Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone

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

8. Lease Name and Well No.

2. Name of Operator

9. API Well No.

3a. Address

3b. Phone No. *(include area code)*

10. Field and Pool, or Exploratory

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

14. Distance in miles and direction from nearest town or post office*

12. County or Parish

13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)

16. No of acres in lease

17. Spacing Unit dedicated to this well

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.

19. Proposed Depth

20. BLM/BIA Bond No. in file

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

22. Approximate date work will start*

23. Estimated duration

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature

Name *(Printed/Typed)*

Date

Title

Approved by *(Signature)*

Name *(Printed/Typed)*

Date

Title

Office

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

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

APPROVED WITH CONDITIONS

Approval Date: 05/30/2024

(Continued on page 2) *(Instructions on page 2)

Additional Operator Remarks

Location of Well

0. SHL: SWSW / 349 FSL / 305 FWL / TWSP: 24S / RANGE: 29E / SECTION: 9 / LAT: 32.225812 / LONG: -103.997053 (TVD: 0 feet, MD: 0 feet)
PPP: SWSW / 100 FSL / 1310 FWL / TWSP: 24S / RANGE: 29E / SECTION: 9 / LAT: 32.225135 / LONG: -103.993802 (TVD: 9102 feet, MD: 9618 feet)
PPP: NWNW / 1328 FNL / 1309 FWL / TWSP: 24S / RANGE: 29E / SECTION: 9 / LAT: 32.235808 / LONG: -103.993823 (TVD: 9102 feet, MD: 13498 feet)
BHL: LOT 4 / 20 FNL / 1310 FWL / TWSP: 24S / RANGE: 29E / SECTION: 4 / LAT: 32.253977 / LONG: -103.993859 (TVD: 9102 feet, MD: 20111 feet)

BLM Point of Contact

Name: TENILLE C MOLINA
Title: Land Law Examiner
Phone: (575) 234-2224
Email: TCMOLINA@BLM.GOV

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 Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-	96473	PIERCE CROSSING; BONE SPRING, EAST

[4] Property Code	[5] Property Name	[6] Well Number
	HEADS CC 9_4 FED COM	75H

[7] OGRID No.	[8] Operator Name	[9] Elevation
16696	OXY USA INC.	2926.5'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	9	24S	29E		349	SOUTH	305	WEST	EDDY

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
LOT 4	4	24S	29E		20	NORTH	1310	WEST	EDDY

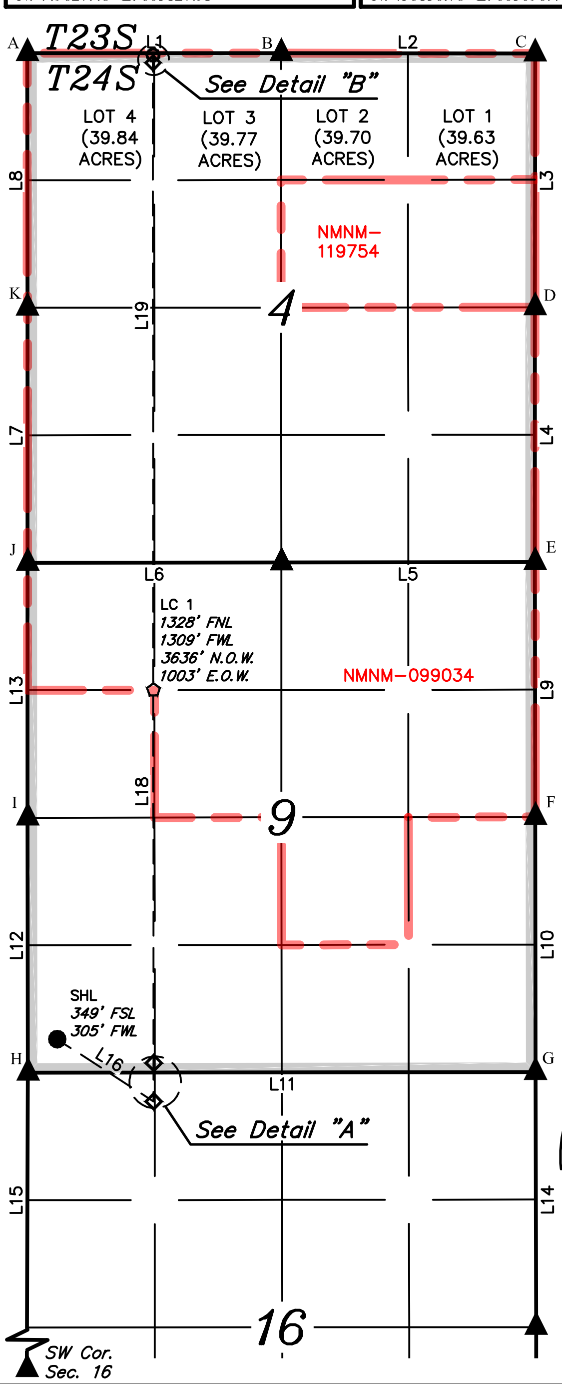
[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
1280			

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

[16]

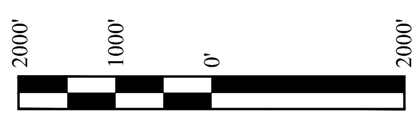
NAD 83 (SURFACE HOLE LOCATION)	NAD 83 (KICK OFF POINT)	NAD 83 (FIRST TAKE POINT)
LATITUDE = 32°13'32.92" (32.225812°)	LATITUDE = 32°13'26.53" (32.224036°)	LATITUDE = 32°13'30.49" (32.225135°)
LONGITUDE = -103°59'49.39" (-103.997053°)	LONGITUDE = -103°59'37.69" (-103.993803°)	LONGITUDE = -103°59'37.69" (-103.993802°)
NAD 27 (SURFACE HOLE LOCATION)	**NAD 27 (KICK OFF POINT)**	**NAD 27 (FIRST TAKE POINT)**
LATITUDE = 32°13'32.48" (32.225690°)	LATITUDE = 32°13'26.09" (32.223913°)	LATITUDE = 32°13'30.05" (32.225013°)
LONGITUDE = -103°59'47.63" (-103.996564°)	LONGITUDE = -103°59'35.93" (-103.993314°)	LONGITUDE = -103°59'35.93" (-103.993313°)
STATE PLANE NAD 83 (N.M. EAST)	**STATE PLANE NAD 83 (N.M. EAST)**	**STATE PLANE NAD 83 (N.M. EAST)**
N: 446046.99' E: 645324.32'	N: 445403.98' E: 646331.35'	N: 445803.90' E: 646330.47'
STATE PLANE NAD 27 (N.M. EAST)	**STATE PLANE NAD 27 (N.M. EAST)**	**STATE PLANE NAD 27 (N.M. EAST)**
N: 445988.03' E: 604140.49'	N: 445345.03' E: 605147.49'	N: 445744.94' E: 605146.62'

NAD 83 (LEASE CROSSING 1)	NAD 83 (LAST TAKE POINT)	NAD 83 (BOTTOM HOLE LOCATION)
LATITUDE = 32°14'08.91" (32.235808°)	LATITUDE = 32°15'13.52" (32.253757°)	LATITUDE = 32°15'14.32" (32.253977°)
LONGITUDE = -103°59'37.76" (-103.993823°)	LONGITUDE = -103°59'37.89" (-103.993858°)	LONGITUDE = -103°59'37.89" (-103.993859°)
NAD 27 (LEASE CROSSING 1)	**NAD 27 (LAST TAKE POINT)**	**NAD 27 (BOTTOM HOLE LOCATION)**
LATITUDE = 32°14'08.47" (32.235686°)	LATITUDE = 32°15'13.08" (32.253635°)	LATITUDE = 32°15'13.88" (32.253854°)
LONGITUDE = -103°59'36.00" (-103.993333°)	LONGITUDE = -103°59'36.13" (-103.993368°)	LONGITUDE = -103°59'36.13" (-103.993369°)
STATE PLANE NAD 83 (N.M. EAST)	**STATE PLANE NAD 83 (N.M. EAST)**	**STATE PLANE NAD 83 (N.M. EAST)**
N: 449686.52' E: 646311.68'	N: 456215.95' E: 646280.06'	N: 456295.93' E: 646279.65'
STATE PLANE NAD 27 (N.M. EAST)	**STATE PLANE NAD 27 (N.M. EAST)**	**STATE PLANE NAD 27 (N.M. EAST)**
N: 449627.48' E: 605127.93'	N: 456156.78' E: 605096.47'	N: 456236.76' E: 605096.07'

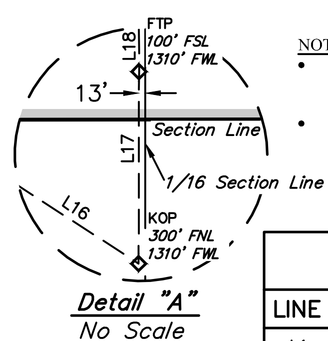


HSU COORDINATES

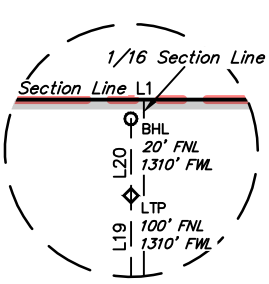
POINT	NAD 27 N.M. STATE PLANE, EAST ZONE NORTHING	NAD 27 N.M. STATE PLANE, EAST ZONE EASTING	NAD 83 N.M. STATE PLANE, EAST ZONE NORTHING	NAD 83 N.M. STATE PLANE, EAST ZONE EASTING
A	456251.93'	603786.25'	456311.10'	644969.83'
B	456261.68'	606432.26'	456320.85'	647615.84'
C	456271.26'	609079.15'	456330.43'	650262.74'
D	453629.22'	609089.75'	453688.34'	650273.41'
E	450974.81'	609100.88'	451033.87'	650284.61'
F	448322.87'	609114.24'	448381.88'	650298.04'
G	445667.28'	609128.10'	445726.23'	650311.96'
H	445637.62'	603837.40'	445696.58'	645021.24'
I	448292.86'	603824.90'	448351.88'	645008.68'
J	450947.86'	603813.62'	451006.92'	644997.33'
K	453601.34'	603799.71'	453660.46'	644983.36'



SCALE
DRAWN BY: N.D.T. 06-20-23



Detail "A"
No Scale



Detail "B"
No Scale

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)

[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and 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 such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Leslie T. Reeves 9/27/2023
Signature Date

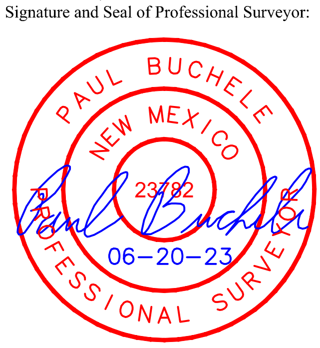
LESLIE REEVES
Printed Name

LESLIE_REEVES@OXY.COM
E-mail Address

[18] SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from 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.

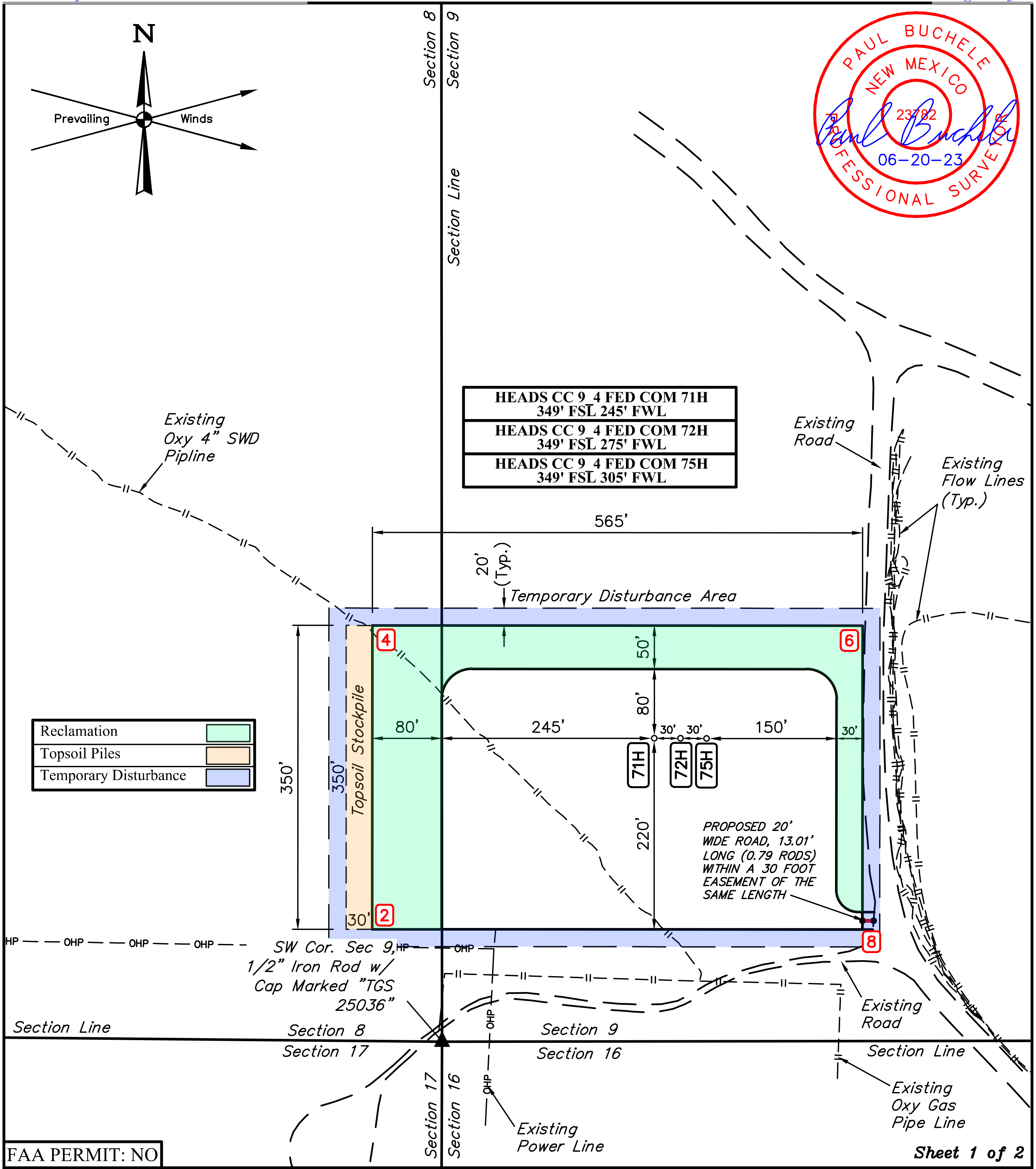
June 2, 2023
Date of Survey
Signature and Seal of Professional Surveyor:



Certificate Number:

- ● = SURFACE HOLE LOCATION
- ◇ = KICK OFF POINT/TAKE POINTS
- ⬠ = LEASE CROSSING.
- ○ = BOTTOM HOLE LOCATION
- ▲ = SECTION CORNER LOCATED
- = LEASE LINE.
- = HORIZONTAL SPACING UNIT
- N.O.W. = NORTH OF WELL.
- E.O.W. = EAST OF WELL.

LINE	DIRECTION	LENGTH	LINE	DIRECTION	LENGTH
L1	N89°58'16"W	2646.59'	L11	S89°55'08"W	5291.92'
L2	N89°58'02"W	2647.47'	L12	N00°01'52"W	2655.89'
L3	N00°00'31"E	2642.67'	L13	N00°00'17"W	2655.63'
L4	N00°00'06"W	2655.05'	L14	N00°08'44"W	2654.77'
L5	S89°57'15"W	2644.28'	L15	N00°09'55"E	5303.34'
L6	S89°56'31"W	2644.18'	L16	S57°12'02"E	1195.06'
L7	N00°03'42"W	2654.14'	L17	N00°06'53"E	400.00'
L8	N00°03'08"W	2651.24'	L18	N00°02'14"W	3883.49'
L9	N00°03'00"W	2652.59'	L19	N00°02'14"W	6530.89'
L10	N00°03'37"W	2656.24'	L20	N00°03'08"W	80.00'



PAUL BUCHELE NEW MEXICO 23782 PROFESSIONAL SURVEYOR 06-20-23

NOTES:

- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)

OXY USA INC.

CEDCAN_T24SR29E_0911
SW 1/4 SW 1/4, SECTION 9, T24S, R29E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

UINTAH ENGINEERING & LAND SURVEYING

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

SURVEYED BY	C.T., C.S.	06-02-23	SCALE
DRAWN BY	N.D.T.	06-20-23	1" = 150'

SITE PLAN

PAUL BUCHELE
NEW MEXICO
23782
PROFESSIONAL SURVEYOR
06-20-23

71H - EL: 2926.3'
NAD 83
LATITUDE = 32°13'32.92" (32.225812°)
LONGITUDE = -103°59'50.09" (-103.997247°)
NAD 27
LATITUDE = 32°13'32.48" (32.225689°)
LONGITUDE = -103°59'48.33" (-103.996758°)
STATE PLANE NAD 83 (N.M. EAST)
N: 446046.78' E: 645264.34'
STATE PLANE NAD 27 (N.M. EAST)
N: 445987.81' E: 604080.50'

72H - EL: 2926.6'
NAD 83
LATITUDE = 32°13'32.92" (32.225812°)
LONGITUDE = -103°59'49.74" (-103.997150°)
NAD 27
LATITUDE = 32°13'32.48" (32.225689°)
LONGITUDE = -103°59'47.98" (-103.996661°)
STATE PLANE NAD 83 (N.M. EAST)
N: 446046.88' E: 645294.33'
STATE PLANE NAD 27 (N.M. EAST)
N: 445987.92' E: 604110.49'

75H - EL: 2926.5'
NAD 83
LATITUDE = 32°13'32.92" (32.225812°)
LONGITUDE = -103°59'49.39" (-103.997053°)
NAD 27
LATITUDE = 32°13'32.48" (32.225690°)
LONGITUDE = -103°59'47.63" (-103.996564°)
STATE PLANE NAD 83 (N.M. EAST)
N: 446046.99' E: 645324.32'
STATE PLANE NAD 27 (N.M. EAST)
N: 445988.03' E: 604140.49'

2 - EL: 2926.6'
NAD 83
LATITUDE = 32°13'30.75" (32.225207°)
LONGITUDE = -103°59'53.87" (-103.998298°)
NAD 27
LATITUDE = 32°13'30.30" (32.225084°)
LONGITUDE = -103°59'52.11" (-103.997808°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445825.66' E: 644940.20'
STATE PLANE NAD 27 (N.M. EAST)
N: 445766.69' E: 603756.36'

4 - EL: 2926.3'
NAD 83
LATITUDE = 32°13'34.21" (32.226169°)
LONGITUDE = -103°59'53.87" (-103.998298°)
NAD 27
LATITUDE = 32°13'33.77" (32.226046°)
LONGITUDE = -103°59'52.11" (-103.997809°)
STATE PLANE NAD 83 (N.M. EAST)
N: 446175.58' E: 644938.94'
STATE PLANE NAD 27 (N.M. EAST)
N: 446116.61' E: 603755.11'

6 - EL: 2926.9'
NAD 83
LATITUDE = 32°13'34.21" (32.226170°)
LONGITUDE = -103°59'47.30" (-103.996471°)
NAD 27
LATITUDE = 32°13'33.77" (32.226047°)
LONGITUDE = -103°59'45.54" (-103.995982°)
STATE PLANE NAD 83 (N.M. EAST)
N: 446177.61' E: 645503.82'
STATE PLANE NAD 27 (N.M. EAST)
N: 446118.64' E: 604319.98'

8 - EL: 2926.7'
NAD 83
LATITUDE = 32°13'30.75" (32.225208°)
LONGITUDE = -103°59'47.29" (-103.996471°)
NAD 27
LATITUDE = 32°13'30.31" (32.225085°)
LONGITUDE = -103°59'45.53" (-103.995982°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445827.69' E: 645505.08'
STATE PLANE NAD 27 (N.M. EAST)
N: 445768.73' E: 604321.23'

BEGIN ACCESS ROAD - EL: 2927.1'
NAD 83
LATITUDE = 32°13'30.85" (32.225235°)
LONGITUDE = -103°59'47.14" (-103.996429°)
NAD 27
LATITUDE = 32°13'30.41" (32.225113°)
LONGITUDE = -103°59'45.38" (-103.995940°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445837.72' E: 645518.05'
STATE PLANE NAD 27 (N.M. EAST)
N: 445778.76' E: 604334.20'

END ACCESS ROAD - EL: 2926.8'
NAD 83
LATITUDE = 32°13'30.85" (32.225236°)
LONGITUDE = -103°59'47.29" (-103.996471°)
NAD 27
LATITUDE = 32°13'30.41" (32.225113°)
LONGITUDE = -103°59'45.53" (-103.995982°)
STATE PLANE NAD 83 (N.M. EAST)
N: 445837.81' E: 645505.04'
STATE PLANE NAD 27 (N.M. EAST)
N: 445778.85' E: 604321.20'

Sheet 2 of 2

OXY USA INC.

CEDCAN_T24SR29E_0911
SW 1/4 SW 1/4, SECTION 9, T24S, R29E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	C.T., C.S.	06-02-23	SCALE
DRAWN BY	N.D.T.	06-20-23	N/A

SITE PLAN

UINTAH
ENGINEERING & LAND SURVEYING

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

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:** 02/26/24

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
SEE ATTACHED						

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
SEE ATTACHED						

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:	02/26/2024
Phone:	713-497-2492

OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

III. Well(s)

Well Name	API	WELL LOCATION (ULSTR)	Footages	ANTICIPATED OIL BBL/D	ANTICIPATED GAS MCF/D	ANTICIPATED PROD WATER BBL/D
Heads CC 9-4 Federal Com 13H	PENDING	O-Sec. 9-T24S-R29E	909' FSL 1456' FEL	1,400	5,100	2,500
Heads CC 9-4 Federal Com 14H	PENDING	O-Sec. 9-T24S-R29E	909' FSL 1426' FEL	1,400	5,100	2,500
Heads CC 9-4 Federal Com 71H	PENDING	M-Sec. 9-T24S-R29E	349' FSL 245' FWL	1,800	4,900	2,200
Heads CC 9-4 Federal Com 72H	PENDING	M-Sec. 9-T24S-R29E	349' FSL 275' FWL	1,800	4,900	2,200
Heads CC 9-4 Federal Com 73H	PENDING	B-Sec. 16-T24S-R29E	933' FNL 1984'FEL	1,800	4,900	2,200
Heads CC 9-4 Federal Com 74H	PENDING	B-Sec. 16-T24S-R29E	933' FNL 1954' FEL	1,800	4,900	2,200
Heads CC 9-4 Federal Com 75H	PENDING	M-Sec. 9-T24S-R29E	349' FSL 305' FWL	1,800	4,900	2,200
Heads CC 9-4 Federal Com 76H	PENDING	B-Sec. 16-T24S-R29E	939' FNL 1925' FEL	1,800	4,900	2,200

V. Anticipated Schedule

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Heads CC 9-4 Federal Com 13H	PENDING	TBD	TBD	TBD	TBD	TBD
Heads CC 9-4 Federal Com 14H	PENDING	TBD	TBD	TBD	TBD	TBD
Heads CC 9-4 Federal Com 71H	PENDING	Aug-2025	11/05/2025	12/12/2025	01/01/2026	01/04/2026
Heads CC 9-4 Federal Com 72H	PENDING	Aug-2025	10/25/2025	12/12/2025	01/01/2026	01/04/2026
Heads CC 9-4 Federal Com 73H	PENDING	Aug-2025	12/13/2025	12/17/2025	01/02/2026	01/05/2026
Heads CC 9-4 Federal Com 74H	PENDING	Aug-2025	12/02/2025	12/17/2025	01/02/2026	01/05/2026
Heads CC 9-4 Federal Com 75H	PENDING	TBD	TBD	TBD	TBD	TBD
Heads CC 9-4 Federal Com 76H	PENDING	TBD	TBD	TBD	TBD	TBD

Part VI. Separation Equipment

Operator will size the flowback separator to handle 4,000 Bbls of fluid and 6-10 MMSCFD which is more than the expected peak rates for these wells. Each separator is rated to 1440psig, 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

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

Oxy USA Inc. - Heads CC 9_4 Fed Com 75H
Drill Plan

1. Geologic Formations

TVD of Target (ft):	9102	Pilot Hole Depth (ft):	
Total Measured Depth (ft):	20112	Deepest Expected Fresh Water (ft):	135

Delaware Basin

Formation	MD-RKB (ft)	TVD-RKB (ft)	Expected Fluids
Rustler	135	135	
Salado	622	622	Salt
Castile	1302	1302	Salt
Delaware	2875	2875	Oil/Gas/Brine
Bell Canyon	2936	2936	Oil/Gas/Brine
Cherry Canyon	3779	3779	Oil/Gas/Brine
Brushy Canyon	5033	5026	Losses
Bone Spring	6680	6604	Oil/Gas
Bone Spring 1st	7744	7616	Oil/Gas
Bone Spring 2nd	8601	8431	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	562	0	562	10.75	45.5	J-55	BTC
Intermediate	9.875	0	8496	0	8325	7.827	39.3	P110S	Wedge 463
Production	6.75	8296	20112	8125	9102	5.5	20	P-110	Wedge 461

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

*If Production Casing Connection OD does not meet 0.422" annular clearance inside casing:
- Cement excess will be circulated from Top of Liner to surface (Cement Confirmation)
- Liner Top will be tested to confirm seal
- If ICP in Bone Spring Pool and lateral landed in Wolfcamp Pool, a CBL will be ran.

	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	470	1.33	14.8	100%	-	Circulate	Class C+Accel.
Int.	1	Intermediate 1S - Tail	404	1.65	13.2	5%	5,283	Circulate	Class H+Accel., Disper., Salt
Int.	2	Intermediate 2S - Tail BH	754	1.71	13.3	25%	-	Bradenhead	Class C+Accel.
Prod.	1	Production - Tail	892	1.38	13.2	25%	8,296	Circulate	Class H+Ret., Disper., Salt

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.

Cement Top and Liner Overlap

- Oxy is requesting permission to have minimum fill of cement behind the 5-1/2” production liner to be 200 ft into previous casing string

  The reason for this is so that we can come back and develop shallower benches from the same 7.625”/7.827" mainbore in the future
- Cement will be brought to the top of this liner hanger

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	8325
		5M	Blind Ram	✓	250 psi / 5000 psi	
			Pipe Ram			
			Double Ram	✓		
			Other*			
6.75" Hole	13-5/8"	5M	Annular	✓	70% of working pressure	9102
		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 manifold.

	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	562	0	562	Water-Based Mud	8.6 - 8.8	40-60	N/C
Intermediate	562	8496	562	8325	Saturated Brine-Based or Oil-Based Mud	8.0 - 10.0	35-45	N/C
Production	8496	20112	8325	9102	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, Drilling Paper, Salt Water Clay, CACL2. Oxy will use a closed mud system.

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	5917 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	153°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 zonal

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 3 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: 1385 bbls

OXY USA WTP LP

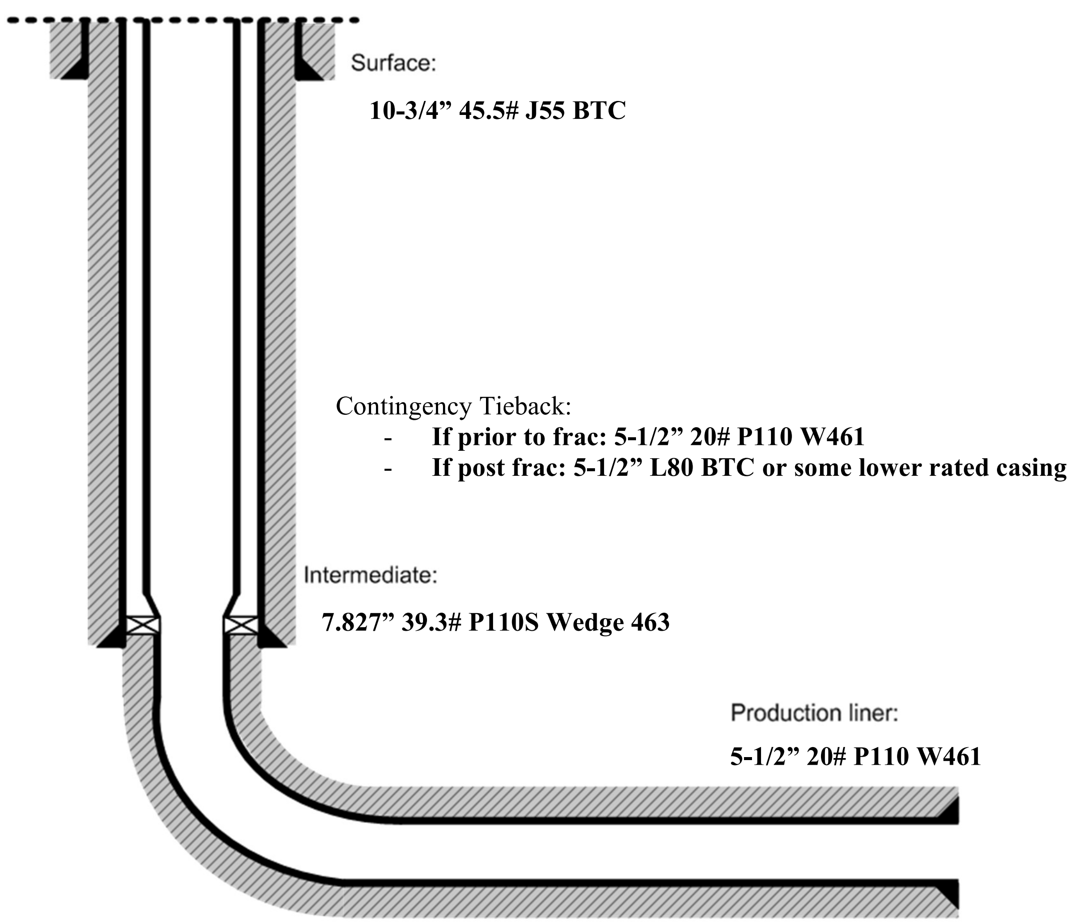
Falcon SL1 Contingnecy Tieback Details

Below is a summary that describes the general operational steps to drill and complete the well.

- Drill 14-3/4” hole x 10-3/4” casing for surface section. Cement to surface.
- Drill 9-7/8” hole x 7.827” casing for intermediate section. Cement to surface.
- Drill 6-3/4” hole x 5-1/2” liner for production section. Cement to top of liner, 100’ inside 7.827” shoe.
- Release drilling rig from location.

- If contingency tieback required pre-frac:
  - Move in workover rig and run a 5-1/2” 20# P110 Wedge 461 tie-back frac string and seal assembly. Tie into liner hanger Polished Bore Receptacle (PBR) with seal assembly.
  - Pump hydraulic fracture job.
  - Flowback and produce well.
- If contingency tieback required post-frac:
  - Move in workover rig and run a 5-1/2” L80 BTC or lesser rated tie-back string and seal assembly. Tie into liner hanger Polished Bore Receptacle (PBR) with seal assembly.
  - Return well to production.

General well schematic:



OXY USA Inc
APD ATTACHMENT: SPUDDER RIG DATA

OPERATOR NAME / NUMBER: OXY USA Inc

1. SUMMARY OF REQUEST:

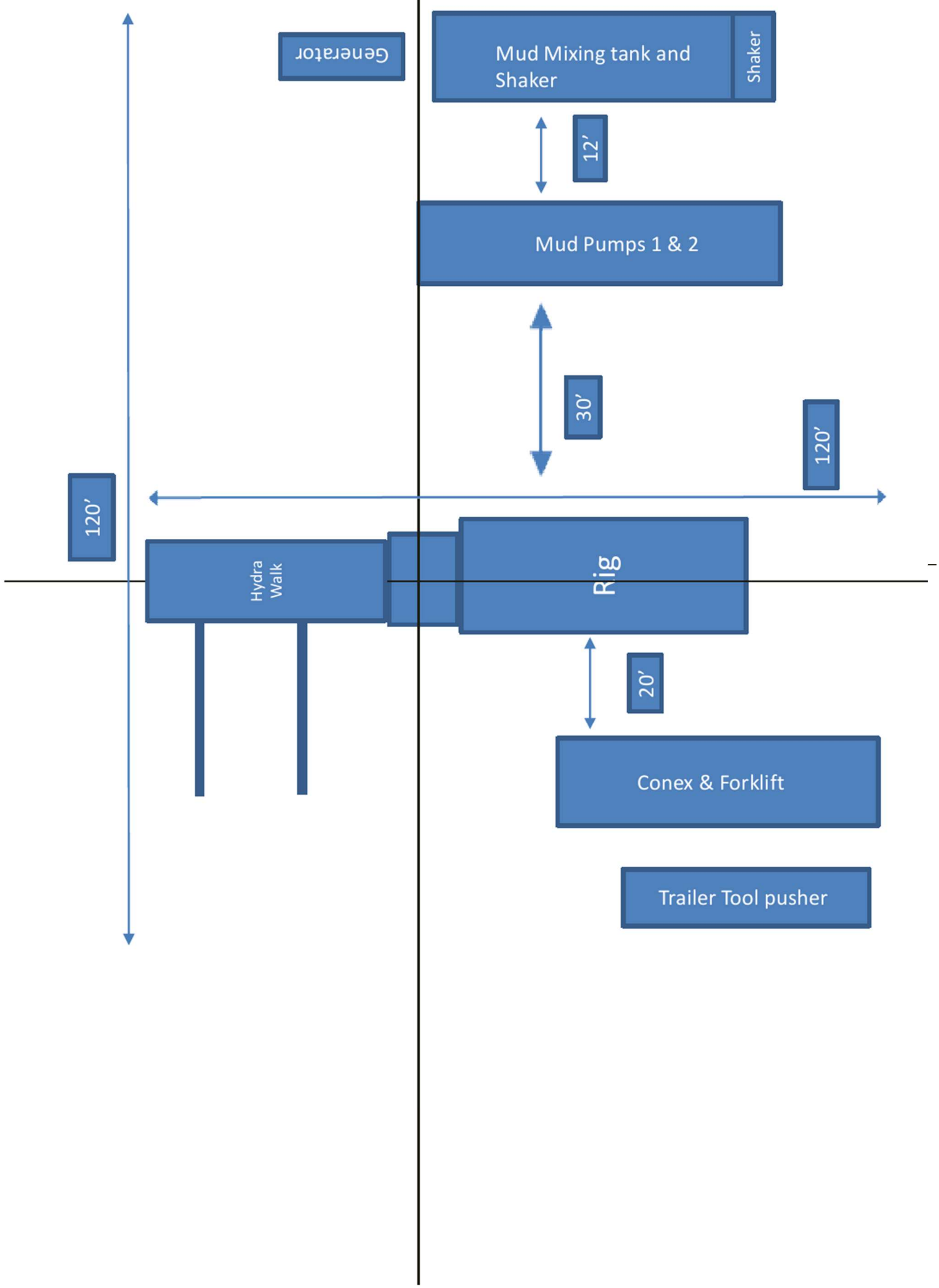
Oxy USA respectfully requests approval for the following operations for the surface hole in the drill plan:

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



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:

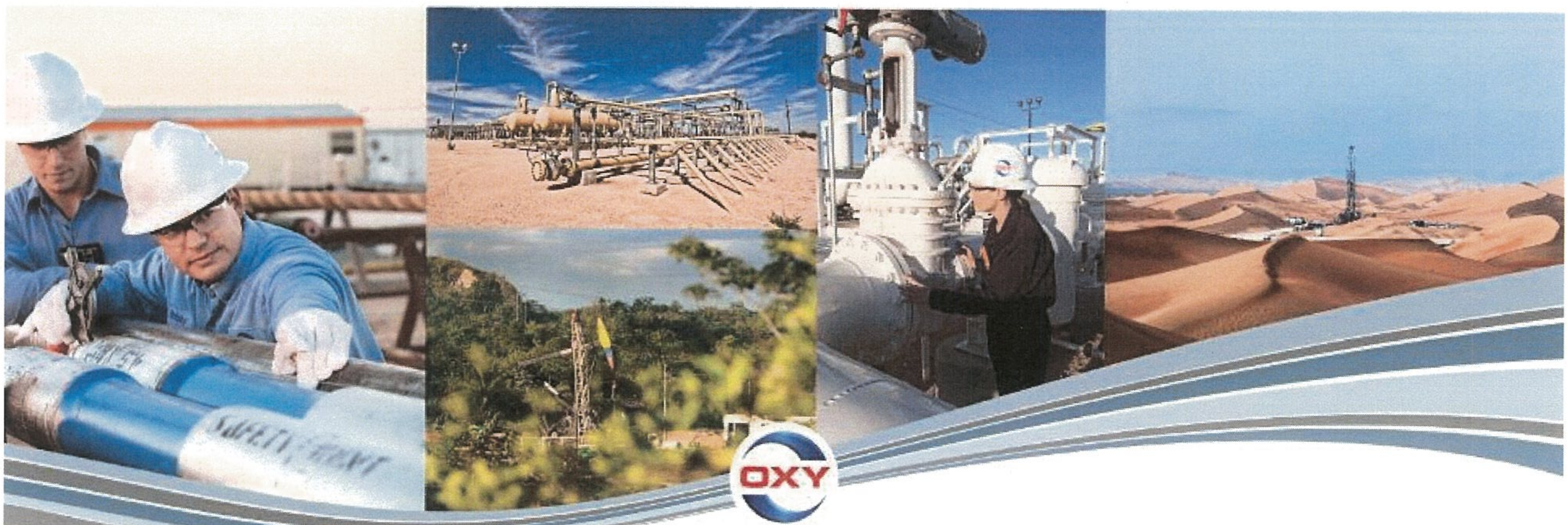
a. If any parts of the BOP are changed out or any additional breaks are made during the skidding operation, these affected components would also be tested as in step 10.
b. As the choke manifold remains stationary during the skidding operation and the only break to the manifold is tested in step 8 above, 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

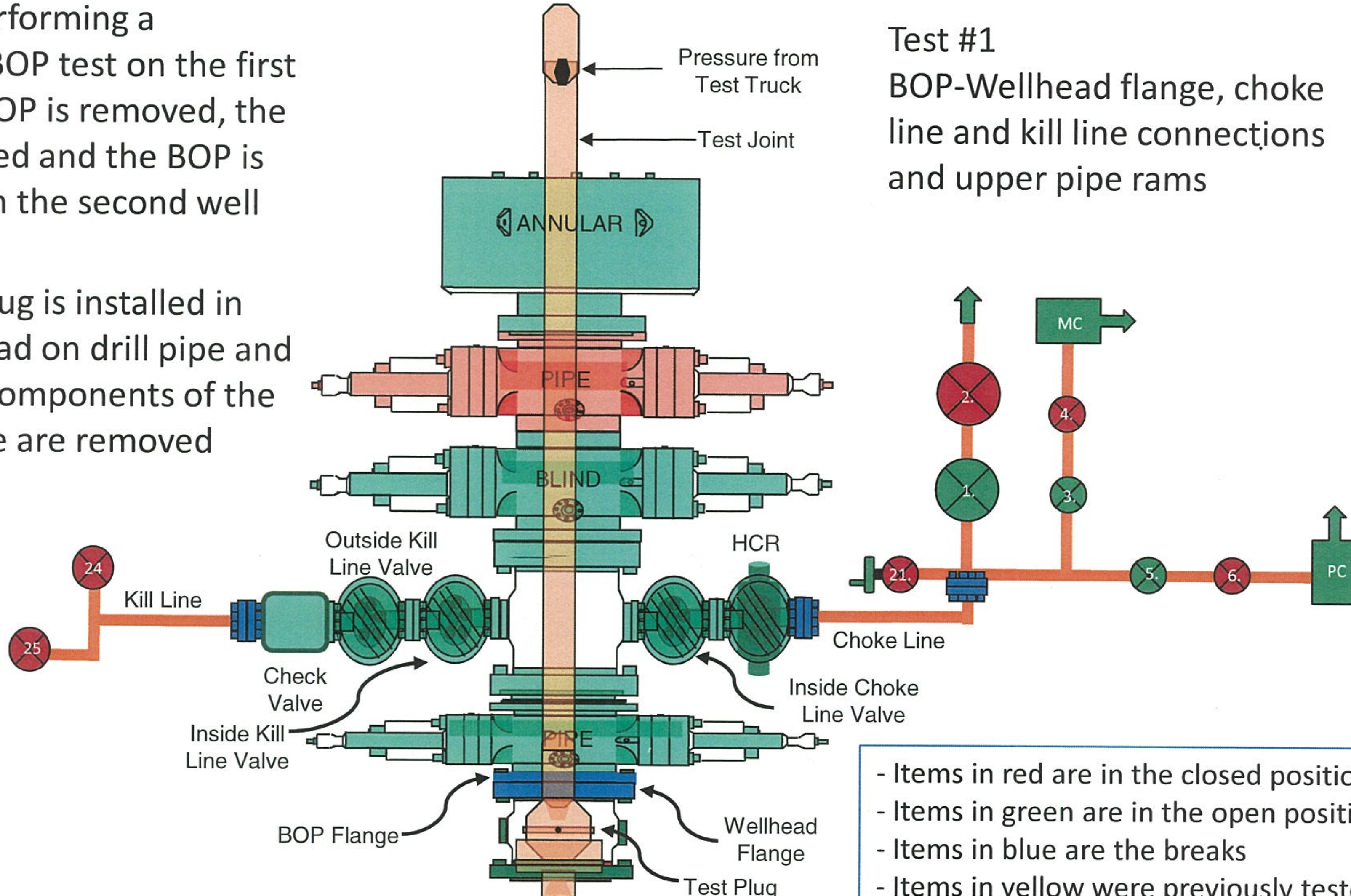
14) If a second break test is performed, additional components that were not tested on the first break test will be tested

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

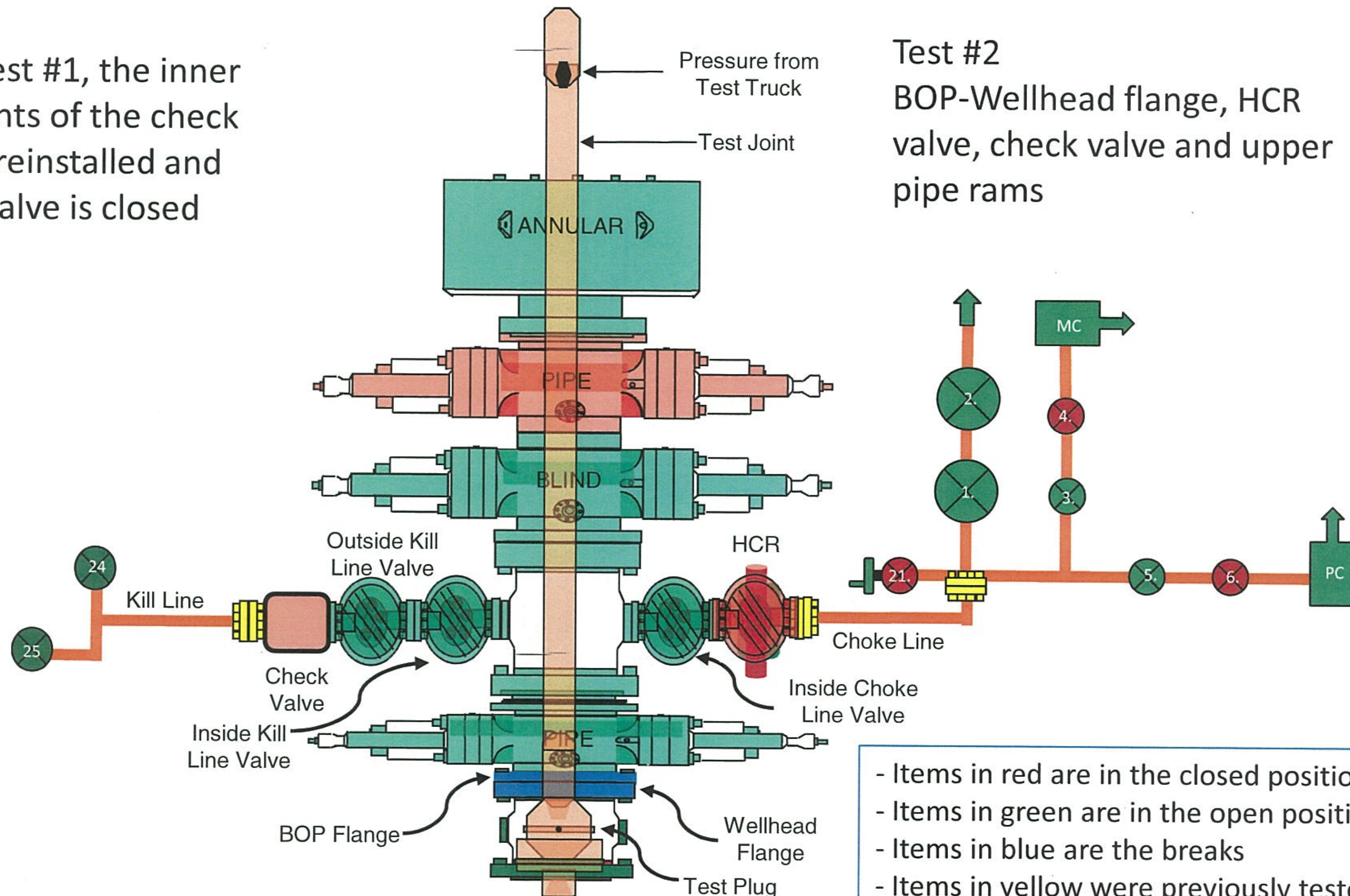


- Items in red are in the closed position
- Items in green are in the open position
- Items in blue are the breaks
- Items in yellow were previously tested

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



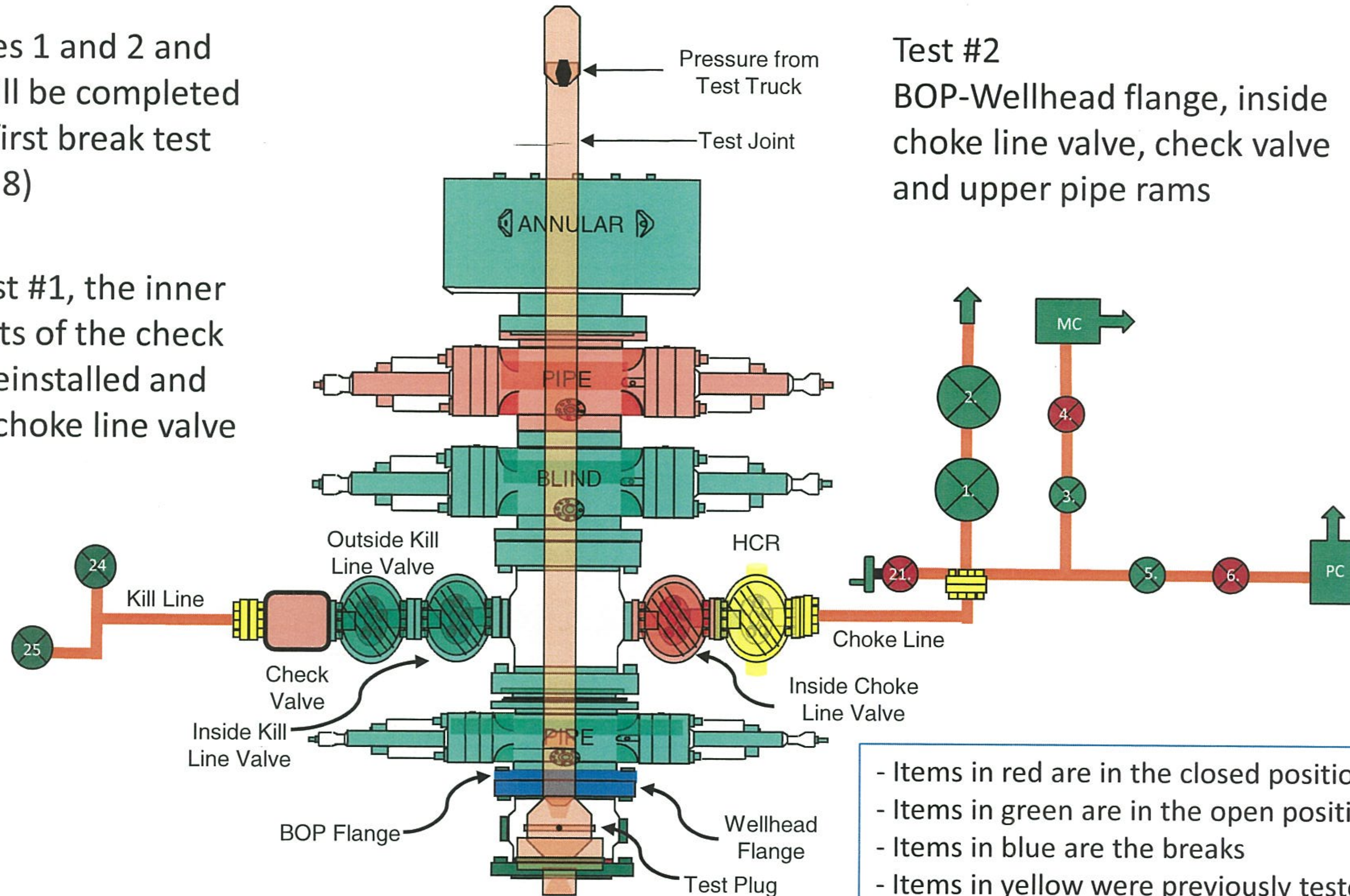
- Items in red are in the closed position
- Items in green are in the open position
- Items in blue are the breaks
- Items in yellow were previously tested

Received by OCD: 6/3/2024 7:25:44 AM

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

Released to Imaging: 8/14/2024 3:10:30 PM

BOP Handling System

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

BOP standing in its carrier

Received by OCD: 6/3/2024 7:25:44 AM

BOP Handling System

Hydraulic winch system moving the BOP over to the wellhead

Wellhead

Released to Imaging: 8/14/2024 3:10:30 PM

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

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

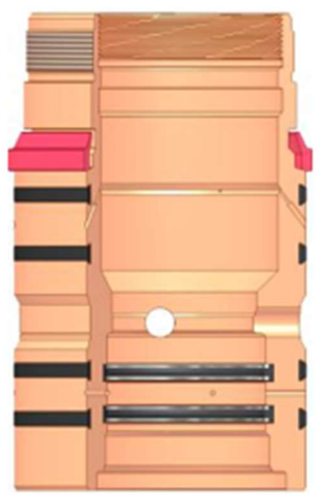
No changes to the cement program will take place for offline cementing.

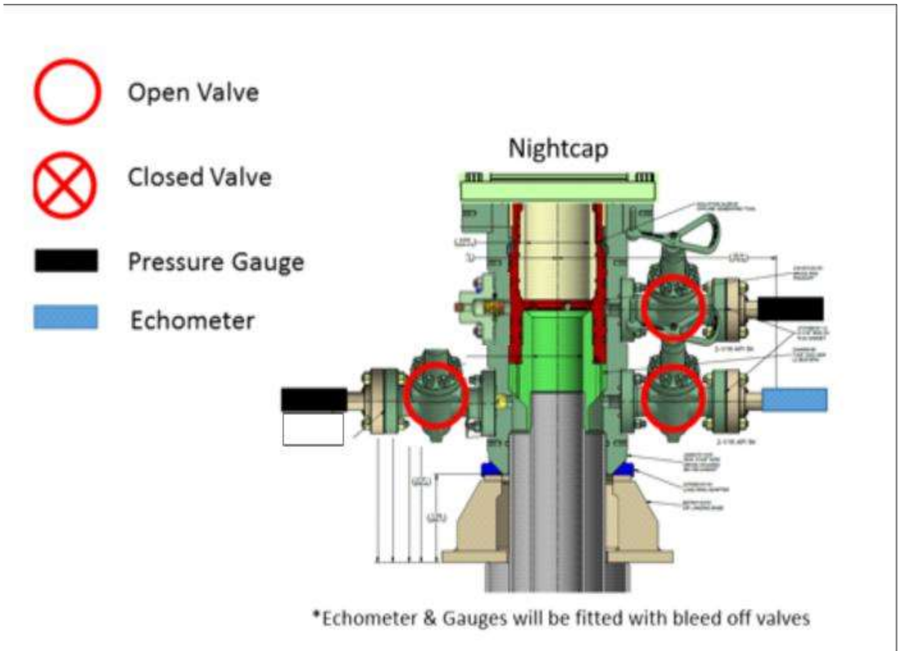
2. Offline Cementing Procedure

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

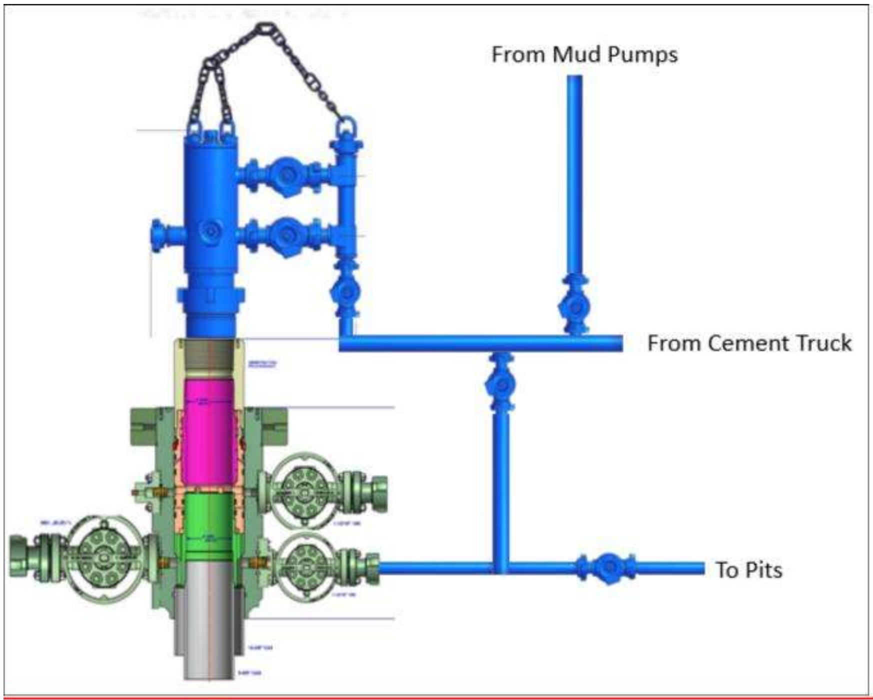
Annular packoff with both external and internal seals





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.

Production Casing Annular Clearance Variance Request

As per the agreement reached in the Oxy/BLM face-to-face meeting on Feb 22, 2018, Oxy requests permission to allow deviation from the 0.422” annular clearance requirement from 43 CFR part 3170 Subpart 3172 under the following conditions:

1. Annular clearance to meet or exceed 0.422” between intermediate casing ID and production casing coupling only on the first 500’ overlap between both casings.
2. Annular clearance less than 0.422” is acceptable for the curve and lateral portions of the production open hole section.

OXY

PRD NM DIRECTIONAL PLANS (NAD 1983)
Heads CC 9_4
Heads CC 9_4 Fed Com 75H

Wellbore #1

Plan: Permitting Plan

Standard Planning Report

21 August, 2023

OXY
Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Heads CC 9_4 Fed Com 75H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	25' RKB @ 2951.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	25' RKB @ 2951.50ft
Site:	Heads CC 9_4	**North Reference:**	Grid
Well:	Heads CC 9_4 Fed Com 75H	**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	Heads CC 9_4				
Site Position:		**Northing:**	446,198.60 usft	**Latitude:**	32.226200
From:	Map	**Easting:**	648,677.50 usft	**Longitude:**	-103.986208
Position Uncertainty:	2.00 ft	**Slot Radius:**	13.200 in		

Well	Heads CC 9_4 Fed Com 75H						
Well Position	**+N/-S**	0.00 ft	**Northing:**	446,046.99 usf	**Latitude:**	32.225812
	+E/-W	0.00 ft	**Easting:**	645,324.32 usf	**Longitude:**	-103.997053
Position Uncertainty		2.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	2,926.50 ft
Grid Convergence:		0.18 °				

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	8/21/2023	6.58	59.82	47,469.30000000

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	5.33

Plan Survey Tool Program **Date** 8/21/2023

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	20,111.74	Permitting Plan (Wellbore #1)	B005Mc_MWD+HRGM+SA ISCWSA MWD + HRGM +	

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	
3,918.00	0.00	0.00	3,918.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,718.09	18.00	133.40	5,688.62	-192.69	203.78	1.00	1.00	0.00	133.40	
8,595.52	18.00	133.40	8,425.21	-803.63	849.89	0.00	0.00	0.00	0.00	
9,618.74	90.00	359.72	9,102.00	-243.11	1,006.23	10.00	7.04	-13.06	-132.24	FTP Heads CC 9_4
20,111.74	90.00	359.72	9,102.00	10,249.77	955.41	0.00	0.00	0.00	0.00	PBHL Heads CC

OXY

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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
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,918.00	0.00	0.00	3,918.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.82	133.40	4,000.00	-0.40	0.43	-0.36	1.00	1.00	0.00
4,100.00	1.82	133.40	4,099.97	-1.99	2.10	-1.78	1.00	1.00	0.00
4,200.00	2.82	133.40	4,199.89	-4.77	5.04	-4.28	1.00	1.00	0.00
4,300.00	3.82	133.40	4,299.72	-8.75	9.25	-7.85	1.00	1.00	0.00
4,400.00	4.82	133.40	4,399.43	-13.92	14.72	-12.49	1.00	1.00	0.00
4,500.00	5.82	133.40	4,499.00	-20.29	21.46	-18.21	1.00	1.00	0.00
4,600.00	6.82	133.40	4,598.39	-27.85	29.46	-25.00	1.00	1.00	0.00
4,700.00	7.82	133.40	4,697.57	-36.61	38.72	-32.86	1.00	1.00	0.00
4,800.00	8.82	133.40	4,796.52	-46.55	49.23	-41.78	1.00	1.00	0.00
4,900.00	9.82	133.40	4,895.20	-57.68	61.00	-51.77	1.00	1.00	0.00
5,000.00	10.82	133.40	4,993.58	-69.98	74.01	-62.81	1.00	1.00	0.00
5,100.00	11.82	133.40	5,091.63	-83.47	88.28	-74.92	1.00	1.00	0.00
5,200.00	12.82	133.40	5,189.33	-98.13	103.78	-88.08	1.00	1.00	0.00
5,300.00	13.82	133.40	5,286.64	-113.96	120.52	-102.28	1.00	1.00	0.00

OXY

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Heads CC 9_4 Fed Com 75H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	25' RKB @ 2951.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	25' RKB @ 2951.50ft
Site:	Heads CC 9_4	**North Reference:**	Grid
Well:	Heads CC 9_4 Fed Com 75H	**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)
5,400.00	14.82	133.40	5,383.53	-130.95	138.49	-117.53	1.00	1.00	0.00
5,500.00	15.82	133.40	5,479.98	-149.11	157.69	-133.83	1.00	1.00	0.00
5,600.00	16.82	133.40	5,575.94	-168.41	178.10	-151.15	1.00	1.00	0.00
5,700.00	17.82	133.40	5,671.41	-188.87	199.74	-169.51	1.00	1.00	0.00
5,718.09	18.00	133.40	5,688.62	-192.69	203.78	-172.94	1.00	1.00	0.00
5,800.00	18.00	133.40	5,766.52	-210.08	222.17	-188.55	0.00	0.00	0.00
5,900.00	18.00	133.40	5,861.63	-231.31	244.62	-207.61	0.00	0.00	0.00
6,000.00	18.00	133.40	5,956.73	-252.54	267.08	-226.67	0.00	0.00	0.00
6,100.00	18.00	133.40	6,051.84	-273.78	289.53	-245.72	0.00	0.00	0.00
6,200.00	18.00	133.40	6,146.94	-295.01	311.99	-264.78	0.00	0.00	0.00
6,300.00	18.00	133.40	6,242.05	-316.24	334.44	-283.84	0.00	0.00	0.00
6,400.00	18.00	133.40	6,337.15	-337.47	356.90	-302.89	0.00	0.00	0.00
6,500.00	18.00	133.40	6,432.26	-358.71	379.35	-321.95	0.00	0.00	0.00
6,600.00	18.00	133.40	6,527.36	-379.94	401.81	-341.01	0.00	0.00	0.00
6,700.00	18.00	133.40	6,622.47	-401.17	424.26	-360.06	0.00	0.00	0.00
6,800.00	18.00	133.40	6,717.57	-422.40	446.71	-379.12	0.00	0.00	0.00
6,900.00	18.00	133.40	6,812.68	-443.63	469.17	-398.18	0.00	0.00	0.00
7,000.00	18.00	133.40	6,907.79	-464.87	491.62	-417.23	0.00	0.00	0.00
7,100.00	18.00	133.40	7,002.89	-486.10	514.08	-436.29	0.00	0.00	0.00
7,200.00	18.00	133.40	7,098.00	-507.33	536.53	-455.35	0.00	0.00	0.00
7,300.00	18.00	133.40	7,193.10	-528.56	558.99	-474.40	0.00	0.00	0.00
7,400.00	18.00	133.40	7,288.21	-549.80	581.44	-493.46	0.00	0.00	0.00
7,500.00	18.00	133.40	7,383.31	-571.03	603.89	-512.52	0.00	0.00	0.00
7,600.00	18.00	133.40	7,478.42	-592.26	626.35	-531.57	0.00	0.00	0.00
7,700.00	18.00	133.40	7,573.52	-613.49	648.80	-550.63	0.00	0.00	0.00
7,800.00	18.00	133.40	7,668.63	-634.72	671.26	-569.69	0.00	0.00	0.00
7,900.00	18.00	133.40	7,763.73	-655.96	693.71	-588.74	0.00	0.00	0.00
8,000.00	18.00	133.40	7,858.84	-677.19	716.17	-607.80	0.00	0.00	0.00
8,100.00	18.00	133.40	7,953.94	-698.42	738.62	-626.86	0.00	0.00	0.00
8,200.00	18.00	133.40	8,049.05	-719.65	761.08	-645.91	0.00	0.00	0.00
8,300.00	18.00	133.40	8,144.15	-740.89	783.53	-664.97	0.00	0.00	0.00
8,400.00	18.00	133.40	8,239.26	-762.12	805.98	-684.03	0.00	0.00	0.00
8,500.00	18.00	133.40	8,334.36	-783.35	828.44	-703.08	0.00	0.00	0.00
8,595.52	18.00	133.40	8,425.21	-803.63	849.89	-721.29	0.00	0.00	0.00
8,600.00	17.70	132.31	8,429.47	-804.57	850.89	-722.12	10.00	-6.66	-24.35
8,650.00	14.88	117.51	8,477.48	-812.65	862.22	-729.12	10.00	-5.65	-29.60
8,700.00	13.36	97.86	8,526.00	-816.41	873.64	-731.80	10.00	-3.04	-39.29
8,750.00	13.58	76.30	8,574.65	-815.81	885.07	-730.14	10.00	0.46	-43.13
8,800.00	15.48	57.75	8,623.08	-810.85	896.42	-724.16	10.00	3.80	-37.09
8,850.00	18.55	44.18	8,670.90	-801.58	907.62	-713.89	10.00	6.13	-27.16
8,900.00	22.31	34.67	8,717.76	-788.07	918.57	-699.41	10.00	7.51	-19.01
8,950.00	26.46	27.90	8,763.30	-770.41	929.18	-680.84	10.00	8.31	-13.54
9,000.00	30.85	22.89	8,807.17	-748.74	939.39	-658.32	10.00	8.78	-10.01
9,050.00	35.39	19.04	8,849.04	-723.23	949.11	-632.02	10.00	9.08	-7.70
9,100.00	40.02	15.97	8,888.59	-694.07	958.26	-602.14	10.00	9.27	-6.14
9,150.00	44.72	13.45	8,925.53	-661.48	966.78	-568.90	10.00	9.40	-5.05
9,200.00	49.47	11.31	8,959.55	-625.72	974.61	-532.56	10.00	9.50	-4.27
9,250.00	54.26	9.46	8,990.42	-587.04	981.67	-493.40	10.00	9.57	-3.70
9,300.00	59.07	7.82	9,017.89	-545.76	987.93	-451.71	10.00	9.62	-3.28
9,350.00	63.89	6.34	9,041.76	-502.17	993.33	-407.81	10.00	9.65	-2.97
9,400.00	68.73	4.97	9,061.84	-456.62	997.83	-362.04	10.00	9.68	-2.73
9,450.00	73.59	3.69	9,077.99	-409.45	1,001.39	-314.74	10.00	9.70	-2.56
9,500.00	78.45	2.48	9,090.07	-361.02	1,004.00	-266.28	10.00	9.72	-2.43
9,550.00	83.31	1.30	9,097.99	-311.69	1,005.62	-217.01	10.00	9.73	-2.35
9,600.00	88.18	0.15	9,101.70	-261.85	1,006.25	-167.33	10.00	9.73	-2.30

OXY
Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Heads CC 9_4 Fed Com 75H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	25' RKB @ 2951.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	25' RKB @ 2951.50ft
Site:	Heads CC 9_4	**North Reference:**	Grid
Well:	Heads CC 9_4 Fed Com 75H	**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)
9,618.74	90.00	359.72	9,102.00	-243.11	1,006.23	-148.67	10.00	9.73	-2.29
9,700.00	90.00	359.72	9,102.00	-161.85	1,005.84	-67.80	0.00	0.00	0.00
9,800.00	90.00	359.72	9,102.00	-61.85	1,005.35	31.72	0.00	0.00	0.00
9,900.00	90.00	359.72	9,102.00	38.14	1,004.87	131.24	0.00	0.00	0.00
10,000.00	90.00	359.72	9,102.00	138.14	1,004.38	230.76	0.00	0.00	0.00
10,100.00	90.00	359.72	9,102.00	238.14	1,003.90	330.29	0.00	0.00	0.00
10,200.00	90.00	359.72	9,102.00	338.14	1,003.42	429.81	0.00	0.00	0.00
10,300.00	90.00	359.72	9,102.00	438.14	1,002.93	529.33	0.00	0.00	0.00
10,400.00	90.00	359.72	9,102.00	538.14	1,002.45	628.85	0.00	0.00	0.00
10,500.00	90.00	359.72	9,102.00	638.14	1,001.96	728.38	0.00	0.00	0.00
10,600.00	90.00	359.72	9,102.00	738.14	1,001.48	827.90	0.00	0.00	0.00
10,700.00	90.00	359.72	9,102.00	838.14	1,000.99	927.42	0.00	0.00	0.00
10,800.00	90.00	359.72	9,102.00	938.13	1,000.51	1,026.94	0.00	0.00	0.00
10,900.00	90.00	359.72	9,102.00	1,038.13	1,000.03	1,126.46	0.00	0.00	0.00
11,000.00	90.00	359.72	9,102.00	1,138.13	999.54	1,225.99	0.00	0.00	0.00
11,100.00	90.00	359.72	9,102.00	1,238.13	999.06	1,325.51	0.00	0.00	0.00
11,200.00	90.00	359.72	9,102.00	1,338.13	998.57	1,425.03	0.00	0.00	0.00
11,300.00	90.00	359.72	9,102.00	1,438.13	998.09	1,524.55	0.00	0.00	0.00
11,400.00	90.00	359.72	9,102.00	1,538.13	997.60	1,624.08	0.00	0.00	0.00
11,500.00	90.00	359.72	9,102.00	1,638.13	997.12	1,723.60	0.00	0.00	0.00
11,600.00	90.00	359.72	9,102.00	1,738.12	996.63	1,823.12	0.00	0.00	0.00
11,700.00	90.00	359.72	9,102.00	1,838.12	996.15	1,922.64	0.00	0.00	0.00
11,800.00	90.00	359.72	9,102.00	1,938.12	995.67	2,022.17	0.00	0.00	0.00
11,900.00	90.00	359.72	9,102.00	2,038.12	995.18	2,121.69	0.00	0.00	0.00
12,000.00	90.00	359.72	9,102.00	2,138.12	994.70	2,221.21	0.00	0.00	0.00
12,100.00	90.00	359.72	9,102.00	2,238.12	994.21	2,320.73	0.00	0.00	0.00
12,200.00	90.00	359.72	9,102.00	2,338.12	993.73	2,420.25	0.00	0.00	0.00
12,300.00	90.00	359.72	9,102.00	2,438.12	993.24	2,519.78	0.00	0.00	0.00
12,400.00	90.00	359.72	9,102.00	2,538.12	992.76	2,619.30	0.00	0.00	0.00
12,500.00	90.00	359.72	9,102.00	2,638.11	992.28	2,718.82	0.00	0.00	0.00
12,600.00	90.00	359.72	9,102.00	2,738.11	991.79	2,818.34	0.00	0.00	0.00
12,700.00	90.00	359.72	9,102.00	2,838.11	991.31	2,917.87	0.00	0.00	0.00
12,800.00	90.00	359.72	9,102.00	2,938.11	990.82	3,017.39	0.00	0.00	0.00
12,900.00	90.00	359.72	9,102.00	3,038.11	990.34	3,116.91	0.00	0.00	0.00
13,000.00	90.00	359.72	9,102.00	3,138.11	989.85	3,216.43	0.00	0.00	0.00
13,100.00	90.00	359.72	9,102.00	3,238.11	989.37	3,315.95	0.00	0.00	0.00
13,200.00	90.00	359.72	9,102.00	3,338.11	988.88	3,415.48	0.00	0.00	0.00
13,300.00	90.00	359.72	9,102.00	3,438.10	988.40	3,515.00	0.00	0.00	0.00
13,400.00	90.00	359.72	9,102.00	3,538.10	987.92	3,614.52	0.00	0.00	0.00
13,500.00	90.00	359.72	9,102.00	3,638.10	987.43	3,714.04	0.00	0.00	0.00
13,600.00	90.00	359.72	9,102.00	3,738.10	986.95	3,813.57	0.00	0.00	0.00
13,700.00	90.00	359.72	9,102.00	3,838.10	986.46	3,913.09	0.00	0.00	0.00
13,800.00	90.00	359.72	9,102.00	3,938.10	985.98	4,012.61	0.00	0.00	0.00
13,900.00	90.00	359.72	9,102.00	4,038.10	985.49	4,112.13	0.00	0.00	0.00
14,000.00	90.00	359.72	9,102.00	4,138.10	985.01	4,211.66	0.00	0.00	0.00
14,100.00	90.00	359.72	9,102.00	4,238.10	984.53	4,311.18	0.00	0.00	0.00
14,200.00	90.00	359.72	9,102.00	4,338.09	984.04	4,410.70	0.00	0.00	0.00
14,300.00	90.00	359.72	9,102.00	4,438.09	983.56	4,510.22	0.00	0.00	0.00
14,400.00	90.00	359.72	9,102.00	4,538.09	983.07	4,609.74	0.00	0.00	0.00
14,500.00	90.00	359.72	9,102.00	4,638.09	982.59	4,709.27	0.00	0.00	0.00
14,600.00	90.00	359.72	9,102.00	4,738.09	982.10	4,808.79	0.00	0.00	0.00
14,700.00	90.00	359.72	9,102.00	4,838.09	981.62	4,908.31	0.00	0.00	0.00
14,800.00	90.00	359.72	9,102.00	4,938.09	981.14	5,007.83	0.00	0.00	0.00
14,900.00	90.00	359.72	9,102.00	5,038.09	980.65	5,107.36	0.00	0.00	0.00
15,000.00	90.00	359.72	9,102.00	5,138.09	980.17	5,206.88	0.00	0.00	0.00

OXY
Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Heads CC 9_4 Fed Com 75H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	25' RKB @ 2951.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	25' RKB @ 2951.50ft
Site:	Heads CC 9_4	**North Reference:**	Grid
Well:	Heads CC 9_4 Fed Com 75H	**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)
15,100.00	90.00	359.72	9,102.00	5,238.08	979.68	5,306.40	0.00	0.00	0.00
15,200.00	90.00	359.72	9,102.00	5,338.08	979.20	5,405.92	0.00	0.00	0.00
15,300.00	90.00	359.72	9,102.00	5,438.08	978.71	5,505.44	0.00	0.00	0.00
15,400.00	90.00	359.72	9,102.00	5,538.08	978.23	5,604.97	0.00	0.00	0.00
15,500.00	90.00	359.72	9,102.00	5,638.08	977.74	5,704.49	0.00	0.00	0.00
15,600.00	90.00	359.72	9,102.00	5,738.08	977.26	5,804.01	0.00	0.00	0.00
15,700.00	90.00	359.72	9,102.00	5,838.08	976.78	5,903.53	0.00	0.00	0.00
15,800.00	90.00	359.72	9,102.00	5,938.08	976.29	6,003.06	0.00	0.00	0.00
15,900.00	90.00	359.72	9,102.00	6,038.07	975.81	6,102.58	0.00	0.00	0.00
16,000.00	90.00	359.72	9,102.00	6,138.07	975.32	6,202.10	0.00	0.00	0.00
16,100.00	90.00	359.72	9,102.00	6,238.07	974.84	6,301.62	0.00	0.00	0.00
16,200.00	90.00	359.72	9,102.00	6,338.07	974.35	6,401.14	0.00	0.00	0.00
16,300.00	90.00	359.72	9,102.00	6,438.07	973.87	6,500.67	0.00	0.00	0.00
16,400.00	90.00	359.72	9,102.00	6,538.07	973.39	6,600.19	0.00	0.00	0.00
16,500.00	90.00	359.72	9,102.00	6,638.07	972.90	6,699.71	0.00	0.00	0.00
16,600.00	90.00	359.72	9,102.00	6,738.07	972.42	6,799.23	0.00	0.00	0.00
16,700.00	90.00	359.72	9,102.00	6,838.07	971.93	6,898.76	0.00	0.00	0.00
16,800.00	90.00	359.72	9,102.00	6,938.06	971.45	6,998.28	0.00	0.00	0.00
16,900.00	90.00	359.72	9,102.00	7,038.06	970.96	7,097.80	0.00	0.00	0.00
17,000.00	90.00	359.72	9,102.00	7,138.06	970.48	7,197.32	0.00	0.00	0.00
17,100.00	90.00	359.72	9,102.00	7,238.06	969.99	7,296.85	0.00	0.00	0.00
17,200.00	90.00	359.72	9,102.00	7,338.06	969.51	7,396.37	0.00	0.00	0.00
17,300.00	90.00	359.72	9,102.00	7,438.06	969.03	7,495.89	0.00	0.00	0.00
17,400.00	90.00	359.72	9,102.00	7,538.06	968.54	7,595.41	0.00	0.00	0.00
17,500.00	90.00	359.72	9,102.00	7,638.06	968.06	7,694.93	0.00	0.00	0.00
17,600.00	90.00	359.72	9,102.00	7,738.05	967.57	7,794.46	0.00	0.00	0.00
17,700.00	90.00	359.72	9,102.00	7,838.05	967.09	7,893.98	0.00	0.00	0.00
17,800.00	90.00	359.72	9,102.00	7,938.05	966.60	7,993.50	0.00	0.00	0.00
17,900.00	90.00	359.72	9,102.00	8,038.05	966.12	8,093.02	0.00	0.00	0.00
18,000.00	90.00	359.72	9,102.00	8,138.05	965.64	8,192.55	0.00	0.00	0.00
18,100.00	90.00	359.72	9,102.00	8,238.05	965.15	8,292.07	0.00	0.00	0.00
18,200.00	90.00	359.72	9,102.00	8,338.05	964.67	8,391.59	0.00	0.00	0.00
18,300.00	90.00	359.72	9,102.00	8,438.05	964.18	8,491.11	0.00	0.00	0.00
18,400.00	90.00	359.72	9,102.00	8,538.05	963.70	8,590.63	0.00	0.00	0.00
18,500.00	90.00	359.72	9,102.00	8,638.04	963.21	8,690.16	0.00	0.00	0.00
18,600.00	90.00	359.72	9,102.00	8,738.04	962.73	8,789.68	0.00	0.00	0.00
18,700.00	90.00	359.72	9,102.00	8,838.04	962.24	8,889.20	0.00	0.00	0.00
18,800.00	90.00	359.72	9,102.00	8,938.04	961.76	8,988.72	0.00	0.00	0.00
18,900.00	90.00	359.72	9,102.00	9,038.04	961.28	9,088.25	0.00	0.00	0.00
19,000.00	90.00	359.72	9,102.00	9,138.04	960.79	9,187.77	0.00	0.00	0.00
19,100.00	90.00	359.72	9,102.00	9,238.04	960.31	9,287.29	0.00	0.00	0.00
19,200.00	90.00	359.72	9,102.00	9,338.04	959.82	9,386.81	0.00	0.00	0.00
19,300.00	90.00	359.72	9,102.00	9,438.03	959.34	9,486.33	0.00	0.00	0.00
19,400.00	90.00	359.72	9,102.00	9,538.03	958.85	9,585.86	0.00	0.00	0.00
19,500.00	90.00	359.72	9,102.00	9,638.03	958.37	9,685.38	0.00	0.00	0.00
19,600.00	90.00	359.72	9,102.00	9,738.03	957.89	9,784.90	0.00	0.00	0.00
19,700.00	90.00	359.72	9,102.00	9,838.03	957.40	9,884.42	0.00	0.00	0.00
19,800.00	90.00	359.72	9,102.00	9,938.03	956.92	9,983.95	0.00	0.00	0.00
19,900.00	90.00	359.72	9,102.00	10,038.03	956.43	10,083.47	0.00	0.00	0.00
20,000.00	90.00	359.72	9,102.00	10,138.03	955.95	10,182.99	0.00	0.00	0.00
20,100.00	90.00	359.72	9,102.00	10,238.03	955.46	10,282.51	0.00	0.00	0.00
20,111.74	90.00	359.72	9,102.00	10,249.77	955.41	10,294.20	0.00	0.00	0.00

OXY

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Heads CC 9_4 Fed Com 75H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	25' RKB @ 2951.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	25' RKB @ 2951.50ft
Site:	Heads CC 9_4	**North Reference:**	Grid
Well:	Heads CC 9_4 Fed Com 75H	**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
FTP Heads CC 9_4 - plan hits target center - Point	0.00	0.00	9,102.00	-243.11	1,006.23	445,803.90	646,330.47	32.225135	-103.993802
PBHL Heads CC 9_4 - plan hits target center - Point	0.00	0.00	9,102.00	10,249.77	955.41	456,295.93	646,279.65	32.253977	-103.993859

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
134.50	134.50	RUSTLER			
621.50	621.50	SALADO			
1,301.50	1,301.50	CASTILE			
2,874.50	2,874.50	LAMAR			
2,935.50	2,935.50	BELL CANYON			
3,778.50	3,778.50	CHERRY CANYON			
5,032.52	5,025.50	BRUSHY CANYON			
6,680.05	6,603.50	BONE SPRING			
7,744.14	7,615.50	BONE SPRING 1ST			
8,601.08	8,430.50	BONE SPRING 2ND			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
3,918.00	3,918.00	0.00	0.00	Build 1°/100'
5,718.09	5,688.62	-192.69	203.78	Hold 18° Tangent
8,595.52	8,425.21	-803.63	849.89	KOP, Build & Turn 10°/100'
9,618.74	9,102.00	-243.11	1,006.23	Landing Point
20,111.74	9,102.00	10,249.77	955.41	TD @ 20111.74' MD

OXY ZERO IN™

Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
Site: Heads CC 9_4
Well: Heads CC 9_4 Fed Com 75H
Wellbore: Wellbore #1
Design: Permitting Plan

PROJECT DETAILS: NM DIRECTIONAL PLANS (NAD 1983)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

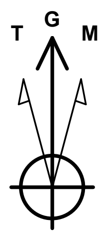
System Datum: Mean Sea Level

WELL DETAILS: Heads CC 9_4 Fed Com 75H

+N/-S	+E/-W	Northing	2926.50 Easting	Latittude	Longitude
0.00	0.00	446046.99	645324.32	32.225812	-103.997053

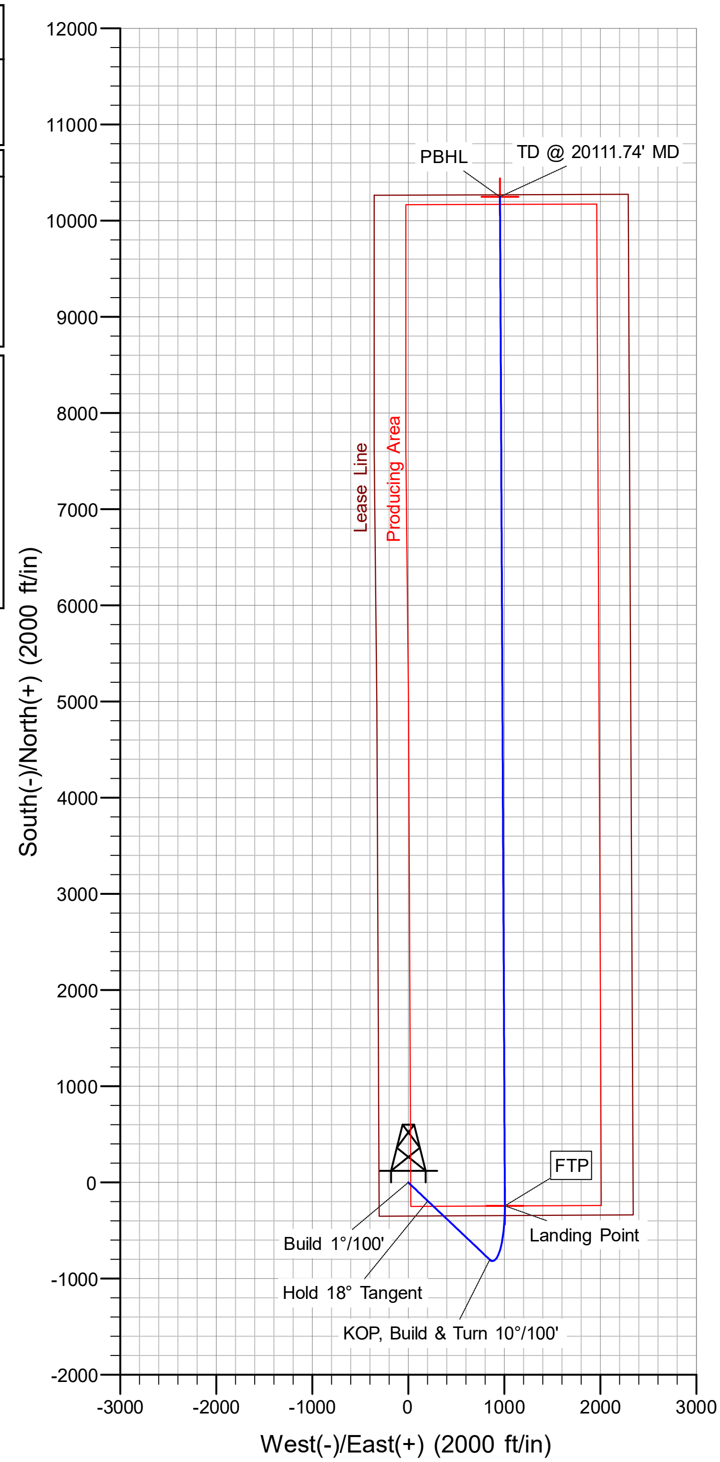
SECTION DETAILS

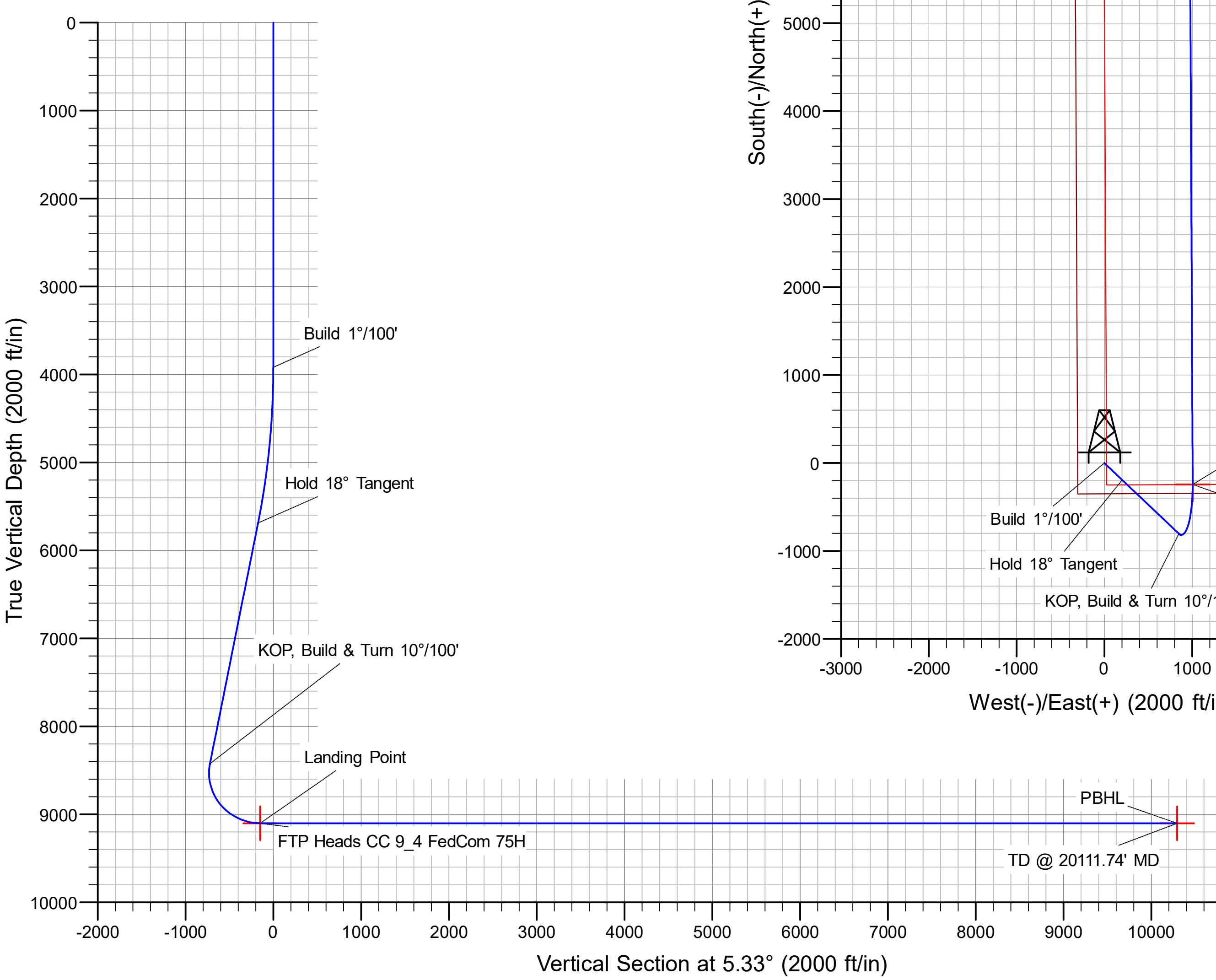
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3918.00	0.00	0.00	3918.00	0.00	0.00	0.00	0.00	0.00	Build 1°/100'
5718.09	18.00	133.40	5688.62	-192.69	203.78	1.00	133.40	-172.94	Hold 18° Tangent
8595.52	18.00	133.40	8425.21	-803.63	849.89	0.00	0.00	-721.29	KOP, Build & Turn 10°/100'
9618.74	90.00	359.72	9102.00	-243.11	1006.23	10.00	-132.24	-148.67	Landing Point
20111.74	90.00	359.72	9102.00	10249.77	955.41	0.00	0.00	10294.20	TD @ 20111.74' MD



Azimuths to Grid North
True North: -0.18°
Magnetic North: 6.40°

Magnetic Field
Strength: 47469.3nT
Dip Angle: 59.82°
Date: 8/21/2023
Model: HDGM_FILE





PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	OXY USA INCORPORATED
WELL NAME & NO.:	HEADS CC 9-7 FEDERAL COM 75H
SURFACE HOLE FOOTAGE:	349'/S & 305'/W
BOTTOM HOLE FOOTAGE	20'/N & 1310'/W
LOCATION:	Section 16, T.24 S., R.29 E.
COUNTY:	Eddy County, New Mexico

COA

H2S	◉ Yes	○ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	○ Low	◉ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Wellhead Variance	○ Diverter		
Other	☐ 4 String	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Pilot Hole	☐ Open Annulus
Cementing	☐ Contingency Cement Squeeze	☐ EchoMeter	☑ Primary Cement Squeeze
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit
Special Requirements	☐ Batch Sundry		
Special Requirements Variance	☑ Break Testing	☑ Offline Cementing	☑ Casing Clearance

A. HYDROGEN SULFIDE

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

B. CASING

Primary Casing Design:

1. The **10-3/4** inch surface casing shall be set at approximately **562** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.

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a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
b. Wait on cement (WOC) time for a primary cement job will be a minimum of **<u>8 hours</u>** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The **7.827** inch intermediate casing shall be set at approximately **8496** feet. The minimum required fill of cement behind the **7.827** inch intermediate casing is:

<u>Option 1 (Single Stage):</u>

- Cement to surface. If cement does not circulate see B.1.a, c-d above.

<u>Option 2:</u>

Operator has proposed to cement in two stages by conventionally cementing the first stage and performing a bradenhead squeeze on the second stage, contingent upon no returns to surface.

a. First stage: Operator will cement with intent to reach the top of the **Brushy Canyon**

b. Second stage:

- Operator will perform bradenhead squeeze and top-out. Cement to surface. If cement does not reach surface, the appropriate BLM office shall be notified

❖ In <u>Medium Cave/Karst Areas</u> if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

Operator has proposed to pump down 10-3/4" 7.827" annulus. <u>Operator must top out cement after the bradenhead squeeze and verify cement to surface. Operator can also check TOC with Echo-meter. CBL must be run from TD of the 7.827" casing to surface if confidence is lacking on the quality of the bradenhead squeeze cement job. Submit results to BLM.</u>

<u>If cement does not tie-back into the previous casing shoe, a third stage remediation BH may be performed. The appropriate BLM office shall be notified.</u>

<u>Bradenhead squeeze in the production interval is only as an edge case remediation measure and is NOT approved in this COA. If production cement job experiences losses and a bradenhead squeeze is needed for tie-back, BLM Engineering should be notified prior to job with volumes and planned wellbore schematic. CBL will be needed when this occurs.</u>

3. The **5-1/2** inch production liner shall be set at approximately **20,112** feet. Liner to tie back minimum 200'. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   <u>Option 1 (Single Stage):</u>

   - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

Falcon Design Requirements (applicable if second intermediate exposed to frac pressures):

- Tie Back of the liner should be a minimum of 200' into the previous casing
- Surface and Intermediate cement to surface should be verified visually. If cement fallback is suspected, an Echo-meter can be run to verify cement top in the intermediate and a temp log may be run in the surface interval. CBL should be run if confidence is lacking in the surface or intermediate cement job. The proposed falcon design (when intermediate string is exposed to frac pressures) is only approved when surface and intermediate sections are cemented to surface. Operator to revert to pre-frac tie-in design when surface or intermediate cementing is of poor quality or not verified to surface
- Region 2 NACE certified intermediate casing must be used
- A third-party verification (such as thread rep or torque turn) must be conducted to ensure the connection makeups are to spec for the intermediate casing string exposed to frac pressures
- Corrosion inhibitors must be used in areas with corrosive production fluids
- Operator should actively monitor annulus during the completion phase. Wells should be monitored in a manner capable of identifying a casing leak or liner top packer leak, within an acceptable time frame while on production. Remedial work may be required to restore intermediate casing integrity or liner top packer integrity in a failure event
- BLM should be notified if cement is not verified to the liner top
- 4-String Falcon Design meets the minimum requirement for the R111P area with the salt interval intermediate casing and an additional intermediate string cemented to surface

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **10-3/4** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 3500 (70% Working Pressure) psi.**

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

<u>Communitization Agreement</u>

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in Onshore Order 1 and 43 CFR part 3170 Subpart 3172.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. <u>When the Communitization Agreement number is known, it shall also be on the sign.</u>

<u>(Note: For a minimum 5M BOPE or less (Utilizing a 10M BOPE system)</u>
<u>BOPE Break Testing Variance</u>

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP)**
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer **(575-706-2779)** prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-361-2822 Eddy County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per 43 CFR part 3170 Subpart 3172.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

Offline Cementing

Operator has been **(Approved)** to pump the proposed cement program offline in the **Surface and intermediate(s) intervals**.

Offline cementing should commence within 24 hours of landing the casing for the interval.

Notify the BLM 4hrs prior to cementing offline at **Eddy County: 575-361-2822**.

Casing Clearance:

*If Production Casing Connection OD does not meet 0.422" annular clearance inside casing:

- Cement excess will be circulated from Top of Liner to surface (Cement Confirmation)
- Liner Top will be tested to confirm seal
- If ICP in Bone Spring Pool and lateral landed in Wolfcamp Pool, a CBL will be ran.

Operator shall clean up cycles until wellbore is clear of cuttings and any large debris, ensure cutting sizes are adequate "coffee ground or less" before cementing.

GENERAL REQUIREMENTS

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

a. Spudding well (minimum of 24 hours)

b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

- If well located in Eddy County
  EMAIL or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
  BLM_NM_CFO_DrillingNotifications@BLM.GOV
  (575) 361-2822

- If well located in Lea County
  Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
  (575) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator

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can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172** and **API STD 53 Sec. 5.3**.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in **43 CFR part 3170 Subpart 3172** must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-

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off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

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

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR part 3170 Subpart 3172**.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

KPI 5/22/2024

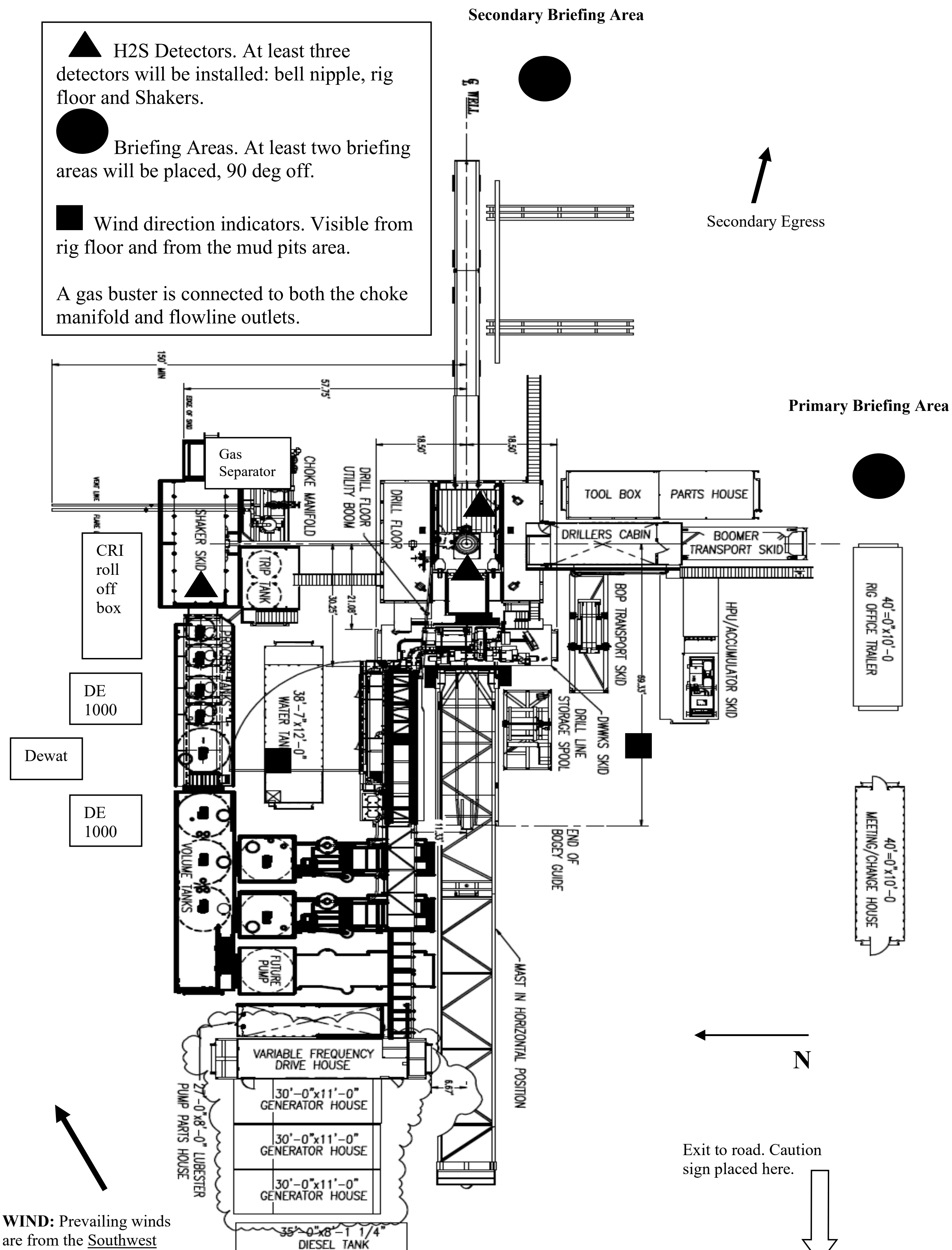
Approval Date: 05/30/2024

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.
Secondary Briefing Area
℄ WELL
Secondary Egress
Primary Briefing Area
150' MIN
57.75'
18.50'
18.50'
Gas Separator
CHOKE MANIFOLD
DRILL FLOOR UTILITY BOOM
DRILL FLOOR
TOOL BOX
PARTS HOUSE
DRILLERS CABIN
BOOMER TRANSPORT SKID
40'=0"x10'-0 RIG OFFICE TRAILER
CRI roll off box
SHAKER SKID
TRIP TANK
30.25'
21.08'
BOP TRANSPORT SKID
HPU/ACCUMULATOR SKID
89.33'
DE 1000
Dewat
DE 1000
PROCESS TANKS
38'-7"x12'-0" WATER TANK
DWWKS SKID
DRILL LINE STORAGE SPOOL
END OF BOGEY GUIDE
11.33'
VOLUME TANKS
FUTURE PUMP
40'=0"x10'-0 MEETING/CHANGE HOUSE
MAST IN HORIZONTAL POSITION
N
VARIABLE FREQUENCY DRIVE HOUSE
6.67'
27'-0"x8'-0" LUBESTER PUMP PARTS HOUSE
30'-0"x11'-0" GENERATOR HOUSE
30'-0"x11'-0" GENERATOR HOUSE
30'-0"x11'-0" GENERATOR HOUSE
35'-0"x8'-1 1/4" DIESEL TANK
Exit to road. Caution sign placed here.
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.

<u>Service company and visiting personnel</u>

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 Percent (%)	Ppm	Grains 100 std. Ft3*	Physical effects
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 H_2S.

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.

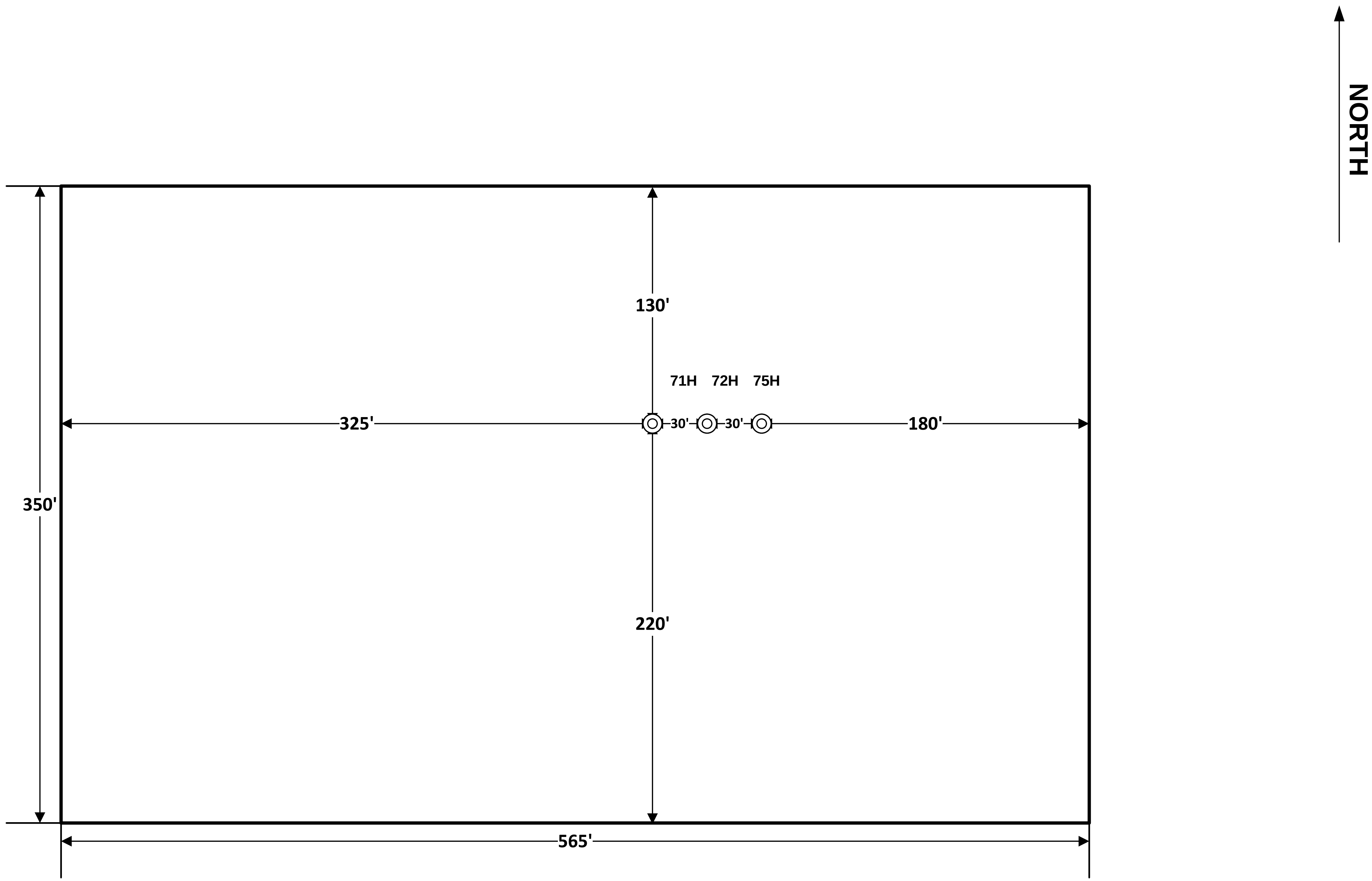
4. Provide for prompt transportation to the hospital, and continue giving artificial respiration if needed.

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.

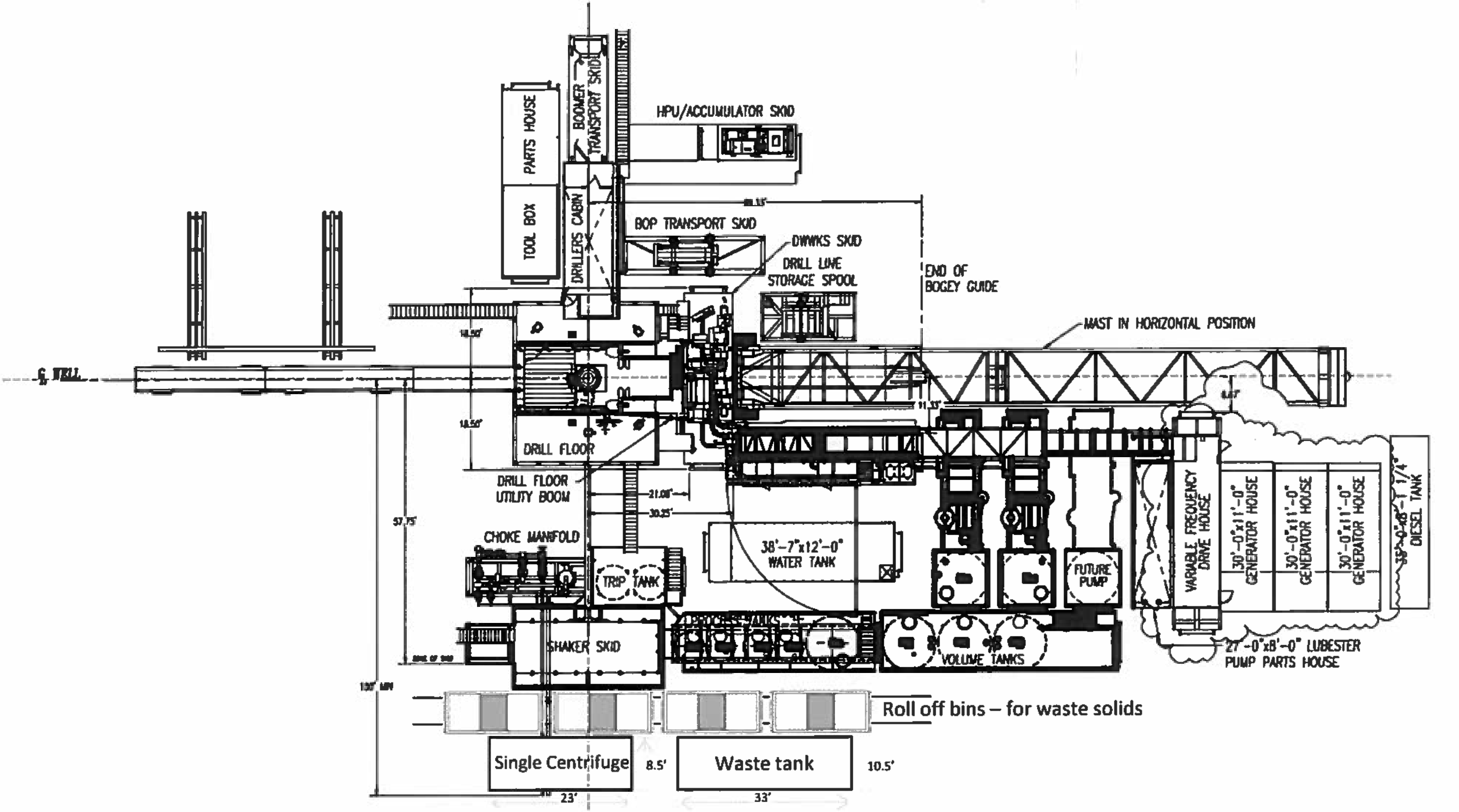
Revised CM 6/27/2012



REVISION BLOCK						ENGINEERING RECORD		RIG DIAGRAM V-DOOR EAST
NO.	DATE	DESCRIPTION	BY	CHK	APP	BY	DATE	CEDCAN_T24SR29E_0911 HEADS CC 9-4 FED COM 71H, 72H, 75H
						LP	8/06/2023	SECTION 9 TOWNSHIP 24S, RANGE 29E EDDY COUNTY, NEW MEXICO

Oxy Single Centrifuge Closed Loop System – New Mexico Flex III

May 28, 2013



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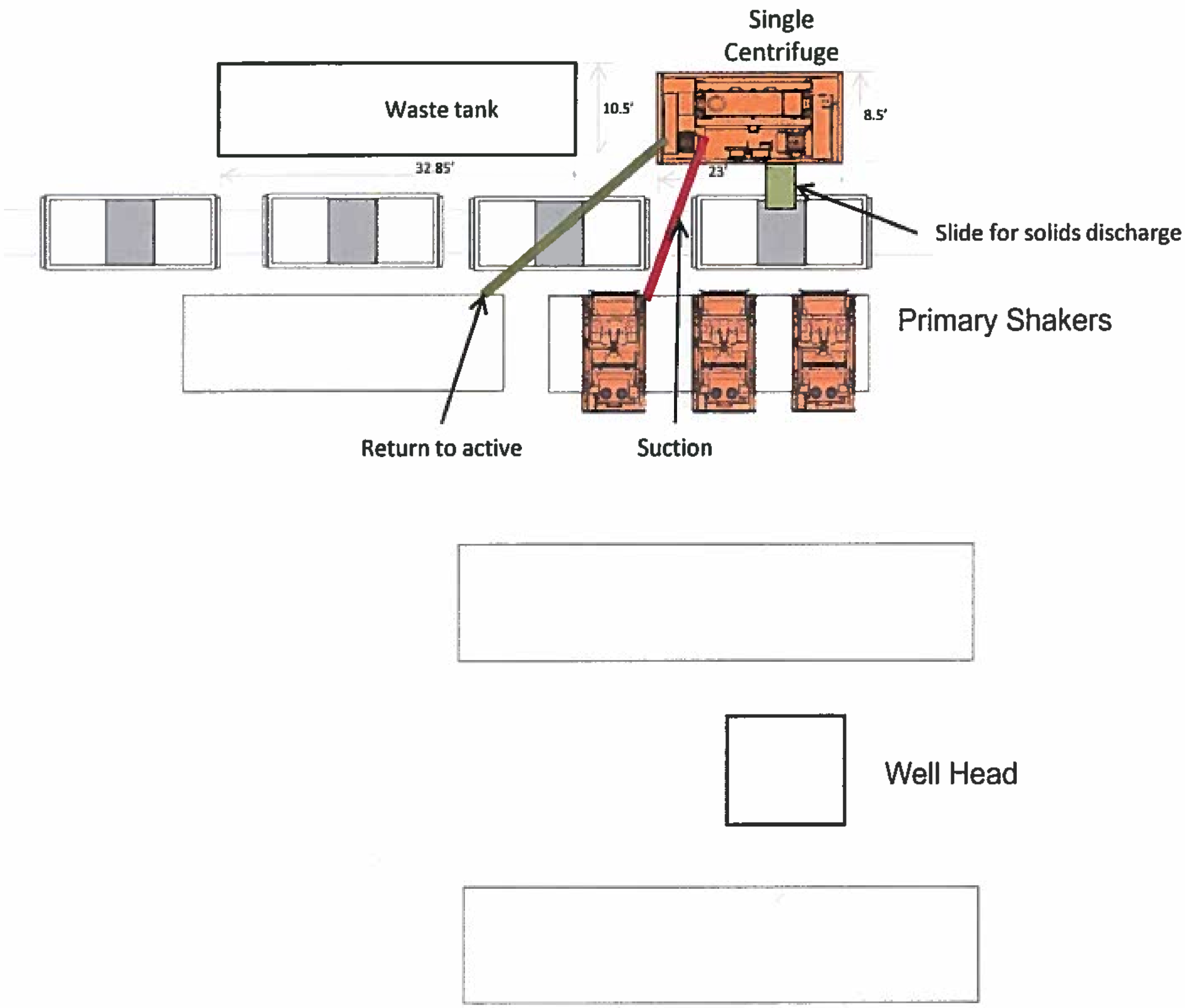
Oxy



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

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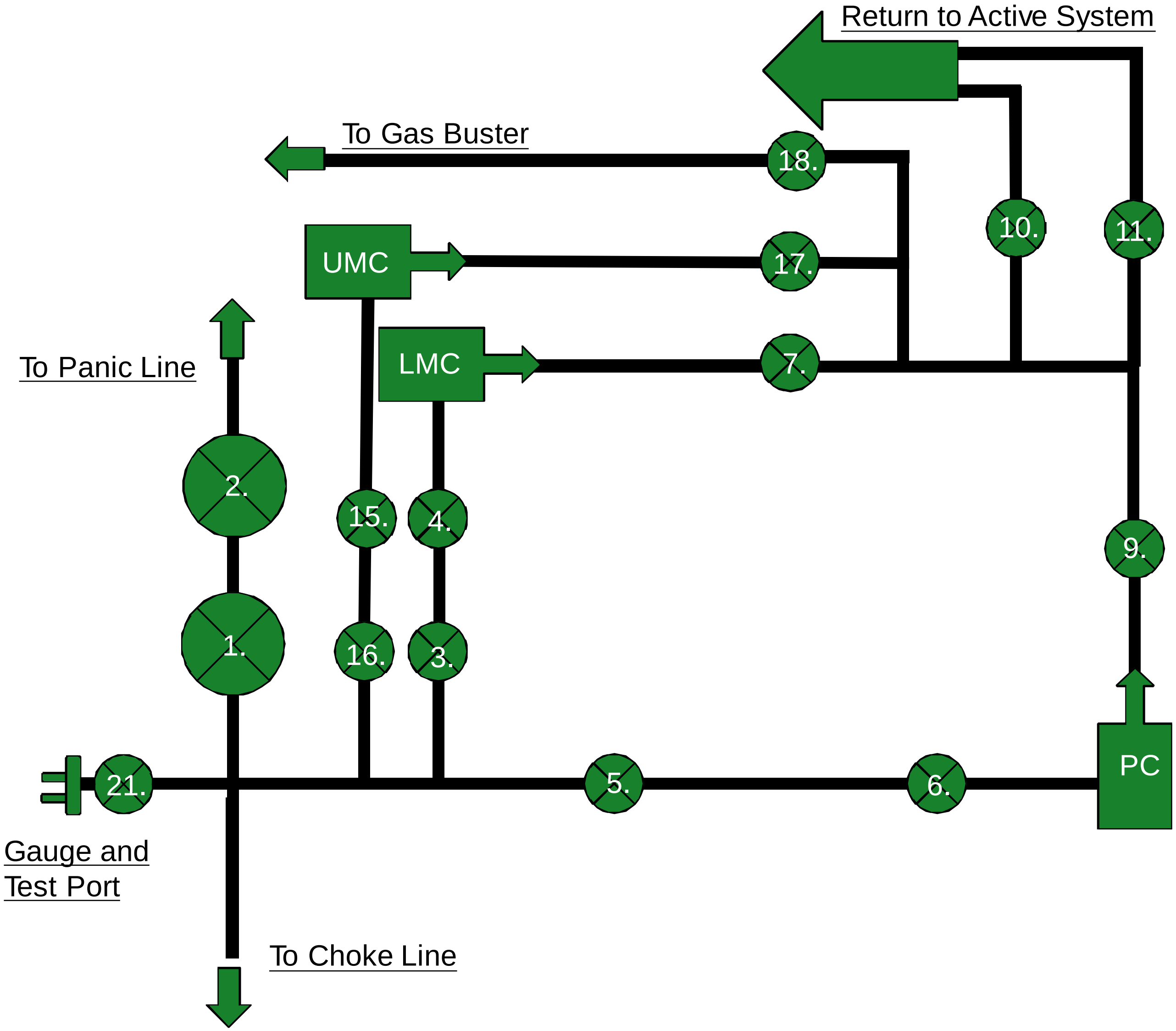
10M Choke Panel



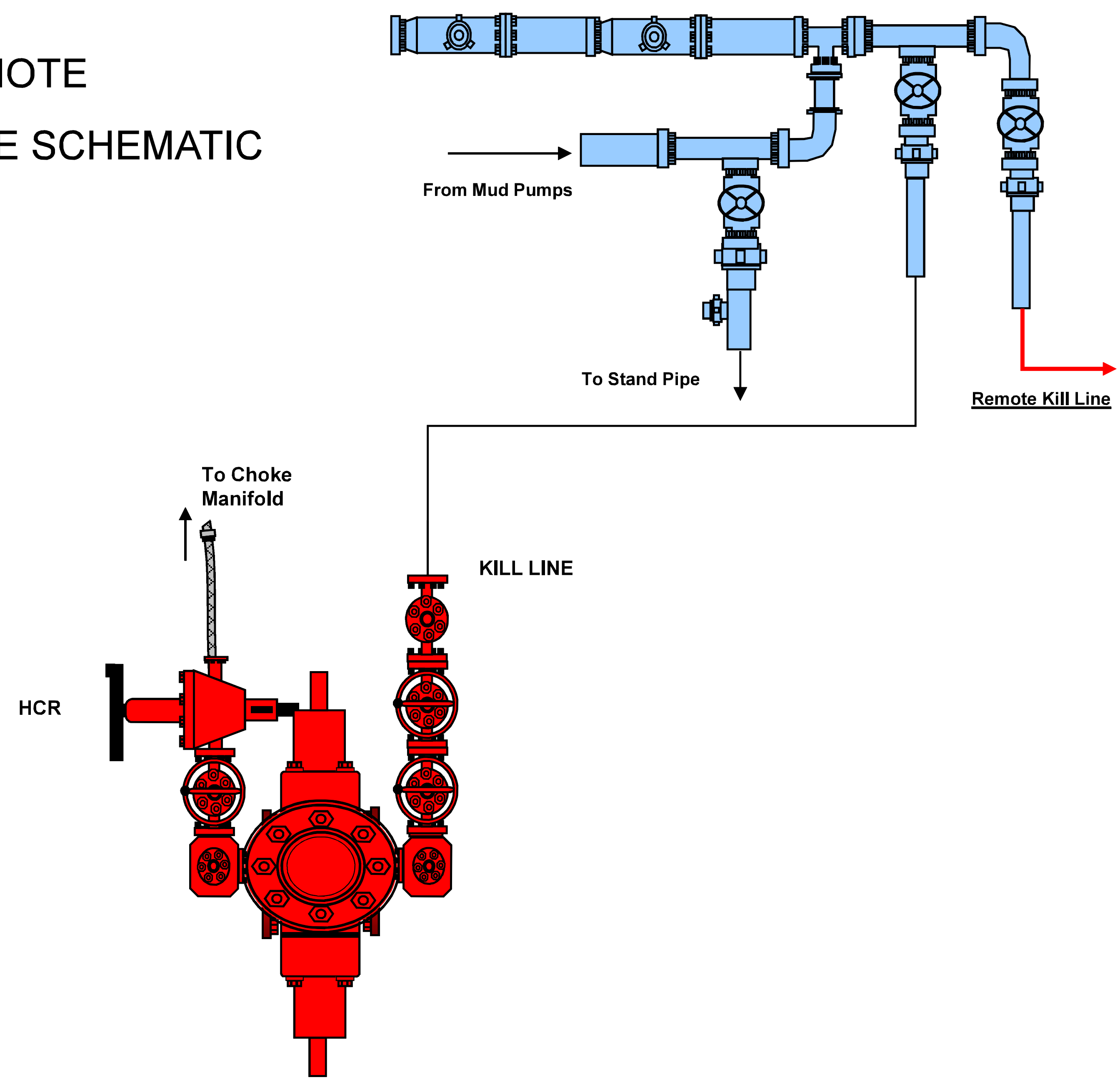
1. Choke Manifold Valve
2. Choke Manifold Valve
3. Choke Manifold Valve
4. Choke Manifold Valve
5. Choke Manifold Valve
6. Choke Manifold Valve
7. Choke Manifold Valve
8. PC – Power Choke
9. Choke Manifold Valve
10. Choke Manifold Valve
11. Choke Manifold Valve
12. LMC – Lower Manual Choke
13. UMC –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

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

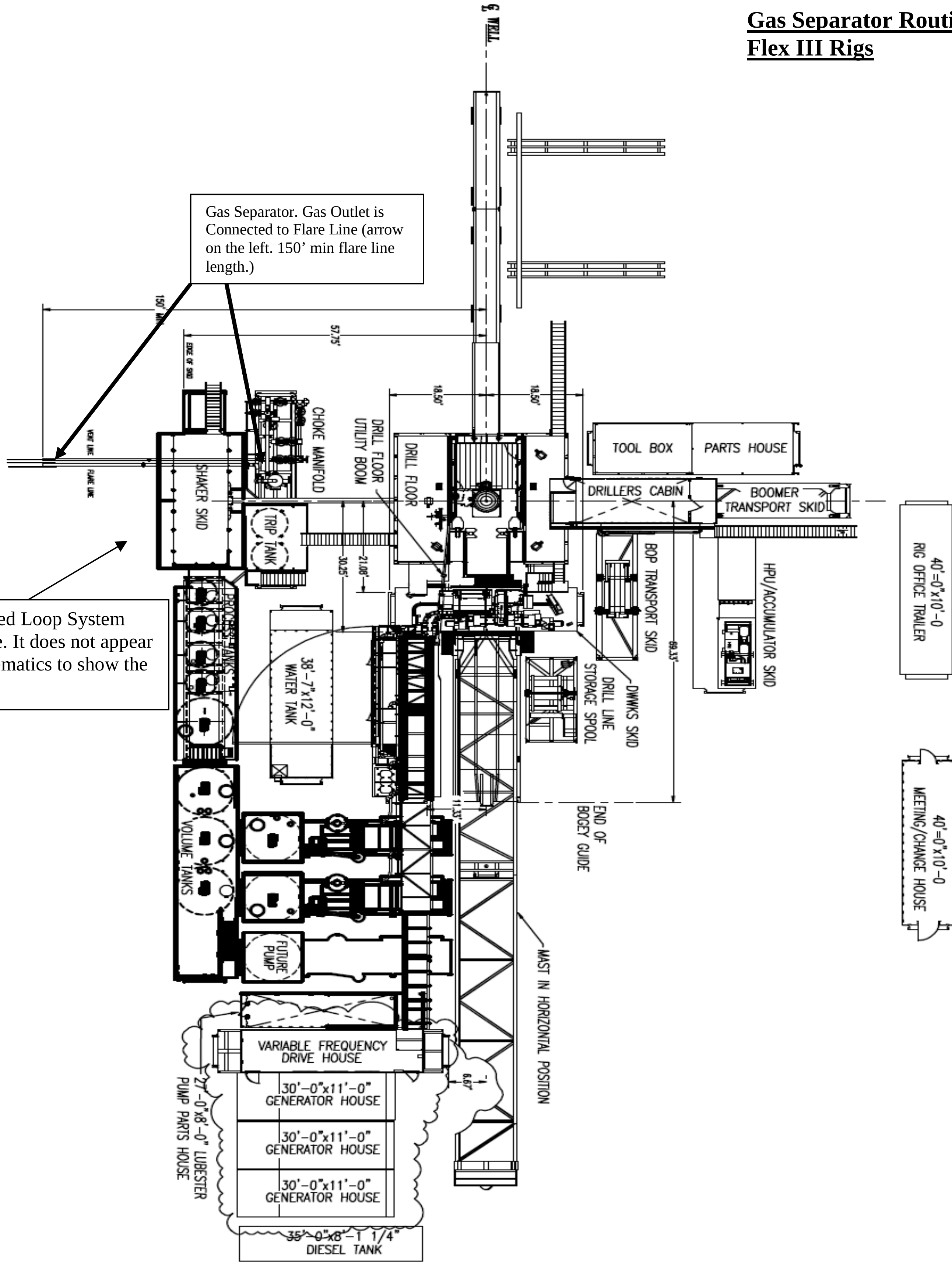
21. Vertical Choke Manifold Valve

***All Valves 3" minimum**

10M REMOTE
KILL LINE SCHEMATIC



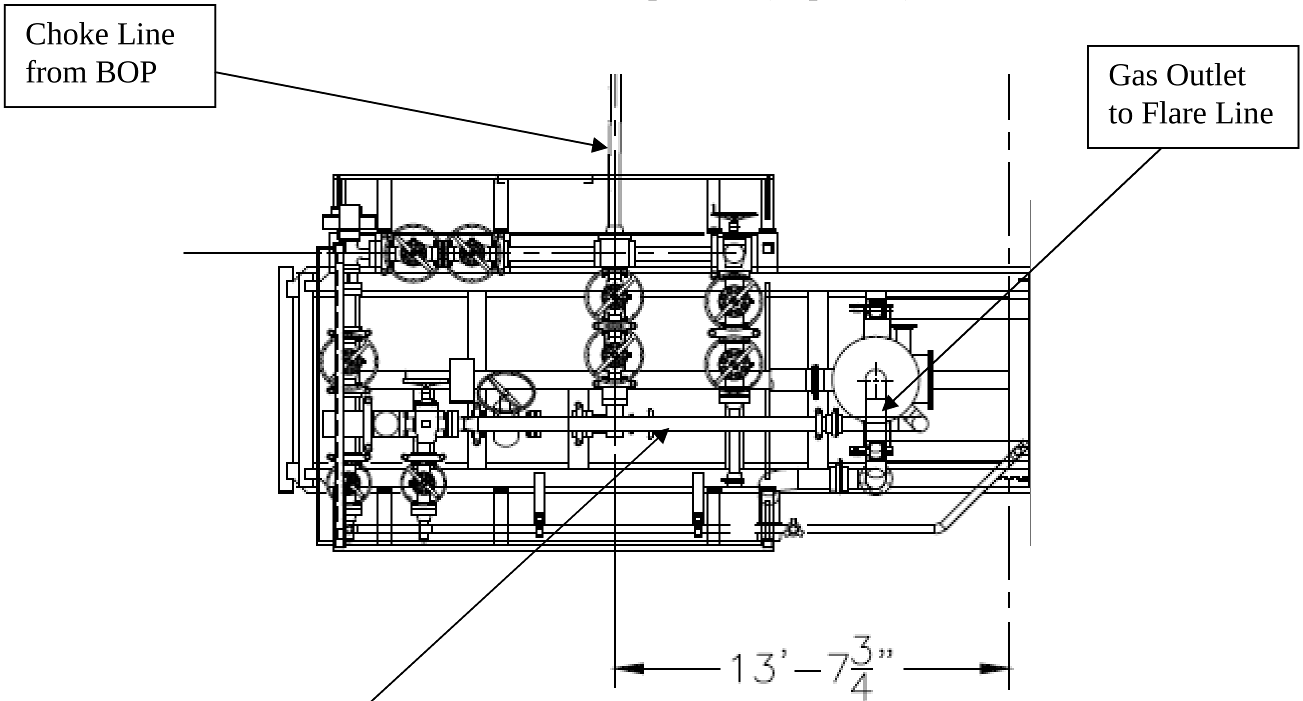
Gas Separator Routing
Flex III Rigs



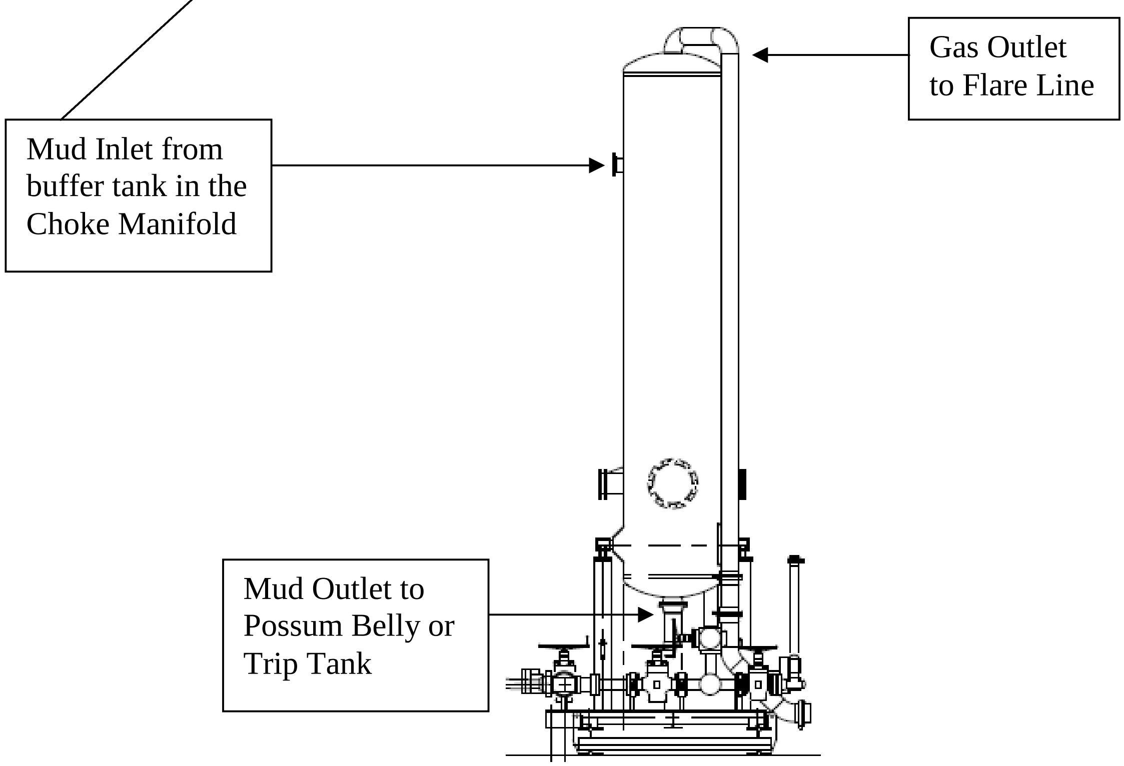
Gas Separator. Gas Outlet is Connected to Flare Line (arrow on the left. 150' min flare line length.)

Note: Closed Loop System placed here. It does not appear on the schematics to show the flare line.

Choke Manifold – Gas Separator (Top View)



Choke Manifold – Gas Separator (Side View)



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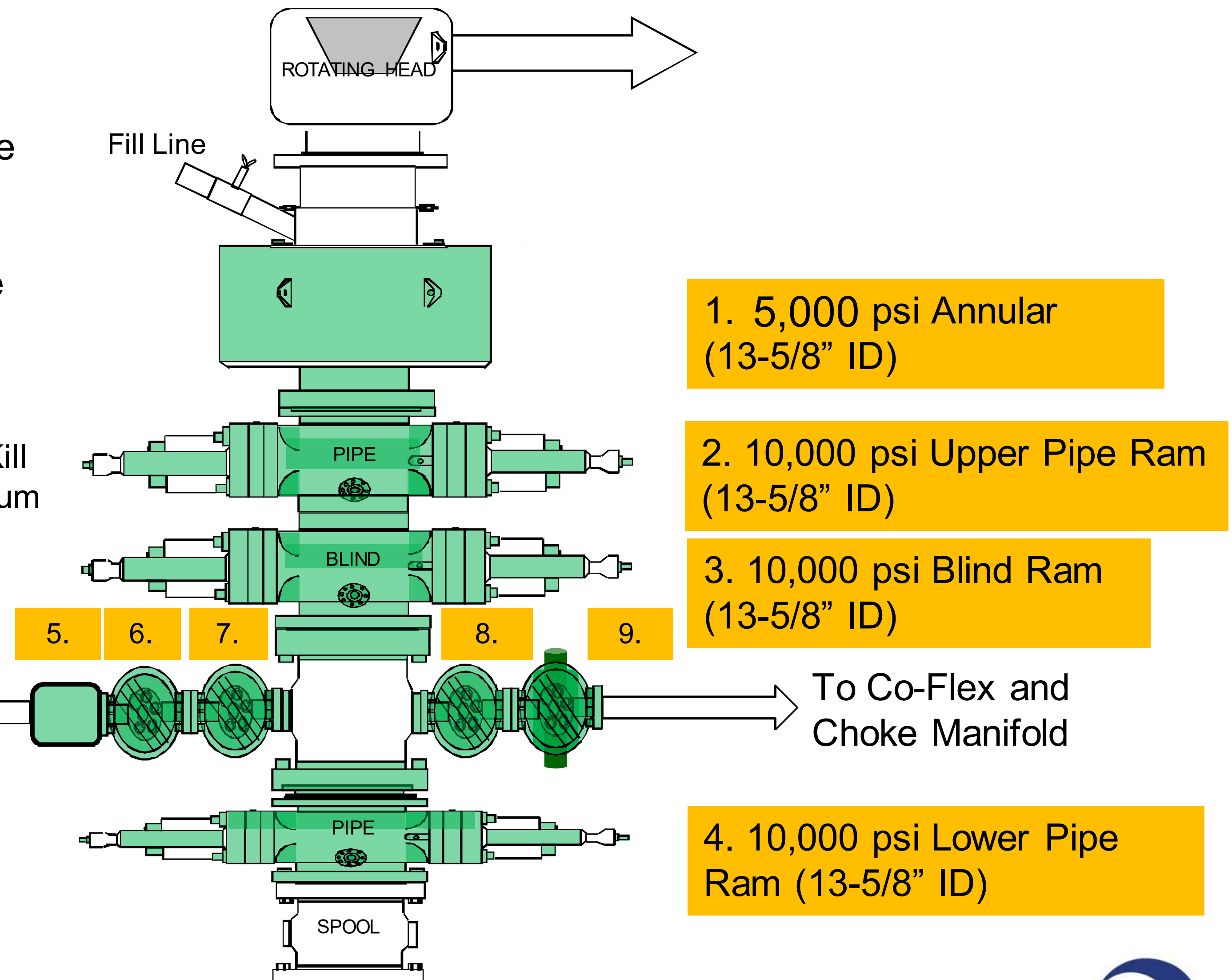
5/10M BOP Stack

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



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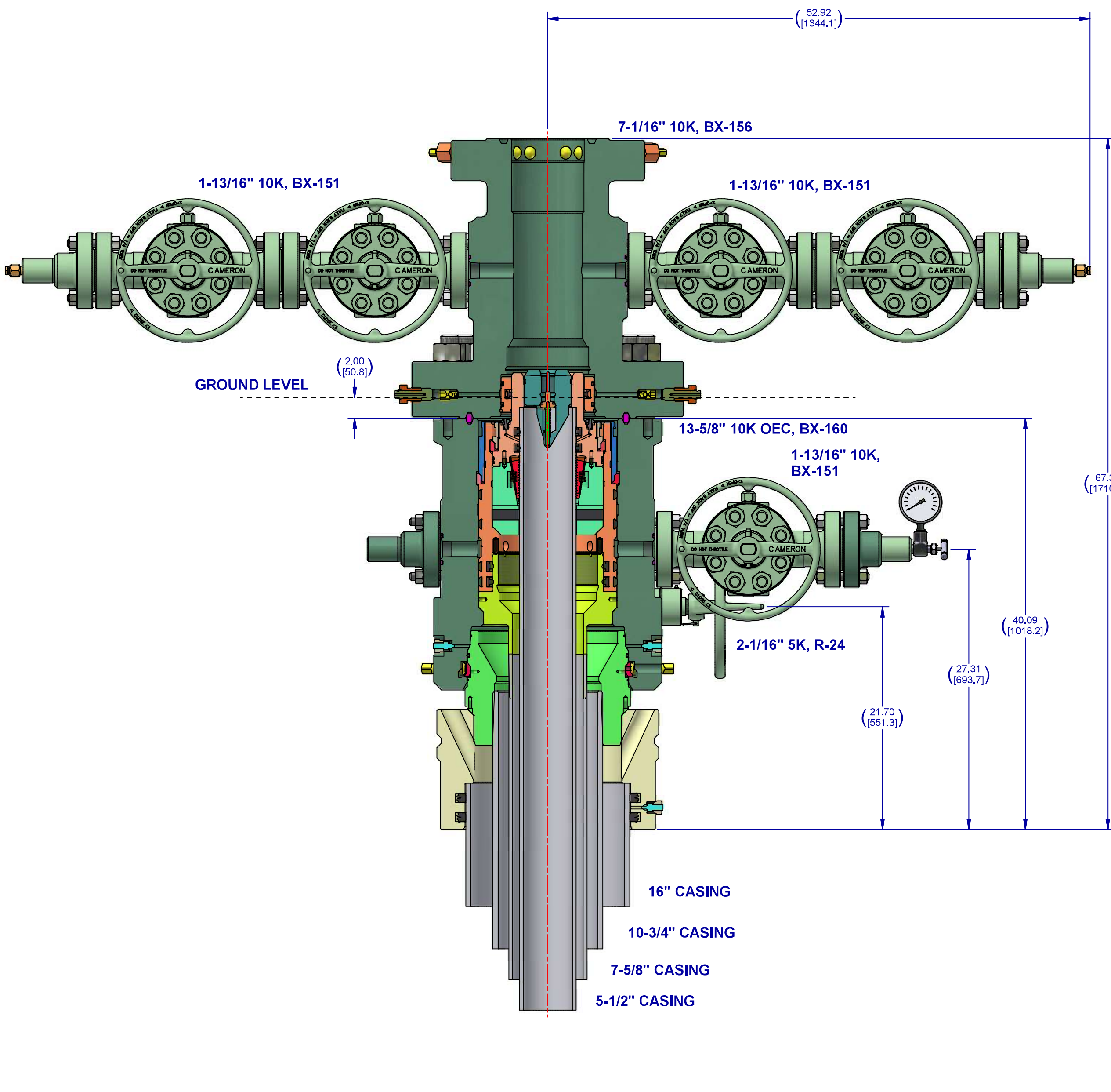


Notes:

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

Continental CONTITECH

Fluid Technology

Quality Document

CERTIFICATE OF CONFORMITY

Supplier : CONTITECH RUBBER INDUSTRIAL KFT.
Equipment : 6 pcs. Choke and Kill Hose with installed couplings
Type : **3" x 10,67 m WP: 10000 psi**
Supplier File Number : 412638
Date of Shipment : April. 2008
Customer : Phoenix Beattie Co.
Customer P.o. : 002491
Referenced Standards
/ Codes / Specifications : API Spec 16 C
Serial No.: 52754,52755,52776,52777,52778,52782

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

Signed : ....

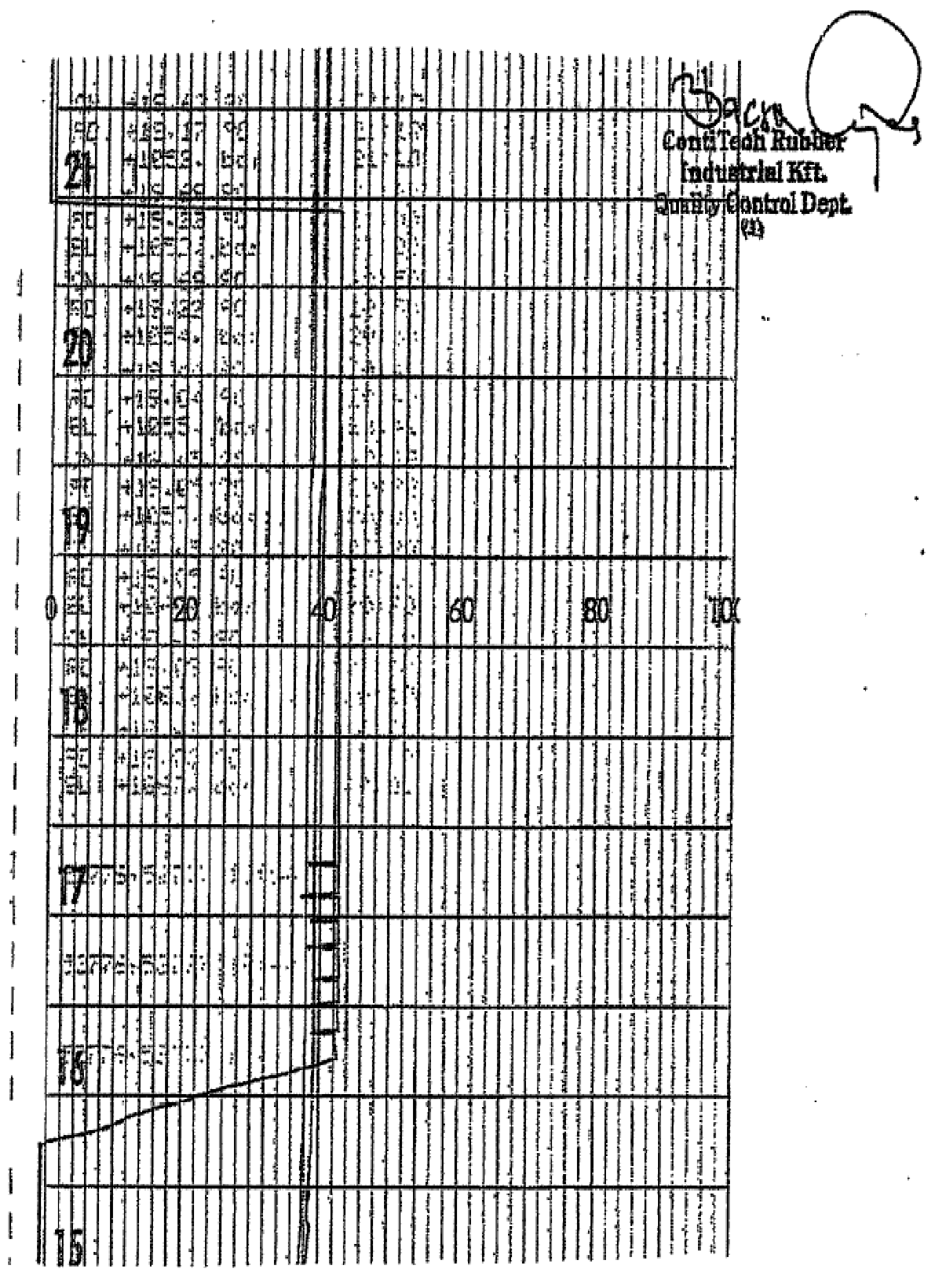
ContiTech Rubber
Industrial Kft.
Quality Control Dept.
(1)

Date: 04. April. 2008

Position: Q.C. Manager

Coflex Hose Certification

Page: 1/1



Coflex Hose Certification

PHOENIX Beattie

Material Identification Certificate

PA No	006330	Client	HELMERICH & PAYNE INT'L DRILLING	Client Ref	370-369-001	Page	1

Part No	Description	Material Desc	Material Spec	Qty	WO No	Batch No	Test Cert No	Bin No	Drg No	Issue No
HP10CK3A-35-4F1	3" 10K 16C C&K HOSE x 35ft OAL			1	2491	52777/H884		WATER		
SECK3-HPF3	LIFTING & SAFETY EQUIPMENT TO			1	2440	002440		N/STK		
SC725-200CS	SAFETY CLAMP 200MM 7.25T	CARBON STEEL		1	2519	H665		22C		
SC725-132CS	SAFETY CLAMP 132MM 7.25T	CARBON STEEL		1	2242	H139		22		

We hereby certify that these goods have been inspected by our Quality Management System, and to the best of our knowledge are found to conform to relevant industry standards within the requirements of the purchase order as issued to Phoenix Beattie Corporation.

05/23/08.

Coflex Hose Certification

Form No 100/12

PHOENIX Beattie

Phoenix Beattie Corp
11535 Brittmoore Park Drive
Houston, TX 77041
Tel: (832) 327-0141
Fax: (832) 327-0148
E-mail mail@phoenixbeattie.com
www.phoenixbeattie.com

Delivery Note

Customer Order Number	370-369-001	Delivery Note Number	003078	Page	1

Customer / Invoice Address	Delivery / Address
HELMERICH & PAYNE INT'L DRILLING CO 1437 SOUTH BOULDER TULSA, OK 74119	HELMERICH & PAYNE IDC ATTN: JOE STEPHENSON - RIG 370 13609 INDUSTRIAL ROAD HOUSTON, TX 77015

Customer Acc No	Phoenix Beattie Contract Manager	Phoenix Beattie Reference	Date
H01	JJL	006330	05/23/2008

Item No	Beattie Part Number / Description	Qty Ordered	Qty Sent	Qty To Follow
1	HP10CK3A-35-4F1 3" 10K 16C C&K HOSE x 35ft OAL CW 4.1/16" API SPEC FLANGE E/ End 1: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange End 2: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange c/w BX155 Standard ring groove at each end Suitable for H2S Service Working pressure: 10,000psi Test pressure: 15,000psi Standard: API 16C Full specification Armor Guarding: Included Fire Rating: Not Included Temperature rating: -20 Deg C to +100 Deg C	1	1	0
2	SECK3-HPF3 LIFTING & SAFETY EQUIPMENT TO SUIT HP10CK3-35-F1 2 x 160mm ID Safety Clamps 2 x 244mm ID Lifting Collars & element C's 2 x 7ft Stainless Steel wire rope 3/4" OD 4 x 7.75t Shackles	1	1	0
3	SC725-200CS SAFETY CLAMP 200MM 7.25T C/S GALVANISED	1	1	0

Continued...

Coflex Hose Certification

Continental CONTITECH

Fluid Technology

Quality Document

<table>
<tr><td colspan="4">QUALITY CONTROL
INSPECTION AND TEST CERTIFICATE</td><td colspan="2">CERT. N°: 746</td></tr>
<tr><td>PURCHASER:</td><td colspan="3">Phoenix Beattie Co.</td><td colspan="2">P.O. N°: 002491</td></tr>
<tr><td>CONTITECH ORDER N°:</td><td>412638</td><td colspan="4">HOSE TYPE: 3" ID Choke and Kill Hose</td></tr>
<tr><td>HOSE SERIAL N°:</td><td>52777</td><td colspan="4">NOMINAL / ACTUAL LENGTH: 10,67 m</td></tr>
<tr><td colspan="2">W.P. 68,96 MPa 10000 psi</td><td colspan="2">T.P. 103,4 MPa 15000 psi</td><td colspan="2">Duration: 60 ~ min.</td></tr>
<tr><td colspan="6">Pressure test with water at
ambient temperature

See attachment. (1 page)

↑ 10 mm = 10 Min.
→ 10 mm = 25 MPa</td></tr>
<tr><td colspan="6">COUPLINGS</td></tr>
<tr><td>Type</td><td colspan="2">Serial N°</td><td>Quality</td><td colspan="2">Heat N°</td></tr>
<tr><td>3" coupling with
4 1/16" Flange end</td><td>917</td><td>913</td><td>AISI 4130
AISI 4130</td><td colspan="2">T7998A
26984</td></tr>
<tr><td colspan="6">INFOCHIP INSTALLED
API Spec 16 C
Temperature rate:"B"

All metal parts are flawless</td></tr>
<tr><td colspan="6">WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.</td></tr>
<tr><td colspan="2">Date:
04. April. 2008</td><td colspan="2">Inspector</td><td colspan="2">Quality Control
ContiTech Rubber Industrial Kft. Quality Control Dept. (1)</td></tr>
</table>

Coflex Hose Certification

Form No 100/12

PHOENIX Beattie

Phoenix Beattie Corp
11535 Brittmoore Park Drive
Houston, TX 77041
Tel: (832) 327-0141
Fax: (832) 327-0148
E-mail mail@phoenixbeattie.com
www.phoenixbeattie.com

Delivery Note

Customer Order Number	370-369-001	Delivery Note Number	003078	Page	2

Customer / Invoice Address
HELMERICH & PAYNE INT'L DRILLING CO
1437 SOUTH BOULDER
TULSA, OK
74119

Delivery / Address
HELMERICH & PAYNE IDC
ATTN: JOE STEPHENSON - RIG 370
13609 INDUSTRIAL ROAD
HOUSTON, TX
77015

Customer Acc No	Phoenix Beattie Contract Manager	Phoenix Beattie Reference	Date
H01	JJL	006330	05/23/2008

Item No	Beattie Part Number / Description	Qty Ordered	Qty Sent	Qty To Follow
4	SC725-132CS SAFETY CLAMP 132MM 7.25T C/S GALVANIZED C/W BOLTS	1	1	0
5	00CERT-HYDRO HYDROSTATIC PRESSURE TEST CERTIFICATE	1	1	0
6	00CERT-LOAD LOAD TEST CERTIFICATES	1	1	0
7	00FREIGHT INBOUND / OUTBOUND FREIGHT PRE-PAY & ADD TO FINAL INVOICE NOTE: MATERIAL MUST BE ACCOMPANIED BY PAPERWORK INCLUDING THE PURCHASE ORDER, RIG NUMBER TO ENSURE PROPER PAYMENT	1	1	0

Phoenix Beattie Inspection Signature : ____________

Received In Good Condition : Signature ____________

Print Name ____________

Date ____________

All goods remain the property of Phoenix Beattie until paid for in full. Any damage or shortage on this delivery must be advised within 5 days. Returns may be subject to a handling charge.

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.

TenarisHydril

5.500" 20.00 lb/ft P110-CY TenarisHydril Wedge 461™ Matched Strength

Special Data Sheet
TH DS-20.0359
12 August 2020
Rev 00

Nominal OD	5.500 in.	**Wall Thickness**	0.361 in.	**Grade**	P110-CY
Min Wall Thickness	87.5%	**Type**	CASING	**Connection OD Option**	MATCHED STRENGTH

Pipe Body Data

Geometry				Performance	
Nominal OD	5.500 in.	**Nominal ID**	4.778 in.	**Body Yield Strength**	641 x 1000 lbs
Nominal Weight	20.00 lbs/ft	**Wall Thickness**	0.361 in.	**Internal Yield**	12640 psi
Standard Drift Diameter	4.653 in.	**Plain End Weight**	19.83 lbs/ft	**SMYS**	110000 psi
Special Drift Diameter	N/A	**OD Tolerance**	API	**Collapse Pressure**	11110 psi

Connection Data

Geometry		Performance		Make-up Torques	
Matched Strength OD	6.050 in.	**Tension Efficiency**	100%	**Minimum**	17000 ft-lbs
Make-up Loss	3.775 in.	**Joint Yield Strength**	641 x 1000 lbs	**Optimum**	18000 ft-lbs
Threads per in.	3.40	**Internal Yield**	12640 psi	**Maximum**	21600 ft-lbs
Connection OD Option	MATCHED STRENGTH	**Compression Efficiency**	100%	Operational Limit Torques	
Coupling Length	7.714 in.	**Compression Strength**	641 x 1000 lbs	**Operating Torque**	32000 ft-lbs
		Bending	92 °/100 ft	**Yield Torque**	38000 ft-lbs
		Collapse	11110 psi	Buck-On Torques	
				Minimum	21600 ft-lbs
				Maximum	23100 ft-lbs

Notes

*If you need to use torque values that are higher than the maximum indicated, please contact a local Tenaris technical sales representative

Tenaris

TenarisHydril Wedge 463®

Coupling	Pipe Body
Grade: **P110-S**	Grade: **P110-S**
Body: **White**	1st Band: **White**
1st Band: **Orange**	2nd Band: **Orange**
2nd Band: **-**	3rd Band: **-**
3rd Band: **-**	4th Band: **-**
	5th Band: **-**
	6th Band: **-**

Outside Diameter	7.827 in.	**Wall Thickness**	0.500 in.	**Grade**	P110-S
Min. Wall Thickness	87.50 %	**Pipe Body Drift**	Special Drift	**Type**	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry

Nominal OD	7.827 in.	**Wall Thickness**	0.500 in.
Nominal Weight	39.30 lb/ft	**Plain End Weight**	39.16 lb/ft
Drift	6.750 in.	**OD Tolerance**	API
Nominal ID	6.827 in.		

Performance

Body Yield Strength	1266 x1000 lb
Min. Internal Yield Pressure	12,300 psi
SMYS	110,000 psi
Collapse Pressure	10,490 psi

Connection Data

Geometry

Connection OD	8.500 in.
Coupling Length	10.950 in.
Connection ID	6.814 in.
Make-up Loss	4.520 in.
Threads per inch	3.25
Connection OD Option	Regular

Performance

Tension Efficiency	100 %
Joint Yield Strength	1266 x1000 lb
Internal Pressure Capacity	12,300 psi
Compression Efficiency	100 %
Compression Strength	1266 x1000 lb
Max. Allowable Bending	64.42 °/100 ft
External Pressure Capacity	10,490 psi
Coupling Face Load	414,177 lb

Make-Up Torques

Minimum	22,000 ft-lb
Optimum	23,000 ft-lb
Maximum	27,000 ft-lb

Operation Limit Torques

Operating Torque	61,000 ft-lb
Yield Torque	70,000 ft-lb

Buck-On

Minimum	26,000 ft-lb
Maximum	29,000 ft-lb

Notes

For the lastest performance data, always visit our website: www.tenaris.com
For further information on concepts indicated in this datasheet, download the Datasheet Manual from www.tenaris.com

PII/CII

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

CONDITIONS

Action 350064

CONDITIONS

Operator:	
OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 350064
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify OCD 24 hours prior to casing & cement	8/14/2024
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	8/14/2024
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	8/14/2024
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	8/14/2024
ward.rikala	If cement does not circulate on any string, a CBL is required for that string of casing	8/14/2024
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	8/14/2024