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.
NMNM42814

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.
REGAL LAGER 31 19 FEDERAL COM 44H

2. Name of Operator
OXY USA INCORPORATED

9. API Well No.
30-025-55215

3a. Address
5 GREENWAY PLAZA SUITE 110, HOUSTON, TX 77046

3b. Phone No. *(include area code)*
(713) 366-5716

10. Field and Pool, or Exploratory
WC-025 G-09 S213232A/UPR WOLFCAM

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface LOT 1 / 887 FNL / 1037 FEL / LAT 32.4253975 / LONG -103.7087635
At proposed prod. zone NENE / 20 FNL / 330 FEL / LAT 32.4713446 / LONG -103.7065065

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 6/T22S/R32E/NMP

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

12. County or Parish
LEA

13. State
NM

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

16. No of acres in lease

17. Spacing Unit dedicated to this well
960.0

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

19. Proposed Depth
11907 feet / 28218 feet

20. BLM/BIA Bond No. in file
FED: ESB000226

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3632 feet

22. Approximate date work will start*
04/01/2026

23. Estimated duration
45 days

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
(Electronic Submission)

Name *(Printed/Typed)*
MELISSA GUIDRY / Ph: (713) 366-5716

Date
05/15/2025

Title
Advisor Regulatory Sr.

Approved by *(Signature)*
(Electronic Submission)

Name *(Printed/Typed)*
CODY LAYTON / Ph: (575) 234-5959

Date
08/08/2025

Title
Assistant Field Manager Lands & Minerals

Office
Carlsbad Field 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.

*Per 19.15.14.9 NMAC, OXY USA Inc. certifies no addition of PFAS chemicals to fluids used in the completion of recompletion of the subject well.

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 08/08/2025

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the wen, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionany drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160
PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.
ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

(Continued on page 3)

Additional Operator Remarks

Location of Well

0. SHL: LOT 1 / 887 FNL / 1037 FEL / TWSP: 22S / RANGE: 32E / SECTION: 6 / LAT: 32.4253975 / LONG: -103.7087635 (TVD: 0 feet, MD: 0 feet)

PPP: SENE / 2640 FSL / 331 FEL / TWSP: 21S / RANGE: 32E / SECTION: 19 / LAT: 32.46414 / LONG: -103.7065015 (TVD: 11964 feet, MD: 25596 feet)

PPP: NENE / 1321 FNL / 331 FEL / TWSP: 21S / RANGE: 32E / SECTION: 30 / LAT: 32.4532511 / LONG: -103.7064941 (TVD: 12051 feet, MD: 21433 feet)

PPP: SENE / 2641 FSL / 332 FEL / TWSP: 21S / RANGE: 32E / SECTION: 30 / LAT: 32.449619 / LONG: -103.7064917 (TVD: 12079 feet, MD: 20312 feet)

PPP: SESE / 0 FSL / 332 FEL / TWSP: 21S / RANGE: 32E / SECTION: 30 / LAT: 32.44236 / LONG: -103.7064867 (TVD: 12137 feet, MD: 17670 feet)

PPP: SESE / 100 FSL / 330 FEL / TWSP: 21S / RANGE: 32E / SECTION: 31 / LAT: 32.4281194 / LONG: -103.7064769 (TVD: 12246 feet, MD: 12663 feet)

BHL: NENE / 20 FNL / 330 FEL / TWSP: 21S / RANGE: 32E / SECTION: 19 / LAT: 32.4713446 / LONG: -103.7065065 (TVD: 11907 feet, MD: 28218 feet)

BLM Point of Contact

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

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals, & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024 PAGE 1 OF 2 Submittal Type: [X] Initial Submittal [ ] Amended Report [ ] As Drilled

WELL LOCATION INFORMATION

API Number	Pool Code	Pool Name
30-025 -55215	98313	WC-025 G-09 S213232A; UPR WOLFCAMP

Property Code	Property Name	Well Number
335225	REGAL LAGER 31_19 FED COM	44H

OGRID No.	Operator Name	Ground Level Elevation
16696	OXY USA INC.	3632'

Surface Owner: [ ] State [ ] Fee [ ] Tribal [✓] Federal

Mineral Owner: [ ] State [ ] Fee [ ] Tribal [✓] Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
	06	22S	32E	1	887' FNL	1037' FEL	32.42539756	-103.70876351	LEA

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
A	19	21S	32E		20' FNL	330' FEL	32.47134460	-103.70650653	LEA

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
960.00	INFILL	35H - 30-025-52492	N	N/A

Order Numbers: N/A

Well setbacks are under Common Ownership: [ ] Yes [✓] No

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
	06	22S	32E	1	300' FNL	330' FEL	32.42701997	-103.70647474	LEA

First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
P	31	21S	32E		100' FSL	330' FEL	32.42811946	-103.70647699	LEA

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
A	19	21S	32E		100' FNL	330' FEL	32.47112470	-103.70650633	LEA

Unitized Area or Area of Uniform Interest	Spacing Unit Type:	Ground Floor Elevation
N	[X] Horizontal [ ] Vertical	3632'

OPERATOR CERTIFICATIONS

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

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

Melissa Guidry — Signature

05/15/25 — Date

Melissa Guidry — Printed Name

melissa_guidry@oxy.com — Email Address

SURVEYOR CERTIFICATIONS

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.

LLOYD P. SHORT NEW MEXICO 21653 PROFESSIONAL SURVEYOR

Signature and Seal of Professional Surveyor

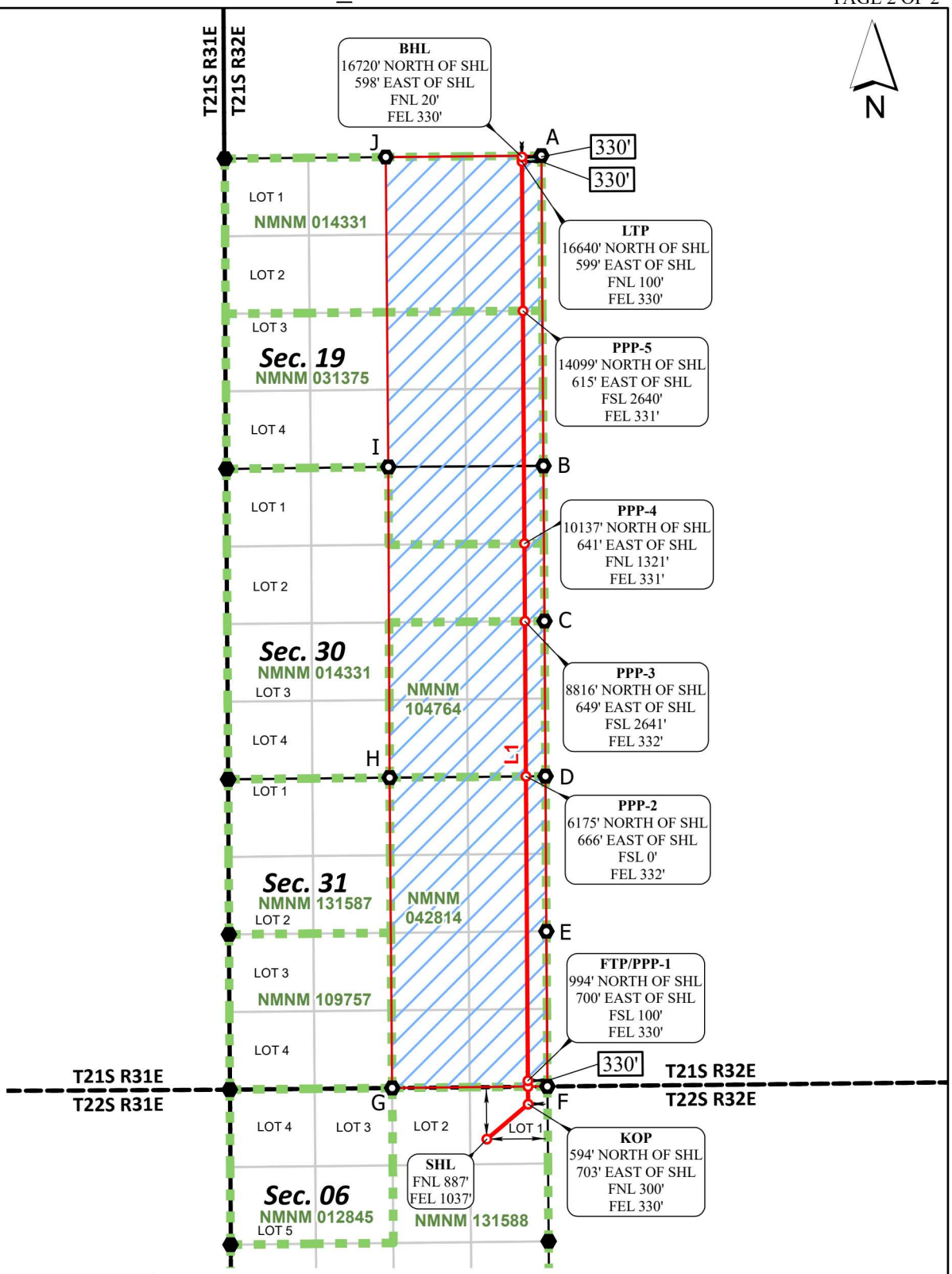
Certificate Number	Date of Survey
21653	MARCH 06, 2025

Note: 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.

ACREAGE DEDICATION PLATS

REGAL LAGER 31_19 FED COM 44H

BHL (NAD83)	X:734647.38' / Y:535773.76' LAT:32.47134460 / LON:-103.70650653
BHL (NAD27)	X:693465.87' / Y:535712.48' LAT:32.47122224 / LON:-103.70601514
LTP (NAD83)	X:734647.91' / Y:535693.76' LAT:32.47112470 / LON:-103.70650633
LTP (NAD27)	X:693466.40' / Y:535632.48' LAT:32.47100234 / LON:-103.70601494
PPP-5 (NAD83)	X:734664.30' / Y:533152.73' LAT:32.46414007 / LON:-103.70650158
PPP-5 (NAD27)	X:693482.71' / Y:533091.52' LAT:32.46401767 / LON:-103.70601047
PPP-4 (NAD83)	X:734689.85' / Y:529191.32' LAT:32.45325117 / LON:-103.70649417
PPP-4 (NAD27)	X:693508.15' / Y:529130.22' LAT:32.45312872 / LON:-103.70600348
PPP-3 (NAD83)	X:734698.37' / Y:527869.93' LAT:32.44961901 / LON:-103.70649170
PPP-3 (NAD27)	X:693516.63' / Y:527808.86' LAT:32.44949654 / LON:-103.70600114
PPP-2 (NAD83)	X:734715.40' / Y:525229.09' LAT:32.44236000 / LON:-103.70648674
PPP-2 (NAD27)	X:693533.59' / Y:525168.10' LAT:32.44223751 / LON:-103.70599646
FTP/PPP-1 (NAD83)	X:734748.81' / Y:520048.36' LAT:32.42811946 / LON:-103.70647699
FTP/PPP-1 (NAD27)	X:693566.85' / Y:519987.51' LAT:32.42799689 / LON:-103.70598726
KOP (NAD83)	X:734751.85' / Y:519648.37' LAT:32.42701997 / LON:-103.70647474
KOP (NAD27)	X:693569.88' / Y:519587.53' LAT:32.42689740 / LON:-103.70598505
SHL (NAD83)	X:734049.10' / Y:519054.00' LAT:32.42539756 / LON:-103.70876351
SHL (NAD27)	X:692867.12' / Y:518993.17' LAT:32.42527500 / LON:-103.70827381



CORNER COORDINATES NAD 83, SPCS NM EAST	CORNER COORDINATES NAD 27, SPCS NM EAST
A - X: 734977.23' / Y:535796.89'	A - X: 693795.72' / Y:535735.61'
B - X: 735012.41' / Y:530514.97'	B - X: 693830.75' / Y:530453.83'
C - X: 735030.06' / Y:527873.16'	C - X: 693848.32' / Y:527812.09'
D - X: 735046.93' / Y:525232.15'	D - X: 693865.12' / Y:525171.15'
E - X: 735062.69' / Y:522591.85'	E - X: 693880.81' / Y:522530.93'
F - X: 735079.43' / Y:519951.78'	F - X: 693897.47' / Y:519890.92'
G - X: 732437.70' / Y:519924.46'	G - X: 691255.76' / Y:519863.61'
H - X: 732394.30' / Y:525207.68'	H - X: 691212.51' / Y:525146.69'
I - X: 732373.28' / Y:530496.94'	I - X: 691191.64' / Y:530435.81'
J - X: 732329.68' / Y:535771.80'	J - X: 691148.19' / Y:535710.52'

*FTP TO LTP LINE BEARINGS

LINE	BEARING
L1	N 00°22'10" W ~ 15645.72'

*FTP TO LTP LEASE DISTANCES

TRACT	DISTANCE
NMNM 042814	5180.84'
NMNM 104764	2640.89'
NMNM 014331	3862.50'
NMNM 031375	3961.49'
TOTAL	15645.72'

DELTA FIELD SERVICES

Drill Line Events · Section Corners · Drill Line · Dimension Lines · Federal Leases · HSU · HSU Corners

JOB No. OXY_0007_RL02_14695
REV 3 NDS 2/27/2025

All bearings and coordinates refer to New Mexico State Plane Coordinate System, East Zone, U.S. Survey Feet.

Distances/areas relative to NAD 83 grid measurements. Combined Scale Factor: 0.99977642 and a Convergence Angle: 0.32750833°

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:** 0 5/ 0 7/ 2 5

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: Lost Tank 5 CPF [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:	Melissa Guidry
Printed Name:	Melissa Guidry
Title:	Regulatory Advisor Sr.
E-mail Address:	melissa_guidry@oxy.com
Date:	05/07/25
Phone:	713-497-2481

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

Received by OCD: 8/12/2025 1:46:56 PM

V. Anticipated Schedule

Well Name	API	WELL LOCATION (ULSTR)	Footages	ANTICIPATED OIL BBL/D	ANTICIPATED GAS MCF/D	ANTICIPATED PROD WATER BBL/D
REGAL LAGER 31_19 FED COM 41H	Pending	G-6-T22S-R32E	1638' FNL 2542' FEL	3,000	7,000	5,300
REGAL LAGER 31_19 FED COM 42H	Pending	G-6-T22S-R32E	1638' FNL 2512' FEL	3,000	7,000	5,300
REGAL LAGER 31_19 FED COM 43H	Pending	A-6-T22S-R32E	762' FNL 1067' FEL	3,000	7,000	5,300
REGAL LAGER 31_19 FED COM 44H	Pending	A-6-T22S-R32E	887' FNL 1037' FEL	3,000	7,000	5,300
REGAL LAGER 31_19 FED COM 45H	Pending	A-6-T22S-R32E	764' FNL 887' FEL	3,000	7,000	5,300

Released to Imaging: 9/18/2025 2:48:50 PM

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V. Anticipated Schedule

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
REGAL LAGER 31_19 FED COM 41H	Pending	1/1/2030	02/04/2030	03/06/2030	04/05/2030	04/10/2030
REGAL LAGER 31_19 FED COM 42H	Pending	1/1/2030	02/04/2030	03/06/2030	04/05/2030	04/10/2030
REGAL LAGER 31_19 FED COM 43H	Pending	1/1/2030	02/04/2030	03/06/2030	04/05/2030	04/10/2030
REGAL LAGER 31_19 FED COM 44H	Pending	1/1/2030	02/04/2030	03/06/2030	04/05/2030	04/10/2030
REGAL LAGER 31_19 FED COM 45H	Pending	1/1/2030	02/04/2030	03/06/2030	04/05/2030	04/10/2030

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Central Delivery Point Name : Lost Tank 5 CPF

Part VI. Separation Equipment

Operator will size the flowback separator to handle 12,000 Bbls of fluid and 6-10MMscfd 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.

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VII. Operational Practices

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility and fluids will be sent to the facility after initial flowback operations are complete, where a gas transporter system is in place. The gas produced from production facility will be dedicated to MarkWest Energy West Texas Gas Company LLC ("MarkWest") and will be connected to MarkWest's high pressure gathering system located in Lea and Eddy Counties, New Mexico and Loving and Culberson Counties, TX. OXY USA INC. ("OXY") will provide (periodically) to MarkWest a production forecast for wells being sent to their system. In addition, OXY and MarkWest will have periodic conference calls to discuss changes to production forecasts arising out of changes to drilling and completion schedules. Gas from these wells will be processed at MarWest's Preakness and Tornado Processing Plants located in Culberson County, TX and Loving County, Texas respectively. 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 MPLX 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.

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VIII. Best Management Practices

Alternatives to Reduce Flaring

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

Power Generation – On lease

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

Compressed Natural Gas – On lease

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

NGL Removal – On lease

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

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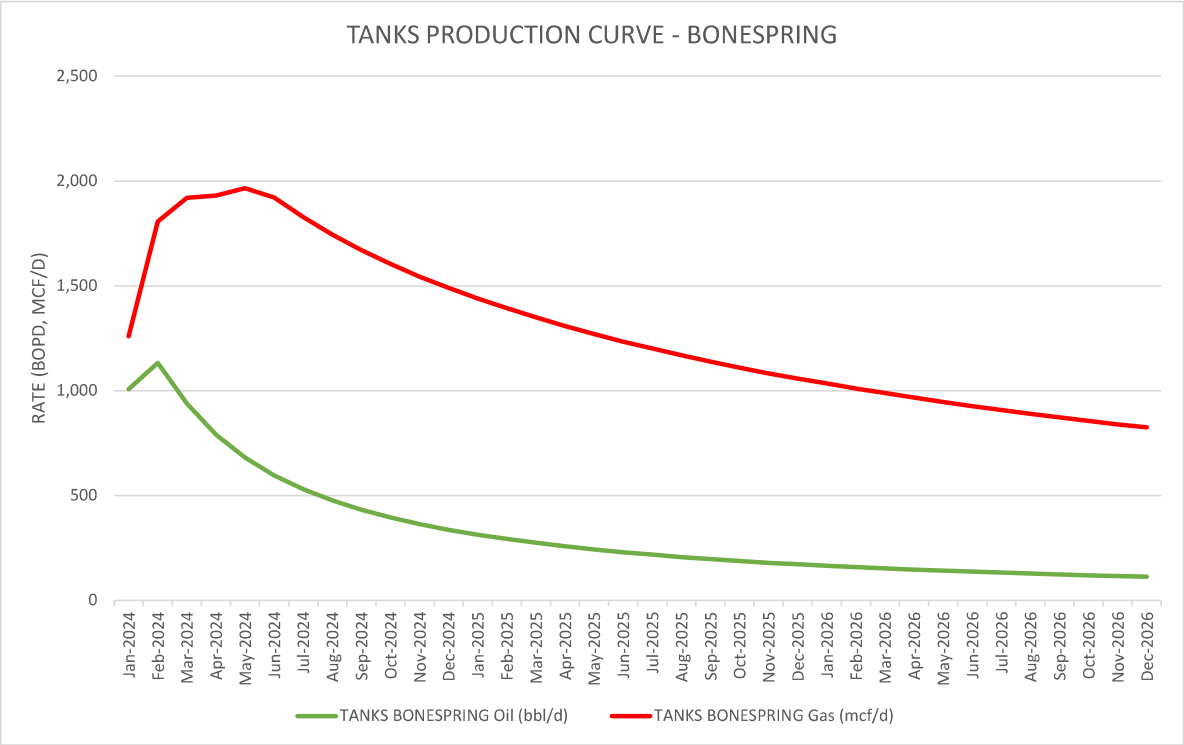
	TANKS BONESPRING	
	Oil (bbl/d)	Gas (mcf/d)
Jan-2024	1,006	1,259
Feb-2024	1,133	1,807
Mar-2024	938	1,919
Apr-2024	790	1,931
May-2024	681	1,965
Jun-2024	596	1,922
Jul-2024	530	1,827
Aug-2024	477	1,744
Sep-2024	432	1,671
Oct-2024	395	1,604
Nov-2024	363	1,543
Dec-2024	337	1,490
Jan-2025	314	1,441
Feb-2025	293	1,393
Mar-2025	274	1,350
Apr-2025	258	1,309
May-2025	243	1,271
Jun-2025	229	1,234
Jul-2025	218	1,200
Aug-2025	207	1,169
Sep-2025	197	1,139
Oct-2025	188	1,110
Nov-2025	179	1,083
Dec-2025	172	1,058
Jan-2026	165	1,034
Feb-2026	159	1,011
Mar-2026	152	988
Apr-2026	147	967
May-2026	141	947
Jun-2026	136	927
Jul-2026	132	908
Aug-2026	127	890
Sep-2026	123	873
Oct-2026	120	856
Nov-2026	116	840
Dec-2026	112	825



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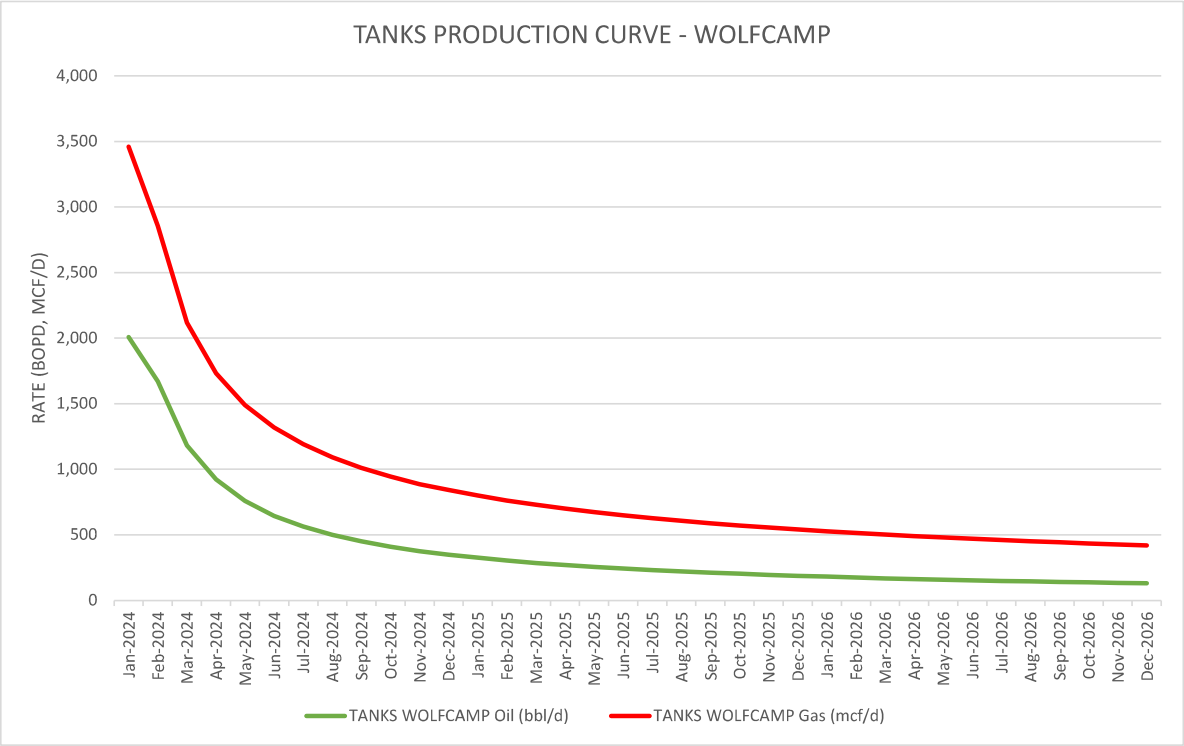
	TANKS WOLFCAMP	
	Oil (bbl/d)	Gas (mcf/d)
Jan-2024	2,008	3,461
Feb-2024	1,671	2,856
Mar-2024	1,182	2,118
Apr-2024	921	1,733
May-2024	758	1,490
Jun-2024	644	1,317
Jul-2024	562	1,190
Aug-2024	500	1,091
Sep-2024	450	1,011
Oct-2024	410	944
Nov-2024	376	887
Dec-2024	349	841
Jan-2025	325	800
Feb-2025	304	763
Mar-2025	286	730
Apr-2025	270	700
May-2025	256	674
Jun-2025	243	649
Jul-2025	231	627
Aug-2025	221	607
Sep-2025	211	589
Oct-2025	203	571
Nov-2025	194	555
Dec-2025	187	541
Jan-2026	181	528
Feb-2026	175	515
Mar-2026	169	502
Apr-2026	163	491
May-2026	158	480
Jun-2026	153	470
Jul-2026	149	460
Aug-2026	145	451
Sep-2026	141	442
Oct-2026	137	434
Nov-2026	133	426
Dec-2026	130	419



Oxy USA Inc. - Regal Lager 31_19 Fed Com 44H
Drill Plan

1. Geologic Formations

TVD of Target (ft):	12246	Pilot Hole Depth (ft):	
Total Measured Depth (ft):	28218	Deepest Expected Fresh Water (ft):	802

Delaware Basin

Formation	MD-RKB (ft)	TVD-RKB (ft)	Expected Fluids
Rustler	802	802	
Salado	1035	1035	Salt
Marker Bed 126			Salt
Castile	2533	2533	Salt
Delaware	4559	4559	Oil/Gas/Brine
Bell Canyon	4631	4631	Oil/Gas/Brine
Cherry Canyon	5471	5471	Oil/Gas/Brine
Brushy Canyon	6744	6744	Losses
Bone Spring	8561	8537	Oil/Gas
Bone Spring 1st	9604	9564	Oil/Gas
Bone Spring 2nd	10305	10255	Oil/Gas
Bone Spring 3rd	11316	11250	Oil/Gas
Wolfcamp	11764	11692	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	17.5	0	862	0	862	13.375	54.5	J-55	BTC
Intermediate	9.875	0	11718	0	11645	7.625	26.4	L-80 HC	BTC
Production	6.75	0	28218	0	12246	5.5	20	P-110	Sprint-SF

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

*Oxy requests the option to run the 10.75" Intermediate I as a contingency string to be run only if severe hole conditions dictate an additional casing string necessary. This would make the planned 7.625" / 7.827" Casing the Intermediate II.
**If 4S Contingency is not required, Oxy requests permission to transition from 12.25" to 9.875" Intermediate I at 1st trip point below Brushy top (estimated top in formation table above). Cement volumes will be updated on C103 submission.

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

	Y or N
Is casing new? If used, attach certification as required in 43 CFR 3160	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	Y
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-Q?	Y
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	Y
Is well located in R-111-Q 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	900	1.33	14.8	100%	-	Circulate	Class C+Accel.
Int.	1	Intermediate 1S - Tail	634	1.68	13.2	5%	6,994	Circulate	Class C+Ret., Disper.
Int.	2	Intermediate 2S - Tail BH	1240	1.71	13.3	25%	-	Bradenhead	Class C+Accel.
Prod.	1	Production - Tail	963	1.84	13.3	25%	11,218	Circulate	Class C+Ret.

Offline Cementing Request

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

Bradenhead CBL Request

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

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:	Deepest TVD Depth (ft) per Section:
9.875" Hole	13-5/8"	5M	Annular	✓	70% of working pressure	11645
		5M	Blind Ram	✓	250 psi / 5000 psi	
			Pipe Ram			
			Double Ram	✓		
			Other*			
6.75" Hole	13-5/8"	5M	Annular	✓	100% of working pressure	12246
		10M	Blind Ram	✓	250 psi / 10000 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

5M Annular BOP Request

Per BLM's Memorandum No. NM-2017-008: *Decision and Rationale for a Variance Allowing the Use of a 5M Annular Preventer with a 10M BOP Stack*, Oxy requests to employ a 5M annular with a 10M BOPE stack in the pilot and lateral sections of the well and will ensure that two barriers to flow are maintained at all times. Please see Annular BOP Variance attachment for further details.

	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 (intermediate and production) requirements as per the agreement reached in the OXY/BLM meeting on April 4th, 2025. 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	862	0	862	Water-Based Mud	8.6 - 8.8	40-60	N/C
Intermediate	862	11718	862	11645	Saturated Brine-Based or Oil-Based Mud	8.0 - 10.0	35-45	N/C
Production	11718	28218	11645	12246	Water-Based or Oil-Based Mud	9.5 - 13.5	38-50	N/C

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

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

6. Logging and Testing Procedures

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

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

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	8597 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	178°F

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

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

8. Other facets of operation

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

Total Estimated Cuttings Volume: 2016 bbls

Oxy Blanket Design - Casing Design "A"

1. Casing Program

The designs and associated details listed in this document are the "worst case scenario" boundaries for design safety factors.

Location and lithology have NOT been accounted for in these designs; however, the designs are NOT valid for wells within KPLA Boundaries or Capitan Reef areas. The specific well details will be based on the APD/Sundry package and the information listed in the COA.

The mud program listed below will remain the same between each design variation.

Hole will be full during casing run for well control and tensile SF.

Casing will be kept at least half full during run for these designs to meet BLM collapse SF requirement.

Design Variation "A1"

		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	1200	0	1200	10.75	45.5	J-55	BTC
Intermediate	9.875	0	13111*	0	12775*	7.625	26.4	L-80 HC	BTC Axis HT GBCD
Production	6.75	0	23361	0	12775	5.5	20	P-110	Wedge 461 Sprint SF DWC/C-HT-IS

*Curve could be in intermediate or production section

Design Variation "A2" - Option to Pivot to Design "B" for Contingency 4S

		MD		TVD					
Section	Hole Size (in)	From (ft)	To (ft)	From (ft)	To (ft)	Csg. OD (in)	Csg Wt. (ppf)	Grade	Conn.
Surface	17.5	0	1200	0	1200	13.375	54.5	J-55	BTC
Intermediate	12.25†	0	13111*	0	12775*	7.625	26.4	L-80 HC	BTC Axis HT GBCD
Production	6.75	0	23361	0	12775	5.5	20	P-110	Wedge 461 Sprint SF DWC/C-HT-IS

*Curve could be in intermediate or production section

†If 4S Contingency is not required, Oxy requests permission to transition from 12.25" to 9.875" Intermediate at some point during the hole section. Cement volumes will be updated on C103 submission.

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

Oxy Blanket Design - Casing Design "A"

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

§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. Please see Annular Clearance Variance attachment for further details.

§Annular Clearance Variance Request may not apply to all connections used or presented.

2. Trajectory / Boundary Conditions

	MD		TVD			
Section	**Deepest KOP (ft)**	**End Build (ft)**	**Deepest KOP (ft)**	**End Build (ft)**	**Max. Angle**	**Max. Planned DLS**
Surface	0	1200	0	1200	5°	1°/100 ft
Intermediate	5000 (inside Cherry Canyon)	6500	4980	6390	20°	2°/100 ft
	12211	13111	12202	12775	92° ‡	12°/100 ft ‡
Production	12211 (~100' MD past ICP)	13111	12202	12775	92° ‡	12°/100 ft ‡

‡ Applies only when intermediate casing depth is deepened to landing point to match TVD of production in some areas where required to accommodate higher MWs in depleted areas.

Oxy has reviewed casing burst, collapse, and axial loadcases in Landmark StressCheck with the boundary conditions in the table above which satisfies Oxy and BLM minimum design criteria. Triaxial plots for each casing string is shown in Section 7 and intermediate load case inputs are shown in Section 8.

Oxy Blanket Design - Casing Design "A"

3. Cementing Program

NOTE: Blanket design is for technical review only. The cement volumes will be adjusted to ensure cement tops meet BLM requirements.

Design Variation "A1"

Section	Stage	Slurry:	Sacks	Yield (ft^3/ft)	Density (lb/gal)	Excess:	TOC	Placement	Description
Surface	1	Surface - Tail	819	1.33	14.8	100%	-	Circulate	Class C+Accel.
Int.	1	Intermediate 1S - Tail	658	1.68	13.2	5%	7,206	Circulate	Class C+Ret., Disper.
Int.	2	Intermediate 2S - Tail BH	1111	1.71	13.3	25%	-	Bradenhead	Class C+Accel.
Prod.	1	Production - Tail	665	1.84	13.3	25%	11,611	Circulate	Class C+Ret.
Prod.	2*	Production - Tail BH*	TBD	1.84	13.3	50%	500' inside prev csg	Circulate	Class C+Ret.

**Only applies in scenario where planned single stage job TOC is not 500' above previous shoe as designed/programmed requiring bradenhead 2nd stage to meet requirements*

Design Variation "A2"

Section	Stage	Slurry:	Sacks	Yield (ft^3/ft)	Density (lb/gal)	Excess:	TOC	Placement	Description
Surface	1	Surface - Tail	1023	1.33	14.8	100%	-	Circulate	Class C+Accel.
Int.	1	Intermediate 1S - Tail	658	1.68	13.2	5%	7,206	Circulate	Class C+Ret., Disper.
Int.	2	Intermediate 2S - Tail BH	1293	1.71	13.3	25%	-	Bradenhead	Class C+Accel.
Prod.	1	Production - Tail	665	1.84	13.3	25%	11,611	Circulate	Class C+Ret.
Prod.	2*	Production - Tail BH*	TBD	1.84	13.3	50%	500' inside prev csg	Circulate	Class C+Ret.

**Only applies in scenario where planned single stage job TOC is not 500' above previous shoe as designed/programmed requiring bradenhead 2nd stage to meet requirements*

As Reviewed and Approved by BLM on Feb 8, 2024: Oxy uses a Class C / Pozzolan mix on its production cement slurry, which has the same fluid properties as Class H, and has been pilot and field blend tested to have as good or better compressive strength development at our target densities.

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.

Oxy Blanket Design - Casing Design "A"

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	12775**
		5M	Blind Ram	✓	250 psi / 5000 psi	
			Pipe Ram			
			Double Ram	✓		
			Other*			
6.75" Hole	13-5/8"	5M	Annular	✓	100% of working pressure	12775
		10M	Blind Ram	✓	250 psi / 10000 psi	
			Pipe Ram			
			Double Ram	✓		
			Other*			

*Specify if additional ram is utilized
**Curve could be in intermediate or production section

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. See attached schematics.

5M Annular BOP Request

Per BLM's Memorandum No. NM-2017-008: *Decision and Rationale for a Variance Allowing the Use of a 5M Annular Preventer with a 10M BOP Stack*, Oxy requests to employ a 5M annular with a 10M BOPE stack in the pilot and lateral sections of the well and will ensure that two barriers to flow are

Oxy Blanket Design - Casing Design "A"

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. Coflex hoses are in compliance with API 16C and meets inspection and testing requirements. 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.

Hammer Union Variance

Oxy requests permission for hammer unions behind the choke to be routed to the gas buster. The hammer unions will not be subject to wellbore pressure in compliance with API STD 53.

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.

Oxy Blanket Design - Casing Design "A"

5. Mud Program & Drilling Conditions

Section	Depth - MD		Depth - TVD		Type	Weight (ppg)	Viscosity	Water Loss
	From (ft)	To (ft)	From (ft)	To (ft)				
Surface	0	1200	0	1200	Water-Based Mud	8.6 - 8.8	40-60	N/C
Intermediate	1200	13111*	1200	12775*	Saturated Brine-Based or Oil-Based Mud	8.0 - 10.0	35-45	N/C
Production	13111	23361	12775	12775	Water-Based or Oil-Based Mud	9.5 - 13.5	38-50	N/C

Curve could be in intermediate or production section

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.

Drilling Blind Request

In the event total losses are encountered in the intermediate section, Oxy requests permission to drill blind due to depleted formations where risk of hydrocarbon kicks are unlikely.

- Oxy will first attempt to cure losses before proceeding with drilling blind
- Drilling blind will only be allowed in the Castille and formations below
- While drilling blind, will monitor backside by filling-up on connections and utilize gas monitors
- Depths at which losses occurred and attempt to cure losses with relevant details (LCM sweep info, etc.) will be documented in the drillers log and Subsequent Reports to the BLM.
- If a well control event (hydrocarbon kick) occurs while drilling blind, the BLM will be notified after the well is secured and returned to static.

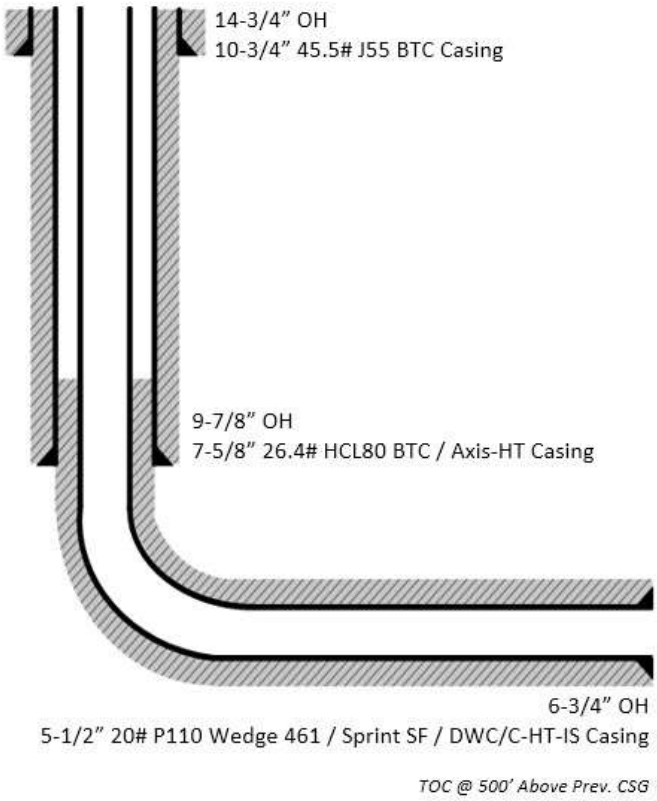
What will be used to monitor the loss or gain of fluid?	PVT/MD Totco/Visual Monitoring

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 isolation.

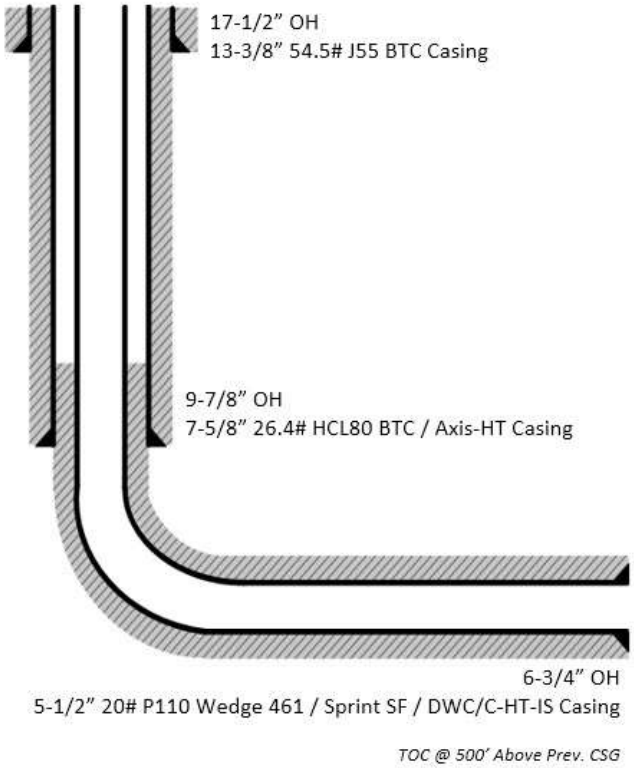
Oxy Blanket Design - Casing Design "A"

6. Wellbore Diagram(s)

Design Variation "A1"

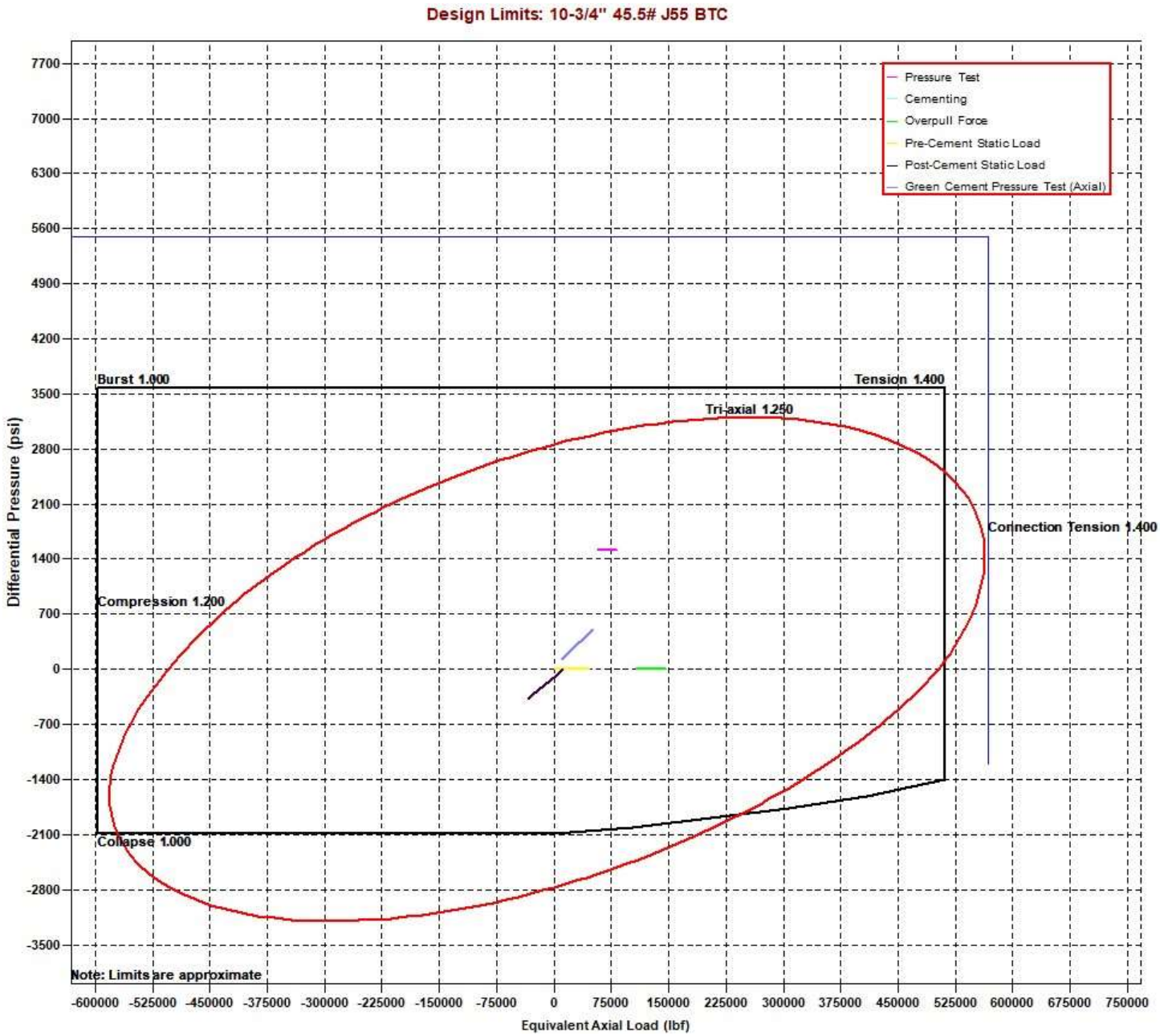


Design Variation "A2"

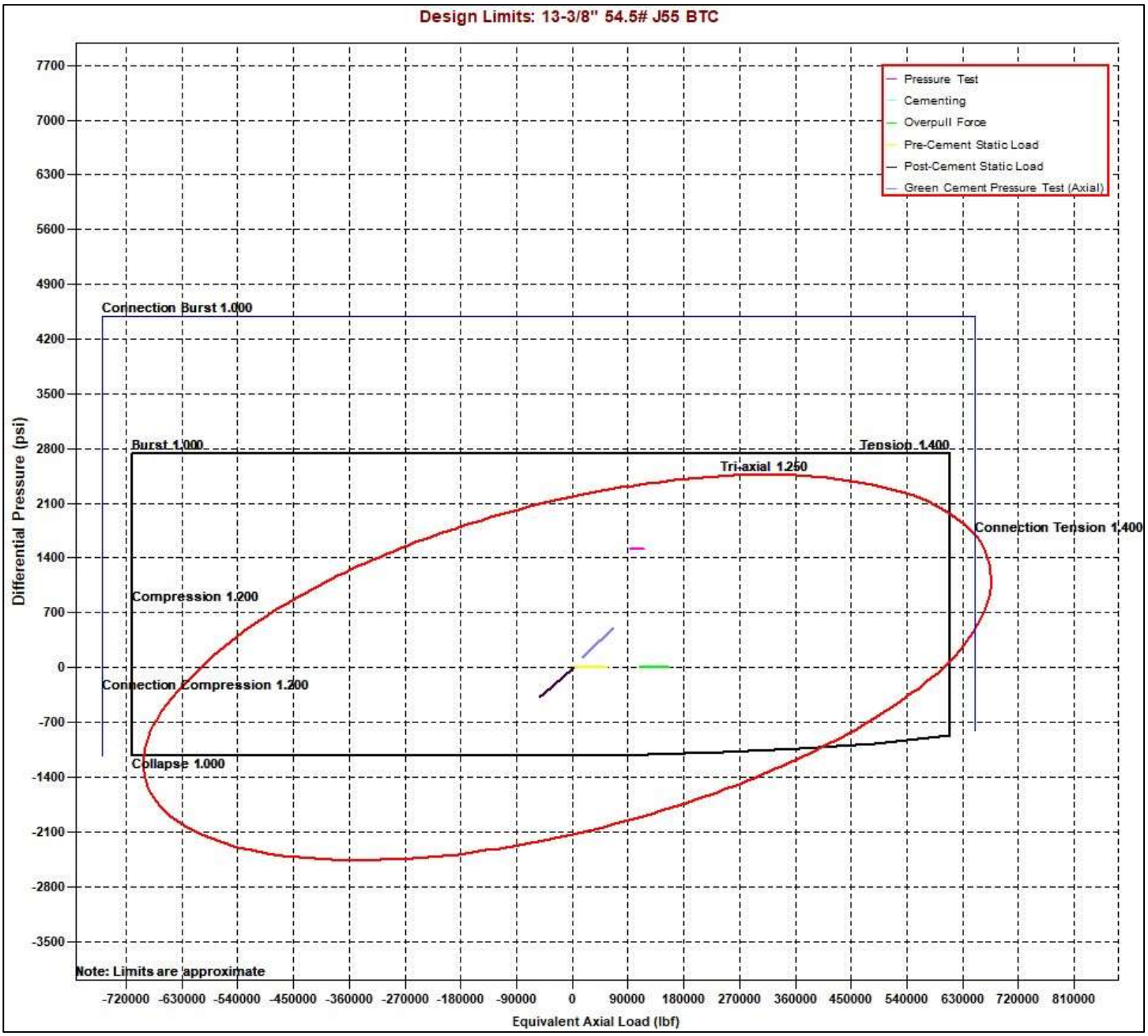


Oxy Blanket Design - Casing Design "A"

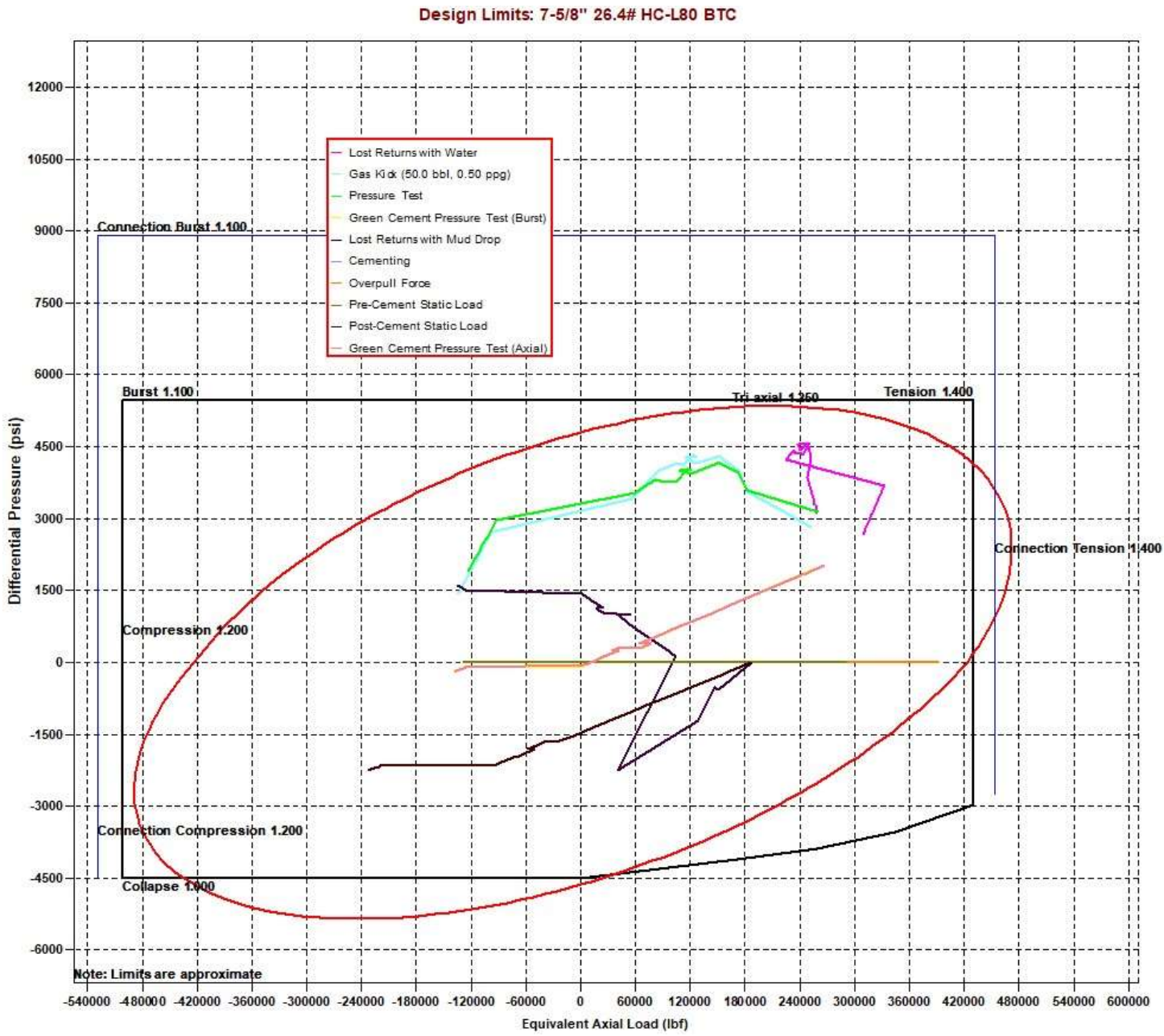
7. Landmark StressCheck Screenshots – Triaxial Output



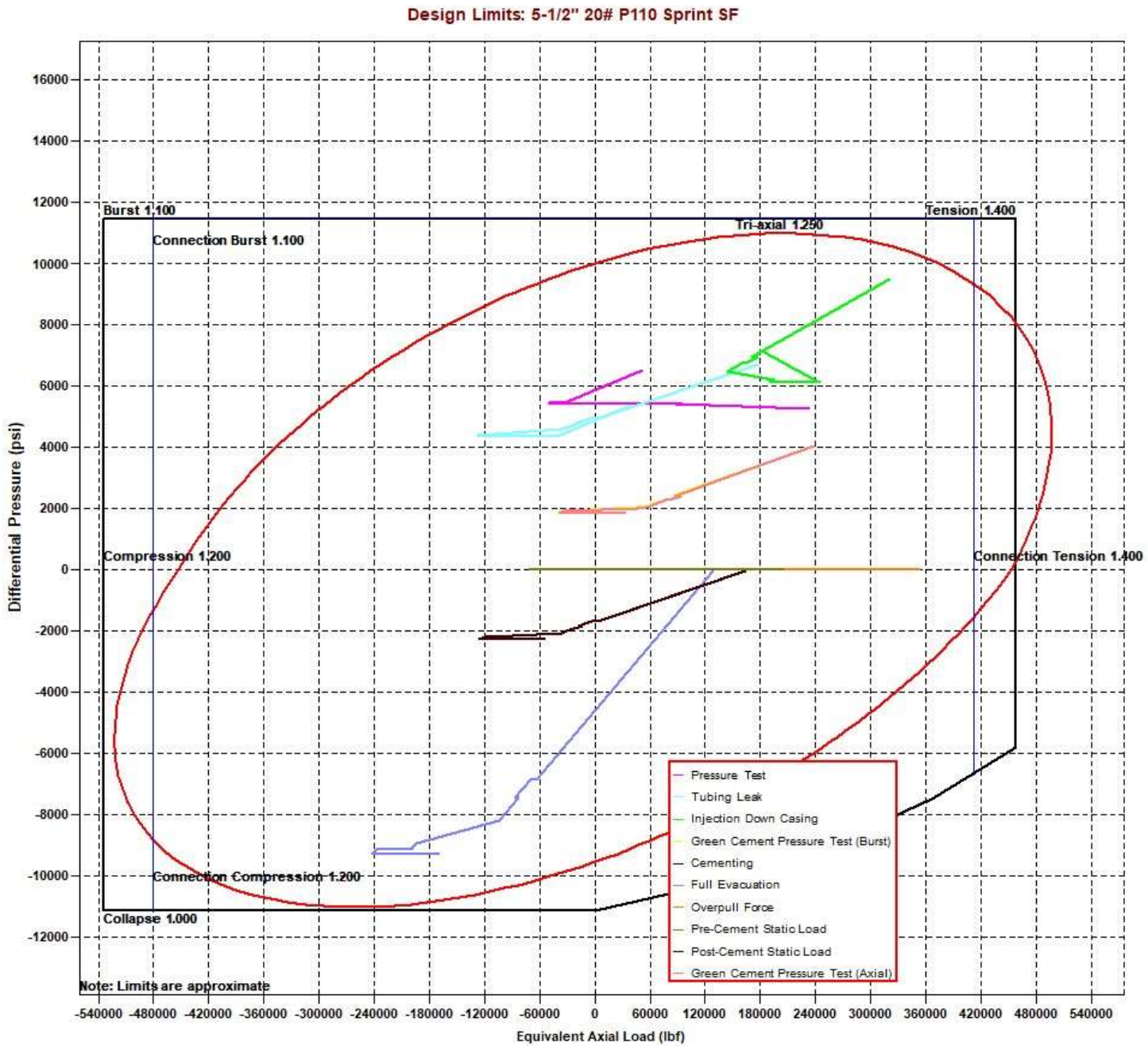
Oxy Blanket Design - Casing Design "A"



Oxy Blanket Design - Casing Design "A"



Oxy Blanket Design - Casing Design "A"



Oxy Blanket Design - Casing Design "A"

8. Landmark StressCheck Screenshots – Inputs for Intermediate CSG Load Cases

Burst Load Cases

General | 7 5/8" Intermediate Casing

Burst Loads Data

Drilling Load:	**Lost Returns with Water**
Fracture at Shoe (MD= 13111.00 ft):	10591 psi
Mud/Water Interface, MD:	0.00 ft
Mud Weight	11.28 ppg
Assigned External Pressure:	Fluid Gradients (w/ Pore Pressure)
Drilling Load:	**Gas Kick Profile**
Influx Depth, MD:	23361.00 ft
Kick Volume:	50.0 bbl
Kick Intensity	0.50 ppg
Maximum Mud Weight:	13.50 ppg
Kick Gas Gravity:	0.55 (0.1159 psi/ft @ 182 °F & 9291 psi)
Fracture at Shoe (MD= 13111.00 ft):	10591 psi
Drill Pipe OD:	5.000 in
Collar OD:	5.500 in
Collar Length:	200.00 ft
Assigned External Pressure:	Fluid Gradients (w/ Pore Pressure)
Drilling Load:	**Pressure Test**
Test Pressure:	3120 psi
Mud Weight:	10.00 ppg
Assigned External Pressure:	Fluid Gradients (w/ Pore Pressure)
Drilling Load:	**Green Cement Pressure Test**
Test Pressure:	2000 psi
Mud Weight at Shoe:	10.00 ppg
TOC, MD:	25.00 ft
Lead Slurry Density:	13.30 ppg
Tail Slurry Density:	13.30 ppg
Tail Slurry Length:	5906.00 ft
Displacement Fluid Density:	10.00 ppg
Float Collar Depth, MD:	12800.00 ft
External Pressure:	**Fluid Gradients (w/ Pore Pressure)**
TOC, MD:	25.00 ft
Prior Shoe, MD:	1200.00 ft
Mud Weight Above TOC:	10.00 ppg
Fluid Gradient Below TOC:	8.33 ppg
Wellhead Pressure:	13 psi
Pore Pressure In Open Hole:	Yes

Oxy Blanket Design - Casing Design "A"

Collapse Load Cases

General | 7 5/8" Intermediate Casing

Collapse Loads Data

Drilling Load:	**Cementing**
Mud Weight at Shoe:	10.00 ppg
TOC, MD:	25.00 ft
Lead Slurry Density:	13.30 ppg
Tail Slurry Density:	13.30 ppg
Tail Slurry Length:	5906.00 ft
Displacement Fluid Density:	10.00 ppg
Float Collar Depth, MD:	12800.00 ft
Assigned External Pressure:	Fluid Gradients (w/ Pore Pressure)
Drilling Load:	**Lost Returns with Mud Drop**
Lost Returns Depth, MD:	13110.89 ft
Pore Pressure at Lost Returns Depth:	8183 psi
Pore Pressure Gradient at Lost Returns Depth:	12.33 ppg
Mud Weight:	13.50 ppg
Mud Drop Level, MD:	1106.39 ft
Assigned External Pressure:	Fluid Gradients (w/ Pore Pressure)
External Pressure:	**Fluid Gradients (w/ Pore Pressure)**
TOC, MD:	25.00 ft
Prior Shoe, MD:	1200.00 ft
Fluid Gradient Above TOC:	10.00 ppg
Fluid Gradient Below TOC:	10.00 ppg
Wellhead Pressure:	13 psi
Pore Pressure In Open Hole Below TOC:	No

Axial Load Cases

General | 7 5/8" Intermediate Casing

Axial Loads Data

Overpull Force:	100000 lbf
Pre-Cement Static Load:	Yes
Pickup Force:	0 lbf
Post-Cement Static Load:	Yes
Green Cement Pressure Test:	2000 psi
Service Loads:	Yes

Oxy Blanket Design - Casing Design "A"

9. Landmark StressCheck Screenshot – Int. Casing Triaxial Results Table (Pressure Test)

StressCheck - [Triaxial Results - Blanket Design A1 *]

File Edit Wellbore Tubular View Composer Tools Window Help

7 5/8" Intermediate Casing

Pressure Test

Triaxial Results

	Depth (MD) (ft)	Axial Force (lbf) Apparent (w/Bending)	Axial Force (lbf) Actual (w/o Bending)	Equivalent Axial Load (lbf)	Bending Stress at OD (psi)	Absolute Safety Factor Triaxial	Absolute Safety Factor Burst	Absolute Safety Factor Collapse (V)	Absolute Safety Factor Axial	Temperature (°F)	Pressure (psi) Internal	Pressure (psi) External	Addt'l Pickup To Prevent Buck. (lbf)	Buckled Length (ft)
28	12300	-142410	-17423	-94936	16622.5	1.79	2.10	N/A	(4.09)	178	9505	6732		
29	12400	-149639	-24652	-100590	16622.5	1.87	2.25	N/A	(3.89)	179	9555	6970		
30	12400	-149640	-24653	-100591	16622.5	1.87	2.25	N/A	(3.89)	179	9555	6970		
31	12500	-156448	-31461	-105919	16622.5	1.95	2.42	N/A	(3.72)	180	9603	7193		
32	12500	-156449	-31462	-105920	16622.5	1.95	2.42	N/A	(3.72)	180	9603	7193		
33	12550	-159630	-34643	-108410	16622.5	1.99	2.50	N/A	(3.64)	180	9625	7298		
34	12550	-159631	-34644	-108411	16622.5	1.99	2.50	N/A	(3.64)	180	9625	7298		
35	12600	-162630	-37643	-110759	16622.5	2.03	2.59	N/A	(3.58)	180	9646	7396		
36	12600	-162631	-37644	-110760	16622.5	2.03	2.59	N/A	(3.58)	180	9646	7396		
37	12650	-165426	-40439	-112949	16622.5	2.07	2.67	N/A	(3.52)	181	9665	7488		
38	12650	-165427	-40440	-112950	16622.5	2.07	2.67	N/A	(3.52)	181	9665	7488		
39	12700	-167997	-43010	-114963	16622.5	2.10	2.76	N/A	(3.46)	181	9683	7573		
40	12700	-167998	-43011	-114963	16622.5	2.10	2.76	N/A	(3.46)	181	9683	7573		
41	12750	-170322	-45335	-116784	16622.5	2.13	2.84	N/A	(3.41)	181	9699	7649		
42	12750	-170323	-45336	-116785	16622.5	2.13	2.84	N/A	(3.41)	181	9699	7649		
43	12800	-172385	-47398	-118401	16622.5	2.16	2.91	N/A	(3.37)	181	9714	7717		
44	12800	-172386	-47399	-118401	16622.5	2.16	2.91	N/A	(3.37)	181	9714	7717		
45	12850	-174169	-49183	-119799	16622.5	2.19	2.98	N/A	(3.34)	182	9726	7775		
46	12850	-174170	-49183	-119800	16622.5	2.19	2.98	N/A	(3.34)	182	9726	7775		
47	12900	-175662	-50675	-120969	16622.5	2.21	3.04	N/A	(3.31)	182	9736	7824		
48	12950	-176851	-51864	-121901	16622.5	2.23	3.09	N/A	(3.29)	182	9745	7863		
49	13000	-177727	-52740	-122588	16622.5	2.24	3.13	N/A	(3.27)	182	9751	7892		
50	13000	-177728	-52741	-122588	16622.5	2.24	3.13	N/A	(3.27)	182	9751	7892		
51	13050	-178285	-53298	-123025	16622.5	2.25	3.15	N/A	(3.26)	182	9755	7910		
52	13111	-178527	-53540	-123214	16622.5	2.25	3.16	N/A	(3.26)	182	9756	7918		
53														
54	( ) Compression													
55	(V) Vector Collapse Safety Factor													
56														

Internal Pressure = Surface Pressure + Hydrostatic = 9756 psi
External Pressure = Fluid Gradient w/ Pore Pressure = 7918 psi
Burst SF = 3.16

NOTE: *Specific load case inputs for the pressure test can be seen in* ***Section 8*** *above. The test pressure does not exceed 70% of the minimum internal yield.*

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10. Intermediate Non-API Casing Spec Sheet

AXIS PIPE AND TUBE

Technical Data Sheet

7 5/8" 26.40 lbs/ft. L80HC - Axis HT

Mechanical Properties		
Minimum Yield Strength	psi.	80,000
Maximum Yield Strength	psi.	95,000
Minimum Tensile Strength	psi.	95,000

Dimensions		Pipe	AXIS HT
Outside Diameter	in.	7.625	8.500
Wall Thickness	in.	0.328	-
Inside Diameter	in.	6.969	-
Standard Drift	in.	6.844	6.844
Alternate Drift	in.	-	-
Plain End Weight	lbs/ft.	-	-
Nominal Linear Weight	lbs/ft.	26.40	-

Performance		Pipe	AXIS HT
Minimum Collapse Pressure	psi.	4,320	-
Minimum Internal Yield Pressure	psi.	6,020	6,020
Minimum Pipe Body Yield Strength	lbs.	602 x 1,000	-
Joint Strength	lbs.	-	635 x 1,000

Make-Up Torques		Pipe	AXIS HT
Optimum Make-Up Torque	ft/lbs.	-	8,000
Maximum Operational Torque	ft/lbs.	-	25,000

Disclaimer: The content of this Technical Data Sheet is for general information only and does not guarantee performance and/or accuracy, which can only be determined by a professional expert with the specific installation and operation parameters. Information printed or downloaded may not be current and no longer in control by Axis Pipe and Tube. Anyone using the information herein does so at his or her own risk. To verify that you have the latest technical information, please contact Axis Pipe and Tube Technical Sales +1 (979) 599-7600, www.axispipeandtube.com

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11. Production Non-API Casing Spec Sheets

Printed on: 11/09/2021

Tenaris

TenarisHydril Wedge 461 ® MS

Coupling	Pipe Body
Grade: P110-ICY	Grade: P110-ICY
Body: White	1st Band: White
1st Band: Pale Green	2nd Band: Pale Green
2nd Band: -	3rd Band: Pale Green
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	5.500 in.	Wall Thickness	0.361 in.	Grade	P110-ICY
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	MS				

Pipe Body Data

Geometry				Performance	
Nominal OD	5.500 in.	Wall Thickness	0.361 in.	Body Yield Strength	729 x1000 lb
Nominal Weight	20 lb/ft	Plain End Weight	19.83 lb/ft	Min. Internal Yield Pressure	14,360 psi
Drift	4.653 in.	OD Tolerance	API	SMYS	125,000 psi
Nominal ID	4.778 in.			Collapse Pressure	12,300 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	6.050 in.	Tension Efficiency	100 %	Minimum	17,000 ft-lb
Coupling Length	7.714 in.	Joint Yield Strength	729 x1000 lb	Optimum	18,000 ft-lb
Connection ID	4.778 in.	Internal Pressure Capacity	14,360 psi	Maximum	21,600 ft-lb
Make-up Loss	3.775 in.	Compression Efficiency	100 %	**Operation Limit Torques**	
Threads per inch	3.40	Compression Strength	729 x1000 lb	Operating Torque	43,000 ft-lb
Connection OD Option	Ms	Max. Allowable Bending	104 °/100 ft	Yield Torque	51,000 ft-lb
		External Pressure Capacity	12,300 psi	**Buck-On**	
		Coupling Face Load	273,000 lb	Minimum	21,600 ft-lb
				Maximum	23,100 ft-lb

Notes

This connection is fully interchangeable with:
Wedge 441® - 5.5 in. - 0.304 / 0.361 in.
Wedge 461® - 5.5 in. - 0.304 / 0.415 / 0.476 in.
Connections with Dopeless® Technology are fully compatible with the same connection in its Standard version
In October 2019, TenarisHydril Wedge XP® 2.0 was renamed TenarisHydril Wedge 461™. Product dimensions and properties remain identical and both connections are fully interchangeable

For the lastest performance data, always visit our website: www.tenaris.com

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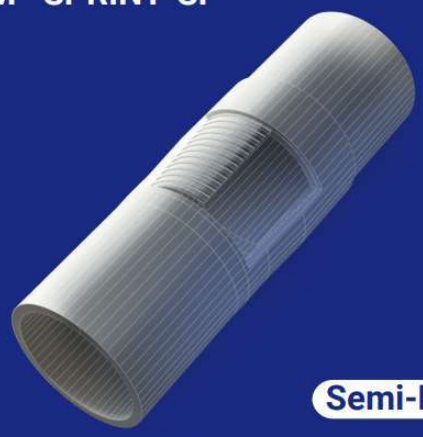
Generated on May 21, 2024

CONNECTION DATA SHEET

OD: **5.500 in.** Grade: **P110**
Weight: **20.00 lb/ft** Drift: **4.653 in. (API)**
Wall Th.: **0.361 in.**

VAM® SPRINT-SF



Semi-Flush

Field Torque Values

Make-up Torque (ft-lb)
- 20,000 **MIN**
- 22,500 **OPTI**
- 25,000 **MAX**

Torque with Sealability (ft-lb)
- 36,000 **MTS**

Locked Flank Torque (ft-lb)
- 4,500 **MIN**
- 15,750 **MAX**

(2) MTS: Maximum Torque with Sealability.

PIPE BODY PROPERTIES

Nominal OD	5.500	*in.*
Nominal ID	4.778	*in.*
Nominal Wall Thickness	0.361	*in.*
Minimum Wall Thickness	87.5	*%*
Nominal Weight (API)	20.00	*lb/ft*
Plain End Weight	19.83	*lb/ft*
Drift	4.653	*in.*
Grade Type	API 5CT	
Minimum Yield Strength	110	*ksi*
Maximum Yield Strength	140	*ksi*
Minimum Ultimate Tensile Strength	125	*ksi*
Pipe Body Yield Strength	641	*klb*
Internal Yield Pressure	12,640	*psi*
Collapse Pressure	11,100	*psi*

CONNECTION PROPERTIES

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

JOINT PERFORMANCES

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

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

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DWC/C-HT-IS

Connection Data Sheet

OD (in.)	WEIGHT (lbs./ft.)	WALL (in.)	GRADE	API DRIFT (in.)	RBW%	CONNECTION
5.500	Nominal: 20.00 Plain End: 19.83	0.361	‡VST P110MY	4.653	87.5	DWC/C-HT-IS

PIPE PROPERTIES		
Nominal OD	5.500	in.
Nominal ID	4.778	in.
Nominal Area	5.828	sq.in.
Grade Type		API 5CT
Min. Yield Strength	125	ksi
Max. Yield Strength	140	ksi
Min. Tensile Strength	135	ksi
Yield Strength	729	klb
Ultimate Strength	787	klb
Min. Internal Yield Pressure	14,360	psi
Collapse Pressure	12,090	psi

CONNECTION PROPERTIES		
Connection Type		Semi-Premium T&C
Connection OD (nom)	6.050	in.
Connection ID (nom)	4.778	in.
Make-Up Loss	4.125	in.
Coupling Length	9.250	in.
Critical Cross Section	5.828	sq.in.
Tension Efficiency	89.1%	of pipe
Compression Efficiency	88.0%	of pipe
Internal Pressure Efficiency	86.1%	of pipe
External Pressure Efficiency	100.0%	of pipe

CONNECTION PERFORMANCES		
Yield Strength	649	klb
Parting Load	729	klb
Compression Rating	641	klb
Min. Internal Yield Pressure	12,360	psi
External Pressure Resistance	12,090	psi
Maximum Uniaxial Bend Rating	91.7	°/100 ft
Reference String Length w 1.4 Design Factor	22,890	ft.

FIELD TORQUE VALUES		
Min. Make-up torque	16,600	ft.lb
Opti. Make-up torque	17,950	ft.lb
Max. Make-up torque	19,300	ft.lb
Min. Shoulder Torque	1,660	ft.lb
Max. Shoulder Torque	13,280	ft.lb
Max. Delta Turn	0.200	Turns
†Maximum Operational Torque	23,800	ft.lb
†Maximum Torsional Value (MTV)	26,180	ft.lb

† Maximum Operational Torque and Maximum Torsional Value only valid with Vallourec P110MY Material.
‡ P110MY - Coupling Min Yield Strength is 110ksi and Coupling Max Yield is 125ksi.

"VST = Vallourec Star as the mill source for the pipe, "P110EC" is the grade name"
Need Help? Contact: tech.support@vam-usa.com
For detailed information on performance properties, refer to DWC Connection Data Notes on following page(s).

Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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VAM USA
2107 CityWest Boulevard Suite 1300
Houston, TX 77042
Phone: 713-479-3200
Fax: 713-479-3234
VAM® USA Sales E-mail: VAMUSAsales@vam-usa.com
Tech Support Email: tech.support@vam-usa.com

DWC Connection Data Sheet Notes:

1. DWC connections are available with a seal ring (SR) option.
2. All standard DWC/C connections are interchangeable for a given pipe OD. DWC connections are interchangeable with DWC/C-SR connections of the same OD and wall.
3. Connection performance properties are based on nominal pipe body and connection dimensions.
4. DWC connection internal and external pressure resistance is calculated using the API rating for buttress connections. API Internal pressure resistance is calculated from formulas 31, 32, and 35 in the API Bulletin 5C3.
5. DWC joint strength is the minimum pipe body yield strength multiplied by the connection critical area.
6. API joint strength is for reference only. It is calculated from formulas 42 and 43 in the API Bulletin 5C3.
7. Bending efficiency is equal to the compression efficiency.
8. The torque values listed are recommended. The actual torque required may be affected by field conditions such as temperature, thread compound, speed of make-up, weather conditions, etc.
9. Connection yield torque is not to be exceeded.
10. Reference string length is calculated by dividing the joint strength by both the nominal weight in air and a design factor (DF) of 1.4. These values are offered for reference only and do not include load factors such as bending, buoyancy, temperature, load dynamics, etc.
11. DWC connections will accommodate API standard drift diameters.
12. DWC/C family of connections are compatible with API Buttress BTC connections. Please contact tech.support@vam-usa.com for details on connection ratings and make-up.

Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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Oxy Blanket Design - Casing Design "B"

1. Casing Program

The designs and associated details listed in this document are the "worst case scenario" boundaries for design safety factors.

Location and lithology have NOT been accounted for in these designs; however, the designs are NOT valid for wells within KPLA Boundaries or Capitan Reef areas. The specific well details will be based on the APD/Sundry package and the information listed in the COA.

The mud program listed below will remain the same between each design variation.

Hole will be full during casing run for well control and tensile SF.

Casing will be kept at least half full during run for these designs to meet BLM collapse SF requirement.

		MD		TVD					
Section	Hole Size (in)	From (ft)	To (ft)	From (ft)	To (ft)	Csg. OD (in)	Csg Wt. (ppf)	Grade	Conn.
Surface	17.5	0	1200	0	1200	13.375	54.5	J-55	BTC
Intermediate 1	12.25†	0	4832	0	4832	10.75	45.5	L-80 HC	BTC-SC
Intermediate 2	9.875	0	13111*	0	12775*	7.625	26.4	L-80 HC	BTC Axis-HT
Production	6.75	0	23361	0	12775	5.5	20	P-110	Wedge 461 Sprint SF DWC/C-HT-IS

*Curve could be in intermediate or production section

†Oxy requests the option to set intermediate 1 casing shallower, yet still below the salts, if required due to losses or hole conditions. Cement volumes may be adjusted if casing is set shallower and a DV tool may be run incase hole conditions merit pumping a second stage cement job to comply with the permitted top of cement. If cement is circulated to surface during first stage, Oxy will drop a cancelation cone and not pump the second stage. Well specific depths for the pad will be included with the casing setting depths information submitted for review.

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

§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. Please see Annular Clearance Variance attachment for further details.

§Annular Clearance Variance Request may not apply to all connections used or presented.

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Oxy Blanket Design - Casing Design "B"

2. Trajectory / Boundary Conditions

	MD		TVD			
Section	Deepest KOP (ft)	End Build (ft)	Deepest KOP (ft)	End Build (ft)	Max. Angle	Max. Planned DLS
Surface	0	1200	0	1200	5°	1°/100 ft
Salt	0	4832	0	4832	5°	1°/100 ft
Intermediate	5000 (inside Cherry Canyon)	6500	4980	6390	20°	2°/100 ft
	12211	13111	12202	12775	92° ‡	12°/100 ft ‡
Production	12211 (~100' MD past ICP)	13111	12202	12775	92° ‡	12°/100 ft ‡

‡ Applies only when intermediate casing depth is deepened to landing point to match TVD of production in some areas where required to accommodate higher MWs in depleted areas.

Oxy has reviewed casing burst, collapse, and axial loadcases in Landmark StressCheck with the boundary conditions in the table above which satisfies Oxy and BLM minimum design criteria. Triaxial plots for each casing string is shown in Section 7 and intermediate load case inputs are shown in Section 8.

3. Cementing Program

NOTE: Blanket design is for technical review only. The cement volumes will be adjusted to ensure cement tops meet BLM requirements.

Section	Stage	Slurry:	Sacks	Yield (ft^3/ft)	Density (lb/gal)	Excess:	TOC	Placement	Description
Surface	1	Surface - Tail	1253	1.33	14.8	100%	-	Circulate	Class C+Accel.
Int.1	1	Intermediate - Tail	85	1.33	14.8	20%	4,332	Circulate	Class C+Accel.
Int.1	1	Intermediate - Lead	676	1.73	12.9	50%	-	Circulate	Class Pozz+Ret.
Int. 2	1	Intermediate 1S - Tail	793	1.68	13.2	5%	7,206	Circulate	Class C+Ret., Disper.
Int. 2	2	Intermediate 2S - Tail BH	1002	1.71	13.3	25%	-	Bradenhead	Class C+Accel.
Prod.	1	Production - Tail	609	1.84	13.3	25%	12,611	Circulate	Class C+Ret.
Prod.	2*	Production - Tail	TBD	1.84	13.3	50%	500' inside prev csg	Circulate	Class C+Ret.

**Only applies in scenario where planned single stage job TOC is not 500' above previous shoe as designed/programmed requiring bradenhead 2nd stage to meet requirements*

<u>As Reviewed and Approved by BLM on Feb 8, 2024</u>: Oxy uses a Class C / Pozzolan mix on its production cement slurry, which has the same fluid properties as Class H, and has been pilot and field blend tested to have as good or better compressive strength development at our target densities.

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.

Oxy Blanket Design - Casing Design "B"

Bradenhead CBL Request

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

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:	TVD Depth (ft) per Section:
12.25" Hole	13-5/8"	5M	Annular	✓	70% of working pressure	4832
		5M	Blind Ram	✓	250 psi / 5000 psi	
			Pipe Ram			
			Double Ram	✓		
			Other*			
9.875" Hole	13-5/8"	5M	Annular	✓	70% of working pressure	12102
		5M	Blind Ram	✓	250 psi / 5000 psi	
			Pipe Ram			
			Double Ram	✓		
			Other*			
6.75" Hole	13-5/8"	5M	Annular	✓	100% of working pressure	12775
		10M	Blind Ram	✓	250 psi / 10000 psi	
			Pipe Ram			
			Double Ram	✓		
			Other*			

*Specify if additional ram is utilized
**Curve could be in intermediate or production section

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. See attached schematics.

5M Annular BOP Request

Per BLM's Memorandum No. NM-2017-008: *Decision and Rationale for a Variance Allowing the Use of a 5M Annular Preventer with a 10M BOP Stack*, Oxy requests to employ a 5M annular with a 10M BOPE stack in the pilot and lateral sections of the well and will ensure that two barriers to flow are

Oxy Blanket Design - Casing Design "B"

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. Coflex hoses are in compliance with API 16C and meets inspection and testing requirements. 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.

Hammer Union Variance

Oxy requests permission for hammer unions behind the choke to be routed to the gas buster. The hammer unions will not be subject to wellbore pressure in compliance with API STD 53.

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.

Oxy Blanket Design - Casing Design "B"

5. Mud Program & Drilling Conditions

Section	Depth - MD		Depth - TVD		Type	Weight (ppg)	Viscosity	Water Loss
	From (ft)	To (ft)	From (ft)	To (ft)				
Surface	0	1200	0	1200	Water-Based Mud	8.6 - 8.8	40-60	N/C
Intermediate 1	1200	4832	1200	4832	Saturated Brine-Based or Oil-Based Mud	8.0 – 10.0	35-45	N/C
Intermediate 2	1200	13111*	1200	12775*	Saturated Brine-Based or Oil-Based Mud	8.0 - 10.0	35-45	N/C
Production	13111	23361	12775	12775	Water-Based or Oil-Based Mud	9.5 - 13.5	38-50	N/C

Curve could be in intermediate or production section

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.

Drilling Blind Request

In the event total losses are encountered in the intermediate section, Oxy requests permission to drill blind due to depleted formations where risk of hydrocarbon kicks are unlikely.

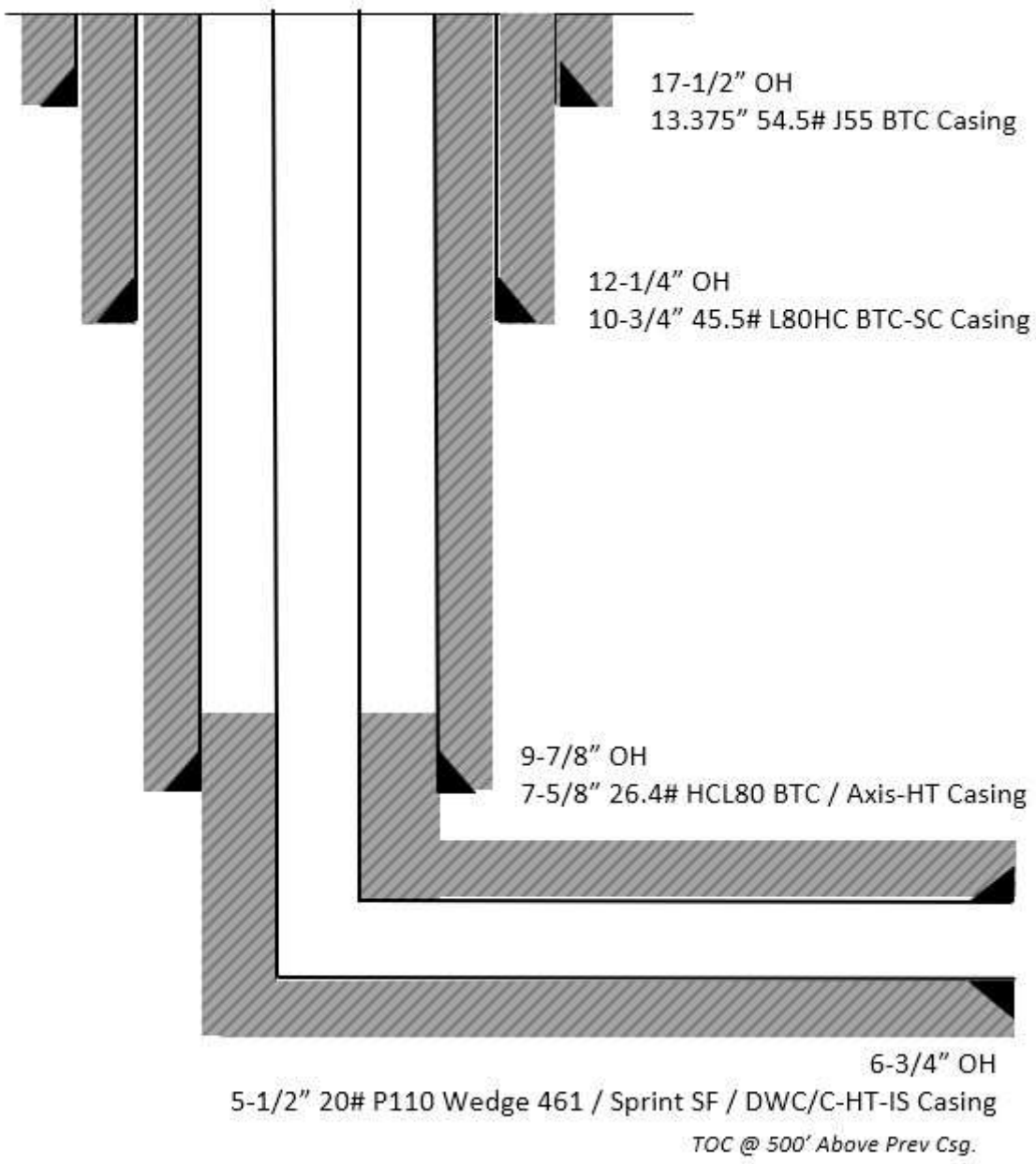
- Oxy will first attempt to cure losses before proceeding with drilling blind
- Drilling blind will only be allowed in the Castille and formations below
- While drilling blind, will monitor backside by filling-up on connections and utilizing gas monitors
- Depths at which losses occurred and attempt to cure losses with relevant details (LCM sweep info, etc.) will be documented in the drillers log and Subsequent Reports to the BLM.
- If a well control event (hydrocarbon kick) occurs while drilling blind, the BLM will be notified after the well is secured and returned to static.

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

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 isolation.

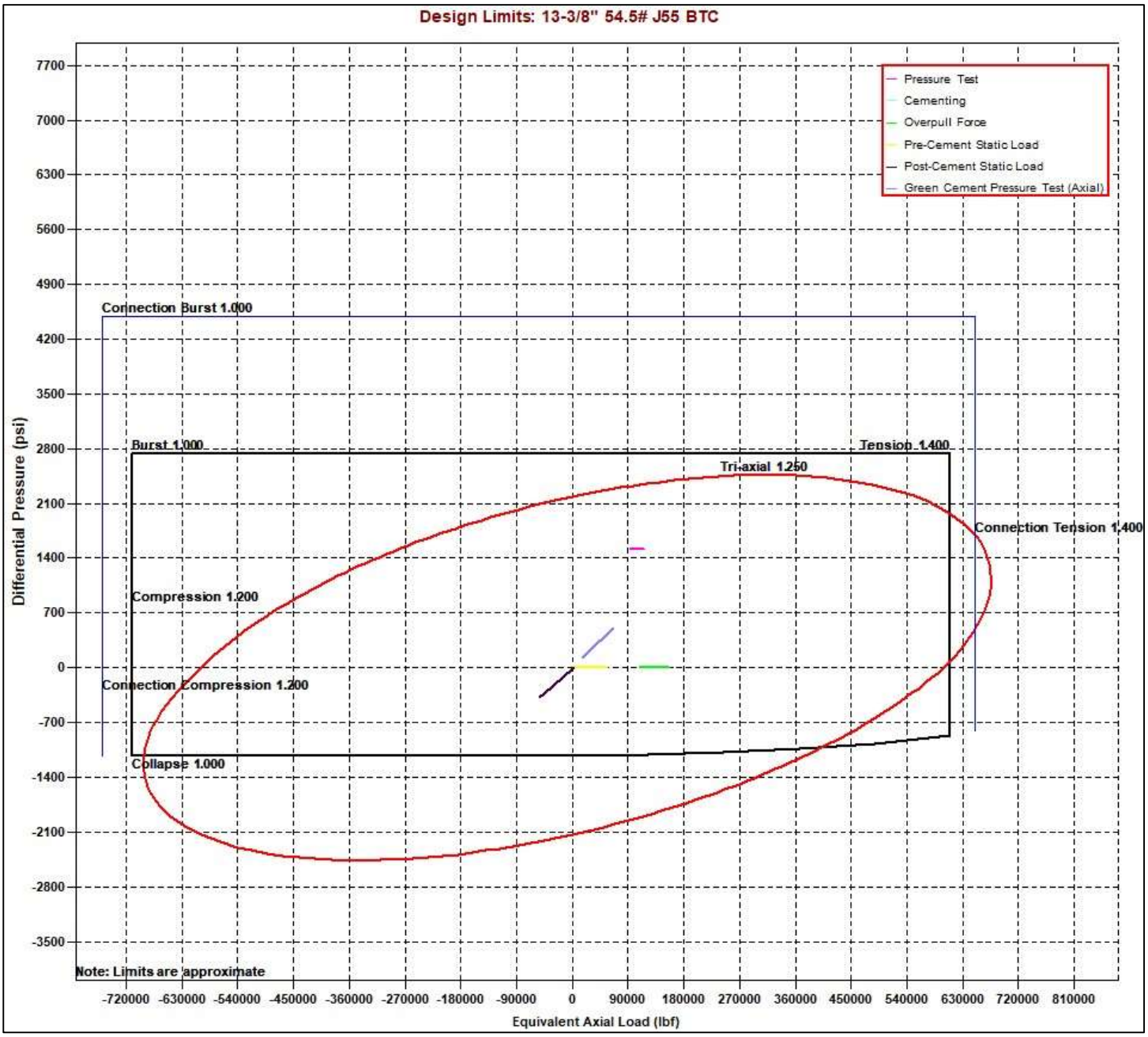
Oxy Blanket Design - Casing Design "B"

6. Wellbore Diagram

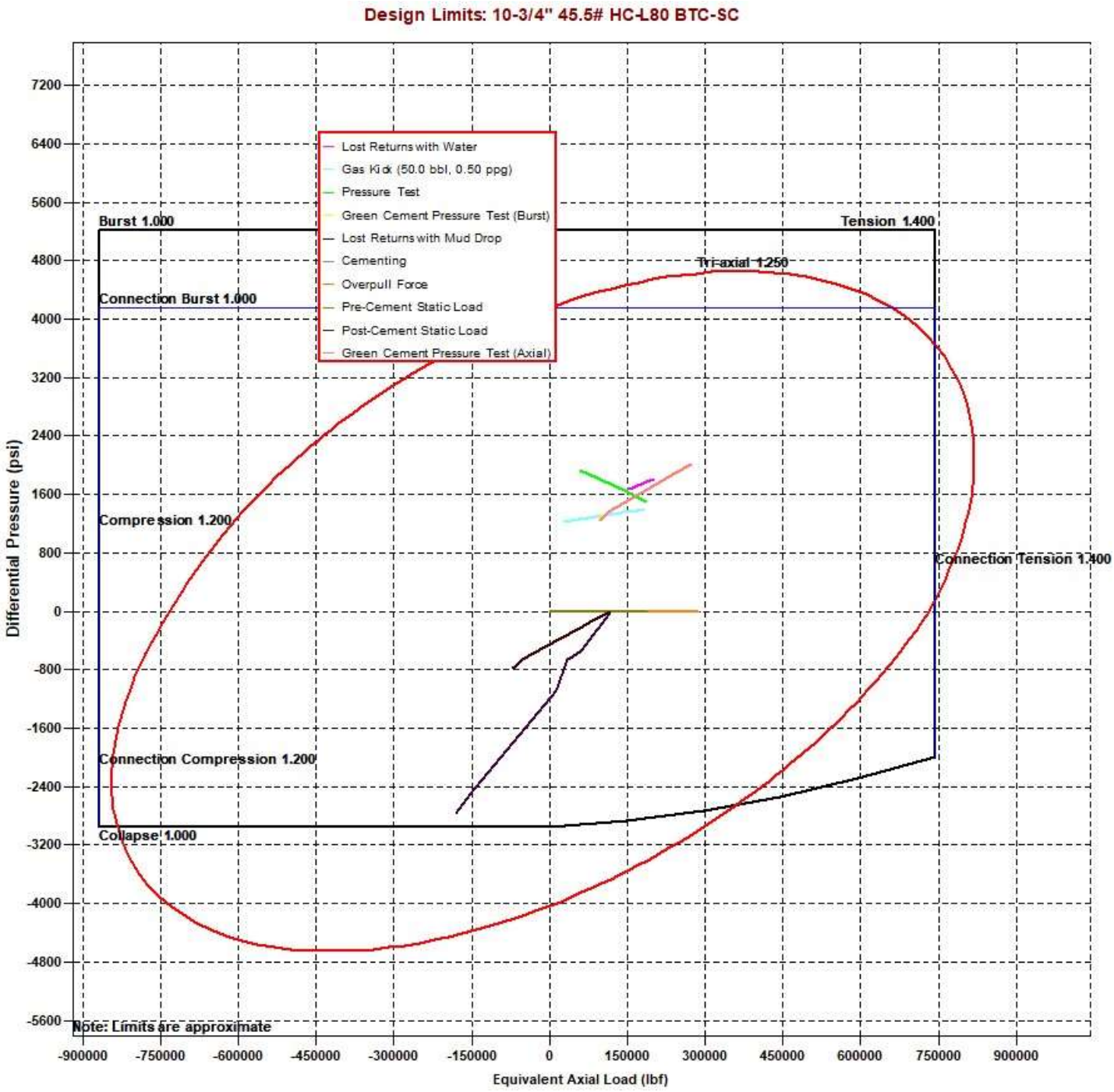


Oxy Blanket Design - Casing Design "B"

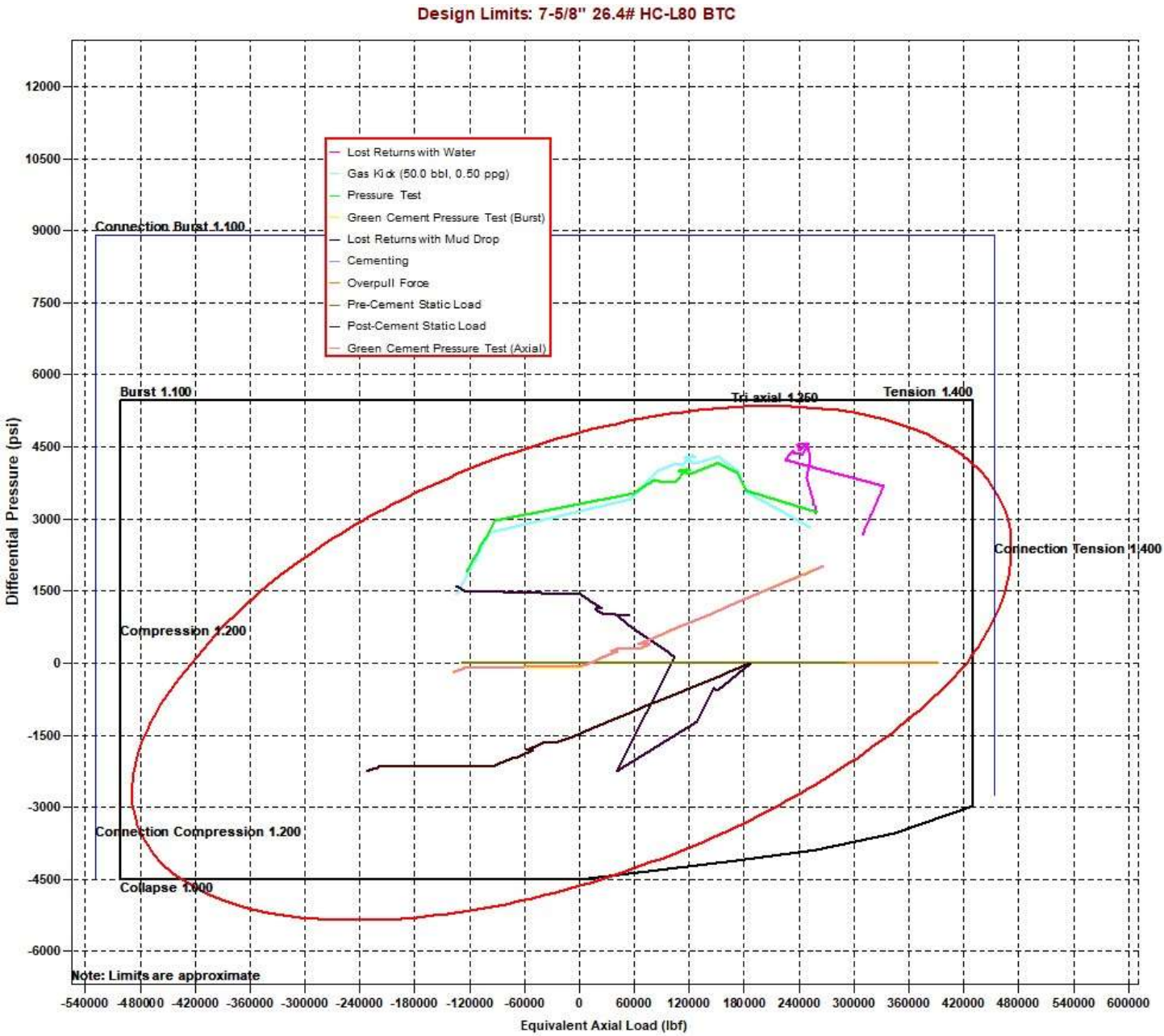
7. Landmark StressCheck Screenshots – Triaxial Output



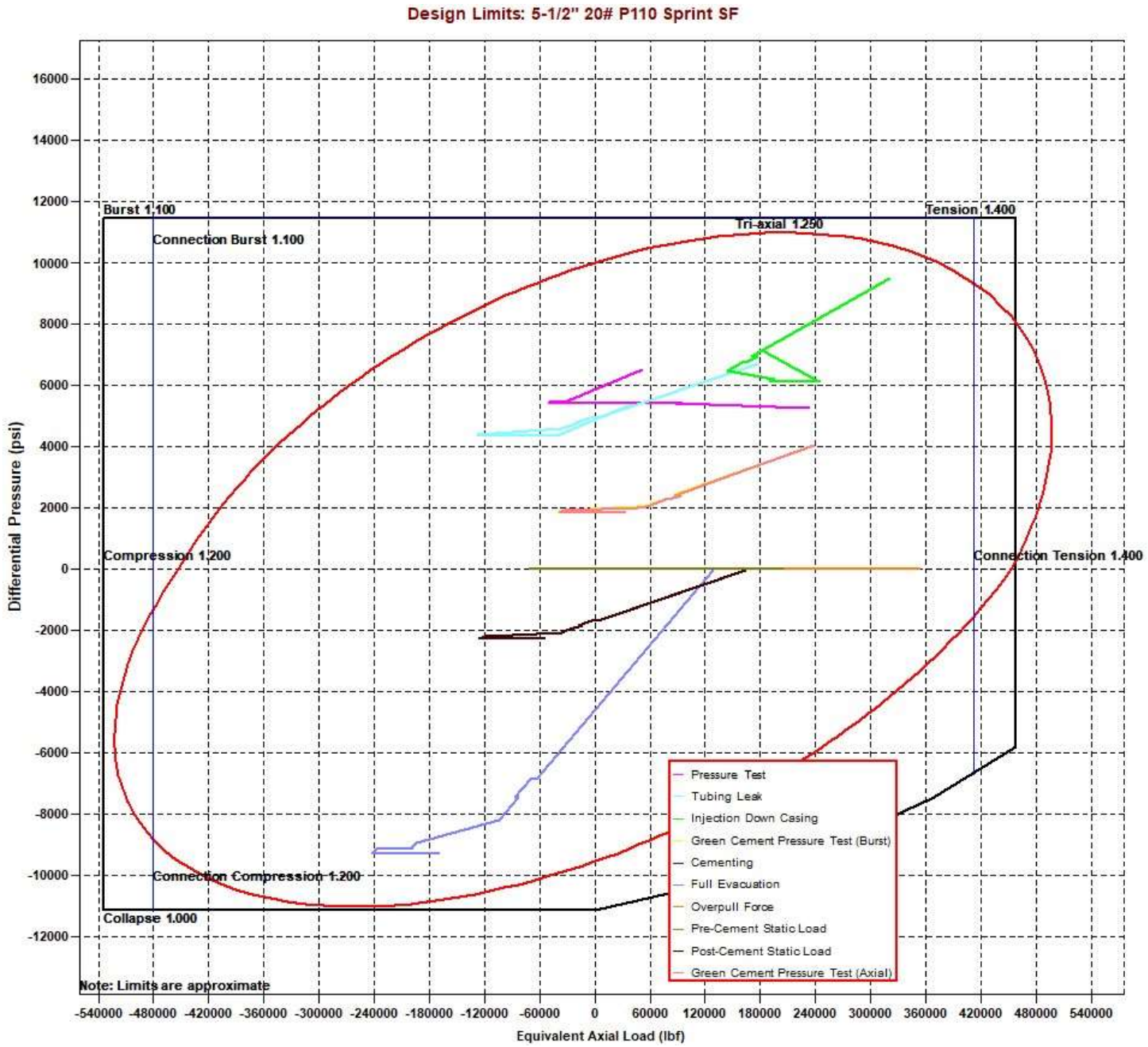
Oxy Blanket Design - Casing Design "B"



Oxy Blanket Design - Casing Design "B"



Oxy Blanket Design - Casing Design "B"



Oxy Blanket Design - Casing Design "B"

8. Landmark StressCheck Screenshots – Inputs for Intermediate 2 CSG Load Cases

Burst Load Cases

7 5/8" Intermediate Casing

Burst Loads Data

Drilling Load:	**Lost Returns with Water**
Fracture at Shoe (MD= 13111.00 ft):	10591 psi
Mud/Water Interface, MD:	0.00 ft
Mud Weight	11.28 ppg
Assigned External Pressure:	Fluid Gradients (w/ Pore Pressure)
Drilling Load:	**Gas Kick Profile**
Influx Depth, MD:	23361.00 ft
Kick Volume:	50.0 bbl
Kick Intensity	0.50 ppg
Maximum Mud Weight:	13.50 ppg
Kick Gas Gravity:	0.55 (0.1159 psi/ft @ 182 °F & 9291 psi)
Fracture at Shoe (MD= 13111.00 ft):	10591 psi
Drill Pipe OD:	5.000 in
Collar OD:	5.500 in
Collar Length:	200.00 ft
Assigned External Pressure:	Fluid Gradients (w/ Pore Pressure)
Drilling Load:	**Pressure Test**
Test Pressure:	3120 psi
Mud Weight:	10.00 ppg
Assigned External Pressure:	Fluid Gradients (w/ Pore Pressure)
Drilling Load:	**Green Cement Pressure Test**
Test Pressure:	4000 psi
Mud Weight at Shoe:	10.00 ppg
TOC, MD:	25.00 ft
Lead Slurry Density:	13.30 ppg
Tail Slurry Density:	13.20 ppg
Tail Slurry Length:	5909.00 ft
Displacement Fluid Density:	10.00 ppg
Float Collar Depth, MD:	13111.00 ft
External Pressure:	**Fluid Gradients (w/ Pore Pressure)**
TOC, MD:	25.00 ft
Prior Shoe, MD:	4832.00 ft
Mud Weight Above TOC:	10.00 ppg
Fluid Gradient Below TOC:	8.33 ppg
Wellhead Pressure:	18 psi
Pore Pressure In Open Hole:	Yes

Oxy Blanket Design - Casing Design "B"

Collapse Load Cases

7 5/8" Intermediate Casing

Collapse Loads Data

Drilling Load:	**Cementing**
Mud Weight at Shoe:	10.00 ppg
TOC, MD:	25.00 ft
Lead Slurry Density:	13.30 ppg
Tail Slurry Density:	13.20 ppg
Tail Slurry Length:	5909.00 ft
Displacement Fluid Density:	10.00 ppg
Float Collar Depth, MD:	13111.00 ft
Assigned External Pressure:	Fluid Gradients (w/ Pore Pressure)
Drilling Load:	**Lost Returns with Mud Drop**
Lost Returns Depth, MD:	13111.10 ft
Pore Pressure at Lost Returns Depth:	7918 psi
Pore Pressure Gradient at Lost Returns Depth:	11.93 ppg
Mud Weight:	13.50 ppg
Mud Drop Level, MD:	1484.14 ft
Assigned External Pressure:	Fluid Gradients (w/ Pore Pressure)
External Pressure:	**Fluid Gradients (w/ Pore Pressure)**
TOC, MD:	25.00 ft
Prior Shoe, MD:	4832.00 ft
Fluid Gradient Above TOC:	10.00 ppg
Fluid Gradient Below TOC:	10.00 ppg
Wellhead Pressure:	18 psi
Pore Pressure In Open Hole Below TOC:	No

Axial Load Cases

General | 7 5/8" Intermediate Casing

Axial Loads Data

Overpull Force:	100000 lbf
Pre-Cement Static Load:	Yes
Pickup Force:	0 lbf
Post-Cement Static Load:	Yes
Green Cement Pressure Test:	2000 psi
Service Loads:	Yes

Oxy Blanket Design - Casing Design "B"

9. Landmark StressCheck Screenshot – Int. Casing Triaxial Results Table (Pressure Test)

StressCheck - [Triaxial Results - Blanket Design B *]

File Edit Wellbore Tubular View Composer Tools Window Help

7 5/8" Intermediate Casing | Pressure Test

Triaxial Results

	Depth (MD) (ft)	Axial Force (lbf) Apparent (w/Bending)	Axial Force (lbf) Actual (w/o Bending)	Equivalent Axial Load (lbf)	Bending Stress at OD (psi)	Absolute Safety Factor Triaxial	Absolute Safety Factor Burst	Absolute Safety Factor Collapse (V)	Absolute Safety Factor Axial	Temperature (°F)	Pressure (psi) Internal	Pressure (psi) External	Addt'l Pickup To Prevent Buck. (lbf)	Buckled Length (ft)
29	12400	-149056	-24069	-99987	16622.5	1.88	2.25	N/A	(3.90)	179	9555	6970		
30	12500	-155877	-30890	-105328	16622.5	1.96	2.42	N/A	(3.73)	180	9603	7193		
31	12500	-155878	-30891	-105329	16622.5	1.96	2.42	N/A	(3.73)	180	9603	7193		
32	12550	-159065	-34078	-107825	16622.5	2.00	2.50	N/A	(3.66)	180	9625	7298		
33	12550	-159066	-34079	-107826	16622.5	2.00	2.50	N/A	(3.66)	180	9625	7298		
34	12600	-162071	-37084	-110180	16622.5	2.03	2.59	N/A	(3.59)	180	9646	7396		
35	12600	-162072	-37085	-110181	16622.5	2.03	2.59	N/A	(3.59)	180	9646	7396		
36	12650	-164872	-39885	-112376	16622.5	2.07	2.67	N/A	(3.53)	181	9665	7488		
37	12650	-164873	-39886	-112377	16622.5	2.07	2.67	N/A	(3.53)	181	9665	7488		
38	12700	-167448	-42461	-114394	16622.5	2.10	2.76	N/A	(3.47)	181	9683	7573		
39	12700	-167449	-42462	-114395	16622.5	2.10	2.76	N/A	(3.47)	181	9683	7573		
40	12750	-169778	-44791	-116221	16622.5	2.14	2.84	N/A	(3.43)	181	9699	7649		
41	12750	-169779	-44792	-116221	16622.5	2.14	2.84	N/A	(3.43)	181	9699	7649		
42	12800	-171844	-46858	-117841	16622.5	2.17	2.91	N/A	(3.38)	181	9714	7717		
43	12800	-171845	-46858	-117842	16622.5	2.17	2.91	N/A	(3.38)	181	9714	7717		
44	12850	-173632	-48645	-119243	16622.5	2.19	2.98	N/A	(3.35)	182	9726	7775		
45	12850	-173633	-48646	-119243	16622.5	2.19	2.98	N/A	(3.35)	182	9726	7775		
46	12900	-175127	-50141	-120416	16622.5	2.21	3.04	N/A	(3.32)	182	9736	7824		
47	12900	-175128	-50141	-120416	16622.5	2.21	3.04	N/A	(3.32)	182	9736	7824		
48	12950	-176319	-51332	-121350	16622.5	2.23	3.09	N/A	(3.30)	182	9745	7863		
49	13000	-177197	-52210	-122039	16622.5	2.24	3.13	N/A	(3.28)	182	9751	7892		
50	13050	-177755	-52769	-122477	16622.5	2.25	3.15	N/A	(3.27)	182	9755	7910		
51	13050	-177756	-52769	-122477	16622.5	2.25	3.15	N/A	(3.27)	182	9755	7910		
52	13111	-177998	-53011	-122667	16622.5	2.25	3.16	N/A	(3.27)	182	9756	7918		
53														
54	( ) Compression													
55	(V) Vector Collapse Safety Factor													
56														

Work | Csg_Scheme | PP_FG | Wellpath | Diagram | String_Conn | Design | Burst | Collapse | Axi

Internal Pressure = Surface Pressure + Hydrostatic = 9756 psi

External Pressure = Fluid Gradient w/ Pore Pressure = 7918 psi

Burst SF = 3.16

NOTE: *Specific load case inputs for the pressure test can be seen in* ***Section 8*** *above. The test pressure does not exceed 70% of the minimum internal yield.*

Oxy Blanket Design - Casing Design "B"

10. Intermediate Non-API Casing Spec Sheet

Printed on: 06/19/2023

Tenaris

API BTC -Special Clearance

Coupling	Pipe Body
Grade: **J55 (Casing)**	Grade: **J55 (Casing)**
Body: **Bright Green**	1st Band: **Bright Green**
1st Band: **White**	2nd Band: -
2nd Band: -	3rd Band: -
3rd Band: -	4th Band: -

Outside Diameter	10.750 in.	Wall Thickness	0.400 in.	Grade	J55 (Casing)
Min. Wall Thickness	87.50 %	Pipe Body Drift	Alternative Drift	Type	Casing
Connection OD Option	Special Clearance				

Pipe Body Data

Geometry				Performance	
Nominal OD	10.750 in.	Drift	9.875 in.	SMYS	55,000 psi
Wall Thickness	0.400 in.	Plain End Weight	44.26 lb/ft	Min UTS	75,000 psi
Nominal Weight	45.500 lb/ft	OD Tolerance	API	Body Yield Strength	715 x1000 lb
Nominal ID	9.950 in.			Min. Internal Yield Pressure	3580 psi
				Collapse Pressure	2090 psi
				Max. Allowed Bending	23 °/100 ft

Connection Data

Geometry		Performance	
Thread per In	5	Joint Strength	796 x1000 lb
Connection OD	11.250 in.	Coupling Face Load	329 x1000 lb
Hand Tight Stand Off	1 in.	Internal Pressure Capacity	3290 psi

Notes

For products according to API Standards 5CT & 5B; Performance calculated considering API Technical Report 5C3 (Sections 9 & 10) equations.
For geometrical and steel grades combinations not considered in the API Standards 5CT and/or 5B; Performance calculations indirectly derived from API Technical Report 5C3 (Sections 9 & 10) equations.
Couplings OD are shown according to current API 5CT 10th Edition.

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Oxy Blanket Design - Casing Design "B"

AXIS PIPE AND TUBE

Technical Data Sheet

7 5/8" 26.40 lbs/ft. L80HC - Axis HT

Mechanical Properties		
Minimum Yield Strength	psi.	80,000
Maximum Yield Strength	psi.	95,000
Minimum Tensile Strength	psi.	95,000

Dimensions		Pipe	AXIS HT
Outside Diameter	in.	7.625	8.500
Wall Thickness	in.	0.328	-
Inside Diameter	in.	6.969	-
Standard Drift	in.	6.844	6.844
Alternate Drift	in.	-	-
Plain End Weight	lbs/ft.	-	-
Nominal Linear Weight	lbs/ft.	26.40	-

Performance		Pipe	AXIS HT
Minimum Collapse Pressure	psi.	4,320	-
Minimum Internal Yield Pressure	psi.	6,020	6,020
Minimum Pipe Body Yield Strength	lbs.	602 x 1,000	-
Joint Strength	lbs.	-	635 x 1,000

Make-Up Torques		Pipe	AXIS HT
Optimum Make-Up Torque	ft/lbs.	-	8,000
Maximum Operational Torque	ft/lbs.	-	25,000

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11. Production Non-API Casing Spec Sheets

Oxy Blanket Design - Casing Design "B"

Printed on: 11/09/2021

Tenaris

TenarisHydril Wedge 461 ® MS

Coupling	Pipe Body
Grade: P110-ICY	Grade: P110-ICY
Body: White	1st Band: White
1st Band: Pale Green	2nd Band: Pale Green
2nd Band: -	3rd Band: Pale Green
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	5.500 in.	Wall Thickness	0.361 in.	Grade	P110-ICY
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	MS				

Pipe Body Data

Geometry				Performance	
Nominal OD	5.500 in.	Wall Thickness	0.361 in.	Body Yield Strength	729 x1000 lb
Nominal Weight	20 lb/ft	Plain End Weight	19.83 lb/ft	Min. Internal Yield Pressure	14,360 psi
Drift	4.653 in.	OD Tolerance	API	SMYS	125,000 psi
Nominal ID	4.778 in.			Collapse Pressure	12,300 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	6.050 in.	Tension Efficiency	100 %	Minimum	17,000 ft-lb
Coupling Length	7.714 in.	Joint Yield Strength	729 x1000 lb	Optimum	18,000 ft-lb
Connection ID	4.778 in.	Internal Pressure Capacity	14,360 psi	Maximum	21,600 ft-lb
Make-up Loss	3.775 in.	Compression Efficiency	100 %	**Operation Limit Torques**	
Threads per inch	3.40	Compression Strength	729 x1000 lb	Operating Torque	43,000 ft-lb
Connection OD Option	Ms	Max. Allowable Bending	104 °/100 ft	Yield Torque	51,000 ft-lb
		External Pressure Capacity	12,300 psi	**Buck-On**	
		Coupling Face Load	273,000 lb	Minimum	21,600 ft-lb
				Maximum	23,100 ft-lb

Notes

This connection is fully interchangeable with:
Wedge 441® - 5.5 in. - 0.304 / 0.361 in.
Wedge 461® - 5.5 in. - 0.304 / 0.415 / 0.476 in.
Connections with Dopeless® Technology are fully compatible with the same connection in its Standard version
In October 2019, TenarisHydril Wedge XP® 2.0 was renamed TenarisHydril Wedge 461™. Product dimensions and properties remain identical and both connections are fully interchangeable

For the lastest performance data, always visit our website: www.tenaris.com

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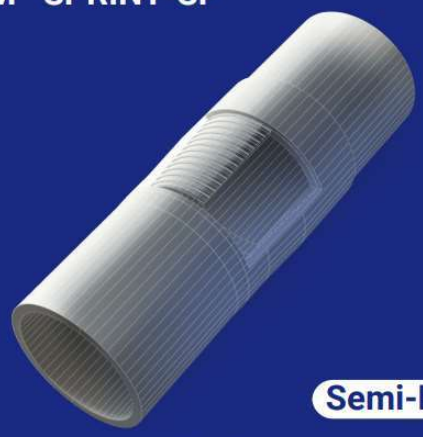
Oxy Blanket Design - Casing Design "B"

Generated on May 21, 2024

CONNECTION DATA SHEET

OD: **5.500 in.** Grade: **P110**
Weight: **20.00 lb/ft** Drift: **4.653 in. (API)**
Wall Th.: **0.361 in.**

VAM® SPRINT-SF



Semi-Flush

Field Torque Values

Make-up Torque (ft-lb)
- 20,000 **MIN**
- 22,500 **OPTI**
- 25,000 **MAX**

Torque with Sealability (ft-lb)
- 36,000 **MTS**

Locked Flank Torque (ft-lb)
- 4,500 **MIN**
- 15,750 **MAX**

(2) MTS: Maximum Torque with Sealability.

PIPE BODY PROPERTIES

Nominal OD	5.500	*in.*
Nominal ID	4.778	*in.*
Nominal Wall Thickness	0.361	*in.*
Minimum Wall Thickness	87.5	*%*
Nominal Weight (API)	20.00	*lb/ft*
Plain End Weight	19.83	*lb/ft*
Drift	4.653	*in.*
Grade Type	API 5CT	
Minimum Yield Strength	110	*ksi*
Maximum Yield Strength	140	*ksi*
Minimum Ultimate Tensile Strength	125	*ksi*
Pipe Body Yield Strength	641	*klb*
Internal Yield Pressure	12,640	*psi*
Collapse Pressure	11,100	*psi*

CONNECTION PROPERTIES

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

JOINT PERFORMANCES

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

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

BOOST YOUR EFFICIENCY, REDUCE COSTS AND ENSURE 100% WELL INTEGRITY WITH
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Oxy Blanket Design - Casing Design "B"

DWC/C-HT-IS

Connection Data Sheet

OD (in.)	WEIGHT (lbs./ft.)	WALL (in.)	GRADE	API DRIFT (in.)	RBW%	CONNECTION
5.500	Nominal: 20.00 Plain End: 19.83	0.361	‡VST P110MY	4.653	87.5	DWC/C-HT-IS

PIPE PROPERTIES		
Nominal OD	5.500	in.
Nominal ID	4.778	in.
Nominal Area	5.828	sq.in.
Grade Type		API 5CT
Min. Yield Strength	125	ksi
Max. Yield Strength	140	ksi
Min. Tensile Strength	135	ksi
Yield Strength	729	klb
Ultimate Strength	787	klb
Min. Internal Yield Pressure	14,360	psi
Collapse Pressure	12,090	psi

CONNECTION PROPERTIES		
Connection Type		Semi-Premium T&C
Connection OD (nom)	6.050	in.
Connection ID (nom)	4.778	in.
Make-Up Loss	4.125	in.
Coupling Length	9.250	in.
Critical Cross Section	5.828	sq.in.
Tension Efficiency	89.1%	of pipe
Compression Efficiency	88.0%	of pipe
Internal Pressure Efficiency	86.1%	of pipe
External Pressure Efficiency	100.0%	of pipe

CONNECTION PERFORMANCES		
Yield Strength	649	klb
Parting Load	729	klb
Compression Rating	641	klb
Min. Internal Yield Pressure	12,360	psi
External Pressure Resistance	12,090	psi
Maximum Uniaxial Bend Rating	91.7	°/100 ft
Reference String Length w 1.4 Design Factor	22,890	ft.

FIELD TORQUE VALUES		
Min. Make-up torque	16,600	ft.lb
Opti. Make-up torque	17,950	ft.lb
Max. Make-up torque	19,300	ft.lb
Min. Shoulder Torque	1,660	ft.lb
Max. Shoulder Torque	13,280	ft.lb
Max. Delta Turn	0.200	Turns
†Maximum Operational Torque	23,800	ft.lb
†Maximum Torsional Value (MTV)	26,180	ft.lb

† Maximum Operational Torque and Maximum Torsional Value only valid with Vallourec P110MY Material.
‡ P110MY - Coupling Min Yield Strength is 110ksi and Coupling Max Yield is 125ksi.

"VST = Vallourec Star as the mill source for the pipe, "P110EC" is the grade name"
Need Help? Contact: tech.support@vam-usa.com
For detailed information on performance properties, refer to DWC Connection Data Notes on following page(s).

Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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Oxy Blanket Design - Casing Design "B"

VAM USA
2107 CityWest Boulevard Suite 1300
Houston, TX 77042
Phone: 713-479-3200
Fax: 713-479-3234
VAM® USA Sales E-mail: VAMUSAsales@vam-usa.com
Tech Support Email: tech.support@vam-usa.com

DWC Connection Data Sheet Notes:

1. DWC connections are available with a seal ring (SR) option.
2. All standard DWC/C connections are interchangeable for a given pipe OD. DWC connections are interchangeable with DWC/C-SR connections of the same OD and wall.
3. Connection performance properties are based on nominal pipe body and connection dimensions.
4. DWC connection internal and external pressure resistance is calculated using the API rating for buttress connections. API Internal pressure resistance is calculated from formulas 31, 32, and 35 in the API Bulletin 5C3.
5. DWC joint strength is the minimum pipe body yield strength multiplied by the connection critical area.
6. API joint strength is for reference only. It is calculated from formulas 42 and 43 in the API Bulletin 5C3.
7. Bending efficiency is equal to the compression efficiency.
8. The torque values listed are recommended. The actual torque required may be affected by field conditions such as temperature, thread compound, speed of make-up, weather conditions, etc.
9. Connection yield torque is not to be exceeded.
10. Reference string length is calculated by dividing the joint strength by both the nominal weight in air and a design factor (DF) of 1.4. These values are offered for reference only and do not include load factors such as bending, buoyancy, temperature, load dynamics, etc.
11. DWC connections will accommodate API standard drift diameters.
12. DWC/C family of connections are compatible with API Buttress BTC connections. Please contact tech.support@vam-usa.com for details on connection ratings and make-up.

Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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Oxy USA Inc. - Blanket Design Pad Document

OXY - Blanket Design A

Pad Name: LSTTNK_22S32E_6_3

SHL: 887' FNL 1067' FEL, Sec 6, T22S-R32E

Oxy requests for the bellow wells to be approved for the two designs listed in the Blanket Design document **(Blanket Design A –OXY –3S Slim v7.2.)** The MDs and TVDs for all intervals are within the boundary conditions. The max inclination and DLS are also within the boundary conditions (directional plans attached separately for review.)

1. Blanket Design - Wells

Well Name	APD #	Surface		Intermediate		Production	
		MD	TVD	MD	TVD	MD	TVD
Regal Lager 31_19 Fed Com 43H	N/A - New Permit	862	862	11622	11549	28109	12150
Regal Lager 31_19 Fed Com 44H	N/A - New Permit	862	862	11718	11645	28218	12246

2. Review Criteria Table

	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-Q?	Y
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	Y
Is well located in R-111-Q 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. Geologic Formations

Formation	MD-RKB (ft)	TVD-RKB (ft)	Expected Fluids
Rustler	802	802	
Salado	1045	1045	Salt
Marker Bed 126			Salt
Castile	2559	2559	Salt
Delaware	4544	4544	Oil/Gas/Brine
Bell Canyon	4621	4621	Oil/Gas/Brine
Cherry Canyon	5464	5464	Oil/Gas/Brine
Brushy Canyon	6729	6728	Losses
Bone Spring	8546	8521	Oil/Gas
Bone Spring 1st	9593	9553	Oil/Gas
Bone Spring 2nd	10288	10237	Oil/Gas
Bone Spring 3rd	11295	11229	Oil/Gas
Wolfcamp	11765	11691	Oil/Gas
Penn			Oil/Gas
Strawn			Oil/Gas

4. Cementing Program

Section	Stage	Slurry:	Sacks	Yield (ft^3/ft)	Density (lb/gal)	Excess:	TOC	Placement	Description
Surface	1	Surface - Tail	900	1.33	14.8	100%	-	Circulate	Class C+Accel.
Int.	1	Intermediate 1S - Tail	623	1.68	13.2	5%	6,979	Circulate	Class C+Ret., Disper.
Int.	2	Intermediate 2S - Tail BH	1238	1.71	13.3	25%	-	Bradenhead	Class C+Accel.
Prod.	1	Production - Tail	963	1.84	13.3	25%	11,122	Circulate	Class C+Ret.

Oxy USA Inc. - Regal Lager 31_19 Fed Com 44H
Drill Plan

1. Geologic Formations

TVD of Target (ft):	12246	Pilot Hole Depth (ft):	
Total Measured Depth (ft):	28218	Deepest Expected Fresh Water (ft):	802

Delaware Basin

Formation	MD-RKB (ft)	TVD-RKB (ft)	Expected Fluids
Rustler	802	802	
Salado	1035	1035	Salt
Marker Bed 126			Salt
Castile	2533	2533	Salt
Delaware	4559	4559	Oil/Gas/Brine
Bell Canyon	4631	4631	Oil/Gas/Brine
Cherry Canyon	5471	5471	Oil/Gas/Brine
Brushy Canyon	6744	6744	Losses
Bone Spring	8561	8537	Oil/Gas
Bone Spring 1st	9604	9564	Oil/Gas
Bone Spring 2nd	10305	10255	Oil/Gas
Bone Spring 3rd	11316	11250	Oil/Gas
Wolfcamp	11764	11692	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	17.5	0	862	0	862	13.375	54.5	J-55	BTC
Salt	12.25	0	4559	0	4559	10.75	45.5	L-80 HC	BTC-SC
Intermediate	9.875	0	11718	0	11645	7.625	26.4	L-80 HC	BTC
Production	6.75	0	28218	0	12246	5.5	20	P-110	Sprint-SF

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

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

	Y or N
Is casing new? If used, attach certification as required in 43 CFR 3160	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	Y
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-Q?	Y
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	Y
Is well located in R-111-Q 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	900	1.33	14.8	100%	-	Circulate	Class C+Accel.
Int.1	1	Intermediate - Tail	85	1.33	14.8	20%	4,059	Circulate	Class C+Accel.
Int.1	1	Intermediate - Lead	640	1.73	12.9	50%	-	Circulate	Class Pozz+Ret.
Int. 2	1	Intermediate 1S - Tail	634	1.68	13.2	5%	6,994	Circulate	Class C+Ret., Disper.
Int. 2	2	Intermediate 2S - Tail BH	976	1.71	13.3	25%	-	Bradenhead	Class C+Accel.
Prod.	1	Production - Tail	963	1.84	13.3	25%	11,218	Circulate	Class C+Ret.

Offline Cementing Request

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

Bradenhead CBL Request

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

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:	TVD Depth (ft) per Section:
12.25" Hole	13-5/8"	5M	Annular	✓	70% of working pressure	4559
		5M	Blind Ram	✓	250 psi / 5000 psi	
			Pipe Ram			
			Double Ram	✓		
			Other*			
9.875" Hole	13-5/8"	5M	Annular	✓	70% of working pressure	11645
		5M	Blind Ram	✓	250 psi / 5000 psi	
			Pipe Ram			
			Double Ram	✓		
			Other*			
6.75" Hole	13-5/8"	5M	Annular	✓	100% of working pressure	12246
		10M	Blind Ram	✓	250 psi / 10000 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

5M Annular BOP Request

Per BLM's Memorandum No. NM-2017-008: *Decision and Rationale for a Variance Allowing the Use of a 5M Annular Preventer with a 10M BOP Stack*, Oxy requests to employ a 5M annular with a 10M BOPE stack in the pilot and lateral sections of the well and will ensure that two barriers to flow are maintained at all times. Please see Annular BOP Variance attachment for further details.

	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 (intermediate and production) requirements as per the agreement reached in the OXY/BLM meeting on April 4th, 2025. 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		Depth - TVD		Type	Weight (ppg)	Viscosity	Water Loss
	From (ft)	To (ft)	From (ft)	To (ft)				
Surface	0	862	0	862	Water-Based Mud	8.6 - 8.8	40-60	N/C
Intermediate 1	862	4559	862	4559	Saturated Brine-Based or Oil-Based Mud	8.0 - 10.0	35-45	N/C
Intermediate 2	4559	11718	4559	11645	Water-Based or Oil-Based Mud	8.0 - 10.0	38-50	N/C
Production	11718	28218	11645	12246	Water-Based or Oil-Based Mud	9.5 - 13.5	38-50	N/C

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

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

6. Logging and Testing Procedures

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

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

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	8597 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	178°F

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

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

8. Other facets of operation

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

Total Estimated Cuttings Volume: 2204 bbls

Oxy USA Inc. - Blanket Design Pad Document

OXY - Blanket Design B

Pad Name: LSTTNK_22S32E_6_3

SHL: 887' FNL 1067' FEL, Sec 6, T22S-R32E

Oxy requests for the bellow wells to be approved for the two designs listed in the Blanket Design document **(Blanket Design B –OXY –4S Slim v3.2.)** The MDs and TVDs for all intervals are within the boundary conditions. The max inclination and DLS are also within the boundary conditions (directional plans attached separately for review.)

1. Blanket Design - Wells

Well Name	APD #	Surface		Salt		Intermediate		Production	
		MD	TVD	MD	TVD	MD	TVD	MD	TVD
Regal Lager 31_19 Fed Com 43H	N/A - New Permit	862	862	4544	4544	11622	11549	28109	12150
Regal Lager 31_19 Fed Com 44H	N/A - New Permit	862	862	4559	4559	11718	11645	28218	12246

2. Review Criteria Table

	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-Q?	Y
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	Y
Is well located in R-111-Q 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. Geologic Formations

Formation	MD-RKB (ft)	TVD-RKB (ft)	Expected Fluids
Rustler	802	802	
Salado	1045	1045	Salt
Marker Bed 126			Salt
Castile	2559	2559	Salt
Delaware	4544	4544	Oil/Gas/Brine
Bell Canyon	4621	4621	Oil/Gas/Brine
Cherry Canyon	5464	5464	Oil/Gas/Brine
Brushy Canyon	6729	6728	Losses
Bone Spring	8546	8521	Oil/Gas
Bone Spring 1st	9593	9553	Oil/Gas
Bone Spring 2nd	10288	10237	Oil/Gas
Bone Spring 3rd	11295	11229	Oil/Gas
Wolfcamp	11765	11691	Oil/Gas
Penn			Oil/Gas
Strawn			Oil/Gas

4. Cementing Program

Section	Stage	Slurry:	Sacks	Yield (ft^3/ft)	Density (lb/gal)	Excess:	TOC	Placement	Description
Surface	1	Surface - Tail	900	1.33	14.8	100%	-	Circulate	Class C+Accel.
Int.1	1	Intermediate - Tail	85	1.33	14.8	20%	4,044	Circulate	Class C+Accel.
Int.1	1	Intermediate - Lead	638	1.73	12.9	50%	-	Circulate	Class Pozz+Ret.
Int. 2	1	Intermediate 1S - Tail	623	1.68	13.2	5%	6,979	Circulate	Class C+Ret., Disper.
Int. 2	2	Intermediate 2S - Tail BH	975	1.71	13.3	25%	-	Bradenhead	Class C+Accel.
Prod.	1	Production - Tail	963	1.84	13.3	25%	11,122	Circulate	Class C+Ret.

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PRD NM DIRECTIONAL PLANS (NAD 1983)
Regal Lager 31_19 Fed Com
Regal Lager 31_19 Fed Com 44H

Wellbore #1

Plan: Permitting Plan

Standard Planning Report

07 May, 2025

OXY
Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Regal Lager 31_19 Fed Com 44H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=25' @ 3657.00ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=25' @ 3657.00ft
Site:	Regal Lager 31_19 Fed Com	**North Reference:**	Grid
Well:	Regal Lager 31_19 Fed Com 44H	**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 Regal Lager 31_19 Fed Com

Site Position:		**Northing:**	520,226.48 usft	**Latitude:**	32.428649
From:	Map	**Easting:**	732,271.10 usft	**Longitude:**	-103.714504
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in		

Well Regal Lager 31_19 Fed Com 44H

Well Position	**+N/-S**	0.00 ft	**Northing:**	519,054.00 usf	**Latitude:**	32.425398
	+E/-W	0.00 ft	**Easting:**	734,049.10 usf	**Longitude:**	-103.708764
Position Uncertainty		2.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	3,632.00 ft
Grid Convergence:		0.33 °				

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	2/12/2025	6.28	60.02	47,474.30000000

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	2.05

Plan Survey Tool Program **Date** 5/7/2025

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	28,217.78	Permitting Plan (Wellbore #1)	B005Mc_MWD+HRGM+SA MWD+HRGM+Sag+MSA	

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	
6,335.00	0.00	0.00	6,335.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,335.25	10.00	47.24	7,330.17	59.13	63.94	1.00	1.00	0.00	47.24	
11,818.16	10.00	47.24	11,744.95	587.80	635.59	0.00	0.00	0.00	0.00	
12,663.31	91.25	359.63	12,246.25	1,169.63	698.62	10.00	9.61	-5.63	-47.88	
28,218.31	91.25	359.63	11,906.92	16,720.60	598.31	0.00	0.00	0.00	0.00	PBHL (Regal Lager

OXY

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Site:	Regal Lager 31_19 Fed Com	**North Reference:**	Grid
Well:	Regal Lager 31_19 Fed Com 44H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey

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

OXY
Planning Report

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Well:	Regal Lager 31_19 Fed Com 44H	**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)
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,335.00	0.00	0.00	6,335.00	0.00	0.00	0.00	0.00	0.00	0.00
Build 1°/100'									
6,400.00	0.65	47.24	6,400.00	0.25	0.27	0.26	1.00	1.00	0.00
6,500.00	1.65	47.24	6,499.98	1.61	1.74	1.67	1.00	1.00	0.00
6,600.00	2.65	47.24	6,599.91	4.16	4.50	4.32	1.00	1.00	0.00
6,700.00	3.65	47.24	6,699.75	7.89	8.53	8.19	1.00	1.00	0.00
6,800.00	4.65	47.24	6,799.49	12.80	13.85	13.29	1.00	1.00	0.00
6,900.00	5.65	47.24	6,899.08	18.90	20.44	19.62	1.00	1.00	0.00
7,000.00	6.65	47.24	6,998.51	26.17	28.30	27.17	1.00	1.00	0.00
7,100.00	7.65	47.24	7,097.73	34.62	37.44	35.94	1.00	1.00	0.00
7,200.00	8.65	47.24	7,196.72	44.25	47.85	45.93	1.00	1.00	0.00
7,300.00	9.65	47.24	7,295.44	55.05	59.52	57.14	1.00	1.00	0.00
7,335.25	10.00	47.24	7,330.17	59.13	63.94	61.38	1.00	1.00	0.00
Hold 10° Tangent									
7,400.00	10.00	47.24	7,393.94	66.77	72.19	69.31	0.00	0.00	0.00
7,500.00	10.00	47.24	7,492.42	78.56	84.95	81.55	0.00	0.00	0.00
7,600.00	10.00	47.24	7,590.90	90.35	97.70	93.79	0.00	0.00	0.00
7,700.00	10.00	47.24	7,689.38	102.15	110.45	106.03	0.00	0.00	0.00
7,800.00	10.00	47.24	7,787.86	113.94	123.20	118.27	0.00	0.00	0.00
7,900.00	10.00	47.24	7,886.34	125.73	135.95	130.51	0.00	0.00	0.00
8,000.00	10.00	47.24	7,984.82	137.52	148.71	142.75	0.00	0.00	0.00
8,100.00	10.00	47.24	8,083.30	149.32	161.46	155.00	0.00	0.00	0.00
8,200.00	10.00	47.24	8,181.78	161.11	174.21	167.24	0.00	0.00	0.00
8,300.00	10.00	47.24	8,280.26	172.90	186.96	179.48	0.00	0.00	0.00
8,400.00	10.00	47.24	8,378.74	184.70	199.71	191.72	0.00	0.00	0.00
8,500.00	10.00	47.24	8,477.22	196.49	212.46	203.96	0.00	0.00	0.00
8,600.00	10.00	47.24	8,575.70	208.28	225.22	216.20	0.00	0.00	0.00
8,700.00	10.00	47.24	8,674.18	220.08	237.97	228.44	0.00	0.00	0.00
8,800.00	10.00	47.24	8,772.66	231.87	250.72	240.69	0.00	0.00	0.00
8,900.00	10.00	47.24	8,871.14	243.66	263.47	252.93	0.00	0.00	0.00
9,000.00	10.00	47.24	8,969.62	255.45	276.22	265.17	0.00	0.00	0.00
9,100.00	10.00	47.24	9,068.10	267.25	288.98	277.41	0.00	0.00	0.00
9,200.00	10.00	47.24	9,166.58	279.04	301.73	289.65	0.00	0.00	0.00
9,300.00	10.00	47.24	9,265.06	290.83	314.48	301.89	0.00	0.00	0.00
9,400.00	10.00	47.24	9,363.54	302.63	327.23	314.13	0.00	0.00	0.00
9,500.00	10.00	47.24	9,462.02	314.42	339.98	326.38	0.00	0.00	0.00
9,600.00	10.00	47.24	9,560.50	326.21	352.73	338.62	0.00	0.00	0.00
9,700.00	10.00	47.24	9,658.98	338.01	365.49	350.86	0.00	0.00	0.00
9,800.00	10.00	47.24	9,757.46	349.80	378.24	363.10	0.00	0.00	0.00
9,900.00	10.00	47.24	9,855.94	361.59	390.99	375.34	0.00	0.00	0.00
10,000.00	10.00	47.24	9,954.42	373.38	403.74	387.58	0.00	0.00	0.00
10,100.00	10.00	47.24	10,052.90	385.18	416.49	399.83	0.00	0.00	0.00
10,200.00	10.00	47.24	10,151.38	396.97	429.24	412.07	0.00	0.00	0.00
10,300.00	10.00	47.24	10,249.86	408.76	442.00	424.31	0.00	0.00	0.00
10,400.00	10.00	47.24	10,348.34	420.56	454.75	436.55	0.00	0.00	0.00
10,500.00	10.00	47.24	10,446.82	432.35	467.50	448.79	0.00	0.00	0.00

OXY

Planning Report

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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)
10,600.00	10.00	47.24	10,545.30	444.14	480.25	461.03	0.00	0.00	0.00
10,700.00	10.00	47.24	10,643.78	455.94	493.00	473.27	0.00	0.00	0.00
10,800.00	10.00	47.24	10,742.26	467.73	505.76	485.52	0.00	0.00	0.00
10,900.00	10.00	47.24	10,840.74	479.52	518.51	497.76	0.00	0.00	0.00
11,000.00	10.00	47.24	10,939.22	491.31	531.26	510.00	0.00	0.00	0.00
11,100.00	10.00	47.24	11,037.70	503.11	544.01	522.24	0.00	0.00	0.00
11,200.00	10.00	47.24	11,136.18	514.90	556.76	534.48	0.00	0.00	0.00
11,300.00	10.00	47.24	11,234.66	526.69	569.51	546.72	0.00	0.00	0.00
11,400.00	10.00	47.24	11,333.14	538.49	582.27	558.96	0.00	0.00	0.00
11,500.00	10.00	47.24	11,431.62	550.28	595.02	571.21	0.00	0.00	0.00
11,600.00	10.00	47.24	11,530.10	562.07	607.77	583.45	0.00	0.00	0.00
11,700.00	10.00	47.24	11,628.58	573.87	620.52	595.69	0.00	0.00	0.00
11,800.00	10.00	47.24	11,727.06	585.66	633.27	607.93	0.00	0.00	0.00
11,818.16	10.00	47.24	11,744.95	587.80	635.59	610.15	0.00	0.00	0.00
KOP, Build & Turn 10°/100'									
11,900.00	16.63	25.58	11,824.59	603.21	645.88	625.92	10.00	8.09	-26.46
12,000.00	25.94	15.28	11,917.70	637.30	657.85	660.42	10.00	9.31	-10.30
12,100.00	35.61	10.25	12,003.53	687.17	668.83	710.65	10.00	9.67	-5.04
12,200.00	45.41	7.15	12,079.48	751.31	678.46	775.09	10.00	9.80	-3.09
12,300.00	55.26	4.96	12,143.24	827.77	686.47	851.79	10.00	9.86	-2.19
12,400.00	65.15	3.24	12,192.86	914.22	692.60	938.40	10.00	9.89	-1.72
12,485.41	73.61	1.98	12,222.91	994.00	696.22	1,018.27	10.00	9.90	-1.47
PPP-1 Cross									
12,500.00	75.06	1.78	12,226.85	1,008.04	696.68	1,032.31	10.00	9.91	-1.39
12,600.00	84.97	0.45	12,244.17	1,106.39	698.57	1,130.66	10.00	9.91	-1.33
12,663.31	91.25	359.63	12,246.25	1,169.63	698.62	1,193.86	10.00	9.92	-1.29
Landing Point									
12,700.00	91.25	359.63	12,245.45	1,206.31	698.38	1,230.51	0.00	0.00	0.00
12,800.00	91.25	359.63	12,243.27	1,306.28	697.73	1,330.40	0.00	0.00	0.00
12,900.00	91.25	359.63	12,241.09	1,406.26	697.09	1,430.29	0.00	0.00	0.00
13,000.00	91.25	359.63	12,238.91	1,506.23	696.44	1,530.17	0.00	0.00	0.00
13,100.00	91.25	359.63	12,236.73	1,606.21	695.80	1,630.06	0.00	0.00	0.00
13,200.00	91.25	359.63	12,234.54	1,706.18	695.15	1,729.95	0.00	0.00	0.00
13,300.00	91.25	359.63	12,232.36	1,806.16	694.51	1,829.84	0.00	0.00	0.00
13,400.00	91.25	359.63	12,230.18	1,906.13	693.86	1,929.72	0.00	0.00	0.00
13,500.00	91.25	359.63	12,228.00	2,006.10	693.22	2,029.61	0.00	0.00	0.00
13,600.00	91.25	359.63	12,225.82	2,106.08	692.57	2,129.50	0.00	0.00	0.00
13,700.00	91.25	359.63	12,223.64	2,206.05	691.93	2,229.38	0.00	0.00	0.00
13,800.00	91.25	359.63	12,221.46	2,306.03	691.29	2,329.27	0.00	0.00	0.00
13,900.00	91.25	359.63	12,219.27	2,406.00	690.64	2,429.16	0.00	0.00	0.00
14,000.00	91.25	359.63	12,217.09	2,505.97	690.00	2,529.05	0.00	0.00	0.00
14,100.00	91.25	359.63	12,214.91	2,605.95	689.35	2,628.93	0.00	0.00	0.00
14,200.00	91.25	359.63	12,212.73	2,705.92	688.71	2,728.82	0.00	0.00	0.00
14,300.00	91.25	359.63	12,210.55	2,805.90	688.06	2,828.71	0.00	0.00	0.00
14,400.00	91.25	359.63	12,208.37	2,905.87	687.42	2,928.59	0.00	0.00	0.00
14,500.00	91.25	359.63	12,206.19	3,005.84	686.77	3,028.48	0.00	0.00	0.00
14,600.00	91.25	359.63	12,204.00	3,105.82	686.13	3,128.37	0.00	0.00	0.00
14,700.00	91.25	359.63	12,201.82	3,205.79	685.48	3,228.26	0.00	0.00	0.00
14,800.00	91.25	359.63	12,199.64	3,305.77	684.84	3,328.14	0.00	0.00	0.00
14,900.00	91.25	359.63	12,197.46	3,405.74	684.19	3,428.03	0.00	0.00	0.00
15,000.00	91.25	359.63	12,195.28	3,505.72	683.55	3,527.92	0.00	0.00	0.00
15,100.00	91.25	359.63	12,193.10	3,605.69	682.90	3,627.80	0.00	0.00	0.00
15,200.00	91.25	359.63	12,190.91	3,705.66	682.26	3,727.69	0.00	0.00	0.00
15,300.00	91.25	359.63	12,188.73	3,805.64	681.61	3,827.58	0.00	0.00	0.00
15,400.00	91.25	359.63	12,186.55	3,905.61	680.97	3,927.47	0.00	0.00	0.00

OXY

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Regal Lager 31_19 Fed Com 44H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=25' @ 3657.00ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=25' @ 3657.00ft
Site:	Regal Lager 31_19 Fed Com	**North Reference:**	Grid
Well:	Regal Lager 31_19 Fed Com 44H	**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)
15,500.00	91.25	359.63	12,184.37	4,005.59	680.32	4,027.35	0.00	0.00	0.00
15,600.00	91.25	359.63	12,182.19	4,105.56	679.68	4,127.24	0.00	0.00	0.00
15,700.00	91.25	359.63	12,180.01	4,205.53	679.03	4,227.13	0.00	0.00	0.00
15,800.00	91.25	359.63	12,177.83	4,305.51	678.39	4,327.01	0.00	0.00	0.00
15,900.00	91.25	359.63	12,175.64	4,405.48	677.74	4,426.90	0.00	0.00	0.00
16,000.00	91.25	359.63	12,173.46	4,505.46	677.10	4,526.79	0.00	0.00	0.00
16,100.00	91.25	359.63	12,171.28	4,605.43	676.45	4,626.68	0.00	0.00	0.00
16,200.00	91.25	359.63	12,169.10	4,705.41	675.81	4,726.56	0.00	0.00	0.00
16,300.00	91.25	359.63	12,166.92	4,805.38	675.16	4,826.45	0.00	0.00	0.00
16,400.00	91.25	359.63	12,164.74	4,905.35	674.52	4,926.34	0.00	0.00	0.00
16,500.00	91.25	359.63	12,162.56	5,005.33	673.87	5,026.22	0.00	0.00	0.00
16,600.00	91.25	359.63	12,160.37	5,105.30	673.23	5,126.11	0.00	0.00	0.00
16,700.00	91.25	359.63	12,158.19	5,205.28	672.58	5,226.00	0.00	0.00	0.00
16,800.00	91.25	359.63	12,156.01	5,305.25	671.94	5,325.89	0.00	0.00	0.00
16,900.00	91.25	359.63	12,153.83	5,405.22	671.30	5,425.77	0.00	0.00	0.00
17,000.00	91.25	359.63	12,151.65	5,505.20	670.65	5,525.66	0.00	0.00	0.00
17,100.00	91.25	359.63	12,149.47	5,605.17	670.01	5,625.55	0.00	0.00	0.00
17,200.00	91.25	359.63	12,147.29	5,705.15	669.36	5,725.43	0.00	0.00	0.00
17,300.00	91.25	359.63	12,145.10	5,805.12	668.72	5,825.32	0.00	0.00	0.00
17,400.00	91.25	359.63	12,142.92	5,905.09	668.07	5,925.21	0.00	0.00	0.00
17,500.00	91.25	359.63	12,140.74	6,005.07	667.43	6,025.10	0.00	0.00	0.00
17,600.00	91.25	359.63	12,138.56	6,105.04	666.78	6,124.98	0.00	0.00	0.00
17,669.98	91.25	359.63	12,137.03	6,175.00	666.33	6,194.88	0.00	0.00	0.00
PPP-2 Cross									
17,700.00	91.25	359.63	12,136.38	6,205.02	666.14	6,224.87	0.00	0.00	0.00
17,800.00	91.25	359.63	12,134.20	6,304.99	665.49	6,324.76	0.00	0.00	0.00
17,900.00	91.25	359.63	12,132.01	6,404.97	664.85	6,424.64	0.00	0.00	0.00
18,000.00	91.25	359.63	12,129.83	6,504.94	664.20	6,524.53	0.00	0.00	0.00
18,100.00	91.25	359.63	12,127.65	6,604.91	663.56	6,624.42	0.00	0.00	0.00
18,200.00	91.25	359.63	12,125.47	6,704.89	662.91	6,724.30	0.00	0.00	0.00
18,300.00	91.25	359.63	12,123.29	6,804.86	662.27	6,824.19	0.00	0.00	0.00
18,400.00	91.25	359.63	12,121.11	6,904.84	661.62	6,924.08	0.00	0.00	0.00
18,500.00	91.25	359.63	12,118.93	7,004.81	660.98	7,023.97	0.00	0.00	0.00
18,600.00	91.25	359.63	12,116.74	7,104.78	660.33	7,123.85	0.00	0.00	0.00
18,700.00	91.25	359.63	12,114.56	7,204.76	659.69	7,223.74	0.00	0.00	0.00
18,800.00	91.25	359.63	12,112.38	7,304.73	659.04	7,323.63	0.00	0.00	0.00
18,900.00	91.25	359.63	12,110.20	7,404.71	658.40	7,423.51	0.00	0.00	0.00
19,000.00	91.25	359.63	12,108.02	7,504.68	657.75	7,523.40	0.00	0.00	0.00
19,100.00	91.25	359.63	12,105.84	7,604.65	657.11	7,623.29	0.00	0.00	0.00
19,200.00	91.25	359.63	12,103.66	7,704.63	656.46	7,723.18	0.00	0.00	0.00
19,300.00	91.25	359.63	12,101.47	7,804.60	655.82	7,823.06	0.00	0.00	0.00
19,400.00	91.25	359.63	12,099.29	7,904.58	655.17	7,922.95	0.00	0.00	0.00
19,500.00	91.25	359.63	12,097.11	8,004.55	654.53	8,022.84	0.00	0.00	0.00
19,600.00	91.25	359.63	12,094.93	8,104.53	653.88	8,122.72	0.00	0.00	0.00
19,700.00	91.25	359.63	12,092.75	8,204.50	653.24	8,222.61	0.00	0.00	0.00
19,800.00	91.25	359.63	12,090.57	8,304.47	652.59	8,322.50	0.00	0.00	0.00
19,900.00	91.25	359.63	12,088.38	8,404.45	651.95	8,422.39	0.00	0.00	0.00
20,000.00	91.25	359.63	12,086.20	8,504.42	651.31	8,522.27	0.00	0.00	0.00
20,100.00	91.25	359.63	12,084.02	8,604.40	650.66	8,622.16	0.00	0.00	0.00
20,200.00	91.25	359.63	12,081.84	8,704.37	650.02	8,722.05	0.00	0.00	0.00
20,300.00	91.25	359.63	12,079.66	8,804.34	649.37	8,821.93	0.00	0.00	0.00
20,311.66	91.25	359.63	12,079.40	8,816.00	649.30	8,833.58	0.00	0.00	0.00
PPP-3 Cross									
20,400.00	91.25	359.63	12,077.48	8,904.32	648.73	8,921.82	0.00	0.00	0.00
20,500.00	91.25	359.63	12,075.30	9,004.29	648.08	9,021.71	0.00	0.00	0.00

OXY

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Regal Lager 31_19 Fed Com 44H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=25' @ 3657.00ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=25' @ 3657.00ft
Site:	Regal Lager 31_19 Fed Com	**North Reference:**	Grid
Well:	Regal Lager 31_19 Fed Com 44H	**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)
20,600.00	91.25	359.63	12,073.11	9,104.27	647.44	9,121.60	0.00	0.00	0.00
20,700.00	91.25	359.63	12,070.93	9,204.24	646.79	9,221.48	0.00	0.00	0.00
20,800.00	91.25	359.63	12,068.75	9,304.21	646.15	9,321.37	0.00	0.00	0.00
20,900.00	91.25	359.63	12,066.57	9,404.19	645.50	9,421.26	0.00	0.00	0.00
21,000.00	91.25	359.63	12,064.39	9,504.16	644.86	9,521.14	0.00	0.00	0.00
21,100.00	91.25	359.63	12,062.21	9,604.14	644.21	9,621.03	0.00	0.00	0.00
21,200.00	91.25	359.63	12,060.03	9,704.11	643.57	9,720.92	0.00	0.00	0.00
21,300.00	91.25	359.63	12,057.84	9,804.09	642.92	9,820.81	0.00	0.00	0.00
21,400.00	91.25	359.63	12,055.66	9,904.06	642.28	9,920.69	0.00	0.00	0.00
21,500.00	91.25	359.63	12,053.48	10,004.03	641.63	10,020.58	0.00	0.00	0.00
21,600.00	91.25	359.63	12,051.30	10,104.01	640.99	10,120.47	0.00	0.00	0.00
21,633.00	91.25	359.63	12,050.58	10,137.00	640.77	10,153.43	0.00	0.00	0.00
PPP-4 Cross									
21,700.00	91.25	359.63	12,049.12	10,203.98	640.34	10,220.35	0.00	0.00	0.00
21,800.00	91.25	359.63	12,046.94	10,303.96	639.70	10,320.24	0.00	0.00	0.00
21,900.00	91.25	359.63	12,044.76	10,403.93	639.05	10,420.13	0.00	0.00	0.00
22,000.00	91.25	359.63	12,042.57	10,503.90	638.41	10,520.02	0.00	0.00	0.00
22,100.00	91.25	359.63	12,040.39	10,603.88	637.76	10,619.90	0.00	0.00	0.00
22,200.00	91.25	359.63	12,038.21	10,703.85	637.12	10,719.79	0.00	0.00	0.00
22,300.00	91.25	359.63	12,036.03	10,803.83	636.47	10,819.68	0.00	0.00	0.00
22,400.00	91.25	359.63	12,033.85	10,903.80	635.83	10,919.56	0.00	0.00	0.00
22,500.00	91.25	359.63	12,031.67	11,003.78	635.18	11,019.45	0.00	0.00	0.00
22,600.00	91.25	359.63	12,029.48	11,103.75	634.54	11,119.34	0.00	0.00	0.00
22,700.00	91.25	359.63	12,027.30	11,203.72	633.89	11,219.23	0.00	0.00	0.00
22,800.00	91.25	359.63	12,025.12	11,303.70	633.25	11,319.11	0.00	0.00	0.00
22,900.00	91.25	359.63	12,022.94	11,403.67	632.60	11,419.00	0.00	0.00	0.00
23,000.00	91.25	359.63	12,020.76	11,503.65	631.96	11,518.89	0.00	0.00	0.00
23,100.00	91.25	359.63	12,018.58	11,603.62	631.32	11,618.77	0.00	0.00	0.00
23,200.00	91.25	359.63	12,016.40	11,703.59	630.67	11,718.66	0.00	0.00	0.00
23,300.00	91.25	359.63	12,014.21	11,803.57	630.03	11,818.55	0.00	0.00	0.00
23,400.00	91.25	359.63	12,012.03	11,903.54	629.38	11,918.44	0.00	0.00	0.00
23,500.00	91.25	359.63	12,009.85	12,003.52	628.74	12,018.32	0.00	0.00	0.00
23,600.00	91.25	359.63	12,007.67	12,103.49	628.09	12,118.21	0.00	0.00	0.00
23,700.00	91.25	359.63	12,005.49	12,203.46	627.45	12,218.10	0.00	0.00	0.00
23,800.00	91.25	359.63	12,003.31	12,303.44	626.80	12,317.98	0.00	0.00	0.00
23,900.00	91.25	359.63	12,001.13	12,403.41	626.16	12,417.87	0.00	0.00	0.00
24,000.00	91.25	359.63	11,998.94	12,503.39	625.51	12,517.76	0.00	0.00	0.00
24,100.00	91.25	359.63	11,996.76	12,603.36	624.87	12,617.65	0.00	0.00	0.00
24,200.00	91.25	359.63	11,994.58	12,703.34	624.22	12,717.53	0.00	0.00	0.00
24,300.00	91.25	359.63	11,992.40	12,803.31	623.58	12,817.42	0.00	0.00	0.00
24,400.00	91.25	359.63	11,990.22	12,903.28	622.93	12,917.31	0.00	0.00	0.00
24,500.00	91.25	359.63	11,988.04	13,003.26	622.29	13,017.19	0.00	0.00	0.00
24,600.00	91.25	359.63	11,985.85	13,103.23	621.64	13,117.08	0.00	0.00	0.00
24,700.00	91.25	359.63	11,983.67	13,203.21	621.00	13,216.97	0.00	0.00	0.00
24,800.00	91.25	359.63	11,981.49	13,303.18	620.35	13,316.86	0.00	0.00	0.00
24,900.00	91.25	359.63	11,979.31	13,403.15	619.71	13,416.74	0.00	0.00	0.00
25,000.00	91.25	359.63	11,977.13	13,503.13	619.06	13,516.63	0.00	0.00	0.00
25,100.00	91.25	359.63	11,974.95	13,603.10	618.42	13,616.52	0.00	0.00	0.00
25,200.00	91.25	359.63	11,972.77	13,703.08	617.77	13,716.40	0.00	0.00	0.00
25,300.00	91.25	359.63	11,970.58	13,803.05	617.13	13,816.29	0.00	0.00	0.00
25,400.00	91.25	359.63	11,968.40	13,903.02	616.48	13,916.18	0.00	0.00	0.00
25,500.00	91.25	359.63	11,966.22	14,003.00	615.84	14,016.06	0.00	0.00	0.00
25,596.03	91.25	359.63	11,964.13	14,099.00	615.22	14,111.99	0.00	0.00	0.00
PPP-5 Cross									
25,600.00	91.25	359.63	11,964.04	14,102.97	615.19	14,115.95	0.00	0.00	0.00

OXY
Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Regal Lager 31_19 Fed Com 44H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=25' @ 3657.00ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=25' @ 3657.00ft
Site:	Regal Lager 31_19 Fed Com	**North Reference:**	Grid
Well:	Regal Lager 31_19 Fed Com 44H	**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)
25,700.00	91.25	359.63	11,961.86	14,202.95	614.55	14,215.84	0.00	0.00	0.00
25,800.00	91.25	359.63	11,959.68	14,302.92	613.90	14,315.73	0.00	0.00	0.00
25,900.00	91.25	359.63	11,957.50	14,402.90	613.26	14,415.61	0.00	0.00	0.00
26,000.00	91.25	359.63	11,955.31	14,502.87	612.61	14,515.50	0.00	0.00	0.00
26,100.00	91.25	359.63	11,953.13	14,602.84	611.97	14,615.39	0.00	0.00	0.00
26,200.00	91.25	359.63	11,950.95	14,702.82	611.33	14,715.27	0.00	0.00	0.00
26,300.00	91.25	359.63	11,948.77	14,802.79	610.68	14,815.16	0.00	0.00	0.00
26,400.00	91.25	359.63	11,946.59	14,902.77	610.04	14,915.05	0.00	0.00	0.00
26,500.00	91.25	359.63	11,944.41	15,002.74	609.39	15,014.94	0.00	0.00	0.00
26,600.00	91.25	359.63	11,942.23	15,102.71	608.75	15,114.82	0.00	0.00	0.00
26,700.00	91.25	359.63	11,940.04	15,202.69	608.10	15,214.71	0.00	0.00	0.00
26,800.00	91.25	359.63	11,937.86	15,302.66	607.46	15,314.60	0.00	0.00	0.00
26,900.00	91.25	359.63	11,935.68	15,402.64	606.81	15,414.48	0.00	0.00	0.00
27,000.00	91.25	359.63	11,933.50	15,502.61	606.17	15,514.37	0.00	0.00	0.00
27,100.00	91.25	359.63	11,931.32	15,602.58	605.52	15,614.26	0.00	0.00	0.00
27,200.00	91.25	359.63	11,929.14	15,702.56	604.88	15,714.15	0.00	0.00	0.00
27,300.00	91.25	359.63	11,926.95	15,802.53	604.23	15,814.03	0.00	0.00	0.00
27,400.00	91.25	359.63	11,924.77	15,902.51	603.59	15,913.92	0.00	0.00	0.00
27,500.00	91.25	359.63	11,922.59	16,002.48	602.94	16,013.81	0.00	0.00	0.00
27,600.00	91.25	359.63	11,920.41	16,102.46	602.30	16,113.69	0.00	0.00	0.00
27,700.00	91.25	359.63	11,918.23	16,202.43	601.65	16,213.58	0.00	0.00	0.00
27,800.00	91.25	359.63	11,916.05	16,302.40	601.01	16,313.47	0.00	0.00	0.00
27,900.00	91.25	359.63	11,913.87	16,402.38	600.36	16,413.36	0.00	0.00	0.00
28,000.00	91.25	359.63	11,911.68	16,502.35	599.72	16,513.24	0.00	0.00	0.00
28,100.00	91.25	359.63	11,909.50	16,602.33	599.07	16,613.13	0.00	0.00	0.00
28,200.00	91.25	359.63	11,907.32	16,702.30	598.43	16,713.02	0.00	0.00	0.00
28,218.31	91.25	359.63	11,906.92	16,720.60	598.31	16,731.30	0.00	0.00	0.00

TD at 28218.31' MD

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP (Regal Lager - plan misses target center by 920.44ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	594.40	702.79	519,648.37	734,751.85	32.427020	-103.706475
PBHL (Regal Lager - plan hits target center - Point	0.00	0.00	11,906.92	16,720.60	598.31	535,773.76	734,647.38	32.471345	-103.706507
FTP (Regal Lager - plan misses target center by 22.35ft at 12492.15ft MD (12224.77 TVD, 1000.48 N, 696.44 E) - Point	0.00	0.01	12,246.03	994.41	699.75	520,048.36	734,748.81	32.428120	-103.706477

OXY

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Regal Lager 31_19 Fed Com 44H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=25' @ 3657.00ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=25' @ 3657.00ft
Site:	Regal Lager 31_19 Fed Com	**North Reference:**	Grid
Well:	Regal Lager 31_19 Fed Com 44H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
802.00	802.00	RUSTLER			
1,035.00	1,035.00	SALADO			
2,533.00	2,533.00	CASTILE			
4,559.00	4,559.00	DELAWARE			
4,631.00	4,631.00	BELL CANYON			
5,471.00	5,471.00	CHERRY CANYON			
6,744.35	6,744.00	BRUSHY CANYON			
8,560.70	8,537.00	BONE SPRING			
9,603.55	9,564.00	BONE SPRING 1ST			
10,305.22	10,255.00	BONE SPRING 2ND			
11,315.57	11,250.00	BONE SPRING 3RD			
11,764.39	11,692.00	WOLFCAMP			
11,790.80	11,718.00	WOLFCAMP			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
6,335.00	6,335.00	0.00	0.00	Build 1°/100'
7,335.25	7,330.17	59.13	63.94	Hold 10° Tangent
11,818.16	11,744.95	587.80	635.59	KOP, Build & Turn 10°/100'
12,485.41	12,222.91	994.00	696.22	PPP-1 Cross
12,663.31	12,246.25	1,169.63	698.62	Landing Point
17,669.98	12,137.03	6,175.00	666.33	PPP-2 Cross
20,311.66	12,079.40	8,816.00	649.30	PPP-3 Cross
21,633.00	12,050.58	10,137.00	640.77	PPP-4 Cross
25,596.03	11,964.13	14,099.00	615.22	PPP-5 Cross
28,218.31	11,906.92	16,720.60	598.31	TD at 28218.31' MD

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	OXY USA INC.
WELL NAME & NO.:	REGAL LAGER 31-19 FEDERAL COM 44H
LOCATION:	SEC06 T22S R32E - NMP
COUNTY:	Lea County, New Mexico

Create COAs

H_2S	Cave / Karst	Waste Prevention Rule
Present	Low	Waste Minimization Plan

Potash	R-111-Q Design
Secretary	

Wellhead	Casing
Multibowl	3-String Well W/ 4-String Contingency ☐ Liner ☐ Fluid Filled ☐ Casing Clearance
☑ Flex Hose ☑ Break Testing	**Cementing** ☐ DV Tool ☑ Bradenhead ☑ Echometer ☑ Offline Cement ☐ Open Annulus ☐ Pilot Hole

Special Requirements

☐ Capitan Reef ☐ Water Disposal ☑ COM ☐ Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H_2S) Drilling Plan shall be activated AT SPUD. As a result, the Hydrogen Sulfide area must meet all requirements from 43 CFR 3176, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

WELL CLOSE TO R111Q POTASH BOUNDARY. WELL NEEDS TO STAY VERTICAL TILL PAST THE SALT INTERVAL. DIRECTIONAL PATH WILL NEED TO BE CLOSELY MONITORED. SALT PROTECTION STRING WILL BE NEEDED IF R111Q BOUNDARY ENTERED PRIOR TO CLEARING THE SALT INTERVAL.

WELL APPROVED FOR ALL THREE BLANKET DESIGNS(A1, A2 AND B.) PARAMETERS WITHIN BOUNDARY CONDITIONS.

DESIGN A1:

1. The **10-3/4** inch surface casing shall be set at approximately **872** feet (a minimum of **70'** into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic-type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500 pounds compressive strength**, whichever is greater (including lead cement.)
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is **cement to surface**. If cement does not circulate, see B.1.a, c-d above.

    Bradenhead Squeeze: 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 to squeeze and top-out. Cement to meet requirements listed for this casing string. If cement does not circulate see B.1.a, c-d above.

    Operator has proposed to pump down **Surface X Intermediate 1** annulus. Submit results to the BLM. 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.

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 7-5/8" casing to surface if confidence is lacking on the quality of the bradenhead squeeze cement job. Submit results to BLM.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is at least **500 feet** into previous casing string. Operator shall provide method of verification.

- If cement does not circulate to surface on the previous casing, this string must come to surface. BLM must be notified with updated cementing and ECD monitoring plans.

DESIGN A2:

1. The **13-3/8** inch surface casing shall be set at approximately **872** feet (a minimum of **70'** into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
   a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic-type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
   b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500 pounds compressive strength**, whichever is greater (including lead cement.)
   c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
   d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is **cement to surface**. If cement does not circulate, see B.1.a, c-d above.

   Bradenhead Squeeze: 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 to squeeze and top-out. Cement to meet requirements listed for this casing string. If cement does not circulate see B.1.a, c-d above.

   Operator has proposed to pump down **Surface X Intermediate 1** annulus. Submit results to the BLM. 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.

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 7-5/8" casing to surface if confidence is lacking on the quality of the bradenhead squeeze cement job. Submit results to BLM.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is at least **500 feet** into previous casing string. Operator shall provide method of verification.

- If cement does not circulate to surface on the previous casing, this string must come to surface. BLM must be notified with updated cementing and ECD monitoring plans.

DESIGN B:

1. The **13-3/8** inch surface casing shall be set at approximately **872** feet (a minimum of **70'** into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic-type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500 pounds compressive strength**, whichever is greater (including lead cement.)
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **10-3/4** inch 1st intermediate casing is **cement to surface**. If cement does not circulate, see B.1.a, c-d above.

3. The minimum required fill of cement behind the **7-5/8** inch 2nd intermediate casing is at least **500 feet** into previous casing string. If cement does not circulate, see B.1.a, c-d above.

    Bradenhead Squeeze: 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 to squeeze to achieve tie-back. Cement to meet requirements listed for this casing string.

    Operator has proposed to pump down **Surface X Intermediate 1** annulus. Submit results to the BLM. 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.

If operator does not top out to surface (not required,) TOC verification will be needed with Echo-meter. CBL must be run from TD of the 7-5/8" casing to surface if confidence is lacking on the quality of the bradenhead squeeze cement job. Submit results to BLM.

4. The minimum required fill of cement behind the **5-1/2** inch production casing is at least **500 feet** into previous casing string. Operator shall provide method of verification.
    - If cement does not circulate to surface on the previous casing, this string must come to surface. BLM must be notified with updated cementing and ECD monitoring plans.

C. PRESSURE CONTROL

1. Operator has proposed a multi-bowl wellhead assembly. 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 and intermediate casing shoe shall be **10,000 (10M)**. **Variance is approved to use a 5000 (5M) annular which shall be tested to 3500 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 43 CFR 3172 must be followed.

2. 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).

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

- BOPE Break Testing is ONLY permitted for hole sections with 5M MASP or less.
- The break test should involve a shell test that includes testing the upper pipe rams as proposed.
- Variance only pertains to the hole-sections in and shallower than the Wolfcamp formation. Break testing is NOT allowed when planning to penetrate the Penn group.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle in accordance with API STD 53.
- Any well control event while drilling require notification to the BLM Petroleum Engineer.
- A full BOPE test is required prior to drilling the first intermediate section.
- If a hole section tends to show more background gas than normal, please notify BLM Engineer prior to proceeding with break testing on the next well.
- The BLM PET is to be contacted 4 hours prior to BOPE tests.

- *Eddy County Petroleum Engineering Inspection Staff: (575) 361-2822*
- *Lea County Petroleum Engineering Inspection Staff: (575) 689-5981*

- 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 3172. Function test is NOT adequate when repairs or replacement of BOPE is needed. Function test is NOT adequate in the event of repairs or replacements.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

D. SPECIAL REQUIREMENT(S)

Communitization Agreement:

- 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 43 CFR 3171 and 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. When the Communitization Agreement number is known, it shall also be on the sign.

Offline Cementing

Offline cementing has been approved for **all hole sections, excluding production.** Contact the BLM prior to the commencement of any offline cementing procedure.

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)

Contact Lea County Petroleum Engineering Inspection Staff:
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 689-5981
Contact Eddy County Petroleum Engineering Inspection Staff:
Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220; **BLM_NM_CFO_DrillingNotifications@BLM.GOV**; (575) 361-2822

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
        i. Notify the BLM when moving in and removing the Spudder Rig.
        ii. 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.
        iii. BOP/BOPE test to be conducted per **43 CFR 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. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement

program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-Q 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 3172**.
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:
    i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    ii. 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.
    iii. Manufacturer representative shall install the test plug for the initial BOP test.
    iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
    v. 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.
    i. 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-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
    ii. 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.)

iii. 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 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 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

iv. 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.

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

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

vii. 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.

viii. BOP/BOPE must be tested by an independent service company within 200 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 3172**.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

KPI 7/31/2025

Permian Drilling
Hydrogen Sulfide Drilling Operations Plan

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

1. Escape

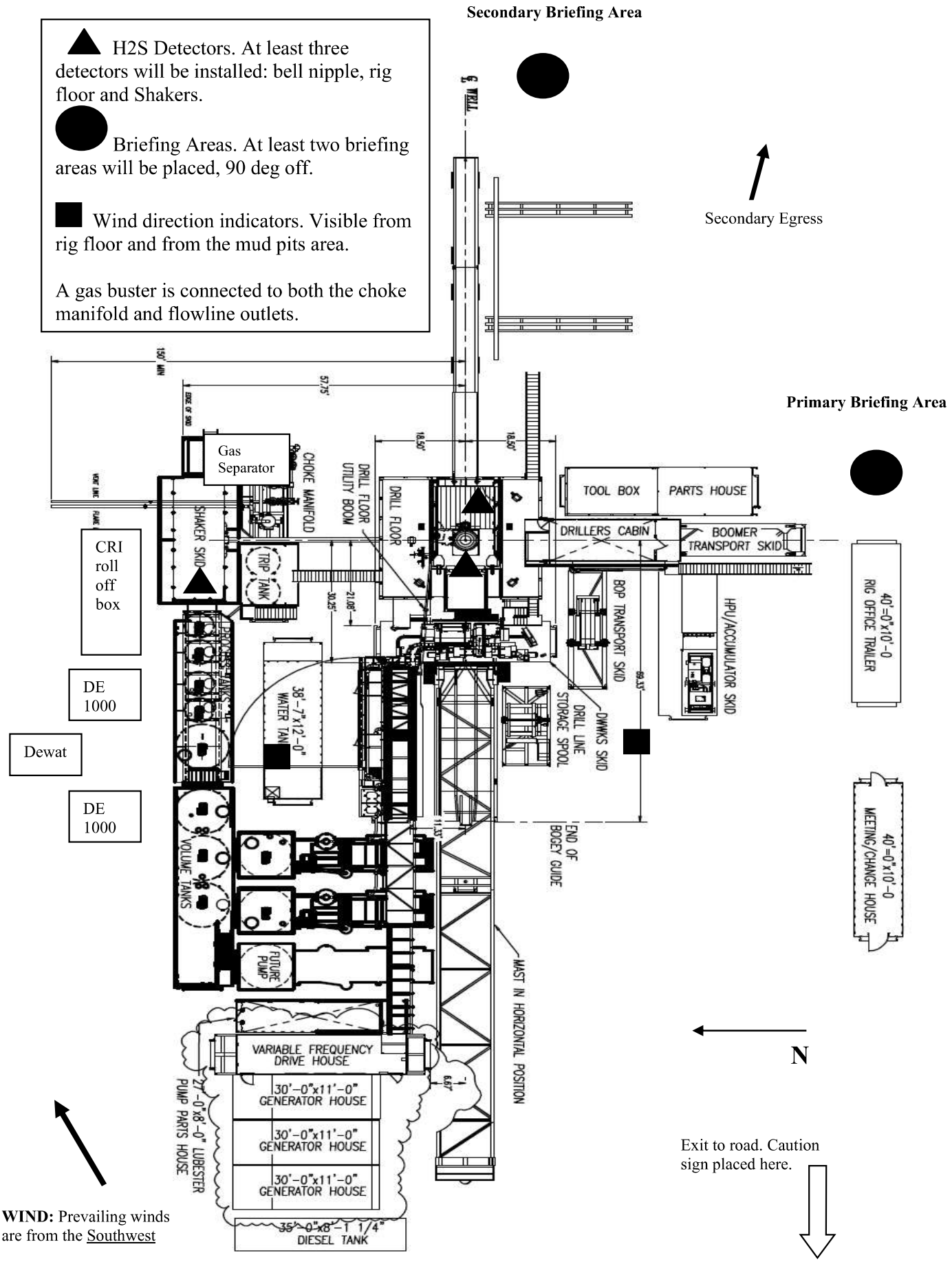
   Personnel shall escape upwind of wellbore in the event of an emergency gas release. Escape can take place through the lease road on the Southeast side of the location. Personnel need to move to a safe distance and block the entrance to location. If the primary route is not an option due to the wind direction,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

▲ H2S Detectors. At least three detectors will be installed: bell nipple, rig floor and Shakers.

● Briefing Areas. At least two briefing areas will be placed, 90 deg off.

■ Wind direction indicators. Visible from rig floor and from the mud pits area.

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



WIND: Prevailing winds are from the Southwest

Permian Drilling
Hydrogen Sulfide Drilling Operations Plan
New Mexico

Scope

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

Objective

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

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

3. Provide proper evacuation procedures to cope with emergencies.

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

Discussion

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

Hydrogen Sulfide Training

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

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

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

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

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

Service company and visiting personnel

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

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

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

Emergency Equipment Requirements

1. Well control equipment

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

Special control equipment:

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

2. Protective equipment for personnel

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

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

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

- Rig floor and trailers.
- Vehicle.

3. Hydrogen sulfide sensors and alarms

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

4. Visual Warning Systems

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

Caution – potential poison gas
Hydrogen sulfide
No admittance without authorization

Wind sock – wind streamers:

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

Condition flags

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

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

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

5. Mud Program

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

Mud inspection devices:

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

6. Metallurgy

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

7. Well Testing

No drill stem test will be performed on this well.

8. Evacuation plan

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

9. Designated area

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

Emergency procedures

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

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

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

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

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

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

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

B. If uncontrollable conditions occur:

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

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

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

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

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

C. Responsibility:

1. Designated personnel.

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

All personnel:

1. On alarm, don escape unit and report to the nearest upwind designated safe briefing / muster area upw
2. Check status of personnel (buddy system).
3. Secure breathing equipment.
4. Await orders from supervisor.

Drill site manager:

1. Don escape unit if necessary and report to nearest upwind designated safe briefing / muster area.
2. Coordinate preparations of individuals to return to point of release with tool pusher and driller (using the buddy system).
3. Determine H2S concentrations.
4. Assess situation and take control measures.

Tool pusher:

1. Don escape unit Report to up nearest upwind designated safe briefing / muster area.
2. Coordinate preparation of individuals to return to point of release with tool pusher drill site manager (using the buddy system).
3. Determine H2S concentration.
4. Assess situation and take control measures.

Driller:

1. Don escape unit, shut down pumps, continue

rotating DP.

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

Derrick man
Floor man #1
Floor man #2

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

Mud engineer:

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

Safety personnel:

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

Taking a kick

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

Open-hole logging

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

Running casing or plugging

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

Ignition procedures

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

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

Instructions for igniting the well

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

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

Status check list

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

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

Checked by: _____ Date:

Procedural check list during H2S events

Perform each tour:

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

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

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

Perform each week:

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

2. BOP skills (well control drills).

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

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

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

6. Confirm pressure on all supply air bottles.

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

8. Check the following supplies for availability.

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

General evacuation plan

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

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

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

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

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

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

Emergency actions

Well blowout – if emergency

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

2. If sour gas – evacuate rig personnel.

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

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

5. Notify Drilling Superintendent and call 911 for emergency help (fire dept and ambulance) if needed.

6. Implement the Blowout Contingency Plan, and Drilling Emergency Action Plan.

6. Give first aid as needed.

Person down location/facility

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

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

Toxic effects of hydrogen sulfide

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

Table i
Toxicity of various gases

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

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

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

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

Toxic effects of hydrogen sulfide

Table ii
Physical effects of hydrogen sulfide

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

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

*at 15.00 psia and 60’f.

Use of self-contained breathing equipment (SCBA)

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

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

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

4. Maintenance and care of SCBA's:

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

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

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

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

6. SCBA's should be worn when:

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

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

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

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

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

Rescue
First aid for H2S poisoning

Do not panic!

Remain calm – think!

1. Don SCBA breathing equipment.

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

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

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

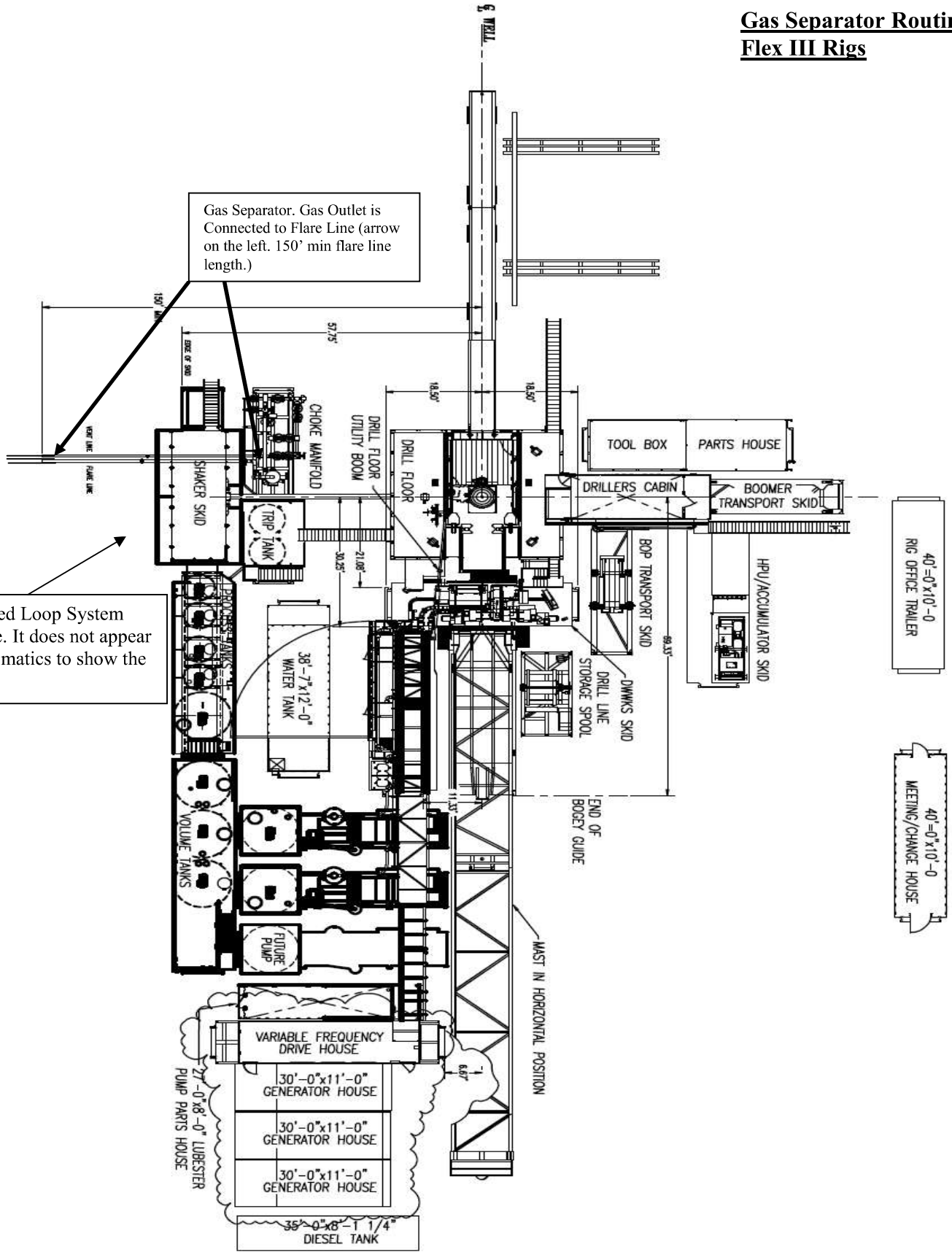
5. Hospital(s) or medical facilities need to be informed, before-hand, of the possibility of H2S gas poisoning – no matter how remote the possibility is.

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

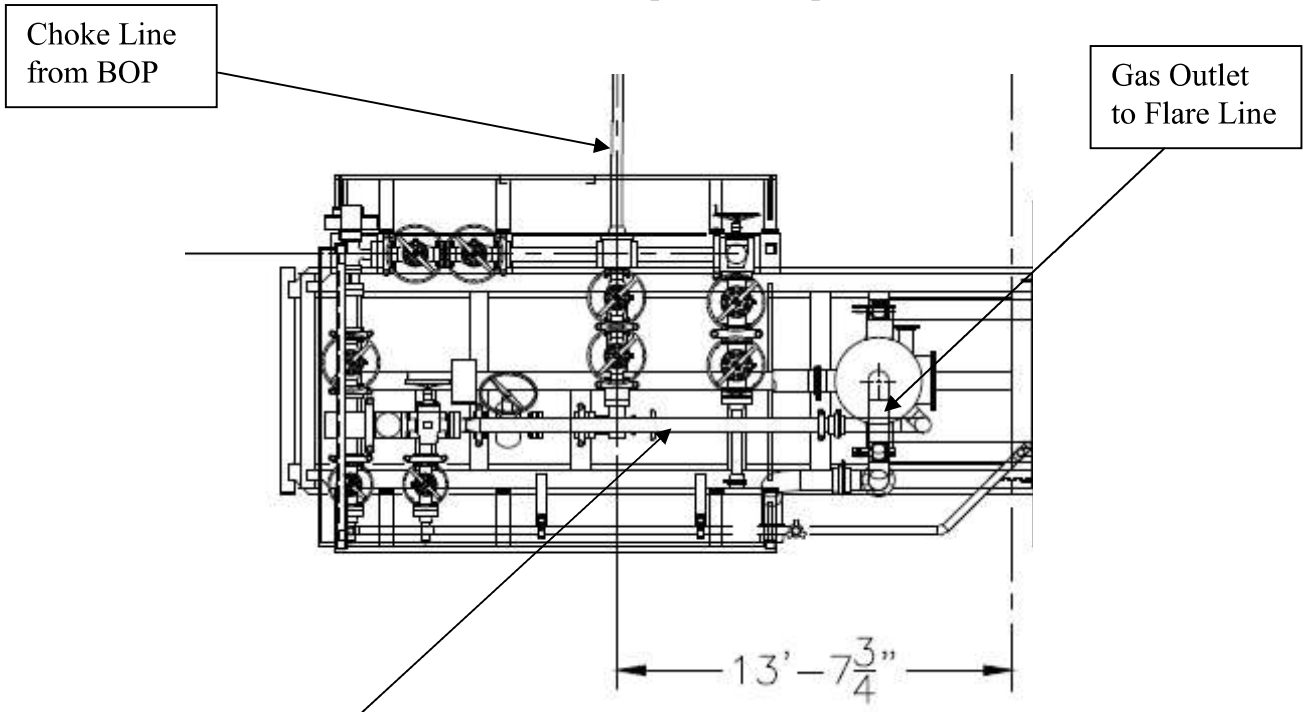
Besides basic first aid, everyone on location should have a good working knowledge of artificial respiration.

Revised CM 6/27/2012

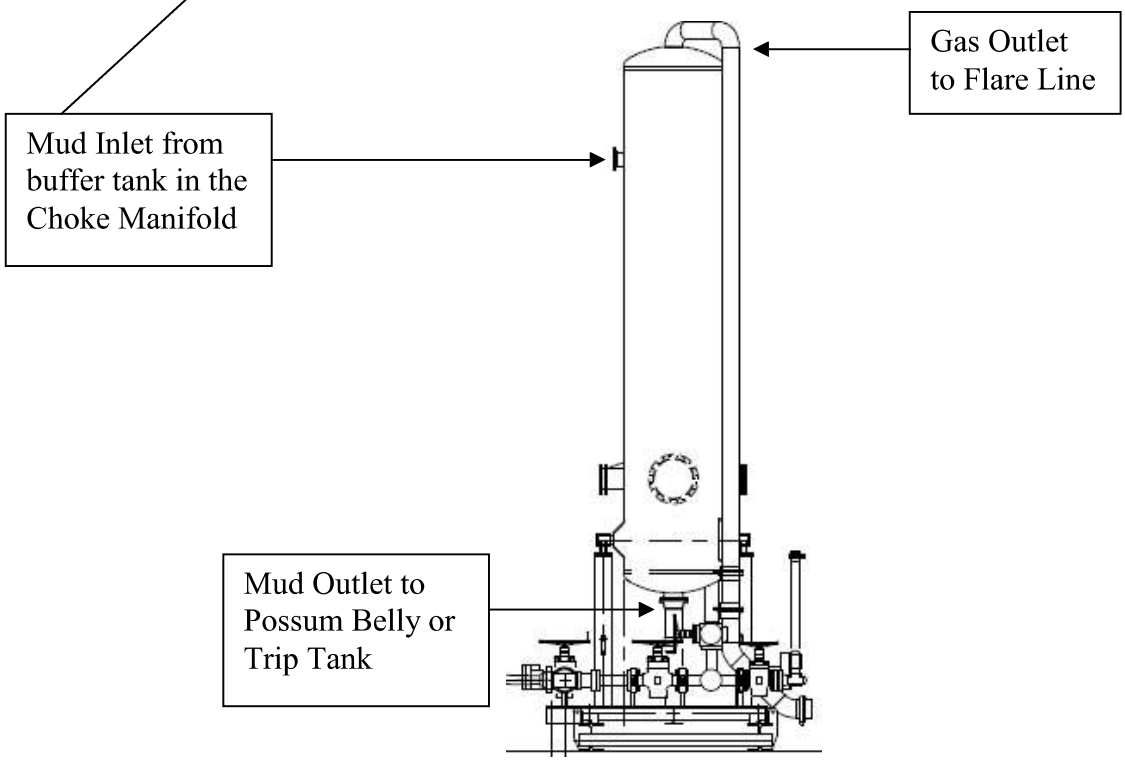
Gas Separator Routing
Flex III Rigs



Choke Manifold – Gas Separator (Top View)



Choke Manifold – Gas Separator (Side View)

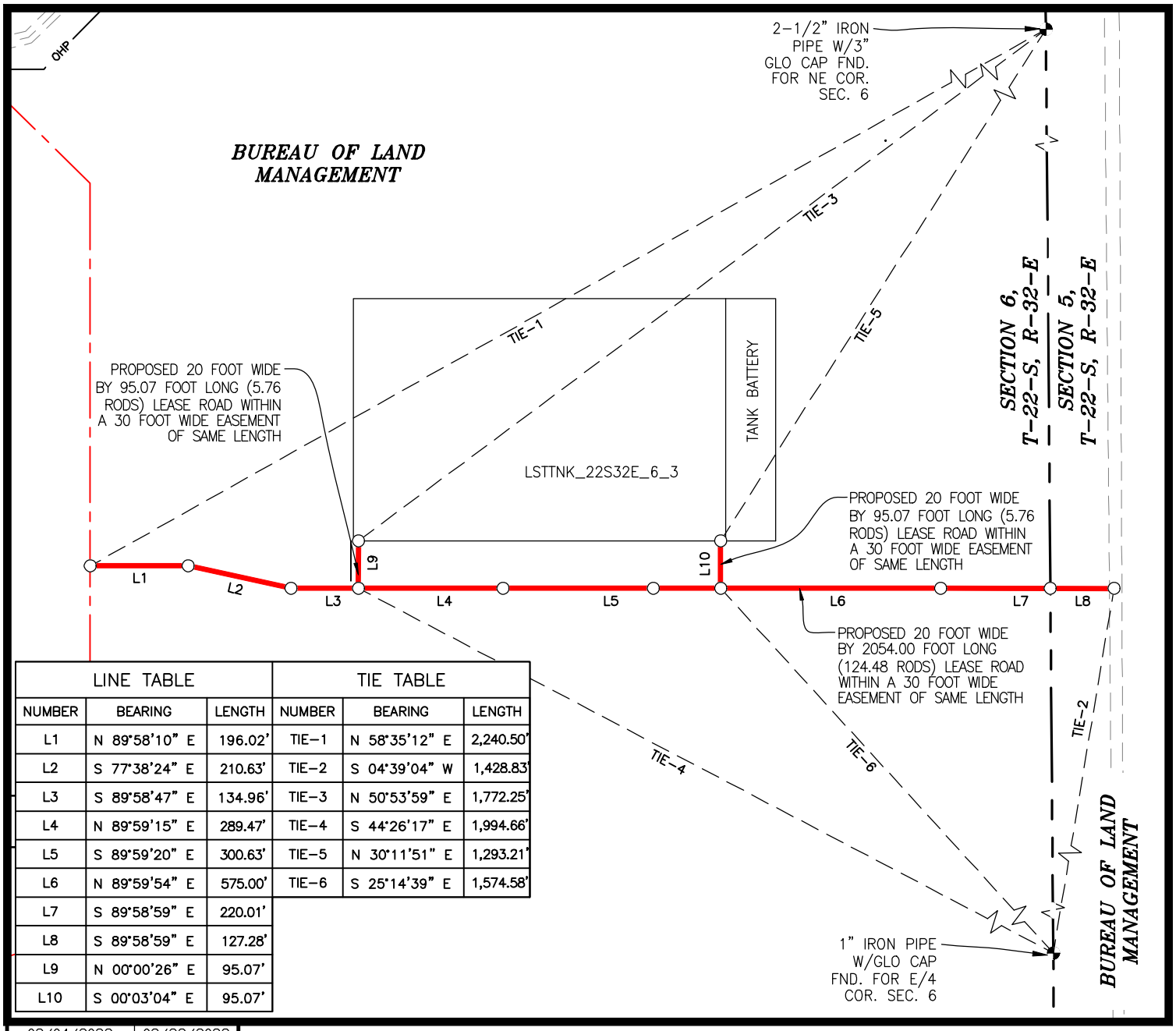


SITE PLAN

LSTTNK_22S32E_6_3
SEC. 6 TWP. 22-S RGE. 32-E
SURVEY: N.M.P.M.
COUNTY: LEA
OPERATOR: OXY USA, INC.
U.S.G.S. TOPOGRAPHIC MAP: THE DIVIDE, N.M.
FAA PERMIT NEEDED: NO

TANK BATTERY
RECLAMATION
30' TOP SOIL
20' DISTURBANCE AREA

150' 0' 150' 300'
SCALE: 1" = 300'



LINE TABLE			TIE TABLE		
NUMBER	BEARING	LENGTH	NUMBER	BEARING	LENGTH
L1	N 89°58'10" E	196.02'	TIE-1	N 58°35'12" E	2,240.50'
L2	S 77°38'24" E	210.63'	TIE-2	S 04°39'04" W	1,428.83'
L3	S 89°58'47" E	134.96'	TIE-3	N 50°53'59" E	1,772.25'
L4	N 89°59'15" E	289.47'	TIE-4	S 44°26'17" E	1,994.66'
L5	S 89°59'20" E	300.63'	TIE-5	N 30°11'51" E	1,293.21'
L6	N 89°59'54" E	575.00'	TIE-6	S 25°14'39" E	1,574.58'
L7	S 89°58'59" E	220.01'			
L8	S 89°58'59" E	127.28'			
L9	N 00°00'26" E	95.07'			
L10	S 00°03'04" E	95.07'			

03/04/2023	03/23/2023
DATE SURVEYED	DATE DRAWN

I, DAVID W. MYERS, NEW MEXICO PROFESSIONAL SURVEYOR NO. 11403, DO HEREBY CERTIFY THAT THIS EASEMENT SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FUTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT AND THAT THIS INSTRUMENT IS AN EASEMENT SURVEY PLAT CROSSING AN EXISTING TRACT OR TRACTS.

BASIS OF BEARING
ALL BEARINGS AND COORDINATES REFER TO NAD 83, NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET. (ALL BEARINGS, DISTANCES, COORDINATES AND AREAS ARE GRID MEASUREMENTS UTILIZING A COMBINED SCALE FACTOR OF 0.99977642 AND A CONVERGENCE ANGLE OF 0.32750833°).

LEGEND

- EXISTING ROAD
- PROPOSED ROAD
- SURFACE SITE EDGE
- EXIST. PIPELINE
- MONUMENT
- QUARTER SPLIT
- OHP — OVERHEAD POWER
- x — x — FENCE
- SECTION LINE
- PL — PROPERTY LINE
- W — WATER LINE
- SWD — SALT WATER LINE

APRIL 3, 2023

DAVID W. MYERS NEW MEXICO 11403 PROFESSIONAL SURVEYOR

DAVID W. MYERS 11403

R-SQUARED GLOBAL LLC

PREPARED BY:
R-SQUARED GLOBAL, LLC
510 TRENTON STREET,
WEST MONROE, LA 71291
318-323-6900 OFFICE
JOB No. OXY_0007_RL02
SHEET 1 OF 3

SITE PLAN

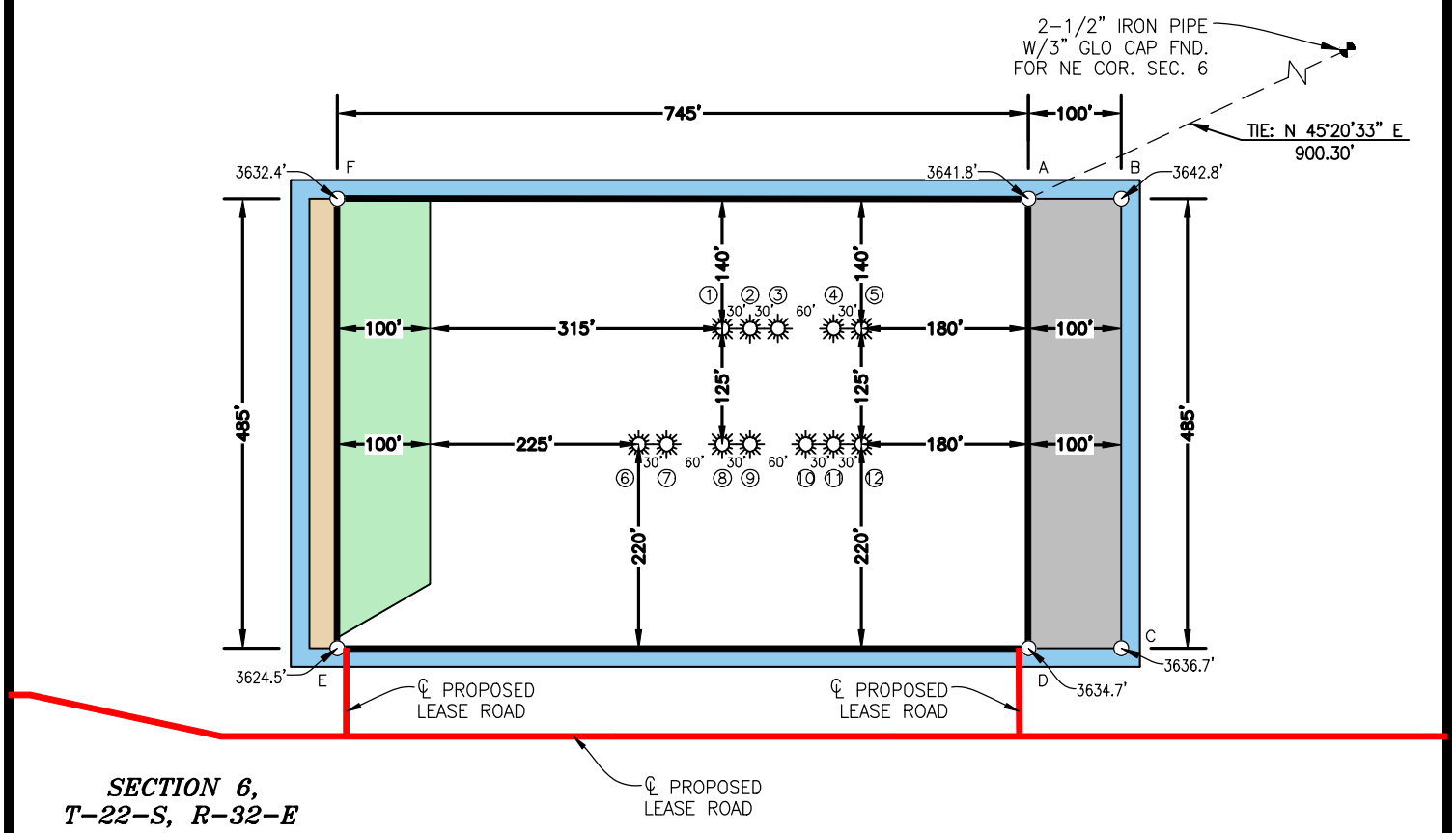
LSTTNK_22S32E_6_3
SEC. 6 TWP. 22-S RGE. 32-E
SURVEY: N.M.P.M.
COUNTY: LEA
OPERATOR: OXY USA, INC.
U.S.G.S. TOPOGRAPHIC MAP: THE DIVIDE, N.M.
FAA PERMIT NEEDED: NO

TANK BATTERY
RECLAMATION
30' TOP SOIL
20' DISTURBANCE AREA

100' 0' 100' 200'
SCALE: 1" = 200'

NAD 83		
A	E:(X)734439.03 N:(Y)519318.99	LAT:32.42611965 LON:-103.70749480
B	E:(X)734538.88 N:(Y)519318.98	LAT:32.42611803 LON:-103.70717118
C	E:(X)734359.07 N:(Y)518833.97	LAT:32.42478489 LON:-103.70717978
D	E:(X)734439.03 N:(Y)518834.05	LAT:32.42478672 LON:-103.70750398
E	E:(X)733694.02 N:(Y)518834.05	LAT:32.42479869 LON:-103.70991841
F	E:(X)733694.02 N:(Y)519319.04	LAT:32.42613175 LON:-103.70990924

NAD 27		
A	E:(X)693257.06 N:(Y)519258.15	LAT:32.42599708 LON:-103.70700510
B	E:(X)693356.9 N:(Y)529258.14	LAT:32.42599544 LON:-103.70668152
C	E:(X)693357.08 N:(Y)518773.15	LAT:32.42466231 LON:-103.70669017
D	E:(X)693257.04 N:(Y)518773.23	LAT:32.42466414 LON:-103.70701436
E	E:(X)692512.04 N:(Y)518773.23	LAT:32.42467613 LON:-103.70942869
F	E:(X)692512.05 N:(Y)519258.20	LAT:32.42600920 LON:-103.70941947



03/04/2023	03/23/2023
DATE SURVEYED	DATE DRAWN

I, DAVID W. MYERS, NEW MEXICO PROFESSIONAL SURVEYOR NO. 11403, DO HEREBY CERTIFY THAT THIS EASEMENT SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FUTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT AND THAT THIS INSTRUMENT IS AN EASEMENT SURVEY PLAT CROSSING AN EXISTING TRACT OR TRACTS.

BASIS OF BEARING
ALL BEARINGS AND COORDINATES REFER TO NAD 83, NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET. (ALL BEARINGS, DISTANCES, COORDINATES AND AREAS ARE GRID MEASUREMENTS UTILIZING A COMBINED SCALE FACTOR OF 0.99977642 AND A CONVERGENCE ANGLE OF 0.32750833°).

LEGEND

- EXISTING ROAD
- PROPOSED ROAD
- SURFACE SITE EDGE
- EXIST. PIPELINE
- MONUMENT
- QUARTER SPLIT
- OHP — OVERHEAD POWER
- x — x — FENCE
- SECTION LINE
- PL — PROPERTY LINE
- W — WATER LINE
- SWD — SALT WATER LINE

APRIL 3, 2023

DAVID W. MYERS NEW MEXICO 11403 PROFESSIONAL SURVEYOR

DAVID W. MYERS 11403

PREPARED BY:
R-SQUARED GLOBAL, LLC
510 TRENTON STREET,
WEST MONROE, LA 71291
318-323-6900 OFFICE
JOB No. OXY_0007_RL02
SHEET 2 OF 3

SITE PLAN

LSTTNK_22S32E_6_3
SEC. 6 TWP. 22-S RGE. 32-E
SURVEY: N.M.P.M.
COUNTY: LEA
OPERATOR: OXY USA, INC.
U.S.G.S. TOPOGRAPHIC MAP: THE DIVIDE, N.M.
FAA PERMIT NEEDED: NO

WELL 1
REGAL LAGER 31_19 FED COM 14H
OXY USA, INC.
763' FNL 976' FEL, SECTION 6
NAD 83, SPCS NM EAST
X:734109.09' / Y:519178.95'
LAT:32.42574004N / LON:103.70856672W
NAD 27, SPCS NM EAST
X:692927.11' / Y:519118.12'
LAT:32.42561747N / LON:103.70807702W
ELEVATION = 3,636'

WELL 2
REGAL LAGER 31_19 FED COM 3H
OXY USA, INC.
763' FNL 947' FEL, SECTION 6
NAD 83, SPCS NM EAST
X:734138.99' / Y:519178.95'
LAT:32.42573954N / LON:103.70846982W
NAD 27, SPCS NM EAST
X:692957.01' / Y:519118.11'
LAT:32.42561698N / LON:103.70798012W
ELEVATION = 3,635'

WELL 3
REGAL LAGER 31_19 FED COM 4H
OXY USA, INC.
763' FNL 917' FEL, SECTION 6
NAD 83, SPCS NM EAST
X:734169.04' / Y:519178.99'
LAT:32.42573917N / LON:103.70837243W
NAD 27, SPCS NM EAST
X:692987.06' / Y:519118.15'
LAT:32.42561661N / LON:103.70788274W
ELEVATION = 3,635'

WELL 4
REGAL LAGER 31_19 FED COM 23H
OXY USA, INC.
764' FNL 857' FEL, SECTION 6
NAD 83, SPCS NM EAST
X:734229.04' / Y:519178.98'
LAT:32.42573819N / LON:103.70817799W
NAD 27, SPCS NM EAST
X:693047.06' / Y:519118.15'
LAT:32.42561562N / LON:103.70768830W
ELEVATION = 3,637'

WELL 5
REGAL LAGER 31_19 FED COM 24H
OXY USA, INC.
764' FNL 827' FEL, SECTION 6
NAD 83, SPCS NM EAST
X:734259.02' / Y:519179.02'
LAT:32.42573782N / LON:103.70808081W
NAD 27, SPCS NM EAST
X:693077.05' / Y:519118.19'
LAT:32.42561525N / LON:103.70759113W
ELEVATION = 3,637'

WELL 6
REGAL LAGER 31_19 FED COM 43H
OXY USA, INC.
887' FNL 1,067' FEL, SECTION 6
NAD 83, SPCS NM EAST
X:734019.07' / Y:519053.96'
LAT:32.42539793N / LON:103.70886082W
NAD 27, SPCS NM EAST
X:692837.09' / Y:518993.13'
LAT:32.42527537N / LON:103.70837112W
ELEVATION = 3,631'

WELL 7
REGAL LAGER 31_19 FED COM 44H
OXY USA, INC.
887' FNL 1,037' FEL, SECTION 6
NAD 83, SPCS NM EAST
X:734049.10' / Y:519054.00'
LAT:32.42539756N / LON:103.70876351W
NAD 27, SPCS NM EAST
X:692867.12' / Y:518993.17'
LAT:32.42527500N / LON:103.70827381W
ELEVATION = 3,632'

WELL 8
REGAL LAGER 31_19 FED COM 73H
OXY USA, INC.
888' FNL 977' FEL, SECTION 6
NAD 83, SPCS NM EAST
X:734109.10' / Y:519054.07'
LAT:32.42539677N / LON:103.70856903W
NAD 27, SPCS NM EAST
X:692927.13' / Y:518993.24'
LAT:32.42527420N / LON:103.70807935W
ELEVATION = 3,633'

WELL 9
REGAL LAGER 31_19 FED COM 74H
OXY USA, INC.
888' FNL 948' FEL, SECTION 6
NAD 83, SPCS NM EAST
X:734139.01' / Y:519054.07'
LAT:32.42539629N / LON:103.70847212W
NAD 27, SPCS NM EAST
X:692957.03' / Y:518993.24'
LAT:32.42527373N / LON:103.70798244W
ELEVATION = 3,633'

WELL 10
REGAL LAGER 31_19 FED COM 34H
OXY USA, INC.
889' FNL 887' FEL, SECTION 6
NAD 83, SPCS NM EAST
X:734199.06' / Y:519054.06'
LAT:32.42539531N / LON:103.70827753W
NAD 27, SPCS NM EAST
X:693017.07' / Y:518993.23'
LAT:32.42527274N / LON:103.70778785W
ELEVATION = 3,634'

WELL 11
REGAL LAGER 31_19 FED COM 35H
OXY USA, INC.
889' FNL 858' FEL, SECTION 6
NAD 83, SPCS NM EAST
X:734229.02' / Y:519054.10'
LAT:32.42539493N / LON:103.70818041W
NAD 27, SPCS NM EAST
X:693047.04' / Y:518993.27'
LAT:32.42527236N / LON:103.70769073W
ELEVATION = 3,635'

WELL 12
REGAL LAGER 31_19 FED COM 36H
OXY USA, INC.
889' FNL 827' FEL, SECTION 6
NAD 83, SPCS NM EAST
X:734259.08' / Y:519054.05'
LAT:32.42539432N / LON:103.70808299W
NAD 27, SPCS NM EAST
X:693077.10' / Y:518993.22'
LAT:32.42527175N / LON:103.70759332W
ELEVATION = 3,635'

DATE SURVEYED	DATE DRAWN
03/04/2023	03/23/2023

I, DAVID W. MYERS, NEW MEXICO PROFESSIONAL SURVEYOR NO. 11403, DO HEREBY CERTIFY THAT THIS EASEMENT SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FUTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT AND THAT THIS INSTRUMENT IS AN EASEMENT SURVEY PLAT CROSSING AN EXISTING TRACT OR TRACTS.

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LEGEND

- EXISTING ROAD
- PROPOSED ROAD
- SURFACE SITE EDGE
- EXIST. PIPELINE
- MONUMENT
- QUARTER SPLIT
- OHP — OVERHEAD POWER
- x — x — FENCE
- SECTION LINE
- PL — PROPERTY LINE
- W — WATER LINE
- SWD — SALT WATER LINE

APRIL 3, 2023

DAVID W. MYERS 11403

DAVID W. MYERS
NEW MEXICO
11403
PROFESSIONAL SURVEYOR

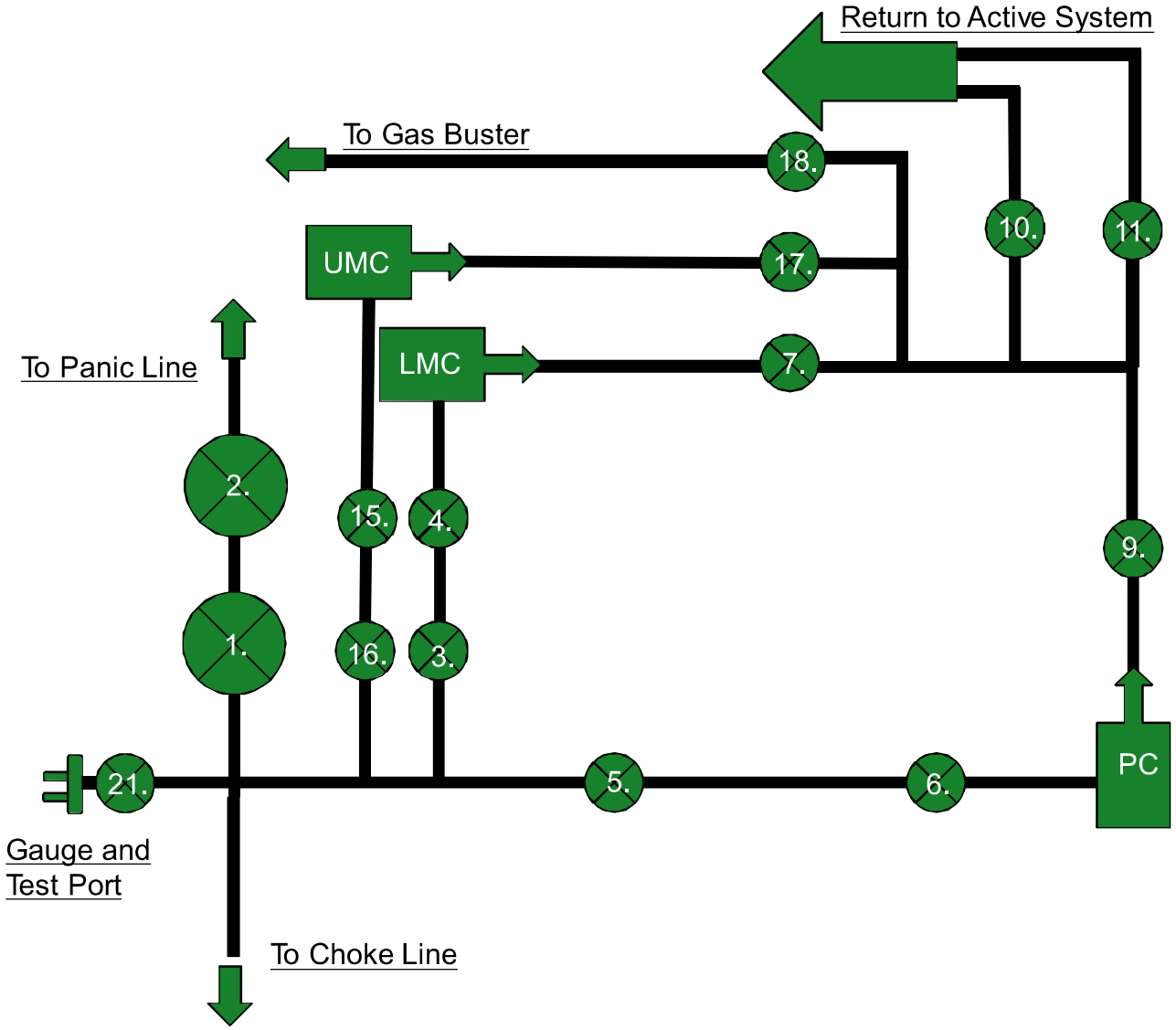
R-SQUARED GLOBAL LLC

PREPARED BY:
R-SQUARED GLOBAL, LLC
510 TRENTON STREET,
WEST MONROE, LA 71291
318-323-6900 OFFICE
JOB No. OXY_0007_RL02
SHEET 3 OF 3

Released to Imaging: 9/18/2025 2:48:50 PM

Received by OCD: 8/12/2025 1:46:56 PM

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**

Page 117 of 124

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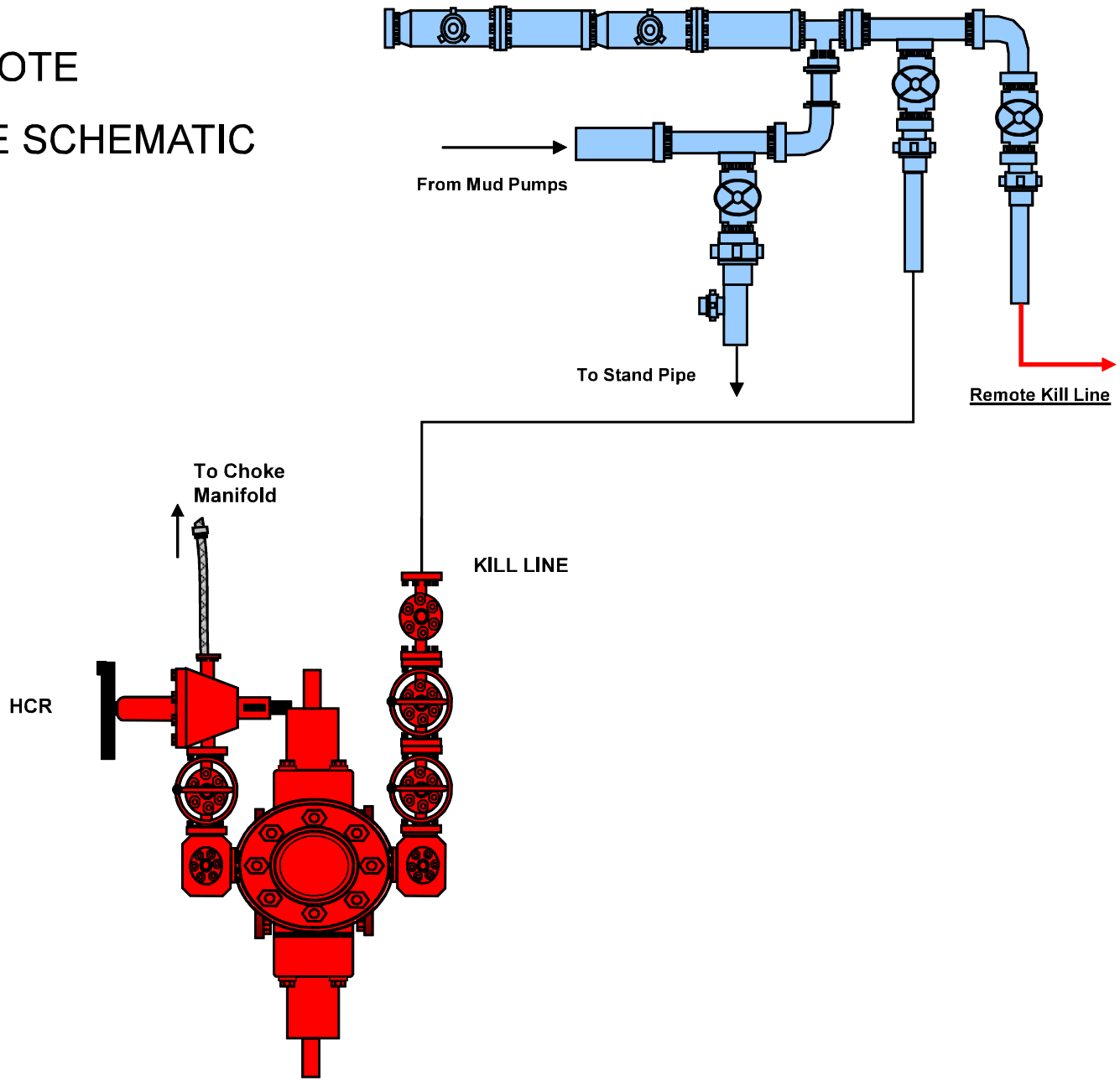
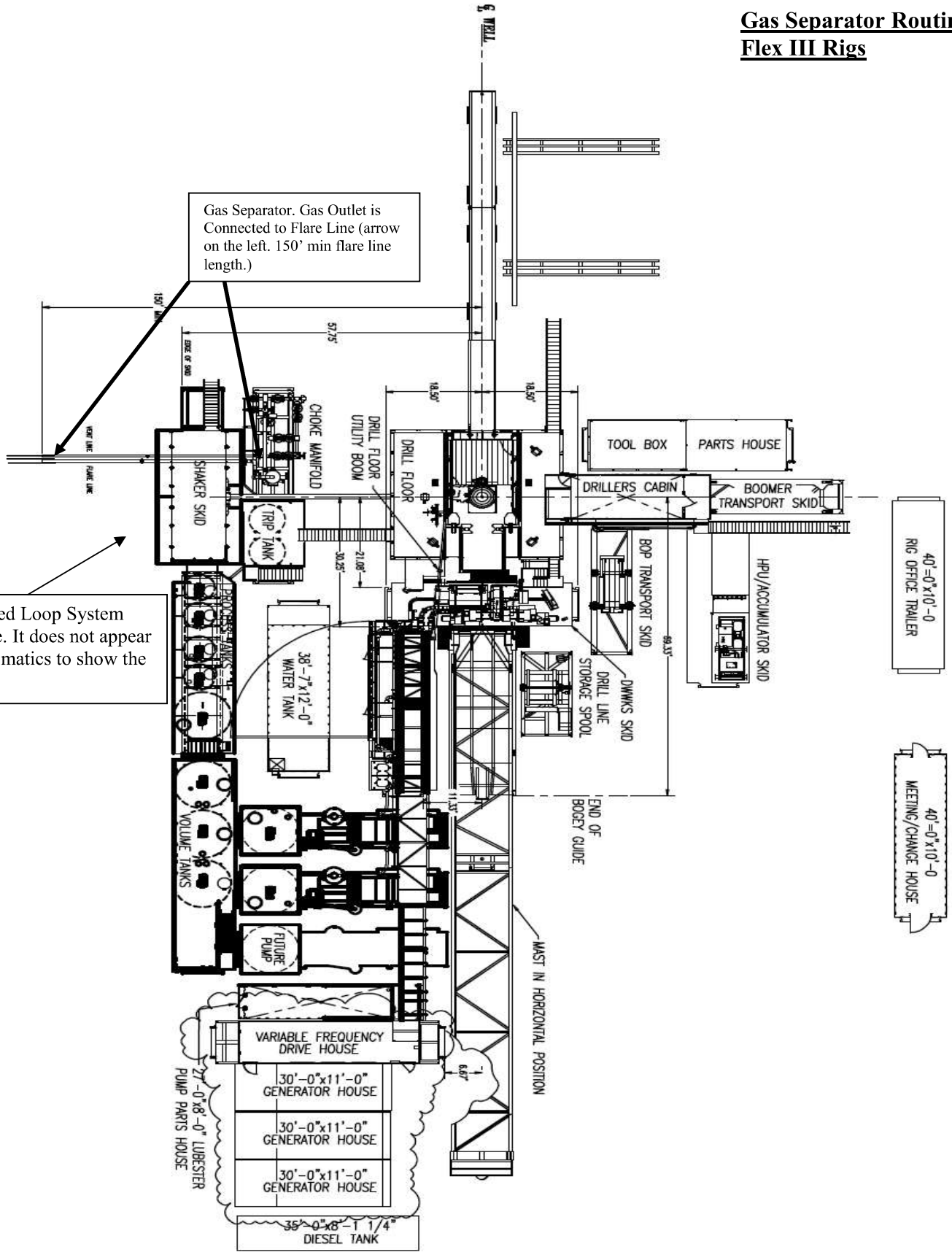
10M REMOTE

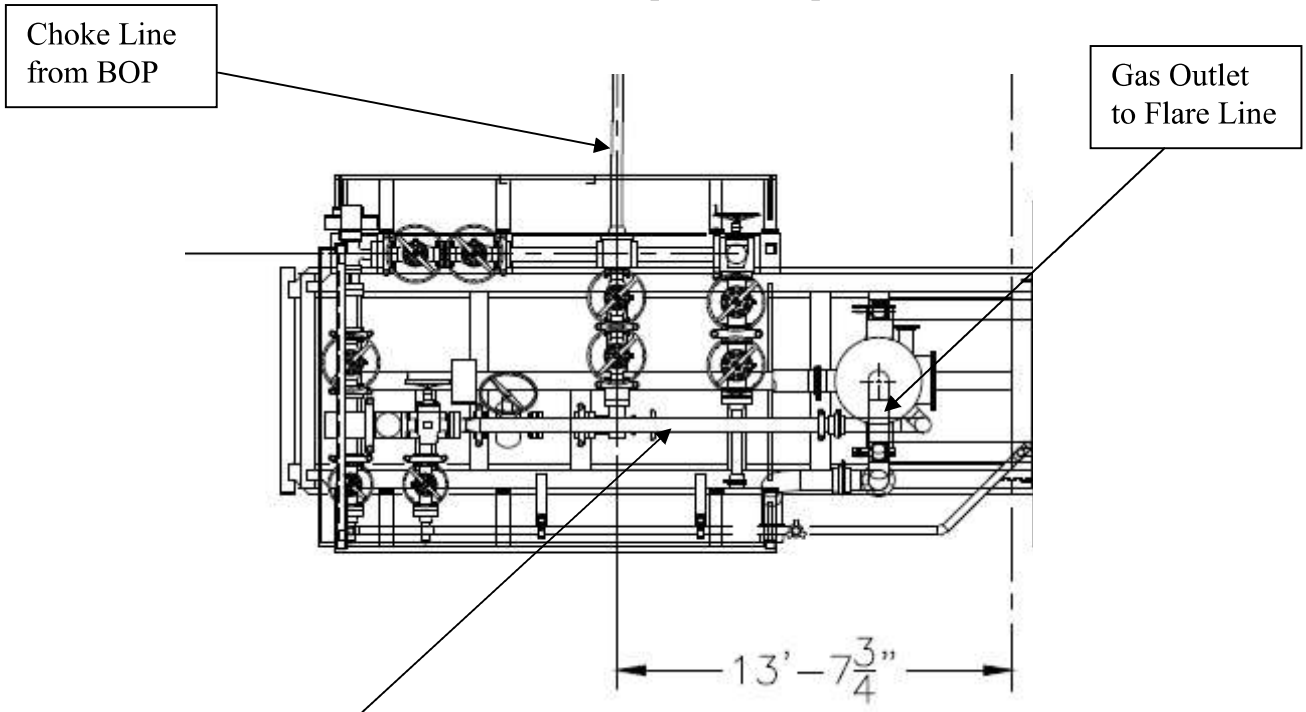
KILL LINE SCHEMATIC



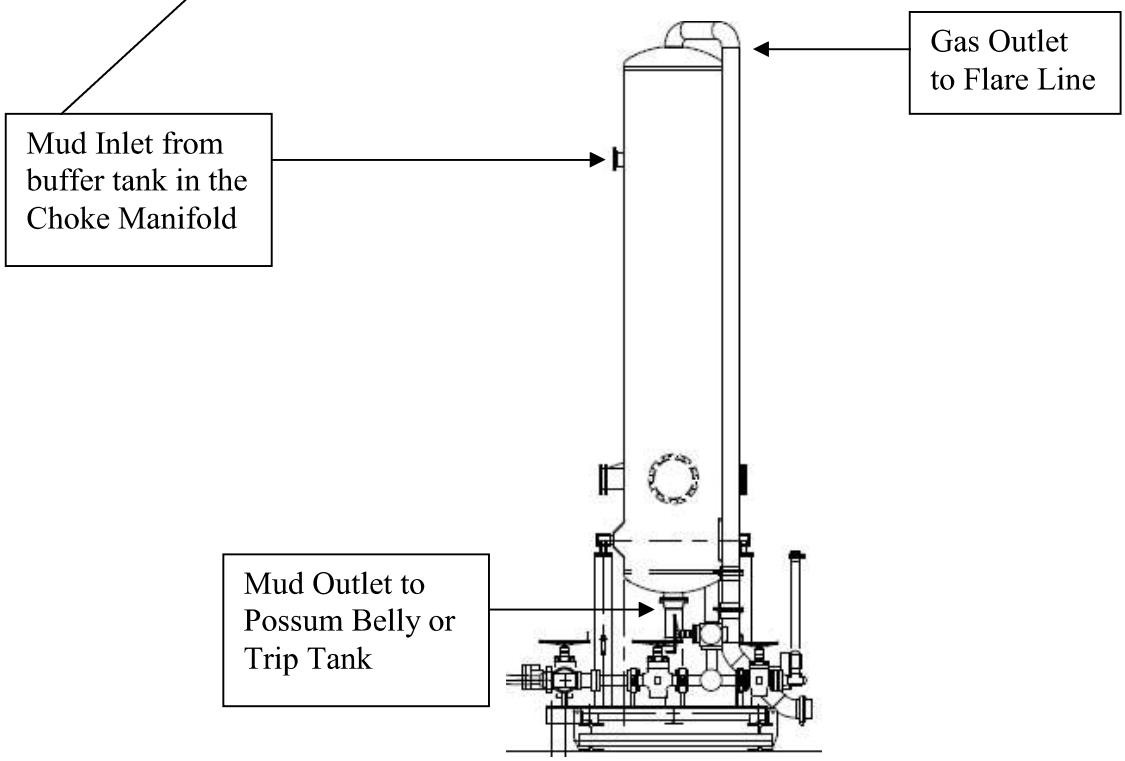
Gas Separator Routing
Flex III Rigs



Choke Manifold – Gas Separator (Top View)



Choke Manifold – Gas Separator (Side View)



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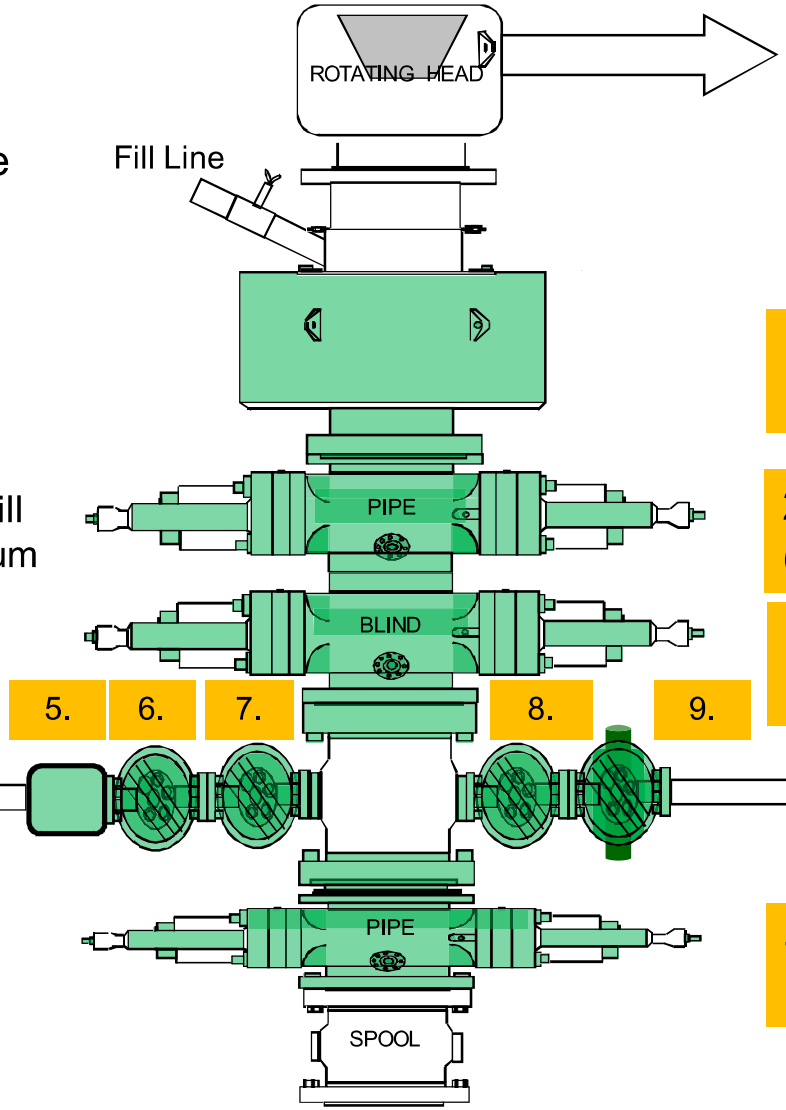
Received by OCD: 8/12/2025 1:46:56 PM

5/10M BOP Stack

Mud Cross Valves:

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

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

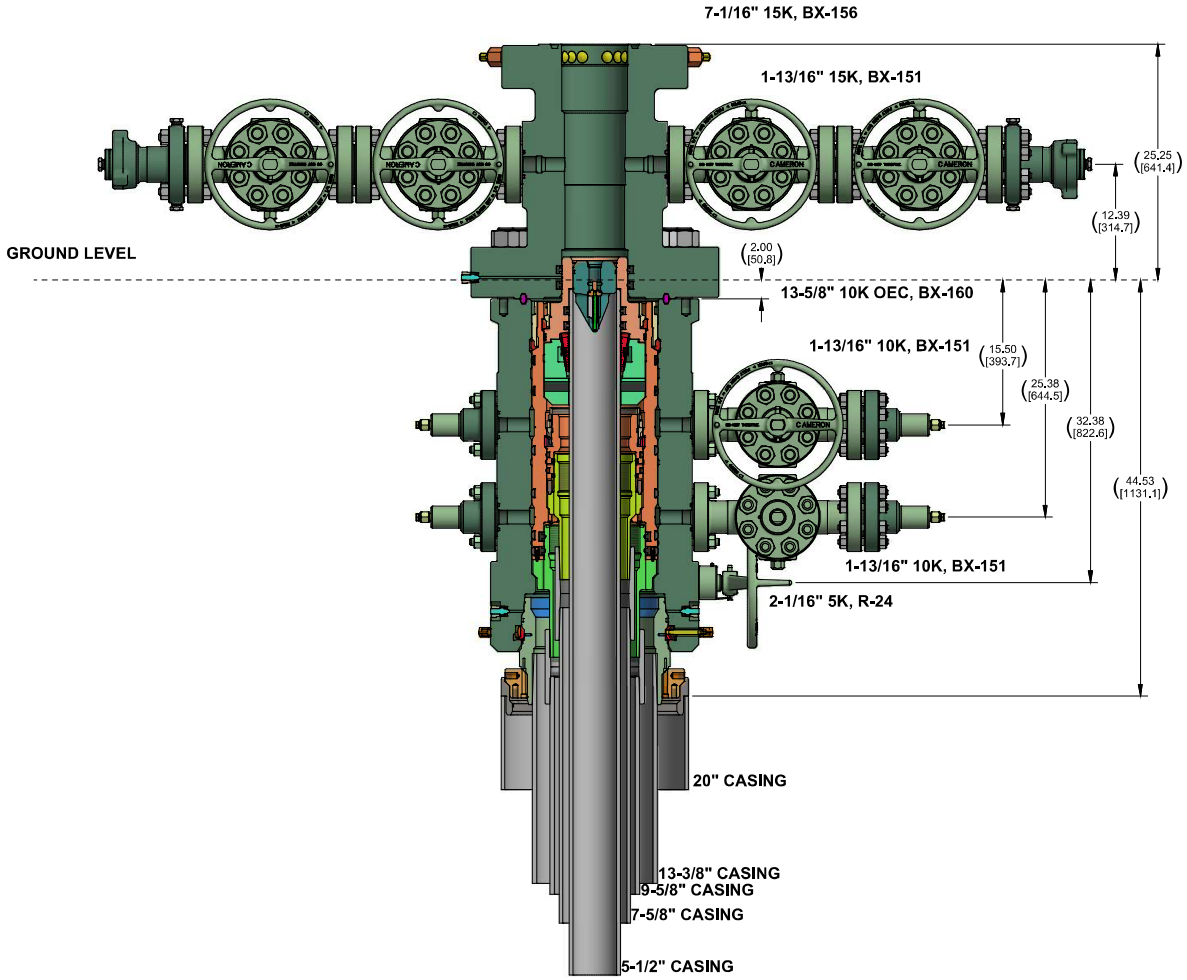


1. 5,000 psi Annular (13-5/8” ID)

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

3. 10,000 psi Blind Ram (13-5/8” ID)

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



CONFIDENTIAL

SURFACE TREATMENT	DO NOT SCALE	CAMERON A Schlumberger Company	SURFACE SYSTEMS
	DRAWN BY: A. SKLENKA — DATE 26 Apr 22		
MATERIAL & HEAT TREAT	CHECKED BY: A. SKLENKA — DATE 26 Apr 22	OXY ADAPT NST 10K 3 STAGE WELLHEAD STANDARD / EMERGENCY SYSTEM	
	APPROVED BY: A. SKLENKA — DATE 26 Apr 22		
ESTIMATED WEIGHT:	7968.4 LBS [3614.4 KG] — INTIN. USE BIM: T# 7836394	SHEET 1 of 1 — LO-096232-62	REV. 01

INVSNTOR - D

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

ACKNOWLEDGMENTS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 495185
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

ACKNOWLEDGMENTS

☐	I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well.

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

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

CONDITIONS

Action 495185

CONDITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 495185
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
melissaguidry	Cement is required to circulate on both surface and intermediate1 strings of casing.	8/12/2025
melissaguidry	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	8/12/2025
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	9/18/2025
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	9/18/2025
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.	9/18/2025
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.	9/18/2025
ward.rikala	No additives containing PFAS chemicals will be added to the drilling fluids or completion fluids used during drilling, completions, or recompletions operations.	9/18/2025