District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-101
August 1, 2011

Permit 374167

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address	2. OGRID Number
OXY USA INC P.O. Box 4294 Houston, TX 772104294	16696
	3. API Number 30-015-55576

4. Property Code	5. Property Name	6. Well No.
39668	CEDAR CANYON 16 STATE	071H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
B	16	24S	29E		345	N	2197	E	Eddy

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
D	16	24S	29E	D	20	N	460	W	Eddy

9. Pool Information

PIERCE CROSSING; BONE SPRING, EAST	96473

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
New Well	OIL		Private	2928
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	19888	3rd Bone Spring Carbonate		11/26/2025
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ **We will be using a closed-loop system in lieu of lined pits**

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	14.75	10.75	45.5	572	479	0
Int1	9.875	7.625	26.4	9731	1416	0
Prod	6.75	5.5	20	19888	603	9231

Casing/Cement Program: Additional Comments

BOP BREAK TESING VARIANCE INCLUDED, BRADENHEAD CBL VARIANCE INCLUDED, OFFLINE CEMENT VARIANCE INCLUDED

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	5000	3500	
Blind	5000	5000	
Double Ram	5000	5000	

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief.
I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒, if applicable.

Signature:

Printed Name:	Electronically filed by KELLEY MONTGOMERY	Approved By:	Ward Rikala
Title:	Manager Regulatory	Title:	Petroleum Specialist Supervisor
Email Address:	kelley_montgomery@oxy.com	Approved Date:	10/27/2024 Expiration Date: 10/27/2026
Date:	9/27/2024 Phone: 713-366-5716	Conditions of Approval Attached	

OIL CONSERVATION DIVISION

C-102

Submit Electronically
Via OCD Permitting

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION

Revised July 9, 2024

Submittal Type: ☑ Initial Submittal ☐ Amended Report ☐ As Drilled

WELL LOCATION INFORMATION

API Number	Pool Code	Pool Name
30-015-55576	96473	PIERCE CROSSING; BONE SPRING, EAST

Property Code	Property Name	Well Number
39668	CEDAR CANYON 16 STATE	71H

OGRID No.	Operator Name	Ground Level Elevation
16696	OXY USA INC.	2927.8'

Surface Owner: ☐ State ☑ Fee ☐ Tribal ☐ Federal Mineral Owner: ☑ State ☐ Fee ☐ Tribal ☐ Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
B	16	24S	29E		345 NORTH	2197 EAST	32.223925°	-103.988027°	EDDY

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
D	16	24S	29E		20 NORTH	460 WEST	32.224800°	-103.996550°	EDDY

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
320	Defining		Y	

Order Numbers. Well setbacks are under Common Ownership: ☐Yes ☐No

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
C	16	24S	29E		50 NORTH	1930 WEST	32.224727°	-103.991797°	EDDY

First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
C	16	24S	29E		100 NORTH	1930 WEST	32.224590°	-103.991797°	EDDY

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
D	16	24S	29E		100 NORTH	460 WEST	32.224580°	-103.996550°	EDDY

Unitized Area or Area of Uniform Interest	Spacing Unit Type ☑ Horizontal ☐ Vertical	Ground Floor Elevation:

OPERATOR CERTIFICATIONS

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.

Leslie T. Reeves 9/27/2024

Signature Date

LESLIE REEVES

Printed Name

LESLIE_REEVES@OXY.COM

Email Address

SURVEYOR CERTIFICATIONS

I hereby certify that the well location shown on this plat was plotted from the field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

PAUL BUCHELE NEW MEXICO 23782 PROFESSIONAL SURVEYOR 09-13-24

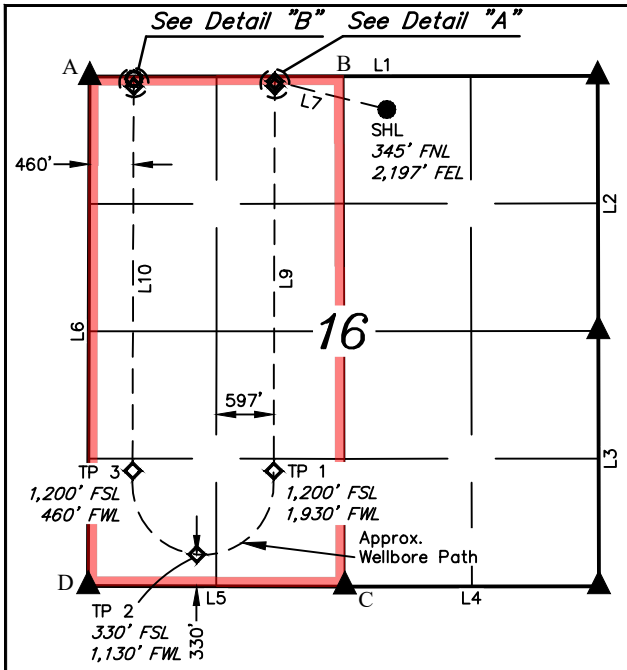
Signature and Seal of Professional Surveyor

23782 April 23, 2024

Certificate Number Date of Survey

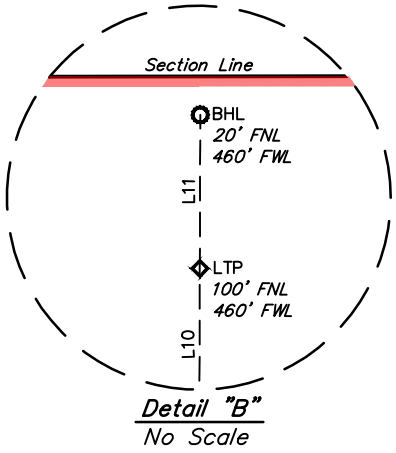
Note: No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.

Property Name	Well Number	Drawn By	Revised By
CEDAR CANYON 16 STATE	71H	L.T.T. 04-30-24	REV. 2 T.I.R. 09-13-24 (UPDATE FORMAT)

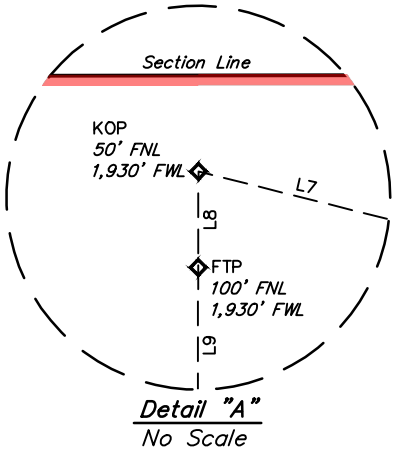


LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S89°55'08"W	5291.92'
L2	N00°08'44"W	2654.77'
L3	N00°08'54"W	2657.51'
L4	S89°55'54"W	2648.28'
L5	N89°54'05"W	2672.57'
L6	N00°09'55"E	5303.34'
L7	N75°53'35"W	1202.11'
L8	S00°09'55"W	50.00'
L9	S00°09'55"W	4009.40'
L10	N00°09'55"E	4004.79'
L11	N00°09'55"E	80.00'

NOTE:
- Distances referenced on plat to section lines are perpendicular.
- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)

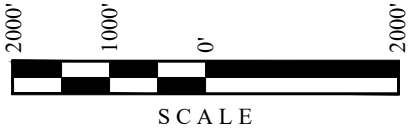


Detail "B"
No Scale



Detail "A"
No Scale

● = SURFACE HOLE LOCATION
◇ = KICK OFF POINT/TAKE POINTS/ TURN POINTS
◎ = BOTTOM HOLE LOCATION
▲ = SECTION CORNER LOCATED
▬ = HORIZONTAL SPACING UNIT



SCALE

HSU COORDINATES				
	NAD 27 N.M. STATE PLANE, EAST ZONE		NAD 83 N.M. STATE PLANE, EAST ZONE	
POINT	NORTHING	EASTING	NORTHING	EASTING
A	445637.62	603837.40	445696.58	645021.24
B	445652.45	606482.75	445711.40	647666.60
C	440342.10	606516.14	440400.95	647700.13
D	440335.51	603844.16	440394.36	645028.14

NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 32°13'26.13" (32.223925°)
LONGITUDE = -103°59'16.90" (-103.988027°)
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32°13'25.69" (32.223802°)
LONGITUDE = -103°59'15.14" (-103.987538°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445369.36' E: 648117.71'
STATE PLANE NAD 27 (N.M. EAST)
N: 445310.41' E: 606933.85'

NAD 83 (KICK OFF POINT)
LATITUDE = 32°13'29.02" (32.224727°)
LONGITUDE = -103°59'30.47" (-103.991797°)
NAD 27 (KICK OFF POINT)
LATITUDE = 32°13'28.58" (32.224604°)
LONGITUDE = -103°59'28.71" (-103.991308°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445657.40' E: 646950.88'
STATE PLANE NAD 27 (N.M. EAST)
N: 445598.45' E: 605767.03'

NAD 83 (FIRST TAKE POINT)
LATITUDE = 32°13'28.52" (32.224590°)
LONGITUDE = -103°59'30.47" (-103.991797°)
NAD 27 (FIRST TAKE POINT)
LATITUDE = 32°13'28.08" (32.224467°)
LONGITUDE = -103°59'28.71" (-103.991308°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445607.41' E: 646950.95'
STATE PLANE NAD 27 (N.M. EAST)
N: 445548.46' E: 605767.10'

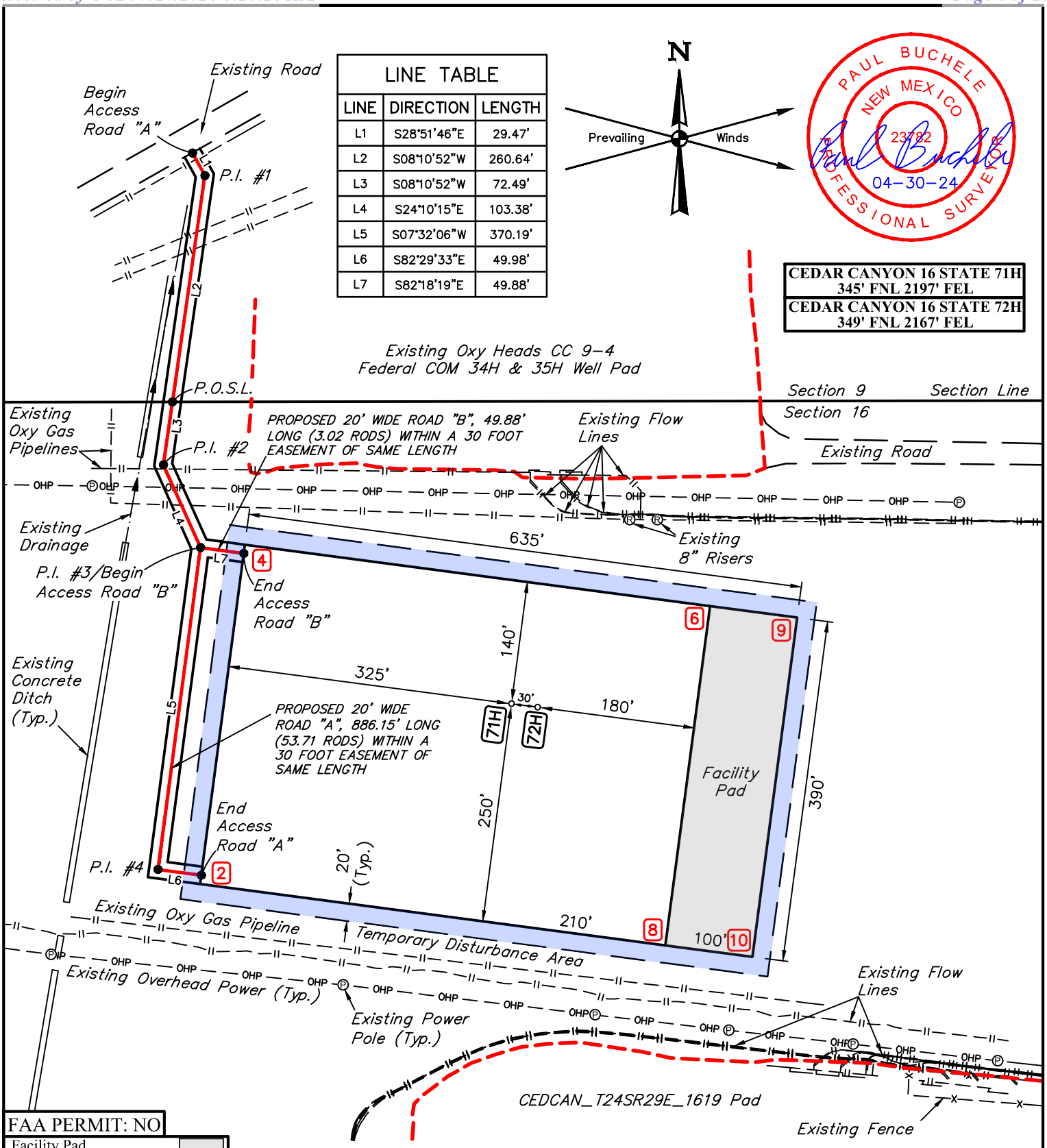
NAD 83 (TURN POINT 1)
LATITUDE = 32°12'48.85" (32.213571°)
LONGITUDE = -103°59'30.56" (-103.991822°)
NAD 27 (TURN POINT 1)
LATITUDE = 32°12'48.41" (32.213448°)
LONGITUDE = -103°59'28.80" (-103.991333°)
STATE PLANE NAD 83 (N.M. EAST)
N: 441598.87' E: 646956.17'
STATE PLANE NAD 27 (N.M. EAST)
N: 441539.99' E: 605772.21'

NAD 83 (TURN POINT 2)
LATITUDE = 32°12'40.25" (32.211181°)
LONGITUDE = -103°59'39.89" (-103.994413°)
NAD 27 (TURN POINT 2)
LATITUDE = 32°12'39.81" (32.211058°)
LONGITUDE = -103°59'38.13" (-103.993924°)
STATE PLANE NAD 83 (N.M. EAST)
N: 440727.08' E: 646157.47'
STATE PLANE NAD 27 (N.M. EAST)
N: 440668.22' E: 604973.50'

NAD 83 (TURN POINT 3)
LATITUDE = 32°12'48.86" (32.213574°)
LONGITUDE = -103°59'47.67" (-103.996574°)
NAD 27 (TURN POINT 3)
LATITUDE = 32°12'48.42" (32.213451°)
LONGITUDE = -103°59'45.91" (-103.996085°)
STATE PLANE NAD 83 (N.M. EAST)
N: 441595.24' E: 645486.48'
STATE PLANE NAD 27 (N.M. EAST)
N: 441536.37' E: 604302.53'

NAD 83 (LAST TAKE POINT)
LATITUDE = 32°13'28.49" (32.224580°)
LONGITUDE = -103°59'47.58" (-103.996550°)
NAD 27 (LAST TAKE POINT)
LATITUDE = 32°13'28.05" (32.224457°)
LONGITUDE = -103°59'45.82" (-103.996061°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445599.17' E: 645481.27'
STATE PLANE NAD 27 (N.M. EAST)
N: 445540.22' E: 604297.42'

NAD 83 (BOTTOM HOLE LOCATION)
LATITUDE = 32°13'29.28" (32.224800°)
LONGITUDE = -103°59'47.58" (-103.996550°)
NAD 27 (BOTTOM HOLE LOCATION)
LATITUDE = 32°13'28.84" (32.224677°)
LONGITUDE = -103°59'45.82" (-103.996060°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445679.16' E: 645481.17'
STATE PLANE NAD 27 (N.M. EAST)
N: 445620.20' E: 604297.32'



NOTES:

- Underground utilities shown on this sheet are for visualization purposes only, actual locations to be determined prior to construction.
- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)
- OXY USA INC. personnel to provide any site specific requirements needed at the time of construction.

OXY USA INC.

CEDCAN_T24SR29E_16_PAD 1620
NW 1/4 NE 1/4, SECTION 16, T24S, R29E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	C.T.	04-23-24	SCALE
DRAWN BY	L.T.T.	04-30-24	1" = 150'

SITE PLAN

UINTAH ENGINEERING & LAND SURVEYING
UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

CEDAR CANYON 16 STATE 71H - EL: 2927.8'
NAD 83
LATITUDE = 32°13'26.13" (32.223925°)
LONGITUDE = -103°59'16.90" (-103.988027°)
NAD 27
LATITUDE = 32°13'25.69" (32.223802°)
LONGITUDE = -103°59'15.14" (-103.987538°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445369.36' E: 648117.71'
STATE PLANE NAD 27 (N.M. EAST)
N: 445310.41' E: 606933.85'

CEDAR CANYON 16 STATE 72H - EL: 2927.8'
NAD 83
LATITUDE = 32°13'26.09" (32.223914°)
LONGITUDE = -103°59'16.55" (-103.987931°)
NAD 27
LATITUDE = 32°13'25.65" (32.223792°)
LONGITUDE = -103°59'14.79" (-103.987442°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445365.55' E: 648147.46'
STATE PLANE NAD 27 (N.M. EAST)
N: 445306.60' E: 606963.60'

2 - EL: 2927.6'
NAD 83
LATITUDE = 32°13'24.10" (32.223360°)
LONGITUDE = -103°59'21.03" (-103.989174°)
NAD 27
LATITUDE = 32°13'23.65" (32.223237°)
LONGITUDE = -103°59'19.26" (-103.988685°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445162.60' E: 647763.73'
STATE PLANE NAD 27 (N.M. EAST)
N: 445103.65' E: 606579.86'

4 - EL: 2928.0'
NAD 83
LATITUDE = 32°13'27.92" (32.224423°)
LONGITUDE = -103°59'20.44" (-103.989010°)
NAD 27
LATITUDE = 32°13'27.48" (32.224300°)
LONGITUDE = -103°59'18.68" (-103.988521°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445549.37' E: 647813.14'
STATE PLANE NAD 27 (N.M. EAST)
N: 445490.42' E: 606629.28'

6 - EL: 2928.1'
NAD 83
LATITUDE = 32°13'27.23" (32.224232°)
LONGITUDE = -103°59'14.26" (-103.987295°)
NAD 27
LATITUDE = 32°13'26.79" (32.224109°)
LONGITUDE = -103°59'12.50" (-103.986806°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445481.59' E: 648343.71'
STATE PLANE NAD 27 (N.M. EAST)
N: 445422.64' E: 607159.85'

8 - EL: 2927.8'
NAD 83
LATITUDE = 32°13'23.41" (32.223169°)
LONGITUDE = -103°59'14.85" (-103.987459°)
NAD 27
LATITUDE = 32°13'22.97" (32.223046°)
LONGITUDE = -103°59'13.09" (-103.986970°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445094.82' E: 648294.30'
STATE PLANE NAD 27 (N.M. EAST)
N: 445035.87' E: 607110.43'

9 - EL: 2928.1'
NAD 83
LATITUDE = 32°13'27.11" (32.224196°)
LONGITUDE = -103°59'13.11" (-103.986974°)
NAD 27
LATITUDE = 32°13'26.66" (32.224073°)
LONGITUDE = -103°59'11.35" (-103.986485°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445468.92' E: 648442.88'
STATE PLANE NAD 27 (N.M. EAST)
N: 445409.97' E: 607259.02'

10 - EL: 2927.8'
NAD 83
LATITUDE = 32°13'23.28" (32.223133°)
LONGITUDE = -103°59'13.70" (-103.987138°)
NAD 27
LATITUDE = 32°13'22.84" (32.223010°)
LONGITUDE = -103°59'11.94" (-103.986649°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445082.15' E: 648393.48'
STATE PLANE NAD 27 (N.M. EAST)
N: 445023.21' E: 607209.60'

BEGIN ACCESS ROAD A - EL: 2930.0'
NAD 83
LATITUDE = 32°13'32.34" (32.225650°)
LONGITUDE = -103°59'21.14" (-103.989205°)
NAD 27
LATITUDE = 32°13'31.90" (32.225527°)
LONGITUDE = -103°59'19.38" (-103.988716°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445995.59' E: 647751.37'
STATE PLANE NAD 27 (N.M. EAST)
N: 445936.63' E: 606567.53'

P.I. #1 - EL: 2929.5'
NAD 83
LATITUDE = 32°13'32.08" (32.225579°)
LONGITUDE = -103°59'20.97" (-103.989159°)
NAD 27
LATITUDE = 32°13'31.64" (32.225456°)
LONGITUDE = -103°59'19.21" (-103.988670°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445969.84' E: 647765.71'
STATE PLANE NAD 27 (N.M. EAST)
N: 445910.88' E: 606581.86'

POINT ON SECTION LINE - EL: 2928.3'
NAD 83
LATITUDE = 32°13'29.53" (32.224870°)
LONGITUDE = -103°59'21.40" (-103.989278°)
NAD 27
LATITUDE = 32°13'29.09" (32.224747°)
LONGITUDE = -103°59'19.64" (-103.988789°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445711.76' E: 647729.71'
STATE PLANE NAD 27 (N.M. EAST)
N: 445652.80' E: 606545.85'

P.I. #2 - EL: 2928.1'
NAD 83
LATITUDE = 32°13'28.82" (32.224673°)
LONGITUDE = -103°59'21.52" (-103.989311°)
NAD 27
LATITUDE = 32°13'28.38" (32.224550°)
LONGITUDE = -103°59'19.76" (-103.988822°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445639.98' E: 647719.69'
STATE PLANE NAD 27 (N.M. EAST)
N: 445581.02' E: 606535.84'

P.I. #3/BEGIN ROAD "B" - EL: 2928.0'
NAD 83
LATITUDE = 32°13'27.89" (32.224413°)
LONGITUDE = -103°59'21.03" (-103.989174°)
NAD 27
LATITUDE = 32°13'27.45" (32.224291°)
LONGITUDE = -103°59'19.27" (-103.988685°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445545.86' E: 647762.41'
STATE PLANE NAD 27 (N.M. EAST)
N: 445486.90' E: 606578.55'

P.I. #4 - EL: 2927.6'
NAD 83
LATITUDE = 32°13'24.26" (32.223405°)
LONGITUDE = -103°59'21.59" (-103.989330°)
NAD 27
LATITUDE = 32°13'23.82" (32.223282°)
LONGITUDE = -103°59'19.83" (-103.988841°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445178.74' E: 647715.42'
STATE PLANE NAD 27 (N.M. EAST)
N: 445119.80' E: 606531.55'

END ACCESS ROAD "A" - EL: 2927.6'
NAD 83
LATITUDE = 32°13'24.19" (32.223387°)
LONGITUDE = -103°59'21.01" (-103.989170°)
NAD 27
LATITUDE = 32°13'23.75" (32.223264°)
LONGITUDE = -103°59'19.25" (-103.988681°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445172.42' E: 647764.98'
STATE PLANE NAD 27 (N.M. EAST)
N: 445113.48' E: 606581.11'

END ACCESS ROAD "B" - EL: 2928.0'
NAD 83
LATITUDE = 32°13'27.82" (32.224395°)
LONGITUDE = -103°59'20.45" (-103.989014°)
NAD 27
LATITUDE = 32°13'27.38" (32.224272°)
LONGITUDE = -103°59'18.69" (-103.988525°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445539.39' E: 647811.86'
STATE PLANE NAD 27 (N.M. EAST)
N: 445480.43' E: 606628.00'

NOTES:

- Underground utilities shown on this sheet are for visualization purposes only, actual locations to be determined prior to construction.
- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)
- OXY USA INC. personnel to provide any site specific requirements needed at the time of construction.

OXY USA INC.

CEDCAN_T24SR29E_16_PAD 1620
NW 1/4 NE 1/4, SECTION 16, T24S, R29E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	C.T.	04-23-24	SCALE
DRAWN BY	L.T.T.	04-30-24	N/A

SITE PLAN

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form APD Conditions

Permit 374167

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address:	API Number:
OXY USA INC [16696] P.O. Box 4294 Houston, TX 772104294	30-015-55576
	Well: CEDAR CANYON 16 STATE #071H

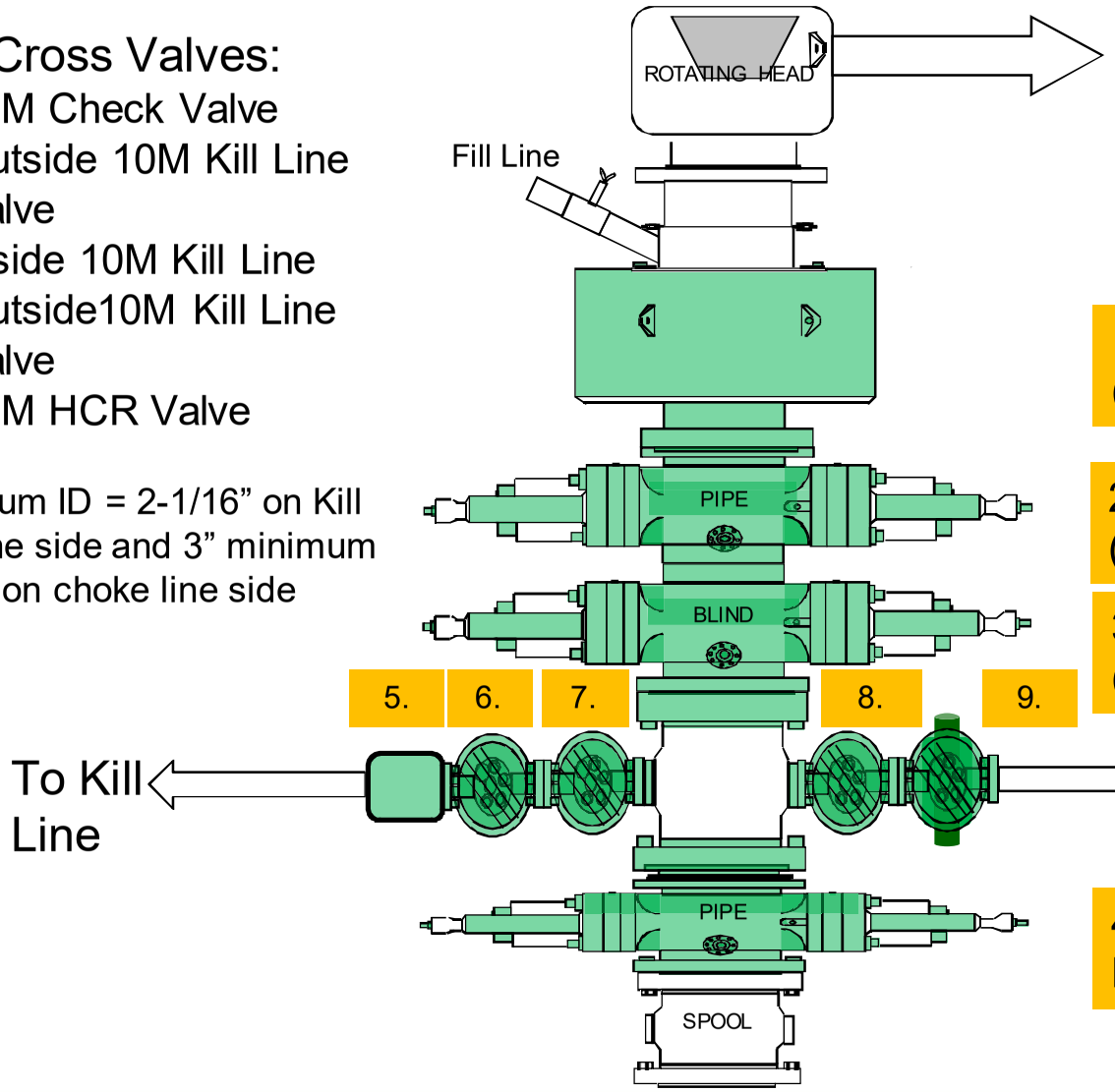
OCD Reviewer	Condition
ward.rikala	Notify OCD 24 hours prior to casing & cement
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing
ward.rikala	If cement does not circulate on any string, a CBL is required for that string of casing
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system
ward.rikala	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud

5/10M BOP Stack

Mud Cross Valves:

5. 10M Check Valve
6. Outside 10M Kill Line Valve
7. Inside 10M Kill Line
8. Outside10M Kill Line Valve
9. 10M HCR Valve

*Minimum ID = 2-1/16” on Kill Line side and 3” minimum ID on choke line side

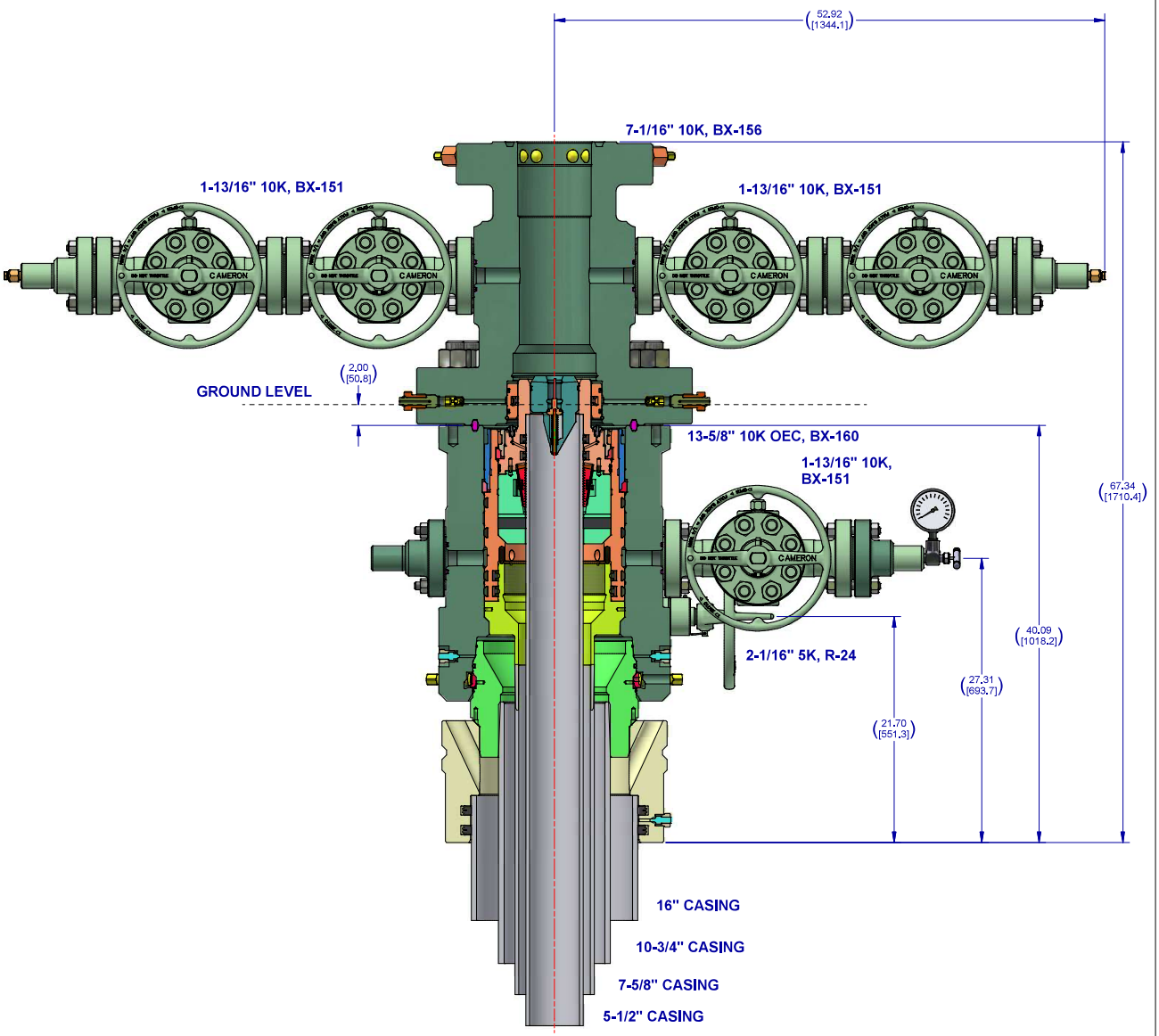


1. 5,000 psi Annular (13-5/8” ID)

2. 10,000 psi Upper Pipe Ram (13-5/8” ID)

3. 10,000 psi Blind Ram (13-5/8” ID)

4. 10,000 psi Lower Pipe Ram (13-5/8” ID)



Notes:

1. THIS IS A PROPOSAL DRAWING AND DIMENSIONS SHOWN ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PROCESS.

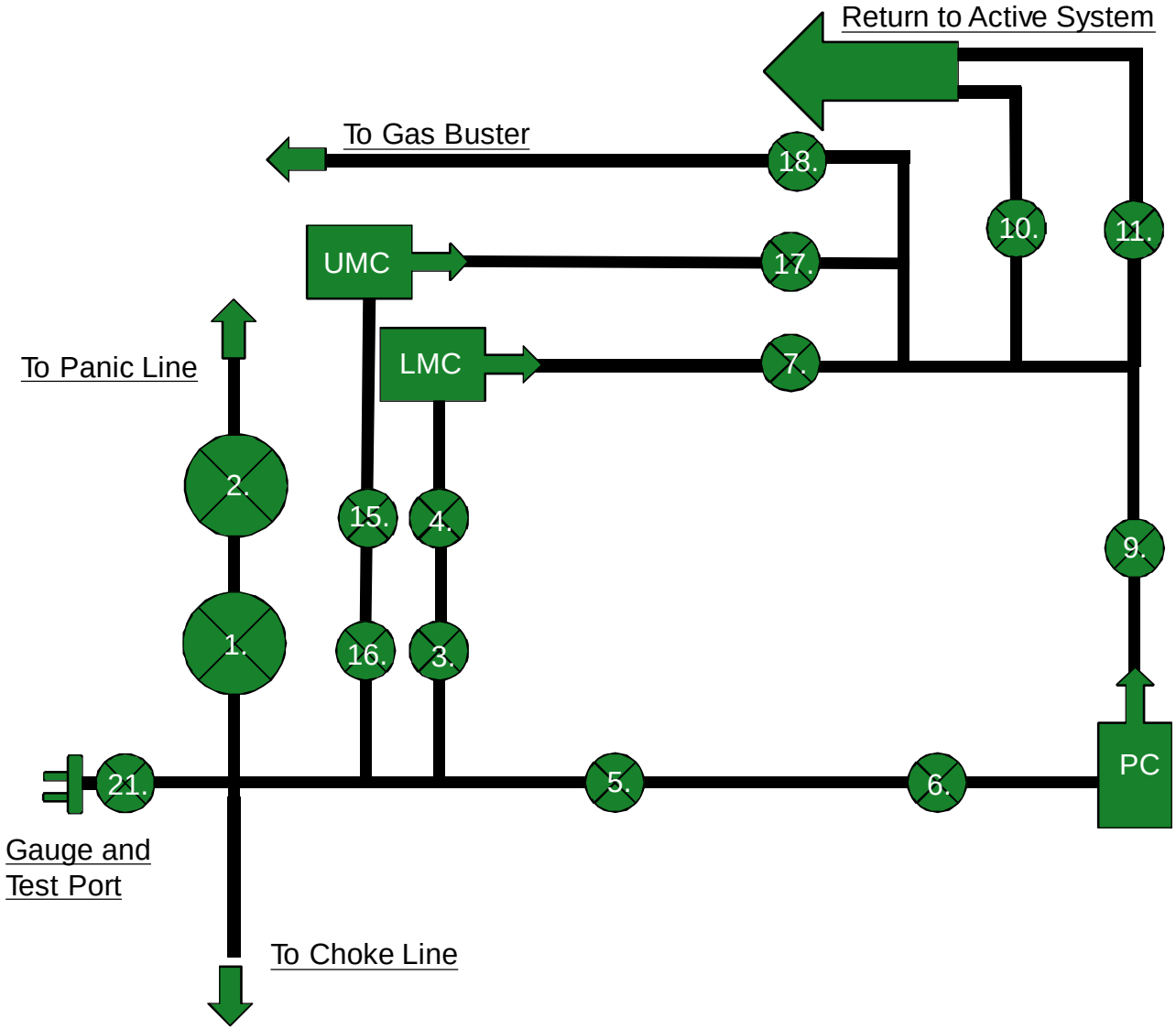
2. DIGITALLY ENABLED SOLUTIONS, CHOKES AND ESD'S AVAILABLE ON REQUEST

CONFIDENTIAL

SURFACE TREATMENT	DO NOT SCALE		CAMERON A Schlumberger Company	SURFACE SYSTEMS
	DRAWN BY: D. GOTTUNG	DATE: 2 Dec 21		
MATERIAL & HEAT TREAT	CHECKED BY: D. GOTTUNG	DATE: 2 Dec 21	OXY 13-5/8" 10K ADAPT 16" X 10-3/4" X 7-5/8" X 5-1/2"	
	APPROVED BY: D. GOTTUNG	DATE: 2 Dec 21		
ESTIMATED WEIGHT:	6515,617 LBS [2955,434 KG]	INITIAL USE B/M:	SHEET: 4 OF 4	SD-053434-94-05 REV: 01

INVENTOR - D

10M Choke Panel

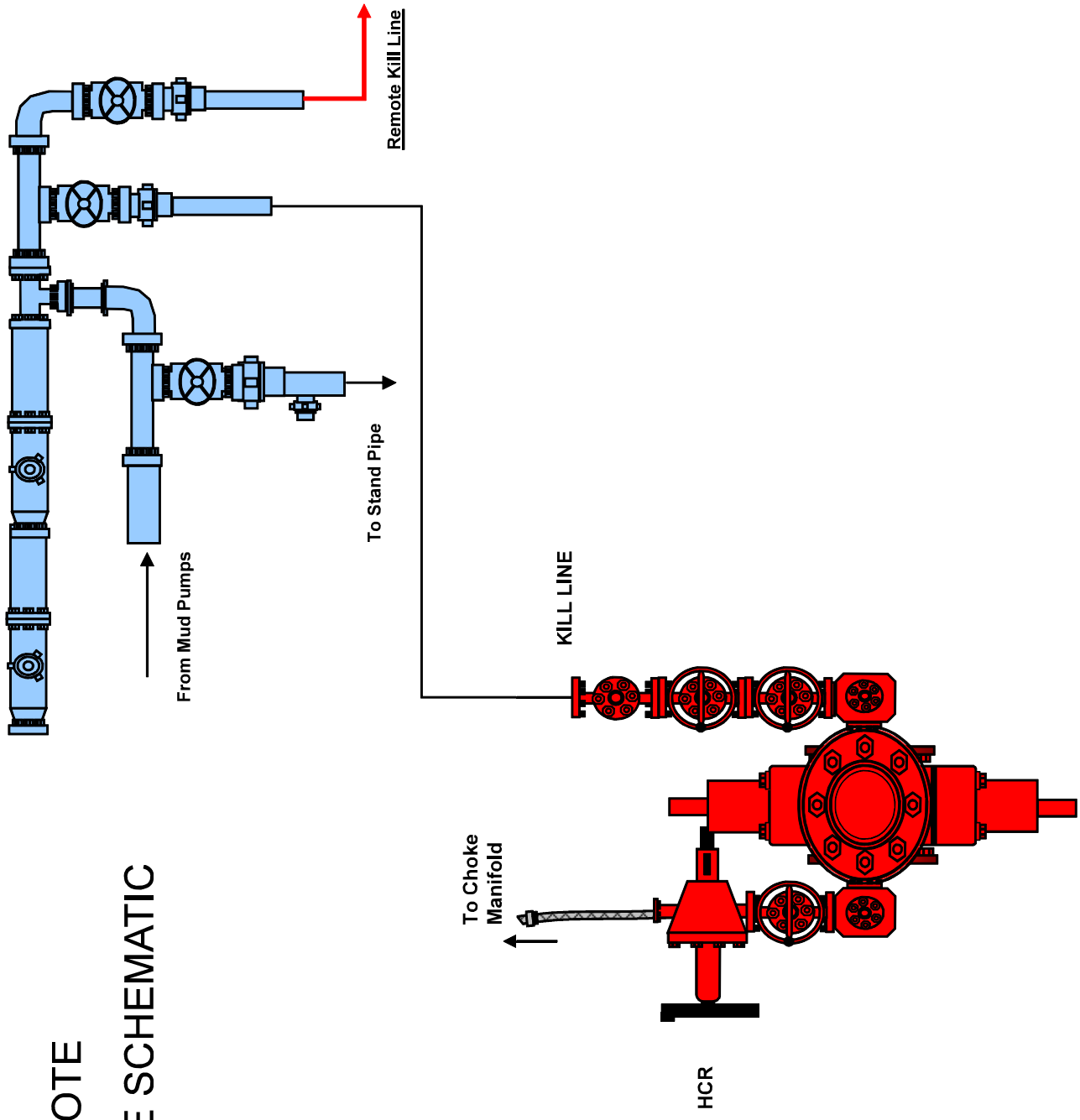


1. Choke Manifold Valve
2. Choke Manifold Valve
3. Choke Manifold Valve
4. Choke Manifold Valve
5. Choke Manifold Valve
6. Choke Manifold Valve
7. Choke Manifold Valve
8. PC – Power Choke
9. Choke Manifold Valve
10. Choke Manifold Valve
11. Choke Manifold Valve
12. LMC – Lower Manual Choke
13. UMC – Upper manual choke

15. Choke Manifold Valve
16. Choke Manifold Valve
17. Choke Manifold Valve
18. Choke Manifold Valve

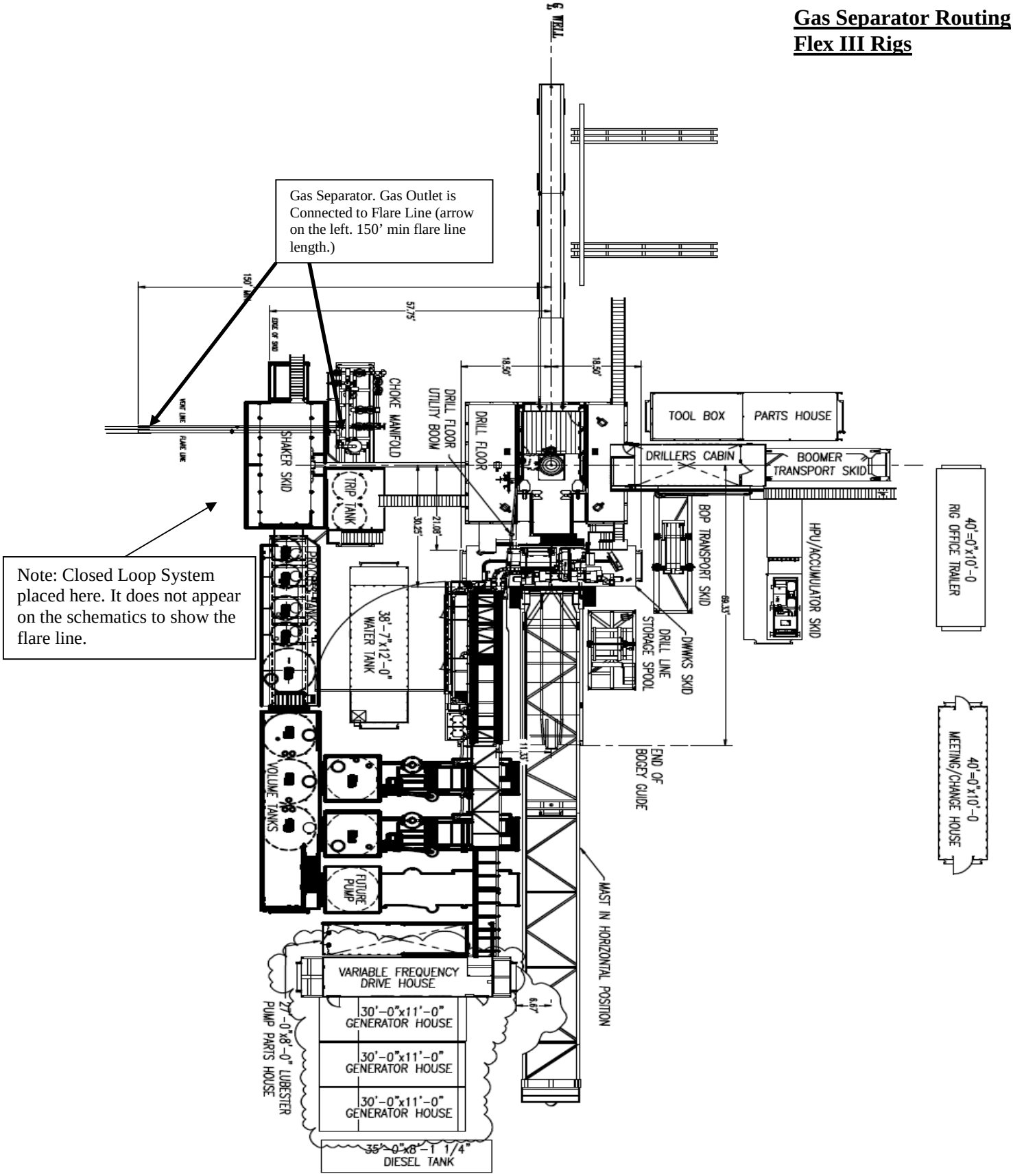
21. Vertical Choke Manifold Valve

***All Valves 3" minimum**

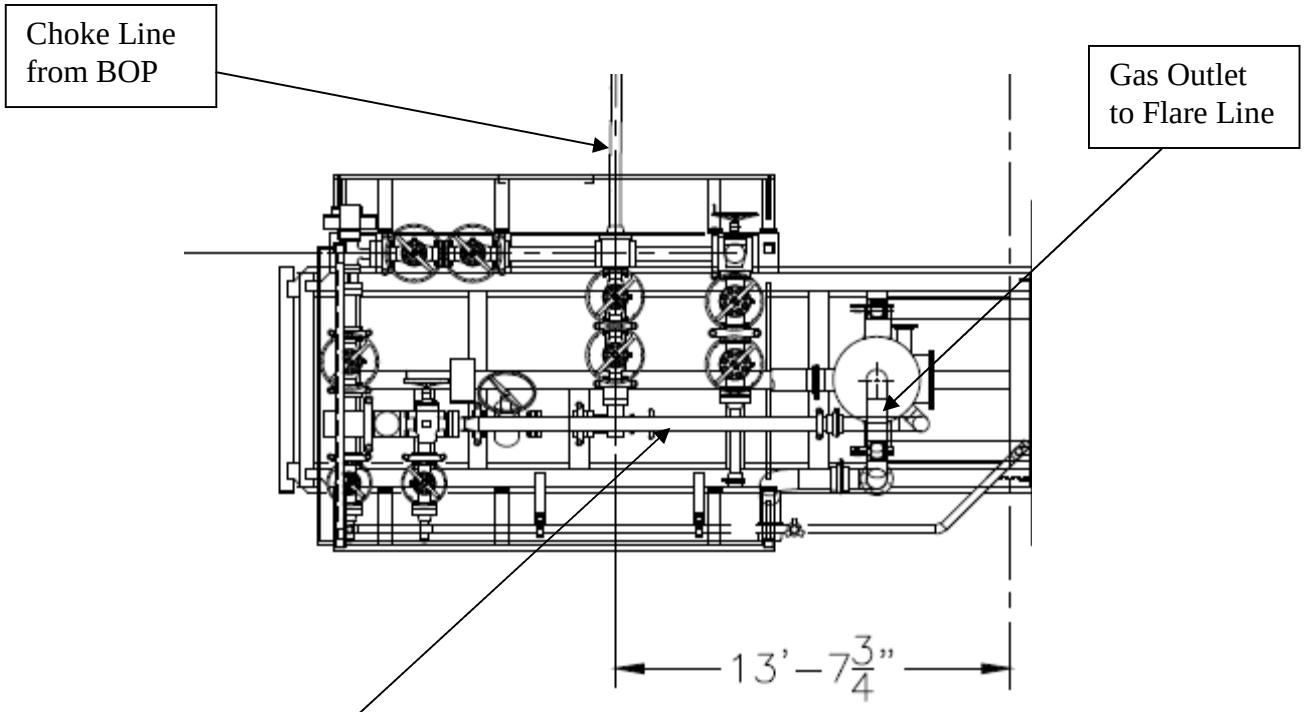


10M REMOTE KILL LINE SCHEMATIC

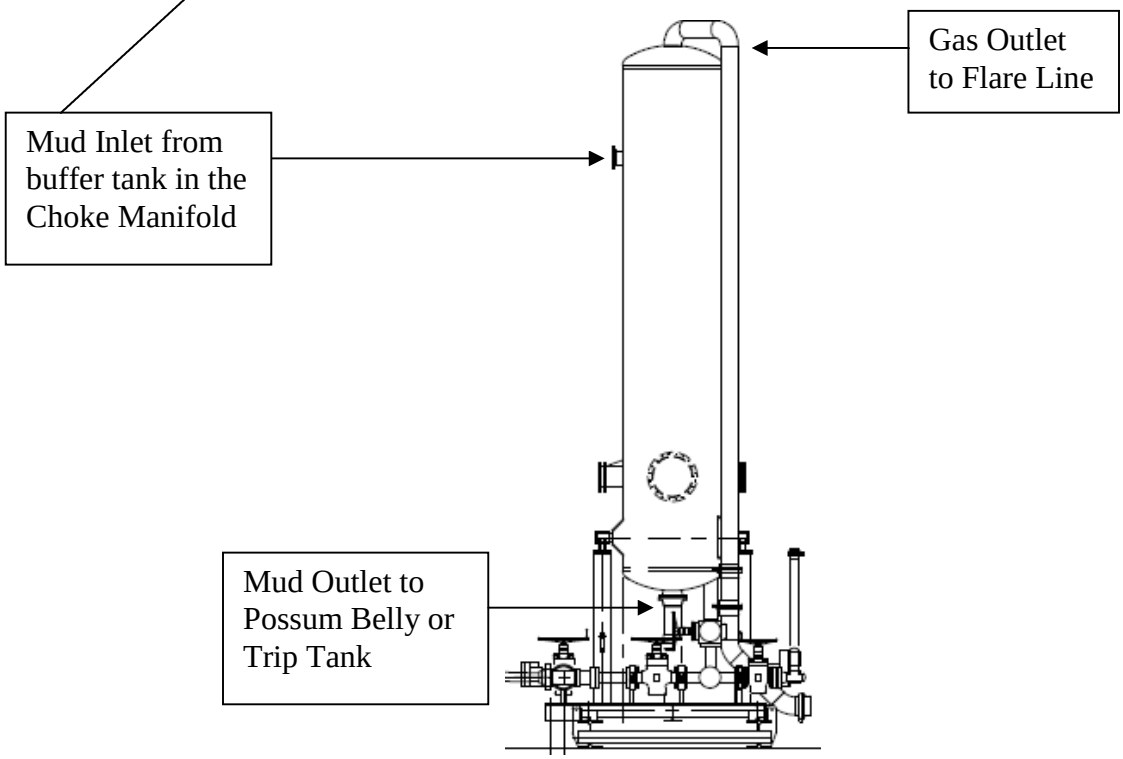
Gas Separator Routing
Flex III Rigs



Choke Manifold – Gas Separator (Top View)



Choke Manifold – Gas Separator (Side View)



Certificate of Conformity

ContiTech

Certificate Number	COM Order Reference	Customer Name & Address
H100161	1429702	HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA
Customer Purchase Order No:	740382384	
Project:		

Test Center Address	Accepted by COM Inspection	Accepted by Client Inspection
ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Gerson Mejia-Lazo Date: 06/27/22	

We certify that the items detailed below meet the requirements of the customer's Purchase Order referenced above, and are in conformance with the specifications given below.

Item	Part No.	Description	Qnty	Serial Number	Specifications
30	RECERTIFICATION	3" ID 10K Choke and Kill Hose x 35ft OAL	1	70024	ContiTech Standard

Hydrostatic Test Certificate

ContiTech

Certificate Number	COM Order Reference	Customer Name & Address
H100161	1429702	HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA
Customer Purchase Order No:	740382384	
Project:		

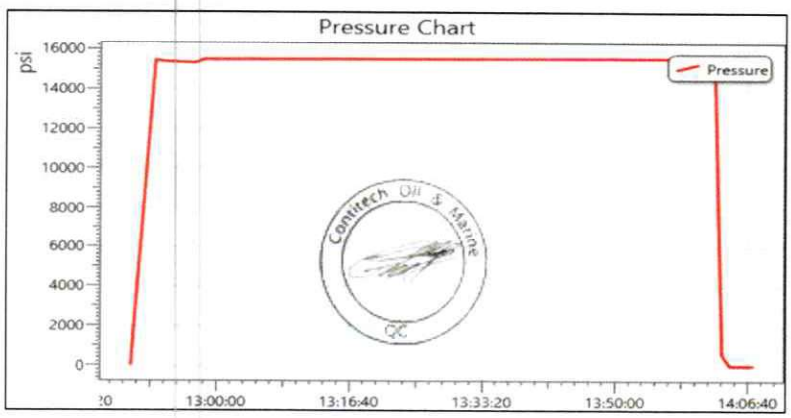
Test Center Address	Accepted by COM Inspection	Accepted by Client Inspection
ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Gerson Mejia-Lazo Date: 06/27/22	

We certify that the goods detailed hereon have been inspected as described below by our Quality Management System, and to the best of our knowledge are found to conform the requirements of the above referenced purchase order as issued to ContiTech Oil & Marine Corporation.

Item	Part No.	Description	Qnty	Serial Number	Work. Press. (psi)	Test Press. (psi)	Test Time (minutes)
30	RECERTIFICATION	3" ID 10K Choke and Kill Hose x 35ft OAL	1	70024	10,000	15,000	60

Record Information	
Start Time	6/8/2022 12:49:19
End Time	6/8/2022 14:07:25
Interval	00:01:00
Number	79
MaxValue	15762
MinValue	-7
AvgValue	14395
RecordName	70024-sh
RecordNumber	235

Gauge Information	
Model	ADT680
SN	21817380014
Range	(0-40000)psi
Unit	psi



THIS WAS DEC 23/22
IN USE AS.

@ Rig
2021
2019
CHOKE
HOSE

Gates Engineering & Services North America
7603 Prairie Oak Dr.
Houston, TX. 77086
PHONE : (281) 602-4119
FAX:
EMAIL: Troy.Schmidt@gates.com

CERTIFICATE OF CONFORMANCE

This is to certify that all parts and materials included in this shipment have manufactured and/or processed in accordance with various Gates and API assembly and test specifications. Records of required tests are on-file and subject to examination. Test reports and subsequent test graphs have been made available with this shipment. Additional supporting documentation related to materials, welding, weld inspections, and heat-treatment activities are available upon request.

CUSTOMER:	A-7 AUSTIN INC DBA AUSTIN HOSE
CUSTOMERS P.O.#:	4128128 (RIG 1 PO 002773)
CUSTOMER P/N:	10KFR3.012.0CK411610KFIXXFLT SSA SC LE
PART DESCRIPTION:	3" X 12 FT GATES CHOKE & KILL HOSE ASSEMBLY WITH STAINLESS STEEL ARMOR C/W 4 1/16 10K FIX X FLOAT H2S SUITED FLANGES WITH BX 155 RING GROOVE SUPPLIED WITH SAFETY CLAMPS & SLINGS & LIFT EYE CLAMPS
SALES ORDER #:	516982
QUANTITY:	1
SERIAL #:	H2-112019-4

SIGNATURE: Norma Cabrera

TITLE: QUALITY ASSURANCE

DATE: 11/20/2019

GATES ENGINEERING & SERVICES NORTH AMERICA
7603 Prairie Oak Dr.
Houston, TX 77086

PHONE: (281) 602 - 4119
FAX:
EMAIL: Troy.Schmidt@gates.com
WEB: www.gates.com

PRESSURE TEST CERTIFICATE

Customer:	A-7 AUSTIN INC DBA AUSTIN HOSE	Test Date:	11/20/2019
Customer Ref.:	4128128 (RIG 1 PO 002773)	Hose Serial No.:	H2-112019-4
Invoice No.:	516982	Created By:	Norma Cabrera

Product Description:	3" X 12 FT GATES CHOKE & KILL HOSE ASSEMBLY WITH STAINLESS STEEL ARMOR C/W 4 1/16 10K FIX X FLOAT H2S SUITED FLANGES WITH BX 155 RING GROOVE SUPPLIED WITH SAFETY CLAMPS & SLINGS & LIFT EYE CLAMPS

End Fitting 1:	4 1/16 10K FLANGES FIXED	End Fitting 2:	4 1/16 10K FLANGES FLOAT
Oracle Star No.:	68903010-9879429	Assembly Code:	L41242 113018
CUSTOMER P/N:	10KFR3.012.0CK411610KFIXXFLT SSA SC LE	Test Pressure:	15,000 PSI.
		Working Pressure:	10,000 PSI.

Gates Engineering & Services North America certifies that:

The following hose assembly has successfully passed all pressure testing requirements set forth in Gates specifications: GTS-04-052 (for 5K assemblies) or GTS-04-053 (10K assemblies), which include reference to Specification API 16C (2nd Edition); sections 7.5.4, 7.5.9, and 10.8.7. A test graph will accompany this test certificate to illustrate conformity to test requirements. This hose assembly was pressure tested using equipment and instrumentation that has been calibrated in accordance with the requirements set-forth in the GESNA management system.

Quality:	QUALITY	Production:	PRODUCTION
Date :	11/20/2019	Date :	11/20/2019
Signature :	Norma Cabrera	Signature :	

F-PRD-005

Revision 1_022819

H2-1987

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TEST REPORT

CUSTOMER

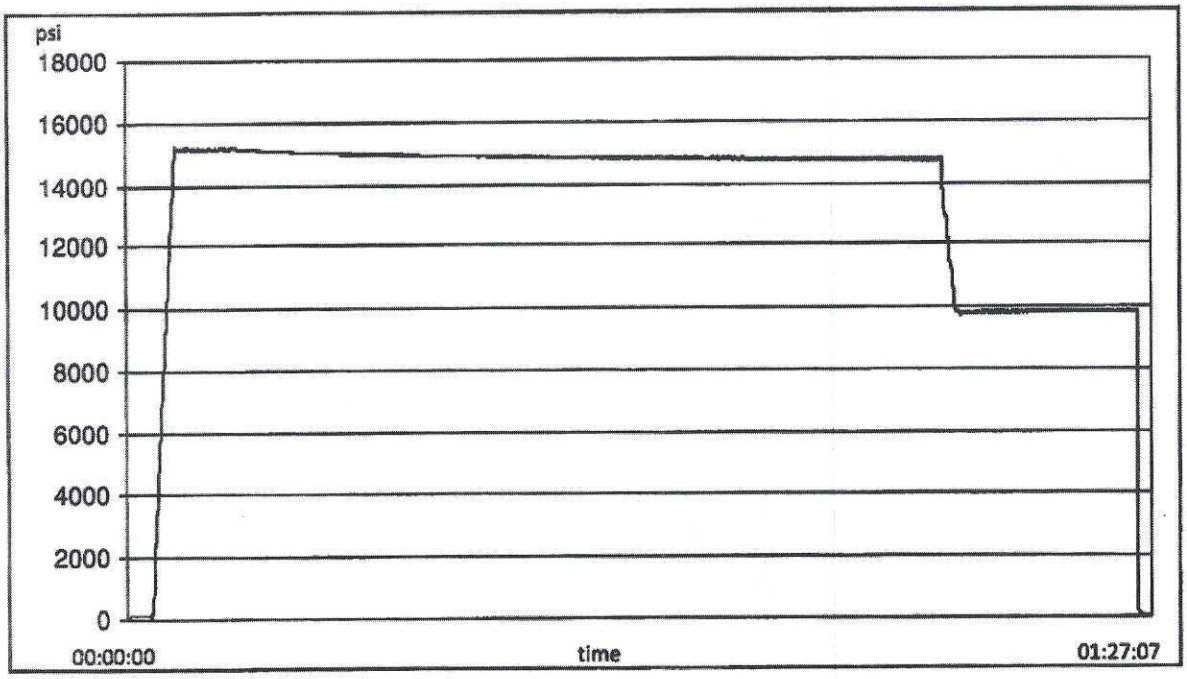
Company:	Austin Hose
Production description:	
Sales order #:	516982
Customer reference:	

TEST INFORMATION

Test procedure:	GTS-04-053	
Test pressure:	15000.00	psi
Test pressure hold:	3600.00	sec
Work pressure:	9750.00	psi
Work pressure hold:	900.00	sec
Length difference:	0.00	%
Length difference:	0.24	inch
Visual check:		
Pressure test result:	PASS	
Length measurement result:		
Test operator:	Roderick Shambra	

TEST OBJECT

Serial number:	H2-112019-4
Lot number:	L41242113018
Description:	
Hose ID:	3.0 10k MS C&K
Part number:	
Fitting 1:	3.0 x 4-1/16 10K
Part number:	
Description:	
Fitting 2:	3.0 x 4-1/16 10K
Part number:	
Description:	
Length:	12 feet



Filename: D:\Certificates\Report_112019-H2-112019-4.pdf

H2-1987

11/20/2019 12:13:07 PM

TEST REPORT

GAUGE TRACEABILITY

Description	Serial number	Calibration date	Calibration due date
S-25-A-W	110AMCL0	2019-03-17	2020-03-15
S-25-A-W	110AP02K	2019-04-16	2020-04-14

Comment

Certificate of Conformance

COPY

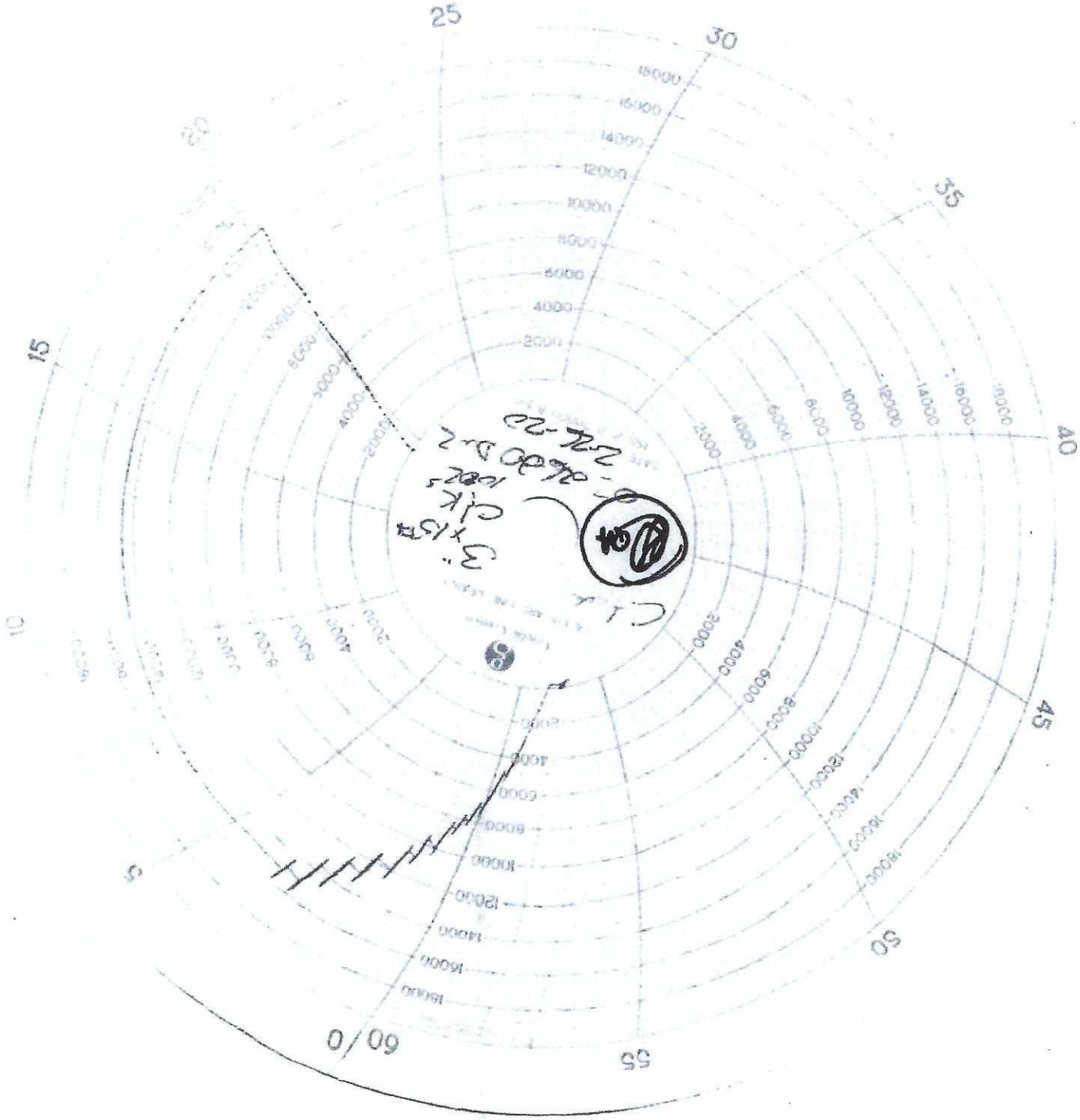
DW INDUSTRIES INC.
6287 Long Drive
Houston, TX 77087
Tel. 713 644-8372 Fax 713-644-4947

Customer Name:	CITADEL DRILLING		**Customer Contact:**	PAUL HOFFMAN 432-241-5360	
Purchase Order Information	**Customer Purchase Order Number:**	CONTACT PAUL HOFFMAN FOR INFO		**DW Industries Work Order Number:**	20020163
	DW Industries Part Number:	OA-5640-4815-1002-4		**Serial Number:**	022620DW-2
	QTY Ordered:	1		**Assembly Date:**	02/26/2020
	Customer Part Number:	OA-5640-4815-1002-4	**Part Description:**	3" 10,000 psi WP CHOKE HOSE M X F 4" 1002 HAMMER UNIONS C/W CLAMPS	

I DO HEREBY CERTIFY, AS THE AUTHORIZED REPRESENTATIVE OF DW INDUSTRIES, THAT THE PRODUCT LISTED ABOVE ARE OF THE QUALITY SPECIFIED AND CONFORM TO ALL REQUIREMENTS OF THE PURCHASE ORDER, INCLUDING: QUALITY CONTROL CLAUSES, DESIGN SPECIFICATIONS, DRAWINGS, PRESERVATION, PACKAGING, PACKING, MARKING, AND PHYSICAL IDENTIFICATION REQUIREMENTS AND HAS BEEN PROCESSED IN ACCORDANCE WITH ISO-9001:2015, API Q1 AND API SPEC 7K.

Certificate Issue Date: 2/27/2020

Garrett Crawford, Director of Quality
DW Industries Inc.



Certificate of Conformance

COPY

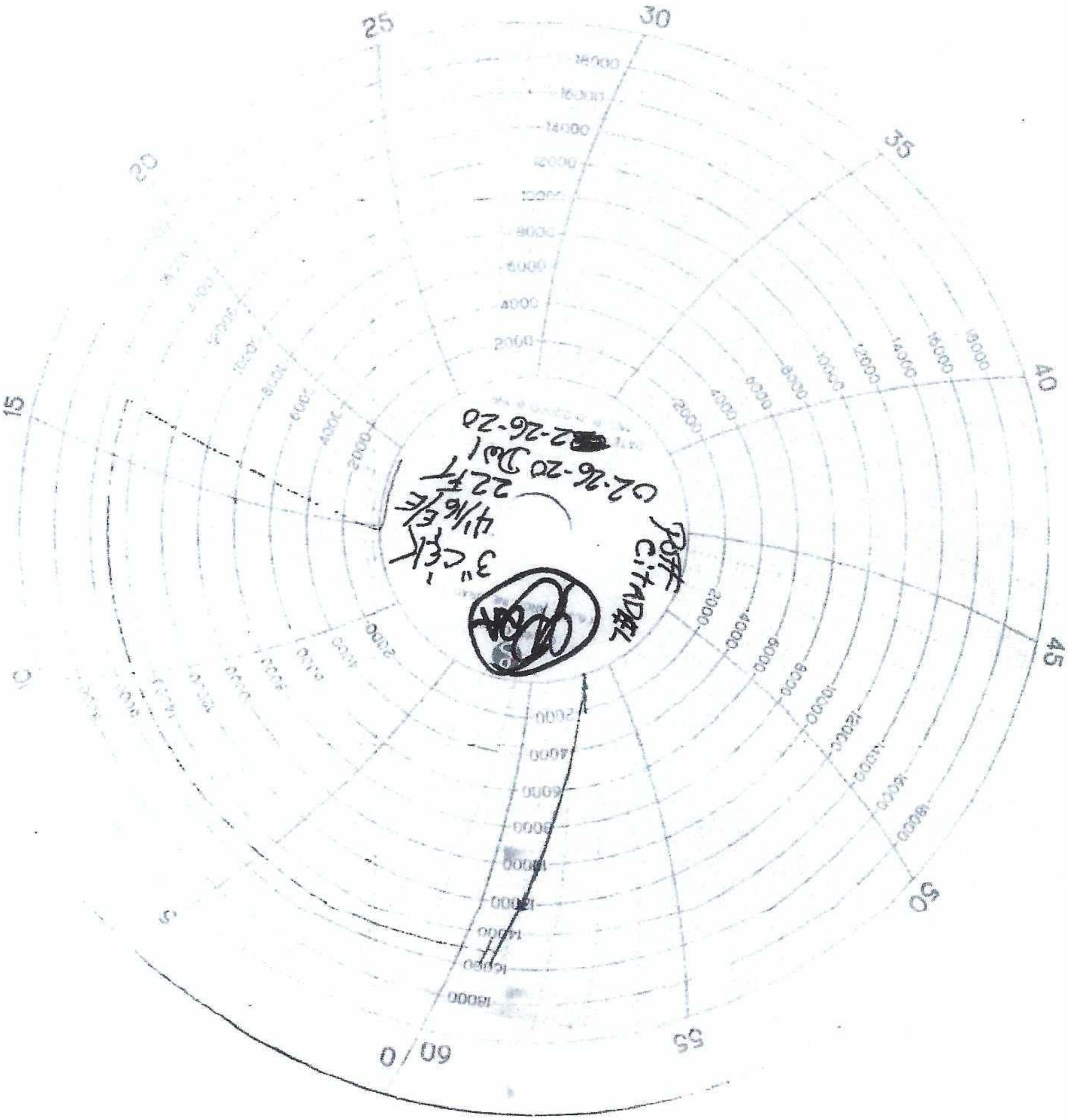
DW INDUSTRIES INC.
6287 Long Drive
Houston, TX 77087
Tel. 713 644-8372 Fax 713-644-4947

Customer Name:	CITADEL DRILLING		**Customer Contact:**	PAUL HOFFMAN 432-241-5360	
Purchase Order Information	**Customer Purchase Order Number:**	CONTACT PAUL HOFFMAN FOR INFO		**DW Industries Work Order Number:**	20020164
	DW Industries Part Number:	OA-5640-4822-4-1/16FXFL-ALE		**Serial Number:**	022620DW-1
	QTY Ordered:	1		**Assembly Date:**	02/26/2020
	Customer Part Number:	OA-5640-4822-4-1/16FXFL-ALE	**Part Description:**	3" 10,000 psi WP CHOKE HOSE 4-1/16" FIXED BY FLOAT FLANGES C/W SS ARMOR & LIFTING EYES	

I DO HEREBY CERTIFY, AS THE AUTHORIZED REPRESENTATIVE OF DW INDUSTRIES, THAT THE PRODUCT LISTED ABOVE ARE OF THE QUALITY SPECIFIED AND CONFORM TO ALL REQUIREMENTS OF THE PURCHASE ORDER, INCLUDING: QUALITY CONTROL CLAUSES, DESIGN SPECIFICATIONS, DRAWINGS, PRESERVATION, PACKAGING, PACKING, MARKING, AND PHYSICAL IDENTIFICATION REQUIREMENTS AND HAS BEEN PROCESSED IN ACCORDANCE WITH ISO-9001:2015, API Q1 AND API SPEC 7K.

Certificate Issue Date: 2/27/2020

Garrett Crawford, Director of Quality
DW Industries Inc.



COPY

Certificate of Conformance

DW INDUSTRIES INC.
6287 Long Drive
Houston, TX 77087
Tel. 713 644-8372 Fax 713-644-4947

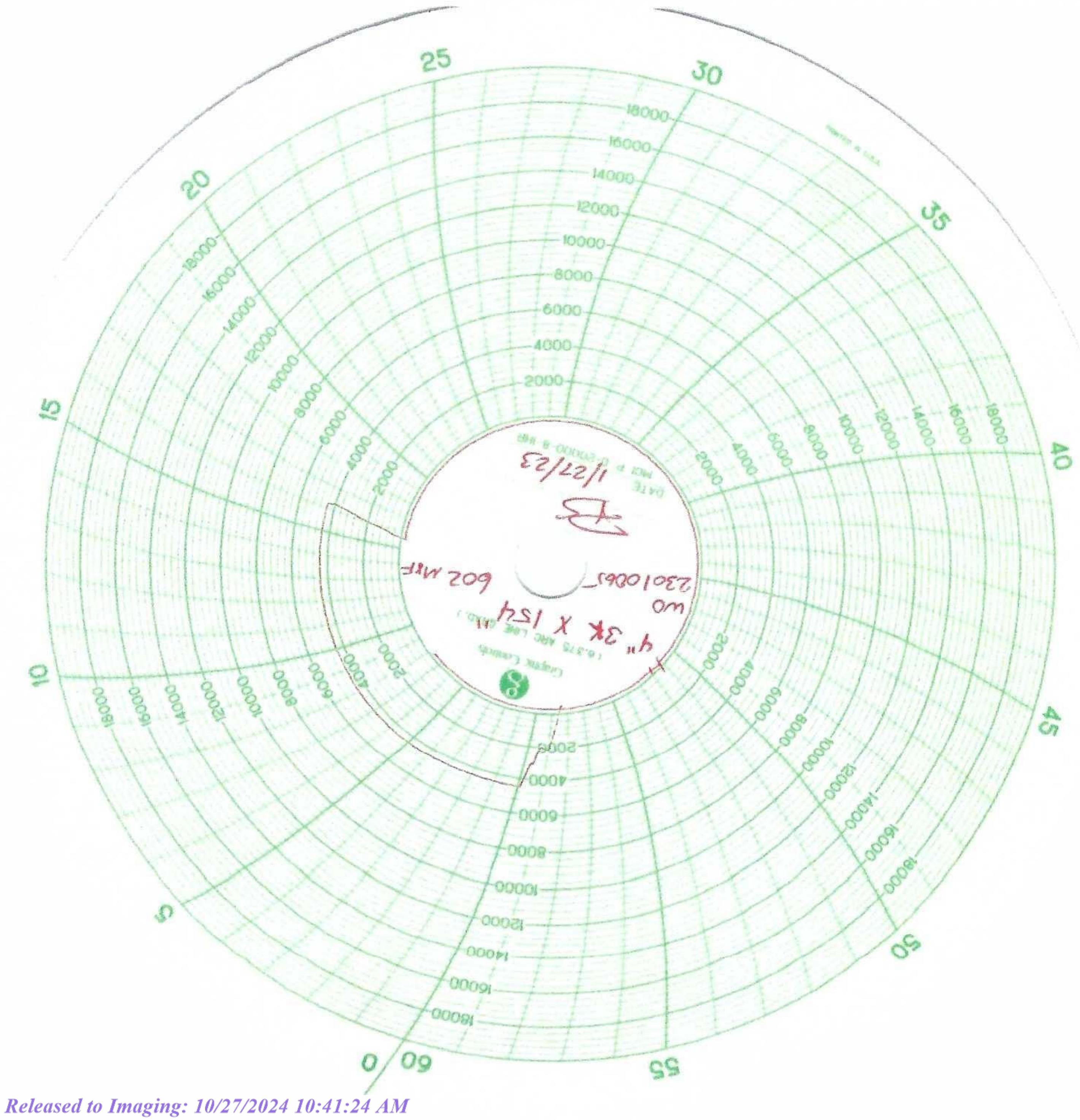
Customer Name:	ASUTIN HOSE		**Customer Contact:**	JUDY LOERA	
Purchase Order Information	**Customer Purchase Order Number:**	00704977		**DW Industries Work Order Number:**	23010065
	DW Industries Part Number:	OA-PS5038-64154"-602		**Serial Number:**	23010065
	QTY Ordered:	1		**Assembly Date:**	1/27/2023
	Customer Part Number:		**Part Description:**	4"X154" 3K W/4" FIG 602 MXF	

I DO HEREBY CERTIFY, AS THE AUTHORIZED REPRESENTATIVE OF DW INDUSTRIES, THAT THE PRODUCT LISTED ABOVE ARE OF THE QUALITY SPECIFIED AND CONFORM TO ALL REQUIREMENTS OF THE PURCHASE ORDER, INCLUDING: QUALITY CONTROL CLAUSES, DESIGN SPECIFICATIONS, DRAWINGS, PRESERVATION, PACKAGING, PACKING, MARKING, AND PHYSICAL IDENTIFICATION REQUIREMENTS AND HAS BEEN PROCESSED IN ACCORDANCE WITH ISO-9001:2015, API Q1 AND API SPEC 7K.

Certificate Issue Date: 1/27/2023

Quality Assurance,
DW Industries, Inc.

QF-018-OF, Rev New
Rev Date: 12/17/2019



IN SERVICE
12-20-21

BLACK GOLD®

GATES ENGINEERING & SERVICES NORTH AMERICA
7603 Prairie Oak Dr. Suite 190
Houston, TX. 77086

PHONE: +1 (281) 602-4100
FAX: +1 (281) 602-4147
EMAIL: gesna.quality@gates.com
WEB: www.gates.com/oilandgas

PRESSURE TEST CERTIFICATE

Customer:	A-7 AUSTIN INC DBA AUSTIN HOSE	Test Date:	10/15/2021
Customer Ref.:	00595477	Hose Serial No.:	H3-101521-2
Invoice No.:	521925	Created By:	Micky Mhina

Product Description:	3" X 35' GATES FIRE RATED CHOKE & KILL HOSE ASSEMBLY SUITED FOR H2S SERVICE C/W 4 1/16 10K FIXED X FLOAT HEAT TREATED FLANGES SUPPLIED WITH STAINLESS STEEL ARMOR SAFETY CLAMPS & LIFT EYES

End Fitting 1:	4 1/16 10K FIXED FLANGE	End Fitting 2:	4 1/16 10K FLOAT HEAT TREATED FLANGES
Oracle Star No.:	68703010-10074881	Assembly Code:	L41975 091719
CUSTOMER P/N:	10K3.035.0CK411610KFIXXFLTW/SSA/SC/LE	Test Pressure:	15,000 PSI.
		Working Pressure:	10,000 PSI.

Gates Engineering & Services North America certifies that:

The following hose assembly has successfully passed all pressure testing requirements set forth in Gates specifications: GTS-04-052 (for 5K assemblies) or GTS-04-053 (10K assemblies) or GTS-04-048 (15K assemblies), which include reference to Specification API 16C (2nd Edition); sections 7.5.4, 7.5.9, and 10.8.7. A test graph will accompany this test certificate to illustrate conformity to test requirements. This hose assembly was pressure tested using equipment and instrumentation that has been calibrated in accordance with the requirements set-forth in the GESNA management system.

Quality:	QUALITY	Production:	PRODUCTION
Date :	10/15/2021	Date :	10/15/2021
Signature :	Micky Mhina	Signature :	

F-PRD-005B

Revision 6_05032021

Gates® **BLACK GOLD®**

GATES ENGINEERING & SERVICES NORTH AMERICA
7603 Prairie Oak Dr.
Houston, TX. 77086

PHONE: +1 (281) 602-4100
FAX: +1 (281) 602-4147
EMAIL: gesna.quality@gates.com
WEB: www.gates.com/oilandgas

CERTIFICATE OF CONFORMANCE

This is to certify that all parts and materials included in this shipment have manufactured and/or processed in accordance with various Gates and API assembly and test specifications. Records of required tests are on-file and subject to examination. Test reports and subsequent test graphs have been made available with this shipment. Additional supporting documentation related to materials, welding, weld inspections, and heat-treatment activities are available upon request.

CUSTOMER:	A-7 AUSTIN INC DBA AUSTIN HOSE
CUSTOMER P.O.#:	00595477
CUSTOMER P./N.#:	10K3.035.0CK411610KFIXXFLTW/SSA/SC/LE
PART DESCRIPTION:	3" X 35' GATES FIRE RATED CHOKE & KILL HOSE ASSEMBLY SUITED FOR H2S SERVICE C/W 4 1/16 10K FIXED X FLOAT HEAT TREATED FLANGES SUPPLIED WITH STAINLESS STEEL ARMOR SAFETY CLAMPS & LIFT EYES
SALES ORDER #:	521925
QUANTITY:	1
SERIAL #:	H3-101521-2

SIGNATURE: Miraya Whm

TITLE: QUALITY ASSURANCE

DATE: 10/15/2021

H3-6963

10/15/2021 10:15:57 AM

TEST REPORT

CUSTOMER

Company: Austin Distributing

Production description:

Sales order #: 521925

Customer reference:

TEST INFORMATION

Test procedure:	GTS-04-053	
Test pressure:	15000.00	psi
Test pressure hold:	3600.00	sec
Work pressure:	10000.00	psi
Work pressure hold:	900.00	sec
Length difference:	0.00	%
Length difference:	0.00	inch

Visual check:

Pressure test result: PASS

Length measurement result:

Test operator: francisco

TEST OBJECT

Serial number: H3-101521-2

Lot number: L41975091719

Description:

Hose ID: 3" 10k ck

Part number:

Fitting 1: 3.0 x 4-1/16 10K

Part number:

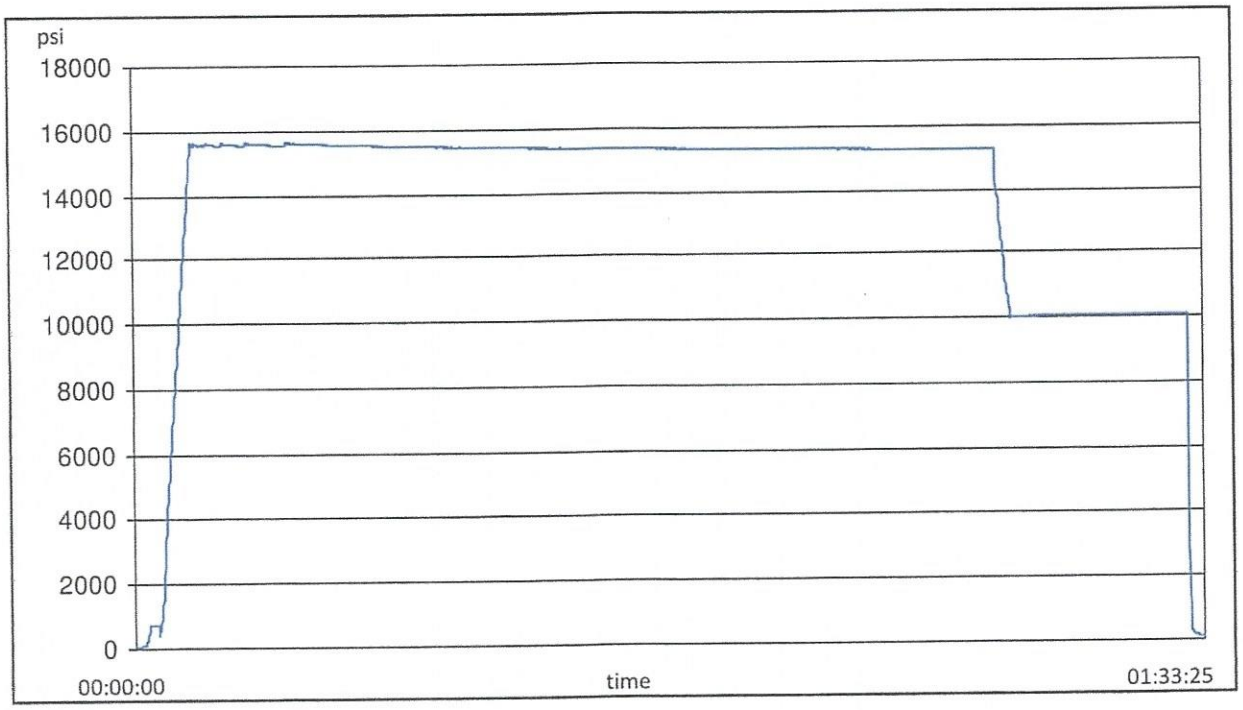
Description:

Fitting 2: 3.0 x 4-1/16 10K

Part number:

Description:

Length: 35 feet



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H3-6963

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TEST REPORT

GAUGE TRACEABILITY

Description	Serial number	Calibration date	Calibration due date
S-25-A-W	110AQA1S	2021-02-24	2022-02-24
S-25-A-W	110D3PHQ	2021-03-11	2022-03-11

Comment

Hydrostatic Test Certificate

ContiTech

Certificate Number	COM Order Reference	Customer Name & Address
H100163	1429702	HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA
Customer Purchase Order No:	740382384	
Project:		

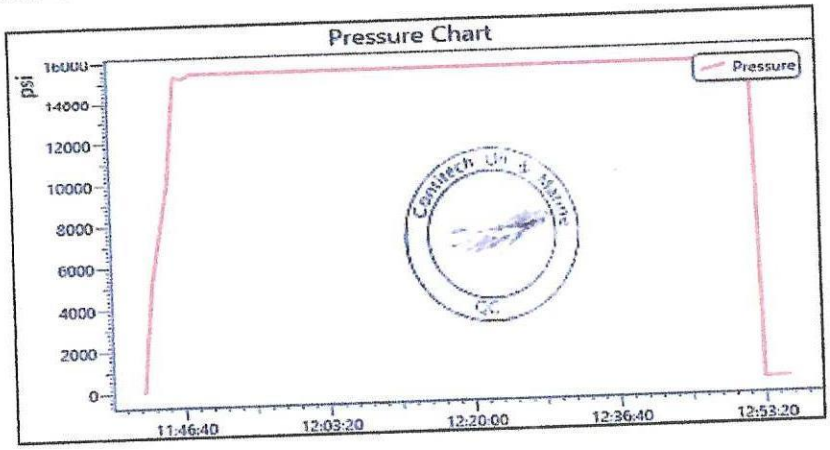
Test Center Address	Accepted by COM Inspection	Accepted by Client Inspection
ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Gerson Mejia-Lazo Date: 07/14/22	

We certify that the goods detailed hereon have been inspected as described below by our Quality Management System, and to the best of our knowledge are found to conform the requirements of the above referenced purchase order as issued to ContiTech Oil & Marine Corporation.

Item	Part No.	Description	Qnty	Serial Number	Work. Press. (psi)	Test Press. (psi)	Test Time (minutes)
50	RECERTIFICATION	3" ID 10K Choke and Kill Hose x 35ft OAL	1	70025	10,000	15,000	60

Record Information	
Start Time	6/14/2022 11:42:08
End Time	6/14/2022 12:56:14
Interval	00:01:00
Number	75
MaxValue	15888
MinValue	-8
AvgValue	14184
RecordName	70025-sh
RecordNumber	237

Gauge Information	
Model	ADT680
SN	21817380014
Range	(0-40000)psi
Unit	psi



Continental

Certificate of Conformity

ContiTech

Certificate Number	COM Order Reference	Customer Name & Address
H100163	1429702	HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA
Customer Purchase Order No:	740382384	
Project:		

Test Center Address	Accepted by COM Inspection	Accepted by Client Inspection
ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Gerson Mejia-Lazo Date: 07/14/22	

We certify that the items detailed below meet the requirements of the customer's Purchase Order referenced above, and are in conformance with the specifications given below.

Item	Part No.	Description	Qnty	Serial Number	Specifications
50	RECERTIFICATION	3" ID 10K Choke and Kill Hose x 35ft OAL	1	70025	ContiTech Standard

ARMORED CHOKE HOSE

Installed

4-29-22

Continental

ContiTech

CONTITECH RUBBER Industrial Kft.	No: QC-DB- 120 / 2019
	Page: 16 / 91

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°:	75819	
PURCHASER:	ContiTech Oil & Marine Corp.			P.O. N°:	4501225327	
CONTITECH RUBBER order N°:	1127442	HOSE TYPE:	3" ID	Choke and Kill Hose		
HOSE SERIAL N°:	75819	NOMINAL / ACTUAL LENGTH:		10,67 m / 10,68 m		
W.P. 69,0 MPa	10000 psi	T.P. 103,5 MPa	15000 psi	Duration:	60	min.

Pressure test with water at ambient temperature

See attachment (1 page)

COUPLINGS Type	Serial N°	Quality	Heat N°
3" coupling with	6026	AISI 4130	A0607J
4 1/16" 10K API Swivel Flange end		AISI 4130	040841
Hub		AISI 4130	54194
3" coupling with	6016	AISI 4130	A0607J
4 1/16" 10K API b.w. Flange end		AISI 4130	040431

Not Designed For Well Testing

API Spec 16 C 2nd Edition– FSL2

Temperature rate: "B"

All metal parts are flawless

WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.

COUNTRY OF ORIGIN HUNGARY/EU

Date:	Inspector	Quality Control
08. April 2019.		ContiTech Rubber Industrial Kft. Quality Control Dept. (1)

Hose Assembly Evaluation Sheet

Prepared by	Cristian Rivera		Date:	8/27/2022		QIN:	N/A
Customer:	HELMERICH & PAYNE, INC		Location:	H&P INT'L DRILLING CO 210 MAGNOLIA DR GALENA PARK,TX,77547-2738			
User contact:	MITCH MCKINNIS		Phone:			e-mail:	mitch.mckinnis@hpinc.com

	Parameters	Hose Details	Test Status
Application Information	PO	740398454 (88000240 | SN:70035)	PASS
	Gates SO	525035	
	Serial #:	88000240 | SN:70035	
	As Tested Serial:	H2-082722-1 RE-TEST	
	Hose ID:	3 IN	
	Hose type:	INSPECT AND RETEST CUSTOMER HOSE 3IN X 35FT CHOKE & KILL ASSEMBLY C/W 4-1/16 FLANGES BX155 RING GROOVE EACH END	
	Working pressure:	10000 PSI.	

1. Visual Examination

An API 16C, IN X 35FT CHOKE & KILL ASSEMBLY C/W 4-1/16 FLANGES BX155 RING GROOVE EACH END received from HELMERICH & PAYNE, INC for inspection, testing and external cosmetic repairs. The hydrostatic pressure testing was requested to 15000 PSI., by the customer HELMERICH & PAYNE, INC

Visual inspection and examination of external hose assembly showed some cosmetic dents and repairabledamages to the external armor at distance 32ft 9in. from EF2. (Need to fix a part of the hose.)

Both external & internal hose body and couplings of the hose were examined. Visual Inspection photos are in Table 2, while post inspection/testing pictures are in Table 4.

The hose was hydrostatically tested at 15000 PSI. test pressure with an hour-long hold. On completion of hydrostatic testing, an internal baroscopic examination was carried out, to check the condition of internal hose areas, mainly hose tube and coupling hose interface.

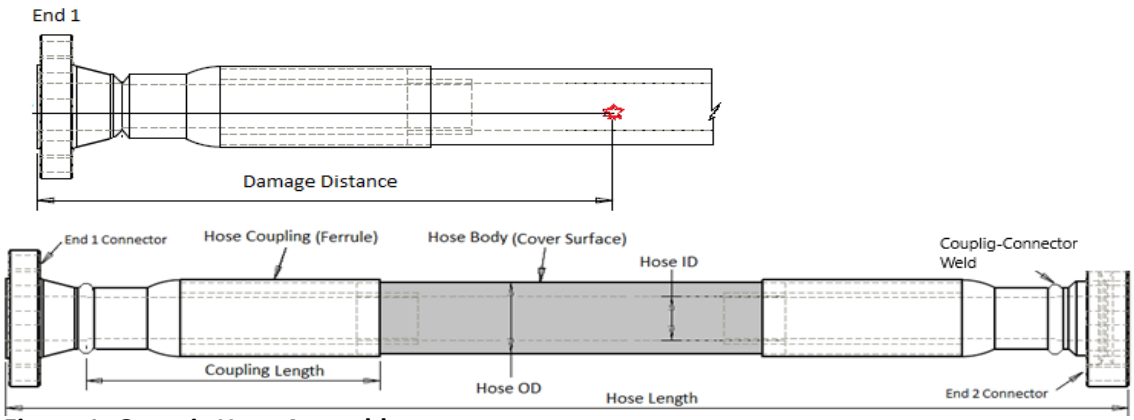


Figure 1: Generic Hose Assembly

Hose Assembly Evaluation Sheet

1.0 Observations and comments

	Comments
1	 Photos: ID.
2	 Photo: Damaged armor areas

Hose Assembly Evaluation Sheet

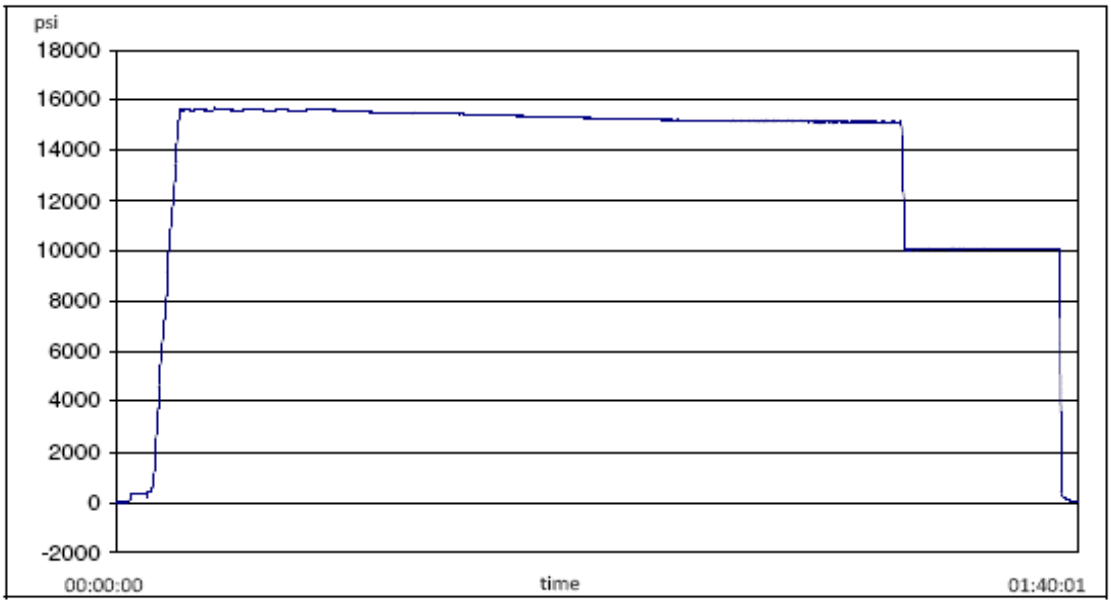
3	 **Photos: At Shipping.**
4	 **Photos: Armor and Engraving.**

Hose Assembly Evaluation Sheet

5	

Photo: In the Crate

2. Hydro Static Pressure test



2.1 Hydrostatic Pressure test Procedures

	Hose Type	Test Specification	Test Date	Technician
1	IN X 35FT CHOKE & KILL ASSEMBLY C/W 4-1/16	3 10K C&K	2022-08-27	Martin Orozco

2.2 Gates Hydrostatic Pressure tester

	Test Equipment	Serial No	Last Cal Date	Cal Due Date
1	S-25-A-W	110AMCLO	2022-01-10	2023-01-10
2	S-25-A-W	110BSEUZ	2022-03-09	2023-03-09

Hose Assembly Evaluation Sheet

2.3 Hydro Static Test Pressure results

	Details	Results	
1	Hydrostatic Test Results [1]	Pass	~~Fail~~
2	Failure Mode	None	
3	Hose Dispatched to the customer?	Yes	~~No~~

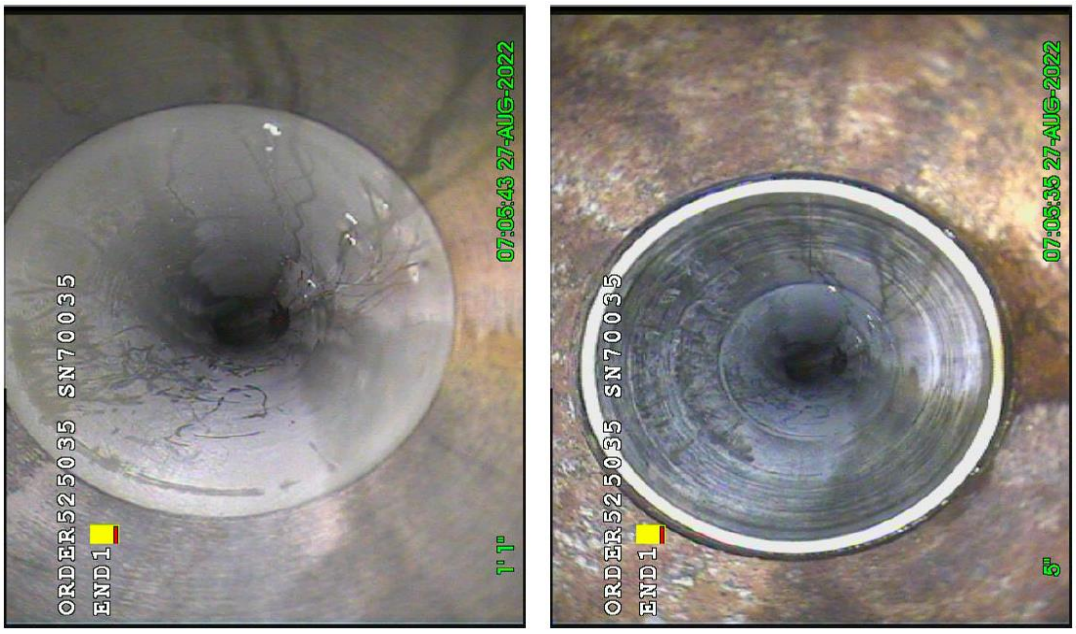
Note:

1. Hydrostatic Pressure report is given in Appendix 1

3. Hose borescope inspection

3.2 Internal Failure Details

	Type of Failure	Location of Defect	Ref. Photo	Defect Details
1	Liner breach/ collapse	None		None
2	Bulges/ Blisters	None		None
3	Other breach/failures	None		None



Photos: Liner/Coupling Interface END 1

Hose Assembly Evaluation Sheet

Photos: Liner/Coupling Interface END 2

Note

Borescope completed? *Yes*

4. Summary

Hose assembly successfully tested to requested test pressure of 15000 PSI. with an hour hold. It was then serialized and stamped, as H2-082722-1 RE-TEST. The bore scope showed no blisters or delamination in the internal lining/tube area. External damages were repaired as agreed with the customer.

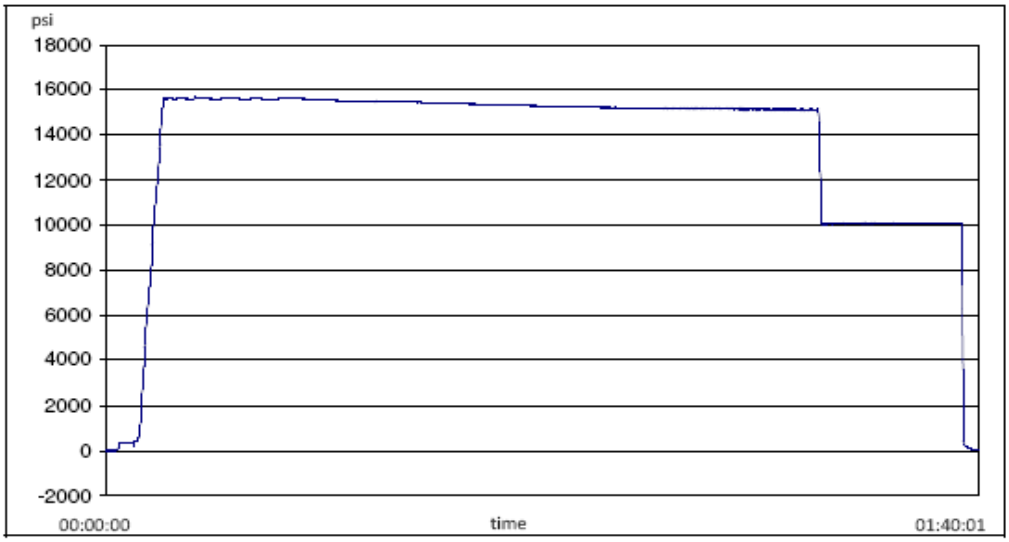
Hose Assembly Evaluation Sheet

APPENDIX 1:
Pressure Chart

H2-8316
8/27/2022 8:51:22 AM

TEST REPORT

CUSTOMER			TEST OBJECT		
Company:			Serial number:	H2-082722-1	
			Lot number:		
Production description:			Description:		
Sales order #:	525035				
Customer reference:	740398454 (88000240 | SN:70035)		Hose ID:	3 10k C&K	
			Part number:		
TEST INFORMATION					
Test procedure:	3 10K C&K		Fitting 1:	3.0 x 4-1/16 10K	
Test pressure:	15000.00	psi	Part number:		
Test pressure hold:	3600.00	sec	Description:		
Work pressure:	10000.00	psi			
Work pressure hold:	900.00	sec	Fitting 2:	3.0 x 4-1/16 10K	
Length difference:	0.00	%	Part number:		
Length difference:	0.00	inch	Description:		
Visual check:			Length:	35	feet
Pressure test result:	PASS				
Length measurement result:					
Test operator:	Martin				



Filename: D:\Certificates\Report_082722-H2-082722-1.pdf Page 1/2

Hose Assembly Evaluation Sheet

H2-8316
8/27/2022 8:51:22 AM

TEST REPORT

GAUGE TRACEABILITY

Description	Serial number	Calibration date	Calibration due date
S-25-A-W	110AMCLO	2022-01-10	2023-01-10
S-25-A-W	110BSEUZ	2022-03-09	2023-03-09

Comment

Filename: D:\Certificates\Report_082722-H2-082722-1.pdf Page 2/2

Hose Assembly Evaluation Sheet

APPENDIX 2:
Certificate of Conformance

BLACK GOLD®

GATES ENGINEERING & SERVICES NORTH AMERICA
7603 Prairie Oak Dr.
Houston, TX. 77086

PHONE: +1 (281) 602-4100
FAX: +1 (281) 602-4147
EMAIL: gesna.quality@gates.com
WEB: www.gates.com/oilandgas

CERTIFICATE OF CONFORMANCE

This is to verify that the items detailed below meet the requirements of the Customer's Purchase Order referenced herein, and are in Conformance with applicable specifications, and that Records of Required Tests are on file and subject to examination. The following items were inspected and hydrostatically tested at **Gates Engineering & Services North America** facilities in Houston, TX, USA.

CUSTOMER:	HELMERICH & PAYNE, INC
CUSTOMER P.O.#:	740398454 (88000240 | SN:70035)
CUSTOMER P/N:	88000240 | SN:70035
PART DESCRIPTION:	INSPECT AND RETEST CUSTOMER HOSE 3IN X 35FT CHOKE & KILL ASSEMBLY C/W 4-1/16 FLANGES BX155 RING GROOVE EACH END
SALES ORDER #:	525035
QUANTITY:	1
SERIAL #:	H2-082722-1 RE-TEST

SIGNATURE: _____

TITLE: QUALITY ASSURANCE

DATE: 8/27/2022

BOP Break Testing Request

Oxy requests permission to adjust the BOP break testing requirements as per the agreement reached in the OXY/BLM meeting on September 5, 2019.

BOP break test under the following conditions:
- After a full BOP test is conducted
- When skidding to drill an intermediate section where ICP is set into the third Bone Spring or shallower.
- When skidding to drill a production section that does not penetrate into the third Bone Spring or deeper.

If the kill line is broken prior to skid, two tests will be performed.
1) Wellhead flange, co-flex hose, kill line connections and upper pipe rams
2) Wellhead flange, HCR valve, check valve, upper pipe rams

If the kill line is not broken prior to skid, only one test will be performed.
1)Wellhead flange, co-flex hose, check valve, upper pipe rams

See supporting information below:

Subject: Request for a Variance Allowing Break Testing of a Blowout Preventer Stack

OXY USA Inc. (OXY) requests a variance to allow break testing of the Blowout Preventer (BOP) stack when skidding a drilling rig between wells on multi-well pads. This practice entails retesting only the connections of the **BOP** stack that have been disconnected during this operation and not a complete **BOP** test.

Background

43 CFR part 3170 Subpart 3172 states that a **BOP** test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) is this requires a complete **BOP** test and not just a test of the affected component. 43 CFR part 3170 Subpart 3172, Section I.D.2. states, "Some situations may exist either on a well-by-well basis or field-wide basis whereby it is commonly accepted practice to vary a particular minimum standard(s) established in this Order. This situation can be resolved by requesting a variance...". OXY feels the practice of break testing the **BOP** stack is such a situation. Therefore, as per 43 CFR part 3170 Subpart 3172, Section IV., OXY submits this request for the variance.

Supporting Rationale

43 CFR part 3170 Subpart 3172 became effective on December 19, 1988, and has remained the standard for regulating BLM onshore drilling operations for almost 30 years. During this time there have been significant changes in drilling technology. **BLM** continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since 43 CFR part 3170 Subpart 3172 was originally released. The drilling rig fleet OXY utilizes in New Mexico was built with many modern upgrades. One of which allows the rigs to skid between wells on multi-well pads. A part of this rig package is a hydraulic winch system which safely installs and removes the BOP from the wellhead and carries it during skidding operations. This technology has made break testing a safe and reliable procldure.

American Petroleum Institute (API) standards, specifications and recommended practices are considered industry standards and are consistently utilized and referenced by the industry. 43 CFR part 3170 Subpart 3172 recognized API Recommended Practices (RP) 53 in its original development. API Standard 53,

Blowout Prevention Equipment Systems for Drilling Wells (Fourth Edition, November 2012, Addendum 1, July 2016) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 6.5.3.4.1.b states "Pressure tests on the well control equipment shall be conducted after the disconnection or repair of any pressure containment seal in the **BOP** stack, choke line, kill line, choke manifold, or wellhead assembly but limited to the affected component."

The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specifications and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations. BSEE issued new offshore regulations under 30 CFR Part 250, *Oil and Gas and Sulphur Operations in the Outer Continental Shelf - Blowout Preventer Systems and Well Control,* which became effective on July 28, 2016. Section 250.737(d.1) states "Follow the testing requirements of API Standard 53". In addition, Section 250.737(d.8) has adopted language from **API** Standard 53 as it states "Pressure test affected **BOP** components following the disconnection or repair of any well-pressure containment seal in the wellhead or **BOP** stack assembly".

Break testing has been approved by the BLM in the past. See the Appendix for a Sundry Notice that was approved in 2015 by the Farmington Field Office. This approval granted permission for the operator to break test when skidding its Aztec 1000 rig on multi-well pads.

Oxy feels break testing and our current procedures meet the intent of 43 CFR part 3170 Subpart 3172 and often exceed it. We have not seen any evidence that break testing results in more components failing tests than seen on full BOP tests. As skidding operations take place within the 30-day full BOPE test window, the BOP shell and components such as the pipe rams and check valve get tested to the full rated working pressure more often. Therefore, there are more opportunities to ensure components are in good working order. Also, Oxy's standard requires complete BOP tests more often than that of 43 CFR part 3170 Subpart 3172. In addition to function testing the annular at least weekly and the pipe and blind rams on each trip, Oxy also performs a choke drill prior to drilling out every casing shoe. As a crew's training is a vital part of well control, this procedure to simulate step one of the Driller's Method exceeds the requirements of 43 CFR part 3170 Subpart 3172.

Procedures

1) OXY to submit the break testing plan in the APD or Sundry Notice (SN) and receive approval prior to implementing (See Appendix for examples)
2) OXY would perform BOP break testing on multi-well pads where multiple intermediate sections can be drilled and cased within the 30-day BOP test window
3) After performing a complete BOP test on the first well and drilling and casing the hole section, three breaks would be made on the BOP.
   - Between the check valve and the kill line
   - Between the HCR valve and the co-flex hose or the co-flex hose and the manifold
   - Between the BOP flange and the wellhead
4) The BOP is then lifted and removed from the wellhead by the hydraulic winch system
5) After skidding to the next well, the BOP is moved to the wellhead by the hydraulic winch system and installed
6) The choke line and kill line are reconnected
7) A test plug is installed in the wellhead with a joint of drill pipe and the internal parts of the check valve are removed
8) A shell teit is performed against the upper pipe rams testing all thl-ee breaks
9) The internal parts of the check valve are reinstalled and the HCR valve is closed. A second test is performed on them
10) These tests consist of a 250 psi low test and a high test to the value submitted in the APD or SN (e.g., 5000 psi)
11) Perform a function test of components not pressure tested to include the lower pipe rams, the blind rams and the annular
12) If this were a three well pad, the same three breaks on the BOP would be made and steps 4 through 11 would be repeated
13) A second break test would only be done if the third hole section could be completed within the 30-day BOP test window
14) If a second break test is performed, additional components that were not tested on the initial break test will be tested on this break test

Notes:

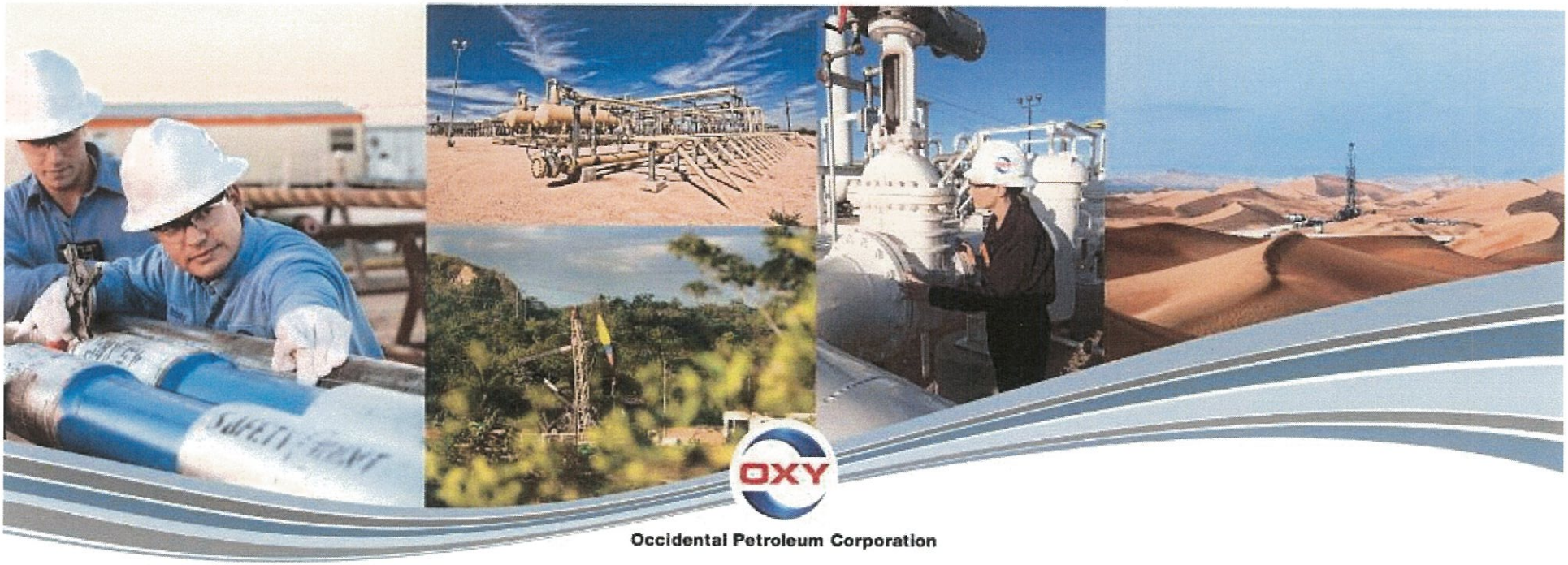
a. If any parts of the BOP are changed out or any additional breaks are made during the skidding operation, these affected components would also be tested as in step 10.
b. As the choke manifold remains stationary during the skidding operation and the only break to the manifold is tested in step 8 above, no further testing of the manifold is done until the next full BOP test.

Summary

OXY requests a variance to allow break testing of the BOP stack when skidding drilling rigs between wells on multi-well pads. API standards, specifications and recommended practices are considered industry standards and are consistently utilized and referenced by the industry and the BLM. API Standard 53 recognizes break testing as an acceptable practice and BSEE adopted language from this standard into its newly created 30 CFR Part 250 which also supports break testing. Due to this, OXY feels this request meets the intent of 43 CFR part 3170

REQUEST FOR A VARIANCE TO BREAK TEST THE BOP

Permian Resources New Mexico



Occidental Petroleum Corporation

Request for Variance

OXY USA Inc. (OXY) requests a variance to allow break testing of the Blowout Preventer (BOP) stack when skidding a drilling rig between wells on multi-well pads

- This practice entails retesting only the connections of the BOP stack that have been disconnected during this operation and not a complete BOP test.
- As the choke manifold remains stationary during the skidding operation and the only break to the manifold is tested, no further testing of the manifold is done until the next full BOP test.
- This request is being made as per Section IV of the *Onshore Oil and Gas Order (OOGO) No. 2*

Rationale for Allowing BOP Break Testing

American Petroleum Institute (API) standards, specifications and recommended practices are considered industry standards and are consistently utilized and referenced by the industry

- API Standard 53, *Blowout Prevention Equipment Systems for Drilling Wells* (Fourth Edition, November 2012, Addendum 1, July 2016) recognizes break testing as an acceptable practice.
- Specifically, API Standard 53, Section 6.5.3.4.1.b states "Pressure tests on the well control equipment shall be conducted after the disconnection or repair of any pressure containment seal in the BOP stack, choke line, kill line, choke manifold, or wellhead assembly but limited to the affected component."

Rationale for Allowing BOP Break Testing

The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specifications and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations.

- BSEE issued new offshore regulations in July 2016 under 30 CFR Part 250, *Oil and Gas and Sulphur Operations in the Outer Continental Shelf - Blowout Preventer Systems and Well Control.* Within these regulations is language adopted from API Standard 53 which also supports break testing.
- Specifically, Section 250.737(d.8) states "Pressure test affected BOP components following the disconnection or repair of any well-pressure containment seal in the wellhead or BOP stack assembly."

Rationale for Allowing BOP Break Testing

Break testing has been approved by the BLM in the past

- The Farmington Field Office approved a Sundry Notice (SN) to allow break testing in 2015
- This SN granted permission for the operator to break test when skidding its Aztec 1000 rig on multi-well pads

Oxy feels break testing and our current procedures meet or exceed the intent of OOGO No. 2

- As skidding operations take place within the 30-day full BOPE test window, the BOP shell and components such as the pipe rams and check valve get tested to the full rated working pressure more often
- Oxy's standard requires complete BOP tests more often than that of OOGO No. 2
- Oxy performs a choke drill prior to drilling out every casing shoe. As a crew's training is a vital part of well control, this procedure to simulate step one of the Driller's Method exceeds the requirements of OOGO No. 2

Break Testing Procedures

1) OXY to submit the break testing plan in the APD or Sundry Notice (SN) and receive approval prior to implementing

2) OXY would perform BOP break testing on multi-well pads where multiple intermediate sections can be drilled and cased within the full BOP test window

3) After performing a complete BOP test on the first well and drilling and casing the hole section, three breaks would be made on the BOP.
   - Between the check valve and the kill line
   - Between the HCR valve and the co-flex hose or the co-flex hose and the manifold
   - Between the BOP flange and the wellhead

4) The BOP is then lifted and removed from the wellhead by the hydraulic winch system

5) After skidding to the next well, the BOP is moved to the wellhead by the hydraulic winch system and installed

6) The choke line and kill line are reconnected

7) A test plug is installed in the wellhead with a joint of drill pipe and the internal parts of the check valve are removed

Break Testing Procedures

8) A shell test is performed against the upper pipe rams testing all three breaks

9) The internal parts of the check valve are reinstalled and the HCR valve is closed. A second test is performed on them

10) These tests consist of a 250 psi low test and a high test to the value submitted in the APD or SN (e.g., 5000 psi)

11) Perform a function test of components not pressure tested to include the lower pipe rams, the blind rams and the annular

12) If this were a three well pad, the same three breaks on the BOP would be made and steps 4 through 11 would be repeated

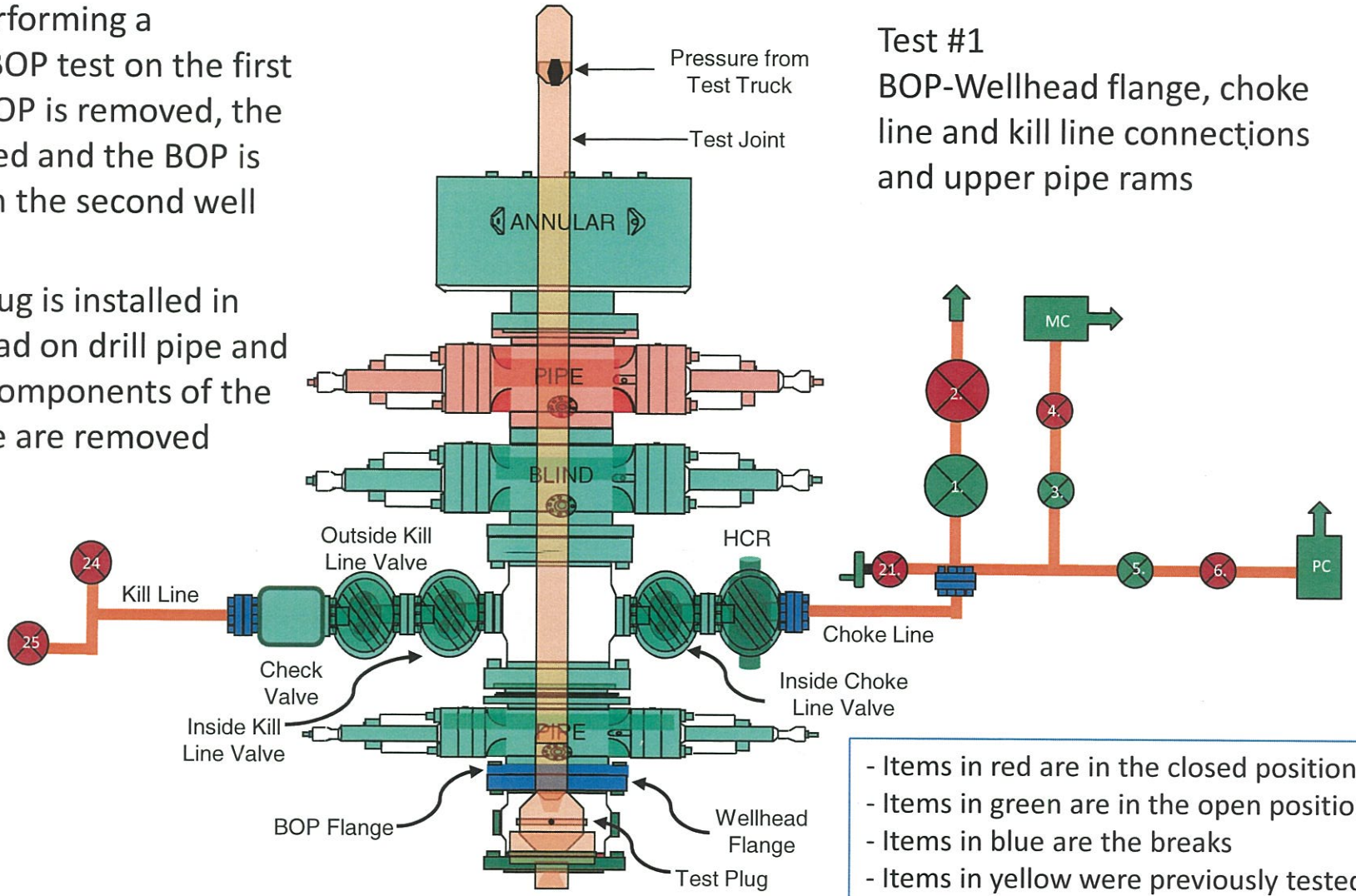
13) A second break test would only be done if the third hole section could be completed within the 30-day BOP test window

14) If a second break test is performed, additional components that were not tested on the first break test will be tested

Break Testing Procedures and Tests

1. After performing a complete BOP test on the first well, the BOP is removed, the rig is skidded and the BOP is installed on the second well

2. A test plug is installed in the wellhead on drill pipe and the inner components of the check valve are removed



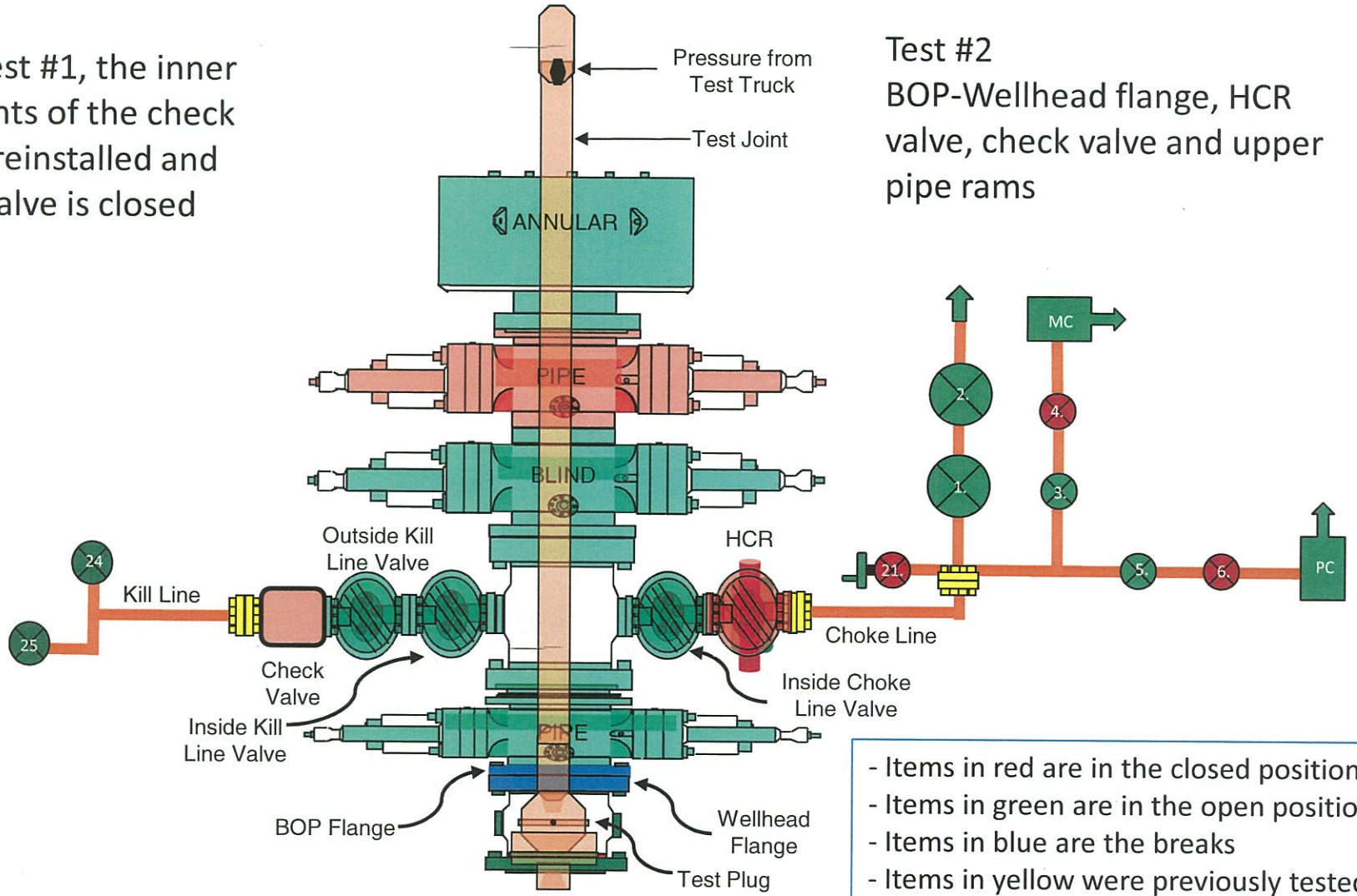
Test #1
BOP-Wellhead flange, choke line and kill line connections and upper pipe rams

- Items in red are in the closed position
- Items in green are in the open position
- Items in blue are the breaks
- Items in yellow were previously tested

Break Testing Procedures and Tests

3. After Test #1, the inner components of the check valve are reinstalled and the HCR valve is closed

Test #2
BOP-Wellhead flange, HCR valve, check valve and upper pipe rams

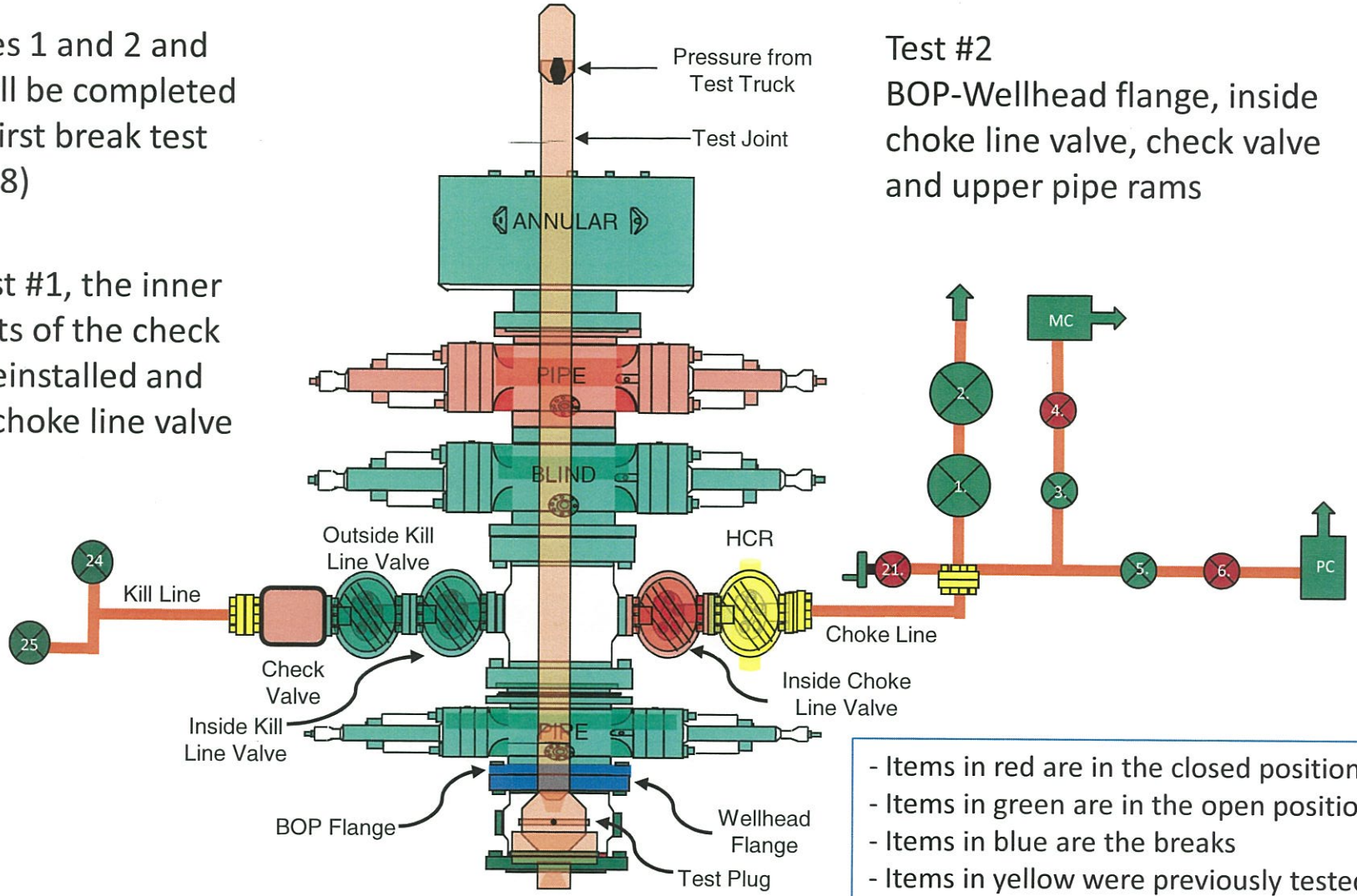


- Items in red are in the closed position
- Items in green are in the open position
- Items in blue are the breaks
- Items in yellow were previously tested

Second Break Testing Procedures and Tests

Procedures 1 and 2 and Test #1 will be completed as in the first break test (see slide 8)

3. After Test #1, the inner components of the check valve are reinstalled and the inside choke line valve is closed



Test #2
BOP-Wellhead flange, inside choke line valve, check valve and upper pipe rams

- Items in red are in the closed position
- Items in green are in the open position
- Items in blue are the breaks
- Items in yellow were previously tested

BOP Handling System

Hydraulic winch system which moves the BOP from its carrier to the wellhead

BOP standing in its carrier

BOP Handling System

Hydraulic winch system moving the BOP over to the wellhead

Wellhead

Summary for Variance Request for Break Testing

- API standards, specifications and recommended practices are considered industry standards
  - *OOGO No. 2* recognized API Recommended Practices (RP) 53 in its original development
  - API Standard 53 recognizes break testing as an acceptable practice
  - The Bureau of Safety and Environmental Enforcement has utilized API standards, specifications and best practices in the development of its offshore oil and gas regulations
  - API Standard 53 recognizes break testing as an acceptable practice

- OXY feels break testing meets the intent of *OOGO No. 2* to protect public health and safety and the environment

Bradenhead Cement CBL Variance Request

Oxy requests permission to adjust the CBL requirement after bradenhead cement jobs, on 7-5/8" intermediate casings, as per the agreement reached in the OXY/BLM meeting on September 5, 2019.

Three string wells:

- CBL will be required on one well per pad
- If the pumped volume of cement is less than permitted in the APD, BLM will be notified and a CBL may be run
- Echometer will be used after bradenhead cement job to determine TOC before pumping top-out cement

Four string wells:

- CBL is not required
- If the pumped volume of cement is less than permitted in the APD, BLM will be notified and a CBL may be run
- Echometer will be used after bradenhead cement job to determine TOC before pumping top-out cement

OXY

PRD NM DIRECTIONAL PLANS (NAD 1983)
Cedar Canyon 16
Cedar Canyon 16 State 71H

Wellbore #1

Plan: Permitting Plan

Standard Planning Report

06 August, 2024

OXY
Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Cedar Canyon 16 State 71H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=25' @ 2952.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=25' @ 2952.80ft
Site:	Cedar Canyon 16	**North Reference:**	Grid
Well:	Cedar Canyon 16 State 71H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Project PRD NM DIRECTIONAL PLANS (NAD 1983)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		Using geodetic scale factor

Site Cedar Canyon 16

Site Position:		**Northing:**	445,369.36 usft	**Latitude:**	32.223925
From:	Map	**Easting:**	648,117.71 usft	**Longitude:**	-103.988027
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in		

Well Cedar Canyon 16 State 71H

Well Position	**+N/-S**	0.00 ft	**Northing:**	445,369.36 usf	**Latitude:**	32.223925
	+E/-W	0.00 ft	**Easting:**	648,117.71 usf	**Longitude:**	-103.988027
Position Uncertainty		2.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	2,927.80 ft
Grid Convergence:		0.18 °				

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	8/6/2024	6.50	59.78	47,343.10000000

Design Permitting Plan

Audit Notes:

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

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	276.70

Plan Survey Tool Program **Date** 8/6/2024

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	19,888.13	Permitting Plan (Wellbore #1)	B005Mc_MWD+HRGM+SA MWD+HRGM+Sag+MSA	

OXY

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Cedar Canyon 16 State 71H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=25' @ 2952.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=25' @ 2952.80ft
Site:	Cedar Canyon 16	**North Reference:**	Grid
Well:	Cedar Canyon 16 State 71H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,985.00	0.00	0.00	2,985.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,184.71	12.00	285.36	4,175.97	33.15	-120.68	1.00	1.00	0.00	285.36	
8,798.35	12.00	285.36	8,688.83	287.14	-1,045.43	0.00	0.00	0.00	0.00	
9,730.75	90.07	179.93	9,281.15	-285.80	-1,166.17	10.00	8.37	-11.31	-105.10	
13,215.75	90.07	179.93	9,276.80	-3,770.79	-1,161.63	0.00	0.00	0.00	0.00	TP1 (Cedar Canyon
13,350.75	90.07	179.93	9,276.63	-3,905.79	-1,161.46	0.00	0.00	0.00	0.00	
14,521.92	93.07	270.93	9,235.51	-4,644.00	-1,909.68	7.77	0.26	7.77	86.93	
15,665.40	93.07	359.94	9,158.10	-3,910.60	-2,632.02	7.77	0.00	7.78	86.99	
17,185.40	93.07	359.94	9,076.69	-2,392.78	-2,633.61	0.00	0.00	0.00	0.00	
17,407.85	89.73	359.93	9,071.25	-2,170.43	-2,633.86	1.50	-1.50	0.00	-179.88	
19,888.13	89.73	359.93	9,082.80	309.82	-2,636.75	0.00	0.00	0.00	0.00	PBHL (Cedar

OXY

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Cedar Canyon 16 State 71H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=25' @ 2952.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=25' @ 2952.80ft
Site:	Cedar Canyon 16	**North Reference:**	Grid
Well:	Cedar Canyon 16 State 71H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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
2,985.00	0.00	0.00	2,985.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.15	285.36	3,000.00	0.01	-0.02	0.02	1.00	1.00	0.00
3,100.00	1.15	285.36	3,099.99	0.31	-1.11	1.14	1.00	1.00	0.00
3,200.00	2.15	285.36	3,199.95	1.07	-3.89	3.99	1.00	1.00	0.00
3,300.00	3.15	285.36	3,299.84	2.29	-8.35	8.56	1.00	1.00	0.00
3,400.00	4.15	285.36	3,399.64	3.98	-14.49	14.85	1.00	1.00	0.00
3,500.00	5.15	285.36	3,499.31	6.13	-22.30	22.87	1.00	1.00	0.00
3,600.00	6.15	285.36	3,598.82	8.73	-31.80	32.60	1.00	1.00	0.00
3,700.00	7.15	285.36	3,698.15	11.80	-42.96	44.05	1.00	1.00	0.00
3,800.00	8.15	285.36	3,797.25	15.33	-55.80	57.21	1.00	1.00	0.00
3,900.00	9.15	285.36	3,896.12	19.31	-70.30	72.08	1.00	1.00	0.00
4,000.00	10.15	285.36	3,994.70	23.75	-86.47	88.65	1.00	1.00	0.00
4,100.00	11.15	285.36	4,092.98	28.64	-104.29	106.92	1.00	1.00	0.00
4,184.71	12.00	285.36	4,175.97	33.15	-120.68	123.72	1.00	1.00	0.00
4,200.00	12.00	285.36	4,190.92	33.99	-123.74	126.86	0.00	0.00	0.00
4,300.00	12.00	285.36	4,288.73	39.49	-143.78	147.41	0.00	0.00	0.00
4,400.00	12.00	285.36	4,386.55	45.00	-163.83	167.96	0.00	0.00	0.00
4,500.00	12.00	285.36	4,484.37	50.50	-183.87	188.51	0.00	0.00	0.00
4,600.00	12.00	285.36	4,582.18	56.01	-203.92	209.06	0.00	0.00	0.00
4,700.00	12.00	285.36	4,680.00	61.51	-223.96	229.61	0.00	0.00	0.00
4,800.00	12.00	285.36	4,777.81	67.02	-244.00	250.16	0.00	0.00	0.00
4,900.00	12.00	285.36	4,875.63	72.52	-264.05	270.71	0.00	0.00	0.00
5,000.00	12.00	285.36	4,973.45	78.03	-284.09	291.26	0.00	0.00	0.00
5,100.00	12.00	285.36	5,071.26	83.54	-304.14	311.81	0.00	0.00	0.00
5,200.00	12.00	285.36	5,169.08	89.04	-324.18	332.36	0.00	0.00	0.00

OXY

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Cedar Canyon 16 State 71H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=25' @ 2952.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=25' @ 2952.80ft
Site:	Cedar Canyon 16	**North Reference:**	Grid
Well:	Cedar Canyon 16 State 71H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.00	12.00	285.36	5,266.89	94.55	-344.22	352.91	0.00	0.00	0.00
5,400.00	12.00	285.36	5,364.71	100.05	-364.27	373.45	0.00	0.00	0.00
5,500.00	12.00	285.36	5,462.52	105.56	-384.31	394.00	0.00	0.00	0.00
5,600.00	12.00	285.36	5,560.34	111.06	-404.36	414.55	0.00	0.00	0.00
5,700.00	12.00	285.36	5,658.16	116.57	-424.40	435.10	0.00	0.00	0.00
5,800.00	12.00	285.36	5,755.97	122.07	-444.44	455.65	0.00	0.00	0.00
5,900.00	12.00	285.36	5,853.79	127.58	-464.49	476.20	0.00	0.00	0.00
6,000.00	12.00	285.36	5,951.60	133.08	-484.53	496.75	0.00	0.00	0.00
6,100.00	12.00	285.36	6,049.42	138.59	-504.58	517.30	0.00	0.00	0.00
6,200.00	12.00	285.36	6,147.23	144.09	-524.62	537.85	0.00	0.00	0.00
6,300.00	12.00	285.36	6,245.05	149.60	-544.66	558.40	0.00	0.00	0.00
6,400.00	12.00	285.36	6,342.87	155.10	-564.71	578.95	0.00	0.00	0.00
6,500.00	12.00	285.36	6,440.68	160.61	-584.75	599.50	0.00	0.00	0.00
6,600.00	12.00	285.36	6,538.50	166.12	-604.80	620.05	0.00	0.00	0.00
6,700.00	12.00	285.36	6,636.31	171.62	-624.84	640.60	0.00	0.00	0.00
6,800.00	12.00	285.36	6,734.13	177.13	-644.88	661.15	0.00	0.00	0.00
6,900.00	12.00	285.36	6,831.95	182.63	-664.93	681.70	0.00	0.00	0.00
7,000.00	12.00	285.36	6,929.76	188.14	-684.97	702.25	0.00	0.00	0.00
7,100.00	12.00	285.36	7,027.58	193.64	-705.01	722.80	0.00	0.00	0.00
7,200.00	12.00	285.36	7,125.39	199.15	-725.06	743.35	0.00	0.00	0.00
7,300.00	12.00	285.36	7,223.21	204.65	-745.10	763.89	0.00	0.00	0.00
7,400.00	12.00	285.36	7,321.02	210.16	-765.15	784.44	0.00	0.00	0.00
7,500.00	12.00	285.36	7,418.84	215.66	-785.19	804.99	0.00	0.00	0.00
7,600.00	12.00	285.36	7,516.66	221.17	-805.23	825.54	0.00	0.00	0.00
7,700.00	12.00	285.36	7,614.47	226.67	-825.28	846.09	0.00	0.00	0.00
7,800.00	12.00	285.36	7,712.29	232.18	-845.32	866.64	0.00	0.00	0.00
7,900.00	12.00	285.36	7,810.10	237.68	-865.37	887.19	0.00	0.00	0.00
8,000.00	12.00	285.36	7,907.92	243.19	-885.41	907.74	0.00	0.00	0.00
8,100.00	12.00	285.36	8,005.74	248.70	-905.45	928.29	0.00	0.00	0.00
8,200.00	12.00	285.36	8,103.55	254.20	-925.50	948.84	0.00	0.00	0.00
8,300.00	12.00	285.36	8,201.37	259.71	-945.54	969.39	0.00	0.00	0.00
8,400.00	12.00	285.36	8,299.18	265.21	-965.59	989.94	0.00	0.00	0.00
8,500.00	12.00	285.36	8,397.00	270.72	-985.63	1,010.49	0.00	0.00	0.00
8,600.00	12.00	285.36	8,494.81	276.22	-1,005.67	1,031.04	0.00	0.00	0.00
8,700.00	12.00	285.36	8,592.63	281.73	-1,025.72	1,051.59	0.00	0.00	0.00
8,798.35	12.00	285.36	8,688.83	287.14	-1,045.43	1,071.80	0.00	0.00	0.00
8,800.00	11.96	284.59	8,690.45	287.23	-1,045.76	1,072.14	10.00	-2.54	-46.61
8,900.00	13.50	238.49	8,788.23	283.73	-1,065.79	1,091.62	10.00	1.55	-46.10
9,000.00	20.47	213.23	8,883.93	262.95	-1,085.37	1,108.64	10.00	6.97	-25.26
9,100.00	29.20	201.44	8,974.65	225.52	-1,103.92	1,122.69	10.00	8.73	-11.79
9,200.00	38.52	194.85	9,057.63	172.58	-1,120.86	1,133.34	10.00	9.32	-6.59
9,300.00	48.08	190.54	9,130.34	105.74	-1,135.69	1,140.27	10.00	9.56	-4.31
9,400.00	57.75	187.37	9,190.58	27.03	-1,147.95	1,143.26	10.00	9.68	-3.17
9,500.00	67.49	184.81	9,236.52	-61.16	-1,157.26	1,142.22	10.00	9.74	-2.56
9,600.00	77.27	182.59	9,266.76	-156.15	-1,163.36	1,137.19	10.00	9.78	-2.22
9,700.00	87.06	180.54	9,280.38	-255.06	-1,166.05	1,128.31	10.00	9.79	-2.05
9,730.75	90.07	179.93	9,281.15	-285.80	-1,166.17	1,124.85	10.00	9.80	-2.01
9,800.00	90.07	179.93	9,281.06	-355.04	-1,166.08	1,116.68	0.00	0.00	0.00
9,900.00	90.07	179.93	9,280.94	-455.04	-1,165.95	1,104.88	0.00	0.00	0.00
10,000.00	90.07	179.93	9,280.81	-555.04	-1,165.82	1,093.08	0.00	0.00	0.00
10,100.00	90.07	179.93	9,280.69	-655.04	-1,165.69	1,081.28	0.00	0.00	0.00
10,200.00	90.07	179.93	9,280.56	-755.04	-1,165.56	1,069.48	0.00	0.00	0.00
10,300.00	90.07	179.93	9,280.44	-855.04	-1,165.43	1,057.68	0.00	0.00	0.00
10,400.00	90.07	179.93	9,280.31	-955.04	-1,165.30	1,045.88	0.00	0.00	0.00
10,500.00	90.07	179.93	9,280.19	-1,055.04	-1,165.17	1,034.09	0.00	0.00	0.00

OXY
Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Cedar Canyon 16 State 71H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=25' @ 2952.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=25' @ 2952.80ft
Site:	Cedar Canyon 16	**North Reference:**	Grid
Well:	Cedar Canyon 16 State 71H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,600.00	90.07	179.93	9,280.06	-1,155.04	-1,165.04	1,022.29	0.00	0.00	0.00
10,700.00	90.07	179.93	9,279.94	-1,255.04	-1,164.91	1,010.49	0.00	0.00	0.00
10,800.00	90.07	179.93	9,279.81	-1,355.04	-1,164.78	998.69	0.00	0.00	0.00
10,900.00	90.07	179.93	9,279.69	-1,455.04	-1,164.65	986.89	0.00	0.00	0.00
11,000.00	90.07	179.93	9,279.56	-1,555.04	-1,164.52	975.09	0.00	0.00	0.00
11,100.00	90.07	179.93	9,279.44	-1,655.04	-1,164.39	963.29	0.00	0.00	0.00
11,200.00	90.07	179.93	9,279.31	-1,755.04	-1,164.26	951.49	0.00	0.00	0.00
11,300.00	90.07	179.93	9,279.19	-1,855.04	-1,164.13	939.69	0.00	0.00	0.00
11,400.00	90.07	179.93	9,279.06	-1,955.04	-1,164.00	927.89	0.00	0.00	0.00
11,500.00	90.07	179.93	9,278.94	-2,055.04	-1,163.87	916.09	0.00	0.00	0.00
11,600.00	90.07	179.93	9,278.82	-2,155.04	-1,163.74	904.29	0.00	0.00	0.00
11,700.00	90.07	179.93	9,278.69	-2,255.04	-1,163.61	892.49	0.00	0.00	0.00
11,800.00	90.07	179.93	9,278.57	-2,355.04	-1,163.48	880.69	0.00	0.00	0.00
11,900.00	90.07	179.93	9,278.44	-2,455.04	-1,163.35	868.90	0.00	0.00	0.00
12,000.00	90.07	179.93	9,278.32	-2,555.04	-1,163.22	857.10	0.00	0.00	0.00
12,100.00	90.07	179.93	9,278.19	-2,655.04	-1,163.09	845.30	0.00	0.00	0.00
12,200.00	90.07	179.93	9,278.07	-2,755.04	-1,162.96	833.50	0.00	0.00	0.00
12,300.00	90.07	179.93	9,277.94	-2,855.04	-1,162.83	821.70	0.00	0.00	0.00
12,400.00	90.07	179.93	9,277.82	-2,955.04	-1,162.70	809.90	0.00	0.00	0.00
12,500.00	90.07	179.93	9,277.69	-3,055.04	-1,162.56	798.10	0.00	0.00	0.00
12,600.00	90.07	179.93	9,277.57	-3,155.04	-1,162.43	786.30	0.00	0.00	0.00
12,700.00	90.07	179.93	9,277.44	-3,255.04	-1,162.30	774.50	0.00	0.00	0.00
12,800.00	90.07	179.93	9,277.32	-3,355.04	-1,162.17	762.70	0.00	0.00	0.00
12,900.00	90.07	179.93	9,277.19	-3,455.04	-1,162.04	750.90	0.00	0.00	0.00
13,000.00	90.07	179.93	9,277.07	-3,555.04	-1,161.91	739.10	0.00	0.00	0.00
13,100.00	90.07	179.93	9,276.94	-3,655.04	-1,161.78	727.30	0.00	0.00	0.00
13,200.00	90.07	179.93	9,276.82	-3,755.04	-1,161.65	715.50	0.00	0.00	0.00
13,215.75	90.07	179.93	9,276.80	-3,770.79	-1,161.63	713.65	0.00	0.00	0.00
13,300.00	90.07	179.93	9,276.70	-3,855.04	-1,161.52	703.71	0.00	0.00	0.00
13,350.75	90.07	179.93	9,276.63	-3,905.79	-1,161.46	697.72	0.00	0.00	0.00
13,400.00	90.28	183.75	9,276.48	-3,955.00	-1,163.03	693.54	7.77	0.42	7.76
13,500.00	90.69	191.51	9,275.64	-4,054.04	-1,176.29	695.15	7.77	0.41	7.76
13,600.00	91.09	199.27	9,274.09	-4,150.37	-1,202.80	710.24	7.77	0.40	7.76
13,700.00	91.46	207.03	9,271.86	-4,242.23	-1,242.07	738.52	7.77	0.38	7.76
13,800.00	91.82	214.79	9,269.00	-4,327.92	-1,293.38	779.48	7.77	0.35	7.77
13,900.00	92.13	222.56	9,265.54	-4,405.88	-1,355.79	832.36	7.77	0.32	7.77
14,000.00	92.41	230.33	9,261.57	-4,474.68	-1,428.15	896.20	7.77	0.28	7.77
14,100.00	92.65	238.11	9,257.15	-4,533.04	-1,509.14	969.82	7.77	0.23	7.77
14,200.00	92.83	245.88	9,252.36	-4,579.90	-1,597.26	1,051.88	7.77	0.19	7.78
14,300.00	92.97	253.66	9,247.29	-4,614.41	-1,690.90	1,140.85	7.77	0.13	7.78
14,400.00	93.05	261.44	9,242.03	-4,635.91	-1,788.34	1,235.11	7.77	0.08	7.78
14,500.00	93.07	269.22	9,236.68	-4,644.03	-1,887.79	1,332.94	7.77	0.02	7.78
14,521.92	93.07	270.93	9,235.51	-4,644.00	-1,909.68	1,354.68	7.77	-0.01	7.78
14,600.00	93.37	277.00	9,231.12	-4,638.61	-1,987.41	1,432.51	7.77	0.39	7.77
14,700.00	93.70	284.78	9,224.94	-4,619.78	-2,085.35	1,531.98	7.77	0.33	7.78
14,800.00	93.96	292.56	9,218.25	-4,587.86	-2,179.80	1,629.51	7.77	0.26	7.78
14,900.00	94.15	300.35	9,211.16	-4,543.46	-2,269.04	1,723.32	7.77	0.19	7.79
15,000.00	94.27	308.14	9,203.81	-4,487.39	-2,351.42	1,811.68	7.77	0.11	7.79
15,100.00	94.30	315.93	9,196.33	-4,420.67	-2,425.43	1,892.97	7.77	0.03	7.79
15,200.00	94.26	323.72	9,188.86	-4,344.54	-2,489.71	1,965.70	7.77	-0.04	7.79
15,300.00	94.13	331.51	9,181.53	-4,260.38	-2,543.09	2,028.53	7.77	-0.12	7.79
15,400.00	93.93	339.30	9,174.49	-4,169.75	-2,584.57	2,080.30	7.77	-0.20	7.79
15,500.00	93.66	347.08	9,167.85	-4,074.31	-2,613.41	2,120.08	7.77	-0.27	7.78
15,600.00	93.32	354.86	9,161.75	-3,975.81	-2,629.06	2,147.12	7.77	-0.34	7.78
15,665.40	93.07	359.94	9,158.10	-3,910.60	-2,632.02	2,157.67	7.77	-0.39	7.77

OXY
Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Cedar Canyon 16 State 71H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=25' @ 2952.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=25' @ 2952.80ft
Site:	Cedar Canyon 16	**North Reference:**	Grid
Well:	Cedar Canyon 16 State 71H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,700.00	93.07	359.94	9,156.24	-3,876.05	-2,632.06	2,161.74	0.00	0.00	0.00
15,800.00	93.07	359.94	9,150.89	-3,776.19	-2,632.17	2,173.50	0.00	0.00	0.00
15,900.00	93.07	359.94	9,145.53	-3,676.33	-2,632.27	2,185.26	0.00	0.00	0.00
16,000.00	93.07	359.94	9,140.18	-3,576.48	-2,632.37	2,197.01	0.00	0.00	0.00
16,100.00	93.07	359.94	9,134.82	-3,476.62	-2,632.48	2,208.77	0.00	0.00	0.00
16,200.00	93.07	359.94	9,129.47	-3,376.77	-2,632.58	2,220.53	0.00	0.00	0.00
16,300.00	93.07	359.94	9,124.11	-3,276.91	-2,632.69	2,232.29	0.00	0.00	0.00
16,400.00	93.07	359.94	9,118.75	-3,177.05	-2,632.79	2,244.04	0.00	0.00	0.00
16,500.00	93.07	359.94	9,113.40	-3,077.20	-2,632.90	2,255.80	0.00	0.00	0.00
16,600.00	93.07	359.94	9,108.04	-2,977.34	-2,633.00	2,267.56	0.00	0.00	0.00
16,700.00	93.07	359.94	9,102.69	-2,877.48	-2,633.11	2,279.31	0.00	0.00	0.00
16,800.00	93.07	359.94	9,097.33	-2,777.63	-2,633.21	2,291.07	0.00	0.00	0.00
16,900.00	93.07	359.94	9,091.98	-2,677.77	-2,633.32	2,302.83	0.00	0.00	0.00
17,000.00	93.07	359.94	9,086.62	-2,577.91	-2,633.42	2,314.58	0.00	0.00	0.00
17,100.00	93.07	359.94	9,081.27	-2,478.06	-2,633.52	2,326.34	0.00	0.00	0.00
17,185.40	93.07	359.94	9,076.69	-2,392.78	-2,633.61	2,336.38	0.00	0.00	0.00
17,200.00	92.85	359.94	9,075.94	-2,378.20	-2,633.63	2,338.10	1.50	-1.50	0.00
17,300.00	91.35	359.94	9,072.27	-2,278.27	-2,633.74	2,349.87	1.50	-1.50	0.00
17,400.00	89.85	359.93	9,071.22	-2,178.28	-2,633.85	2,361.65	1.50	-1.50	0.00
17,407.85	89.73	359.93	9,071.25	-2,170.43	-2,633.86	2,362.58	1.50	-1.50	0.00
17,500.00	89.73	359.93	9,071.68	-2,078.28	-2,633.97	2,373.44	0.00	0.00	0.00
17,600.00	89.73	359.93	9,072.15	-1,978.28	-2,634.08	2,385.22	0.00	0.00	0.00
17,700.00	89.73	359.93	9,072.61	-1,878.28	-2,634.20	2,397.01	0.00	0.00	0.00
17,800.00	89.73	359.93	9,073.08	-1,778.28	-2,634.32	2,408.79	0.00	0.00	0.00
17,900.00	89.73	359.93	9,073.54	-1,678.28	-2,634.43	2,420.58	0.00	0.00	0.00
18,000.00	89.73	359.93	9,074.01	-1,578.29	-2,634.55	2,432.36	0.00	0.00	0.00
18,100.00	89.73	359.93	9,074.47	-1,478.29	-2,634.67	2,444.15	0.00	0.00	0.00
18,200.00	89.73	359.93	9,074.94	-1,378.29	-2,634.78	2,455.93	0.00	0.00	0.00
18,300.00	89.73	359.93	9,075.41	-1,278.29	-2,634.90	2,467.72	0.00	0.00	0.00
18,400.00	89.73	359.93	9,075.87	-1,178.29	-2,635.02	2,479.51	0.00	0.00	0.00
18,500.00	89.73	359.93	9,076.34	-1,078.29	-2,635.13	2,491.29	0.00	0.00	0.00
18,600.00	89.73	359.93	9,076.80	-978.29	-2,635.25	2,503.08	0.00	0.00	0.00
18,700.00	89.73	359.93	9,077.27	-878.29	-2,635.37	2,514.86	0.00	0.00	0.00
18,800.00	89.73	359.93	9,077.73	-778.29	-2,635.48	2,526.65	0.00	0.00	0.00
18,900.00	89.73	359.93	9,078.20	-678.30	-2,635.60	2,538.43	0.00	0.00	0.00
19,000.00	89.73	359.93	9,078.66	-578.30	-2,635.72	2,550.22	0.00	0.00	0.00
19,100.00	89.73	359.93	9,079.13	-478.30	-2,635.83	2,562.00	0.00	0.00	0.00
19,200.00	89.73	359.93	9,079.60	-378.30	-2,635.95	2,573.79	0.00	0.00	0.00
19,300.00	89.73	359.93	9,080.06	-278.30	-2,636.07	2,585.58	0.00	0.00	0.00
19,400.00	89.73	359.93	9,080.53	-178.30	-2,636.18	2,597.36	0.00	0.00	0.00
19,500.00	89.73	359.93	9,080.99	-78.30	-2,636.30	2,609.15	0.00	0.00	0.00
19,600.00	89.73	359.93	9,081.46	21.70	-2,636.41	2,620.93	0.00	0.00	0.00
19,700.00	89.73	359.93	9,081.92	121.70	-2,636.53	2,632.72	0.00	0.00	0.00
19,800.00	89.73	359.93	9,082.39	221.69	-2,636.65	2,644.50	0.00	0.00	0.00
19,888.13	89.73	359.93	9,082.80	309.82	-2,636.75	2,654.89	0.00	0.00	0.00

OXY
Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Cedar Canyon 16 State 71H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=25' @ 2952.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=25' @ 2952.80ft
Site:	Cedar Canyon 16	**North Reference:**	Grid
Well:	Cedar Canyon 16 State 71H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP (Cedar Canyon - plan misses target center by 1201.95ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	288.06	-1,166.92	445,657.40	646,950.88	32.224727	-103.991797
TP2 (Cedar Canyon - plan misses target center by 5039.58ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	-4,642.65	-1,960.40	440,727.08	646,157.47	32.211181	-103.994413
TP3 (Cedar Canyon - plan misses target center by 87.87ft at 15806.48ft MD (9150.54 TVD, -3769.72 N, -2632.17 E) - Point	0.00	0.00	9,062.80	-3,774.42	-2,631.44	441,595.24	645,486.48	32.213574	-103.996574
PBHL (Cedar Canyon - plan hits target center - Point	0.00	0.00	9,082.80	309.82	-2,636.75	445,679.16	645,481.17	32.224800	-103.996550
TP1 (Cedar Canyon - plan hits target center - Point	0.00	0.00	9,276.80	-3,770.79	-1,161.63	441,598.87	646,956.17	32.213571	-103.991822
FTP (Cedar Canyon - plan misses target center by 203.53ft at 9300.00ft MD (9130.34 TVD, 105.74 N, -1135.69 E) - Point	0.00	0.00	9,281.80	238.07	-1,166.85	445,607.41	646,950.95	32.224590	-103.991798

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
130.80	130.80	RUSTLER			
631.80	631.80	SALADO			
1,305.80	1,305.80	CASTILE			
2,878.80	2,878.80	DELAWARE			
2,938.80	2,938.80	BELL CANYON			
3,784.39	3,781.80	CHERRY CANYON			
5,056.59	5,028.80	BRUSHY CANYON			
6,668.81	6,605.80	BONE SPRING			
7,703.40	7,617.80	BONE SPRING 1ST			
8,539.67	8,435.80	BONE SPRING 2ND			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,985.00	2,985.00	0.00	0.00	Build 1°/100'
4,184.71	4,175.97	33.15	-120.68	Hold 12° Tangent
8,798.35	8,688.83	287.14	-1,045.43	KOP, Build & Turn 10°/100'
9,730.75	9,281.15	-285.80	-1,166.17	Landing Point
13,215.75	9,276.80	-3,770.79	-1,161.63	Hold
13,350.75	9,276.63	-3,905.79	-1,161.46	Build & Turn 7.77°/100'
14,521.92	9,235.51	-4,644.00	-1,909.68	Turn 7.77°/100'
15,665.40	9,158.10	-3,910.60	-2,632.02	Hold
17,185.40	9,076.69	-2,392.78	-2,633.61	Drop 1.5°/100'
17,407.85	9,071.25	-2,170.43	-2,633.86	Hold
19,888.13	9,082.80	309.82	-2,636.75	TD at 19888.13' MD

Oxy USA Inc. - CEDAR CANYON 16 STATE 71H
Drill Plan

1. Geologic Formations

TVD of Target (ft):	9281	Pilot Hole Depth (ft):	
Total Measured Depth (ft):	19888	Deepest Expected Fresh Water (ft):	131

Delaware Basin

Formation	MD-RKB (ft)	TVD-RKB (ft)	Expected Fluids
Rustler	131	131	
Salado	632	632	Salt
Castile	1306	1306	Salt
Delaware	2879	2879	Oil/Gas/Brine
Bell Canyon	2939	2939	Oil/Gas/Brine
Cherry Canyon	3784	3782	Oil/Gas/Brine
Brushy Canyon	5057	5029	Losses
Bone Spring	6669	6606	Oil/Gas
Bone Spring 1st	7703	7618	Oil/Gas
Bone Spring 2nd	8540	8436	Oil/Gas
Bone Spring 3rd			Oil/Gas
Wolfcamp			Oil/Gas
Penn			Oil/Gas
Strawn			Oil/Gas

*H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

		MD		TVD					
Section	Hole Size (in)	From (ft)	To (ft)	From (ft)	To (ft)	Csg. OD (in)	Csg Wt. (ppf)	Grade	Conn.
Surface	14.75	0	572	0	572	10.75	45.5	J-55	BTC
Intermediate	9.875	0	9731	0	9281	7.625	26.4	L-80 HC	BTC
Production	6.75	0	19888	0	9281	5.5	20	P-110	Sprint-SF

All casing strings will be tested in accordance with 43 CFR part 3170 Subpart 3172

All Casing SF Values will meet or exceed those below			
SF Collapse	**SF Burst**	**Body SF Tension**	**Joint SF Tension**
1.00	1.100	1.4	1.4

	Y or N
Is casing new? If used, attach certification as required in 43 CFR 3160	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	Y
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Section	Stage	Slurry:	Sacks	Yield (ft^3/ft)	Density (lb/gal)	Excess:	TOC	Placement	Description
Surface	1	Surface - Tail	479	1.33	14.8	100%	-	Circulate	Class C+Accel.
Int.	1	Intermediate 1S - Tail	594	1.68	13.2	5%	5,307	Circulate	Class C+Ret., Disper.
Int.	2	Intermediate 2S - Tail BH	822	1.71	13.3	25%	-	Bradenhead	Class C+Accel.
Prod.	1	Production - Tail	603	1.84	13.3	25%	9,231	Circulate	Class C+Ret.

Offline Cementing Request

Oxy requests a variance to cement the 9.625” and/or 7.625” intermediate casing strings offline in accordance to the approved variance, EC Tran 461365. Please see Offline Cementing Variance attachment for further details.

Bradenhead CBL Request

Oxy requests permission to adjust the CBL requirement after bradenhead cement jobs, on 7-5/8” intermediate casings, as per the agreement reached in the OXY/BLM meeting on September 5, 2019. Please see Bradenhead CBL Variance attachment for further details.

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:	Deepest TVD Depth (ft) per Section:
9.875" Hole	13-5/8”	5M	Annular	✓	70% of working pressure	9281
		5M	Blind Ram	✓	250 psi / 5000 psi	
			Pipe Ram			
			Double Ram	✓		
			Other*			
6.75" Hole	13-5/8”	5M	Annular	✓	70% of working pressure	9281
		5M	Blind Ram	✓	250 psi / 5000 psi	
			Pipe Ram			
			Double Ram	✓		
			Other*			

*Specify if additional ram is utilized

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per 43 CFR part 3170 Subpart 3172 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke

	Formation integrity test will be performed per 43 CFR part 3170 Subpart 3172.
	On Exploratory wells or 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. Will be tested in accordance with 43 CFR part 3170 Subpart 3172.
	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
	Y Are anchors required by manufacturer?
	A multibowl or a unionized multibowl wellhead system will be employed. The wellhead and connection to the BOPE will meet all API 6A requirements. The BOP will be tested per 43 CFR part 3170 Subpart 3172 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. We will test the flange connection of the wellhead with a test port that is directly in the flange. We are proposing that we will run the wellhead through the rotary prior to cementing surface casing as discussed with the BLM on October 8, 2015. See attached schematics.

BOP Break Testing Request

Oxy requests permission to adjust the BOP break testing requirements as per the agreement reached in the OXY/BLM meeting on September 5, 2019. Please see BOP Break Testing Variance attachment for further details.

Oxy will use Cameron ADAPT wellhead system that uses an OEC top flange connection. This connection has been fully vetted and verified by API to Spec 6A and carries an API monogram.

5. Mud Program

Section	Depth - MD		Depth - TVD		Type	Weight (ppg)	Viscosity	Water Loss
	From (ft)	To (ft)	From (ft)	To (ft)				
Surface	0	572	0	572	Water-Based Mud	8.6 - 8.8	40-60	N/C
Intermediate	572	9731	572	9281	Saturated Brine-Based or Oil-Based Mud	8.0 - 10.0	35-45	N/C
Production	9731	19888	9281	9281	Water-Based or Oil-Based Mud	9.5 - 12.5	38-50	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls,

What will be used to monitor the loss or gain of fluid?	PVT/MD Totco/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
Yes	Will run GR from TD to surface (horizontal well – vertical portion of hole).
	Stated logs run will be in the Completion Report and submitted to the BLM.
No	Logs are planned based on well control or offset log information.
No	Drill stem test? If yes, explain
No	Coring? If yes, explain

Additional logs planned		Interval
No	Resistivity	
No	Density	
Yes	CBL	Production string
Yes	Mud log	Bone Spring – TD
No	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	6033 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	155°F

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, and water zones until such time as casing can be cemented into place for

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of 43 CFR part 3170 Subpart 3172. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

8. Other facets of operation

	Yes/No
Will the well be drilled with a walking/skidding operation? If yes, describe. We plan to drill the 2 well pad in batch by section: all surface sections, intermediate sections and production sections. The wellhead will be secured with a night cap whenever the rig is not over the well.	Yes
Will more than one drilling rig be used for drilling operations? If yes, describe. Oxy requests the option to contract a Surface Rig to drill, set surface casing, and cement for this well. If the timing between rigs is such that Oxy would not be able to preset surface, the Primary Rig will MIRU and drill the well in its entirety per the APD. Please see the attached document for information on the spudder rig.	Yes

Total Estimated Cuttings Volume: 1439 bbls

OXY USA Inc
APD ATTACHMENT: SPUDDER RIG DATA

OPERATOR NAME / NUMBER: OXY USA Inc

1. SUMMARY OF REQUEST:

Oxy USA respectfully requests approval for the following operations for the surface hole in the drill plan:

1. Utilize a spudder rig to pre-set surface casing for time and cost savings.

2. Description of Operations

1. Spudder rig will move in to drill the surface hole and pre-set surface casing on the well.
   a. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (43 CFR part 3170 Subpart 3172, all COAs and NMOCD regulations).
   b. The spudder rig will utilize fresh water-based mud to drill the surface hole to TD. Solids control will be handled entirely on a closed loop basis. No earth pits will be used.

2. The wellhead will be installed and tested as soon as the surface casing is cut off and the WOC time has been reached.

3. A blind flange at the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wingvalves.
   a. A means for intervention will be maintained while the drilling rig is not over the well.

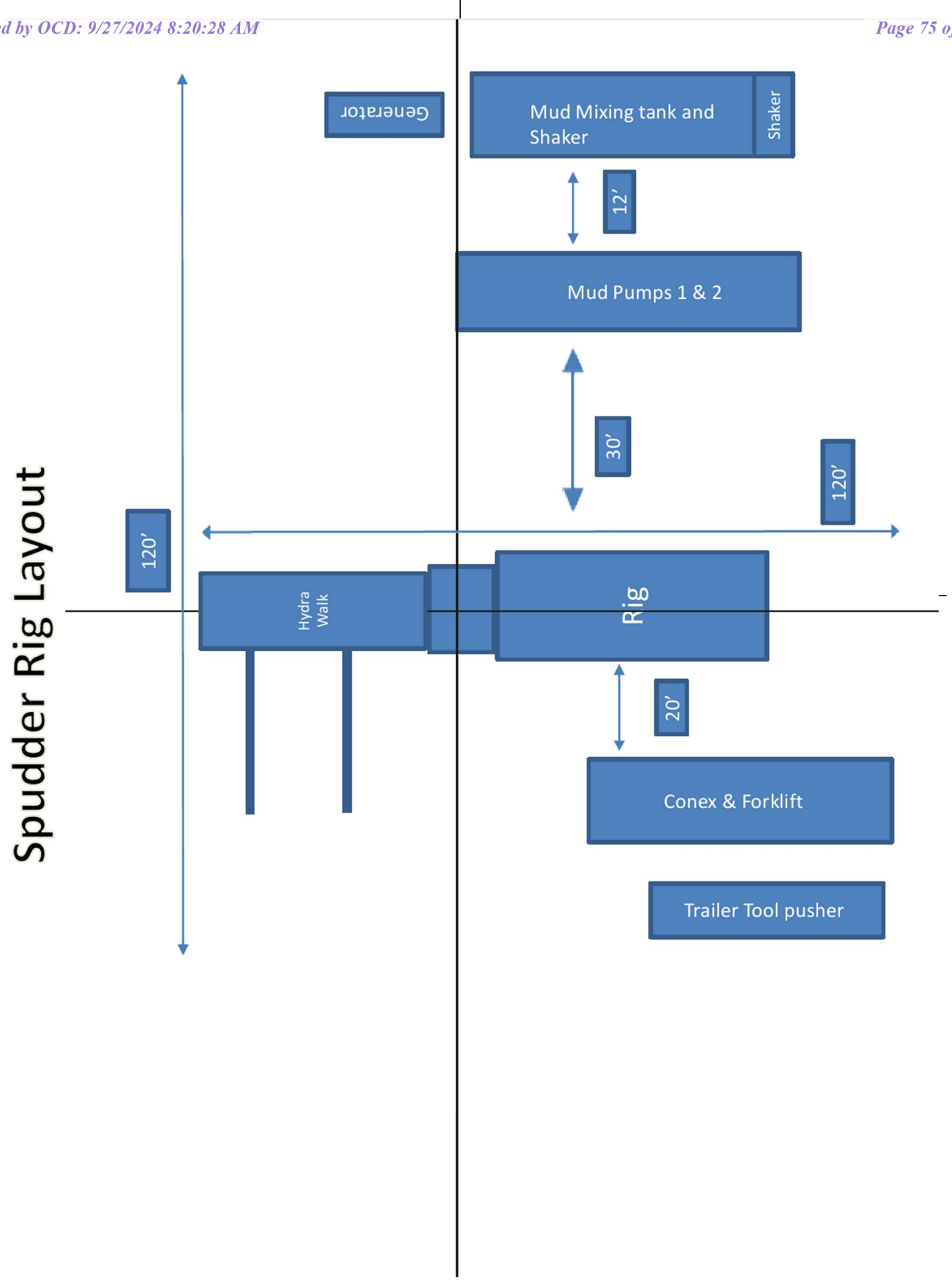
4. Spudder rig operations are expected to take 2-3 days per well on the pad.

5. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.

6. Drilling operations will begin with a larger rig and a BOP stack equal to or greater than the pressure rating that was permitted will be nippled up and tested on the wellhead before drilling operations resume on each well.
   a. The larger rig will move back onto the location within 90 days from the point at which the wells are secured and the spudder rig is moved off location.
   b. The BLM will be contacted / notified 24 hours before the larger rig moves back on the pre-set locations.

7. Oxy will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.

8. Once the rig is removed, Oxy will secure the wellhead area by placing a guard rail around the cellar area.


Spudder Rig Layout
Generator
Mud Mixing tank and Shaker
Shaker
12'
Mud Pumps 1 & 2
30'
120'
120'
Hydra Walk
Rig
20'
Conex & Forklift
Trailer Tool pusher

OXY's Minimum Design Criteria

Burst, Collapse, and Tensile SF are calculated using Landmark's Stress Check (Casing Design) software. A sundry will be requested if any lesser grade or different size casing is substituted.

1) Casing Design Assumptions

a) Burst Loads

CSG Test (Surface)

- Internal: Displacement fluid + pressure required to comply with regulatory casing test pressures. This will comply with both 43 CFR part 3170 Subpart 3172 and 19.15.16 of the OCD Rules.
- External: Pore pressure in open hole.

CSG Test (Intermediate)

- Internal: Displacement fluid + pressure required to comply with regulatory casing test pressures. This will comply with both 43 CFR part 3170 Subpart 3172 and 19.15.16 of the OCD Rules.
- External: Mud Weight to TOC, cement mix water gradient (8.4 ppg) below TOC, and pore pressure in open hole.

CSG Test (Production)

- Internal:
  - For Drilling: Displacement fluid + pressure required to comply with regulatory casing test pressures. This will comply with both 43 CFR part 3170 Subpart 3172 and 19.15.16 of the OCD Rules.
  - For Production: The design pressure test should be the greater of (1) the planned test pressure prior to stimulation down the casing. (2) the regulatory test pressure, and (3) the expected gas lift system pressure. The design test fluid should be the fluid associated with pressure test having the greatest pressure.
- External:
  - For Drilling: Mud Weight to TOC, cement mix water gradient (8.4 ppg) below TOC, and pore pressure in open hole.
  - For Production: Mud base-fluid density to TOC, cement mix water gradient (8.4 ppg) below TOC, and pore pressure in open hole.

Gas Column (Surface)

- Internal: Assumes a full column of gas in the casing with a Gas/Oil Gradient of 0.1 psi/ft in the absence of better information. It is limited to the controlling pressure based on the fracture pressure at the shoe or the maximum expected pore pressure within the next drilling interval, whichever results in a lower surface pressure.
- External: Fluid gradient below TOC, pore pressure from the TOC to the Intermediate CSG shoe (if applicable), and MW of the drilling mud that was in the hole when the CSG was run from Intermediate CSG shoe to surface.

Bullheading (Surface / Intermediate)

- Internal: The string must be designed to withstand a pressure profile based on the fracture pressure at the casing shoe with a column of water above the shoe plus an additional surface pressure (in psi) of 0.02 X MD of the shoe to account for pumping friction pressure.
- External: Mud weight to TOC, cement mix water gradient (8.4 ppg) below TOC, and pore pressure in open hole.

Gas Kick (Intermediate)

- The string must be designed to at least a gas kick load case unless the rig is unable to detect a kick. For the gas kick load case, the internal pressure profile must be based on a minimum volume of 50 bbl or the minimum kick detection capability of the rig, whichever is greater, and a kick intensity of 2.0 ppg for Class 1, 1.0 ppg of Class 2, and 0.5 ppg for Class 3 and 4 wells.
- Internal: Influx depth of the maximum pore pressure of 0.55 “gas kick gravity” of gas to surface while drilling the next hole section.
- External: Mud weight to the TOC, cement mix water gradient below TOC, and pore pressure in open hole.

Tubing Leak Near Surface While Producing (Production)

- Internal: SITP plus a packer fluid gradient to the shoe or top of packer.
- External: Mud base-fluid density to TOC, cement mix water gradient (8.4 ppg) below TOC, and pore pressure in open hole.

Tubing Leak Near Surface While Stimulating (Production)

- Internal: Surface pressure or pressure-relief system pressure, whichever is lower plus packer fluid gradient.
- External: Mud base-fluid density to TOC, cement mix water gradient (8.4 ppg) below TOC, and pore pressure in open hole.

Injection / Stimulation Down Casing (Production)

- Internal: Surface pressure plus injection fluid gradient.
- External: Mud base-fluid density to TOC, cement mix water gradient (8.4 ppg) below TOC, and pore pressure in open hole.

b) Collapse Loads

Lost Circulation (Surface / Intermediate)

- Internal: Lost circulation at the TD of the next hole section, and the fluid level falls to a depth where the hydrostatic of the mud equals pore pressure at the depth of the lost circulation zone.
- External: MW of the drilling mud that was in the hole when the casing was run. Cementing (Surface / Intermediate / Production)
- Internal: Displacement fluid density.
- External: Mud weight from TOC to surface and cement slurry weight from TOC to casing shoe.

Full Evacuation (Production)

- Internal: Full void pipe.
- External: MW of drilling mud in the hole when the casing was run.

c) Tension Loads

Running Casing (Surface / Intermediate / Production)

- Axial: Buoyant weight of the string plus the lesser of 100,000 lb or the string weight in air.

Green Cement (Surface / Intermediate / Production)

- Axial: Buoyant weight of the string plus cement plug bump pressure load.

Generated on April 25, 2024

CONNECTION DATA SHEET

OD: **5.500 in.**
Weight: **20.00 lb/ft**
Wall Th.: **0.361 in.**

Grade: **P110 RY**
Drift: **4.653 in. (API)**

VAM® SPRINT-SF

Semi-Flush

Field Torque Values

Make-up Torque (ft-lb)

- 20,000 **MIN**
- 22,500 **OPTI**
- 25,000 **MAX**

Torque with Sealability (ft-lb)

- 36,000 **MTS**

Locked Flank Torque (ft-lb)

- 4,500 **MIN**
- 15,750 **MAX**

(2) MTS: Maximum Torque with Sealability.

PIPE BODY PROPERTIES

Nominal OD	5.500	*in.*
Nominal ID	4.778	*in.*
Nominal Wall Thickness	0.361	*in.*
Minimum Wall Thickness	87.5	*%*
Nominal Weight (API)	20.00	*lb/ft*
Plain End Weight	19.83	*lb/ft*
Drift	4.653	*in.*
Grade Type	Controlled Yield	
Minimum Yield Strength	110	*ksi*
Maximum Yield Strength	125	*ksi*
Minimum Ultimate Tensile Strength	140	*ksi*
Pipe Body Yield Strength	641	*klb*
Internal Yield Pressure	12,640	*psi*
Collapse Pressure	11,110	*psi*

CONNECTION PROPERTIES

Connection Type	Semi-Premium Integral Semi-Flu	
Nominal Connection OD	5.783	*in.*
Nominal Connection ID	4.718	*in.*
Make-up Loss	5.965	*in.*
Tension Efficiency	90	*% Pipe Body*
Compression Efficiency	90	*% Pipe Body*
Internal Pressure Efficiency	100	*% Pipe Body*
External Pressure Efficiency	100	*% Pipe Body*

JOINT PERFORMANCES

Tension Strength	577	*klb*
Compression Strength	577	*klb*
Internal Pressure Resistance	12,640	*psi*
External Pressure Resistance	11,110	*psi*
Maximum Bending, Structural	78	*°/100 ft*
Maximum Bending, with Sealability(1)	30	*°/100 ft*

(1) Sealability rating demonstrated as per API RP 5C5 / ISO 13679

Permian Drilling
Hydrogen Sulfide Drilling Operations Plan

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

1. Escape

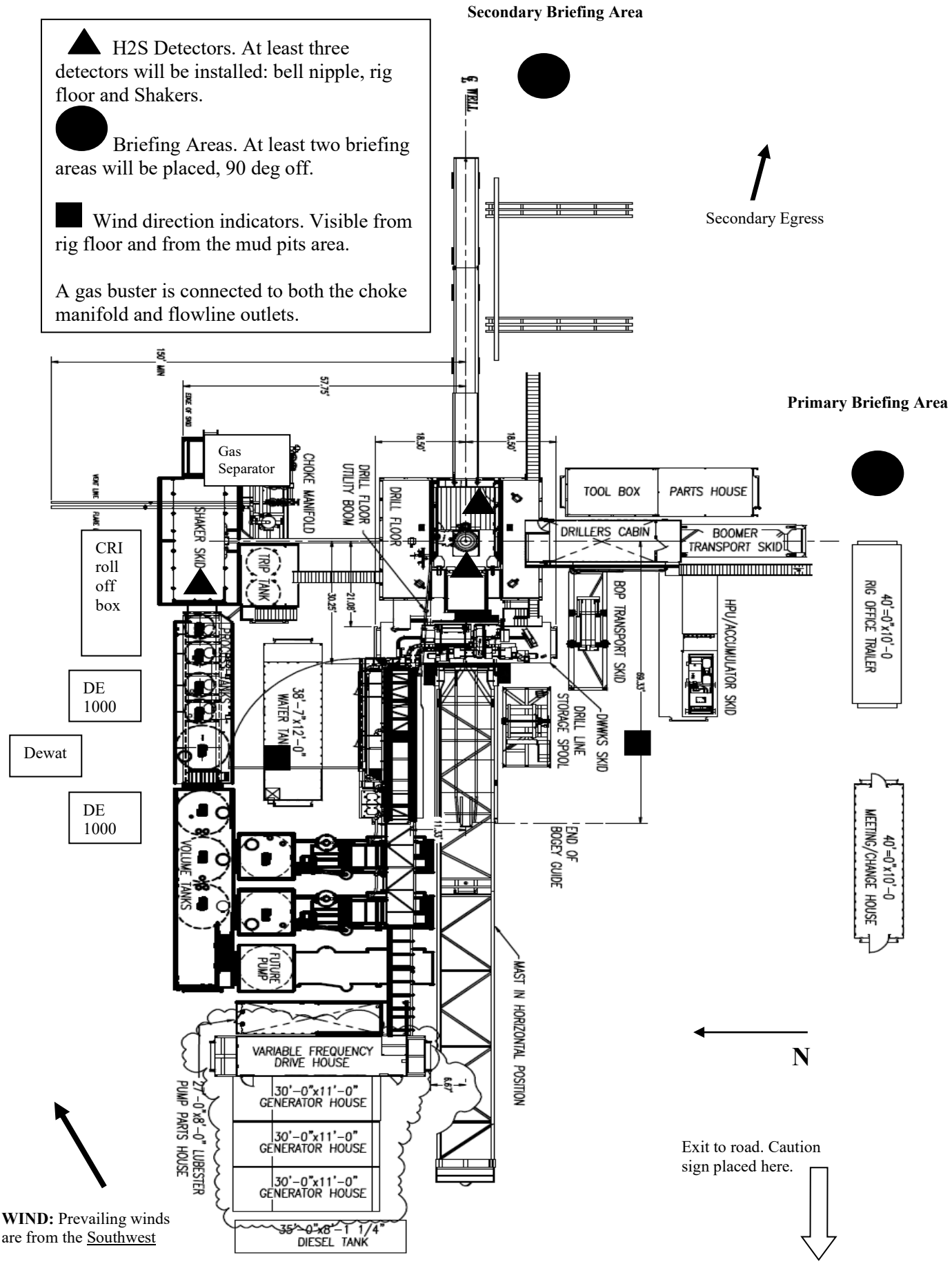
   Personnel shall escape upwind of wellbore in the event of an emergency gas release. Escape can take place through the lease road on the Southeast side of the location. Personnel need to move to a safe distance and block the entrance to location. If the primary route is not an option due to the wind direction,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



WIND: Prevailing winds are from the Southwest

Permian Drilling
Hydrogen Sulfide Drilling Operations Plan
New Mexico

Scope

This contingency plan establishes guidelines for the public, all company employees, and contract employees who's work activities may involve exposure to hydrogen sulfide (H2S) gas.
While drilling this well, it is possible to encounter H2S bearing formations. At all times, the first barrier to control H2S emissions will be the drilling fluid, which will have a density high enough to control influx.

Objective

1. Provide an immediate and predetermined response plan to any condition when H2S is detected. All H2S detections in excess of 10 parts per million (ppm) concentration are considered an Emergency.

2. Prevent any and all accidents, and prevent the uncontrolled release of hydrogen sulfide into the atmosphere.

3. Provide proper evacuation procedures to cope with emergencies.

4. Provide immediate and adequate medical attention should an injury occur.

Discussion

Implementation:	This plan with all details is to be fully implemented before drilling to commence.
Emergency response Procedure:	This section outlines the conditions and denotes steps to be taken in the event of an emergency.
Emergency equipment Procedure:	This section outlines the safety and emergency equipment that will be required for the drilling of this well.
Training provisions:	This section outlines the training provisions that must be adhered to prior to drilling.
Drilling emergency call lists:	Included are the telephone numbers of all persons to be contacted should an emergency exist.
Briefing:	This section deals with the briefing of all people involved in the drilling operation.
Public safety:	Public safety personnel will be made aware of any potential evacuation and any additional support needed.
Check lists:	Status check lists and procedural check lists have been included to insure adherence to the plan.
General information:	A general information section has been included to supply support information.

Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on the well:

1. The hazards and characteristics of H2S.
2. Proper use and maintenance of personal protective equipment and life support systems.
3. H2S detection.
4. Proper use of H2S detectors, alarms, warning systems, briefing areas, evacuation procedures and prevailing winds.
5. Proper techniques for first aid and rescue procedures.
6. Physical effects of hydrogen sulfide on the human body.
7. Toxicity of hydrogen sulfide and sulfur dioxide.
8. Use of SCBA and supplied air equipment.
9. First aid and artificial respiration.
10. Emergency rescue.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H2S on metal components. If high tensile strength tubular is to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling a well, blowout prevention and well control procedures.
3. The contents and requirements of the H2S Drilling Operations Plan.

H2S training refresher must have been taken within one year prior to drilling the well. Specifics on the well to be drilled will be discussed during the pre-spud meeting. H2S and well control (choke) drills will be performed while drilling the well, at least on a weekly basis. This plan shall be available in the well site. All personnel will be required to carry the documentation proving that the H2S training has been taken.

Service company and visiting personnel

A. Each service company that will be on this well will be notified if the zone contains H2S.

B. Each service company must provide for the training and equipment of their employees before they arrive at the well site.

C. Each service company will be expected to attend a well site

Emergency Equipment Requirements

1. Well control equipment

The well shall have hydraulic BOP equipment for the anticipated pressures. Equipment is to be tested on installation and follow Oxy Well Control standard, as well as 43 CFR part 3170 Subpart 3172.

Special control equipment:

A. Hydraulic BOP equipment with remote control on ground.
Remotely operated choke.
B. Rotating head
C. Gas buster equipment shall be installed before drilling out of surface pipe.

2. Protective equipment for personnel

A. Four (4) 30-minute positive pressure air packs (2 at each briefing area) on location.

B. Adequate fire extinguishers shall be located at strategic locations.

C. Radio / cell telephone communication will be available at the rig.

- Rig floor and trailers.
- Vehicle.

3. Hydrogen sulfide sensors and alarms

A. H2S sensor with alarms will be located on the rig floor, at the bell nipple, and at the flow line. These monitors will be set to alarm at 10 ppm with strobe light, and audible alarm.
B. Hand operated detectors with tubes.
C. H2S monitor tester (to be provided by contract Safety Company.)
D. There shall be one combustible gas detector on location at all times.

4. Visual Warning Systems

A. One sign located at each location entrance with the following language:

Caution – potential poison gas
Hydrogen sulfide
No admittance without authorization

Wind sock – wind streamers:

A. One 36" (in length) wind sock located at protection center, at height visible from rig floor.
B. One 36" (in length) wind sock located at height visible from pit areas.

Condition flags

A. One each condition flag to be displayed to denote conditions.

green – normal conditions
yellow – potential danger
red – danger, H2S present

B. Condition flag shall be posted at each location sign entrance.

5. Mud Program

The mud program is designed to minimize the risk of having H2S and other formation fluids at surface. Proper mud weight and safe drilling practices will be applied. H2S scavengers will be used to minimize the hazards while drilling. Below is a summary of the drilling program.

Mud inspection devices:

Garrett gas train or hatch tester for inspection of sulfide concentration in mud system.

6. Metallurgy

A. Drill string, casing, tubing, wellhead, blowout preventers, drilling spools or adapters, kill lines, choke manifold, lines and valves shall be suitable for the H2S service.
B. All the elastomers, packing, seals and ring gaskets shall be suitable for H2S service.

7. Well Testing

No drill stem test will be performed on this well.

8. Evacuation plan

Evacuation routes should be established prior to well spud for each well and discussed with all rig personnel.

9. Designated area

A. Parking and visitor area: all vehicles are to be parked at a predetermined safe distance from the wellhead.
B. There will be a designated smoking area.
C. Two briefing areas on either side of the location at the maximum allowable distance from the well bore so they offset prevailing winds perpendicularly, or at a 45-degree angle if wind direction tends to shift in the area.

Emergency procedures

A. In the event of any evidence of H2S level above 10 ppm, take the following steps:

1. The Driller will pick up off bottom, shut down the pumps, slow down the pipe rotation.

2. Secure and don escape breathing equipment, report to the upwind designated safe briefing / muster area.

3. All personnel on location will be accounted for and emergency search should begin for any missing, the Buddy System will be implemented.

4. Order non-essential personnel to leave the well site, order all essential personnel out of the danger zone and upwind to the nearest designated safe briefing / muster area.

5. Entrance to the location will be secured to a higher level than our usual "Meet and Greet" requirement, and the proper condition flag will be displayed at the entrance to the location.

6. Take steps to determine if the H2S level can be corrected or suppressed and, if so, proceed as required.

B. If uncontrollable conditions occur:

1. Take steps to protect and/or remove any public in the down-wind area from the rig – partial evacuation and isolation. Notify necessary public safety personnel and appropriate regulatory entities (i.e. BLM) of the situation.

2. Remove all personnel to the nearest upwind designated safe briefing / muster area or off location.

3. Notify public safety personnel of safe briefing / muster area.

4. An assigned crew member will blockade the entrance to the location. No unauthorized personnel will be allowed entry to the location.

5. Proceed with best plan (at the time) to regain control of the well. Maintain tight security and safety procedures.

C. Responsibility:

1. Designated personnel.

a. Shall be responsible for the total implementation of this plan.
b. Shall be in complete command during any emergency.
c. Shall designate a back-up.

All personnel:	1. On alarm, don escape unit and report to the nearest upwind designated safe briefing / muster area upw 2. Check status of personnel (buddy system). 3. Secure breathing equipment. 4. Await orders from supervisor.
Drill site manager:	1. Don escape unit if necessary and report to nearest upwind designated safe briefing / muster area. 2. Coordinate preparations of individuals to return to point of release with tool pusher and driller (using the buddy system). 3. Determine H2S concentrations. 4. Assess situation and take control measures.
Tool pusher:	1. Don escape unit Report to up nearest upwind designated safe briefing / muster area. 2. Coordinate preparation of individuals to return to point of release with tool pusher drill site manager (using the buddy system). 3. Determine H2S concentration. 4. Assess situation and take control measures.
Driller:	1. Don escape unit, shut down pumps, continue

rotating DP.
2. Check monitor for point of release.
3. Report to nearest upwind designated safe briefing / muster area.
4. Check status of personnel (in an attempt to rescue, use the buddy system).
5. Assigns least essential person to notify Drill Site Manager and tool pusher by quickest means in case of their absence.
6. Assumes the responsibilities of the Drill Site Manager and tool pusher until they arrive should they be absent.

Derrick man
Floor man #1
Floor man #2

1. Will remain in briefing / muster area until instructed by supervisor.

Mud engineer:

1. Report to nearest upwind designated safe briefing / muster area.
2. When instructed, begin check of mud for ph and H2S level. (Garett gas train.)

Safety personnel:

1. Mask up and check status of all personnel and secure operations as instructed by drill site manager.

Taking a kick

When taking a kick during an H2S emergency, all personnel will follow standard Well control procedures after reporting to briefing area and masking up.

Open-hole logging

All unnecessary personnel off floor. Drill Site Manager and safety personnel should monitor condition, advise status and determine need for use of air equipment.

Running casing or plugging

Following the same “tripping” procedure as above. Drill Site Manager and safety personnel should determine if all personnel have access to protective equipment.

Ignition procedures

The decision to ignite the well is the responsibility of the operator (Oxy Drilling Management). The decision should be made only as a last resort and in a situation where it is clear that:

1. Human life and property are endangered.
2. There is no hope controlling the blowout under the prevailing conditions at the well.

Instructions for igniting the well

1. Two people are required for the actual igniting operation. They must wear self-contained breathing units and have a safety rope attached. One man (tool pusher or safety engineer) will check the atmosphere for explosive gases with the gas monitor. The other man is responsible for igniting the well.
2. Primary method to ignite: 25 mm flare gun with range of approximately 500 feet.
3. Ignite upwind and do not approach any closer than is warranted.
4. Select the ignition site best for protection, and which offers an easy escape route.
5. Before firing, check for presence of combustible gas.
6. After lighting, continue emergency action and procedure as before.
7. All unassigned personnel will remain in briefing area until instructed by supervisor or directed by the Drill Site Manager.

Remember: After well is ignited, burning hydrogen sulfide will convert to sulfur dioxide, which is also highly toxic. **Do not assume the area is safe after the well is ignited.**

Status check list

Note: All items on this list must be completed before drilling to production casing point.

1. H2S sign at location entrance.
2. Two (2) wind socks located as required.
3. Four (4) 30-minute positive pressure air packs (2 at each Briefing area) on location for all rig personnel and mud loggers.
4. Air packs inspected and ready for use.
5. Cascade system and hose line hook-up as needed.
6. Cascade system for refilling air bottles as needed.
7. Condition flag on location and ready for use.
8. H2S detection system hooked up and tested.
9. H2S alarm system hooked up and tested.
10. Hand operated H2S detector with tubes on location.
11. 1 – 100’ length of nylon rope on location.
12. All rig crew and supervisors trained as required.
13. All outside service contractors advised of potential H2S hazard on well.
14. No smoking sign posted and a designated smoking area identified.
15. Calibration of all H2S equipment shall be noted on the IADC report.

Checked by: _____ Date:

Procedural check list during H2S events

Perform each tour:

1. Check fire extinguishers to see that they have the proper charge.

2. Check breathing equipment to ensure that it in proper working order.

3. Make sure all the H2S detection system is operative.

Perform each week:

1. Check each piece of breathing equipment to make sure that demand or forced air regulator is working. This requires that the bottle be opened and the mask assembly be put on tight enough so that when you inhale, you receive air or feel air flow.

2. BOP skills (well control drills).

3. Check supply pressure on BOP accumulator stand by source.

4. Check breathing equipment mask assembly to see that straps are loosened and turned back, ready to put on.

5. Check pressure on breathing equipment air bottles to make sure they are charged to full volume. (Air quality checked for proper air grade “D” before bringing to location)

6. Confirm pressure on all supply air bottles.

7. Perform breathing equipment drills with on-site personnel.

8. Check the following supplies for availability.

   A. Emergency telephone list.
   B. Hand operated H2S detectors and tubes.

General evacuation plan

1. When the company approved supervisor (Drill Site Manager, consultant, rig pusher, or driller) determines the H2S gas cannot be limited to the well location and the public will be involved, he will activate the evacuation plan.

2. Drill Site Manager or designee will notify local government agency that a hazardous condition exists and evacuation needs to be implemented.

3. Company or contractor safety personnel that have been trained in the use of H2S detection equipment and self-contained breathing equipment will monitor H2S concentrations, wind directions, and area of exposure. They will delineate the outer perimeter of the hazardous gas area. Extension to the evacuation area will be determined from information gathered.

4. Law enforcement personnel (state police, police dept., fire dept., and sheriff's dept.) Will be called to aid in setting up and maintaining road blocks. Also, they will aid in evacuation of the public if necessary.

5. After the discharge of gas has been controlled, company safety personnel will determine when the area is safe for re-entry.

Important: Law enforcement personnel will not be asked to come into a contaminated area. Their assistance will be limited to uncontaminated areas. Constant radio contact will be maintained with them.

Emergency actions

Well blowout – if emergency

1. Evacuate all personnel to "Safe Briefing / Muster Areas" or off location if needed.

2. If sour gas – evacuate rig personnel.

3. If sour gas – evacuate public within 3000 ft radius of exposure.

4. Don SCBA and shut well in if possible using the buddy system.

5. Notify Drilling Superintendent and call 911 for emergency help (fire dept and ambulance) if needed.
6. Implement the Blowout Contingency Plan, and Drilling Emergency Action Plan.

6. Give first aid as needed.

Person down location/facility

1. If immediately possible, contact 911. Give location and wait for confirmation.

2. Don SCBA and perform rescue operation using buddy system.

Toxic effects of hydrogen sulfide

Hydrogen sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 10 ppm, which is .001% by volume. Hydrogen sulfide is heavier than air (specific gravity – 1.192) and colorless. It forms an explosive mixture with air between 4.3 and 46.0 percent by volume. Hydrogen sulfide is almost as toxic as hydrogen cyanide and is between five and six times more toxic than carbon monoxide. Toxicity data for hydrogen sulfide and various other gases are compared in table i. Physical effects at various hydrogen sulfide exposure levels are shown in table ii.

Table i
Toxicity of various gases

Common name	Chemical formula	Specific gravity (sc=1)	Threshold limit (1)	Hazardous limit (2)	Lethal concentration (3)
Hydrogen Cyanide	Hcn	0.94	10 ppm	150 ppm/hr	300 ppm
Hydrogen Sulfide	H2S	1.18	10 ppm	250 ppm/hr	600 ppm
Sulfur Dioxide	So2	2.21	5 ppm	-	1000 ppm
Chlorine	Cl2	2.45	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	Co	0.97	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	Co2	1.52	5000 ppm	5%	10%
Methane	Ch4	0.55	90,000 ppm	Combustible above 5% in air	

1) threshold limit – concentration at which it is believed that all workers may be repeatedly exposed day after day without adverse effects.

2) hazardous limit – concentration that will cause death with short-term exposure.

3) lethal concentration – concentration that will cause death with short-term exposure.

Toxic effects of hydrogen sulfide

Table ii
Physical effects of hydrogen sulfide

Concentration			Physical effects
Percent (%)	Ppm	Grains 100 std. Ft3*	
0.001	<10	00.65	Obvious and unpleasant odor.

0.002	10	01.30	Safe for 8 hours of exposure.
0.010	100	06.48	Kill smell in 3 – 15 minutes. May sting eyes and throat.
0.020	200	12.96	Kills smell shortly; stings eyes and throat.
0.050	500	32.96	Dizziness; breathing ceases in a few minutes; needs prompt artificial respiration.
0.070	700	45.36	Unconscious quickly; death will result if not rescued promptly.
0.100	1000	64.30	Unconscious at once; followed by death within minutes.

*at 15.00 psia and 60’f.

Use of self-contained breathing equipment (SCBA)

1. Written procedures shall be prepared covering safe use of SCBA's in dangerous atmosphere, which might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available SCBA.

2 SCBA's shall be inspected frequently at random to insure that they are properly used, cleaned, and maintained.

3. Anyone who may use the SCBA's shall be trained in how to insure proper face-piece to face seal. They shall wear SCBA's in normal air and then wear them in a test atmosphere. (note: such items as facial hair {beard or sideburns} and eyeglasses will not allow proper seal.) Anyone that may be reasonably expected to wear SCBA's should have these items removed before entering a toxic atmosphere. A special mask must be obtained for anyone who must wear eyeglasses or contact lenses.

4. Maintenance and care of SCBA's:

   a. A program for maintenance and care of SCBA's shall include the following:
      1. Inspection for defects, including leak checks.
      2. Cleaning and disinfecting.
      3. Repair.
      4. Storage.

   b. Inspection, self-contained breathing apparatus for emergency use shall be inspected monthly.
      1. Fully charged cylinders.
      2. Regulator and warning device operation.
      3. Condition of face piece and connections.
      4. Rubber parts shall be maintained to keep them pliable and prevent deterioration.

   c. Routinely used SCBA's shall be collected, cleaned and disinfected as frequently as necessary to insure proper protection is provided.

5. Persons assigned tasks that requires use of self-contained breathing equipment shall be certified physically fit (medically cleared) for breathing equipment usage at least annually.

6. SCBA's should be worn when:

   A. Any employee works near the top or on top of any tank unless test reveals less than 10 ppm of H2S.

B. When breaking out any line where H2S can reasonably be expected.

C. When sampling air in areas to determine if toxic concentrations of H2S exists.

D. When working in areas where over 10 ppm H2S has been detected.

E. At any time there is a doubt as to the H2S level in the area to be entered.

Rescue
First aid for H2S poisoning

Do not panic!

Remain calm – think!

1. Don SCBA breathing equipment.

2. Remove victim(s) utilizing buddy system to fresh air as quickly as possible. (go up-wind from source or at right angle to the wind. Not down wind.)

3. Briefly apply chest pressure – arm lift method of artificial respiration to clean the victim's lungs and to avoid inhaling any toxic gas directly from the victim's lungs.

4. Provide for prompt transportation to the hospital, and continue giving artificial respiration if needed.

5. Hospital(s) or medical facilities need to be informed, before-hand, of the possibility of H2S gas poisoning – no matter how remote the possibility is.

6. Notify emergency room personnel that the victim(s) has been exposed to H2S gas.

Besides basic first aid, everyone on location should have a good working knowledge of artificial respiration.

Revised CM 6/27/2012

Offline Cementing Variance Request

Oxy requests a variance to cement the 9.625” and/or 7.625” intermediate casing strings offline in accordance to the approved variance, EC Tran 461365.

1. Cement Program

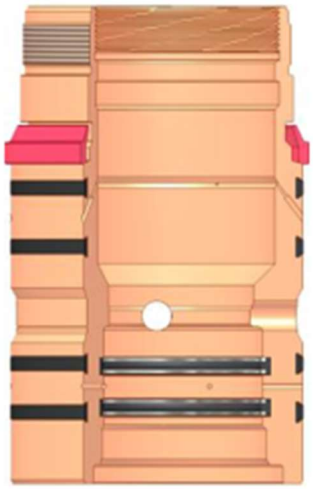
No changes to the cement program will take place for offline cementing.

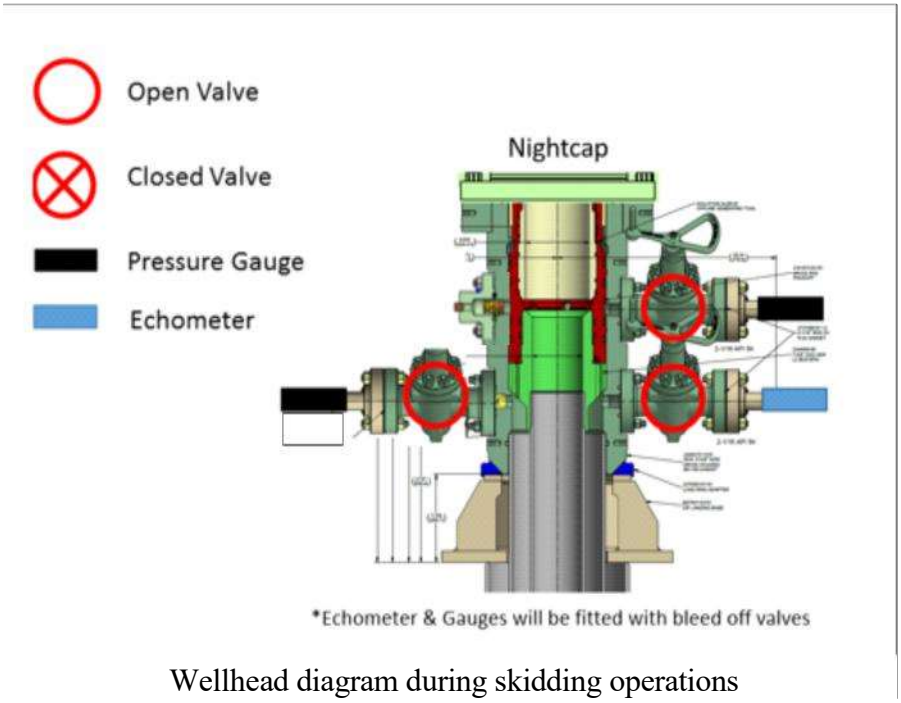
2. Offline Cementing Procedure

The operational sequence will be as follows:

1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe)
2. Land casing with mandrel
3. Fill pipe with kill weight fluid, do not circulate through floats and confirm well is static
4. Set annular packoff shown below and pressure test to confirm integrity of the seal. Pressure ratings of wellhead components and valves is 5,000 psi

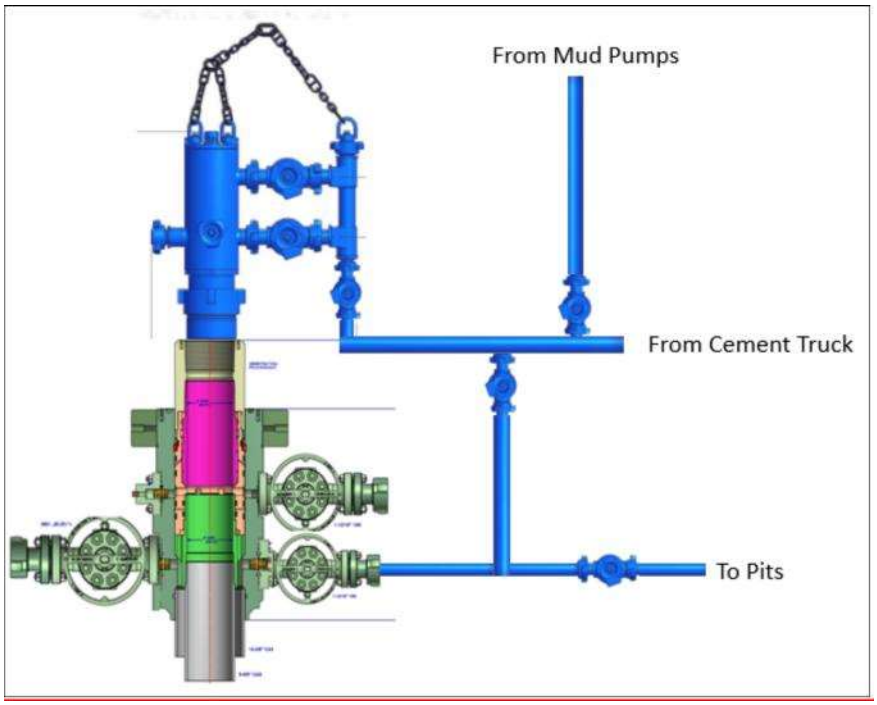
Annular packoff with both external and internal seals





Wellhead diagram during skidding operations

5. After confirmation of both annular barriers and internal barriers, nipple down BOP and install cap flange.
    a. If any barrier fails to test, the BOP stack will not be nippled down until after the cement job is completed with cement 500ft above the highest formation capable of flow with kill weight mud above or after it has achieved 50 psi compressive strength if cannot be verified.
6. Skid rig to next well on pad.
7. Confirm well is static before removing cap flange, flange will not be removed and offline cementing operations will not commence until well is under control. If well is not static, casing outlet valves will provide access to both the casing ID and annulus. Rig or third party pump truck will kill well prior to cementing or nippling up for further remediation.
    a. Well Control Plan
        i. The Drillers Method will be the primary well control method to regain control of the wellbore prior to cementing, if wellbore conditions do not permit the drillers method other methods of well control may be used
        ii. Rig pumps or a 3rd party pump will be tied into the upper casing valve to pump down the casing ID
        iii. A high pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
        iv. Once influx is circulated out of the hole, kill weight mud will be circulated
        v. Well will be confirmed static
        vi. Once confirmed static, cap flange will be removed to allow for offline cementing operations to commence
8. Install offline cement tool
9. Rig up cement equipment



Wellhead diagram during offline cementing operations

10. Circulate bottoms up with cement truck
    a. If gas is present on bottoms up, well will be shut in and returns rerouted through gas buster to handle entrained gas
    b. Max anticipated time before circulating with cement truck is 6 hrs
11. Perform cement job taking returns from the annulus wellhead valve
12. Confirm well is static and floats are holding after cement job
13. Remove cement equipment, offline cement tools and install night cap with pressure gauge for monitoring.

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: OXY USA INC. **OGRID:** 16696 **Date:** 09/27/24

II. Type: ☑ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
CEDAR CANYON 16 STATE 71H	PENDING	B-16-T24S-R29E	345' FNL 2197' FEL	4500	9000	1500
CEDAR CANYON 16 STATE 72H	PENDING	B-16-T24S-R29E	349' FNL 2167'FEL	2700	6700	1800

IV. Central Delivery Point Name: WHOMPING WILLOW CTB [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
CEDAR CANYON 16 STATE 71H	PENDING	11/26/2025	01/04/2026	01/17/2026	02/04/2026	02/06/2026
CEDAR CANYON 16 STATE 72H	PENDING	12/02/2025	12/22/2025	01/17/2026	02/04/2026	02/06/2026

VI. Separation Equipment: ☑ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☑ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☑ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☑ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☑ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. ***If Operator checks this box, Operator will select one of the following:***

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- **(a)** power generation on lease;
- **(b)** power generation for grid;
- **(c)** compression on lease;
- **(d)** liquids removal on lease;
- **(e)** reinjection for underground storage;
- **(f)** reinjection for temporary storage;
- **(g)** reinjection for enhanced oil recovery;
- **(h)** fuel cell production; and
- **(i)** other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:	Leslie T. Reeves
Printed Name:	LESLIE REEVES
Title:	REGULATORY MANAGER
E-mail Address:	LESLIE_REEVES@OXY.COM
Date:	09/27/2024
Phone:	713-497-2492

OIL CONSERVATION DIVISION
(Only applicable when submitted as a standalone form)

Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	

Central Delivery Point Name : Whomping Willow CTB

Part VI. Separation Equipment

Operator will size the flowback separator to handle 6,000 Bbls of fluid and 6-10 MMscfd which is more than the expected peak rates for these wells. Each separator is rated to 250 psig, and pressure control valves and automated communication will cause the wells to shut in in the event of an upset at the facility, therefore no gas will be flared on pad during an upset. Current Oxy practices avoid use of flare or venting on pad, therefore if there is an upset or emergency condition at the facility, the wells will immediately shut down, and reassume production once the condition has cleared.

VII. Operational Practices

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, where a gas transporter system is in place. The gas produced from production facility is dedicated to Enterprise Field Services, LLC ("Enterprise") and is connected to Enterprise low/high pressure gathering system located in Eddy County, New Mexico. OXY USA INC. ("OXY") provides (periodically) to Enterprise a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, OXY and Enterprise have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Enterprise's Processing Plant located in Sec. 36, Twn. 24S, Rng. 30E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Enterprise system at that time. Based on current information, it is OXY's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

VIII. Best Management Practices

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

Power Generation – On lease

Only a portion of gas is consumed operating the generator, remainder of gas will be flared

Compressed Natural Gas – On lease

Gas flared would be minimal, but might be uneconomical to operate when gas volume declines

NGL Removal – On lease

Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines