones until such time as casing can be cemented into place for zonal isolation.

BOP Program:

Surface	None
Intermediate/Production	13-5/8" 10M three ram stack w/ 5M annular preventer, 5M Choke Manifold

Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas:

Geological Marker	Depth	Type
a. Rustler	1204'	---
b. Base Anhydrite/Top Delaware	4982'	---
c. Bell Canyon	5005'	Form Water
d. Cherry Canyon	5947'	Oil/Gas
e. Brushy Canyon	7332'	Oil/Gas
f. Bone Spring	8953'	Oil/Gas
g. 1st Bone Spring	9520'	Oil/Gas

Fresh water may be present above the Rustler formation. Surface casing will be set below the top of the Rustler, which will cover potential fresh water sources.

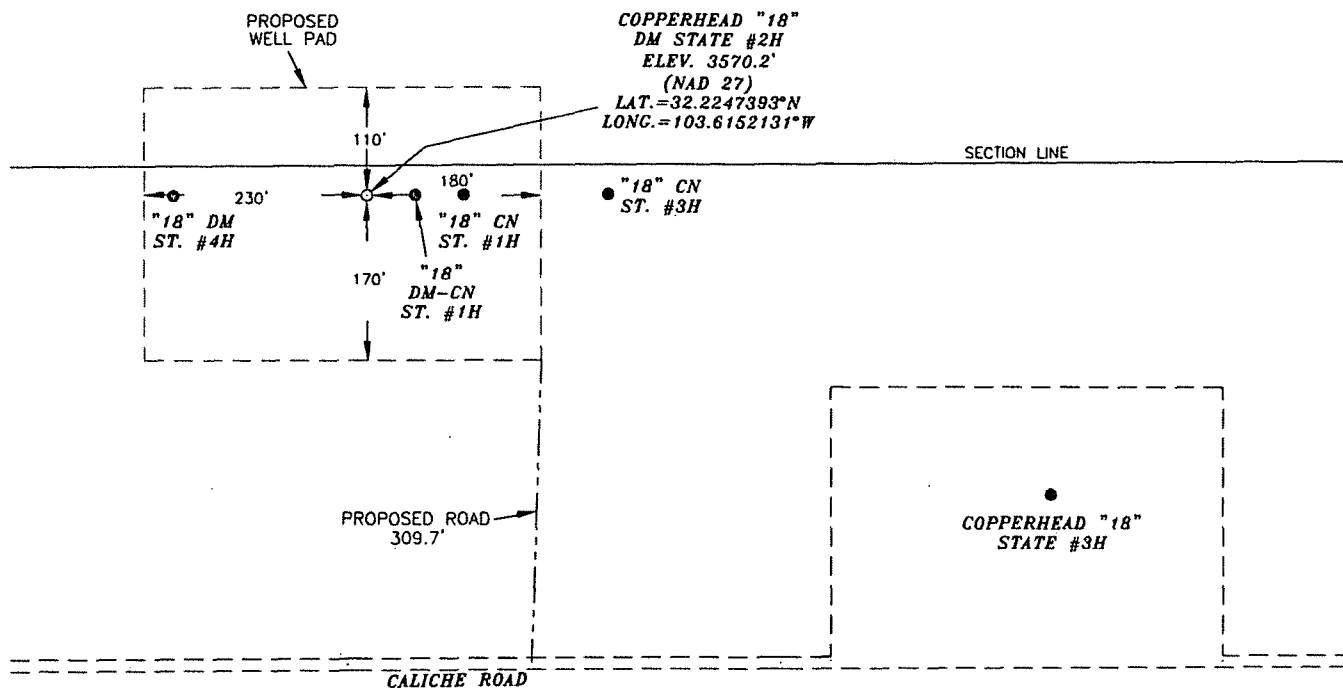
A closed loop system will be utilized consisting of above ground steel tanks and haul-off bins.
Disposal of liquids, drilling fluids and cuttings will be disposed of at an approved facility.

The wells listed below are either permitted, drilled or completed in the following pools and formations.

1. Copperhead 18 St #2H - 30-025-41460 - Triple X Bone Spring, W.(96674) 2nd Bone Spring-TVD 11060' Ut D-E-L-M

DEC 22 2014

OXY USA INC. COPPERHEAD "18" DM STATE #2H SITE PLAN



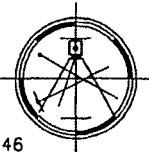
SURVEYORS CERTIFICATE

I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR NO. 15079, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND MEETS THE "MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO" AS ADOPTED BY THE NEW MEXICO STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND SURVEYORS.

Terry J. Asel 11/18/2014
Terry J. Asel, N.M. R.P.L.S. No. 15079

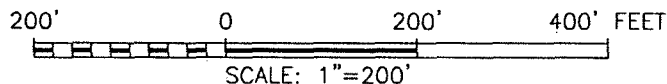
Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR
HOBBBS, NEW MEXICO - 575-393-9146



LEGEND

- DENOTES PROPOSED WELL PAD
- DENOTES PROPOSED ROAD

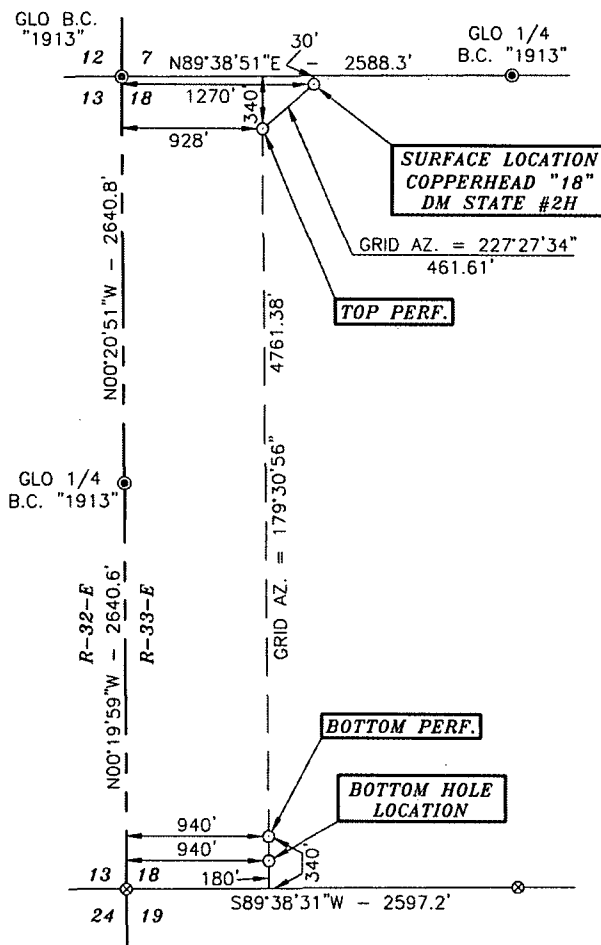


OXY USA INC.

COPPERHEAD "18" DM STATE #2H WELL PAD
LOCATED AT 30' FNL & 1270' FWL IN SECTION
18, TOWNSHIP 24 SOUTH, RANGE 33 EAST,
N.M.P.M., LEA COUNTY, NEW MEXICO

Survey Date: 10/07/14	Sheet 1 of 1 Sheets
W.O. Number: 141007WL-e	Drawn By: KA Rev:
Date: 11/17/14	141007WL-e Scale: 1"=200'

SECTION 18, TOWNSHIP 24 SOUTH, RANGE 33 EAST, N.M.P.M.,
LEA COUNTY
NEW MEXICO



Basis of Bearings - GPS Geodetic Measurements
 NAD East Zone (83) North American Datum of 1983

DRIVING DIRECTIONS:
 BEGINNING IN JAL AT THE INTERSECTION
 OF N.M. STATE HWY. 18 AND N.M. STATE
 HWY. #128, GO WEST ON N.M. STATE
 HWY. #128 FOR 25.5 MILES, TURN
 RIGHT ON CALICHE ROAD AND GO
 NORTHWEST FOR 1.1 MILES, TURN LEFT
 AND GO WEST FOR 0.6 MILES, TURN
 RIGHT ON PROPOSED ROAD AND GO
 NORTH FOR 309.7 FEET TO LOCATION.



SURVEYORS CERTIFICATE

I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR
 NO. 15079, DO HEREBY CERTIFY THAT I CONDUCTED AND AM
 RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS
 TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND
 BELIEF, AND MEETS THE "MINIMUM STANDARDS FOR
 SURVEYING IN NEW MEXICO" AS ADOPTED BY THE NEW
 MEXICO STATE BOARD OF REGISTRATION FOR
 PROFESSIONAL ENGINEERS AND SURVEYORS.

Terry J. Asel 11/18/2014
 Terry J. Asel, N.M. R.P.L.S. No. 15079

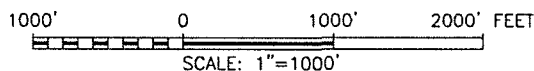
Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR
 HOBBS, NEW MEXICO - 575-393-9146



LEGEND

- ⊙ - DENOTES FOUND MONUMENT AS NOTED
- ⊗ - DENOTES CALCULATED CORNER

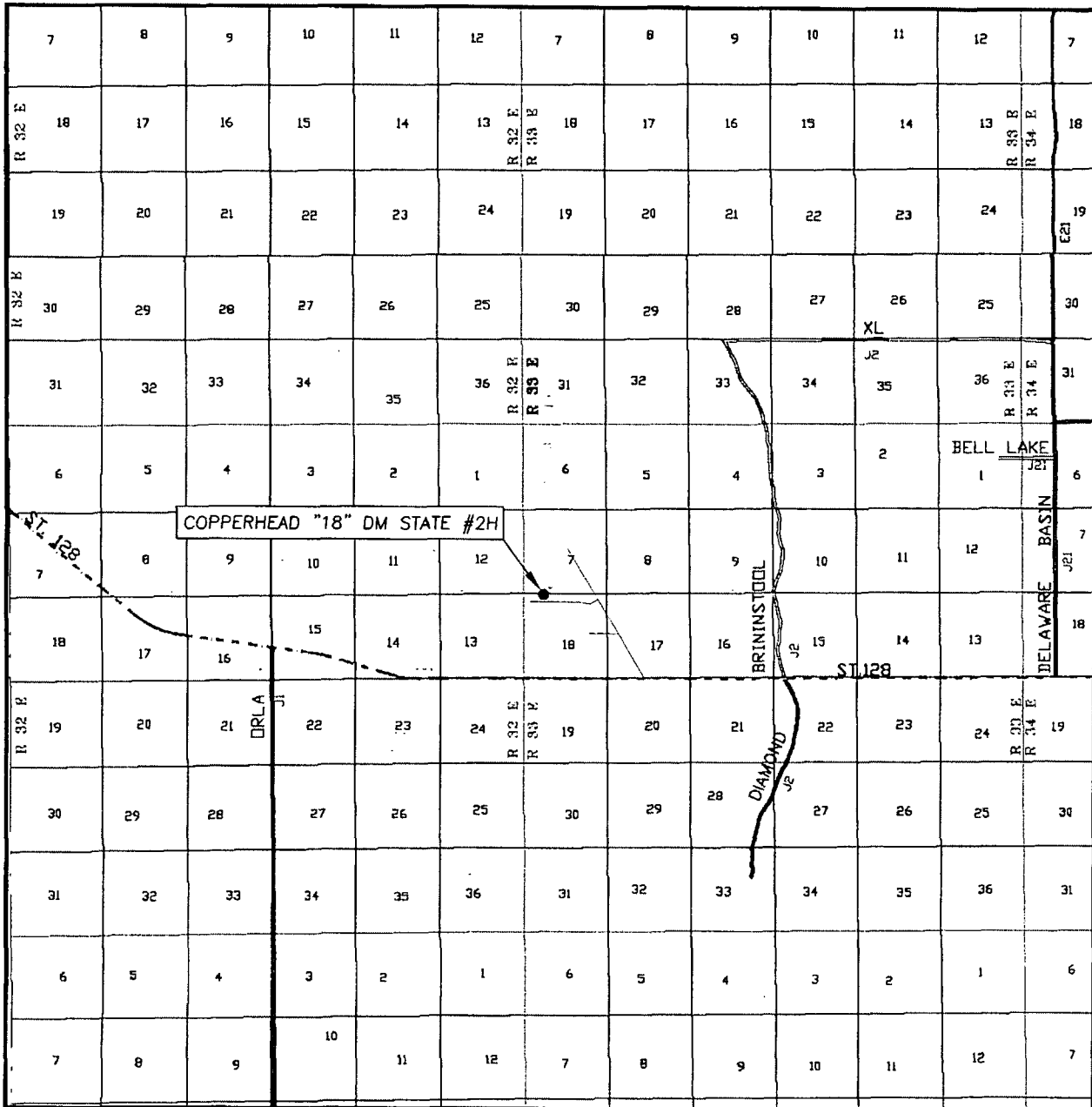


OXY USA INC.

COPPERHEAD "18" DM STATE #2H LOCATED
 AT 30' FNL & 1270' FWL IN SECTION 18,
 TOWNSHIP 24 SOUTH, RANGE 33 EAST,
 N.M.P.M., LEA COUNTY, NEW MEXICO

Survey Date: 10/07/14	Sheet 1 of 1 Sheets
W.O. Number: 141007WL-e	Drawn By: KA Rev:
Date: 11/17/14	141007WL-e Scale: 1"=1000'

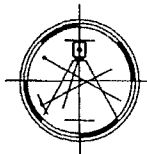
VICINITY MAP



SEC. 18 TWP. 24-S RGE. 33-E
 SURVEY _____ N.M.P.M.
 COUNTY _____ LEA
 DESCRIPTION 30' FNL & 1270' FWL
 ELEVATION _____ 3570.2'
 OPERATOR _____ OXY USA INC.

SCALE: 1" = 2 MILES

Asel Surveying

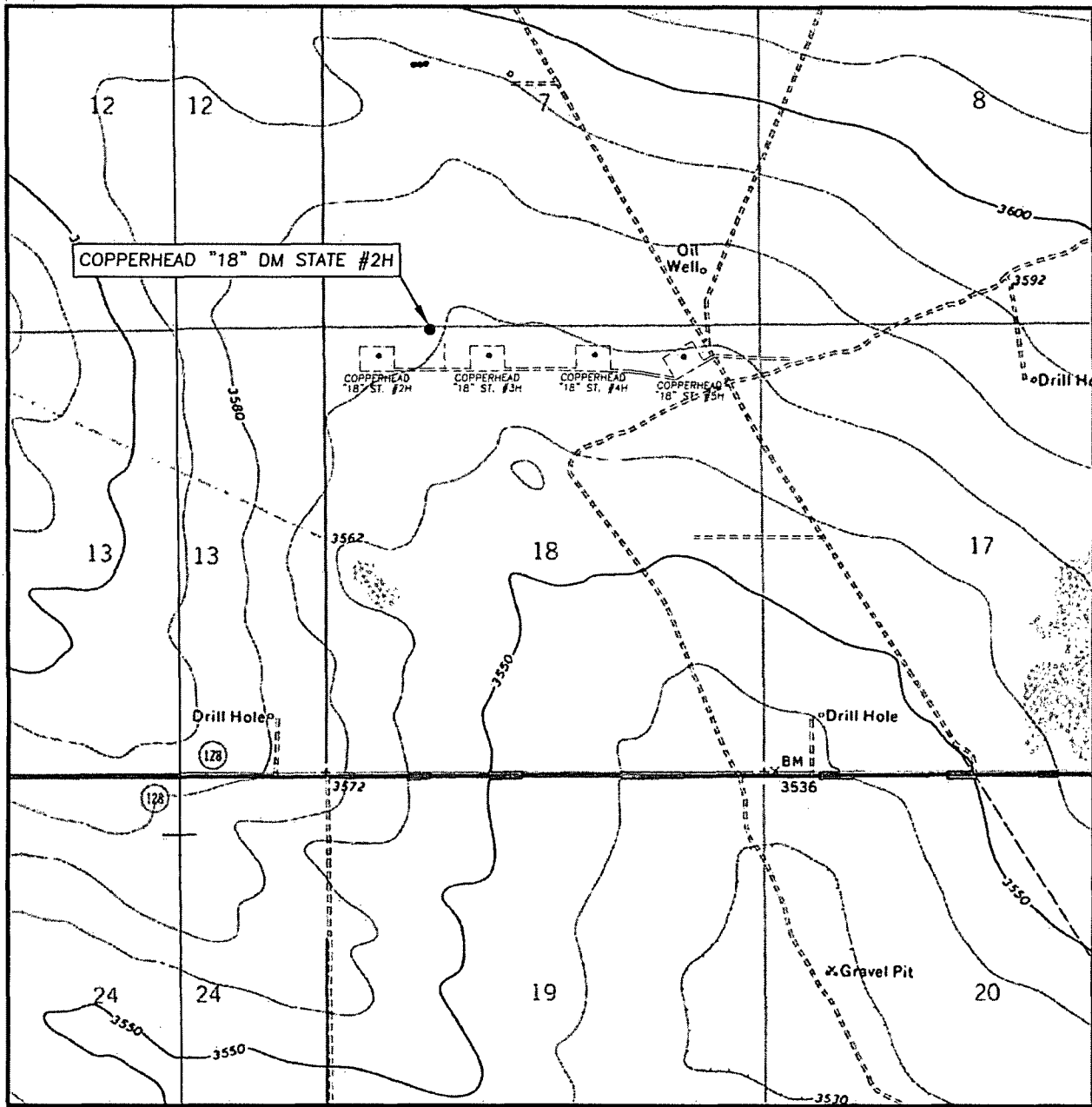


P.O. BOX 393 - 310 W. TAYLOR
 HOBBS, NEW MEXICO - 575-393-9146

LEASE COPPERHEAD "18" DM STATE #2H

DIRECTIONS BEGINNING IN JAL AT THE INTERSECTION OF N.M. STATE HWY. #18 AND N.M. STATE HWY. #128, GO WEST ON N.M. STATE HWY. #128 FOR 25.5 MILES, TURN RIGHT ON CALICHE ROAD AND GO NORTHWEST FOR 1.1 MILES, TURN LEFT AND GO WEST FOR 0.6 MILES, TURN RIGHT ON PROPOSED ROAD AND GO NORTH FOR 309.7 FEET TO LOCATION.

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

SEC. 18 TWP. 24-S RGE. 33-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 30' FNL & 1270' FWL

ELEVATION 3570.2'

OPERATOR OXY USA INC.

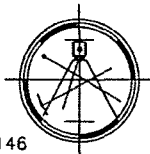
LEASE COPPERHEAD "18" DM STATE #2H

U.S.G.S. TOPOGRAPHIC MAP

BELL LAKE, N.M.

Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 575-393-9146





C18 DM S 2H
Lea County, New Mexico
Northing: 446221.28
Easting: 722071.31
Plan #2



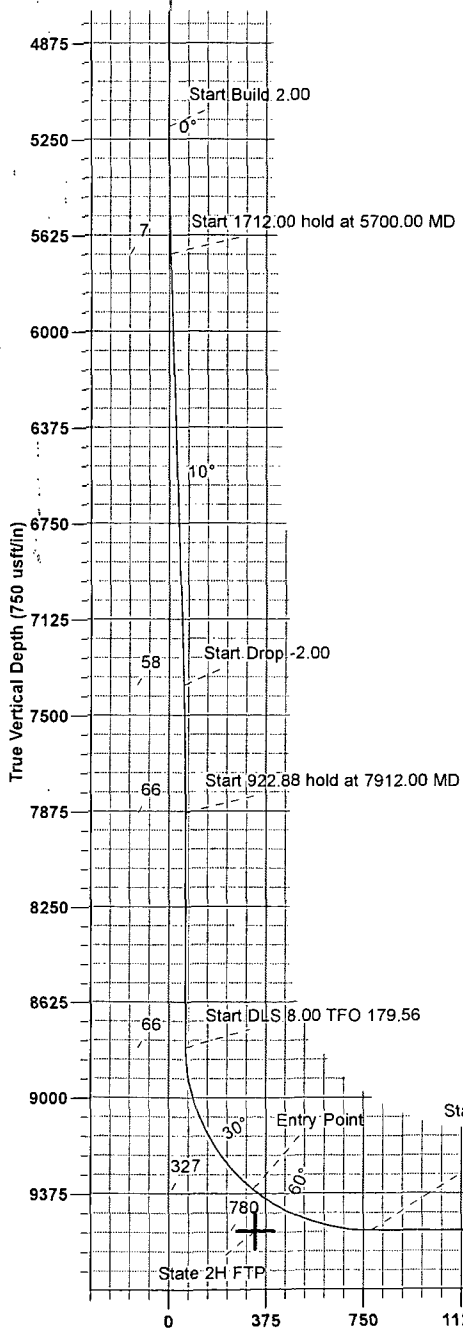
Azimuths to Grid North
True North: -0.38°
Magnetic North: 6.80°

Magnetic Field
Strength: 48266.4nT
Dip Angle: 60.09°
Date: 11/24/2014
Model: IGRF2010

To convert Magnetic North to Grid, Add 6.80°
To convert True North to Grid, Subtract 0.38°



KB @ 3595.20usft
Gr @ 3570.20



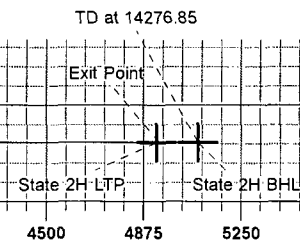
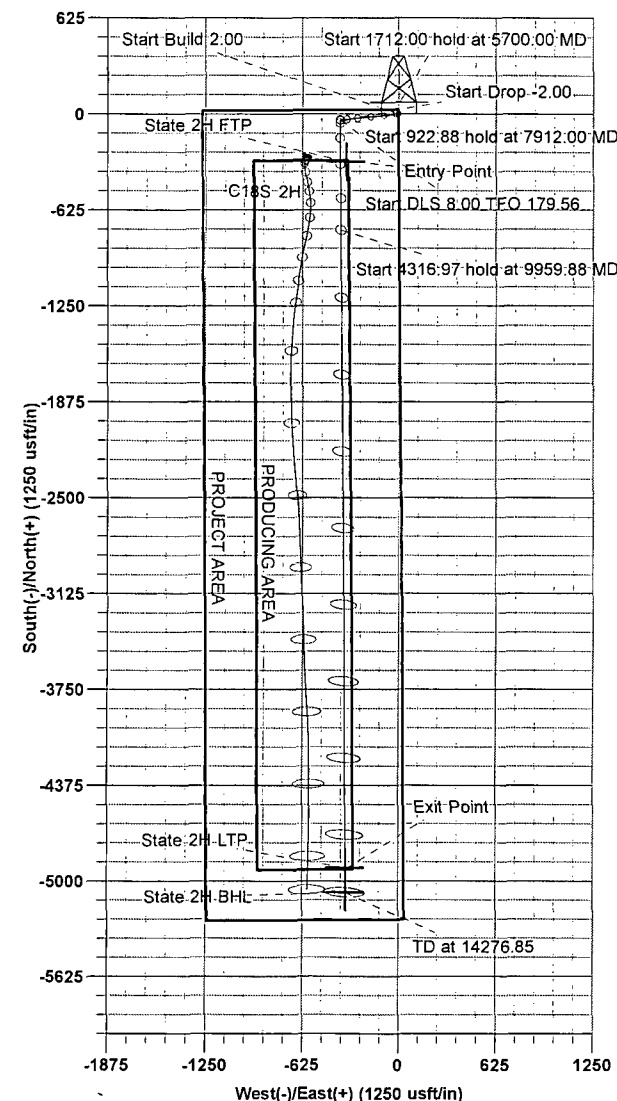
WELL DETAILS C18 DM S 2H						
Ground Level: 3570.20						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	446221.28	722071.31	32° 13' 29.061 N	103° 36' 54.767 W	

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5200.00	0.00	0.00	5200.00	0.00	0.00	0.00	0.00	0.00	
5700.00	10.00	264.00	5697.47	-4.55	-43.28	2.00	264.00	7.46	
7412.00	10.00	264.00	7383.46	-35.62	-338.94	0.00	0.00	58.44	
7912.00	0.00	0.00	7880.92	-40.17	-382.23	2.00	180.00	65.90	
8834.88	0.00	0.00	8803.80	-40.17	-382.23	0.00	0.00	65.90	
9959.88	90.00	179.56	9520.00	-756.35	-376.71	8.00	179.56	780.07	
14276.85	90.00	179.56	9520.00	-5073.19	-343.49	0.00	0.00	5084.81	State 2H BHL

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	
State 2H BHL	9520.00	-5073.19	-343.49	441148.09	721727.82	
State 2H FTP	9520.00	-312.09	-340.13	445909.19	721731.18	
State 2H LTP	9520.00	-4913.19	-344.84	441308.09	721726.47	

SITE DETAILS:	
Copperhead 18 DM State 2H	
Site Centre Northing: 446221.28	
Easting: 722071.31	
Positional Uncertainty: 0.00	
Convergence: 0.38	
Local North: Grid	

PROJECT DETAILS:	
Lea County, New Mexico	
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	



Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well C18 DM S 2H
Company:	OXY	TVD Reference:	KB @ 3595.20usft
Project:	Lea County, New Mexico	MD Reference:	KB @ 3595.20usft
Site:	Copperhead 18 DM State 2H	North Reference:	Grid
Well:	C18 DM S 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Project	Lea County, 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	Copperhead 18 DM State 2H		
Site Position:	Map	Northing:	446,221.28 usft
From:		Easting:	722,071.31 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 13' 29.061 N
		Longitude:	103° 36' 54.767 W
		Grid Convergence:	0.38 °

Well	C18 DM S 2H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 13' 29.061 N
		Longitude:	103° 36' 54.767 W
		Ground Level:	3,570.20 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	11/24/2014	7.18
			Dip Angle
			60.09
			Field Strength
			48,266

Design	Plan #2		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(bearing)
			183.87

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(bearing)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.00	0.00	0.00	0.00	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	
5,700.00	10.00	264.00	5,697.47	-4.55	-43.28	2.00	2.00	0.00	264.00	
7,412.00	10.00	264.00	7,383.46	-35.62	-338.94	0.00	0.00	0.00	0.00	
7,912.00	0.00	0.00	7,880.92	-40.17	-382.23	2.00	-2.00	0.00	180.00	
8,834.88	0.00	0.00	8,803.80	-40.17	-382.23	0.00	0.00	0.00	0.00	
9,959.88	90.00	179.56	9,520.00	-756.35	-376.71	8.00	8.00	15.96	179.56	
14,276.85	90.00	179.56	9,520.00	-5,073.19	-343.49	0.00	0.00	0.00	0.00	State 2H BHL

Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well C18 DM S 2H
Company:	OXY	TVD Reference:	KB @ 3595.20usft
Project:	Lea County, New Mexico	MD Reference:	KB @ 3595.20usft
Site:	Copperhead 18 DM State 2H	North Reference:	Grid
Well:	C18 DM S 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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

Start Build 2.00

Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well C18 DM S 2H
Company:	OXY	TVD Reference:	KB @ 3595.20usft
Project:	Lea County, New Mexico	MD Reference:	KB @ 3595.20usft
Site:	Copperhead 18 DM State 2H	North Reference:	Grid
Well:	C18 DM S 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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)
5,300.00	2.00	264.00	5,299.98	-0.18	-1.74	0.30	2.00	2.00	0.00
5,400.00	4.00	264.00	5,399.84	-0.73	-6.94	1.20	2.00	2.00	0.00
5,500.00	6.00	264.00	5,499.45	-1.64	-15.61	2.69	2.00	2.00	0.00
5,600.00	8.00	264.00	5,598.70	-2.91	-27.73	4.78	2.00	2.00	0.00
5,700.00	10.00	264.00	5,697.47	-4.55	-43.28	7.46	2.00	2.00	0.00
Start 1712.00 hold at 5700.00 MD									
5,800.00	10.00	264.00	5,795.95	-6.36	-60.55	10.44	0.00	0.00	0.00
5,900.00	10.00	264.00	5,894.43	-8.18	-77.82	13.42	0.00	0.00	0.00
6,000.00	10.00	264.00	5,992.91	-9.99	-95.09	16.40	0.00	0.00	0.00
6,100.00	10.00	264.00	6,091.39	-11.81	-112.36	19.37	0.00	0.00	0.00
6,200.00	10.00	264.00	6,189.87	-13.62	-129.63	22.35	0.00	0.00	0.00
6,300.00	10.00	264.00	6,288.35	-15.44	-146.90	25.33	0.00	0.00	0.00
6,400.00	10.00	264.00	6,386.83	-17.26	-164.17	28.31	0.00	0.00	0.00
6,500.00	10.00	264.00	6,485.31	-19.07	-181.44	31.28	0.00	0.00	0.00
6,600.00	10.00	264.00	6,583.79	-20.89	-198.71	34.26	0.00	0.00	0.00
6,700.00	10.00	264.00	6,682.27	-22.70	-215.98	37.24	0.00	0.00	0.00
6,800.00	10.00	264.00	6,780.75	-24.52	-233.25	40.22	0.00	0.00	0.00
6,900.00	10.00	264.00	6,879.23	-26.33	-250.52	43.19	0.00	0.00	0.00
7,000.00	10.00	264.00	6,977.72	-28.15	-267.79	46.17	0.00	0.00	0.00
7,100.00	10.00	264.00	7,076.20	-29.96	-285.06	49.15	0.00	0.00	0.00
7,200.00	10.00	264.00	7,174.68	-31.78	-302.33	52.13	0.00	0.00	0.00
7,300.00	10.00	264.00	7,273.16	-33.59	-319.60	55.10	0.00	0.00	0.00
7,400.00	10.00	264.00	7,371.64	-35.41	-336.87	58.08	0.00	0.00	0.00
7,412.00	10.00	264.00	7,383.46	-35.62	-338.94	58.44	0.00	0.00	0.00
Start Drop -2.00									
7,500.00	8.24	264.00	7,470.34	-37.08	-352.81	60.83	2.00	-2.00	0.00
7,600.00	6.24	264.00	7,569.54	-38.40	-365.35	62.99	2.00	-2.00	0.00
7,700.00	4.24	264.00	7,669.12	-39.35	-374.43	64.56	2.00	-2.00	0.00
7,800.00	2.24	264.00	7,768.95	-39.94	-380.05	65.53	2.00	-2.00	0.00
7,900.00	0.24	264.00	7,868.92	-40.17	-382.20	65.90	2.00	-2.00	0.00
7,912.00	0.00	0.00	7,880.92	-40.17	-382.23	65.90	2.00	-2.00	0.00
Start 922.88 hold at 7912.00 MD									
8,000.00	0.00	0.00	7,968.92	-40.17	-382.23	65.90	0.00	0.00	0.00
8,100.00	0.00	0.00	8,068.92	-40.17	-382.23	65.90	0.00	0.00	0.00
8,200.00	0.00	0.00	8,168.92	-40.17	-382.23	65.90	0.00	0.00	0.00
8,300.00	0.00	0.00	8,268.92	-40.17	-382.23	65.90	0.00	0.00	0.00
8,400.00	0.00	0.00	8,368.92	-40.17	-382.23	65.90	0.00	0.00	0.00
8,500.00	0.00	0.00	8,468.92	-40.17	-382.23	65.90	0.00	0.00	0.00
8,600.00	0.00	0.00	8,568.92	-40.17	-382.23	65.90	0.00	0.00	0.00
8,700.00	0.00	0.00	8,668.92	-40.17	-382.23	65.90	0.00	0.00	0.00
8,800.00	0.00	0.00	8,768.92	-40.17	-382.23	65.90	0.00	0.00	0.00
8,834.88	0.00	0.00	8,803.80	-40.17	-382.23	65.90	0.00	0.00	0.00
Start DLS 8.00 TFO 179.56									
8,850.00	1.21	179.56	8,818.92	-40.33	-382.22	66.06	8.00	8.00	0.00
8,900.00	5.21	179.56	8,868.83	-43.13	-382.20	68.85	8.00	8.00	0.00
8,950.00	9.21	179.56	8,918.43	-49.41	-382.15	75.11	8.00	8.00	0.00
9,000.00	13.21	179.56	8,967.46	-59.12	-382.08	84.80	8.00	8.00	0.00
9,050.00	17.21	179.56	9,015.70	-72.24	-381.98	97.88	8.00	8.00	0.00
9,100.00	21.21	179.56	9,062.91	-88.69	-381.85	114.28	8.00	8.00	0.00
9,150.00	25.21	179.56	9,108.85	-108.39	-381.70	133.92	8.00	8.00	0.00
9,200.00	29.21	179.56	9,153.31	-131.24	-381.52	156.72	8.00	8.00	0.00
9,250.00	33.21	179.56	9,196.07	-157.15	-381.33	182.55	8.00	8.00	0.00
9,300.00	37.21	179.56	9,236.91	-185.97	-381.10	211.29	8.00	8.00	0.00

Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well C18 DM S 2H
Company:	OXY	TVD Reference:	KB @ 3595.20usft
Project:	Lea County, New Mexico	MD Reference:	KB @ 3595.20usft
Site:	Copperhead 18 DM State 2H	North Reference:	Grid
Well:	C18 DM S 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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)
9,350.00	41.21	179.56	9,275.64	-217.57	-380.86	242.80	8.00	8.00	0.00
9,400.00	45.21	179.56	9,312.08	-251.79	-380.60	276.93	8.00	8.00	0.00
9,450.00	49.21	179.56	9,346.04	-288.48	-380.31	313.51	8.00	8.00	0.00
9,468.13	50.66	179.56	9,357.71	-302.35	-380.21	327.35	8.00	8.00	0.00
Entry Point									
9,500.00	53.21	179.56	9,377.35	-327.44	-380.01	352.36	8.00	8.00	0.00
9,550.00	57.21	179.56	9,405.88	-368.49	-379.70	393.30	8.00	8.00	0.00
9,600.00	61.21	179.56	9,431.47	-411.44	-379.37	436.12	8.00	8.00	0.00
9,650.00	65.21	179.56	9,454.00	-456.06	-379.02	480.62	8.00	8.00	0.00
9,700.00	69.21	179.56	9,473.36	-502.14	-378.67	526.58	8.00	8.00	0.00
9,750.00	73.21	179.56	9,489.46	-549.47	-378.31	573.77	8.00	8.00	0.00
9,800.00	77.21	179.56	9,502.23	-597.80	-377.93	621.97	8.00	8.00	0.00
9,850.00	81.21	179.56	9,511.59	-646.90	-377.56	670.93	8.00	8.00	0.00
9,900.00	85.21	179.56	9,517.50	-696.54	-377.17	720.43	8.00	8.00	0.00
9,950.00	89.21	179.56	9,519.93	-746.47	-376.79	770.22	8.00	8.00	0.00
9,959.88	90.00	179.56	9,520.00	-756.35	-376.71	780.07	8.00	8.00	0.00
Start 4316.97 hold at 9959.88 MD									
10,000.00	90.00	179.56	9,520.00	-796.47	-376.40	820.08	0.00	0.00	0.00
10,100.00	90.00	179.56	9,520.00	-896.47	-375.64	919.79	0.00	0.00	0.00
10,200.00	90.00	179.56	9,520.00	-996.46	-374.87	1,019.51	0.00	0.00	0.00
10,300.00	90.00	179.56	9,520.00	-1,096.46	-374.10	1,119.23	0.00	0.00	0.00
10,400.00	90.00	179.56	9,520.00	-1,196.46	-373.33	1,218.94	0.00	0.00	0.00
10,500.00	90.00	179.56	9,520.00	-1,296.46	-372.56	1,318.66	0.00	0.00	0.00
10,600.00	90.00	179.56	9,520.00	-1,396.45	-371.79	1,418.38	0.00	0.00	0.00
10,700.00	90.00	179.56	9,520.00	-1,496.45	-371.02	1,518.09	0.00	0.00	0.00
10,800.00	90.00	179.56	9,520.00	-1,596.45	-370.25	1,617.81	0.00	0.00	0.00
10,900.00	90.00	179.56	9,520.00	-1,696.44	-369.48	1,717.53	0.00	0.00	0.00
11,000.00	90.00	179.56	9,520.00	-1,796.44	-368.71	1,817.24	0.00	0.00	0.00
11,100.00	90.00	179.56	9,520.00	-1,896.44	-367.94	1,916.96	0.00	0.00	0.00
11,200.00	90.00	179.56	9,520.00	-1,996.43	-367.17	2,016.68	0.00	0.00	0.00
11,300.00	90.00	179.56	9,520.00	-2,096.43	-366.40	2,116.39	0.00	0.00	0.00
11,400.00	90.00	179.56	9,520.00	-2,196.43	-365.63	2,216.11	0.00	0.00	0.00
11,500.00	90.00	179.56	9,520.00	-2,296.43	-364.86	2,315.83	0.00	0.00	0.00
11,600.00	90.00	179.56	9,520.00	-2,396.42	-364.09	2,415.54	0.00	0.00	0.00
11,700.00	90.00	179.56	9,520.00	-2,496.42	-363.32	2,515.26	0.00	0.00	0.00
11,800.00	90.00	179.56	9,520.00	-2,596.42	-362.55	2,614.98	0.00	0.00	0.00
11,900.00	90.00	179.56	9,520.00	-2,696.41	-361.78	2,714.69	0.00	0.00	0.00
12,000.00	90.00	179.56	9,520.00	-2,796.41	-361.01	2,814.41	0.00	0.00	0.00
12,100.00	90.00	179.56	9,520.00	-2,896.41	-360.24	2,914.13	0.00	0.00	0.00
12,200.00	90.00	179.56	9,520.00	-2,996.40	-359.47	3,013.84	0.00	0.00	0.00
12,300.00	90.00	179.56	9,520.00	-3,096.40	-358.70	3,113.56	0.00	0.00	0.00
12,400.00	90.00	179.56	9,520.00	-3,196.40	-357.93	3,213.28	0.00	0.00	0.00
12,500.00	90.00	179.56	9,520.00	-3,296.40	-357.16	3,312.99	0.00	0.00	0.00
12,600.00	90.00	179.56	9,520.00	-3,396.39	-356.40	3,412.71	0.00	0.00	0.00
12,700.00	90.00	179.56	9,520.00	-3,496.39	-355.63	3,512.43	0.00	0.00	0.00
12,800.00	90.00	179.56	9,520.00	-3,596.39	-354.86	3,612.14	0.00	0.00	0.00
12,900.00	90.00	179.56	9,520.00	-3,696.38	-354.09	3,711.86	0.00	0.00	0.00
13,000.00	90.00	179.56	9,520.00	-3,796.38	-353.32	3,811.58	0.00	0.00	0.00
13,100.00	90.00	179.56	9,520.00	-3,896.38	-352.55	3,911.29	0.00	0.00	0.00
13,200.00	90.00	179.56	9,520.00	-3,996.38	-351.78	4,011.01	0.00	0.00	0.00
13,300.00	90.00	179.56	9,520.00	-4,096.37	-351.01	4,110.73	0.00	0.00	0.00
13,400.00	90.00	179.56	9,520.00	-4,196.37	-350.24	4,210.44	0.00	0.00	0.00
13,500.00	90.00	179.56	9,520.00	-4,296.37	-349.47	4,310.16	0.00	0.00	0.00
13,600.00	90.00	179.56	9,520.00	-4,396.36	-348.70	4,409.88	0.00	0.00	0.00

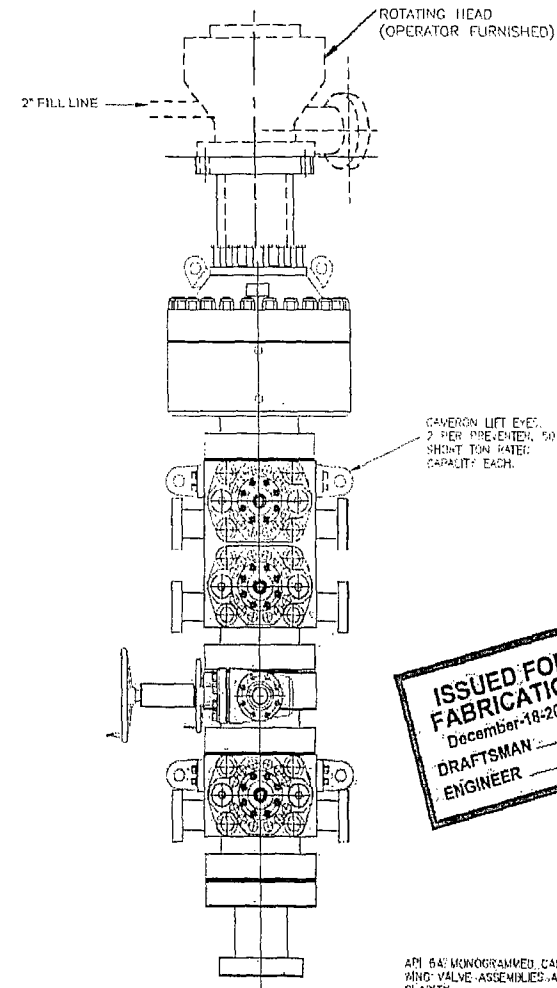
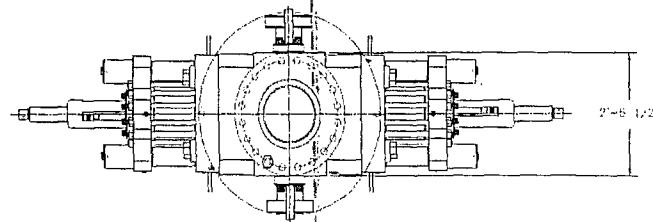
Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well: C18 DM S 2H
Company:	OXY	TVD Reference:	KB @ 3595.20usft
Project:	Lea County, New Mexico	MD Reference:	KB @ 3595.20usft
Site:	Copperhead 18 DM State 2H	North Reference:	Grid
Well:	C18 DM S 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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)
13,700.00	90.00	179.56	9,520.00	-4,496.36	-347.93	4,509.59	0.00	0.00	0.00
13,800.00	90.00	179.56	9,520.00	-4,596.36	-347.16	4,609.31	0.00	0.00	0.00
13,900.00	90.00	179.56	9,520.00	-4,696.35	-346.39	4,709.03	0.00	0.00	0.00
14,000.00	90.00	179.56	9,520.00	-4,796.35	-345.62	4,808.74	0.00	0.00	0.00
14,100.00	90.00	179.56	9,520.00	-4,896.35	-344.85	4,908.46	0.00	0.00	0.00
14,127.11	90.00	179.56	9,520.00	-4,923.46	-344.64	4,935.49	0.00	0.00	0.00
Exit Point									
14,200.00	90.00	179.56	9,520.00	-4,996.35	-344.08	5,008.18	0.00	0.00	0.00
14,276.85	90.00	179.56	9,520.00	-5,073.19	-343.49	5,084.81	0.00	0.00	0.00
TD at 14276.85									

Design Targets									
Target Name	Dip/Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
State 2H BHL	0.00	0.00	9,520.00	-5,073.19	-343.49	441,148.09	721,727.82	32° 12' 38.882 N	103° 36' 59.159 W
- plan hits target center									
- Point									
State 2H FTP	0.00	0.00	9,520.00	-312.09	-340.13	445,909.19	721,731.18	32° 13' 25.996 N	103° 36' 58.751 W
- plan misses target center by 132.64usft at 9560.23usft MD (9411.36 TVD, -377.13 N, -379.63 E)									
- Point									
State 2H LTP	0.00	0.00	9,520.00	-4,913.19	-344.84	441,308.09	721,726.47	32° 12' 40.465 N	103° 36' 59.163 W
- plan misses target center by 0.12usft at 14116.84usft MD (9520.00 TVD, -4913.19 N, -344.72 E)									
- Point									

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,200.00	5,200.00	0.00	0.00	Start Build 2.00
5,700.00	5,697.47	-4.55	-43.28	Start 1712.00 hold at 5700.00 MD
7,412.00	7,383.46	-35.62	-338.94	Start Drop -2.00
7,912.00	7,880.92	-40.17	-382.23	Start 922.88 hold at 7912.00 MD
8,834.88	8,803.80	-40.17	-382.23	Start DLS 8.00 TFO 179.56
9,468.13	9,357.71	-302.35	-380.21	Entry Point
9,959.88	9,520.00	-756.35	-376.71	Start 4316.97 hold at 9959.88 MD
14,127.11	9,520.00	-4,923.46	-344.64	Exit Point
14,276.85	9,520.00	-5,073.19	-343.49	TD at 14276.85



- LEGEND:
- ① - 1/16\"-10M FLANGED END GATE VALVE
 - ② - 1/16\"-10M FLANGED END GATE VALVE WITH DOUBLE ACTING HYDRAULIC ACTUATOR
 - ③ - 1/16\"-10M FLANGED END GATE VALVE
 - ④ - 1/16\"-10M FLANGED END GATE VALVE
 - ⑤ - DOUBLE STUDDED ADAPTER

SHAFTER (ALLOY) COVER (SPHERICAL ANNULAR PREVENTER, API 18A MONOGRAMMED, 13 5/8\"-5M WP), 10M HUTTON FLANGE & BV STUCCED TOP (WEIGHT = 14,300 LBS WITH SHAFTER API 18A HUT OIL RESISTANT ADHESIONABLE ELEMENT)

CAVERON UM DOUBLE RAM-TYPE PREVENTER (API 18A MONOGRAMMED, 13 5/8\"-10M WP), WITH 5\" CAVERON PIPE RAMS (CAVERON FRONT HACKERS & TOP SEALS) IN TOP CAVITY AND CAVERON DS SHEARING BLIND RAMS IN BOTTOM CAVITY. BOTTOM FLANGE & STUCCED TOP (WEIGHT = 21,100 LBS WITH RAMS)

13 5/8\"-10M WP CAVERON DRILLING SPOOL (API 18A MONOGRAMMED), STUCCED TOP & FLANGED BOTTOM, WITH 4 1/16\"-10M WP FLANGED OUTLETS (WEIGHT APPROXIMATELY 5,000 LBS)

CAVERON UM SINGLE RAM-TYPE PREVENTER (API 18A MONOGRAMMED, 13 5/8\"-10M WP), WITH 5\" CAVERON PIPE RAMS (CAVERON FRONT HACKERS & TOP SEALS) BOTTOM FLANGE & STUCCED TOP (WEIGHT = 10,900 LBS)

H&P FURNISHED
13 5/8\"-10M x 13 5/8\"-5M
ADAPTER SPOOL 2'-0\" LONG

13 5/8 - 10M BOP STACK WITH 13 5/8 - 5M ANNULAR

PROPRIETARY

THIS DRAWING AND THE IDEAS AND INFORMATION INCLUDED IN THIS DRAWING ARE PROPRIETARY AND ARE NOT TO BE REPRODUCED, DISTRIBUTED OR DISCLOSED IN ANY MANNER WITHOUT THE PRIOR WRITTEN CONSENT OF A QUALIFIED MEMBER OF HELMERICH & PAYNE INTERNATIONAL DRILLING CO.

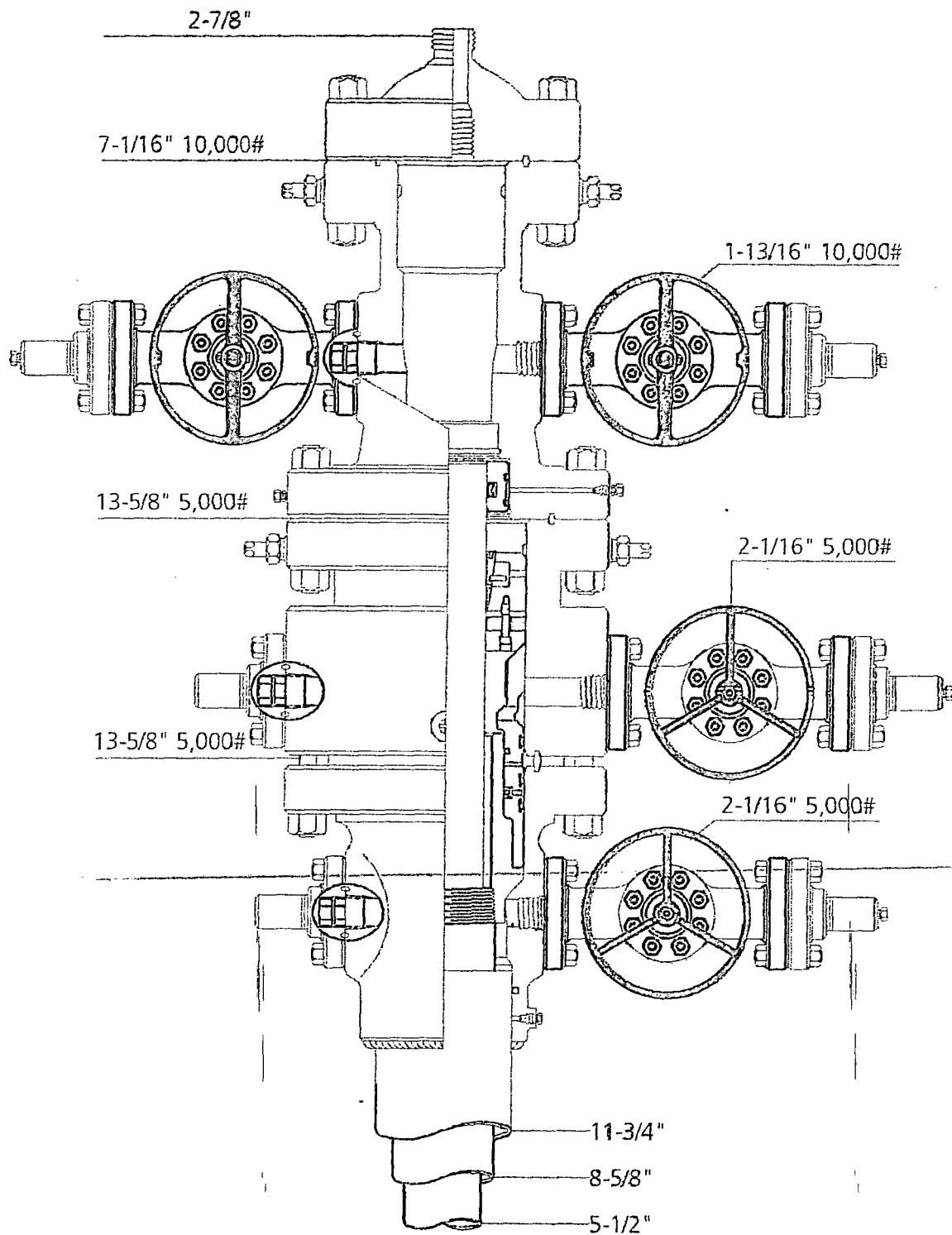
ISSUED FOR FABRICATION
December-18-2007
DRAFTSMAN
ENGINEER

API 8A MONOGRAMMED CAVERON CHOKES AND KILL AND VALVE ASSEMBLIES ARE NOT SHOWN FOR CLARITY

WEIGHTS DO NOT INCLUDE HOSES, ADAPTER SPOOLS OR QUICK CONNECT FITTINGS

ENGINEERING APPROVAL		DATE	TITLE
12/18/07	ADDED SHEET 01	JAY	13 5/8\"-10M BOP 3 RAM STACK 'FLEXRIGS'
4-10-07	CAVERON DRILLING SPOOL (API 18A MONOGRAMMED) (WEIGHT: 5,000 LBS) (H&P FURNISHED)	JAY	CUSTOMER: H&P
4-04-07	ADDED 10\" SPACER ADAPTER SPOOL	JAY	PROJECT: FLEXRIGS
02-07-07	ADDED ADAPTER SPOOL	JAY	DRAWN: MTS
06-13-02	CONNECTED BOP STACK	JAY	DATE: 08-08-02
REV	DATE	DESCRIPTION	BY
1	12/18/07	ADDED SHEET 01	JAY
2	4-10-07	CAVERON DRILLING SPOOL (API 18A MONOGRAMMED) (WEIGHT: 5,000 LBS) (H&P FURNISHED)	JAY
3	4-04-07	ADDED 10\" SPACER ADAPTER SPOOL	JAY
4	02-07-07	ADDED ADAPTER SPOOL	JAY
5	06-13-02	CONNECTED BOP STACK	JAY
SCALE: 3/4\"=1'		SHEET: 1 OF 1	210-P1-07 E

207-1

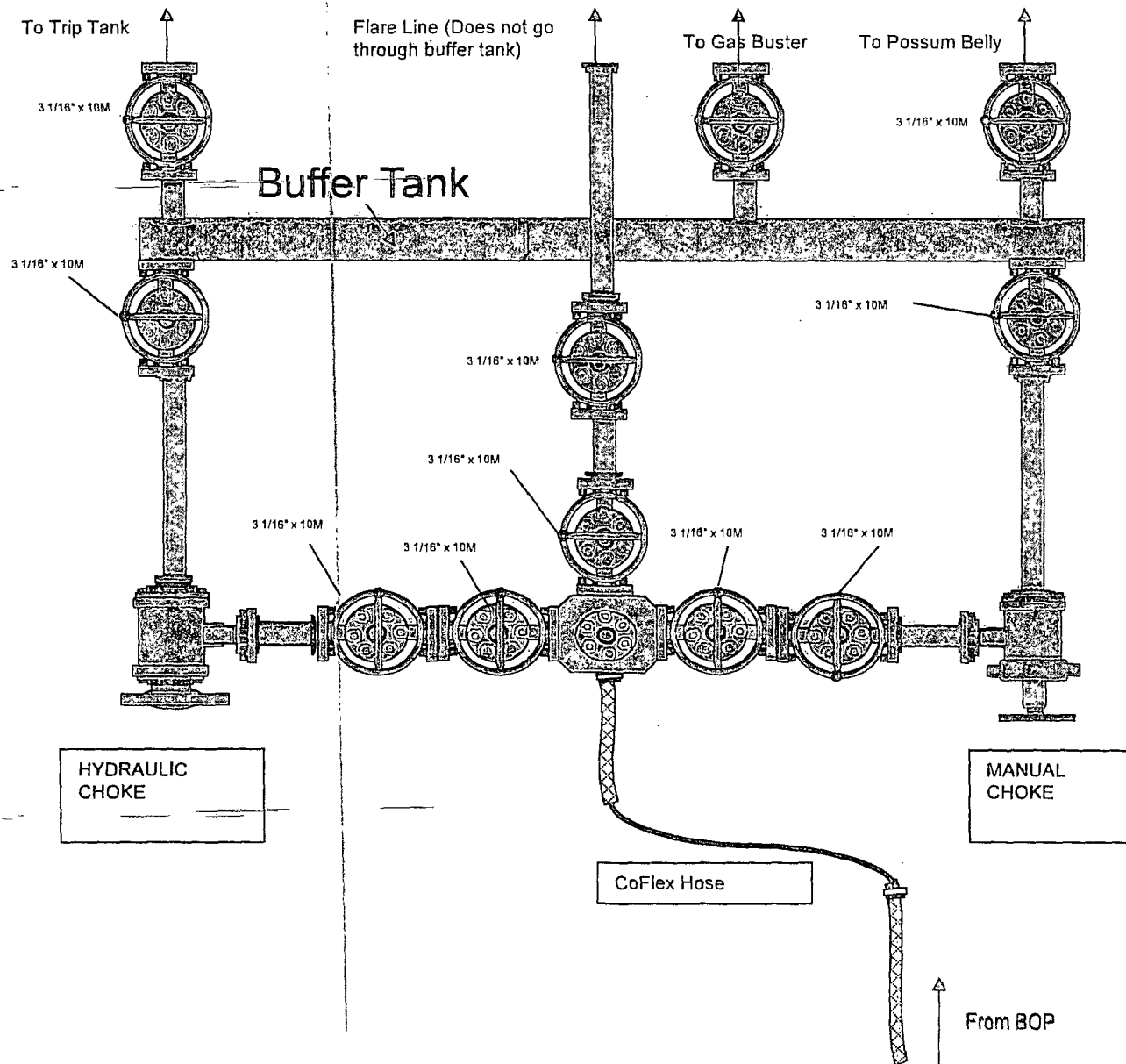


Permian Basin
MBS



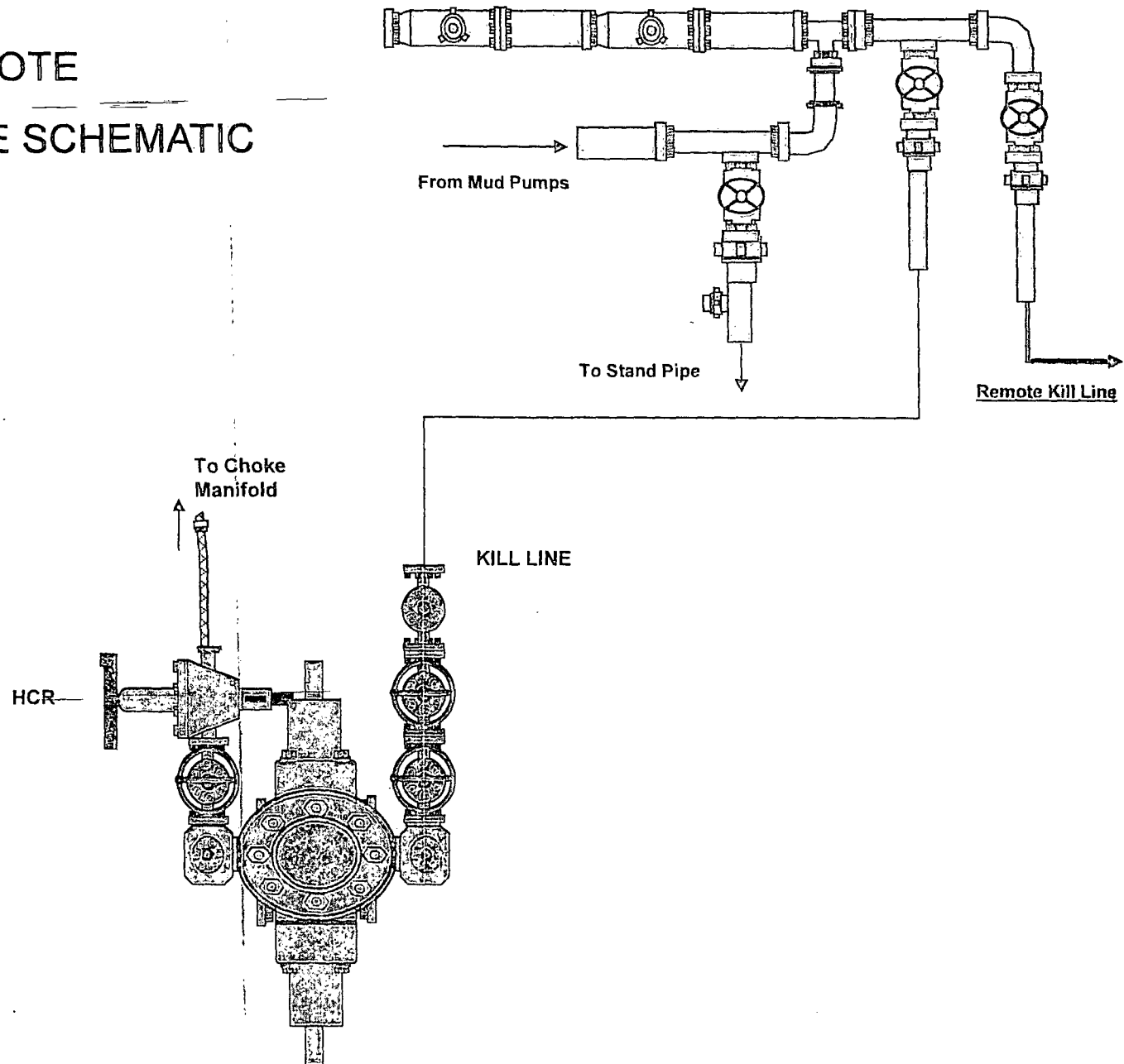
Name: Jeanette	Date: 1-31-13	Working Pressure: # 21073221
----------------	---------------	------------------------------

FLEX3 STD CHOKE MANIFOLD (COMPREHENSIVE)

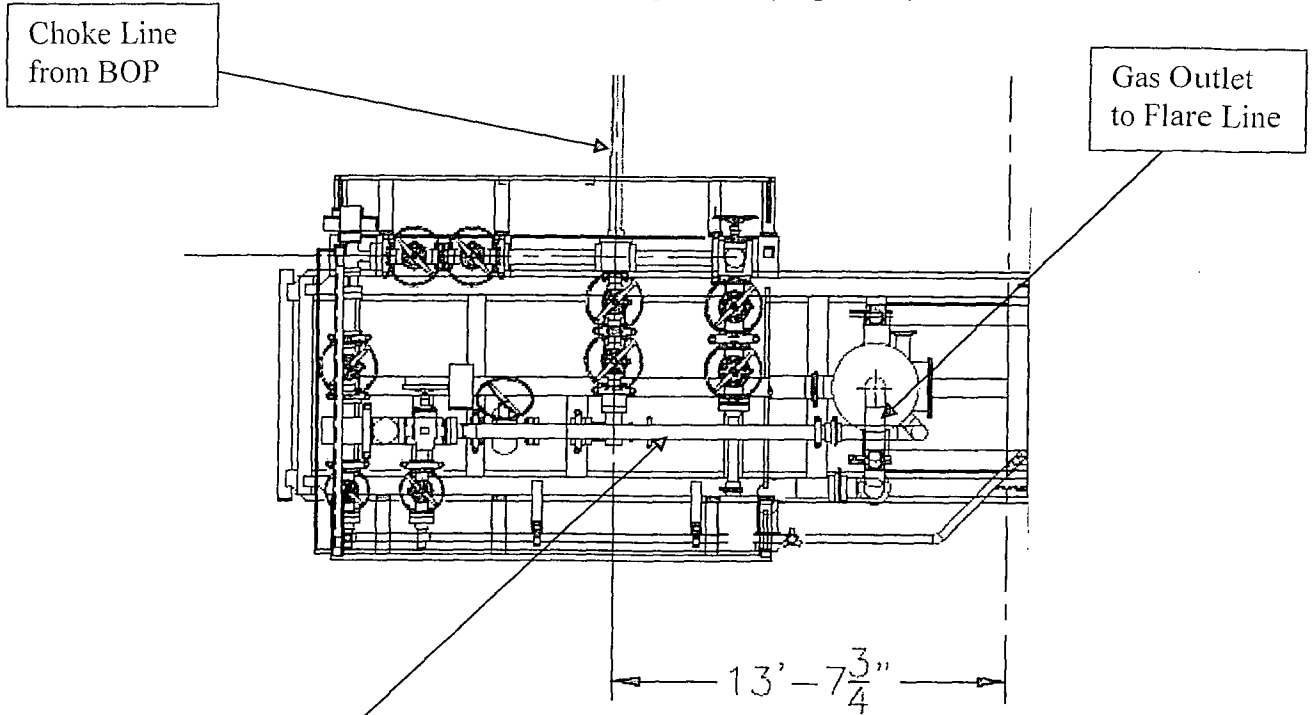


CM-1

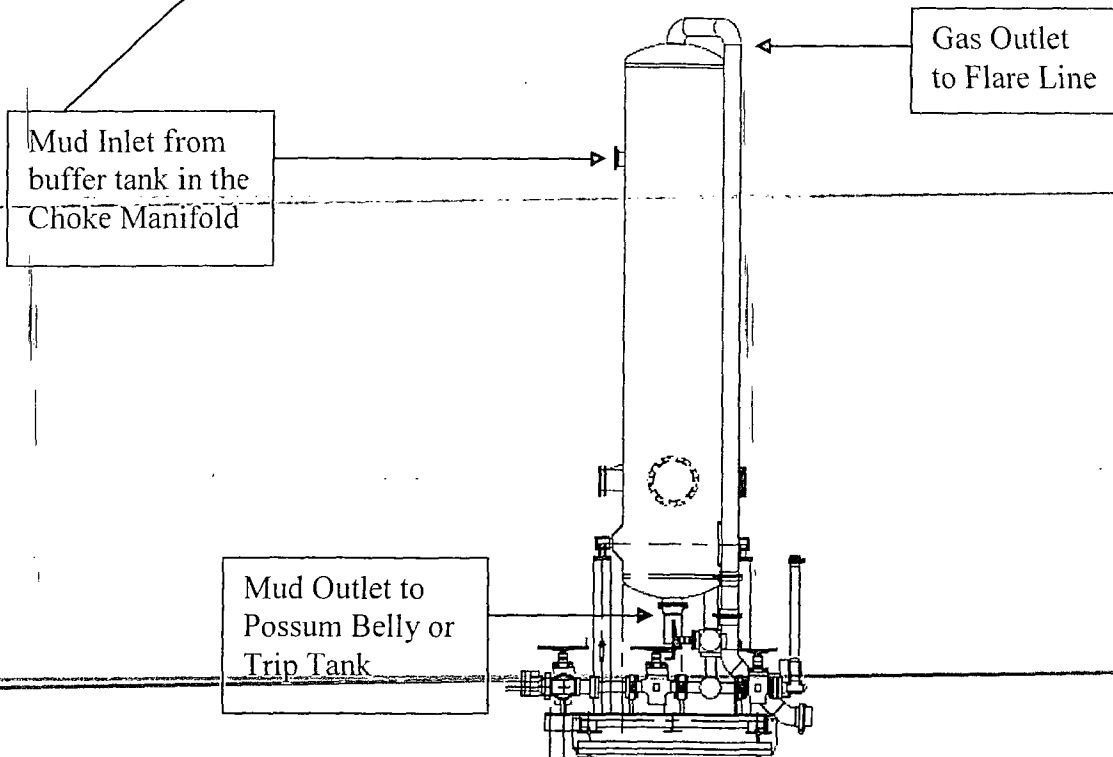
10M REMOTE KILL LINE SCHEMATIC



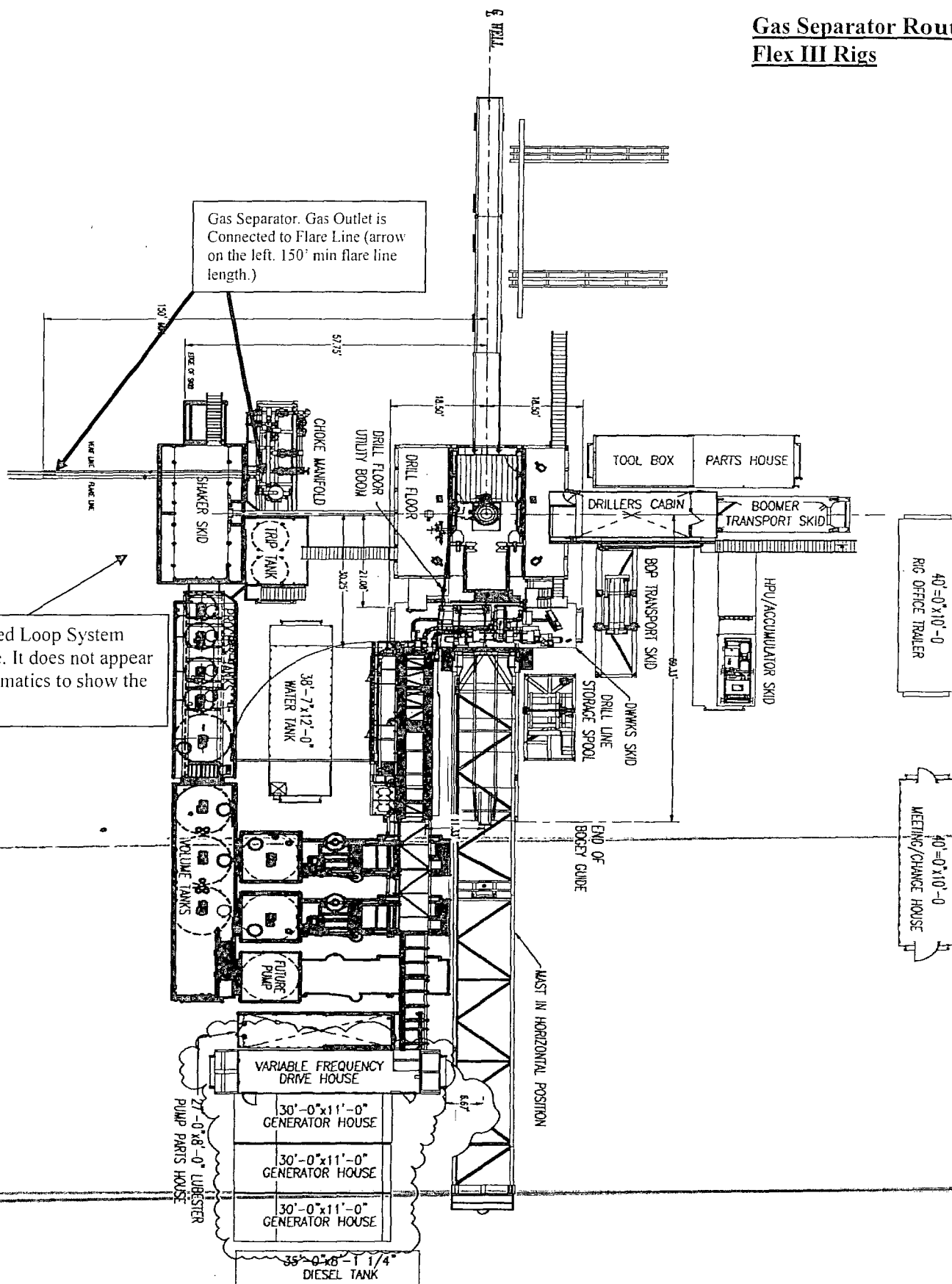
Choke Manifold – Gas Separator (Top View)



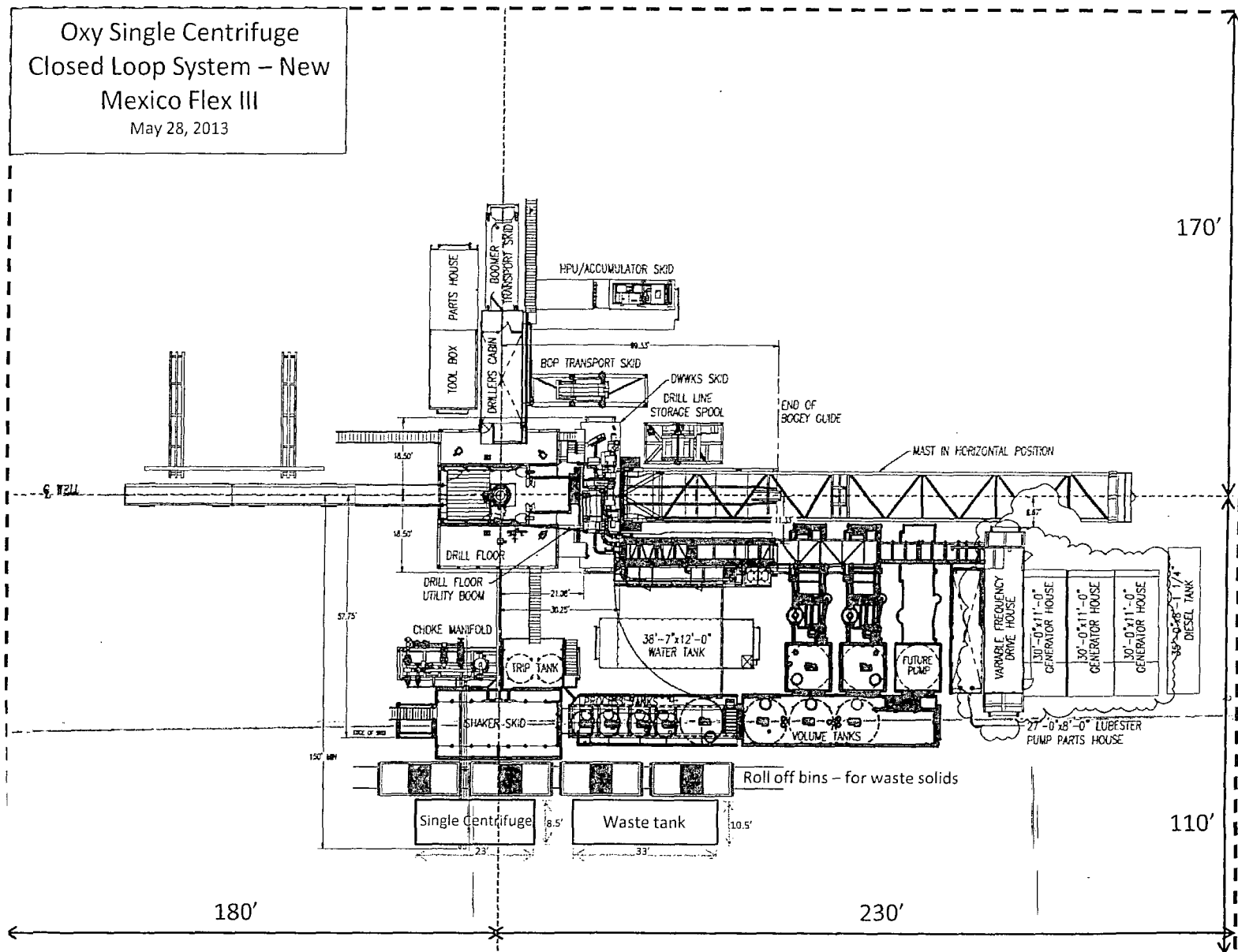
Choke Manifold – Gas Separator (Side View)



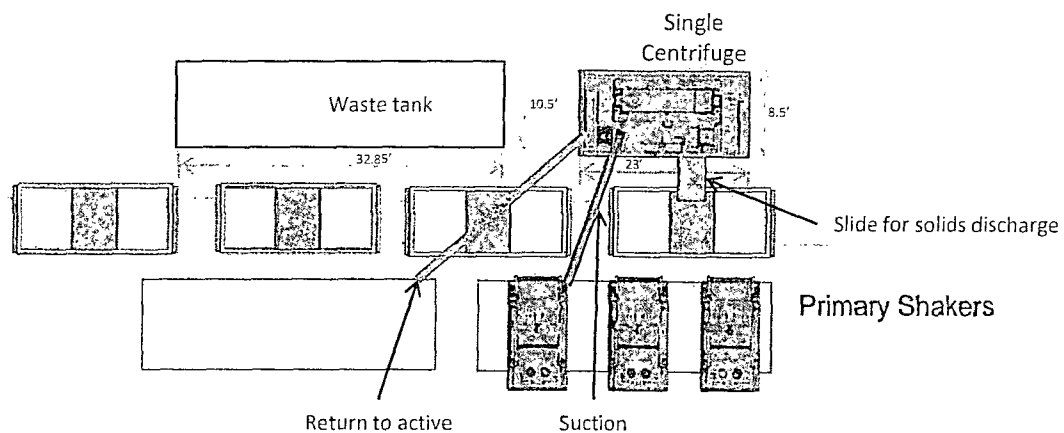
Gas Separator Routing



Oxy Single Centrifuge
Closed Loop System – New
Mexico Flex III
May 28, 2013



Oxy



Oxy Single Centrifuge
Closed Loop System – New
Mexico Flex III
May 28, 2013