Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

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

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

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

8. Lease Name and Well No.

2. Name of Operator

9. API Well No.
30-015-56430

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory

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

At surface

At proposed prod. zone

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

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date

Title

Approved by *(Signature)*	Name *(Printed/Typed)*	Date

Title	Office

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

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

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 03/25/2025

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024 Submittal Type: ☒ Initial Submittal ☐ Amended Report ☐ As Drilled

WELL LOCATION INFORMATION

API Number	Pool Code	Pool Name	
30-015-56430	96831	Cedar Lake; Glorieta Yeso	
Property Code	Property Name		Well Number
337177	PEYOTE B STATE COM		4H
OGRID No.	Operator Name		Ground Level Elevation
13837	MACK ENERGY CORPORATION		3944.3
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	Longitude	County
L	33	16 S	31 E		2290 SOUTH	741 WEST	32.8771229°N	103.8809234°W	EDDY

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
L	32	16 S	31 E		2310 SOUTH	1 WEST	32.8771339°N	103.9005314°W	EDDY

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
160				
Order Numbers.			Well setbacks are under Common Ownership: ☐Yes ☐No	

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
L	33	16 S	31 E		2290 SOUTH	741 WEST	32.8771229°N	103.8809234°W	EDDY

First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
I	32	16 S	31 E		2310 SOUTH	100 EAST	32.8771718°N	103.8836621°W	EDDY

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
L	32	16 S	31 E		2310 SOUTH	100 WEST	32.8771347°N	103.9002090°W	EDDY

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

OPERATOR CERTIFICATIONS

I hereby certify that the information contained herein is true and complete to the best ofmy 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 run leased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order here to fore 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.

Deana Weaver 11/7/2024

Signature Date

Deana Weaver

Printed Name

dweaver@mec.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.

Signature and Seal of Professional Surveyor

FILIMON F. JARAMILLO

CertificateNumber	Dateof Survey
PLS 12797	SEPTEMBER 24, 2024 SURVEY NO. 10093A

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

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.

PEYOTE B STATE COM 4H
EL. = 3944.3

GEODETIC COORDINATES
NAD 83 NMSP EAST
SURFACE LOCATION
N.= 683128.70
E.= 680228.30
LAT. = 32.8771229°N
LONG. = 103.8809234°W

KICK OFF POINT
2290' FSL, 741' FWL
N.= 683128.70
E.= 680228.30
LAT. = 32.8771229°N
LONG. = 103.8809234°W

FIRST TAKE POINT (PPP 1)
2310' FSL, 100' FEL
N.= 683142.89
E.= 679387.45
LAT. = 32.8771718°N
LONG. = 103.8836621°W

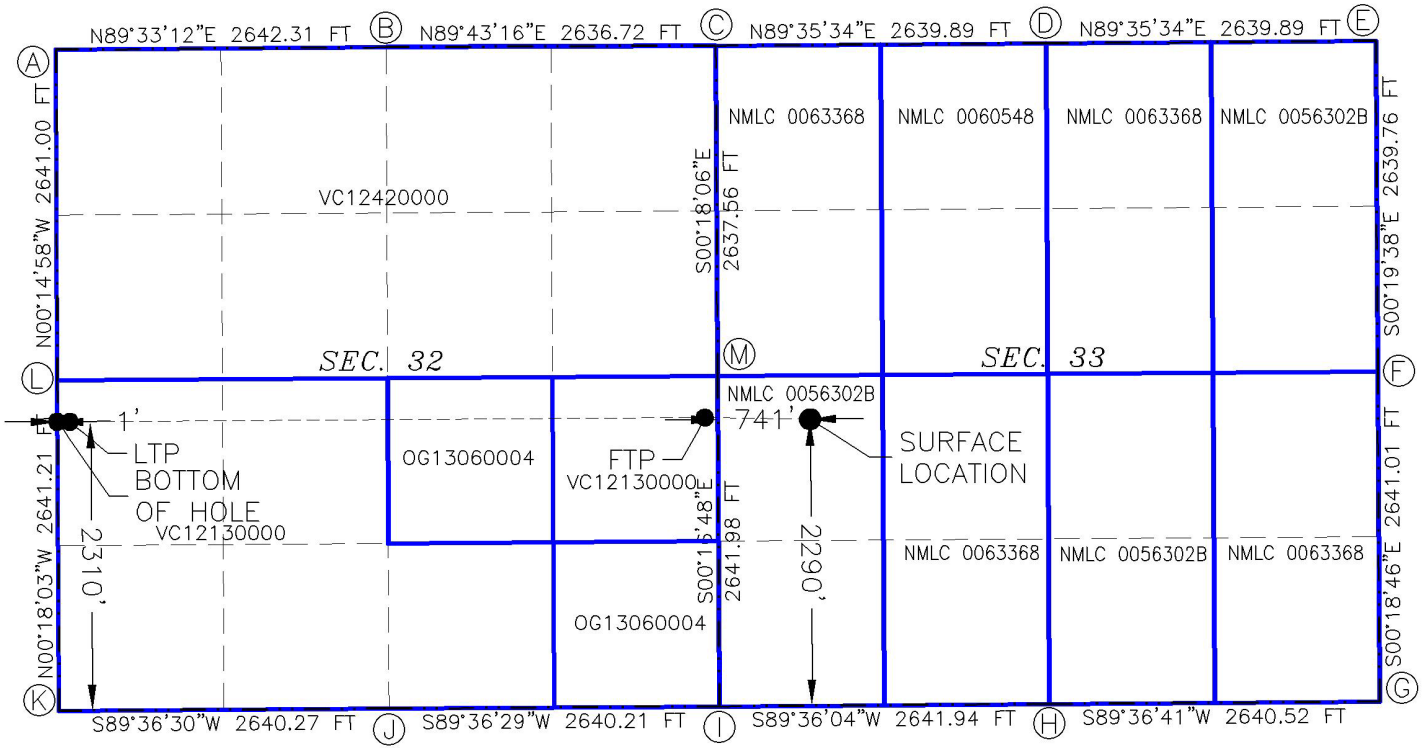
LAST TAKE POINT
2310' FSL, 100' FWL
N.= 683108.15
E.= 674307.53
LAT. = 32.8771347°N
LONG. = 103.9002090°W

BOTTOM OF HOLE
2310' FSL, 1' FWL
N.= 683107.47
E.= 674208.56
LAT. = 32.8771339°N
LONG. = 103.9005314°W

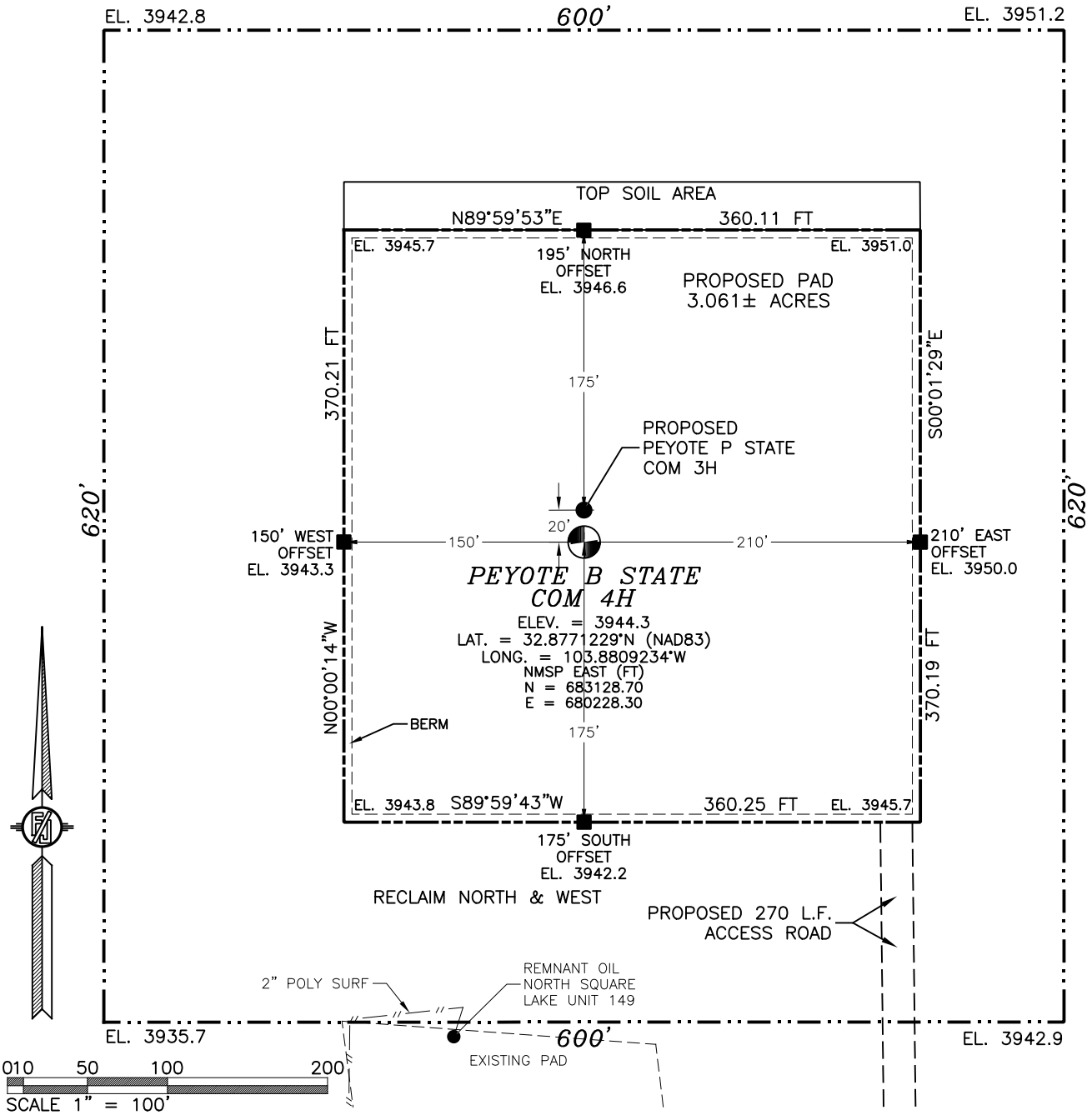
CORNER COORDINATES TABLE
NAD 83 NMSP EAST

A –	N.= 686078.89	E.= 674194.33
B –	N.= 686099.49	E.= 676835.89
C –	N.= 686112.32	E.= 679471.91
D –	N.= 686131.08	E.= 682111.08
E –	N.= 686149.83	E.= 684750.24
F –	N.= 683510.78	E.= 684765.30
G –	N.= 680870.47	E.= 684779.73
H –	N.= 680852.56	E.= 682139.92
I –	N.= 680834.18	E.= 679498.71
J –	N.= 680816.12	E.= 676859.22
K –	N.= 680798.07	E.= 674219.68
L –	N.= 683438.58	E.= 674205.82
M –	N.= 683475.46	E.= 679485.80

LEGEND
SECTION LINE
QUARTER LINE
LEASE LINE
WELL PATH



SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SITE MAP



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF ST. HWY. 82 AND CO. RD. 220 (SQUARE LAKE), GO NORTH ON CO. RD. 220 APPROX. 4.8 MILES, TURN RIGHT ON CO. RD. 252 AND GO EAST APPROX. 3.1 MILES, TURN LEFT (SOUTH) ON 15' CALICHE ROAD AND GO APPROX. 0.54 MILES, TURN RIGHT (WEST) AND GO APPROX. 0.23 MILES TO BEGIN ROAD SURVEY, FOLLOW ROAD SURVEY NORTH APPROX. 141' TO THE SOUTHEAST PAD CORNER FOR PEYOTE P STATE COM 1H, FROM THE NORTHEAST PAD CORNER CONTINUE NORTH APPROX. 720' TO THE SOUTHEAST PAD CORNER FOR PEYOTE P STATE COM 7H, FROM THE NORTHEAST PAD CORNER CONTINUE NORTH APPROX. 270' (APPROX. 1500' TOTAL) TO THE SOUTHEAST PAD CORNER FOR THIS LOCATION.

I, FILIMON F. JARAMILLO, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND/OR WAS RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THIS SURVEY WAS PERFORMED TO MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

FILIMON F. JARAMILLO PLS 17078

NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR

MACK ENERGY CORPORATION

PEYOTE B STATE COM 4H

LOCATED 2290 FT. FROM THE SOUTH LINE AND 741 FT. FROM THE WEST LINE OF SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO

SEPTEMBER 24, 2024

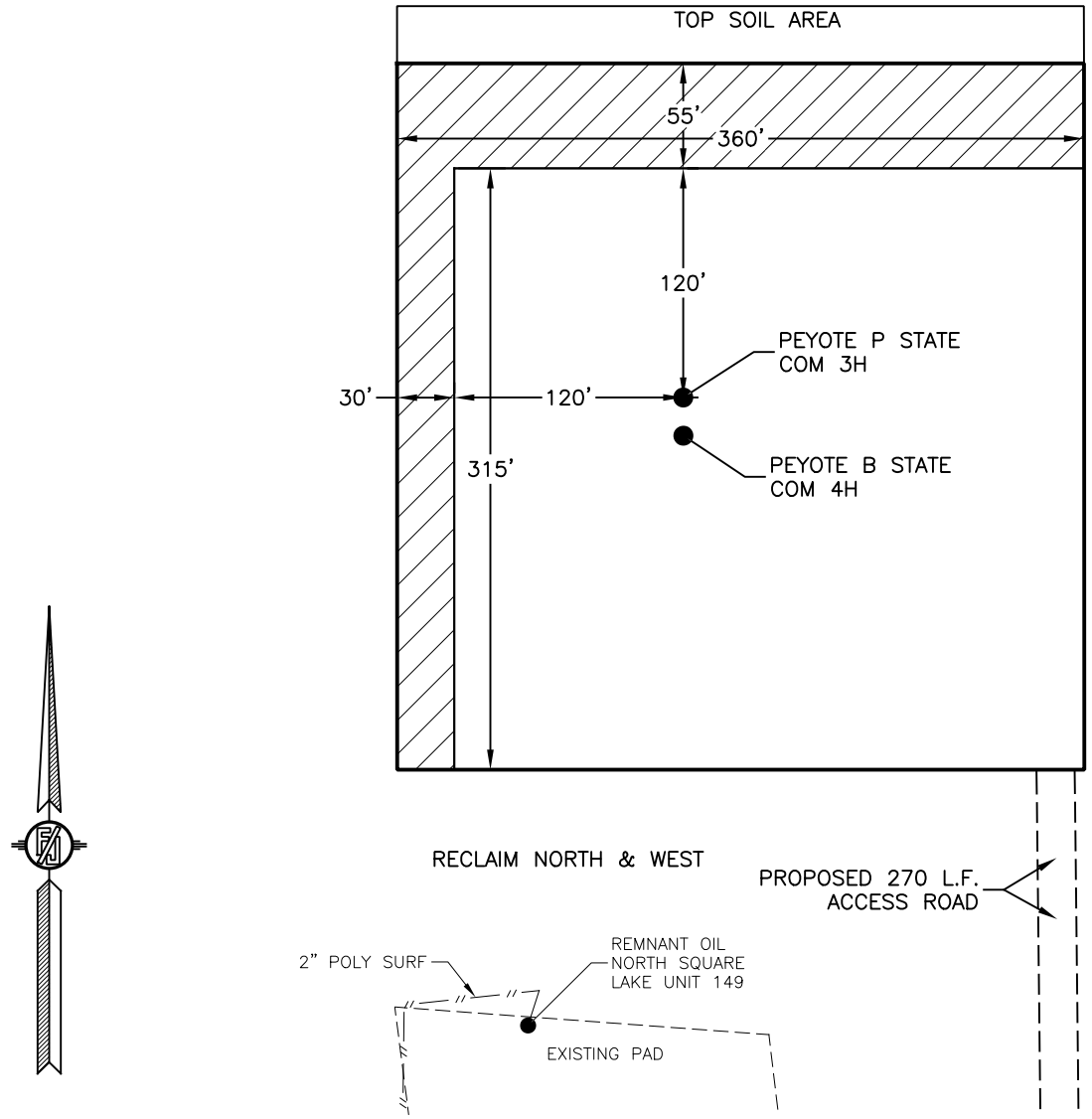
SURVEY NO. 10093A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3327 *CARLSBAD, NEW MEXICO*

SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
INTERIM SITE RECLAMATION

DENOTES RECLAMATION AREA

0.672± ACRES RECLAMATION AREA



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SEPTEMBER 24, 2024

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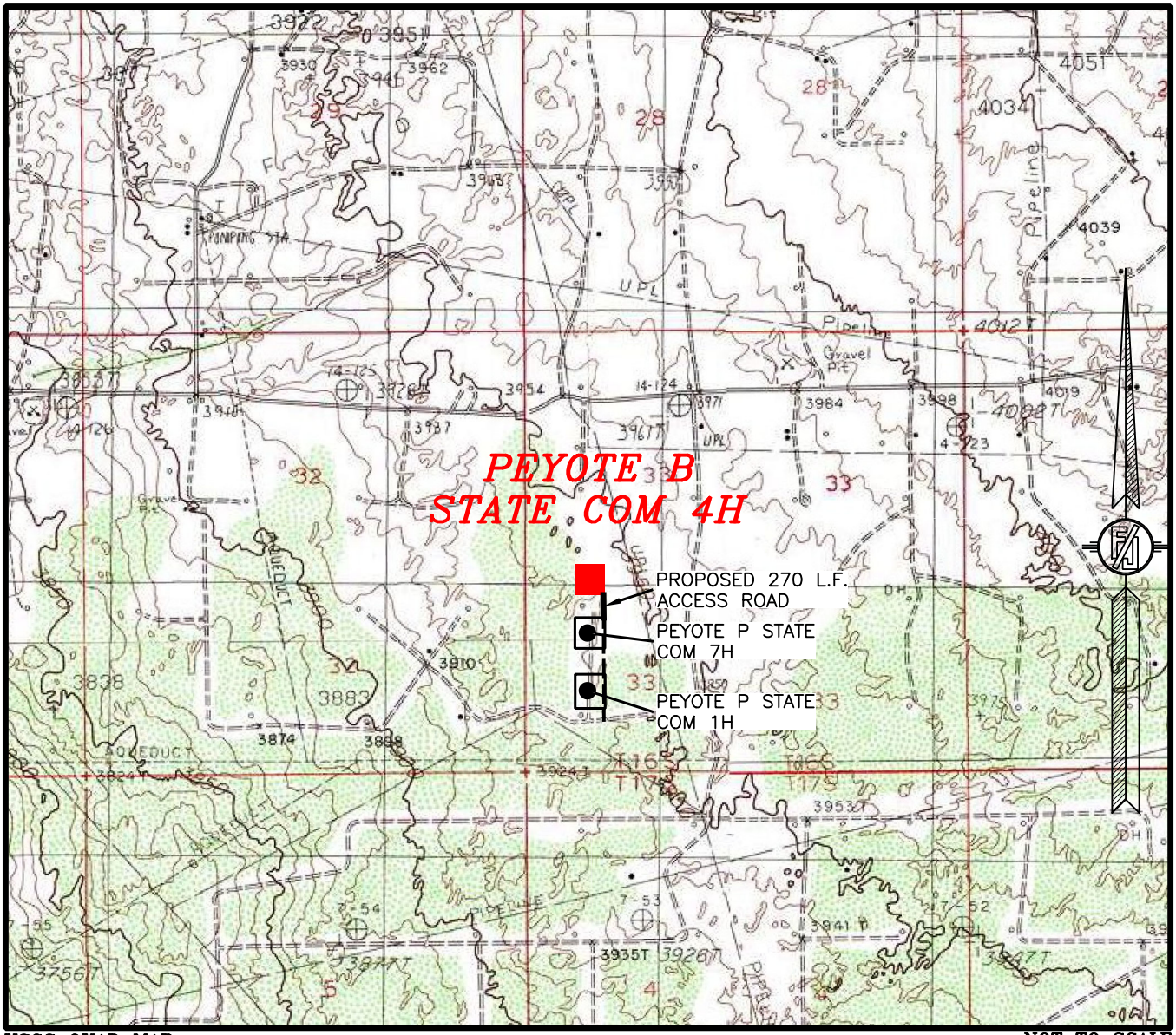
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3327 CARLSBAD, NEW MEXICO

SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

LOCATION VERIFICATION MAP



USGS QUAD MAP:
HENSHAW TANK

NOT TO SCALE

MACK ENERGY CORPORATION

PEYOTE B STATE COM 4H

LOCATED 2290 FT. FROM THE SOUTH LINE
AND 741 FT. FROM THE WEST LINE OF
SECTION 33, TOWNSHIP 16 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

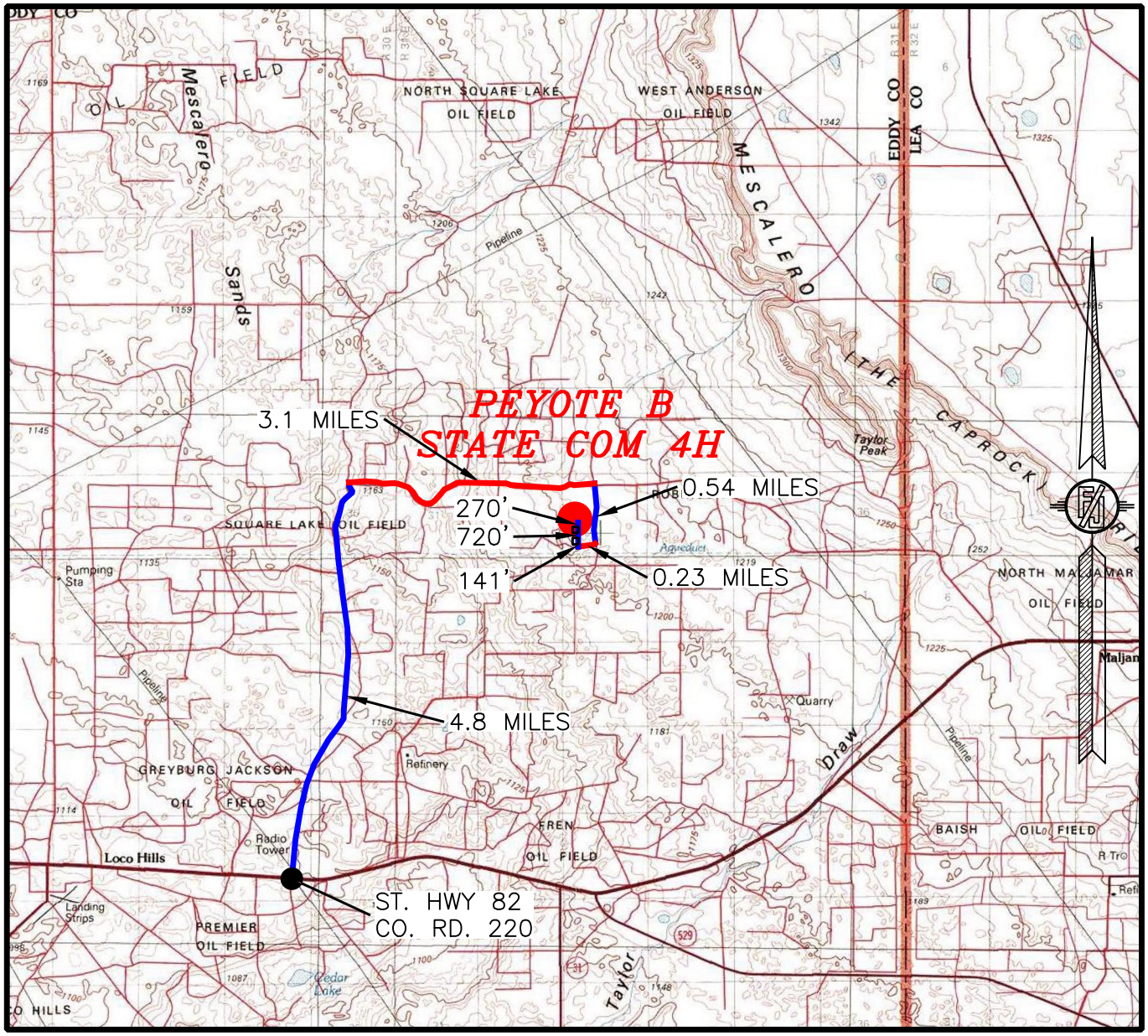
SEPTEMBER 24, 2024

SURVEY NO. 10093A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3327 CARLSBAD, NEW MEXICO

SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

VICINITY MAP



DISTANCES IN MILES NOT TO SCALE

DIRECTIONS TO LOCATION
FROM THE INTERSECTION OF ST. HWY. 82 AND CO. RD. 220 (SQUARE LAKE), GO NORTH ON CO. RD. 220 APPROX. 4.8 MILES, TURN RIGHT ON CO. RD. 252 AND GO EAST APPROX. 3.1 MILES, TURN LEFT (SOUTH) ON 15' CALICHE ROAD AND GO APPROX. 0.54 MILES, TURN RIGHT (WEST) AND GO APPROX. 0.23 MILES TO BEGIN ROAD SURVEY, FOLLOW ROAD SURVEY NORTH APPROX. 141' TO THE SOUTHEAST PAD CORNER FOR PEYOTE P STATE COM 1H, FROM THE NORTHEAST PAD CORNER CONTINUE NORTH APPROX. 720' TO THE SOUTHEAST PAD CORNER FOR PEYOTE P STATE COM 7H, FROM THE NORTHEAST PAD CORNER CONTINUE NORTH APPROX. 270' (APPROX. 1500' TOTAL) TO THE SOUTHEAST PAD CORNER FOR THIS LOCATION.

MACK ENERGY CORPORATION
PEYOTE B STATE COM 4H
LOCATED 2290 FT. FROM THE SOUTH LINE AND 741 FT. FROM THE WEST LINE OF SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

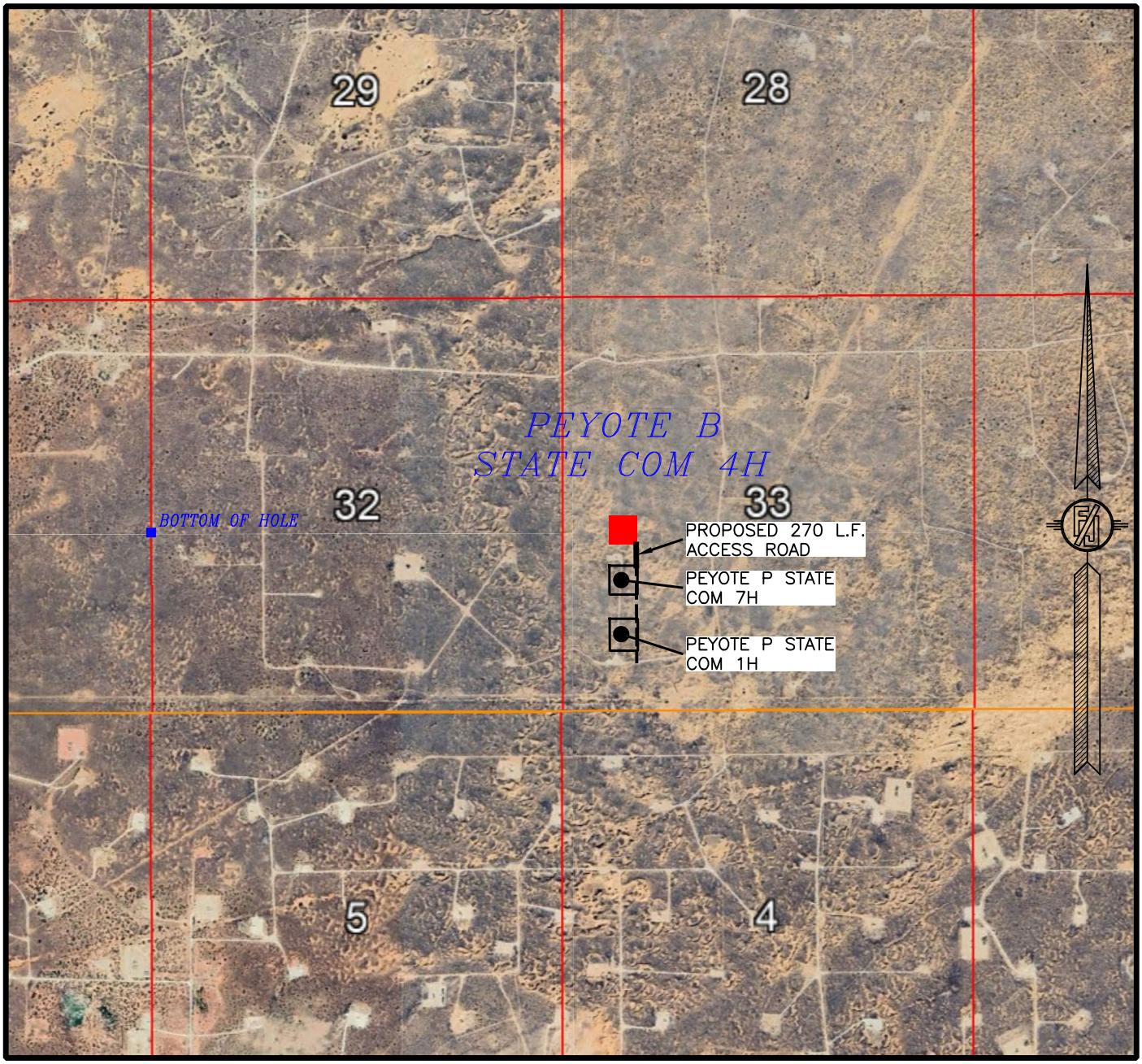
SEPTEMBER 24, 2024

SURVEY NO. 10093A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3327 CARLSBAD, NEW MEXICO

SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
JAN. 2023

MACK ENERGY CORPORATION
PEYOTE B STATE COM 4H
LOCATED 2290 FT. FROM THE SOUTH LINE
AND 741 FT. FROM THE WEST LINE OF
SECTION 33, TOWNSHIP 16 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

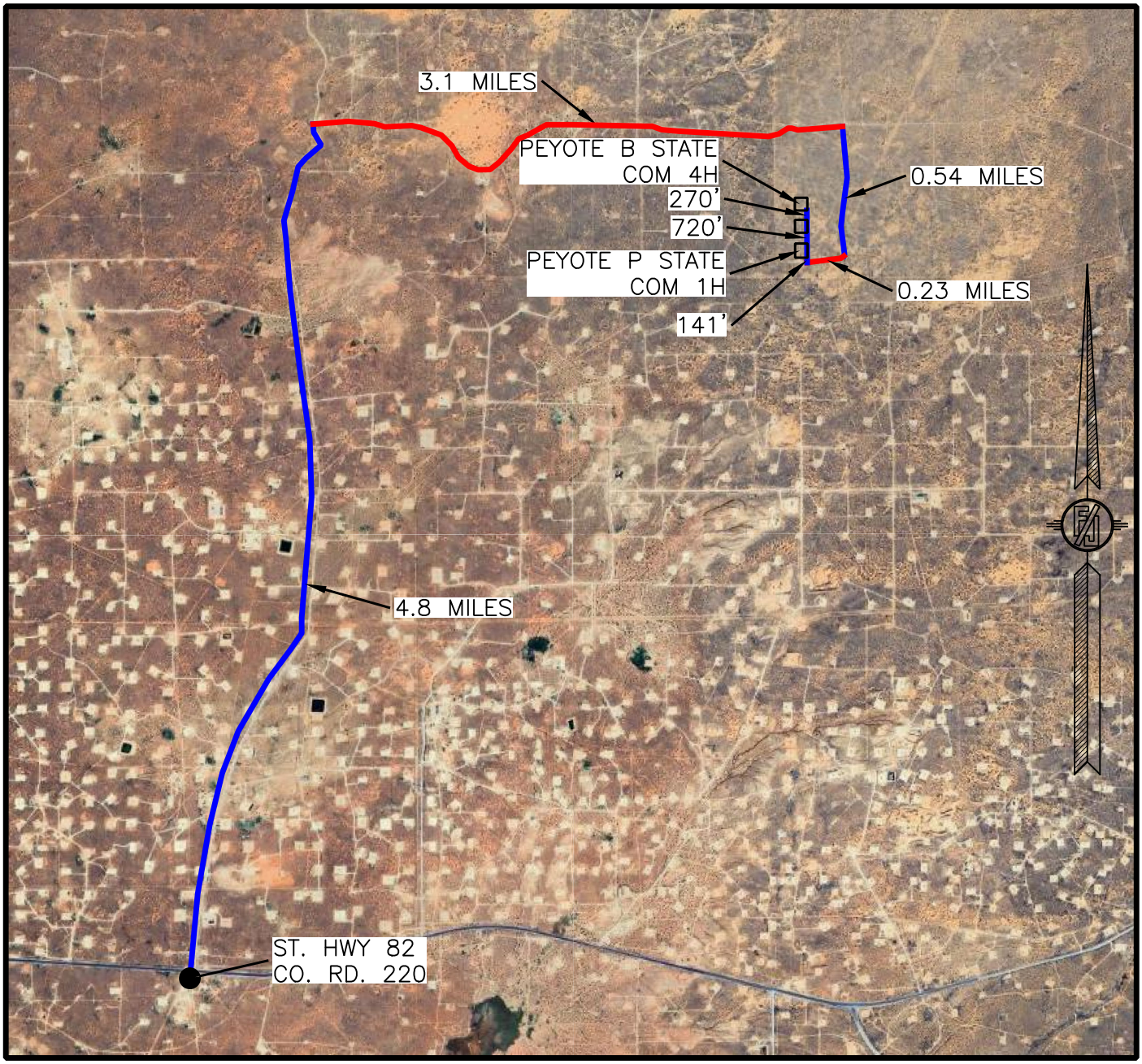
SEPTEMBER 24, 2024

SURVEY NO. 10093A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3327 CARLSBAD, NEW MEXICO

SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AERIAL ACCESS ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
JAN. 2023

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RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

SEPTEMBER 24, 2024

SURVEY NO. 10093A

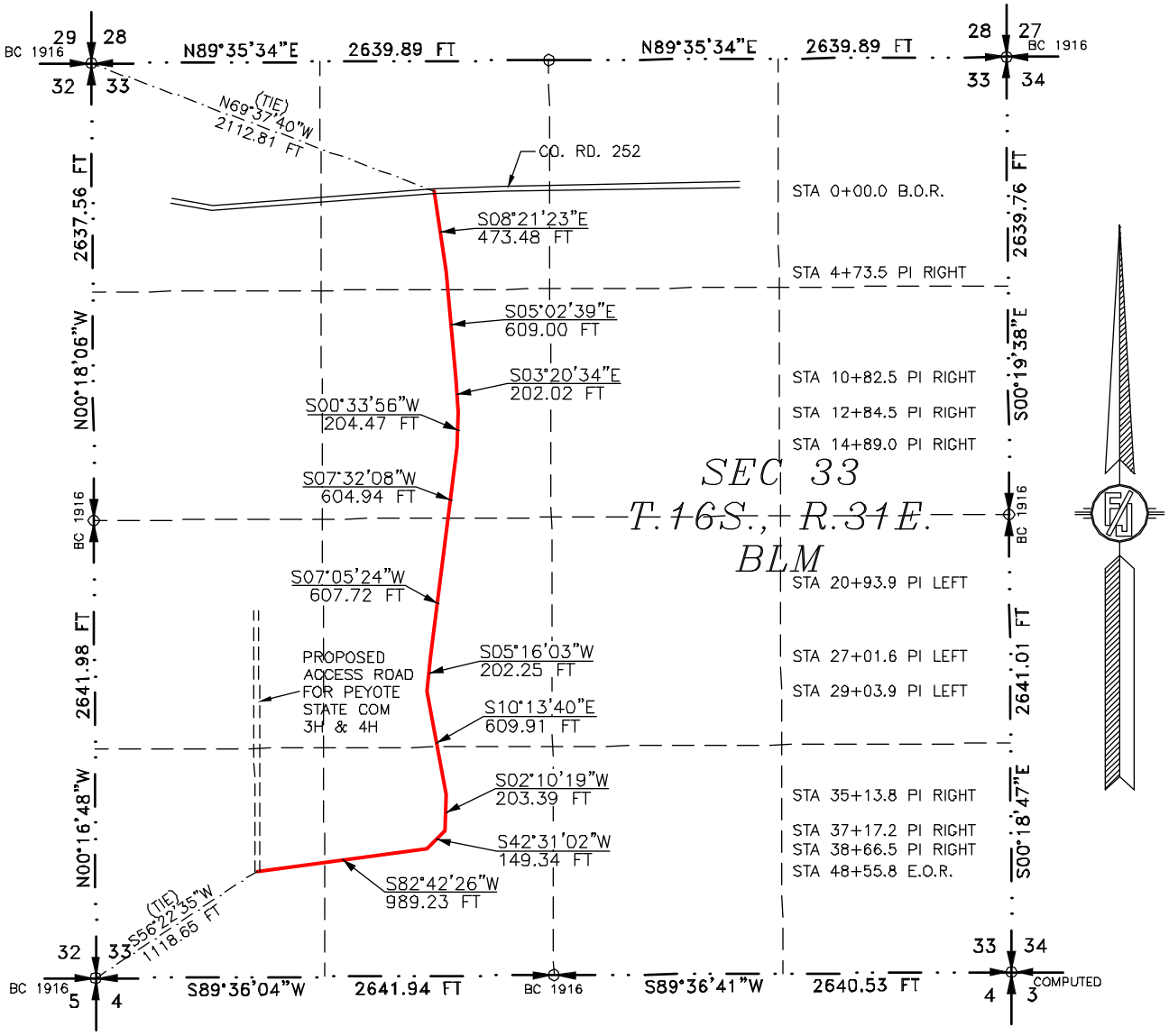
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3327 CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT

EXISTING CALICHE ROAD FOR ACCESS TO PEYOTE P STATE COM 3H & PEYOTE B STATE COM 4H

MACK ENERGY CORPORATION

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SEPTEMBER 24, 2024



SEE NEXT SHEET (2-2) FOR DESCRIPTION

1000 0 1000
Scale: 1" = 1000'

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 24TH DAY OF SEPTEMBER 2024

FILIMON F. JARAMILLO PLS 12797

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3327

FILIMON F. JARAMILLO NEW MEXICO 12797 REGISTERED PROFESSIONAL SURVEYOR

SHEET: 1-2

SURVEY NO. 10093A

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT

EXISTING CALICHE ROAD FOR ACCESS TO PEYOTE P STATE COM 3H & PEYOTE B STATE COM 4H

MACK ENERGY CORPORATION

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SEPTEMBER 24, 2024

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE NE/4 NW/4 OF SAID SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N69°37'40"W, A DISTANCE OF 2112.81 FEET;
THENCE S08°21'23"E A DISTANCE OF 473.48 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S05°02'39"E A DISTANCE OF 609.00 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S03°20'34"E A DISTANCE OF 202.02 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S00°33'56"W A DISTANCE OF 204.47 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S07°32'08"W A DISTANCE OF 604.94 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S07°05'24"W A DISTANCE OF 607.72 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S05°16'03"W A DISTANCE OF 202.25 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S10°13'40"E A DISTANCE OF 609.91 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S02°10'19"W A DISTANCE OF 203.39 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S42°31'02"W A DISTANCE OF 149.34 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S82°42'26"W A DISTANCE OF 989.23 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE SOUTHWEST CORNER OF SAID SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS S56°22'35"W, A DISTANCE OF 1118.65 FEET;

SAID STRIP OF LAND BEING 4855.75 FEET OR 294.29 RODS IN LENGTH, CONTAINING 3.344 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NW/4	574.52 L.F.	34.82 RODS	0.396 ACRES
SE/4 NW/4	1325.10 L.F.	80.31 RODS	0.913 ACRES
NE/4 SW/4	1333.66 L.F.	80.83 RODS	0.918 ACRES
SE/4 SW/4	1233.36 L.F.	74.75 RODS	0.849 ACRES
SW/4 SW/4	389.11 L.F.	23.58 RODS	0.268 ACRES

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 24TH DAY OF SEPTEMBER 2024

FILIMON F. JARAMILLO PLS 12797

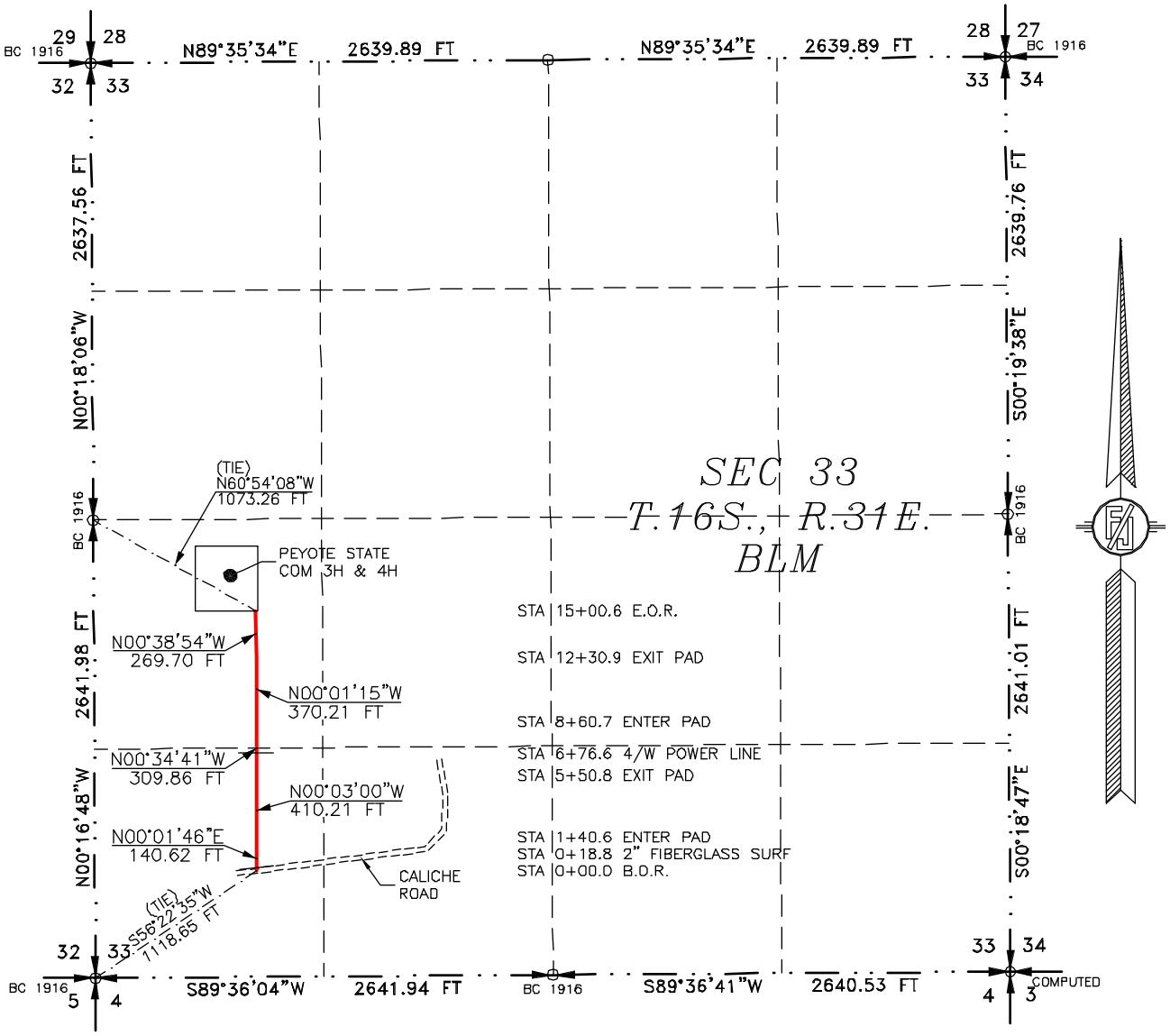
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3327

ACCESS ROAD PLAT

ACCESS ROAD FOR PEYOTE P STATE COM 3H & PEYOTE B STATE COM 4H

MACK ENERGY CORPORATION

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SEPTEMBER 24, 2024



SEE NEXT SHEET (2-2) FOR DESCRIPTION

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Scale: 1" = 1000'

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 26TH DAY OF SEPTEMBER 2024

FILIMON F. JARAMILLO PLS 12797

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3327

SHEET: 1-2

SURVEY NO. 10093A

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT

ACCESS ROAD FOR PEYOTE P STATE COM 3H & PEYOTE B STATE COM 4H

MACK ENERGY CORPORATION

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SEPTEMBER 24, 2024

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE SW/4 SW/4 OF SAID SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE SOUTHWEST CORNER OF SAID SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS S56°22'35"W, A DISTANCE OF 1118.65 FEET;
THENCE N00°01'46"E A DISTANCE OF 140.62 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N00°03'00"W A DISTANCE OF 410.21 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N00°34'41"W A DISTANCE OF 309.86 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N00°01'15"W A DISTANCE OF 370.21 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N00°38'54"W A DISTANCE OF 269.70 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE WEST QUARTER CORNER OF SAID SECTION 33, TOWNSHIP 16 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N60°54'08"W, A DISTANCE OF 1073.26 FEET;

SAID STRIP OF LAND BEING 1500.61 FEET OR 90.95 RODS IN LENGTH, CONTAINING 1.033 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SW/4 SW/4	707.89 L.F.	42.90 RODS	0.488 ACRES
NW/4 SW/4	792.72 L.F.	48.04 RODS	0.546 ACRES

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 24TH DAY OF SEPTEMBER 2024

FILIMON F. JARAMILLO PLS 12797

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3327

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: Mack Energy Corporation **OGRID:** 013837 **Date:** 8 / 19 / 2024

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
Peyote B State Com #4H		Unit L Sec 33 T16S R31E	2290 FSL 7741 FWL	100	100	1,000

IV. Central Delivery Point Name: DCP Midstream Linam Ranch Proscessing Plant / Durango Midstream [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
Peyote B State Com #4H		1/1/2025	1/20/2025	03/28/2025	03/28/2025	4/1/2025

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:	Deana Weaver
Printed Name:	Deana Weaver
Title:	Regulatory Technician II
E-mail Address:	dweaver@mec.com
Date:	8/19/2024
Phone:	575-748-1288

OIL CONSERVATION DIVISION

(Only applicable when submitted as a standalone form)

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

VI. Separation Equipment:

Mack Energy Corporation(MEC) production facilities include separation equipment designed to efficiently separate gas from liquid phases to optimize gas capture based on projected and estimated volumes from the targeted pool of our completion project. MEC will utilize flowback separation equipment and production separation equipment designed and built to industry specifications after the completion to optimize gas capture and send gas to sales or flare based on analytical composition. MEC operates facilities that are typically multi-well facilities. Production separation equipment is upgraded prior to new wells being completed, if determined to be undersized or inadequate. This equipment is already on-site and tied into our sales gas lines prior to the new drill operations.

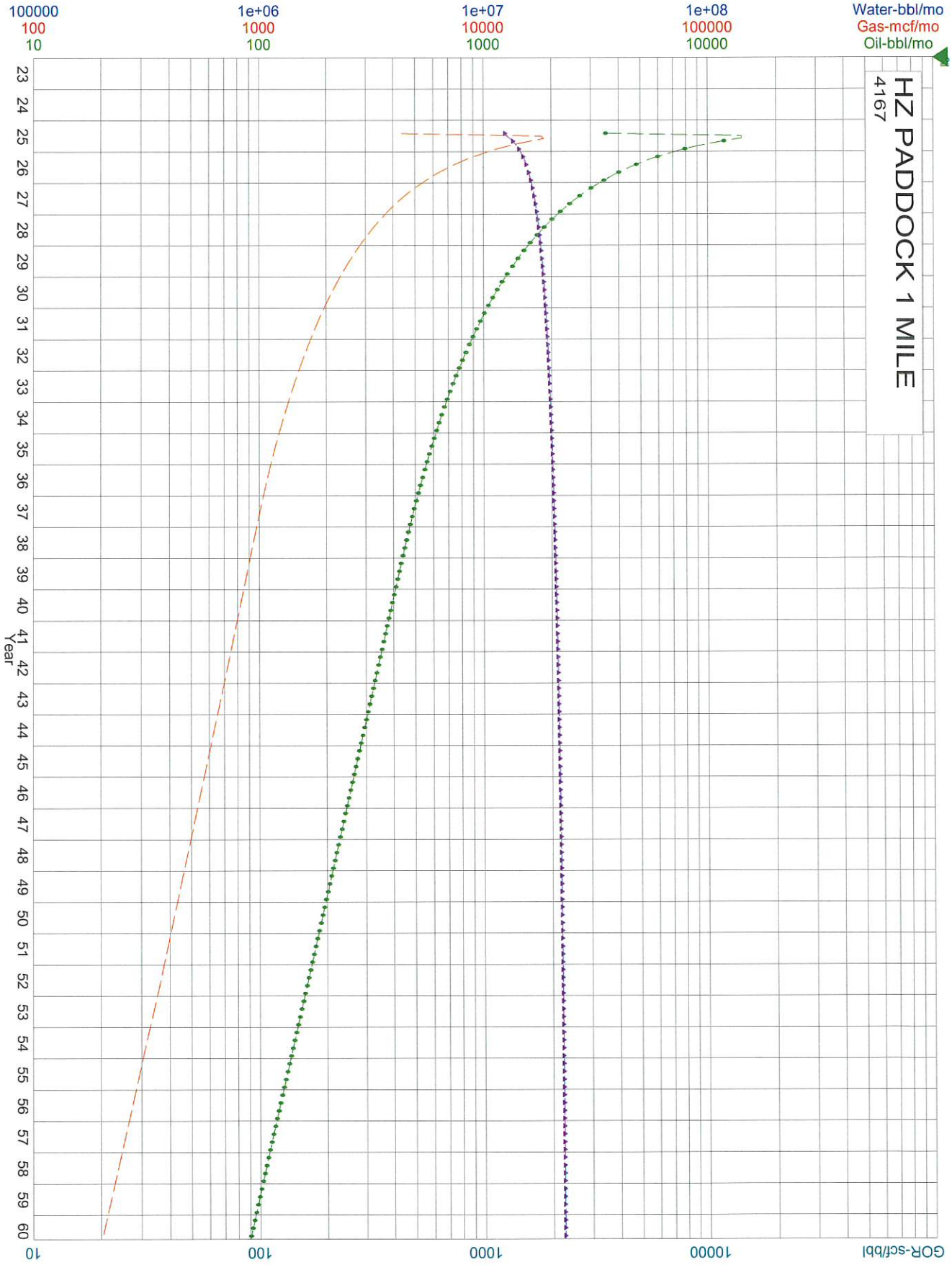
VII. Operational Practices:

1. Subsection (A) Venting and Flaring of Natural Gas. MEC understands the requirements of NMAC 19.15.27.8 which outlines that the venting and flaring of natural gas during drilling, completion or production operations that constitutes waste as defined in 19.15.2 are prohibited.
2. Subsection (B) Venting and Flaring during drilling operations. This gas capture plan isn't for a well being drilled.
3. Subsection (C) Venting and flaring during completion or recompletion. Flowlines will be routed for flowback fluids into a completion or storage tank and if feasible under well conditions, flare rather than vent and commence operation of a separator as soon as it is technically feasible for a separator to function.
    - At any point in the well life (completion, production, inactive) an audio, visual and olfactory inspection be performed at prescribed intervals (weekly or monthly) pursuant to Subsection D of 19.15.27.8 NMAC, to confirm that all production equipment is operating properly and there are no leaks or releases.
4. Subsection (D) Venting and flaring during production operations ○ At any point in the well life (completion, production, inactive) an audio, visual and olfactory inspection be performed at prescribed intervals (weekly or monthly) pursuant to Subsection D of 19.15.27.8 NMAC, to confirm that all production equipment is operating properly and there are no leaks or releases.
    - Monitor manual liquid unloading for wells on-site or in close proximity (<30 minutes' drive time), take reasonable actions to achieve a stabilized rate and pressure at the earliest practical time, and take reasonable actions to minimize venting to the maximum extent practicable.
    - MEC will not vent or flare except during the approved activities listed in NMAC 19.15.27.8 (D) 14.
5. Subsection (E) Performance standards ○ All tanks and separation equipment are designed for maximum throughput and pressure to minimize waste.
    - If a flare is utilized during production operations it will have a continuous pilot and is located more than 100 feet from any known well or storage tanks.
    - At any point in the well life (completion, production, inactive) an audio, visual and olfactory inspection be performed at prescribed intervals (weekly or monthly) pursuant to Subsection D of 19.15.27.8 NMAC, to confirm that all production equipment is operating properly and there are no leaks or releases.

6. Subsection (F) Measurement or estimation of vented and flared natural gas ○ Measurement equipment is installed to measure the volume of natural gas flared from process piping.
    - When measurement isn't practicable, estimation of vented and flared natural gas will be completed as noted in 19.15.27.8 (F) 5-6.

VIII. Best Management Practices:

1. MEC has adequate storage and takeaway capacity for wells it chooses to complete as the flowlines at the sites are already in place and tied into a gathering system.
2. MEC will flare rather than vent vessel blowdown gas when technically feasible during active and/or planned maintenance to equipment on-site.
3. MEC combusts natural gas that would otherwise be vented or flared, when technically feasible.
4. MEC will shut in wells in the event of a takeaway disruption, emergency situation, or other operations where venting or flaring may occur due to equipment failures.
5. MEC has a gas gathering system in place(CTB-887)a with multiple purchaser's to limit venting or flaring, due to purchaser shut downs.


100000
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Water-bbl/mo
Gas-mcf/mo
Oil-bbl/mo
HZ PADDOCK 1 MILE
4167
Year
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60
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100
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GOR-scf/bbl

Month	Oil (BBL)	Gas (MCF)
1	7623.743	9617.177
2	14150	18313.726
3	12930.1	17261.991
4	10975.531	15047.588
5	9534.983	13366.994
6	8429.055	12044.559
7	7553.197	10974.749
8	6842.333	10090.153
9	6253.83	9345.605
10	5758.584	8709.657
11	5336.046	8159.707
12	4971.294	7679.081
13	4653.23	7255.193
14	4373.426	6878.361
15	4125.369	6541.008
16	3903.945	6237.117
17	3705.082	5961.847
18	3525.499	5711.255
19	3362.521	5482.102
20	3213.947	5271.693
21	3077.947	5077.773
22	2952.991	4898.44
23	2837.785	4732.074
24	2731.23	4577.291
25	2632.388	4432.896
26	2540.451	4297.858
27	2454.718	4171.278
28	2374.584	4052.37
29	2299.515	3940.442
30	2229.048	3834.885
31	2162.771	3735.161
32	2100.321	3640.788
33	2041.376	3551.339
34	1985.65	3466.431
35	1932.885	3385.719
36	1882.851	3308.894
37	1835.343	3235.677
38	1790.173	3165.813
39	1747.172	3099.074
40	1706.189	3035.25
41	1667.084	2974.15
42	1629.732	2915.6
43	1594.017	2859.441
44	1559.833	2805.527
45	1527.085	2753.722
46	1495.683	2703.903
47	1465.547	2655.956
48	1436.601	2609.775
49	1408.776	2565.262
50	1382.009	2522.327
51	1356.24	2480.886
52	1331.414	2440.861
53	1307.48	2402.178
54	1284.392	2364.771
55	1262.105	2328.575

56	1240.578	2293.532
57	1219.773	2259.587
58	1199.655	2226.688
59	1180.189	2194.785
60	1161.345	2163.835
61	1143.093	2133.793
62	1125.406	2104.62
63	1108.257	2076.278
64	1091.624	2048.731
65	1075.482	2021.946
66	1059.811	1995.89
67	1044.59	1970.534
68	1029.8	1945.85
69	1015.423	1921.81
70	1001.441	1898.389
71	987.84	1875.564
72	974.603	1853.31
73	961.716	1831.608
74	949.165	1810.435
75	936.938	1789.773
76	925.021	1769.603
77	913.404	1749.907
78	902.075	1730.668
79	891.024	1711.871
80	880.24	1693.5
81	869.714	1675.54
82	859.437	1657.978
83	849.4	1640.799
84	839.594	1623.993
85	830.012	1607.545
86	820.647	1591.446
87	811.49	1575.683
88	802.536	1560.246
89	793.777	1545.125
90	785.207	1530.309
91	776.82	1515.791
92	768.61	1501.56
93	760.572	1487.608
94	752.701	1473.927
95	744.991	1460.508
96	737.437	1447.345
97	730.034	1434.429
98	722.779	1421.754
99	715.667	1409.314
100	708.693	1397.1
101	701.854	1385.108
102	695.145	1373.331
103	688.564	1361.763
104	682.106	1350.398
105	675.768	1339.232
106	669.546	1328.258
107	663.438	1317.473
108	657.441	1306.87
109	651.551	1296.446
110	645.766	1286.196
111	640.082	1276.114

112	634.498	1266.198
113	629.01	1256.443
114	623.616	1246.846
115	618.314	1237.401
116	613.101	1228.106
117	607.976	1218.956
118	602.935	1209.95
119	597.978	1201.082
120	593.101	1192.35
121	588.303	1183.751
122	583.582	1175.282
123	578.937	1166.939
124	574.364	1158.72
125	569.864	1150.622
126	565.433	1142.642
127	561.071	1134.778
128	556.775	1127.027
129	552.545	1119.387
130	548.378	1111.855
131	544.274	1104.429
132	540.231	1097.107
133	536.247	1089.886
134	532.322	1082.764
135	528.454	1075.74
136	524.642	1068.811
137	520.884	1061.976
138	517.18	1055.232
139	513.527	1048.577
140	509.927	1042.01
141	506.376	1035.529
142	502.874	1029.133
143	499.421	1022.819
144	496.015	1016.586
145	492.654	1010.432
146	489.339	1004.357
147	486.069	998.357
148	482.841	992.433
149	479.657	986.582
150	476.514	980.803
151	473.412	975.095
152	470.35	969.457
153	467.327	963.887
154	464.343	958.383
155	461.397	952.946
156	458.488	947.573
157	455.615	942.263
158	452.779	937.015
159	449.977	931.829
160	447.21	926.702
161	444.476	921.635
162	441.776	916.625
163	439.108	911.671
164	436.46	906.75
165	433.829	901.851
166	431.213	896.975
167	428.613	892.122

168	426.029	887.291
169	423.46	882.483
170	420.907	877.697
171	418.369	872.934
172	415.847	868.193
173	413.34	863.474
174	410.848	858.778
175	408.37	854.104
176	405.908	849.452
177	403.461	844.822
178	401.028	840.214
179	398.61	835.628
180	396.207	831.064
181	393.818	826.521
182	391.444	822.001
183	389.084	817.502
184	386.738	813.024
185	384.406	808.569
186	382.088	804.135
187	379.785	799.722
188	377.495	795.33
189	375.219	790.96
190	372.956	786.611
191	370.708	782.284
192	368.473	777.977
193	366.251	773.691
194	364.043	769.427
195	361.848	765.183
196	359.666	760.96
197	357.498	756.758
198	355.342	752.577
199	353.2	748.416
200	351.07	744.276
201	348.953	740.156
202	346.849	736.057
203	344.758	731.978
204	342.679	727.919
205	340.613	723.881
206	338.56	719.862
207	336.518	715.864
208	334.489	711.886
209	332.473	707.927
210	330.468	703.989
211	328.476	700.07
212	326.495	696.171
213	324.527	692.292
214	322.57	688.432
215	320.625	684.592
216	318.692	680.771
217	316.77	676.969
218	314.861	673.187
219	312.962	669.424
220	311.075	665.68
221	309.2	661.955
222	307.335	658.249
223	305.482	654.562

224	303.64	650.894
225	301.81	647.245
226	299.99	643.614
227	298.181	640.002
228	296.383	636.409
229	294.596	632.834
230	292.82	629.277
231	291.055	625.739
232	289.3	622.219
233	287.556	618.717
234	285.822	615.233
235	284.099	611.768
236	282.386	608.32
237	280.683	604.89
238	278.991	601.478
239	277.309	598.084
240	275.637	594.707
241	273.975	591.348
242	272.323	588.007
243	270.681	584.683
244	269.049	581.376
245	267.427	578.087
246	265.814	574.815
247	264.212	571.56
248	262.619	568.322
249	261.035	565.101
250	259.461	561.897
251	257.897	558.71
252	256.342	555.54
253	254.797	552.387
254	253.26	549.25
255	251.733	546.13
256	250.215	543.026
257	248.707	539.939
258	247.207	536.868
259	245.717	533.813
260	244.235	530.775
261	242.763	527.753
262	241.299	524.747
263	239.844	521.756
264	238.398	518.782
265	236.961	515.824
266	235.532	512.881
267	234.112	509.955
268	232.7	507.043
269	231.297	504.148
270	229.903	501.268
271	228.517	498.403
272	227.139	495.554
273	225.769	492.72
274	224.408	489.901
275	223.055	487.098
276	221.71	484.309
277	220.373	481.536
278	219.045	478.778
279	217.724	476.034

280	216.411	473.305
281	215.107	470.591
282	213.81	467.892
283	212.521	465.208
284	211.239	462.537
285	209.966	459.882
286	208.7	457.241
287	207.441	454.614
288	206.191	452.001
289	204.947	449.403
290	203.712	446.818
291	202.483	444.248
292	201.263	441.692
293	200.049	439.15
294	198.843	436.621
295	197.644	434.107
296	196.452	431.606
297	195.268	429.119
298	194.091	426.645
299	192.92	424.185
300	191.757	421.739
301	190.601	419.306
302	189.452	416.886
303	188.31	414.48
304	187.174	412.086
305	186.046	409.706
306	184.924	407.339
307	183.809	404.985
308	182.701	402.644
309	181.599	400.316
310	180.504	398.001
311	179.416	395.699
312	178.334	393.409
313	177.259	391.132
314	176.19	388.867
315	175.128	386.615
316	174.072	384.376
317	173.022	382.149
318	171.979	379.934
319	170.942	377.732
320	169.912	375.541
321	168.887	373.363
322	167.869	371.197
323	166.857	369.043
324	165.851	366.901
325	164.851	364.771
326	163.857	362.653
327	162.869	360.546
328	161.887	358.452
329	160.911	356.369
330	159.941	354.297
331	158.976	352.237
332	158.018	350.189
333	157.065	348.152
334	156.118	346.127
335	155.177	344.112

336	154.241	342.11
337	153.311	340.118
338	152.387	338.137
339	151.468	336.168
340	150.555	334.209
341	149.647	332.262
342	148.745	330.326
343	147.848	328.4
344	146.957	326.485
345	146.071	324.581
346	145.19	322.688
347	144.314	320.805
348	143.444	318.933
349	142.579	317.071
350	141.72	315.22
351	140.865	313.38
352	140.016	311.549
353	139.172	309.73
354	138.333	307.92
355	137.499	306.12
356	136.67	304.331
357	135.846	302.552
358	135.027	300.783
359	134.212	299.024
360	133.403	297.275
361	132.599	295.535
362	131.799	293.806
363	131.005	292.086
364	130.215	290.376
365	129.43	288.676
366	128.649	286.986
367	127.874	285.305
368	127.103	283.633
369	126.336	281.971
370	125.575	280.319
371	124.818	278.676
372	124.065	277.042
373	123.317	275.418
374	122.573	273.803
375	121.834	272.196
376	121.1	270.6
377	120.37	269.012
378	119.644	267.433
379	118.923	265.863
380	118.206	264.303
381	117.493	262.751
382	116.784	261.208
383	116.08	259.674
384	115.38	258.148
385	114.685	256.631
386	113.993	255.123
387	113.306	253.624
388	112.623	252.133
389	111.944	250.651
390	111.269	249.177
391	110.598	247.711

392	109.931	246.254
393	109.268	244.806
394	108.61	243.365
395	107.955	241.933
396	107.304	240.509
397	106.657	239.093
398	106.014	237.686
399	105.375	236.286
400	104.739	234.895
401	104.108	233.511
402	103.48	232.136
403	102.856	230.768
404	102.236	229.408
405	101.62	228.056
406	101.007	226.712
407	100.398	225.376
408	99.793	224.047
409	99.191	222.726
410	98.593	221.412
411	97.998	220.106
412	97.408	218.808
413	96.82	217.517
414	96.236	216.233
415	95.656	214.957
416	95.079	213.688
417	94.506	212.427
418	93.936	211.173
419	93.37	209.926
420	92.807	208.686
421	92.248	207.454
422	91.691	206.228
423	91.139	205.01
424	90.589	203.799
425	90.043	202.594
426	89.5	201.397
427	88.96	200.207
428	88.424	199.023
429	87.891	197.847
430	87.361	196.677
431	86.834	195.514
432	86.311	194.357
433	85.79	193.208
434	85.273	192.065
435	84.759	190.928
436	84.248	189.799
437	83.74	188.676
438	83.235	187.559
439	82.733	186.449
440	82.234	185.345
441	81.738	184.248
442	81.246	183.157
443	80.756	182.072
444	80.269	180.994
445	79.785	179.922
446	79.304	178.856
447	78.826	177.796

448	78.35	176.743
449	77.878	175.696
450	77.408	174.654
451	76.942	173.619
452	76.478	172.59
453	76.017	171.567
454	75.558	170.55
455	75.103	169.538
456	74.65	168.533
457	74.2	167.534
458	73.753	166.54
459	73.308	165.552
460	72.866	164.57
461	72.427	163.593
462	71.99	162.623
463	71.556	161.658
464	71.124	160.698
465	70.696	159.744
466	70.269	158.796
467	69.846	157.854
468	69.425	156.916
469	69.006	155.985
470	68.59	155.058
471	68.176	154.138
472	67.765	153.222
473	67.357	152.312
474	66.951	151.407
475	66.547	150.508
476	66.146	149.613
477	65.747	148.724
478	65.35	147.841
479	64.956	146.962
480	64.565	146.088
481	64.176	145.22
482	63.789	144.357
483	63.404	143.499
484	63.022	142.645
485	62.642	141.797
486	62.264	140.954
487	61.889	140.116
488	61.515	139.282
489	61.145	138.454
490	60.776	137.63
491	60.41	136.811
492	60.045	135.997
493	59.683	135.188
494	59.323	134.384
495	58.966	133.584
496	58.61	132.789
497	58.257	131.999
498	57.906	131.213
499	57.556	130.432
500	57.209	129.655
501	56.864	128.883
502	56.522	128.116
503	56.181	127.353

504	55.842	126.594
505	55.505	125.84
506	55.171	125.091
507	54.838	124.346
508	54.507	123.605
509	54.179	122.869
510	53.852	122.137
511	53.527	121.409
512	53.205	120.685
513	52.884	119.966
514	52.565	119.251
515	52.248	118.54
516	51.933	117.834
517	51.62	117.131
518	51.309	116.433
519	50.999	115.739
520	50.692	115.049
521	50.386	114.363
522	50.083	113.681
523	49.781	113.003
524	49.48	112.329
525	49.182	111.659
526	48.886	110.993
527	48.591	110.331
528	48.298	109.673
529	48.007	109.019
530	47.717	108.368
531	47.429	107.722
532	47.144	107.079
533	46.859	106.44
534	46.577	105.805
535	46.296	105.173
536	46.017	104.545
537	45.739	103.921
538	45.464	103.301
539	45.189	102.684
540	44.917	102.071
541	44.646	101.462
542	44.377	100.856
543	44.109	100.254
544	43.843	99.655
545	43.579	99.06
546	43.316	98.469
547	43.055	97.881
548	42.796	97.296
549	42.538	96.715
550	42.281	96.137
551	42.026	95.563
552	41.773	94.992
553	41.521	94.424
554	41.271	93.86
555	41.022	93.299
556	40.774	92.742
557	40.529	92.188
558	40.284	91.637
559	40.041	91.089

560	39.8	90.545
561	39.56	90.003
562	39.321	89.465
563	39.084	88.931
564	38.849	88.399
565	38.614	87.87
566	38.382	87.345
567	38.15	86.823
568	37.92	86.304
569	37.692	85.788
570	37.464	85.275
571	37.238	84.765
572	37.014	84.258
573	36.791	83.754
574	36.569	83.253
575	36.348	82.755
576	36.129	82.26
577	35.911	81.768
578	35.695	81.279
579	35.48	80.792
580	35.266	80.309
581	35.053	79.829
582	34.842	79.351
583	34.632	78.876
584	34.423	78.404
585	34.215	77.935
586	34.009	77.469
587	33.804	77.005
588	33.6	76.544
589	33.398	76.086
590	33.196	75.63
591	32.996	75.178
592	32.797	74.728
593	32.599	74.28
594	32.403	73.836
595	32.208	73.394
596	32.013	72.954
597	31.82	72.517
598	31.628	72.083
599	31.438	71.652
600	31.248	71.223
601	31.06	70.796
602	30.873	70.372
603	30.686	69.951
604	30.501	69.532
605	30.317	69.115
606	30.135	68.701
607	29.953	68.29
608	29.772	67.881
609	29.593	67.474
610	29.414	67.07
611	29.237	66.668
612	29.061	66.269
613	28.886	65.872
614	28.711	65.477
615	28.538	65.085

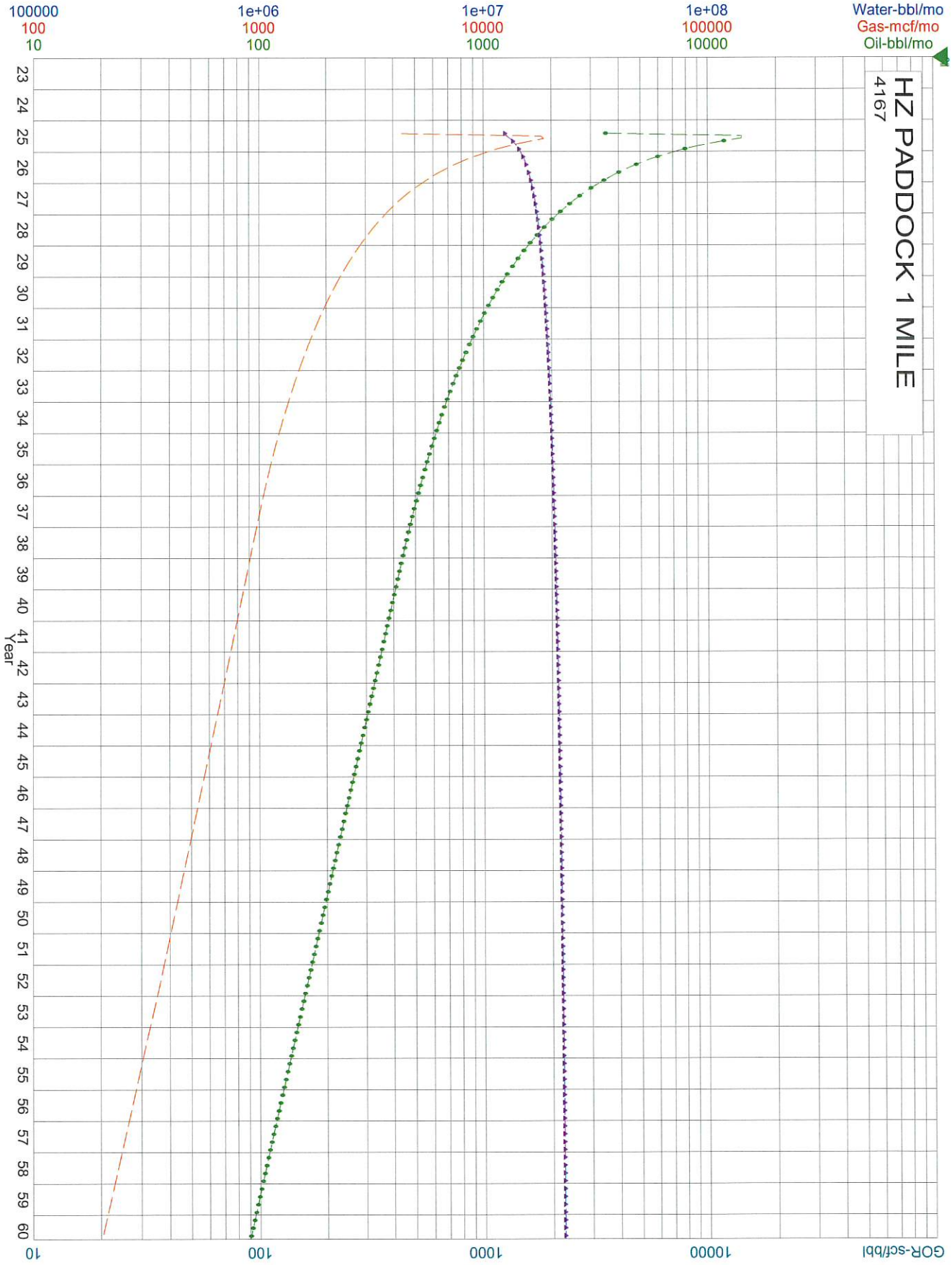
616	28.366	64.695
617	28.195	64.307
618	28.025	63.922
619	27.856	63.539
620	27.688	63.158
621	27.521	62.779
622	27.355	62.403
623	27.191	62.029
624	27.027	61.657
625	26.864	61.288
626	26.702	60.92
627	26.541	60.555
628	26.381	60.192
629	26.222	59.831
630	26.064	59.473
631	25.906	59.116
632	25.75	58.762
633	25.595	58.409
634	25.441	58.059
635	25.287	57.711
636	25.135	57.365
637	24.983	57.021
638	24.833	56.679
639	24.683	56.339
640	24.534	56.001
641	24.386	55.665
642	24.239	55.331
643	24.093	55
644	23.948	54.67
645	23.803	54.342
646	23.66	54.016
647	23.517	53.692
648	23.375	53.37
649	23.234	53.05
650	23.094	52.731
651	22.955	52.415
652	22.817	52.101
653	22.679	51.788
654	22.542	51.477
655	22.406	51.168
656	22.271	50.861
657	22.137	50.556
658	22.004	50.253
659	21.871	49.951
660	21.739	49.652
661	21.608	49.354
662	21.478	49.057
663	21.348	48.763
664	21.219	48.47
665	21.092	48.18
666	20.964	47.89
667	20.838	47.603
668	20.712	47.317
669	20.587	47.033
670	20.463	46.751
671	20.34	46.47

672	20.217	46.191
673	20.095	45.914
674	19.974	45.638
675	19.854	45.364
676	19.734	45.092
677	19.615	44.821
678	19.497	44.552
679	19.379	44.285
680	19.262	44.019
681	19.146	43.755
682	19.031	43.492
683	18.916	43.231
684	18.802	42.971
685	18.689	42.713
686	18.576	42.457
687	18.464	42.202
688	18.353	41.948
689	18.242	41.696
690	18.132	41.446
691	18.023	41.197
692	17.914	40.95
693	17.806	40.704
694	17.699	40.459
695	17.592	40.216
696	17.486	39.975
697	17.381	39.735
698	17.276	39.496
699	17.172	39.259
700	17.068	39.023
701	16.965	38.788
702	16.863	38.555
703	16.761	38.324
704	16.66	38.094
705	16.56	37.865
706	16.46	37.637
707	16.361	37.411
708	16.262	37.186
709	16.164	36.963
710	16.066	36.741
711	15.97	36.52
712	15.873	36.301
713	15.778	36.083
714	15.682	35.866
715	15.588	35.65
716	15.494	35.436
717	15.4	35.223
718	15.308	35.011
719	15.215	34.801
720	15.124	34.592
721	15.032	34.384
722	14.942	34.177
723	14.852	33.972
724	14.762	33.768
725	14.673	33.565
726	14.585	33.363
727	14.497	33.163

728	14.409	32.963
729	14.322	32.765
730	14.236	32.568
731	14.15	32.372
732	14.065	32.178
733	13.98	31.984
734	13.896	31.792
735	13.812	31.601
736	13.729	31.411
737	13.646	31.222
738	13.564	31.035
739	13.482	30.848
740	13.401	30.663
741	13.32	30.478
742	13.24	30.295
743	13.16	30.113
744	13.08	29.932
745	13.002	29.752
746	12.923	29.573
747	12.845	29.395
748	12.768	29.218
749	12.691	29.043
750	12.614	28.868
751	12.538	28.695
752	12.463	28.522
753	12.387	28.35
754	12.313	28.18
755	12.239	28.011
756	12.165	27.842
757	12.091	27.675
758	12.019	27.508
759	11.946	27.343
760	11.874	27.178
761	11.802	27.015
762	11.731	26.853
763	11.661	26.691
764	11.59	26.53
765	11.52	26.371
766	11.451	26.212
767	11.382	26.055
768	11.313	25.898
769	11.245	25.742
770	11.177	25.587
771	11.11	25.433
772	11.043	25.28
773	10.976	25.128
774	10.91	24.977
775	10.844	24.827
776	10.779	24.678
777	10.714	24.529
778	10.649	24.382
779	10.585	24.235
780	10.521	24.089
781	10.458	23.944
782	10.395	23.8
783	10.332	23.657

784	10.27	23.515
785	10.208	23.373
786	10.146	23.233
787	10.085	23.093
788	10.024	22.954
789	9.964	22.816
790	9.904	22.679
791	9.844	22.542
792	9.785	22.407
793	9.726	22.272
794	9.667	22.138
795	9.609	22.005
796	9.551	21.872
797	9.493	21.741
798	9.436	21.61
799	9.379	21.48
800	9.323	21.351
801	9.266	21.222
802	9.211	21.094
803	9.155	20.967
804	9.1	20.841
805	9.045	20.716
806	8.99	20.591
807	8.936	20.467
808	8.882	20.344
809	8.829	20.222
810	8.776	20.1
811	8.723	19.979
812	8.67	19.859
813	8.618	19.739
814	8.566	19.62
815	8.514	19.502
816	8.463	19.385
817	8.412	19.268
818	8.361	19.152
819	8.311	19.037
820	8.261	18.923
821	8.211	18.809
822	8.161	18.695
823	8.112	18.583
824	8.063	18.471
825	8.015	18.36
826	7.966	18.249
827	7.918	18.14
828	7.87	18.03
829	7.823	17.922
830	7.776	17.814
831	7.729	17.707
832	7.682	17.6
833	7.636	17.494
834	7.59	17.389
835	7.544	17.284
836	7.499	17.18
837	7.454	17.077
838	7.409	16.974
839	7.364	16.872

840	7.32	16.77
841	7.275	16.669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Gas-mcf/mo
Oil-bbl/mo
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U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Drilling Plan Data Report
03/26/2025

APD ID: 10400100441
Submission Date: 09/13/2024
Operator Name: MACK ENERGY CORPORATION
Well Name: PEYOTE B STATE COM
Well Number: 4H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
15275413	RUSTLER	3944	535	535	ALLUVIUM	NONE	N
15275414	TOP OF SALT	3304	640	640	SALT	NONE	N
15275415	BASE OF SALT	2240	1704	1704	SALT	NONE	N
15275416	YATES	2099	1845	1845	SILTSTONE	NATURAL GAS, OIL	N
15275417	SEVEN RIVERS	1679	2265	2265	SILTSTONE	NATURAL GAS, OIL	N
15275418	QUEEN	1204	2740	2740	SILTSTONE	NATURAL GAS, OIL	N
15275419	GRAYBURG	789	3155	3155	DOLOMITE, SILTSTONE	NATURAL GAS	N
15275420	SAN ANDRES	484	3460	3460	DOLOMITE	NATURAL GAS, OIL	N
15275421	GLORIETA	-944	4888	4930	DOLOMITE	NATURAL GAS	N
15275422	PADDOCK	-1030	4974	4990	DOLOMITE	NATURAL GAS, OIL	N
15275423	BLINEBRY	-1236	5180	5321	DOLOMITE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M
Rating Depth: 11016

Equipment: Rotating Head, Mud Gas Separator

Requesting Variance? NO

Variance request:

Testing Procedure: The BOP/BOPE test shall include a low pressure test from 250 to 2,000psi. 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. The estimated bottom hole at TD is 120 degrees and estimated maximum bottom hole pressure is 2540psig (0.052*5310*9.2ppg)less than 2900 bottom hole pressure.

Operator Name: MACK ENERGY CORPORATION

Well Name: PEYOTE B STATE COM **Well Number:** 4H

Choke Diagram Attachment:

NEW_Choke_Manifold_3M_20240813143436.pdf

BOP Diagram Attachment:

NEW_BOP_3M_20240813143453.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	560	0	560	3944	3384	560	J-55	48	ST&C	2.647	4.632	BUOY	18.882	BUOY	4.74
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	1850	0	1850	3944	2094	1850	J-55	36	ST&C	2.059	7.322	BUOY	7.01	BUOY	7.04
3	PRODUCTION	8.75	7.0	NEW	API	N	0	5550	0	5321	3944	-1377	5550	L-80	26	BUTT	1.796	2.413	BUOY	3.19	BUOY	2.413
4	PRODUCTION	8.75	5.5	NEW	API	N	5550	11016	5321	5310	-1377	-1366	5466	L-80	17	BUTT	2.24	2.58	BUOY	4.265	BUOY	2.58

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Surface_Csg_20240813143716.pdf

Operator Name: MACK ENERGY CORPORATION

Well Name: PEYOTE B STATE COM **Well Number:** 4H

Casing Attachments

Casing ID: 2 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Inter_csg_20240813143932.pdf

Casing ID: 3 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

production_Csg_20240813144359.pdf

Casing ID: 4 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

production_Csg_20240813144728.pdf

Section 4 - Cement

Operator Name: MACK ENERGY CORPORATION

Well Name: PEYOTE B STATE COM **Well Number:** 4H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead		0	0	0	0	0	0		0	0
SURFACE	Lead		0	560	300	2.31	13.5	389	100	Class C+4%PF20+1% PF 1+0.125#/sk PF29+.4%PF45	20bbls gelled water 50sx of 11# scavenger cement
SURFACE	Tail		0	560	200	1.32	14.8	389	100	Class C +1% PF1	20bbls gelled water 50 sacks of 11# scavenger cement
INTERMEDIATE	Lead		0	1850	400	1.72	13.5	580	50	Class C+4%PF20+1% PF1+0.125#/sk PF29+.4% PF45	20bbls gelled water 50sx of 11# scavenger cement
INTERMEDIATE	Tail		0	1850	200	1.34	14.8	580	50	Class C+.1%PF1	20bbls gelled water 50sx of 11# scavenger Cement
PRODUCTION	Lead		0	11016	475	2.82	11.5	2215	50	Class C 4% PF 20+4pps PF45+125pps PF29	20bbls Gelled Water 20bbls Chemical Wash
PRODUCTION	Tail		0	11016	1750	1.34	14.2	2215	50	50/50 POZ C+5%(BWOW) PF44+2%PF204+.2% PF606+.1%PF153+.4pps PF44	20bbls Gelled Water 20bbls Chemical Wash

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with 43 CFR 3172:

Diagram of the equipment for the circulating system in accordance with 43 CFR 3172:

Describe what will be on location to control well or mitigate other conditions: BOPE Brine Water

Describe the mud monitoring system utilized: Pason PVT with Pit Volume Recorder

Circulating Medium Table

Operator Name: MACK ENERGY CORPORATION

Well Name: PEYOTE B STATE COM **Well Number:** 4H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	560	SPUD MUD	8.5	10	74.8	0.1	11		12000	15	
560	1850	LSND/GEL	8.3	10	74.8	0.1	11		12000	15	
1850	11016	LSND/GEL	8.3	9.2	74.8	0.1	11		12000	15	The estimated bottom hole at TD is 120 estimated maximum bottom hole pressure is 2540psig less than 2900 bottom hole pressure

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

None

List of open and cased hole logs run in the well:

CNL/FDC,GAMMA RAY LOG,FORMATION DENSITY COMPENSATED LOG,

Coring operation description for the well:

Will evaluate after logging to determine the necessity for sidewall coring

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 2540 **Anticipated Surface Pressure:** 1351

Anticipated Bottom Hole Temperature(F): 95

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? NO

Hydrogen sulfide drilling operations

Operator Name: MACK ENERGY CORPORATION

Well Name: PEYOTE B STATE COM **Well Number:** 4H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

KOP_20240819120149.pdf

Escape_Route_20240819114930.pdf

Peyote_State_Com__4HB_Preliminary_Horizontal_Well_Plan_1_20240819114944.pdf

H2S_20240912141030.pdf

Drill_Plan_20240924151231.pdf

Access_route_from_Water_Source_20241120152531.pdf

Natural_Gas_Management_Plan_20241230073430.pdf

Paddock_Forecast_Plotted_20250218094040.pdf

Other proposed operations facets description:

Anticipated Completion Intervals-
First take point: 5864' MD - 5400' TVD
Last take point: 10,900' MD - 5312' TVD

Option #2 With Packer Stage Tool- Run a DV tool @ 1400+/- if an air pocket is encountered. Cmt Stage 1- 2050sx 50/50 POZ/C + 5% (BWOW) PF44 + 2% PF20 + 0.2%PF13 + 0.2% PF606 + 0.1% PF 153 + 0.4 PF45, yld 1.34, density 14.2, density 14.2, mix H2O gals/sx 6.085, 50% excess, Slurry Top 1400. Cmt Stage 2- 200sx C + 2% PF1, yld 1.34, density 14.8, 0% excess, Slurry Top Surface. 2,205.1 Cu/Ft per line/Ft

Other proposed operations facets attachment:

Other Variance attachment:

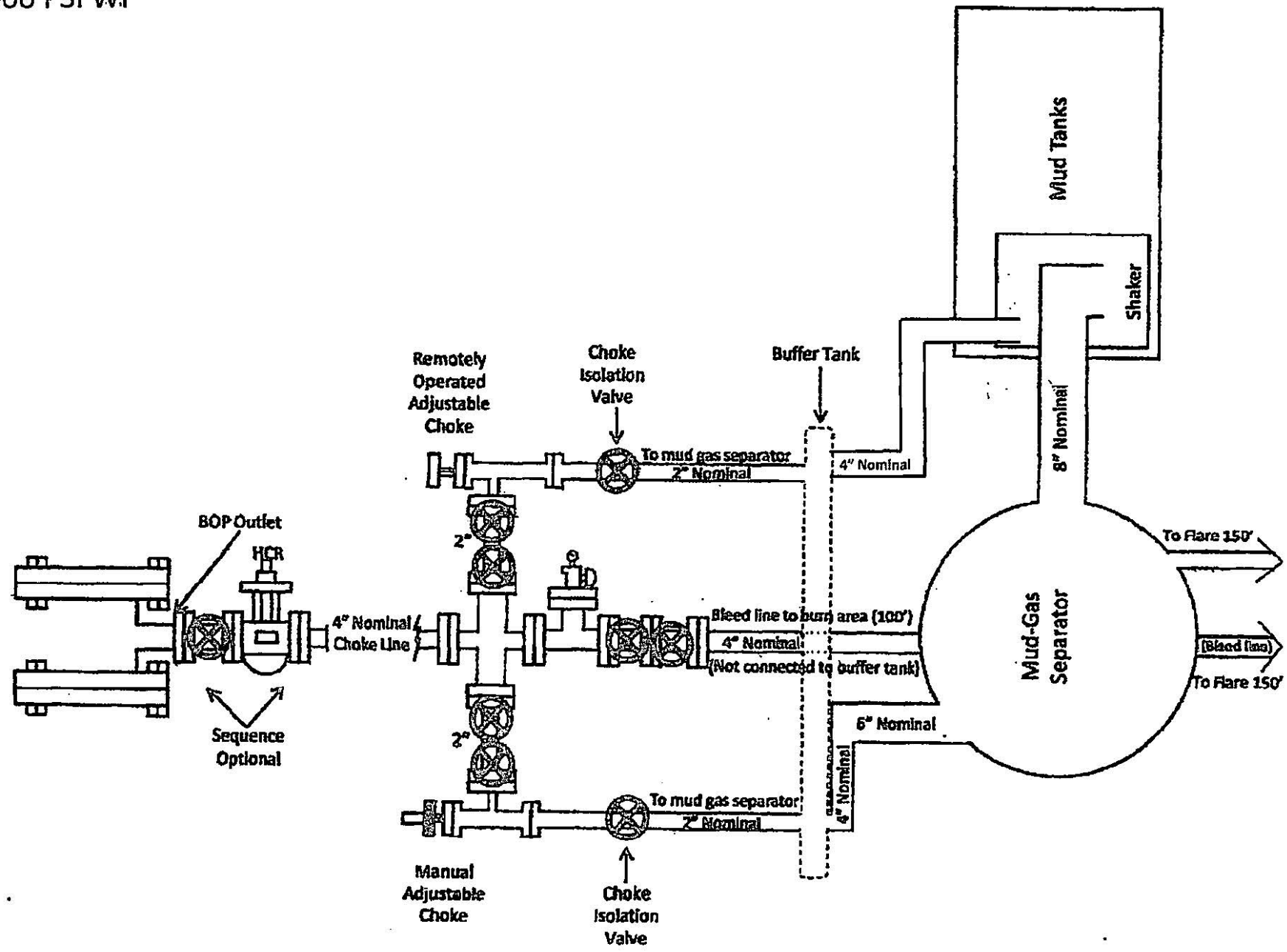
Variance_request_20240819120447.pdf

Cactus_Wellhead_installation_Procedure_20240819120515.pdf

hose_cert_rig_3_20241212110127.pdf

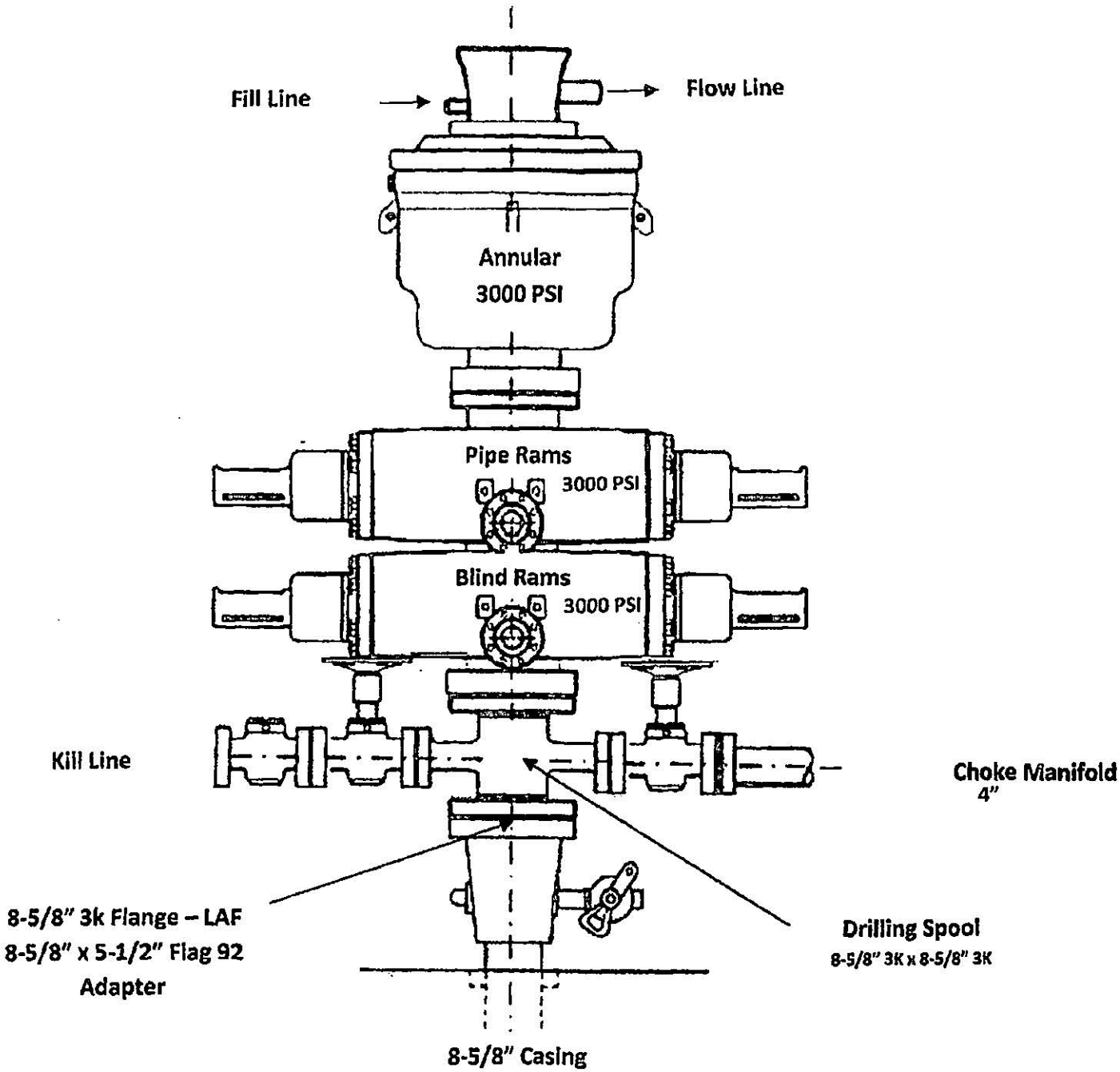
Choke Manifold

3000 PSI WP



BOP Diagram

Dual Ram BOP
3000 PSI WP



Casing Design **Well:** Peyote State Com #4HB

String Size & Function: 13 3/8 in surface x intermediate

Total Depth: 560 ft

Pressure Gradient for Calculations **(While drilling)**

Mud weight, collapse: 9.6 #/gal Safety Factor Collapse: 1.125

Mud weight, burst: 9.6 #/gal Safety Factor Burst: 1.25

Mud weight for joint strength: 9.6 #/gal Safety Factor Joint Strength 1.8

BHP @ TD for: collapse: 279.552 psi Burst: 279.552 psi, joint strength: 279.552 psi

Partially evacuated hole? Pressure gradient remaining: 10 #/gal

Max. Shut in surface pressure: 500 psi

1st segment	560 ft to 0 ft		Make up Torque ft-lbs			Total ft = 560
O.D.	Weight	Grade	Threads	opt.	min.	mx.
13.375 inches	**48** #/ft	**J-55**	**ST&C**	**3,220**	**2,420**	**4,030**
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift
740	**2,370** psi	**433** ,000 #		**744** ,000 #		**12.559**

2nd segment	0 ft to 0 ft		Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.
inches	#/ft					
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift
psi	psi	,000 #		,000 #		

3rd segment	0 ft to 0 ft		Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.
inches	#/ft					
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift
psi	psi	,000 #		,000 #		

4th segment	0 ft to 0 ft		Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.
inches	#/ft					
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift
psi	psi	,000 #		,000 #		

5th segment	0 ft to 0 ft		Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.
inches	#/ft					
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift
psi	psi	,000 #		,000 #		

6th segment	0 ft to 0 ft		Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.
inches	#/ft					
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift
psi	psi	,000 #		,000 #		

Select 1st segment bottom 560

560 ft to 0 ft
13.375 0 J-55 ST&C

S.F.	Actual		Desire
collapse	2.647092	>=	1.125
burst-b	4.632091	>=	1.25
burst-t	4.74		

Top of segment 1 (ft) 0

Select 2nd segment from bottom

0 ft to 0 ft
0 0 0 0

S.F.	Actual		Desire
collapse	#DIV/0!	>=	1.125
burst-b	0	>=	1.25
burst-t	0		
jnt strngth	18.88202	>=	1.8

Casing Design **Well:** Peyote State Com #4HB

String Size & Function: 9 5/8 in surface intermediate x

Total Depth: 1850 ft **TVD:** 2000 ft

Pressure Gradient for Calculations **(While drilling)**

Mud weight, collapse: 10.2 #/gal Safety Factor Collapse: 1.125

Mud weight, burst: 10.2 #/gal Safety Factor Burst: 1.25

Mud weight for joint strength: 10.2 #/gal Safety Factor Joint Strength 1.8

BHP @ TD for: collapse: 981.24 psi Burst: 981.24 psi, joint strength: 981.24 psi

Partially evacuated hole? Pressure gradient remaining: 10 #/gal

Max. Shut in surface pressure: 500 psi

1st segment	2000 ft to 0 ft			Make up Torque ft-lbs			Total ft = 2000
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
9.625 inches	**36** #/ft	**J-55**	**ST&C**	**3,940**	**2,960**	**4,930**	
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
2,020 psi	**3,520** psi	**394** ,000 #		**564** ,000 #		**8.765**	

2nd segment	ft to ft			Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
inches	#/ft						
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
psi	psi	,000 #		,000 #			

3rd segment	0 ft to 0 ft			Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
inches	#/ft						
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
psi	psi	,000 #		,000 #			

4th segment	0 ft to 0 ft			Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
inches	#/ft						
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
psi	psi	,000 #		,000 #			

5th segment	0 ft to 0 ft			Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
inches	#/ft						
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
psi	psi	,000 #		,000 #			

6th segment	0 ft to 0 ft			Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
inches	#/ft						
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
psi	psi	,000 #		,000 #			

Select 1st segment bottom 2000

1850 ft to 0 ft
9.625 0 J-55 ST&C

S.F.	Actual		Desire
collapse	2.05862	>=	1.125
burst-b	7.321741	>=	1.25
burst-t	7.04		

Top of segment 1 (ft) 0

Select 2nd segment from bottom

0 ft to 0 ft
0 0 0 0

S.F.	Actual		Desire
collapse	#DIV/0!	>=	1.125
burst-b	0	>=	1.25
burst-t	0		
jnt strngth	7.009877	>=	1.8

Casing Design **Well:** Peyote State Com #4HB

String Size & Function: 5.5 x 7 in Production x

Total Depth: 11016 ft **TVD:** 5400 ft

Pressure Gradient for Calculations **(While drilling)**

Mud weight, collapse: 10 #/gal Safety Factor Collapse: 1.125

Mud weight, burst: 10 #/gal Safety Factor Burst: 1.25

Mud weight for joint strength: 10 #/gal Safety Factor Joint Strength 1.8

BHP @ TD for: collapse: 2808 psi Burst: 2808 psi, joint strength: 2808 psi

Partially evacuated hole? Pressure gradient remaining: 10 #/gal

Max. Shut in surface pressure: 3000 psi

1st segment	11016 ft to 5550 ft			Make up Torque ft-lbs			Total ft = 5466
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
5.5 inches	**17** #/ft	**L-80**	**BTC**	**3410**	**2560**	**4260**	
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
6,290	**7,740** psi	**338** ,000 #		**397** ,000 #		**4.767**	

2nd segment	5550 ft to 0 ft			Make up Torque ft-lbs			Total ft = 5550
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
7 inches	**26** #/ft	**L-80**	**Buttress**	**6,930**	**5,200**	**8,660**	
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
5,410 psi	**7,240** psi-lrcr	**641** ,000 #		**604** ,000 #		**6.151**	

3rd segment	0 ft to 0 ft			Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
inches	#/ft						
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
psi	psi	,000 #		,000 #			

4th segment	0 ft to 0 ft			Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
inches	#/ft						
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
psi	psi	,000 #		,000 #			

5th segment	0 ft to 0 ft			Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
inches	#/ft						
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
psi	psi	,000 #		,000 #			

6th segment	0 ft to 0 ft			Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
inches	#/ft						
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
psi	psi	,000 #		,000 #			

Select 1st segment bottom	11016	**S.F.**	Actual		Desire
		collapse	2.240028	>=	1.125
11016 ft to 5550 ft		burst-b	2.58	>=	1.25
5.5 0 L-80 BTC		burst-t	2.58		
Top of segment 1 (ft)	5550	**S.F.**	Actual		Desire
Select 2nd segment from bottom		collapse	1.796159	>=	1.125
		burst-b	2.413333	>=	1.25
5550 ft to 0 ft		burst-t	2.413333		
7 26 L-80 Buttress		jnt strngth	4.294521	>=	1.8

	Top of segment 2 (ft)	0	S.F.	Actual		Desire
Select	3rd segment from bottom		collapse	#DIV/0!	>=	1.125
			burst-b	0	>=	1.25
0 ft	to 0 ft		burst-t	0		
0 0	0 0		jnt strngth	3.190213	>=	1.8
	Top of segment 3 (ft)		S.F.	Actual		Desire
Select	4th segment from bottom		collapse	#DIV/0!	>=	1.125
			burst-b	0	>=	1.25
0 ft	to 0 ft		burst-t	0		
0 0	0 0		jnt strngth	0	>=	1.8
	Top of segment 4 (ft)		S.F.	Actual		Desire
Select	5th segment from bottom		collapse	#DIV/0!	>=	1.125
			burst-b	0	>=	1.25
0 ft	to ft		burst-t	0		
0 0	0 0		jnt strngth	0	>=	1.8
	Top of segment 5 (ft)		S.F.	Actual		Desire
Select	6th segment from bottom		collapse	#DIV/0!	>=	1.125
			burst-b	0	>=	1.25
0 ft	to ft		burst-t	0		
0 0	0 0		jnt strngth	0	>=	1.8
	Top of segment 6 (ft)		jnt strngth		>=	1.8

use in colapse calculations across different pressured formations

Three gradient pressure function

Depth of evaluation:	1,200	ft		516	psi @	1,200 ft
Top of salt:	2,400	ft	fx #1	516		
Base of salt:	3,700	ft	fx #2	900		
TD of intermediate:	4,600	ft	fx #3	540		

Pressure gradient to be used above each top to be used as a function of depth. ex. psi/ft

fx #1	fx #2	fx #3
0.43	0.75	0.45

1) Calculate neutral point for buckling with temperature affects computed also
2) Surface burst calculations & kick tolerance in surface pressure for burst
3) Do a comparison test to determine which value is lower joint strength or body yield to use in tensile strength calculations
4) Raise joint strength safety factor up to next level on page #2
5) Sour service what pipe can be used with proper degrading of strength factors and as function of temp

Adjust for best combination of safety factors

	Secondary
S.F. Collapse bottom of segment:	
S.F. Collapse top of segment:	2.02684
S.F. Burst bottom of segment:	
S.F. Burst top of segment	
S.F. Joint strength bottom of segment:	473.389
S.F. Joint strength top of segment:	
S.F. Body yield strength bottom of segment:	556.022
S.F. Body yield strength top of segment:	5.04416

Collapse calculations for 1st segment - casing evacuated

Buoyancy factor collapse:	0.847		
calculations for bottom of segment @	5400	ft	
hydrostatic pressure collapse - backside:	2808	psi	
Axial load @ bottom of section	0	lbs	previous segments
Axial load factor:	0		load/(pipe body yield strength)
Collapse strength reduction factor:	1		Messrs, Westcott, Dunlop, Kemler,1940
Adjusted collapse rating of segment:	6290	psi	
Actual safety factor	2.24003		adjusted casing rating / actual pressure

Casing Design **Well:** Peyote State Com #4HB

String Size & Function: 5.5 x 7 in Production x

Total Depth: 11016 ft **TVD:** 5400 ft

Pressure Gradient for Calculations **(While drilling)**

Mud weight, collapse: 10 #/gal Safety Factor Collapse: 1.125

Mud weight, burst: 10 #/gal Safety Factor Burst: 1.25

Mud weight for joint strength: 10 #/gal Safety Factor Joint Strength 1.8

BHP @ TD for: collapse: 2808 psi Burst: 2808 psi, joint strength: 2808 psi

Partially evacuated hole? Pressure gradient remaining: 10 #/gal

Max. Shut in surface pressure: 3000 psi

1st segment	11016 ft to 5550 ft			Make up Torque ft-lbs			Total ft = 5466
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
5.5 inches	**17** #/ft	**L-80**	**BTC**	**3410**	**2560**	**4260**	
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
6,290	**7,740** psi	**338** ,000 #		**397** ,000 #		**4.767**	

2nd segment	5550 ft to 0 ft			Make up Torque ft-lbs			Total ft = 5550
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
7 inches	**26** #/ft	**L-80**	**Buttress**	**6,930**	**5,200**	**8,660**	
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
5,410 psi	**7,240** psi-lrcr	**641** ,000 #		**604** ,000 #		**6.151**	

3rd segment	0 ft to 0 ft			Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
inches	#/ft						
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
psi	psi	,000 #		,000 #			

4th segment	0 ft to 0 ft			Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
inches	#/ft						
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
psi	psi	,000 #		,000 #			

5th segment	0 ft to 0 ft			Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
inches	#/ft						
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
psi	psi	,000 #		,000 #			

6th segment	0 ft to 0 ft			Make up Torque ft-lbs			Total ft = 0
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
inches	#/ft						
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
psi	psi	,000 #		,000 #			

Select 1st segment bottom	11016	**S.F.**	Actual		Desire
		collapse	2.240028	>=	1.125
11016 ft to 5550 ft		burst-b	2.58	>=	1.25
5.5 0 L-80 BTC		burst-t	2.58		
Top of segment 1 (ft)	5550	**S.F.**	Actual		Desire
Select 2nd segment from bottom		collapse	1.796159	>=	1.125
		burst-b	2.413333	>=	1.25
5550 ft to 0 ft		burst-t	2.413333		
7 26 L-80 Buttress		jnt strngth	4.294521	>=	1.8

	Top of segment 2 (ft)	0	S.F.	Actual		Desire
Select	3rd segment from bottom		collapse	#DIV/0!	>=	1.125
			burst-b	0	>=	1.25
0 ft	to 0 ft		burst-t	0		
0	0 0 0		jnt strngth	3.190213	>=	1.8
	Top of segment 3 (ft)		S.F.	Actual		Desire
Select	4th segment from bottom		collapse	#DIV/0!	>=	1.125
			burst-b	0	>=	1.25
0 ft	to 0 ft		burst-t	0		
0	0 0 0		jnt strngth	0	>=	1.8
	Top of segment 4 (ft)		S.F.	Actual		Desire
Select	5th segment from bottom		collapse	#DIV/0!	>=	1.125
			burst-b	0	>=	1.25
0 ft	to ft		burst-t	0		
0	0 0 0		jnt strngth	0	>=	1.8
	Top of segment 5 (ft)		S.F.	Actual		Desire
Select	6th segment from bottom		collapse	#DIV/0!	>=	1.125
			burst-b	0	>=	1.25
0 ft	to ft		burst-t	0		
0	0 0 0		jnt strngth	0	>=	1.8
	Top of segment 6 (ft)		jnt strngth		>=	1.8

use in colapse calculations across different pressured formations

Three gradient pressure function

Depth of evaluation:	1,200 ft		516	psi @	1,200 ft	
Top of salt:	2,400 ft	fx #1	516			
Base of salt:	3,700 ft	fx #2	900			
TD of intermediate:	4,600 ft	fx #3	540			

Pressure gradient to be used above each top to be used as a function of depth. ex. psi/ft

fx #1	fx #2	fx #3
0.43	0.75	0.45

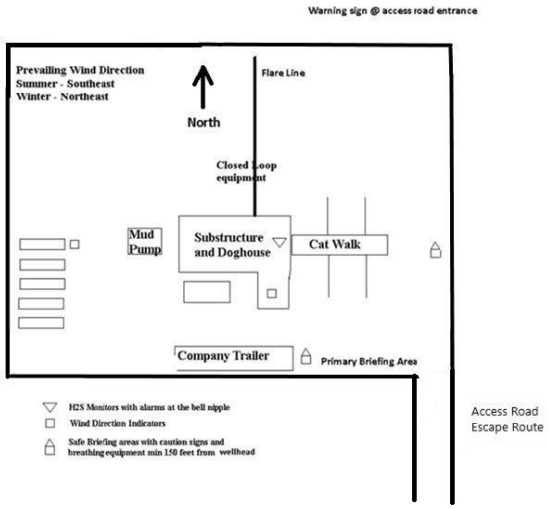
1) Calculate neutral point for buckling with temperature affects computed also
2) Surface burst calculations & kick tolerance in surface pressure for burst
3) Do a comparison test to determine which value is lower joint strength or body yield to use in tensile strength calculations
4) Raise joint strength safety factor up to next level on page #2
5) Sour service what pipe can be used with proper degrading of strength factors and as function of temp

Adjust for best combination of safety factors

	Secondary
S.F. Collapse bottom of segment:	
S.F. Collapse top of segment:	2.02684
S.F. Burst bottom of segment:	
S.F. Burst top of segment	
S.F. Joint strength bottom of segment:	473.389
S.F. Joint strength top of segment:	
S.F. Body yield strength bottom of segment:	556.022
S.F. Body yield strength top of segment:	5.04416

Collapse calculations for 1st segment - casing evacuated

Buoyancy factor collapse:	0.847		
calculations for bottom of segment @	5400	ft	
hydrostatic pressure collapse - backside:	2808	psi	
Axial load @ bottom of section	0	lbs	previous segments
Axial load factor:	0		load/(pipe body yield strength)
Collapse strength reduction factor:	1		Messrs, Westcott, Dunlop, Kemler,1940
Adjusted collapse rating of segment:	6290	psi	
Actual safety factor	2.24003		adjusted casing rating / actual pressure


Warning sign @ access road entrance
Prevailing Wind Direction
Summer - Southeast
Winter - Northeast
North
Flare Line
Closed Loop equipment
Mud Pump
Substructure and Doghouse
Cat Walk
Company Trailer
Primary Briefing Area
H2S Monitors with alarms at the bell nipple
Wind Direction Indicators
Safe Briefing areas with caution signs and breathing equipment min 150 feet from wellhead
Access Road
Escape Route

Attached to Form 3160-3
Mack Energy Corporation
Peyote B State Com #4H NMLC-0056302B
SHL : 2290 FSL & 741 FWL, NWSW, Sec. 33 T16S R31E
BHL : 2310 FSL & 1 FWL, NWSW, Sec. 32 T16S R31E
Eddy County, NM

DRILLING PROGRAM

1. Geologic Name of Surface Formation

Quaternary

2. Estimated Tops of Important Geologic Markers:

Rustler	535’
Top Salt	640’
Base Salt	1,704’
Yates	1,845’
Seven Rivers	2,265’
Queen	2,740’
Grayburg	3,155’
San Andres	3,460’
Glorieta	4,930’
Paddock	4,990’
Blinebry	5,321’

3. Estimated Depths of Anticipated Fresh Water, Oil and Gas:

Water Sand	150’	Fresh Water
Yates	1,845’	Oil/Gas
Seven Rivers	2,265’	Oil/Gas
Queen	2,740’	Oil/Gas
Grayburg	3,155’	Oil/Gas
San Andres	3,460’	Oil/Gas
Glorieta	4,930’	Oil/Gas
Paddock	4,990’	Oil/Gas
Blinebry	5,321’	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8” casing to 560’ and circulating cement back to surface will protect the surface fresh water sand. Salt section and shallower zones above TD, which contain commercial quantities of oil and/or gas, will have cement circulated across them by cementing 5 ½” production casing, sufficient cement will be pumped to circulate back to surface.

4. Casing Program:

Hole Size	Interval	OD Casing	Wt, Grade, Jt, cond, collapse/burst/tension
17 1/2”	0-560’	13 3/8”	48#, J-55, ST&C, New, 2.647092/4.632091/4.74

Attached to Form 3160-3
Mack Energy Corporation
Peyote B State Com #4H NMLC-0056302B
SHL : 2290 FSL & 741 FWL, NWSW, Sec. 33 T16S R31E
BHL : 2310 FSL & 1 FWL, NWSW, Sec. 32 T16S R31E
Eddy County, NM

12 1/4"	0-1,850'	9 5/8" 36#, J-55, ST&C, New, 2.05862/7.321741/7.04
8 ¾"	0-5,550'	7" 26#, L-80, Buttress, New, 1.796159/2.413333/2.413333
8 ¾"	5,550-11,016'	5 ½" 17#, L-80, BTC, New, 2.240028/2.58/2.58

Variance request: A variance is requested to use a Multi Bowl System and Flex Hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test will be kept on the rig.

5. Cement Program:

13 3/8" Surface Casing: Lead 300sx, Class C+4%PF20+1% PF1+0.125#/skPF29+.4%PF45, yld 2.31, wt 13.5 ppg, 9.166gals/sx, excess 100%, Slurry Top Surface. Tail 200sx, Class C+1% PF1, yld 1.32, wt 14.8 ppg, 6.307 gals/sx, excess 100%, Slurry Top 360'.

9 5/8" Intermediate Casing: Lead 400sx, Class C+4% PF20+1% PF1+0.125#/sk PF29+.4%PF 45, yld 1.72, wt 13.5ppg, 9.123gals/sx, excess 50%, Slurry Top Surface. Tail 200sx, Class C + .1% PF1, yld 1.34, wt 14.8 ppg, 6.307 gals/sx, excess 50%, Slurry Top 1,650'

7" & 5 ½" Production Casing: Lead 475sx Class C 4% PF20+4pps PF45+125pps PF29, yld 2.82, wt 11.5 ppg, 16.421gals/sx, excess 50%, Slurry Top Surface. Tail 1750sx, 50/50 Poz/C + 5% PF44 + 2% PF204 + .2% PF606 + .1% PF153 + .4 pps PF44, yield 1.34, wt 14.2, 6.085gals/sx, 50% excess, Slurry Top 4,466'

Anticipated Completion Intervals-

First take point- 5,864' MD 5,400' TVD
Last take point- 11,016' MD 5,310' TVD

Option #2 With Packer Stage Tool- Run a DV tool @ 1400+/- if an air pocket is encountered. Cmt Stage 1- 2050sx 50/50 POZ/C + 5% (BWOW) PF44 + 2% PF20 + 0.2%PF13 + 0.2% PF606 + 0.1% PF 153 + 0.4 PF45, yld 1.34, density 14.2, density 14.2, mix H2O gals/sx 6.085, 50% excess, Slurry Top 1400'. Cmt Stage 2- 200sx C + 2% PF1, yld 1.34, density 14.8, 0% excess, Slurry Top Surface. 2,205.1 Cu/Ft per line/Ft

6. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit #10 will consist of a double ram-type (3000 psi WP) minimum preventer. This unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top of 4 1/2" drill pipe rams on bottom. The 11" BOP will be nipped up on the 8 5/8" surface casing and tested by a 3rd party to 2000 psi used continuously until TD is reached. All BOP's and accessory equipment will be tested to 2000 psi before drilling out of intermediate casing. 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 (Exhibit #10) will include a Kelly cock and floor safety valve and choke lines and choke manifold (Exhibit #11) with a minimum 3000 psi WP rating

Attached to Form 3160-3
Mack Energy Corporation
Peyote B State Com #4H NMLC-0056302B
SHL : 2290 FSL & 741 FWL, NWSW, Sec. 33 T16S R31E
BHL : 2310 FSL & 1 FWL, NWSW, Sec. 32 T16S R31E
Eddy County, NM

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7. Types and Characteristics of the Proposed Mud System:

The well will be drilled to TD with a combination of fresh and cut brine mud system. The applicable depths and properties of this system are as follows:

DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-560’	Fresh Water	8.5	28	N.C.
560’-1,850’	Cut Brine	9.1	29	N.C.
1,850-TD	Cut Brine	9.1	29	N.C.

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the well site at all times.

8. Auxiliary Well Control and Monitoring Equipment:

A. Kelly cock will be kept in the drill string at all times.
B. A full opening drill pipe-stabbing valve with proper drill pipe connections will be on the rig floor at all times.

9. Logging, Testing and Coring Program:

A. The electric logging program will consist of GR-Dual Laterolog, Spectral Density, Dual Spaced Neutron, CSNG Log from T.D. to 8 5/8 casing shoe.
B. Drill Stem test is not anticipated.
C. No conventional coring is anticipated.
D. Further testing procedures will be determined at TD.

10. Abnormal Conditions, Pressures, Temperatures and Potential Hazards:

No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 120 degrees and estimated maximum bottom hole pressure is 2540 psig (0.052*5310’TVD*9.2). Low levels of Hydrogen sulfide have been monitors in producing wells in the area, so H2S may be present while drilling of the well; a plan is attached to the Drilling program. No major loss of circulation zones has been reported in offsetting wells.

11. Anticipated Starting Date and Duration of Operations:

Road and location work will not begin until approval has been received from the BLM. The anticipated spud date is February 1, 2025. Once commenced, the drilling operation should be finished in approximately 20 days. If the well is productive, an additional 30 days will be required for completion and testing before a decision is made to install permanent facilities.

Attachment to Exhibit #10
NOTES REGARDING THE BLOWOUT PREVENTERS

Attached to Form 3160-3
Mack Energy Corporation
Peyote B State Com #4H NMLC-0056302B
SHL : 2290 FSL & 741 FWL, NWSW, Sec. 33 T16S R31E
BHL : 2310 FSL & 1 FWL, NWSW, Sec. 32 T16S R31E
Eddy County, NM

Peyote B State Com #4H
Eddy County, New Mexico

1. Drilling nipple to be so constructed that it can be removed without use of a welder through rotary table opening, with minimum I.D. equal to preventer bore.

2. Wear ring to be properly installed in head.

3. Blow out preventer and all fittings must be in good condition, 2000 psi WP minimum.

4. All fittings to be flanged.

5. Safety valve must be available on rig floor at all times with proper connections, valve to be full 2000 psi WP minimum.

6. All choke and fill lines to be securely anchored especially ends of choke lines.

7. Equipment through which bit must pass shall be at least as large as the diameter of the casing being drilled through.

8. Kelly cock on Kelly.

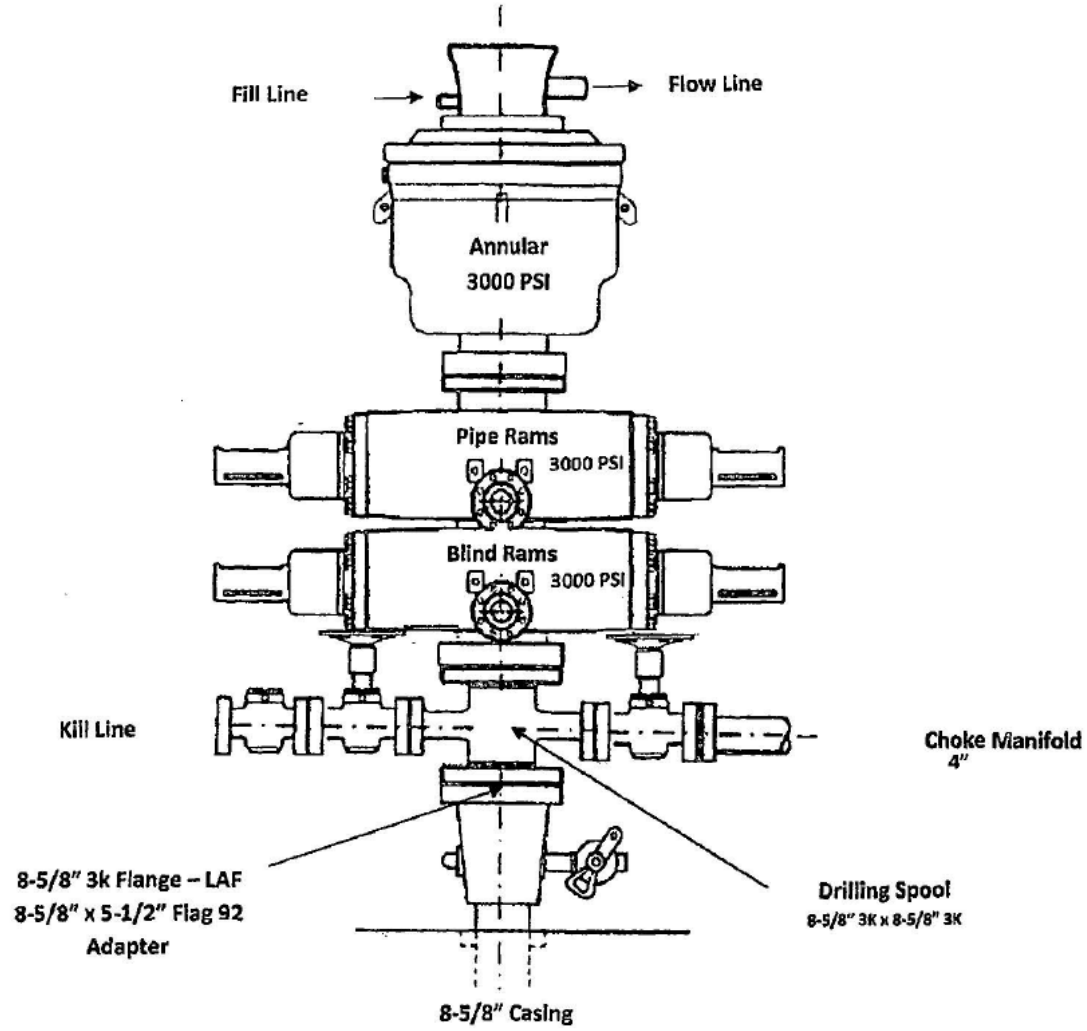
9. Extension wrenches and hands wheels to be properly installed.

10. Blow out preventer control to be located as close to driller's position as feasible.

11. Blow out preventer closing equipment to include minimum 40-gallon accumulator, two independent sources of pump power on each closing unit installation all API specifications.

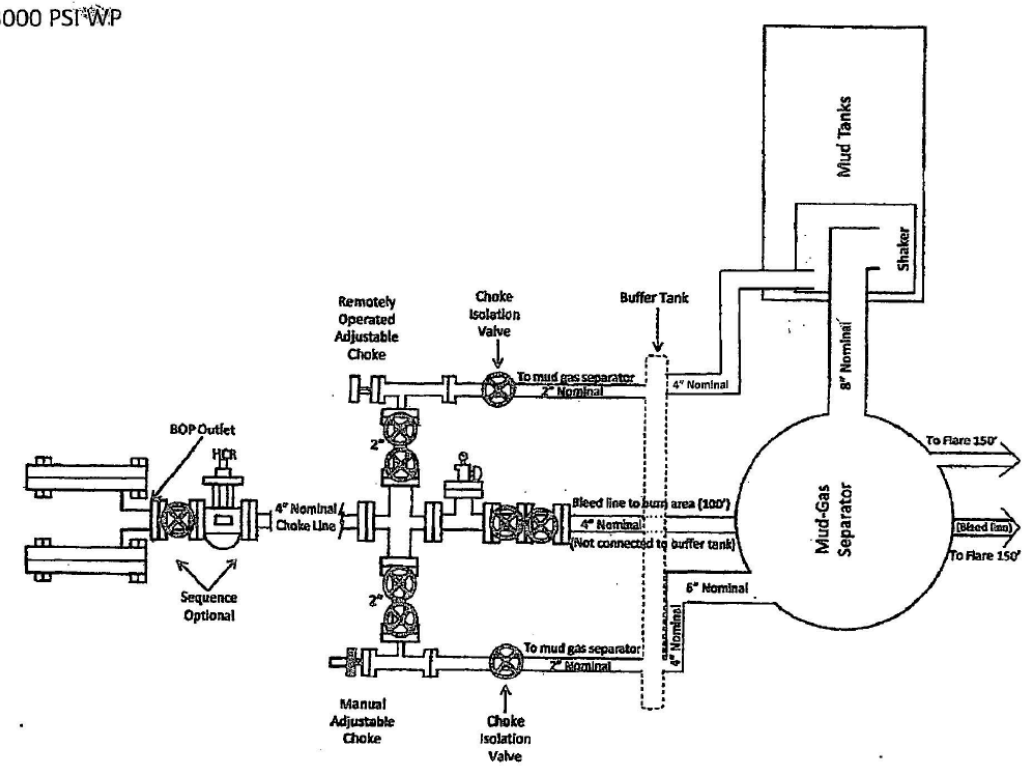
BOP Diagram

Dual Ram BOP
3000 PSI WP

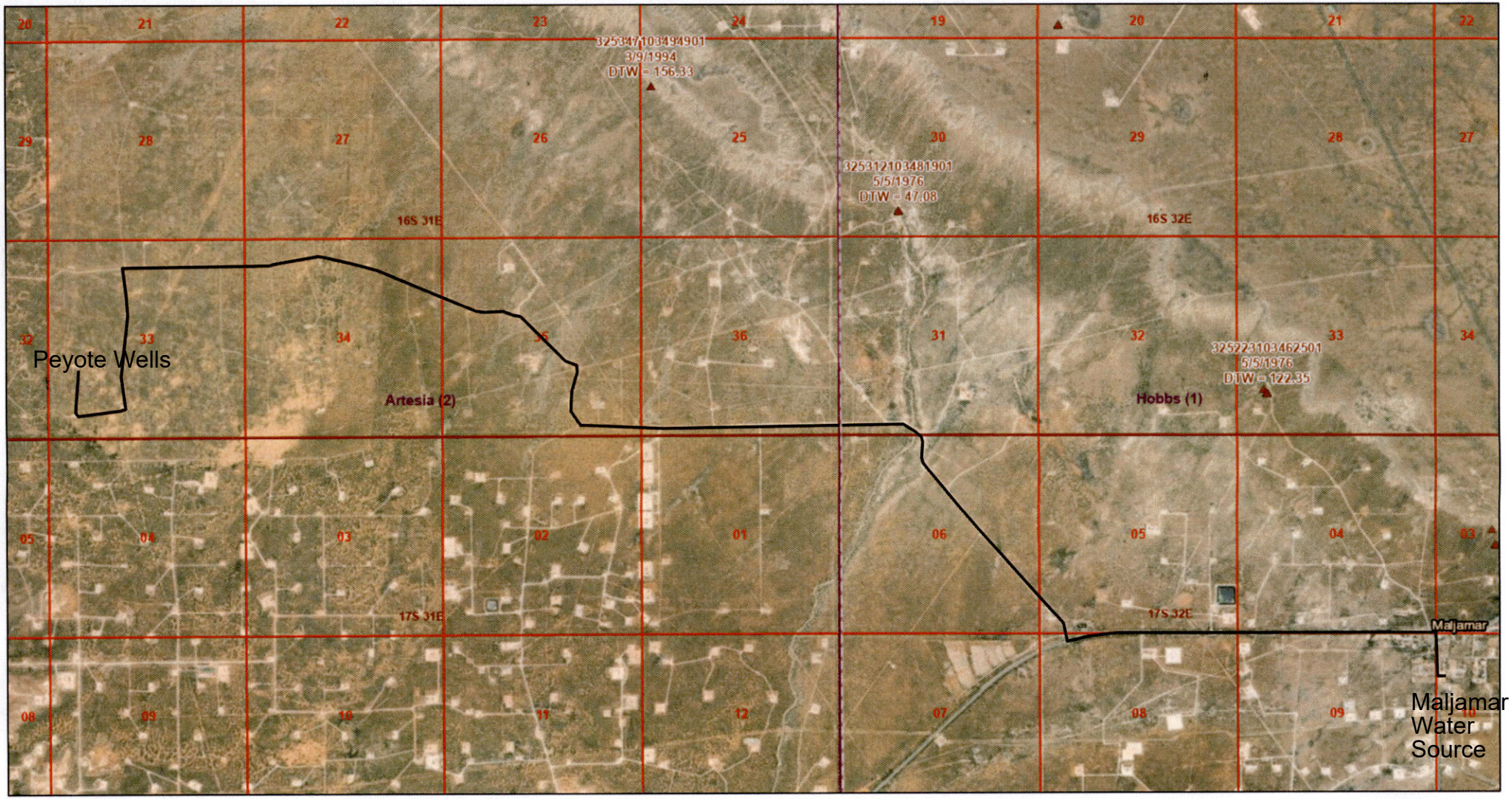


Choke Manifold

3000 PSI WP



OCD Well Locations



11/20/2024, 3:17:47 PM

- Override 1
- USGS Historical GW Wells
- OCD Districts
- PLSS First Division
- PLSS Townships

1:36,112

0 0.38 0.75 1.5 mi

0 0.5 1 2 km

Esri, HERE, Garmin, USGS, OCD, Maxar, BLM

New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75: New Mexico Oil Conservation Division

Variance request: A variance is requested to use a Multi Bowl System and Flex Hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test will be kept on the rig.

Cactus Wellhead

Installation Procedure Prepared For:

Mack Energy Corporation

13-3/8” x 9-5/8” x 7” 10M
MBU-LR Wellhead System With
CTH-DBLHPS Tubing Head

Publication # IP0228

May, 2014

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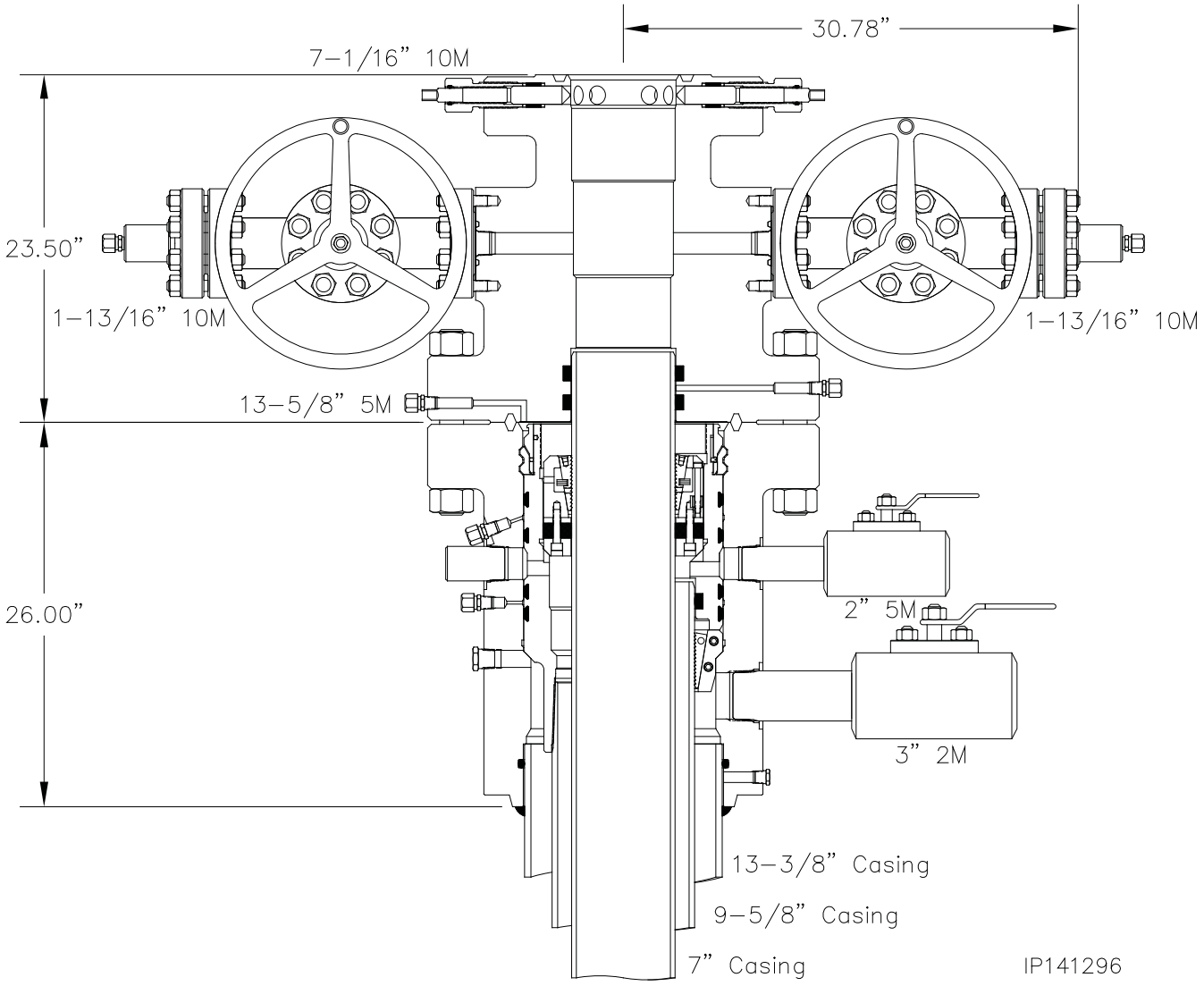
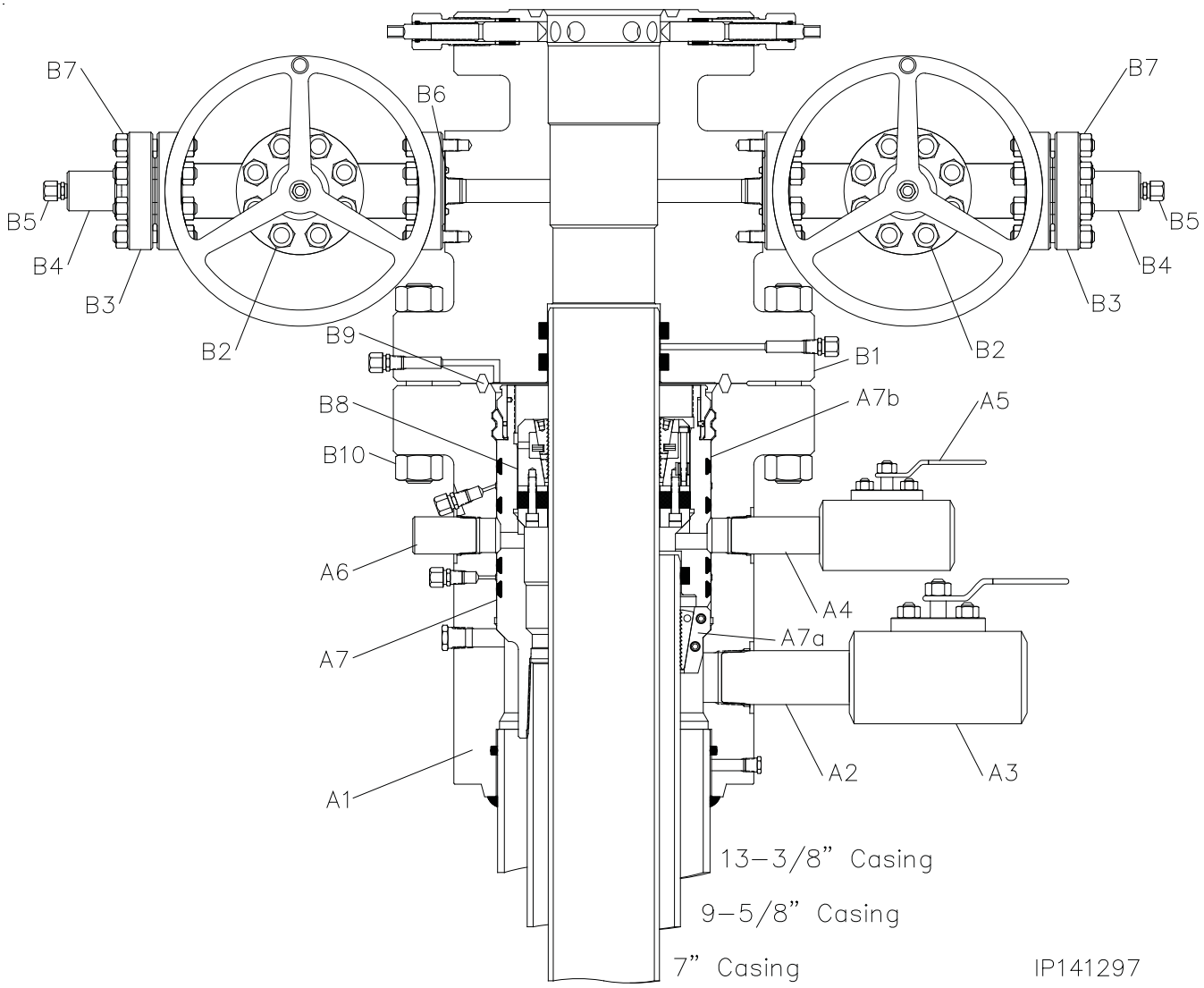
System Drawing



Bill of Materials



MBU-LR HOUSING ASSEMBLY

Item	Qty	Description
A1	1	Housing, CW, MBU-LR, 13-5/8" 5M x 13-3/8" SOW, with two 2" line pipe upper outlets and one 3" line pipe lower outlet, one piece, 6A-PU-AA-1-1 Part # 102513
A2	1	Nipple, 3" line pipe x 12" long, XH Part # 101610
A3	1	Ball Valve, KF, AH, 3 RP 2M LP, DI: Body, CS: Trim, nylon seats, HNBR: seals, with handle standard non-nace service Part # 100535
A4	1	Nipple, 2" line pipe x 6" long, XH Part # NP6A
A5	1	Ball Valve, 2" RP, 5M LP x 2" LP, WCB body, 304SS ball, CR13 stem, RPTFE seats, API 596 Part # 103877
A6	1	Bull Plug, 2" line pipe solid, 4130 60K Part # BP2P
A7	1	Casing Hanger, CW, MBU-LR, 13-5/8" x 9-5/8" LC box bottom x 11.250" 4 Stub Acme 2G LH box top, mandrel, 6A-U-AA-1-1 Part # 100482

EMERGENCY EQUIPMENT

Item	Qty	Description
A7a	1	Casing Hanger, CW, MBU, 13-5/8" x 9-5/8" 6A-PU-DD-3-1 Part # 100569
A7b	1	Packoff, CW, MBU-LR Emergency, 13-5/8" x 11" x 9-5/8" with 11.250" 4 Stub Acme 2G LH top, slotted for CL outlets, 6A-PU-AA-1-1 Part # 100538

TUBING HEAD ASSEMBLY

Item	Qty	Description
B1	1	Tubing Head, CW, CTH-DBLHPS, 7, 13-5/8" 5M x 7-1/16" 10M, with two 1-13/16" 10M studded outlets 6A-PU-EE-0,5-2-1 Part #
B2	2	Gate Valve, DSG-22, 1-13/16" 10M, flanged end, EE-0,5 trim, (6A-PU-EE-0,5-3-1) Part # 102284
B3	2	Companion Flange, 1-13/16" 10M x 2" line pipe (5,000 psi max WP), (6A-PU-EE-NL-1) Part # 200010
B4	2	Bull Plug, 2" line pipe x 1/2" line pipe, API 6A-DD-NL Part # BP2T
B5	2	Fitting, Grease, Vented Cap, 1/2" NPT, Alloy Non-Nace Part # FTG1
B6	4	Ring Gasket, 151, 1-13/16" 10M Part # BX151
B7	16	Studs, all thread with two nuts, black, 3/4" x 5-1/2" long, B7/2H Part # 780080
B8	1	Casing Hanger, C22, 11" x 7" Part # 50020
B9	1	Ring Gasket, 160, 13-5/8" 5M Part # BX160
B10	16	Studs, all thread with two nuts, black, 1-5/8" x 12-3/4" long, B7/2H Part # 780087

RECOMMENDED SERVICE TOOLS

Item	Qty	Description
ST1	1	Test Plug/Retrieving Tool, CW, 13-5/8" x 4-1/2" IF, 1-1/4" LP bypass and spring loaded lift dogs Part # 800002
ST2	1	Wear Bushing, CW, MBU-LR-LWR, 13-5/8" x 12.38" ID x 20.31" long Part # 100546
ST3	1	Casing Hanger Running Tool, CW, MBU-LR, 13-5/8" x 9-5/8" long casing box top x 11.250" 4 Stub Acme LH pin bottom, 4140 110K Part # 102304
ST4	1	Packoff Running Tool, CW, MBU-LR, 13-5/8" x 4-1/2" IF box bottom and top, with 11.250" 4 Stub Acme 2G LH pin bottom Part # 100556
ST5	1	Test Plug/Retrieving Tool, CW, 11" x 4-1/2" IF, 1-1/4" LP bypass and spring loaded lift dogs Part # 800001
ST6	1	Wear Bushing, MBU-LR-UPR, 13-5/8" x 11" x 9.00" I.D. x 16.0" long Part # 102789
ST7	1	Wash Tool, CW, Casing Hanger, MBU-LR/MBS2, fluted, 13-5/8" x 4-1/2" IF box top threads, fabricated Part # 102787

TA CAP ASSEMBLY

Item	Qty	Description
C1	1	Flange, Blind, 7-1/16" 10M X 1/2 LP ,With Two 3/4" Part # 101464
C2	1	Needle Valve, MFA, 1/2" Line Pipe, 10M Part # NVA
C3	12	Studs, All Thread With Two Nuts, Black, 1-1/2" X 11-3/4" Long, B7/H2 Part # 780082

Stage 1 — Install the MBU-LR Wellhead Housing

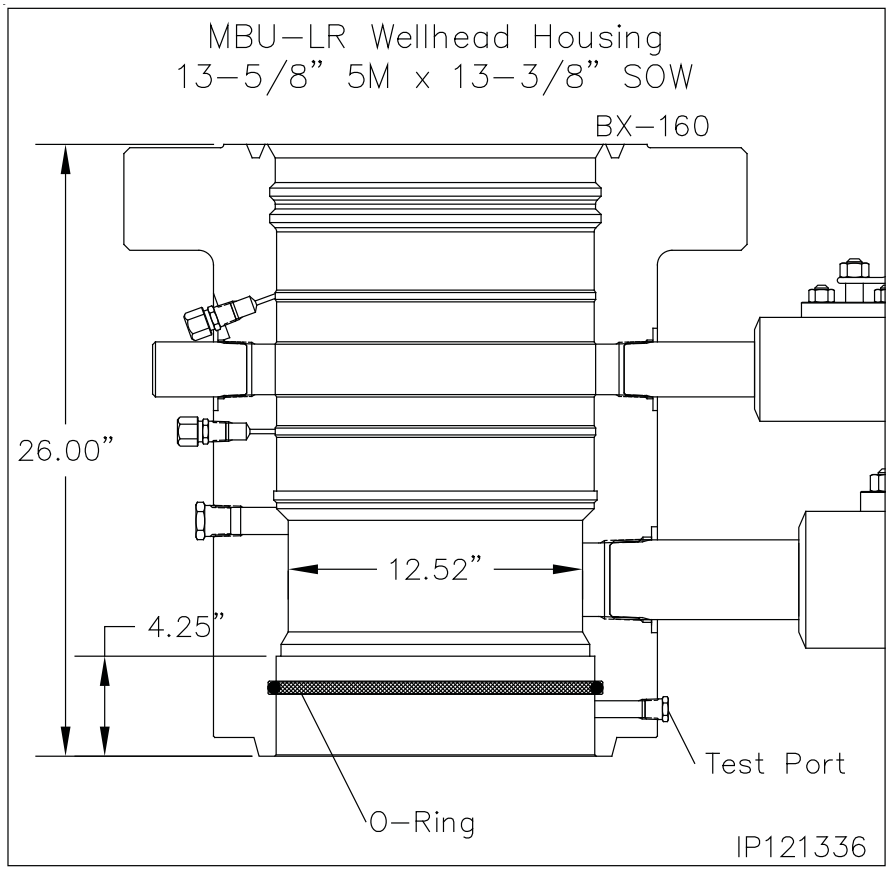
1. Run the conductor and 13-3/8" surface casing to the required depth and cement as required.
2. Determine the correct elevation for the MBU-LR Wellhead Assembly.
3. Cut the 13-3/8" at 53.5" below the cellar to accommodate the wellhead. Grind stub level with the horizon and place an 1/8" x 1/8" bevel on the OD of the stub.

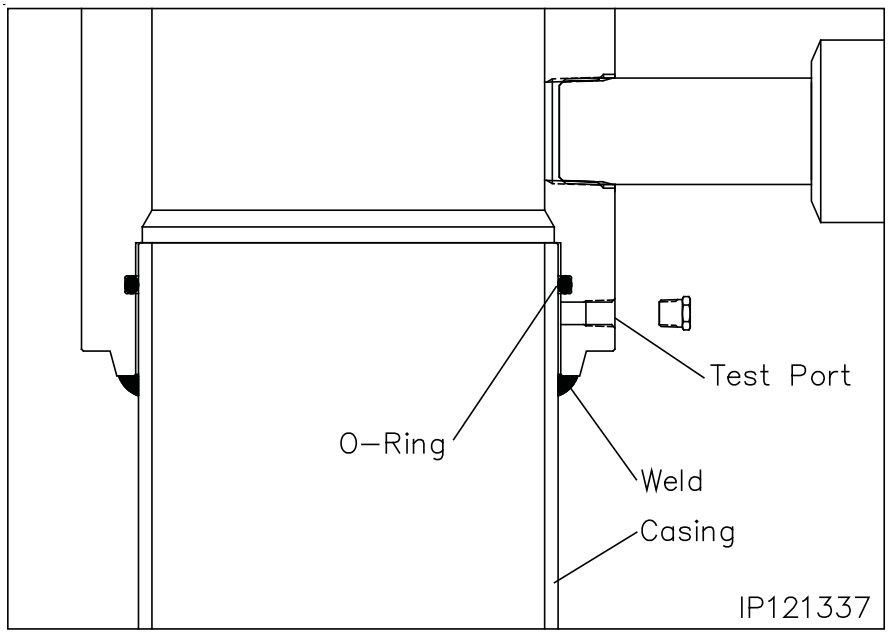
Note: The slip on and weld preparation is 4.25" in depth.

4. Examine the ***13-5/8" 5M x 13-3/8" SOW MBU-LR Wellhead Assembly (Item A1)***. Verify the following:
   - bore is clean and undamaged
   - weld socket is clean and free of grease and debris and o-ring is in place and in good condition
   - all seal areas are clean and undamaged
   - valves are intact and in good condition
5. Align and level the Wellhead Assembly over the casing stub, orienting the outlets so they will be compatible with the drilling equipment.
6. Remove the pipe plug from the port on the bottom of the Head.
7. Slowly and carefully lower the assembly over the casing stub, weld and test the MBU-LR housing to the surface casing.
8. Replace the pipe plug in the port on the bottom of the housing.

Note: The weld should be a fillet-type weld with legs no less than the wall thickness of the casing. Legs of 1/2" to 5/8" are adequate for most jobs.

Refer to the back of this publication for the **Recommended Procedure for Field Welding Pipe to Wellhead Parts for Pressure Seal** and for field testing of the weld connection.





Stage 2 — Test the BOP Stack

Immediately after making up the BOP stack and periodically during the drilling of the well for the next casing string the BOP stack (connections and rams) must be tested.

1. Examine the ***13-5/8" Nominal x 4-1/2" IF CW Test Plug/ Retrieving Tool (Item ST1)***. Verify the following:
   - 1-1/4" VR plug and weep hole plug are in place and tightened securely
   - elastomer seal is in place and in good condition
   - retractable lift lugs are in place, clean, and free to move
   - drill pipe threads are clean and in good condition

Note: Prior to installing the BOP it is recommended to attain an accurate RKB dimension for future use for accurately landing test plugs and casing hangers. This dimension is attained by dropping a tape measure from the rig floor to the top of the wellhead flange. Pull tape taut and record the dimension from the wellhead to the top of the rig floor or kelly bushings. Ensure this dimension is placed on the BOP board in the dog house and on the drillers daily report sheet.

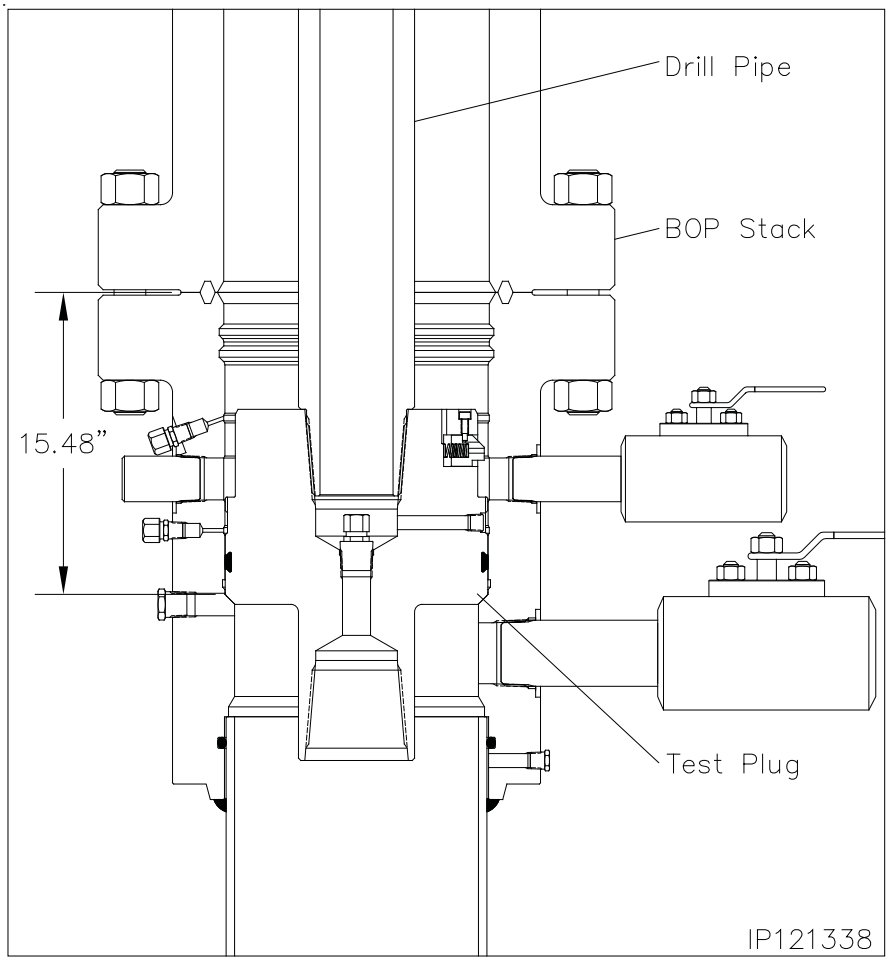
2. Position the test plug with the elastomer seal down and the lift lugs up and make up the tool to a joint of drill pipe.

WARNING: Ensure that the lift lugs are up and the elastomer seal is down

3. Remove the 1/2" NPT pipe plug from the weep hole if pressure is to be supplied through the drill pipe.

4. Open the housing side outlet valve.

5. Lightly lubricate the test plug seal with oil or light grease.



6. Carefully lower the test plug through the BOP and land it on the load shoulder in the housing, 15.48" below the top of the housing.

7. Close the BOP rams on the pipe and test the BOP to 5,000 psi.

Note: Any leakage past the test plug will be clearly visible at the open side outlet valve.

8. After a satisfactory test is achieved, release the pressure and open the rams.

9. Remove as much fluid as possible from the BOP stack and the retrieve the test plug with a straight vertical lift.

Note: When performing the BOP blind ram test it is highly recommended to suspend a stand of drill pipe below the test plug to ensure the plug stays in place while disconnecting from it with the drill pipe.

10. Repeat this procedure as required during the drilling of the hole section.

Stage 3 — Run the Lower Wear Bushing

Note: Always use a Wear Bushing while drilling to protect the load shoulders from damage by the drill bit or rotating drill pipe. The Wear Bushing **must be retrieved** prior to running the casing.

1. Examine the ***13-5/8" Nominal MBU-LR-LWR Wear Bushing (Item ST2).*** Verify the following
   - internal bore is clean and in good condition
   - o-ring is in place and in good condition
   - shear o-ring cord is in place and in good condition
   - paint anti-rotation lugs white and allow paint to dry

Run the Wear Bushing Before Drilling

2. Orient the ***13-5/8" Nominal x 4-1/2" IF CW Test Plug/Retrieving Tool (Item ST1)*** with drill pipe connection up.

3. Attach the Retrieving Tool to a joint of drill pipe.

4. Align the retractable lift lugs of the tool with the retrieval holes of the bushing and the carefully lower the tool into the Wear Bushing until the lugs snap into place.

Note: If the lugs did not align with the holes, rotate the tool in either direction until they snap into place.

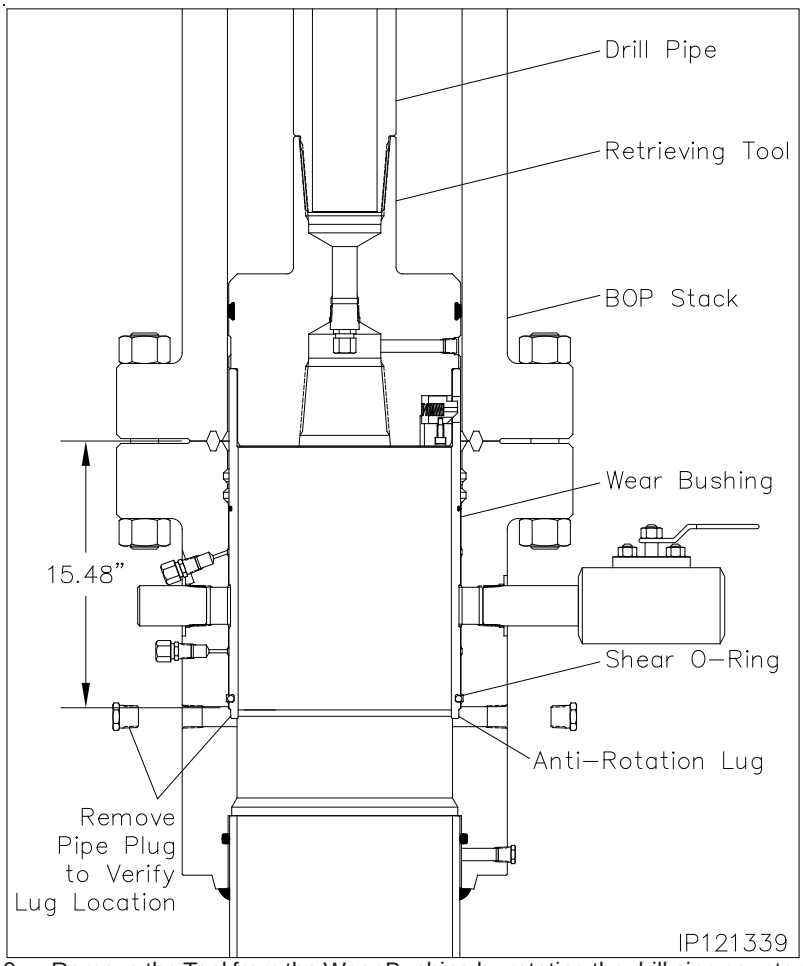
5. Apply a heavy coat of grease, not dope, to the OD of the bushing.

6. Slowly lower the Tool/Bushing Assembly through the BOP stack and land it on the load shoulder in the housing, 15.48" below the top of the housing.

7. Rotate the drill pipe clockwise (right) to locate the stop lugs in their mating notches in the head. When properly aligned the bushing will drop an additional 1/2".

8. Remove one of the 1" sight port pipe plugs from the OD of the housing and look through the hole to verify the lug has engaged the slot. The painted lug will be clearly visible through the port. Reistall the pipe plug and tighten securely.

Note: The Shear O-Ring on bottom of the bushing will locate in a groove above the load shoulder in the head to act as a retaining device for the bushing.



9. Remove the Tool from the Wear Bushing by rotating the drill pipe counter clockwise (left) 1/4 turn and lifting straight up.

10. Once set is highly recommended to inject a minimum of two full tubes of grease through the housing test ports To keep trash from accumulating behind the bushing.

11. Drill as required.

Note: It is highly recommended to retrieve, clean, inspect, grease, and reset the wear bushing each time the hole is tripped during the drilling of the hole section.

Retrieve the Wear Bushing After Drilling

12. Make up the Retrieving Tool to the drill pipe .

13. Slowly lower the Tool into the Wear Bushing.

14. Pick up and balance the riser weight.

15. Rotate the Retrieving Tool clockwise until a positive stop is felt. This indicates the lugs have snapped into the holes in the bushing.

16. Retrieve the Wear Bushing, and remove it and the Retrieving Tool from the drill string.

Stage 4 — Hang Off the 9-5/8” Casing

Due to the possible build up of debris in the bore and lockring groove of the MBU-LR wellhead it is recommended to run the 13-5/8” Wash Tool prior to running the 9-5/8 casing.

Running the 13-5/8” Wash Tool

1. Examine the ***13-5/8" x 4-1/2" IF Wash Tool (Item ST7).*** Verify the following:
   - drill pipe threads and bore are clean and in good condition
   - all ports are open and free of debris
   - brushes are securely attached and in good condition

2. Orient the Wash Tool with drill pipe box up. Make up a joint of drill pipe to the tool.

3. Carefully lower the Wash Tool through the BOP and land it on top of the 9-5/8" casing hanger, 15.48" below the top flange of the housing.

4. Place a paint mark on the drill pipe level with the rig floor and then pick up on the tool approximately 1".

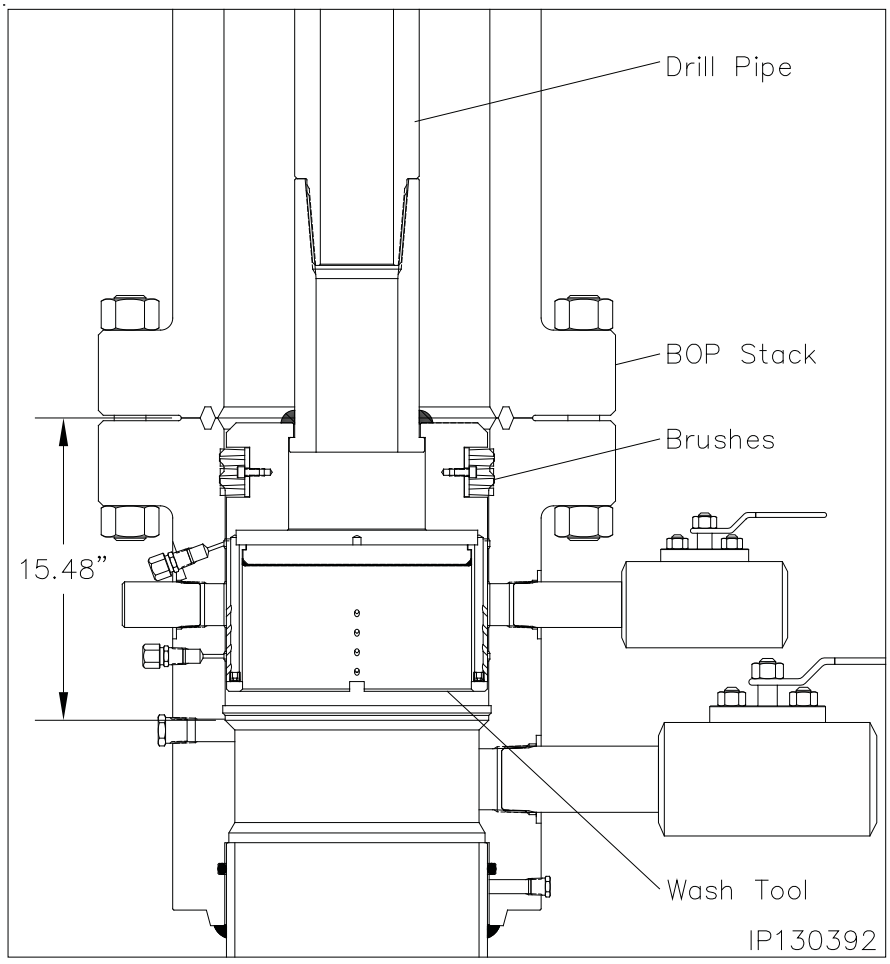
5. Attach a high pressure water line to the end of the drill pipe and pump water through the tool and up the Diverter stack.

6. While flushing, raise and lower the tool the full length of the wellhead and BOP stack. The drill pipe should be slowly rotate while raising and lowering to wash the inside of the housing and BOP stack to remove all caked on debris.

7. Once washing is complete, shut down pumps and then open the housing lower outlet valve and drain the BOP stack.

Note: If returns are not clean, continue flushing until they are.

8. Once the returns are clean and free of debris, retrieve the tool to the rig floor.

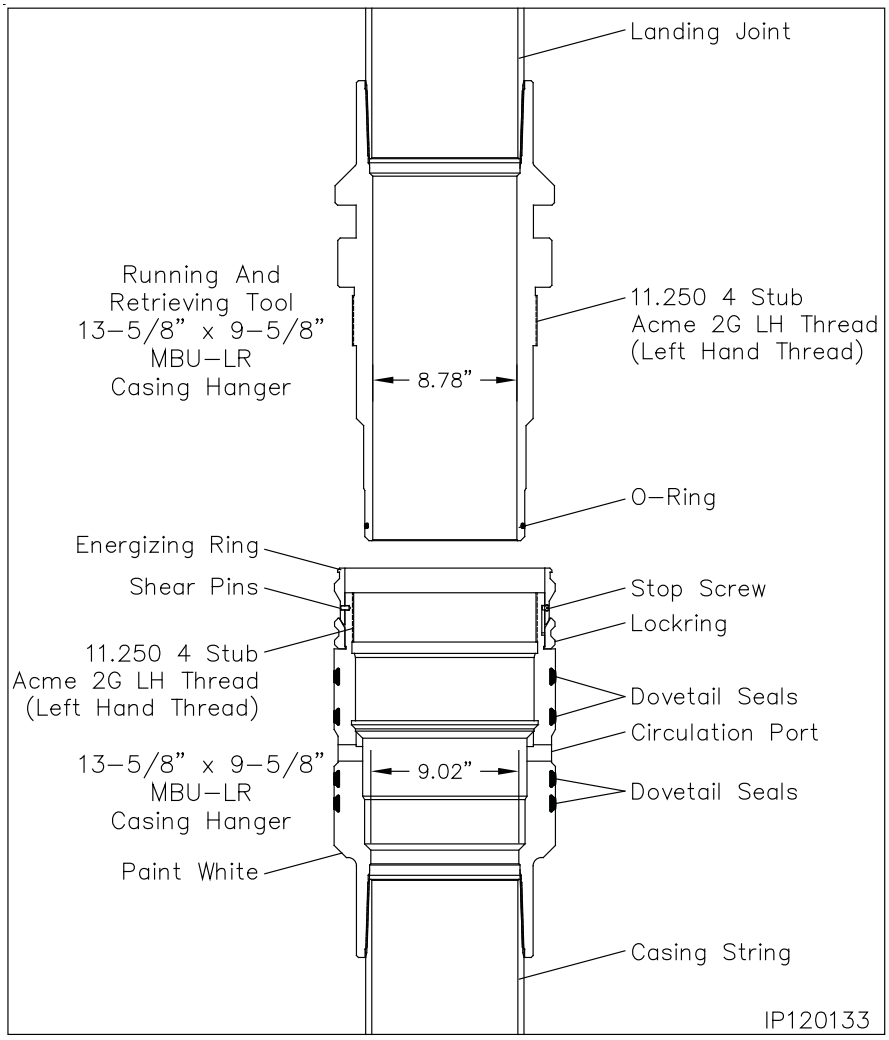


Stage 4 — Hang Off the 9-5/8” Casing

The 9-5/8” MBU-LR casing hanger and running and retrieving tool should be shipped to location pre assembled as a full joint. If not, follow steps 1 through for assembling on the pipe rack.

1. Examine the ***13-5/8” x 9-5/8” LC MBU-LR Casing Hanger (Item A7)***. Verify the following:
   - bore and internal Acme threads are clean and in good condition
   - lockring is in place and free to rotate
   - energizing ring is in its upper most position and secured with shear pins
   - dovetail seals are clean and in good condition
   - pup joint is in good condition and properly made up. Thoroughly clean, inspect, and lubricate pin threads
   - paint the 45° load shoulder white as indicated

2. Examine the ***13-5/8” x 9-5/8” LC MBU-LR Casing Hanger Running and Retrieving Tool (Item ST3)***. Verify the following:
   - bore is clean and free of debris
   - O.D. Acme threads are clean and in good condition
   - o-ring is in place and in good condition
   - proper length landing joint is made up in top of the tool with thread lock compound



Stage 4 — Hang Off the 9-5/8” Casing

3. Thoroughly clean and lightly lubricate the mating Acme threads and seal surfaces of the hanger and running tool.

4. Carefully slide the running tool into the hanger and then rotate the tool clockwise (Right) to locate the thread start and then counter clockwise (Left) approximately 8 turns or until the tool makes contact with the top of the energizing ring.

WARNING: Do Not apply torque to the Hanger/Tool connection.

5. Run the 9-5/8” casing as required and space out appropriately for the mandrel casing hanger.

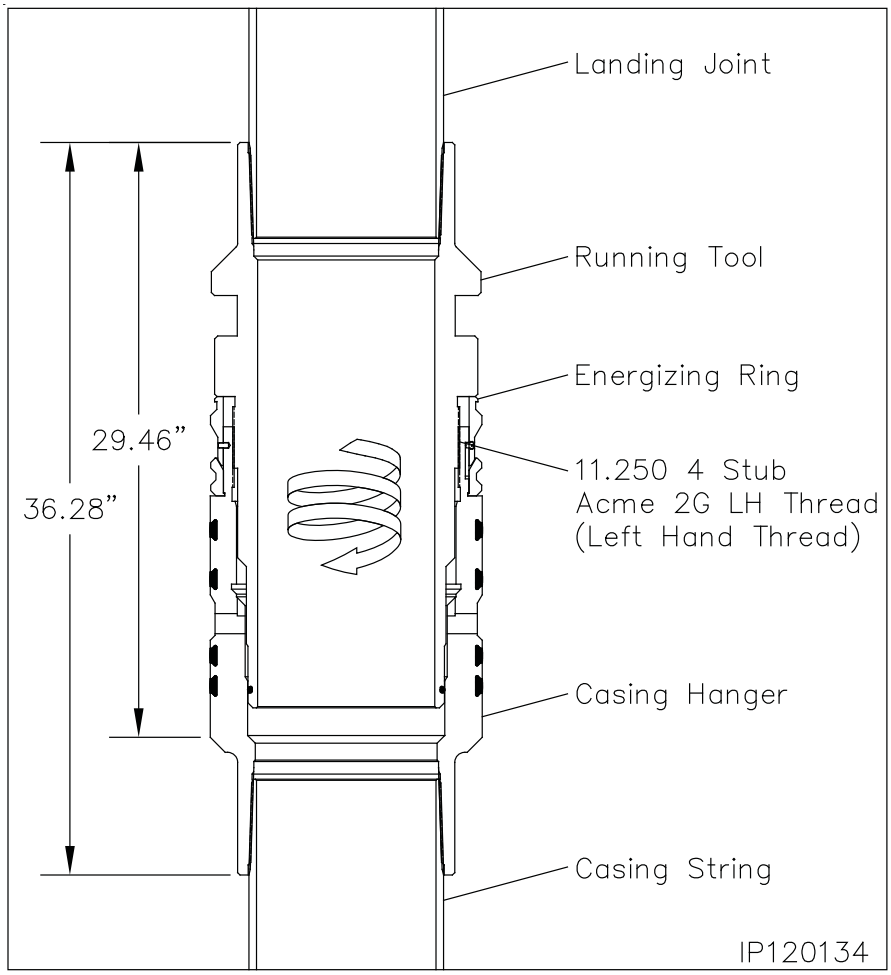
Note: If the 9-5/8” casing becomes stuck and the mandrel casing hanger can not be landed, Refer to **Stage 4A** for the emergency procedure.

6. Set the last joint of casing run in the floor slips.

7. Pick up the casing hanger/running tool assembly and make it up in the casing string. Torque connection to thread manufacturer’s optimum make up torque.

8. ***Using chain tongs only,*** back off the running tool with clockwise rotation (Right) one full turn to verify ease of operation and then re make the connection with counter clockwise rotation (Left) just until contact with the energizing ring is.

WARNING: Do Not apply torque to the Hanger/Tool connection.



Stage 4 — Hang Off the 9-5/8” Casing

9. Calculate the total landing dimension by adding the previously attained RKB dimension and 15.48”, the depth of the wellhead.

10. Drain the BOP stack and wellhead through the 3” ball valve.

11. Starting at the top of the 45° angle load shoulder of the casing hanger measure up 5 feet and place a horizontal paint mark on the landing joint and write 5 next to the mark.

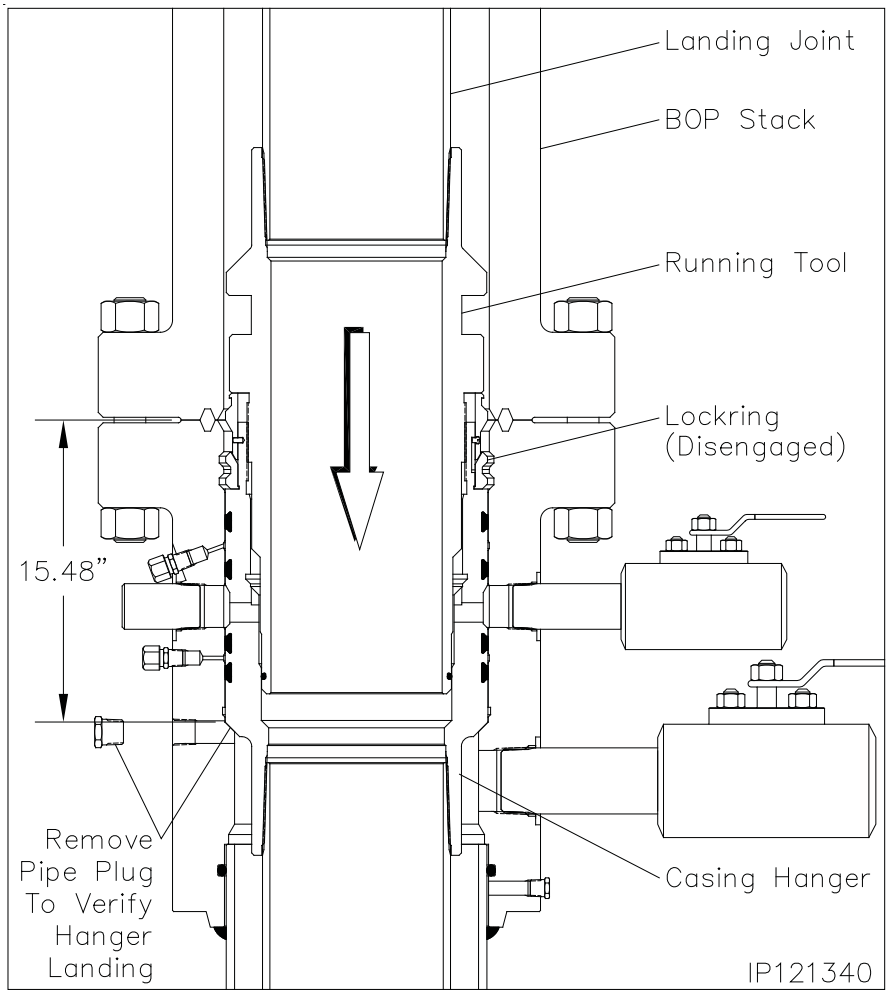
12. Using the 5 foot stick, slowly and carefully lower the Hanger through the BOP, marking the landing joint at five foot increments until you come to the calculated total landing dimension. Place a paint mark on the landing joint at that dimension and write the landing dimension next to the mark. Place an additional mark on the landing joint 1-1/2” above the first mark and write engaged.

13. Continue carefully lowering the hanger through the BOP stack and land it on the load shoulder in the housing, 15.48” below the top of the MBU-LR housing and slack off all weight and verify that the landing dimension paint mark has aligned with the rig floor.

14. Locate the 1” LP sight port on the lower O.D. of the housing and remove the pipe plug.

15. Look through the port to verify the hanger is properly landed. The white painted load shoulder will be clearly visible in the open port.

16. Reinstall the 1” pipe plug and tighten securely.



Stage 4 — Hang Off the 9-5/8” Casing

Seal Test

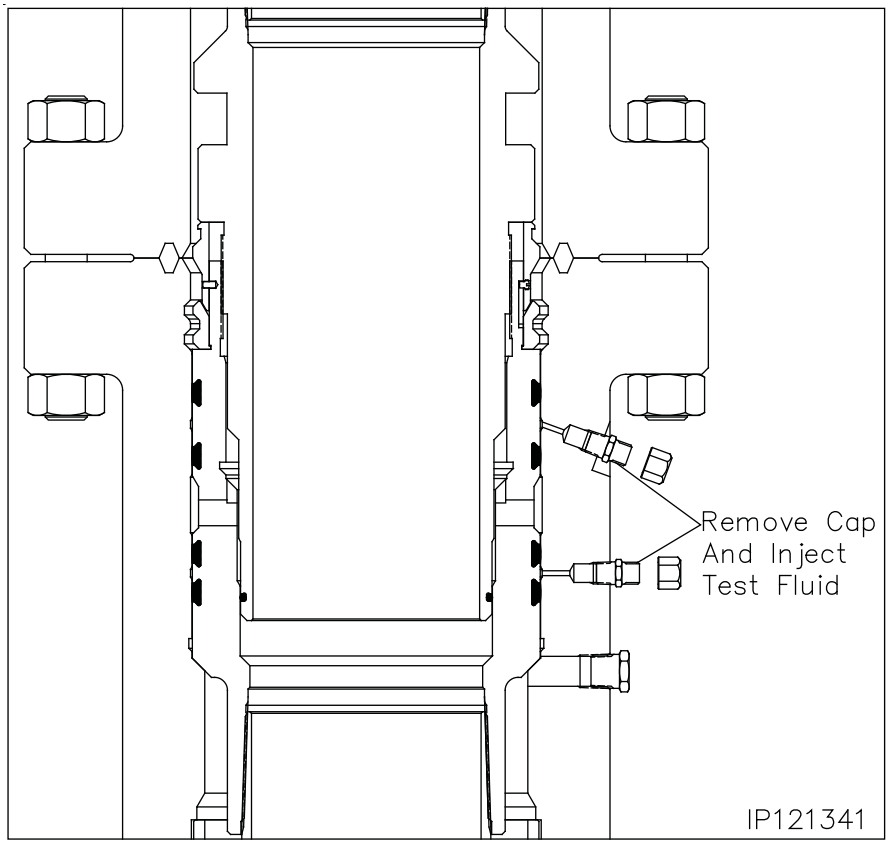
17. Locate the upper and lower seal test fittings on the O.D. of the housing and remove the dust caps from both fittings.

18. Attach a test pump to one of the open fittings and pump clean test fluid between the seals until a stable test pressure of 5,000 psi is attained.

19. If a leak develops, bleed off test pressure, remove the hanger from the wellhead and replace the leaking seals.

20. Repeat steps 17 through 19 for the remaining seal test.

21. After satisfactory test are achieved, bleed off all test pressure, remove test pump and reinstall the dust caps on the open fittings



Stage 4 — Hang Off the 9-5/8" Casing

Engaging the Lockring

22. ***Using Chain Tongs Only located 180° apart,***, rotate the landing joint approximately 6 turns counter clockwise (Left) to engage the casing hanger lockring in its mating groove in the bore of the MBU-LR housing.

Note: Approximately 800 to 900 ft. lbs. of torque will be required to break over the shear pins in the hanger. The torque will drop off and then increase slightly when the energizing ring pushes the lockring out. A positive stop will be encountered when the lockring is fully engaged.

Note: When properly engaged the second paint mark on the landing joint will align with the rig floor.

WARNING: It is imperative that the landing joint remain concentric with the well bore when rotating to engage the lockring. This can be accomplished with the use of the air hoist.

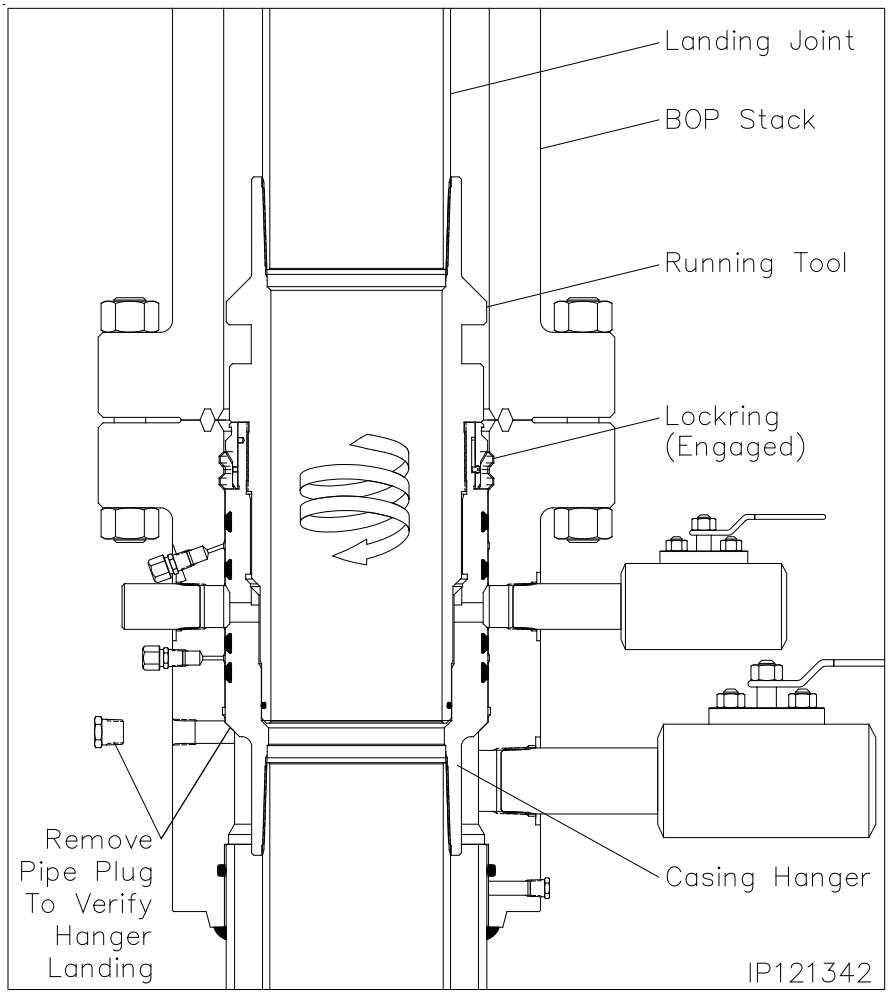
WARNING: If the required turns to engage the lockring or not met or excessive torque is encountered, remove the casing hanger and call Houston Engineering.

23. Back off the landing joint/running tool approximately three turns clockwise (Right). Using the elevators, exert a 30,000 lbs. over string weight pull on the landing joint to confirm positive lockring engagement.

24. Slack off all weight and place a vertical paint mark on the landing joint to verify if the casing string rotates during the cementing process.

Note: It is not necessary to remake the casing hanger running tool connection after the over pull. If desired two counter clockwise rotations may be made but full make up is not required.

25. Cement the casing as required, taking returns through the lower 3" outlet.



26. With cement in place, bleed off cement pressure and remove cementing equipment.

27. If well condition permit, remove the 1" sight port pipe plug to observe if the hanger rotates during the removal of the running tool.

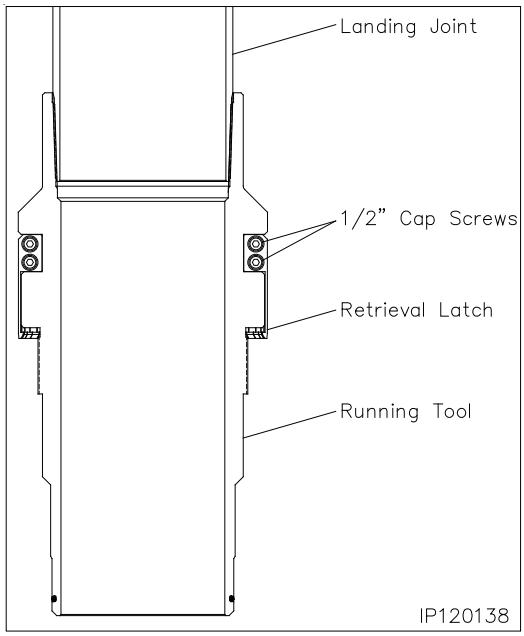
28. ***Using Chain Tongs Only located 180° apart,*** retrieve the Running Tool and landing joint by rotating the landing joint clockwise (Right) an additional 11 turns or until the tool comes free of the hanger. Retrieve the tool with a straight vertical lift.

29. Reinstall the 1" pipe plug and tighten securely.

Stage 4 — Hang Off the 9-5/8” Casing

Retrieving The Casing Hanger

In the event that the casing hanger needs to be remove the 13-5/8” x 9-5/8” MBU-LR Casing Hanger Running and retrieving tool can be fitted with a retrieval latch that will lift the casing hanger energizing ring and allow the lockring to disengage.



1. Examine the ***13-5/8” x 9-5/8” LC MBU-LR Casing Hanger Running and Retrieving Tool (Item ST3)***. Verify the following:
   - bore is clean and free of debris
   - O.D. Acme threads are clean and in good condition
   - o-ring is in place and in good condition
   - proper length landing joint is made up in top of the tool with thread lock compound
   - retrieval latch is available and in good condition

2. Thoroughly clean and lightly the latch groove of the tool with oil or light grease.

3. Remove the (4) 1/2” cap screws retaining the two halves of the retrieval latch.

4. Install the retrieval latch around the Retrieving Tool body as indicated and reinstall the 1/2” cap screws. Tighten screws securely.

WARNING: Ensure the latch rotates freely on the tool. If not remove and check the latch and tool for burrs or imperfections in the groove.

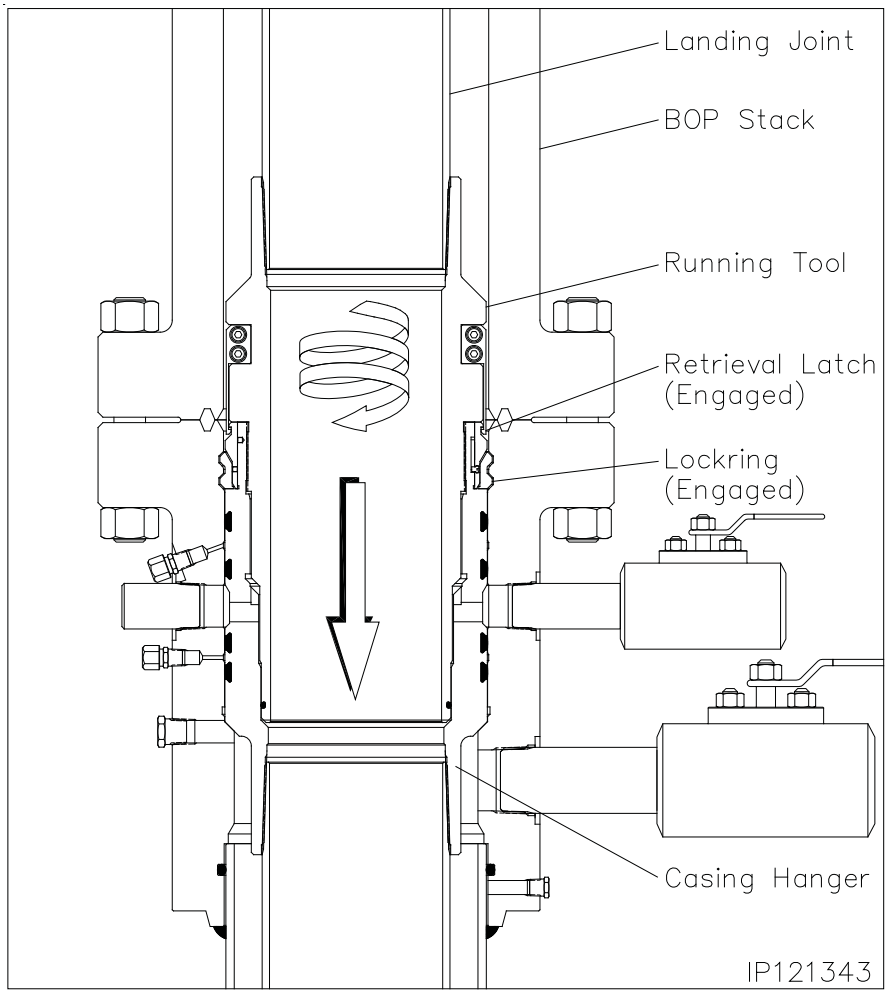
5. Thoroughly clean and lightly lubricate the seal surfaces and Acme threads of the tool with oil or a light grease.

6. Using the casing elevators, carefully lower the tool through the BOP stack and into the casing hanger bore until the tool contacts the top of the hanger Acme threads

Note: Contact should be made at previously attained RKB dimension.

7. **Using chain tongs only located 180° apart**, rotate the landing joint clockwise (Right) to locate the thread start then counter clockwise (Left) approximately 13 turns.

WARNING: Slowly make the last two revolutions. The torque will increase slightly as the latch passes over the top of the energizing ring and snaps into position under the lip of the ring.



Stage 4 — Hang Off the 9-5/8” Casing

WARNING: The landing joint must remain concentric with the well bore when screwing into the hanger.

8. With positive engagement attained, reposition the tongs for clockwise (Right) rotation and then rotate the landing joint approximately 6 turns to lift the energizing ring and release the lockring.

Note: The landing joint should rise approximately 1-1/2” and come to a positive stop against the stop screws.

9. Halt rotation and remove the chain tongs.

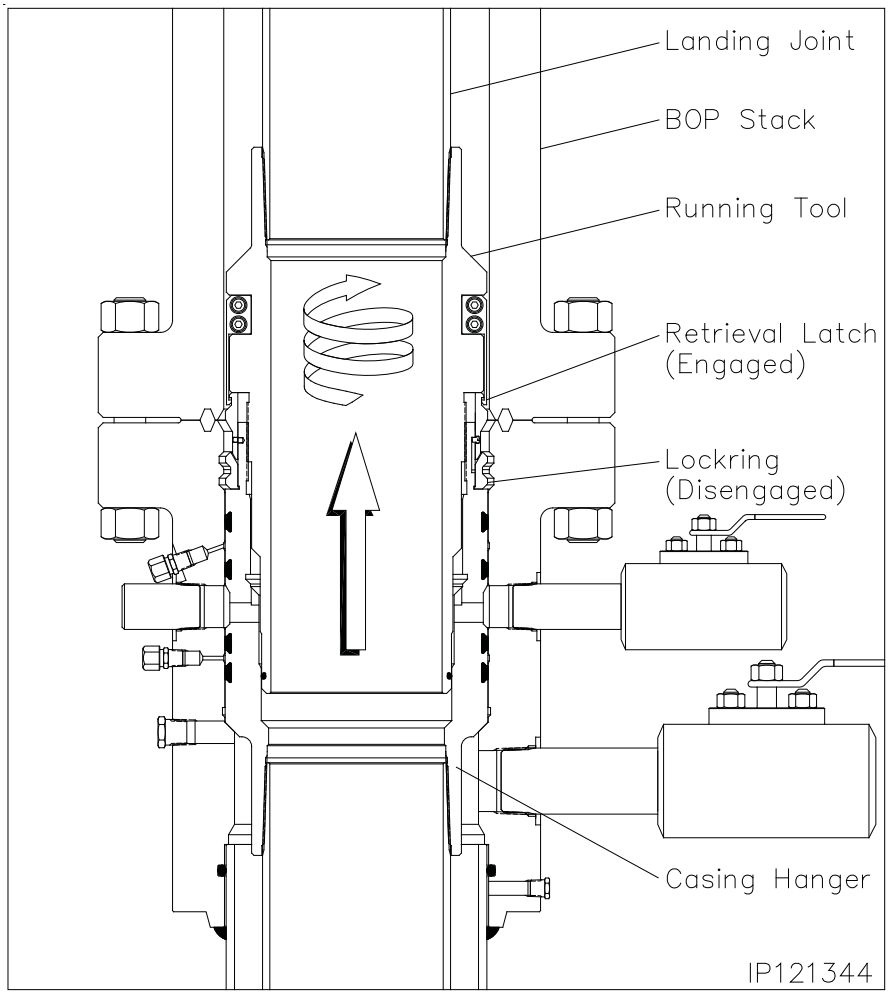
10. Using the drill pipe elevators, slowly pick up on the casing hanger and retrieve it from the wellhead.

11. With the tool and hanger at the rig floor, set the casing in the floor slips and slack off.

12. Rotate the landing joint counter clockwise (Left) one turn.

13. Remove the (4) 1/2” cap screws from the retrieval latch and remove the latch assembly from the tool.

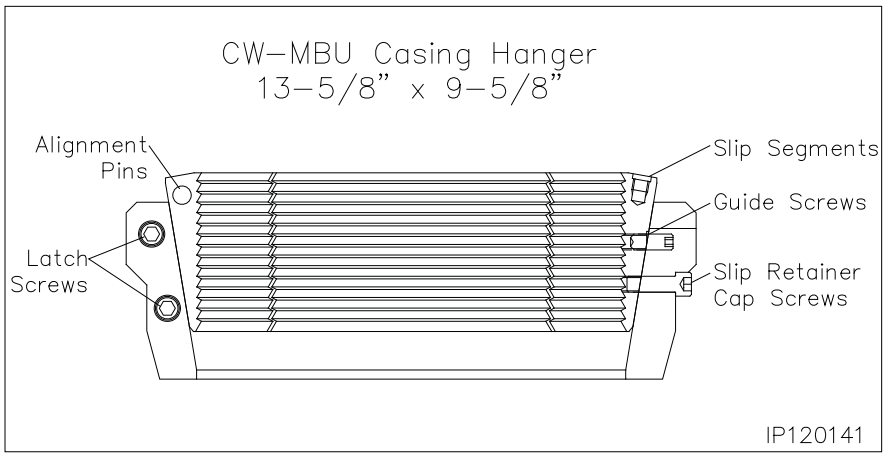
14. Remove the casing hanger and running tool from the casing string.

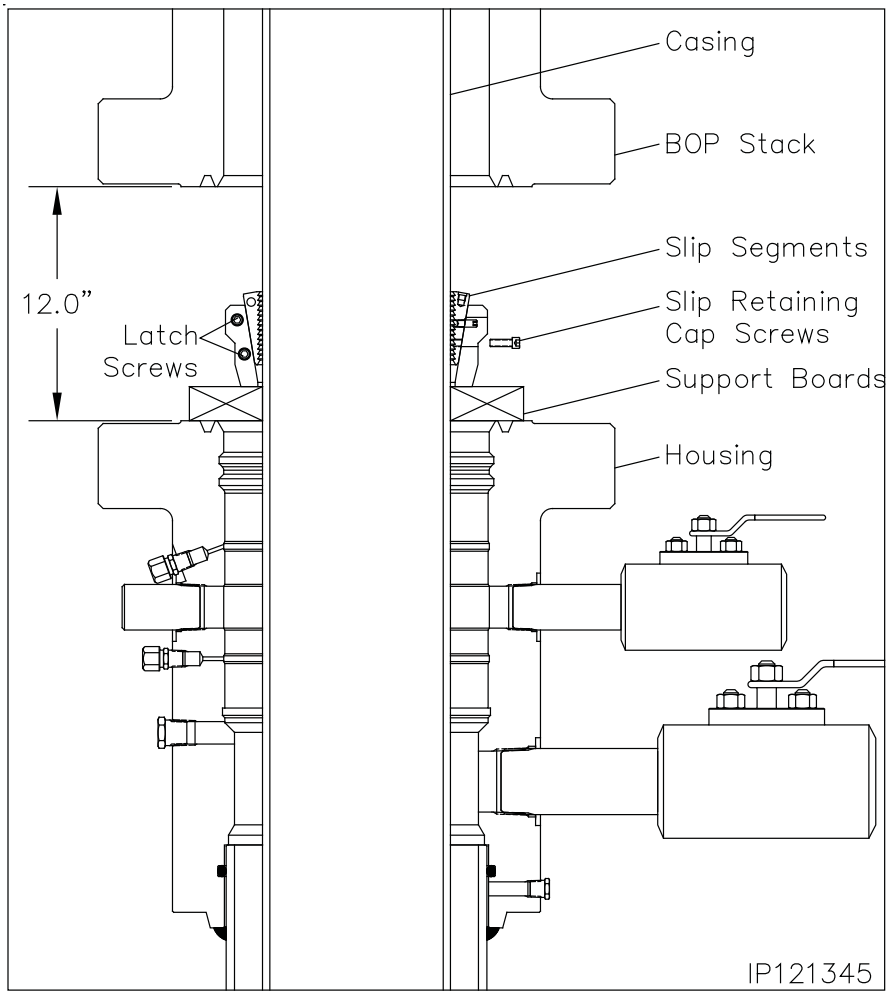


Stage 4A — Hang Off the 9-5/8” Casing (Emergency)

Note: The following procedure should be followed **ONLY** if the 9-5/8” casing should become stuck in the hole. If the casing did not get stuck and is hung off with the Mandrel Casing Hanger, skip this stage.

1. Cement the hole as required.
2. Drain the BOP stack through the housing side outlet valve.
3. Separate the connection between the BOP and the MBU-LR housing.
4. Pick up on the BOP stack a minimum of 12” and secure with safety slings.
5. Washout as required.
6. Examine the ***13-5/8” x 9-5/8” MBU Slip Casing Hanger (Item A7a).*** Verify the following:
   - slips and internal bore are clean and in good condition
   - all screws are in place
7. There are two latch screws located in the top of the casing hanger. Using a 5/16” Allen wrench, remove the two latch screws located 180° apart and separate the hanger into two halves.
8. Place two boards on the housing flange against the casing to support the Hanger.
9. Pick up one half of the hanger and place it around the casing and on top of the boards.
10. Pick up the second hanger half and place it around the casing adjacent the first half.
11. Slide the two hanger halves together ensuring the slip alignment pins properly engage the opposing hanger half.
12. Reinstall the latch screws and tighten securely.





Stage 4A — Hang Off the 9-5/8” Casing (Emergency)

13. Prepare to lower the Hanger into the housing bowl.

WARNING: Do Not Drop the Casing Hanger!

14. Grease the Casing Hanger’s body and remove the slip retaining screws.

15. Remove the boards and allow the Hanger to slide into the housing bowl. When properly positioned the top of the hanger will be approximately 14.05” below the top of the housing.

16. Pull tension on the casing to the desired hanging weight and then slack off.

Note: A sharp decrease on the weight indicator will signify that the Hanger has taken weight and at what point, If this does not occur, pull tension again and slack off once more.

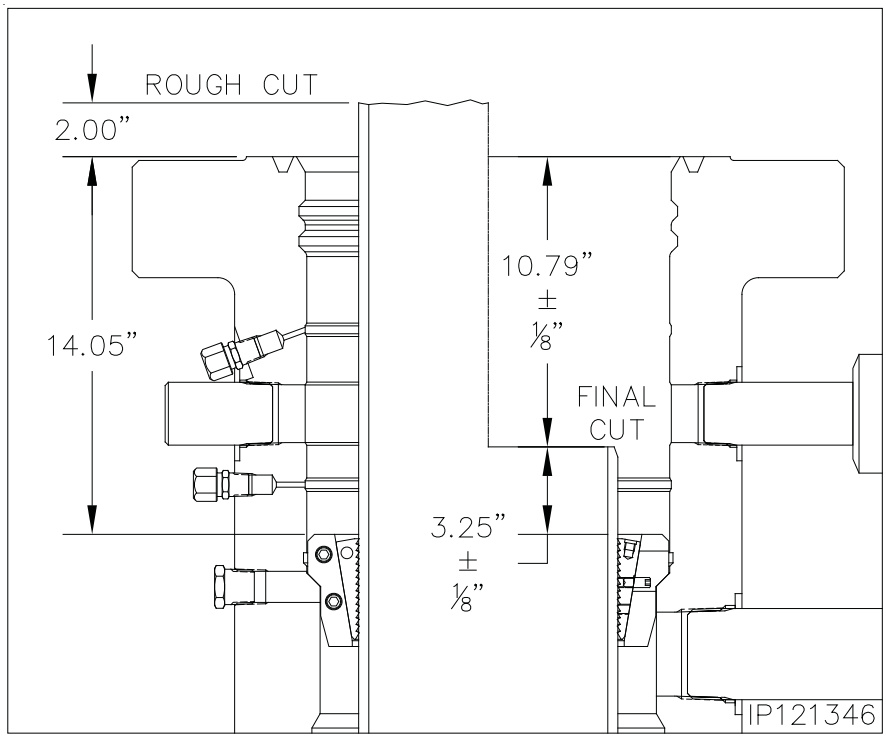
WARNING: Because of the potential fire hazard and the risk of loss of life and property, It is highly recommended to check the casing annulus and pipe bore for gas with an approved sensing device prior to cutting off the casing. If gas is present, do not use an open flame torch to cut the casing. It will be necessary to use a air driven mechanical cutter which is spark free.

17. Rough cut the casing approximately 2” above the top flange and move the excess casing out of the way.

WARNING: Install the long wear bushing in the housing to ensure the housing bore is not damaged with the torch or cutting debris.

18. Final cut the casing at 10.79” ± 1/8” below the housing flange or 3.25” ± 1/8” above the hanger body.

19. Grind the casing stub level and then place a 3/16” x 3/8” bevel on the O.D. and a I.D. chamfer to match the minimum bore of the packoff to be installed.



Note: There must not be any rough edges on the casing or the seals of the Packoff will be damaged.

20. Remove the wear bushing and then thoroughly clean the housing bowl, removing all cement and cutting debris.

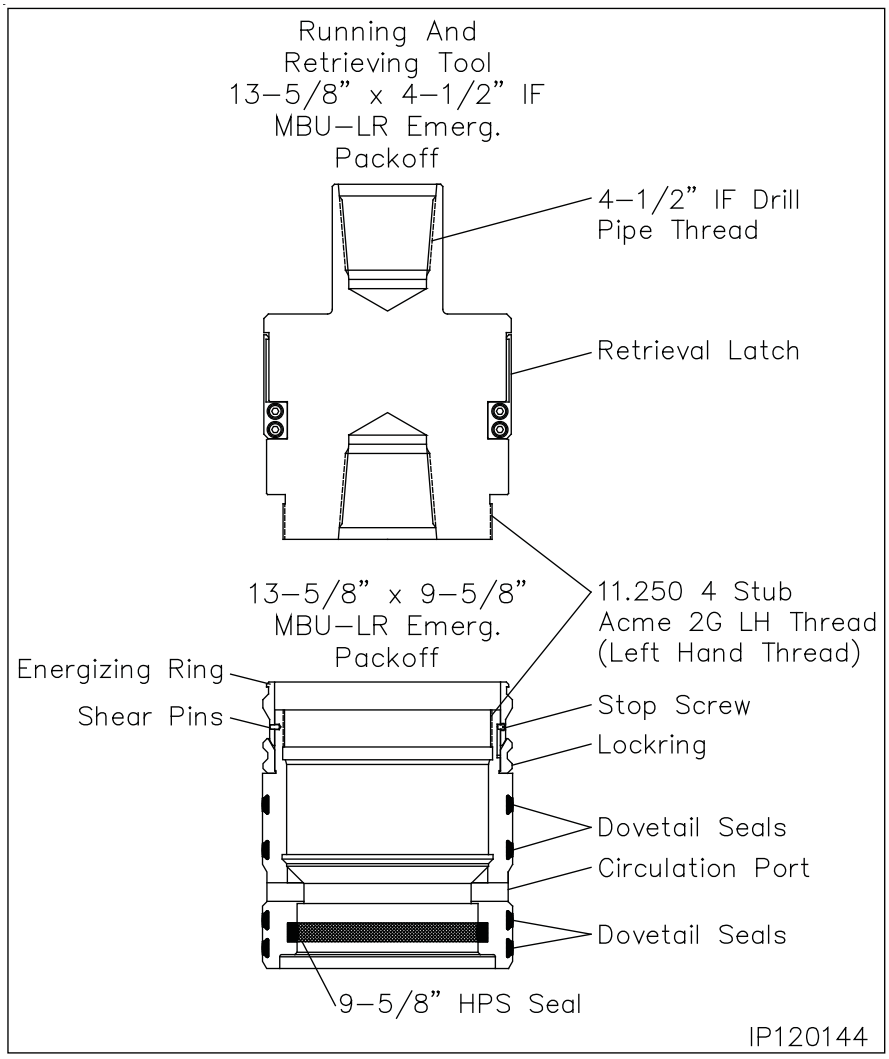
Stage 4B — Install the 9-5/8” MBU-LR Emergency Packoff

The following steps detail the installation of the CW MBU-LR Packoff Assembly for the emergency casing hanger.

1. Examine the ***13-5/8” Nominal x 9-5/8” x 11.250” 4 Stub Acme 2G LH box top MBU-LR Packoff Assembly (Item A7b).*** Verify the following:
   - all elastomer seals are in place and undamaged
   - internal bore, and ports, are clean and in good condition
   - lockring is fully retracted
   - energizer ring is in its upper most position and retained with shear pins
   - anti-rotation plunger is in place, free to move

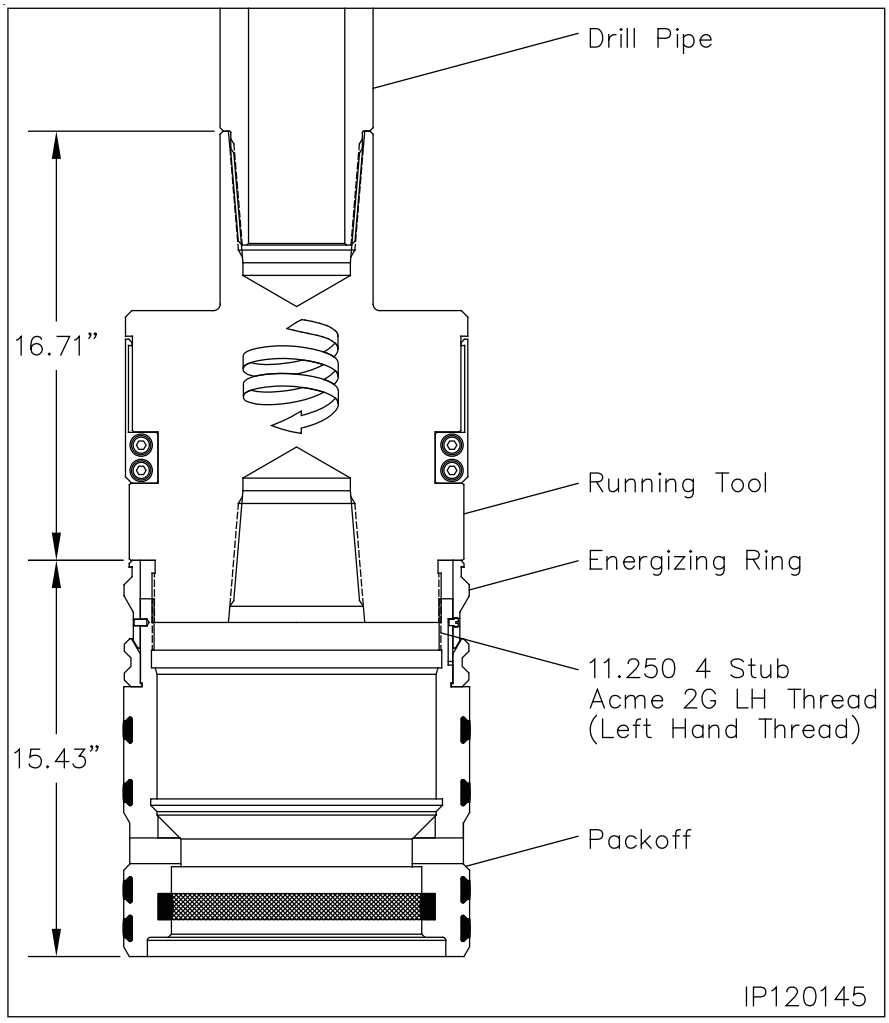
2. Lubricate the ID of the ‘HPS’ seal and the OD of the dovetail seals liberally with a light oil or grease.

3. Examine the ***13-5/8” Nominal x 4-1/2” IF x 11.250” 4 Stub Acme 2G LH box top MBU-LR Packoff Running Tool (Item ST4).*** Verify the following:
   - Acme threads are clean and in good condition
   - actuation sleeve is clean, in good condition and rotates freely
   - retrieval latch is removed and stored is safe place



Stage 4B — Install the 9-5/8” MBU-LR Emergency Packoff

4. Make up a 4-1/2” IF drill collar to the top of the Running Tool and tighten connection to thread manufacturer’s maximum make up torque.
5. Run in the hole with two stands of drill pipe and set in floor slips.
6. Thoroughly clean and lightly lubricate the mating Acme threads of the running tool and packoff with oil or light grease.
7. Pick up the packoff and carefully pass it over the drill pipe and set it on top of the floor slips.
8. Pick up the Running Tool with landing joint and make it up to the drill pipe in the floor slips.
9. Pick up the packoff and thread it onto the running tool with clockwise (Right) rotation until the Energizing Ring makes contact with the bottom shoulder of the tool. Approximately 4 turns.
10. Thoroughly clean and lightly lubricate the packoff ID ‘HPS’ seal and the OD dovetail seals with oil or light grease.



Stage 4B — Install the 9-5/8” MBU-LR Emergency Packoff

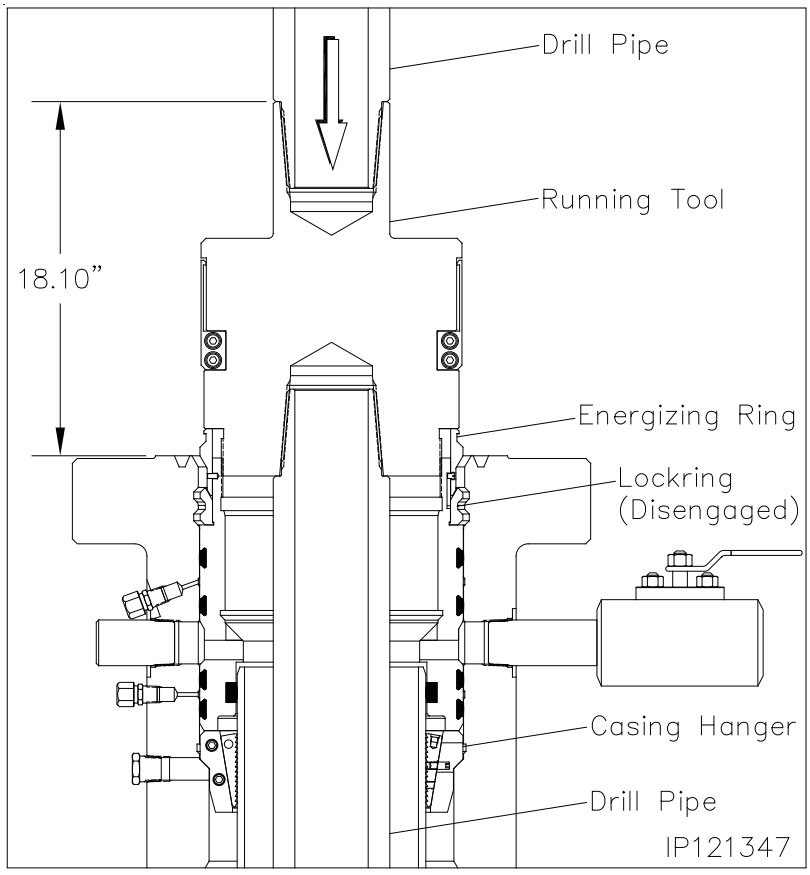
Landing the Packoff

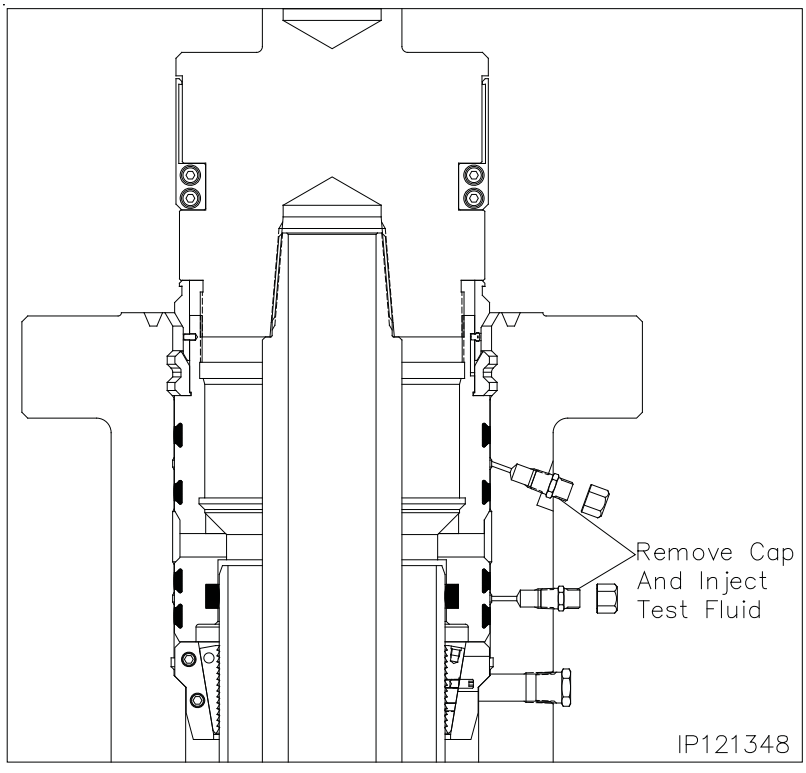
1. Pick up the drill string and remove the floor slips.
2. Carefully lower the packoff through the rig floor and into the housing until it lands on top of the slip hanger.

Note: When properly positioned the top of the running tool will be approximately 18.10” above the top of the MBU-LR Housing

Seal Test

3. Locate the upper and lower seal test fittings on the O.D. of the housing and remove the dust caps from both fittings.
4. Attach a test pump to one of the open fittings and pump clean test fluid between the seals until a stable test pressure of 5,000 psi is attained.
5. If a leak develops, bleed off test pressure, remove the hanger from the wellhead and replace the leaking seals.
6. Repeat steps 3 through 5 for the remaining seal test.
7. After satisfactory test are achieved, bleed off all test pressure, remove test pump and reinstall the dust caps on the open fittings





Stage 4B — Install the 9-5/8” MBU-LR Emergency Packoff

Engaging the Lockring

8. Using only chain tongs, rotate the landing joint approximately 6 turns counter clockwise (Left) to engage the packoff lockring in its mating groove in the bore of the MBU-LR housing.

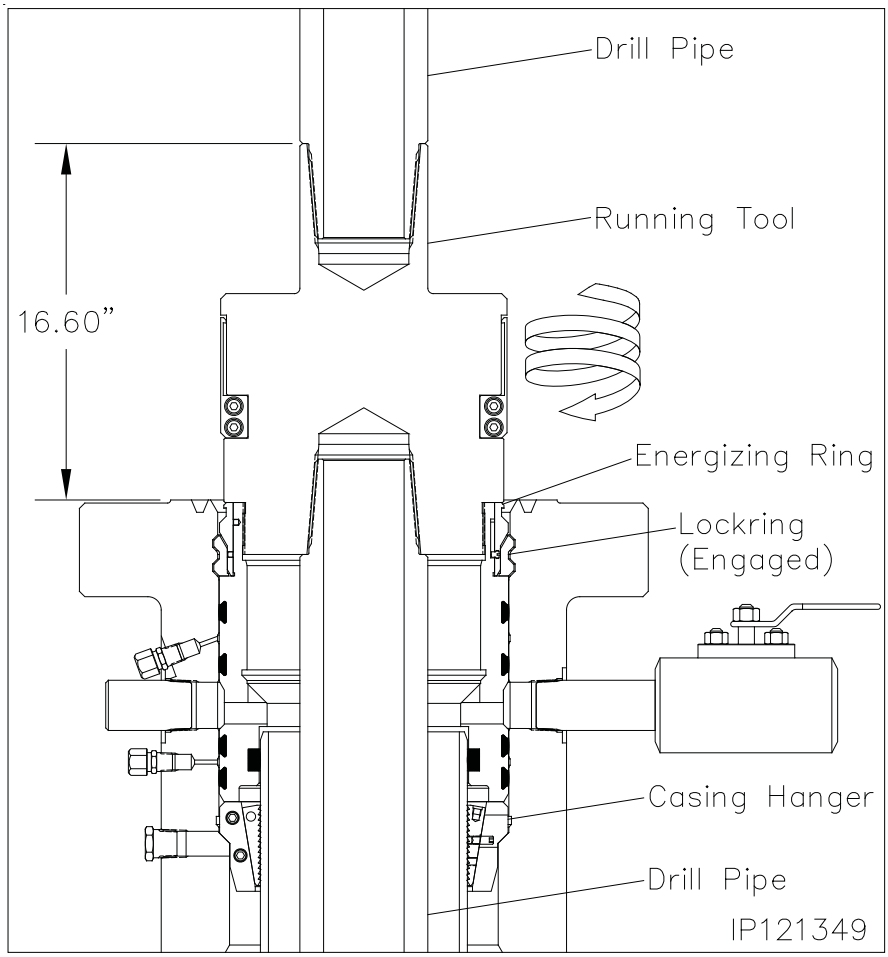
Note: Approximately 800 to 900 ft. lbs. of torque will be required to break over the shear pins in the packoff. The torque will drop off and then increase slightly when the energizing ring pushes the lockring out. A positive stop will be encountered when the lockring is fully engaged.

WARNING: It is imperative that the drill pipe landing joint remain concentric with the well bore when rotating to engage the lockring. This can be accomplished with the use of the air hoist.

WARNING: If the required turns to engage the lockring or not met or excessive torque is encountered, remove the packoff and call Houston Engineering.

9. Back off the landing joint/running tool approximately three turns. Using the drill pipe elevators, exert a 20,000 lbs. pull on the landing joint.

10. Using only chain tongs, rotate the landing joint clockwise until the tool comes free of the packoff (approximately 9 turns) and then retrieve the tool with a straight vertical lift.



Stage 4B — Install the 9-5/8” MBU-LR Emergency Packoff

In the event the packoff is required to be removed after the lockring is engaged the following procedure is to be followed.

Retrieving the Packoff

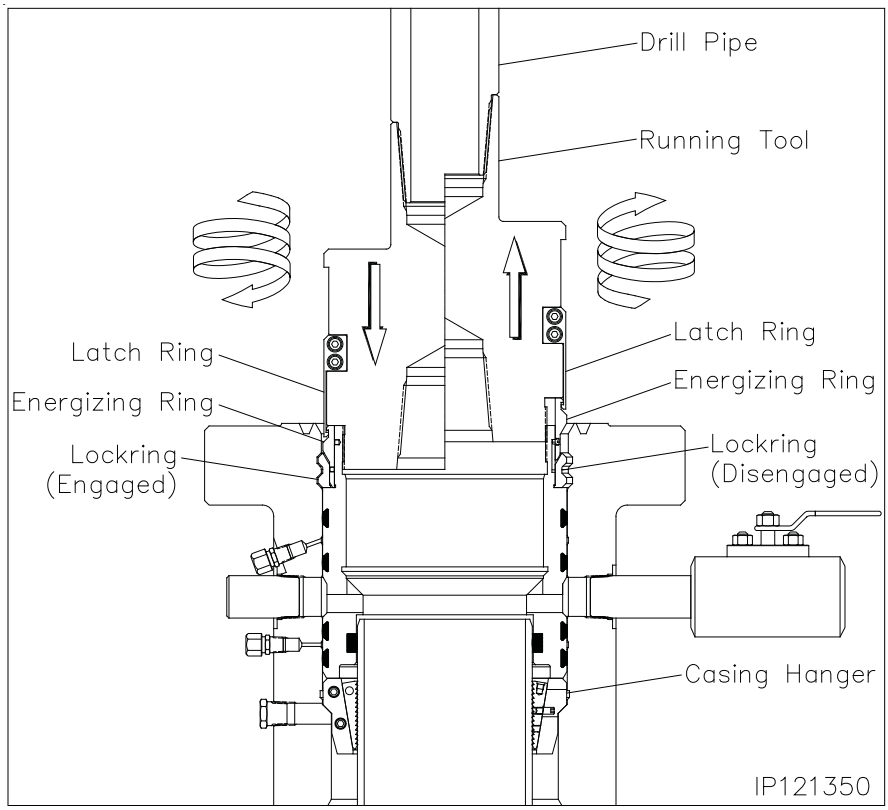
1. Locate the retrieval latch assembly with (4) 1/2” cap screws
2. Install the retrieval latch onto the running tool with the latch fingers facing down and install the cap screws and tighten them securely.
3. Ensure the retrieval latch freely rotates on the running tool actuation sleeve.
4. Carefully lower the running tool into the packoff.
5. Rotate the drill pipe clockwise (Right)to locate the thread start and then counter clockwise (Left) (approximately 10 turns) to a positive stop.

Note: At this point the retrieval latches will have passed over the energizing ring and snapped into place.

6. Rotate the drill pipe clockwise (approximately 6-1/2 turns) to a positive stop. The drill pipe should rise approximately 1-1/2”.

Warning: Do not exceed the 6-1/2 turns or the packoff may be seriously damaged.

7. Carefully pick up on the drill pipe and remove the packoff from the MBU-LR wellhead with a straight vertical lift.
8. Redress the Packoff and reset as previously outlined.



Stage 5 — Test the BOP Stack

Immediately after making up the BOP stack and periodically during the drilling of the well for the next casing string the BOP stack (connections and rams) must be tested.

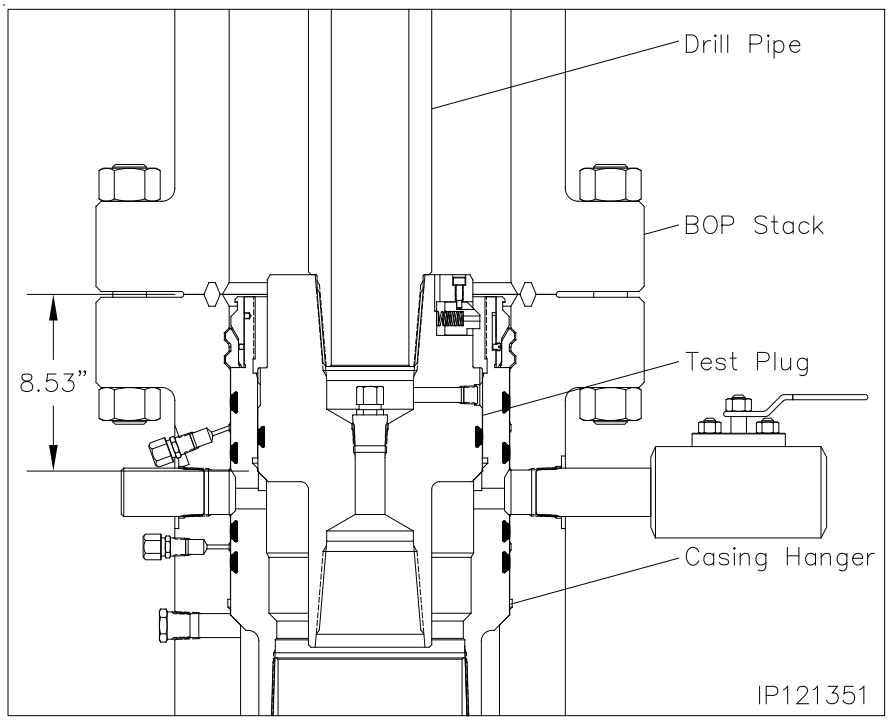
1. Examine the ***11" Nominal x 4-1/2" IF CW Test Plug/Retrieving Tool (Item ST5)***. Verify the following:
   - 1-1/4" VR plug and weep hole plug are in place and tightened securely
   - elastomer seal is in place and in good condition
   - retractable lift lugs are in place, clean, and free to move
   - drill pipe threads are clean and in good condition

Note: Prior to installing the BOP it is recommended to attain an accurate RKB dimension for future use for accurately landing test plugs and casing hangers. This dimension is attained by dropping a tape measure from the rig floor to the top of the wellhead flange. Pull tape taut and record the dimension from the wellhead to the top of the rig floor or kelly bushings. Ensure this dimension is placed on the BOP board in the dog house and on the drillers daily report sheet.

2. Position the test plug with the elastomer seal down and the lift lugs up and make up the tool to a joint of drill pipe.

WARNING: Ensure that the lift lugs are up and the elastomer seal is down

3. Remove the 1/2" NPT pipe plug from the weep hole if pressure is to be supplied through the drill pipe.



4. Open the housing upper side outlet valve.

5. Lightly lubricate the test plug seal with oil or light grease.

6. Carefully lower the test plug through the BOP and land it on the load shoulder in the packoff, 8.53" below the top of the housing.

7. Close the BOP rams on the pipe and test the BOP to 5,000 psi.

Note: Any leakage past the test plug will be clearly visible at the open side outlet valve.

8. After a satisfactory test is achieved, release the pressure and open the rams.

9. Remove as much fluid as possible from the BOP stack and the retrieve the test plug with a straight vertical lift.

Note: When performing the BOP blind ram test it is highly recommended to suspend a stand of drill pipe below the test plug to ensure the plug stays in place while disconnecting from it with the drill pipe.

10. Repeat this procedure as required during the drilling of the hole section.

Stage 6 — Run the Upper Wear Bushing

Note: Always use a Wear Bushing while drilling to protect the load shoulders from damage by the drill bit or rotating drill pipe. The Wear Bushing **must be retrieved** prior to running the casing.

1. Examine the ***13-5/8" x 11" x 9.00" ID MBU-LR-UPR Wear Bushing(Item ST6).*** Verify the following
   - internal bore is clean and in good condition
   - o-ring is in place and in good condition
   - shear o-ring cord is in place and in good condition
   - paint anti-rotation lugs white and allow paint to dry

Run the Wear Bushing Before Drilling

2. Orient the ***13-5/8" Nominal x 4-1/2" IF CW Test Plug/Retrieving Tool (Item ST1)*** with drill pipe connection up.

3. Attach the Retrieving Tool to a joint of drill pipe.

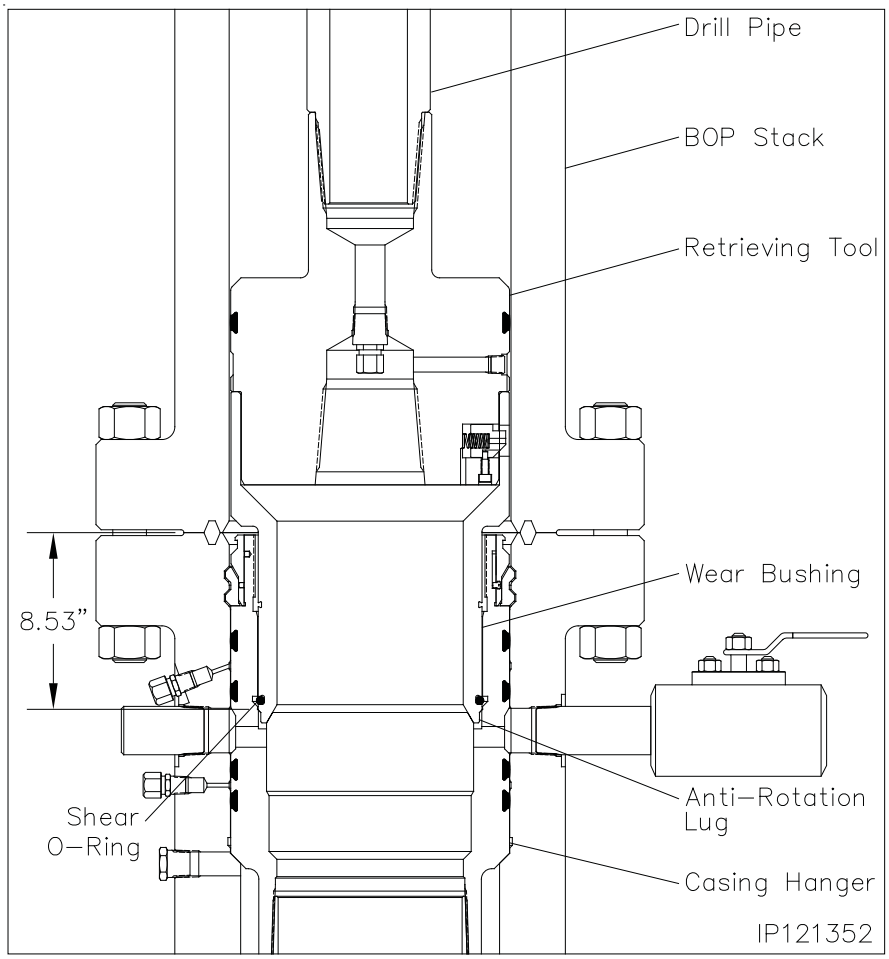
4. Align the retractable lift lugs of the tool with the retrieval holes of the bushing and the carefully lower the tool into the Wear Bushing until the lugs snap into place.

Note: If the lugs did not align with the holes, rotate the tool in either direction until they snap into place.

5. Apply a heavy coat of grease, not dope, to the OD of the bushing.

6. Slowly lower the Tool/Bushing Assembly through the BOP stack and land it on the load shoulder in the packoff, 8.53" below the top of the housing.

7. Rotate the drill pipe clockwise (right) to locate the stop lugs in their mating notches in the packoff. When properly aligned the bushing will drop an additional 1/2".



Note: The Shear O-Ring on bottom of the bushing will locate in a groove above the load shoulder in the head to act as a retaining device for the bushing.

8. Remove the Tool from the Wear Bushing by rotating the drill pipe counter clockwise (left) 1/4 turn and lifting straight up

9. Drill as required.

Note: It is highly recommended to retrieve, clean, inspect, grease, and reset the wear bushing each time the hole is tripped during the drilling of the hole section.

Retrieve the Wear Bushing After Drilling

10. Make up the Retrieving Tool to the drill pipe .

11. Slowly lower the Tool into the Wear Bushing.

12. Pick up and balance the riser weight.

13. Rotate the Retrieving Tool clockwise until a positive stop is felt. This indicates the lugs have snapped into the holes in the bushing.

14. Retrieve the Wear Bushing, and remove it and the Retrieving Tool from the drill string.

Stage 7 — Hang Off the 7” Casing

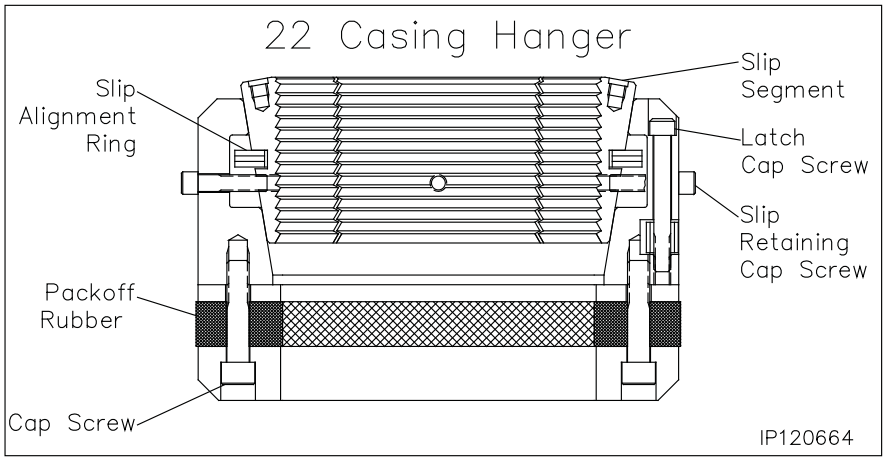
1. Run the 7” casing string as required and cement in place.
2. Drain the housing bowl through the upper side outlet.
3. Separate the BOP from the MBU-LR housing and lift the BOP approximately 14” above the housing and secure BOP with safety slings.
4. Using a fresh water hose, thoroughly wash out the packoff bowl.

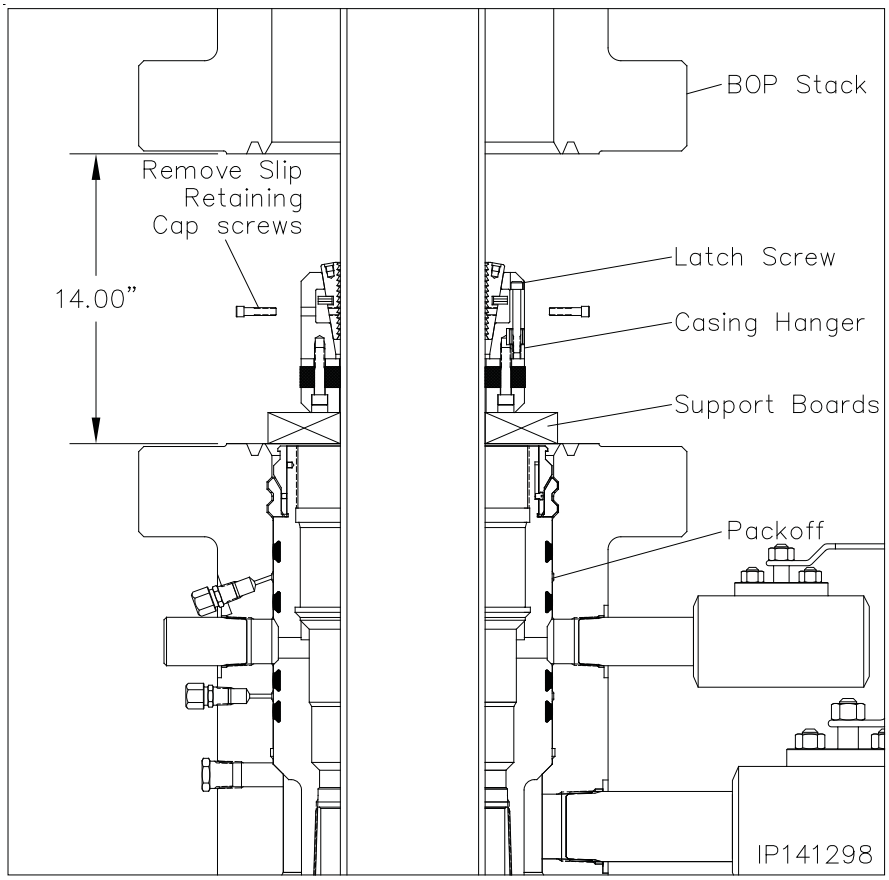
Note: Casing Head side outlet valve to remain open while setting the casing hanger.

5. Examine the ***11” X 7” C22 Casing Hanger (Item B9).*** Verify the following:
   - slips and internal bore are clean and in good condition
   - all screws are in place
   - seal element is in good condition

Note: Ensure that the packoff rubber does not protrude beyond the O.D. of the casing hanger body. If it is, loosen the compression cap screws in the top of the hanger.

6. Remove the latch screw to open the Hanger.
7. Place two boards on the Casing Head flange against the casing to support the Hanger.
8. Wrap the Hanger around the casing and replace the latch screw.
9. Prepare to lower the Hanger into the Casing Head bowl.
10. Grease the Casing Hanger’s body and remove the slip retaining cap screws.





Stage 7 — Hang Off the 7” Casing

11. Remove the boards and allow the Hanger to slide into the packoff bowl. When the Hanger is down, the top of the hanger body will be approximately 2.27” below the top of the housing, pull tension on the casing to the desired hanging weight and then slack off..

Note: A sharp decrease on the weight indicator will signify that the Hanger has taken weight and at what point, If this does not occur, pull tension again and slack off once more.

WARNING: Because of the potential fire hazard and the risk of loss of life and property, It is highly recommended to check the casing annulus and pipe bore for gas with an approved sensing device prior to cutting off the casing. If gas is present, do not use an open flame torch to cut the casing. It will be necessary to use a air driven mechanical cutter which is spark free.

12. Rough cut the casing approximately 12” above the top flange and move the excess casing and BOP out of the way.

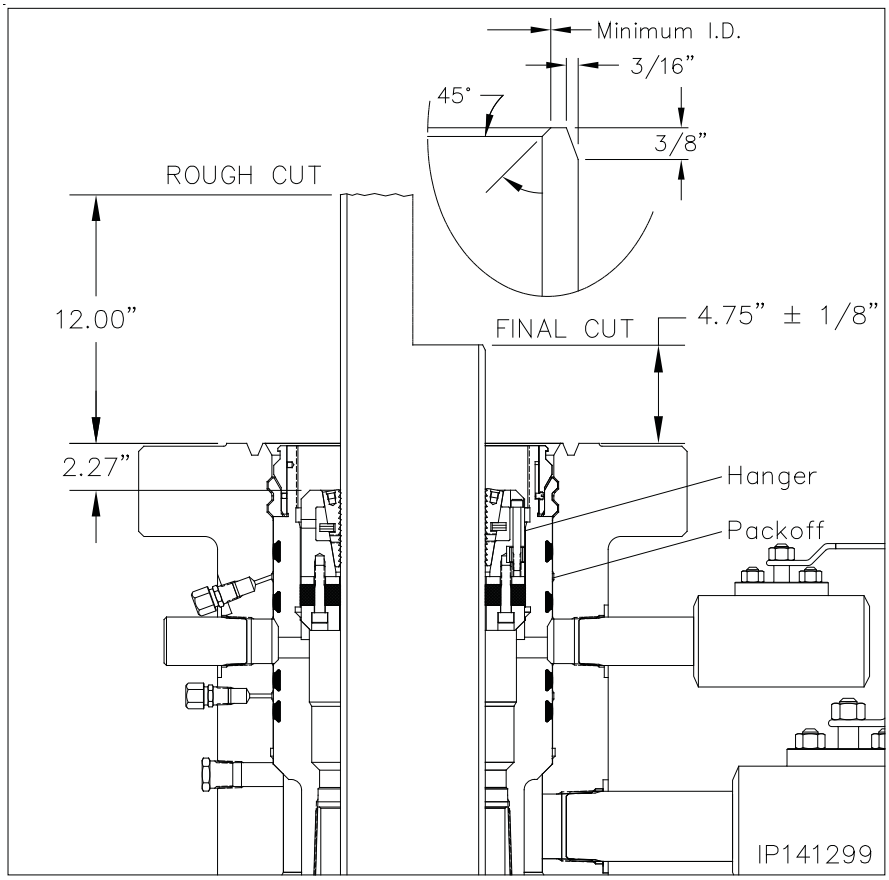
13. Final cut the casing at 4.75” ± 1/8” above the top flange of the housing.

14. Grind the casing stub level and then place a 3/16” x 3/8” bevel on the O.D. and a I.D. chamfer to match the minimum bore of the tubing head to be installed.

15. Using a high pressure water hose thoroughly clean the top of the casing hanger and void area above the hanger. Ensure all cutting debris are removed .

16. Fill the void above the hanger with clean test fluid to the top of the flange.

WARNING: Do Not over fill the void with test fluid - trapped fluid under the ring gasket may prevent a good seal from forming



Stage 8 — Install the Tubing Head

1. Examine the ***13-5/8" 5M x 7-1/16" 10M CW, CTH-DBLHPS Tubing Head (Item B1).*** Verify the following:
   - seal area and bore are clean and in good condition
   - ***HPS Secondary Seals*** are in place and in good condition
   - all peripheral equipment is intact and undamaged

2. Clean the mating ring grooves of the MBU-LR and Tubing Head.

3. Lightly lubricate the ID of the Tubing Head HPS Seals, and the casing stub with a light grease.

Note: Excessive grease may prevent a good seal from forming!

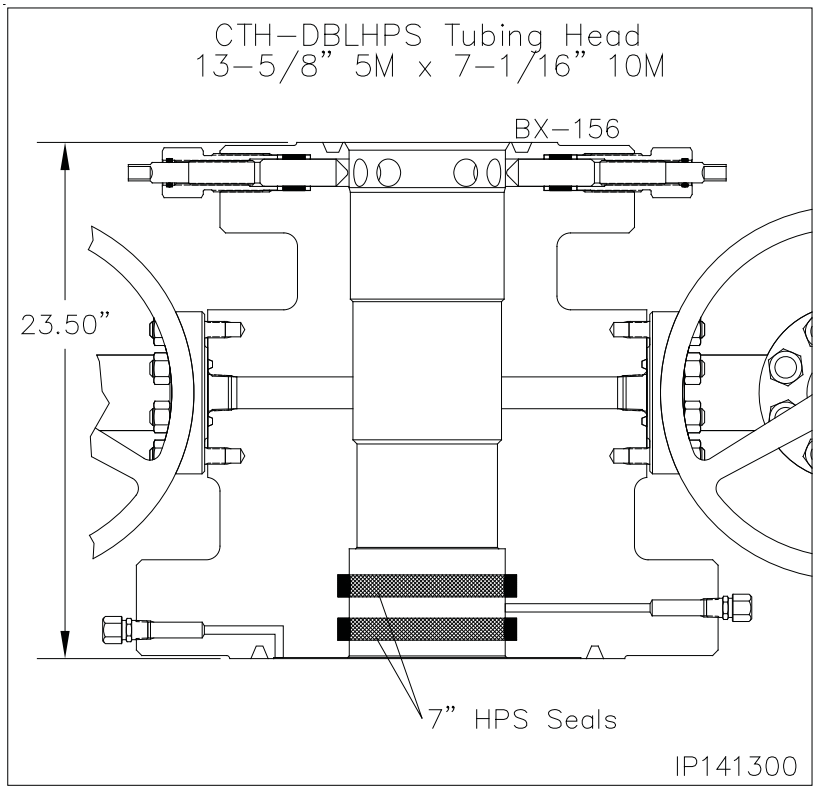
4. Install a new ***BX-160 Ring Gasket (Item B14)*** in the ring groove of the MBU-LR Housing.

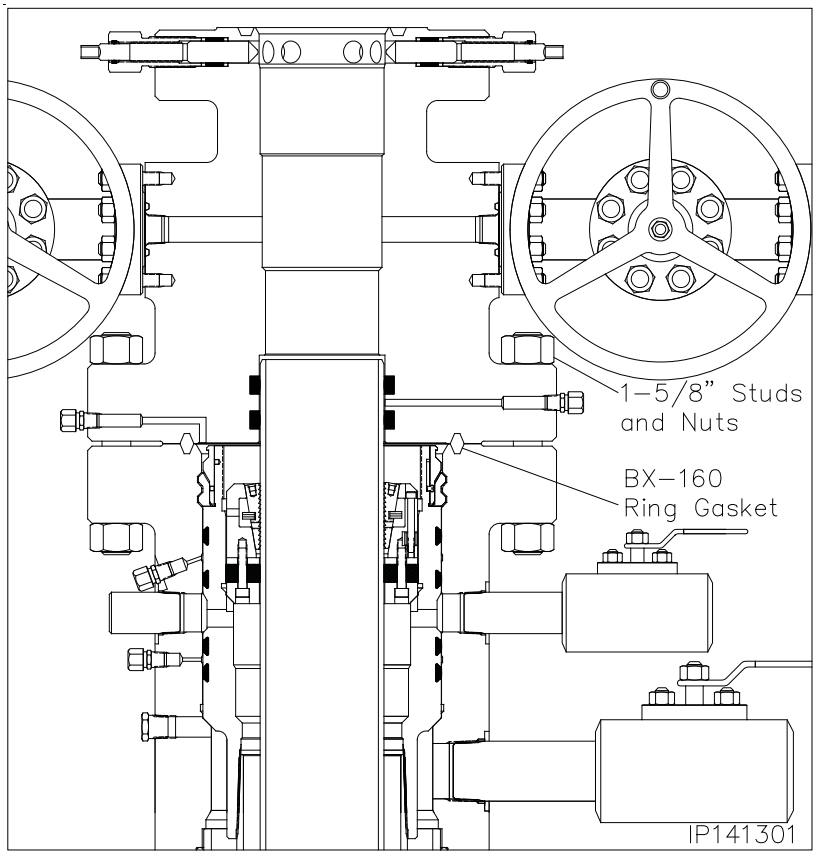
5. Pick up the Tubing Head and suspend it above the MBU-LR Housing and casing stub.

6. Orient the Tubing Head so the outlets are in the proper position and then carefully lower the head and DSPA over the casing stub and land it on the ring gasket.

Warning: Do Not damage the HPS Seal or their sealing ability will be impaired!

7. Make up the flange connection using the DSPA studs and nuts, tightening them in an alternating cross pattern.

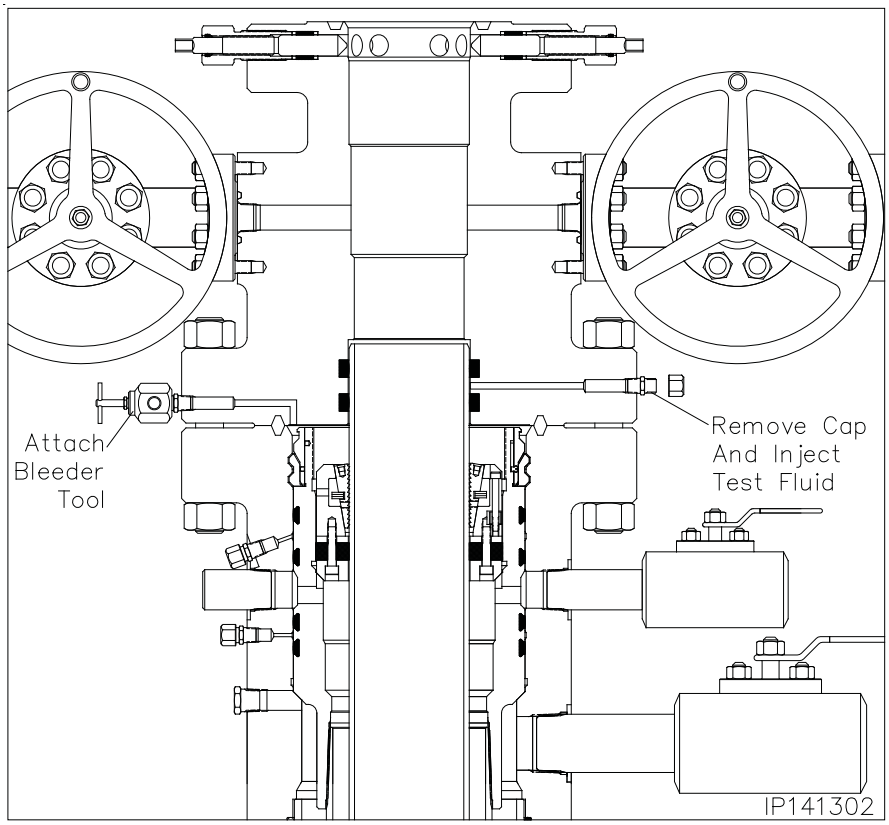




Stage 8 — Install the Tubing Head

Seal Test

1. Locate the “SEAL TEST” fitting and one of the “FLG TEST” fittings on the Tubing Head and remove the dust cap from both fittings.
2. Attach a Bleeder Tool to the open “FLG TEST” fitting and open the Tool.
3. Attach a Hydraulic Test Pump to the “SEAL TEST” fitting and pump clean test fluid between the HPS Seals until a test pressure of ***10,000 psi. or 80% of casing collapse — whichever is less***
4. Hold the test pressure for fifteen (15) minutes or as desired by the drilling supervisor.
5. If pressure drops a leak has developed. Take the appropriate action in the table below.
6. Repeat steps 1 - 5 until a satisfactory test is achieved.
7. When a satisfactory test is achieved, remove Test Pump, drain test fluid, and reinstall the dust cap on the open “SEAL TEST” fitting.

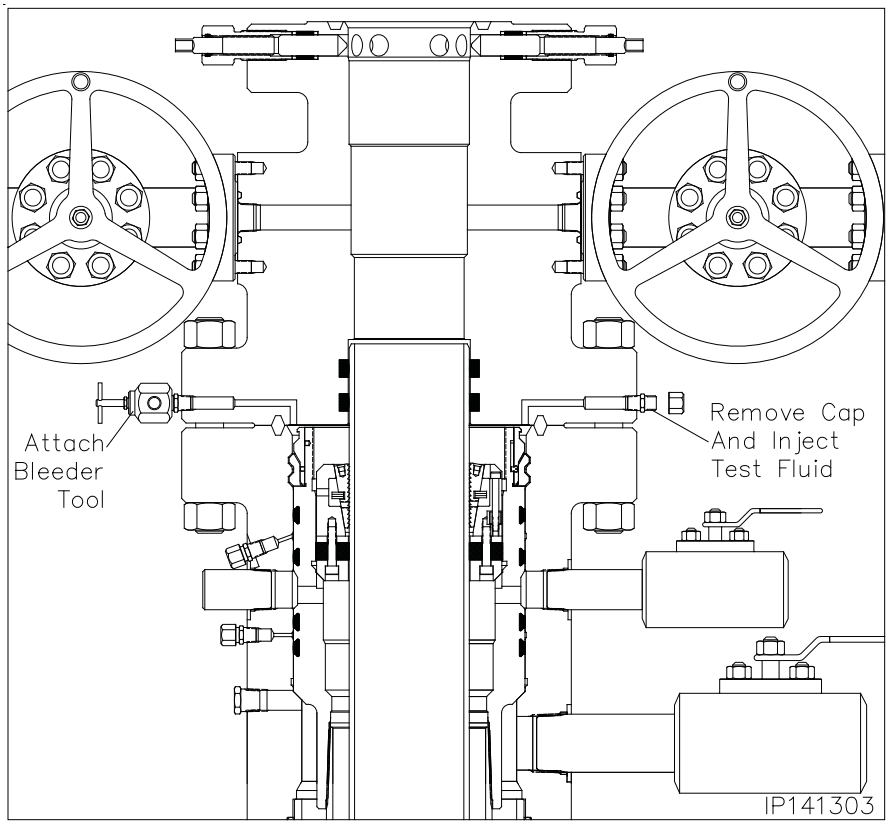


Seal Test	
Leak Location	**Appropriate Action**
Open bleeder tool - Lower HPS seal leaking	Remove Tubing Head and replace leaking seals. Re land and retest seals
Into the Tubing Head bore- Upper HPS Seal is Leaking	

Stage 8 — Install the Tubing Head

Flange Test

1. Locate the remaining “FLG TEST” fitting on the Tubing Head and remove the dust cap from the fitting.
2. Attach a test pump to the open “FLG TEST” fitting and pump clean test fluid into the flange connection until a continuous stream flows from the open “FLG TEST” bleeder tool.
3. Close the bleeder tool and continue pumping test fluid to ***5,000 psi. or 80% of casing collapse — whichever is less.***
4. Hold the test pressure for fifteen (15) minutes or as desired by the drilling supervisor.
5. If pressure drops a leak has developed. Take the appropriate action from the adjacent chart.
6. Repeat steps 1 through 6 until a satisfactory test is achieved.
7. Once a satisfactory test is achieved, remove the test pump and “FLG TEST” bleeder tool, drain test fluid, and reinstall the dust caps on the open fittings.



Flange Test	
Leak Location	**Appropriate Action**
Into casing annulus - casing hanger seal element is leaking	Remove tubing head, spear casing and reset the casing hanger. Redress the casing, reinstall the Tubing Head and retest
Flange connection - Ring gasket is leaking	Further tighten the flange connection

Recommended Procedure for Field Welding Pipe to Wellhead Parts for Pressure Seal

1. **Introduction and Scope.** The following recommended procedure has been prepared with particular regard to attaining pressure-tight weld when attaching casing heads, flanges, etc., to casing. Although most of the high strength casing used (such as N-80) is not normally considered field weldable, some success may be obtained by using the following or similar procedures.

Caution: In some wellheads, the seal weld is also a structural weld and can be subjected to high tensile stresses. Consideration must therefore be given by competent authority to the mechanical properties of the weld and its heat affected zone.

   a. The steels used in wellhead parts and in casing are high strength steels that are susceptible to cracking when welded. It is imperative that the finished weld and adjacent metal be free from cracks. The heat from welding also affects the mechanical properties. This is especially serious if the weld is subjected to service tension stresses.

   b. This procedure is offered only as a recommendation. The responsibility for welding lies with the user and results are largely governed by the welder's skill. Weldability of the several makes and grades of casing varies widely, thus placing added responsibility on the welder. Transporting a qualified welder to the job, rather than using a less-skilled man who may be at hand, will, in most cases, prove economical. The responsible operating representative should ascertain the welder's qualifications and, if necessary, assure himself by instruction or demonstration, that the welder is able to perform the work satisfactorily.

2. **Welding Conditions.** Unfavorable welding conditions must be avoided or minimized in every way possible, as even the most skilled welder cannot successfully weld steels that are susceptible to cracking under adverse working conditions, or when the work is rushed. Work above the welder on the drilling floor should be avoided. The weld should be protected from dripping mud, water, and oil and from wind, rain, or other adverse weather conditions. The drilling mud, water, or other fluids must be lowered in the casing and kept at a low level until the weld has properly cooled. It is the responsibility of the user to provide supervision that will assure favorable working conditions, adequate time, and the necessary cooperation of the rig personnel.

3. **Welding.** The welding should be done by the shielded metal-arc or other approved process.

4. **Filler Metal.** Filler Metals. For root pass, it's recommended to use E6010, E6011 (AC), E6019 or equivalent electrodes. The E7018 or E7018-A1 electrodes may also be used for root pass operations but has the tendency to trap slag in tight grooves. The E6010, E6011 and E6019 offer good penetration and weld deposit ductility with relatively high intrinsic hydrogen content. Since the E7018 and E7018-A1 are less susceptible to hydrogen induced cracking, it is recommended for use as the filler metal for completion of the weld groove after the root pass is completed. The E6010, E6011 (AC), E6019, E7018 and E7018-A1 are classified under one of the following codes AWS A5.1 (latest edition): Mild Steel covered electrodes or the AWS A5.5 (latest edition): Low Alloy Steel Covered Arc-Welding Electrodes. The low hydrogen electrodes, E7018 and E7018-A1, should not be exposed to the atmosphere until ready for use. It's recommended that hydrogen electrodes remain in their sealed containers. When a job arises, the container shall be opened and all unused remaining electrodes to be stored in heat electrode storage ovens. Low hydrogen electrodes exposed to the atmosphere, except water, for more than two hours should be dried 1 to 2 hours at 600ºF to 700 ºF (316ºC to 371 ºC) just before use. It's recommended for any low hydrogen electrode containing water on the surface should be scrapped.

5. **Preparation of Base Metal.** The area to be welded should be dry and free of any paint, grease/oil and dirt. All rust and heat-treat surface scale shall be ground to bright metal before welding.

Recommended Procedure for Field Welding Pipe to Wellhead Parts for Pressure Seal

6. **Preheating.** Prior to any heating, the wellhead member shall be inspected for the presence of any o-rings or other polymeric seals. If any o-rings or seals are identified then preheating requires close monitoring as noted in paragraph 6a. Before applying preheat, the fluid should be bailed out of the casing to a point several inches (>6" or 150 mm) below the weld joint/location. Preheat both the casing and wellhead member for a minimum distance of three (3) inches on each side of the weld joint using a suitable preheating torch in accordance with the temperatures shown below in a and b. The preheat temperature should be checked by the use of heat sensitive crayons. Special attention must be given to preheating the thick sections of wellhead parts to be welded, to insure uniform heating and expansion with respect to the relatively thin casing.

   a. Wellhead members containing o-rings and other polymeric seals have tight limits on the preheat and interpass temperatures. Those temperatures must be controlled at 200ºF to 325ºF or 93 ºC to 160ºC and closely monitored to prevent damage to the o-ring or seals.
   b. Wellhead members not containing o-rings and other polymeric seals should be maintained at a preheat and interpass temperature of 400ºF to 600ºF or 200ºC to 300ºC.

7. **Welding Technique.** Use a 1/8 or 5/32-inch (3.2 or 4.0 mm) E6010 or E7018 electrode and step weld the first bead (root pass); that, weld approximately 2 to 4 inches (50 to 100 mm) and then move diametrically opposite this point and weld 2 to 4 inches (50 to 100 mm) halfway between the first two welds, move diametrically opposite this weld, and so on until the first pass is completed. This second pass should be made with a 5/32-inch (4.0 mm) low hydrogen electrode of the proper strength and may be continuous. The balance of the welding groove may then be filled with continuous passes without back stepping or lacing, using a 3/16-inch (4.8 mm) low hydrogen electrode. All beads should be stringer beads with good penetration. There should be no undercutting and weld shall be workmanlike in appearance.

   a. Test ports should be open when welding is performed to prevent pressure buildup within the test cavity.
   b. During welding the temperature of the base metal on either side of the weld should be maintained at 200 to 300°F (93 to 149°C).
   c. Care should be taken to insure that the welding cable is properly grounded to the casing, but ground wire should not be welded to the casing or the wellhead. Ground wire should be firmly clamped to the casing, the wellhead, or fixed in position between pipe slips. Bad contact may cause sparking, with resultant hard spots beneath which incipient cracks may develop. The welding cable should not be grounded to the steel derrick, nor to the rotary-table base.

8. **Cleaning.** All slag or flux remaining on any welding bead should be removed before laying the next bead. This also applies to the completed weld.

9. **Defects.** Any cracks or blow holes that appear on any bead should be removed to sound metal by chipping or grinding before depositing the next bead.

10. **Postheating.** Post-heating should be performed at the temperatures shown below and held at that temperature for no less than one hour followed by a slow cooling. The post-heating temperature should be in accordance with the following paragraphs.

    a. Wellhead members containing o-rings and other polymeric seals have tight limits on the post-heating temperatures. Those temperatures must be controlled at 250ºF to 300ºF or 120 ºC to 150ºC and closely monitored to prevent damage to the o-ring or seals.
    b. Wellhead members not containing o-rings and other polymeric seals should be post-heated at a temperature of 400ºF to 600ºF or 200ºC to 300ºC.

11. **Cooling.** ***Rapid cooling must be avoided.*** To assure slow cooling, welds should be protected from extreme weather conditions (cold, rain, high winds, etc.) by the use of suitable insulating material. (Specially designed insulating blankets are available at many welding supply stores.) Particular attention should be given to maintaining uniform cooling of the thick sections of the wellhead parts and the relatively thin casing, as the relatively thin casing will pull away from the head or hanger if allowed to cool more rapidly. The welds should cool in air to less than 200°F (93°C) (measured with a heat sensitive crayon) prior to permitting the mud to rise in the casing.

12. **Test the Weld.** After cooling, test the weld. The weld must be cool otherwise the test media will crack the weld. The test pressure should be no more than 80% of the casing collapse pressure.

Midwest Hose & Specialty, Inc.

Hydrostatic Test Certificate

Customer:	Customer P.O Number
ODESSA	626783

Hose Specifications

Type:	Rotary/Vibrator	Hose Length	26'	feet
I.D.	4.00 inches	O.D.	6.25	inches

~~WORKING PRESSURE~~	~~TEST PRESSURE~~	~~BURST PRESSURE~~
5000 PSI	7500 PSI	Standard Safety Multiplier Applies

Couplings

Part Number	Stem Lot Number	Ferrule Lot Number
5" 1002M 5" 1002F	End A - Heat # DR22922-3 End B - Heat # DR22922-4	End A - End B -

Type of Coupling:	Die Size:	
Swage	End A	6.25
	End B	6.25

Procedure

Hose assembly pressure tested with water at ambient temperature .

TIME HELD AT TEST PRESSURE	
13 2/4 minutes	

Hose Assembly Serial Number:	Hose Serial Number:
797685	13718-12/21

Comments

Date:	Tested by:	Approved by:
8/19/2022	Justin Magee	Chuck Hilterbran

MHSI-008 REV 1.0

Midwest Hose & Specialty, Inc.

Certificate of Conformance

Customer	P.O. Number
ODESSA	626783

Specifications

Sales Order	612109	Dated	8/19/2022
PT#	797685		
Description	TRH64D-80M1002I-80F1002I-26FT-TVM		

We hereby certify that the material provided on the referenced purchase order number referenced above to be true according to the requirements of the purchase order and current industry standards.

Mark Koldoff
Quality Control Manager
Midwest Hose & Specialty, Inc.
P.O. Box 96558
Oklahoma City, OK 73143

Comments:

Shipping Location OKMFG

Approved by	Date:
Chuck Hilterbran	8/19/2022

MHSI-009 Rev 1.0

Midwest Hose & Specialty, Inc.

High Pressure Hydrostatic Test Graph

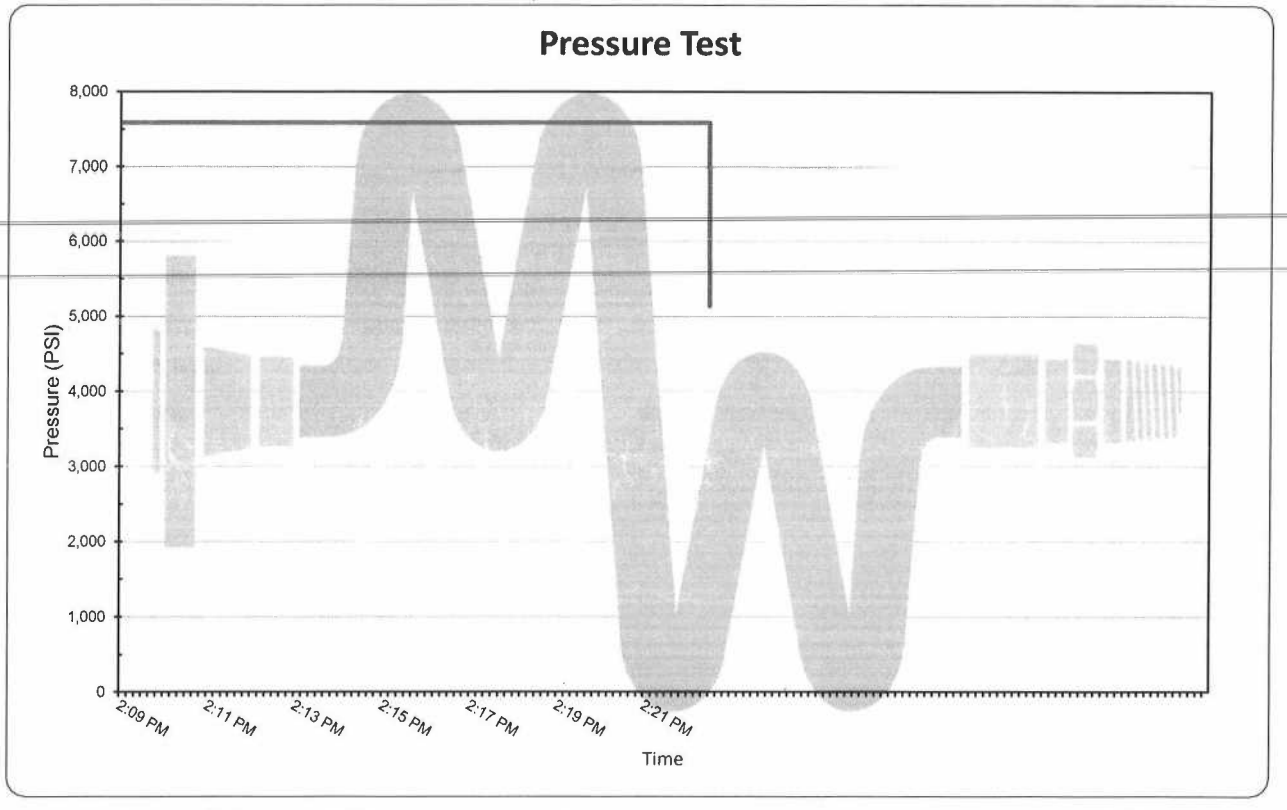
Testing Location	Date Tested
OKMFG	08/19/22

Hose Assembly Specifications

Hose Type	Length (Feet & Inches)	I.D. (Inches)	O.D. (Inches)
Rotary/Vibrator	26'	4.00	6.25

Verification

Type of Fitting	Coupling Method	Working Pressure (PSI)	Hose Assembly Serial #
5" 1002M 5" 1002F	Swage	5000	797685



Test Pressure (PSI)	7500	Time Held at Pressure (minutes)	13 2/4
Test Temperature (F)	Ambient		
End A - Stem Heat #	DR22922-3	End A - Ferrule Heat #	-
End B - Stem Heat #	DR22922-4	End B - Ferrule Heat #	-

Tested By	Verified By
Justin Magee	Chuck Hilterbran

Comments

Peyote State Com #4HB, Plan 1

Operator	Mack Energy Corp	**Units**	feet, °/100ft	09:37 Monday, July 29, 2024	Page 1 of 4
Field		**County**	Eddy	**Vertical Section Azimuth**	269.61
Well Name	Peyote State Com #4HB	**State**	New Mexico	**Survey Calculation Method**	Minimum Curvature
Plan	1	**Country**	USA	**Database**	Access

Location	SL: 2290 FSL & 741 FWL Section 33-T16S-R31E BHL: 2310 FSL & 1 FWL Section 32-T16S-R31E	**Map Zone**	UTM	**Lat Long Ref**	
Site		**Surface X**	1984026.2	**Surface Long**	
Slot Name	**UWI**	**Surface Y**	11935710	**Surface Lat**	
Well Number	4HB **API**	**Surface Z**	3961.5	**Global Z Ref**	KB
Project	**MD/TVD Ref** KB	**Ground Level**	3944.3	**Local North Ref**	Grid

DIRECTIONAL WELL PLAN

MD* ft	INC* deg	AZI* deg	TVD* ft	N* ft	E* ft	DLS* °/100ft	V. S.* ft	MapE* ft	MapN* ft	SysTVD* ft
*** TIE (at MD = 4466.00)										
4466.00	0.00	0.0	4466.00	0.00	0.00		0.00	1984026.20	11935710.00	-504.50
4500.00	0.00	0.0	4500.00	0.00	0.00	0.00	0.00	1984026.20	11935710.00	-538.50
4550.00	0.00	0.0	4550.00	0.00	0.00	0.00	0.00	1984026.20	11935710.00	-588.50
*** KOP 8 DEGREE (at MD = 4566.00)										
4566.00	0.00	0.0	4566.00	0.00	0.00	0.00	0.00	1984026.20	11935710.00	-604.50
4600.00	2.72	271.4	4599.99	0.02	-0.81	8.00	0.81	1984025.39	11935710.02	-638.49
4650.00	6.72	271.4	4649.81	0.12	-4.92	8.00	4.92	1984021.28	11935710.12	-688.31
4700.00	10.72	271.4	4699.22	0.31	-12.50	8.00	12.49	1984013.70	11935710.31	-737.72
4750.00	14.72	271.4	4747.98	0.57	-23.50	8.00	23.49	1984002.70	11935710.57	-786.48
4800.00	18.72	271.4	4795.86	0.93	-37.88	8.00	37.87	1983988.32	11935710.93	-834.36
4850.00	22.72	271.4	4842.62	1.36	-55.56	8.00	55.55	1983970.64	11935711.36	-881.12
4900.00	26.72	271.4	4888.02	1.87	-76.46	8.00	76.44	1983949.74	11935711.87	-926.52
4950.00	30.72	271.4	4931.86	2.46	-100.47	8.00	100.45	1983925.73	11935712.46	-970.36
5000.00	34.72	271.4	4973.92	3.12	-127.48	8.00	127.46	1983898.72	11935713.12	-1012.42
5050.00	38.72	271.4	5013.99	3.85	-157.36	8.00	157.33	1983868.84	11935713.85	-1052.49
5100.00	42.72	271.4	5051.88	4.64	-189.97	8.00	189.93	1983836.23	11935714.64	-1090.38
5150.00	46.72	271.4	5087.40	5.50	-225.13	8.00	225.09	1983801.07	11935715.50	-1125.90
5200.00	50.72	271.4	5120.38	6.42	-262.69	8.00	262.64	1983763.51	11935716.42	-1158.88
5250.00	54.72	271.4	5150.66	7.39	-302.45	8.00	302.39	1983723.75	11935717.39	-1189.16
*** 55 DEGREE TANGENT (at MD = 5253.50)										
5253.50	55.00	271.4	5152.67	7.46	-305.31	8.00	305.25	1983720.89	11935717.46	-1191.17
5300.00	55.00	271.4	5179.35	8.39	-343.39	0.00	343.33	1983682.81	11935718.39	-1217.85
5350.00	55.00	271.4	5208.02	9.39	-384.34	0.00	384.26	1983641.86	11935719.39	-1246.52
5400.00	55.00	271.4	5236.70	10.39	-425.28	0.00	425.20	1983600.92	11935720.39	-1275.20
5450.00	55.00	271.4	5265.38	11.39	-466.23	0.00	466.14	1983559.97	11935721.39	-1303.88
5500.00	55.00	271.4	5294.06	12.40	-507.17	0.00	507.08	1983519.03	11935722.40	-1332.56
*** 10 DEGREE BUILD (at MD = 5503.50)										
5503.50	55.00	271.4	5296.07	12.47	-510.04	0.00	509.94	1983516.16	11935722.47	-1334.57
5550.00	59.64	271.1	5321.17	13.32	-549.16	10.00	549.06	1983477.04	11935723.32	-1359.67
5600.00	64.64	270.8	5344.53	14.07	-593.34	10.00	593.23	1983432.86	11935724.07	-1383.03
5650.00	69.63	270.6	5363.95	14.64	-639.40	10.00	639.28	1983386.80	11935724.64	-1402.45
5700.00	74.63	270.3	5379.29	15.02	-686.97	10.00	686.85	1983339.23	11935725.02	-1417.79
5750.00	79.62	270.1	5390.42	15.21	-735.69	10.00	735.57	1983290.51	11935725.21	-1428.92
5800.00	84.62	269.9	5397.28	15.21	-785.21	10.00	785.08	1983240.99	11935725.21	-1435.78
5850.00	89.61	269.7	5399.79	15.01	-835.13	10.00	835.01	1983191.07	11935725.01	-1438.29
*** LANDING POINT (at MD = 5863.89)										
5863.89	91.00	269.6	5399.72	14.93	-849.02	10.00	848.89	1983177.18	11935724.93	-1438.22
5900.00	91.00	269.6	5399.09	14.68	-885.12	0.00	885.00	1983141.08	11935724.68	-1437.59

Peyote State Com #4HB, Plan 1

Operator	Mack Energy Corp	**Units**	feet, °/100ft	09:37 Monday, July 29, 2024	Page 2 of 4
Field		**County**	Eddy	**Vertical Section Azimuth**	269.61
Well Name	Peyote State Com #4HB	**State**	New Mexico	**Survey Calculation Method**	Minimum Curvature
Plan	1	**Country**	USA	**Database**	Access

Location	SL: 2290 FSL & 741 FWL Section 33-T16S-R31E BHL: 2310 FSL & 1 FWL Section 32-T16S-R31E	**Map Zone**	UTM	**Lat Long Ref**	
Site		**Surface X**	1984026.2	**Surface Long**	
Slot Name	**UWI**	**Surface Y**	11935710	**Surface Lat**	
Well Number	4HB **API**	**Surface Z**	3961.5	**Global Z Ref**	KB
Project	**MD/TVD Ref** KB	**Ground Level**	3944.3	**Local North Ref**	Grid

DIRECTIONAL WELL PLAN

MD*	INC*	AZI*	TVD*	N*	E*	DLS*	V. S.*	MapE*	MapN*	SysTVD*
ft	deg	deg	ft	ft	ft	°/100ft	ft	ft	ft	ft
5950.00	91.00	269.6	5398.22	14.34	-935.11	0.00	934.99	1983091.09	11935724.34	-1436.72
6000.00	91.00	269.6	5397.34	14.00	-985.10	0.00	984.98	1983041.10	11935724.00	-1435.84
6050.00	91.00	269.6	5396.47	13.66	-1035.09	0.00	1034.98	1982991.11	11935723.66	-1434.97
6100.00	91.00	269.6	5395.60	13.32	-1085.08	0.00	1084.97	1982941.12	11935723.32	-1434.10
6150.00	91.00	269.6	5394.73	12.98	-1135.08	0.00	1134.96	1982891.12	11935722.98	-1433.23
6200.00	91.00	269.6	5393.85	12.64	-1185.07	0.00	1184.95	1982841.13	11935722.64	-1432.35
6250.00	91.00	269.6	5392.98	12.30	-1235.06	0.00	1234.95	1982791.14	11935722.30	-1431.48
6300.00	91.00	269.6	5392.11	11.96	-1285.05	0.00	1284.94	1982741.15	11935721.96	-1430.61
6350.00	91.00	269.6	5391.24	11.62	-1335.04	0.00	1334.93	1982691.16	11935721.62	-1429.74
6400.00	91.00	269.6	5390.36	11.28	-1385.03	0.00	1384.92	1982641.17	11935721.28	-1428.86
6450.00	91.00	269.6	5389.49	10.94	-1435.02	0.00	1434.92	1982591.18	11935720.94	-1427.99
6500.00	91.00	269.6	5388.62	10.60	-1485.01	0.00	1484.91	1982541.19	11935720.60	-1427.12
6550.00	91.00	269.6	5387.75	10.26	-1535.01	0.00	1534.90	1982491.19	11935720.26	-1426.25
6600.00	91.00	269.6	5386.87	9.92	-1585.00	0.00	1584.89	1982441.20	11935719.92	-1425.37
6650.00	91.00	269.6	5386.00	9.58	-1634.99	0.00	1634.89	1982391.21	11935719.58	-1424.50
6700.00	91.00	269.6	5385.13	9.24	-1684.98	0.00	1684.88	1982341.22	11935719.24	-1423.63
6750.00	91.00	269.6	5384.25	8.90	-1734.97	0.00	1734.87	1982291.23	11935718.90	-1422.75
6800.00	91.00	269.6	5383.38	8.56	-1784.96	0.00	1784.86	1982241.24	11935718.56	-1421.88
6850.00	91.00	269.6	5382.51	8.22	-1834.95	0.00	1834.85	1982191.25	11935718.22	-1421.01
6900.00	91.00	269.6	5381.64	7.88	-1884.94	0.00	1884.85	1982141.26	11935717.88	-1420.14
6950.00	91.00	269.6	5380.76	7.54	-1934.94	0.00	1934.84	1982091.26	11935717.54	-1419.26
7000.00	91.00	269.6	5379.89	7.19	-1984.93	0.00	1984.83	1982041.27	11935717.19	-1418.39
7050.00	91.00	269.6	5379.02	6.85	-2034.92	0.00	2034.82	1981991.28	11935716.85	-1417.52
7100.00	91.00	269.6	5378.15	6.51	-2084.91	0.00	2084.82	1981941.29	11935716.51	-1416.65
7150.00	91.00	269.6	5377.27	6.17	-2134.90	0.00	2134.81	1981891.30	11935716.17	-1415.77
7200.00	91.00	269.6	5376.40	5.83	-2184.89	0.00	2184.80	1981841.31	11935715.83	-1414.90
7250.00	91.00	269.6	5375.53	5.49	-2234.88	0.00	2234.79	1981791.32	11935715.49	-1414.03
7300.00	91.00	269.6	5374.66	5.15	-2284.87	0.00	2284.79	1981741.33	11935715.15	-1413.16
7350.00	91.00	269.6	5373.78	4.81	-2334.87	0.00	2334.78	1981691.33	11935714.81	-1412.28
7400.00	91.00	269.6	5372.91	4.47	-2384.86	0.00	2384.77	1981641.34	11935714.47	-1411.41
7450.00	91.00	269.6	5372.04	4.13	-2434.85	0.00	2434.76	1981591.35	11935714.13	-1410.54
7500.00	91.00	269.6	5371.17	3.79	-2484.84	0.00	2484.76	1981541.36	11935713.79	-1409.67
7550.00	91.00	269.6	5370.29	3.45	-2534.83	0.00	2534.75	1981491.37	11935713.45	-1408.79
7600.00	91.00	269.6	5369.42	3.11	-2584.82	0.00	2584.74	1981441.38	11935713.11	-1407.92
7650.00	91.00	269.6	5368.55	2.77	-2634.81	0.00	2634.73	1981391.39	11935712.77	-1407.05
7700.00	91.00	269.6	5367.67	2.43	-2684.80	0.00	2684.73	1981341.40	11935712.43	-1406.17
7750.00	91.00	269.6	5366.80	2.09	-2734.80	0.00	2734.72	1981291.41	11935712.09	-1405.30

Peyote State Com #4HB, Plan 1

Operator	Mack Energy Corp	**Units**	feet, °/100ft	09:37 Monday, July 29, 2024	Page 3 of 4
Field		**County**	Eddy	**Vertical Section Azimuth**	269.61
Well Name	Peyote State Com #4HB	**State**	New Mexico	**Survey Calculation Method**	Minimum Curvature
Plan	1	**Country**	USA	**Database**	Access

Location	SL: 2290 FSL & 741 FWL Section 33-T16S-R31E BHL: 2310 FSL & 1 FWL Section 32-T16S-R31E	**Map Zone**	UTM	**Lat Long Ref**	
Site		**Surface X**	1984026.2	**Surface Long**	
Slot Name	**UWI**	**Surface Y**	11935710	**Surface Lat**	
Well Number	4HB **API**	**Surface Z**	3961.5	**Global Z Ref**	KB
Project	**MD/TVD Ref** KB	**Ground Level**	3944.3	**Local North Ref**	Grid

DIRECTIONAL WELL PLAN

MD*	INC*	AZI*	TVD*	N*	E*	DLS*	V. S.*	MapE*	MapN*	SysTVD*
ft	deg	deg	ft	ft	ft	°/100ft	ft	ft	ft	ft
7800.00	91.00	269.6	5365.93	1.75	-2784.79	0.00	2784.71	1981241.41	11935711.75	-1404.43
7850.00	91.00	269.6	5365.06	1.41	-2834.78	0.00	2834.70	1981191.42	11935711.41	-1403.56
7900.00	91.00	269.6	5364.18	1.07	-2884.77	0.00	2884.69	1981141.43	11935711.07	-1402.68
7950.00	91.00	269.6	5363.31	0.73	-2934.76	0.00	2934.69	1981091.44	11935710.73	-1401.81
8000.00	91.00	269.6	5362.44	0.39	-2984.75	0.00	2984.68	1981041.45	11935710.39	-1400.94
8050.00	91.00	269.6	5361.57	0.05	-3034.74	0.00	3034.67	1980991.46	11935710.05	-1400.07
8100.00	91.00	269.6	5360.69	-0.29	-3084.73	0.00	3084.66	1980941.47	11935709.71	-1399.19
8150.00	91.00	269.6	5359.82	-0.63	-3134.72	0.00	3134.66	1980891.48	11935709.37	-1398.32
8200.00	91.00	269.6	5358.95	-0.97	-3184.72	0.00	3184.65	1980841.48	11935709.03	-1397.45
8250.00	91.00	269.6	5358.08	-1.31	-3234.71	0.00	3234.64	1980791.49	11935708.69	-1396.58
8300.00	91.00	269.6	5357.20	-1.65	-3284.70	0.00	3284.63	1980741.50	11935708.35	-1395.70
8350.00	91.00	269.6	5356.33	-1.99	-3334.69	0.00	3334.63	1980691.51	11935708.01	-1394.83
8400.00	91.00	269.6	5355.46	-2.33	-3384.68	0.00	3384.62	1980641.52	11935707.67	-1393.96
8450.00	91.00	269.6	5354.59	-2.67	-3434.67	0.00	3434.61	1980591.53	11935707.33	-1393.09
8500.00	91.00	269.6	5353.71	-3.01	-3484.66	0.00	3484.60	1980541.54	11935706.99	-1392.21
8550.00	91.00	269.6	5352.84	-3.35	-3534.65	0.00	3534.60	1980491.55	11935706.65	-1391.34
8600.00	91.00	269.6	5351.97	-3.69	-3584.65	0.00	3584.59	1980441.55	11935706.31	-1390.47
8650.00	91.00	269.6	5351.09	-4.03	-3634.64	0.00	3634.58	1980391.56	11935705.97	-1389.59
8700.00	91.00	269.6	5350.22	-4.37	-3684.63	0.00	3684.57	1980341.57	11935705.63	-1388.72
8750.00	91.00	269.6	5349.35	-4.72	-3734.62	0.00	3734.57	1980291.58	11935705.28	-1387.85
8800.00	91.00	269.6	5348.48	-5.06	-3784.61	0.00	3784.56	1980241.59	11935704.94	-1386.98
8850.00	91.00	269.6	5347.60	-5.40	-3834.60	0.00	3834.55	1980191.60	11935704.60	-1386.10
8900.00	91.00	269.6	5346.73	-5.74	-3884.59	0.00	3884.54	1980141.61	11935704.26	-1385.23
8950.00	91.00	269.6	5345.86	-6.08	-3934.58	0.00	3934.53	1980091.62	11935703.92	-1384.36
9000.00	91.00	269.6	5344.99	-6.42	-3984.58	0.00	3984.53	1980041.62	11935703.58	-1383.49
9050.00	91.00	269.6	5344.11	-6.76	-4034.57	0.00	4034.52	1979991.63	11935703.24	-1382.61
9100.00	91.00	269.6	5343.24	-7.10	-4084.56	0.00	4084.51	1979941.64	11935702.90	-1381.74
9150.00	91.00	269.6	5342.37	-7.44	-4134.55	0.00	4134.50	1979891.65	11935702.56	-1380.87
9200.00	91.00	269.6	5341.50	-7.78	-4184.54	0.00	4184.50	1979841.66	11935702.22	-1380.00
9250.00	91.00	269.6	5340.62	-8.12	-4234.53	0.00	4234.49	1979791.67	11935701.88	-1379.12
9300.00	91.00	269.6	5339.75	-8.46	-4284.52	0.00	4284.48	1979741.68	11935701.54	-1378.25
9350.00	91.00	269.6	5338.88	-8.80	-4334.51	0.00	4334.47	1979691.69	11935701.20	-1377.38
9400.00	91.00	269.6	5338.01	-9.14	-4384.51	0.00	4384.47	1979641.69	11935700.86	-1376.51
9450.00	91.00	269.6	5337.13	-9.48	-4434.50	0.00	4434.46	1979591.70	11935700.52	-1375.63
9500.00	91.00	269.6	5336.26	-9.82	-4484.49	0.00	4484.45	1979541.71	11935700.18	-1374.76
9550.00	91.00	269.6	5335.39	-10.16	-4534.48	0.00	4534.44	1979491.72	11935699.84	-1373.89
9600.00	91.00	269.6	5334.52	-10.50	-4584.47	0.00	4584.44	1979441.73	11935699.50	-1373.02

Peyote State Com #4HB, Plan 1

Operator	Mack Energy Corp	**Units**	feet, °/100ft	09:37 Monday, July 29, 2024	Page 4 of 4
Field		**County**	Eddy	**Vertical Section Azimuth**	269.61
Well Name	Peyote State Com #4HB	**State**	New Mexico	**Survey Calculation Method**	Minimum Curvature
Plan	1	**Country**	USA	**Database**	Access

Location	SL: 2290 FSL & 741 FWL Section 33-T16S-R31E BHL: 2310 FSL & 1 FWL Section 32-T16S-R31E	**Map Zone**	UTM	**Lat Long Ref**	
Site		**Surface X**	1984026.2	**Surface Long**	
Slot Name	**UWI**	**Surface Y**	11935710	**Surface Lat**	
Well Number	4HB **API**	**Surface Z**	3961.5	**Global Z Ref**	KB
Project	**MD/TVD Ref** KB	**Ground Level**	3944.3	**Local North Ref**	Grid

DIRECTIONAL WELL PLAN

MD* ft	INC* deg	AZI* deg	TVD* ft	N* ft	E* ft	DLS* °/100ft	V. S.* ft	MapE* ft	MapN* ft	SysTVD* ft
9650.00	91.00	269.6	5333.64	-10.84	-4634.46	0.00	4634.43	1979391.74	11935699.16	-1372.14
9700.00	91.00	269.6	5332.77	-11.18	-4684.45	0.00	4684.42	1979341.75	11935698.82	-1371.27
9750.00	91.00	269.6	5331.90	-11.52	-4734.44	0.00	4734.41	1979291.76	11935698.48	-1370.40
9800.00	91.00	269.6	5331.02	-11.86	-4784.44	0.00	4784.41	1979241.76	11935698.14	-1369.52
9850.00	91.00	269.6	5330.15	-12.20	-4834.43	0.00	4834.40	1979191.77	11935697.80	-1368.65
9900.00	91.00	269.6	5329.28	-12.54	-4884.42	0.00	4884.39	1979141.78	11935697.46	-1367.78
9950.00	91.00	269.6	5328.41	-12.88	-4934.41	0.00	4934.38	1979091.79	11935697.12	-1366.91
10000.00	91.00	269.6	5327.53	-13.22	-4984.40	0.00	4984.37	1979041.80	11935696.78	-1366.03
10050.00	91.00	269.6	5326.66	-13.56	-5034.39	0.00	5034.37	1978991.81	11935696.44	-1365.16
10100.00	91.00	269.6	5325.79	-13.90	-5084.38	0.00	5084.36	1978941.82	11935696.10	-1364.29
10150.00	91.00	269.6	5324.92	-14.24	-5134.37	0.00	5134.35	1978891.83	11935695.76	-1363.42
10200.00	91.00	269.6	5324.04	-14.58	-5184.37	0.00	5184.34	1978841.83	11935695.42	-1362.54
10250.00	91.00	269.6	5323.17	-14.92	-5234.36	0.00	5234.34	1978791.84	11935695.08	-1361.67
10300.00	91.00	269.6	5322.30	-15.26	-5284.35	0.00	5284.33	1978741.85	11935694.74	-1360.80
10350.00	91.00	269.6	5321.43	-15.60	-5334.34	0.00	5334.32	1978691.86	11935694.40	-1359.93
10400.00	91.00	269.6	5320.55	-15.94	-5384.33	0.00	5384.31	1978641.87	11935694.06	-1359.05
10450.00	91.00	269.6	5319.68	-16.28	-5434.32	0.00	5434.31	1978591.88	11935693.72	-1358.18
10500.00	91.00	269.6	5318.81	-16.63	-5484.31	0.00	5484.30	1978541.89	11935693.37	-1357.31
10550.00	91.00	269.6	5317.94	-16.97	-5534.30	0.00	5534.29	1978491.90	11935693.03	-1356.44
10600.00	91.00	269.6	5317.06	-17.31	-5584.29	0.00	5584.28	1978441.91	11935692.69	-1355.56
10650.00	91.00	269.6	5316.19	-17.65	-5634.29	0.00	5634.28	1978391.91	11935692.35	-1354.69
10700.00	91.00	269.6	5315.32	-17.99	-5684.28	0.00	5684.27	1978341.92	11935692.01	-1353.82
10750.00	91.00	269.6	5314.44	-18.33	-5734.27	0.00	5734.26	1978291.93	11935691.67	-1352.94
10800.00	91.00	269.6	5313.57	-18.67	-5784.26	0.00	5784.25	1978241.94	11935691.33	-1352.07
10850.00	91.00	269.6	5312.70	-19.01	-5834.25	0.00	5834.25	1978191.95	11935690.99	-1351.20
10900.00	91.00	269.6	5311.83	-19.35	-5884.24	0.00	5884.24	1978141.96	11935690.65	-1350.33
10950.00	91.00	269.6	5310.95	-19.69	-5934.23	0.00	5934.23	1978091.97	11935690.31	-1349.45
11000.00	91.00	269.6	5310.08	-20.03	-5984.22	0.00	5984.22	1978041.98	11935689.97	-1348.58
*** TD (at MD = 11015.89)										
11015.89	91.00	269.6	5309.80	-20.14	-6000.11	0.00	6000.11	1978026.09	11935689.86	-1348.30

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	MACK ENERGY CORPORATION
WELL NAME & NO.:	PEYOTE B STATE COM 4H
LOCATION:	Section 33, T.16 S., R.31 E., NMP
COUNTY:	Eddy County, New Mexico

COA

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

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated AT SPUD. As a result, the Hydrogen Sulfide area must meet 43 CFR part 3170 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

Primary Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **560 feet** (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. The surface hole shall be **17 1/2** inch in diameter.

    a. If cement does not circulate to the surface, the appropriate BLM office shall

Approval Date: 03/25/2025

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. (This is to include the lead cement)
c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch 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 X 5 inch** production casing is: casing is:

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

Contingency:

Operator has proposed a contingency if air pocket is encountered, a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

   - Cement to surface. If cement does not circulate, contact the appropriate BLM office.

C. PRESSURE CONTROL

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

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

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

D. SPECIAL REQUIREMENT (S)

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 Onshore Order 1 and 2.
- 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.

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)

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

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
    a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
    b. When the operator proposes to set surface casing with Spudder Rig
        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 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR 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.

JS 3/20/2025

Attached to Form 3160-3
Mack Energy Corporation
Peyote State Com #4HB NMLC-0056302B
SHL : 2290 FSL & 741 FWL, NWSW, Sec. 33 T16S R31E
BHL : 2310 FSL & 1 FWL, NWSW, Sec. 32 T16S R31E
Eddy County, NM

Mack Energy Corporation
Onshore Order #6
Hydrogen Sulfide Drilling Operation Plan

I. 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 this well:

1. The hazards an characteristics of hydrogen sulfide (H2S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H2S detectors alarms warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

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

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

There will be an initial training session just prior to encountering a known or probable H2S zone (within 3 days or 500 feet) and weekly H2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H2S Drilling Operations Plan and the Public Protection Plan. **The concentrations of H2S of wells in this area from surface to TD are low enough that a contingency plan is not required.**

II. H2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonable expected to contain H2S.

1. Well Control Equipment:

A. Flare line.
B. Choke manifold.
C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
D. Auxiliary equipment may include if applicable: annular preventer & rotating head.

Attached to Form 3160-3
Mack Energy Corporation
Peyote State Com #4HB NMLC-0056302B
SHL : 2290 FSL & 741 FWL, NWSW, Sec. 33 T16S R31E
BHL : 2310 FSL & 1 FWL, NWSW, Sec. 32 T16S R31E
Eddy County, NM

2. **Protective equipment for essential personnel:**

   A. Mark II Survive air 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

3. **H2S detection and monitoring equipment:**

   A. 1 portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 PPM are reached.

4. **Visual warning systems:**

   A. Wind direction indicators as shown on well site diagram (Exhibit #8).
   B. Caution/Danger signs (Exhibit #7) shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

5. **Mud program:**

   A. The mud program has been designed to minimize the volume of H2S circulated to surface. Proper mud weight, safe drilling practices and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.

6. **Metallurgy:**

   A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
   B. All elastomers used for packing and seals shall be H2S trim.

7. **Communication:**

   A. Radio communications in company vehicles including cellular telephone and 2-way radio.
   B. Land line (telephone) communication at Office.

8. **Well testing:**

   A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H2S environment will use the closed chamber method of testing.

Attached to Form 3160-3
Mack Energy Corporation
Peyote State Com #4HB NMLC-0056302B
SHL : 2290 FSL & 741 FWL, NWSW, Sec. 33 T16S R31E
BHL : 2310 FSL & 1 FWL, NWSW, Sec. 32 T16S R31E
Eddy County, NM

B. There will be no drill stem testing.

EXHIBIT #7

WARNING

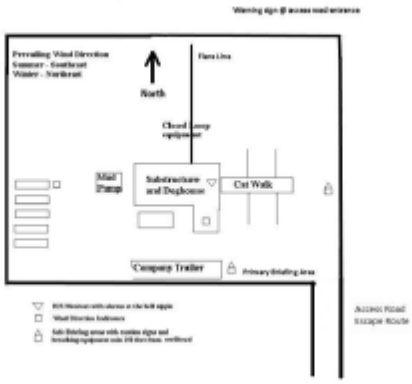
YOU ARE ENTERING AN H2S

AUTHORIZED PERSONNEL ONLY

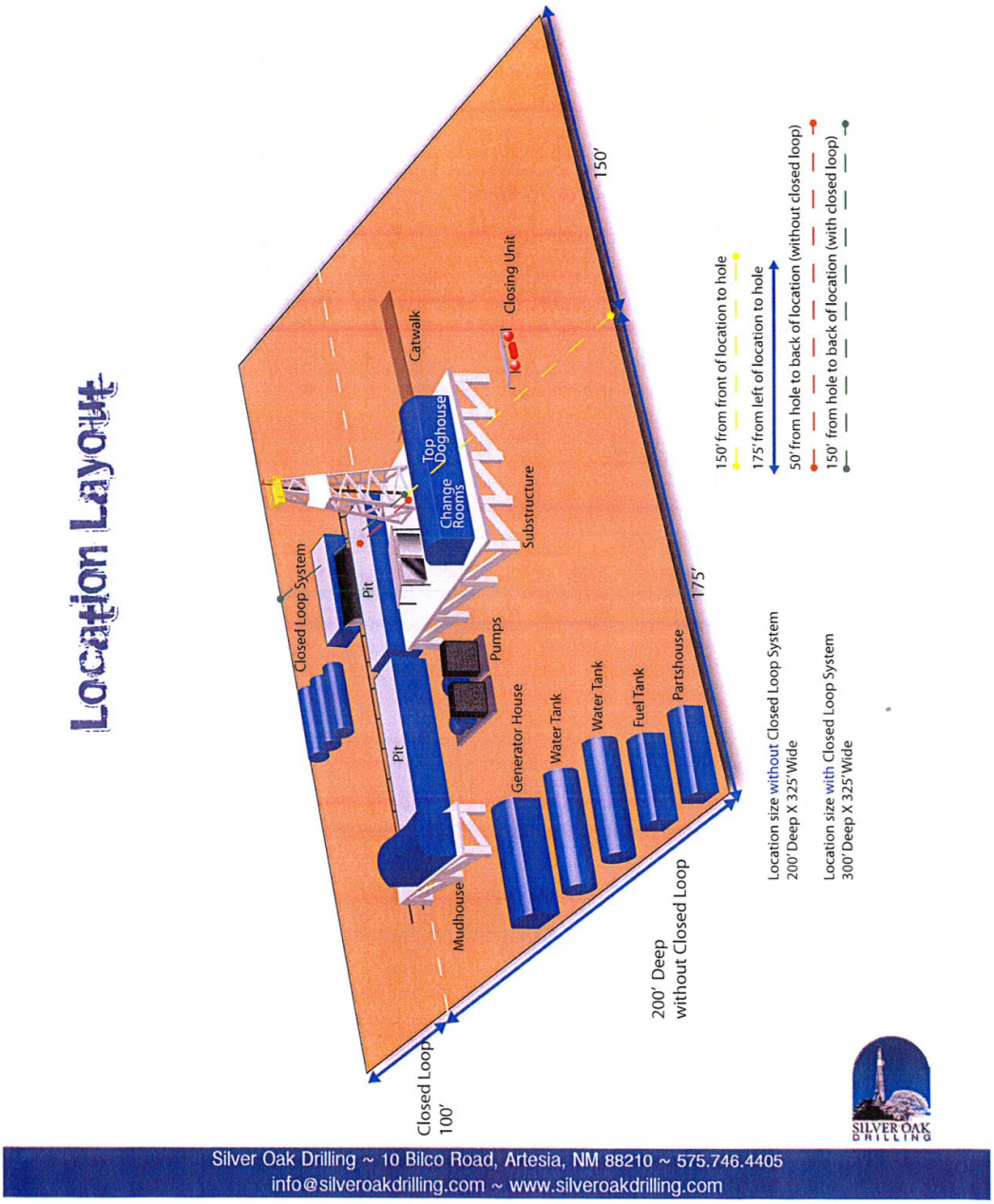
1. **BEARDS OR CONTACT LENSES NOT ALLOWED**
2. **HARD HATS REQUIRED**
3. **SMOKING IN DESIGNATED AREAS ONLY**
4. **BE WIND CONSCIOUS AT ALL TIMES**
5. **CHECK WITH MACK ENERGY FOREMAN AT OFFICE**

MACK ENERGY CORPORATION

1-575-748-1288



DRILLING LOCATION H2S SAFTY EQUIPMENT
Exhibit # 8



Mack Energy Corporation Call List, Eddy County

Artesia (575)	Cellular	Office
Emilio Martinez	432-934-7586	748-1288

Agency Call List (575)

Artesia

State Police……..746-2703
City Police……...746-2703
Sheriff's Office……746-9888
Ambulance……...911
Fire Department……...746-2701
LEPC (Local Emergency Planning Committee……...746-2122
NMOCD……...748-1283
Bureau of Land Management……...627-0272

Carlsbad

State Police……..885-3137
City Police……...885-2111
Sheriff's Office……887-7551
Ambulance……...911
Fire Department……...885-2111
LEPC (Local Emergency Planning Committee……...887-3798
Bureau of Land Management……..887-6544
New Mexico Emergency Respond Commission……(505)476-9690
24 Hour……(505)827-9126
National Emergency Repsonse Center (Washington)….(800)424-8802

Emergency Services

Boots & Coots IWC……..…1-800-256-9688 or (281)931-8884
Cudd pressure Control…….(915)699-0139 or (915)563-3356
Halliburton……..746-2757
Par Five……..748-9539

Flight For Life-Lubbock, TX……..……(806)743-9911
Aerocare-Lubbock, TX……...(806)747-8923
Med Flight Air Amb-Albuquerque, NM…….(505)842-4433
Lifeguard Air Med Svc. Albuquerque, NM……(505)272-3115

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

WELL LOCATION INFORMATION

API Number	Pool Code	Pool Name	
Property Code	Property Name: PEYOTE STATE COM		Well Number: 4HB
OGRID No.: 13837	Operator Name: MACK ENERGY CORPORATION		Ground Level Elevation: 3944.3
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	Longitude	County
L	33	16 S	31 E		2290 SOUTH	741 WEST	32.8771229°N	103.8809234°W	EDDY

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
L	32	16 S	31 E		2310 SOUTH	1 WEST	32.8771718°N	103.8836621°W	EDDY

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
Order Numbers.			Well setbacks are under Common Ownership: ☐Yes ☐No	

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
L	33	16 S	31 E		2290 SOUTH	741 WEST	32.8771229°N	103.8809234°W	EDDY

First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
I	32	16 S	31 E		2310 SOUTH	100 EAST	32.8771718°N	103.8836621°W	EDDY

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
L	32	16 S	31 E		2310 SOUTH	100 WEST	32.8771347°N	103.9002090°W	EDDY

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

OPERATOR CERTIFICATIONS

I hereby certify that the information contained herein is true and complete to the best ofmy 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 run leased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order here to fore 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.

Signature Date

Printed Name

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.

Signature and Seal of Professional Surveyor

FILIMON F. JARAMILLO

CertificateNumber	Dateof Survey
PLS 12797	MAY 3, 2024

SURVEY NO. 10093

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.

AFMSS
U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Drilling Plan Data Report
03/26/2025

APD ID: 10400100441
Submission Date: 09/13/2024
Operator Name: MACK ENERGY CORPORATION
Well Name: PEYOTE B STATE COM
Well Number: 4H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
15275413	RUSTLER	3944	535	535	ALLUVIUM	NONE	N
15275414	TOP OF SALT	3304	640	640	SALT	NONE	N
15275415	BASE OF SALT	2240	1704	1704	SALT	NONE	N
15275416	YATES	2099	1845	1845	SILTSTONE	NATURAL GAS, OIL	N
15275417	SEVEN RIVERS	1679	2265	2265	SILTSTONE	NATURAL GAS, OIL	N
15275418	QUEEN	1204	2740	2740	SILTSTONE	NATURAL GAS, OIL	N
15275419	GRAYBURG	789	3155	3155	DOLOMITE, SILTSTONE	NATURAL GAS	N
15275420	SAN ANDRES	484	3460	3460	DOLOMITE	NATURAL GAS, OIL	N
15275421	GLORIETA	-944	4888	4930	DOLOMITE	NATURAL GAS	N
15275422	PADDOCK	-1030	4974	4990	DOLOMITE	NATURAL GAS, OIL	N
15275423	BLINEBRY	-1236	5180	5321	DOLOMITE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M
Rating Depth: 11016

Equipment: Rotating Head, Mud Gas Separator

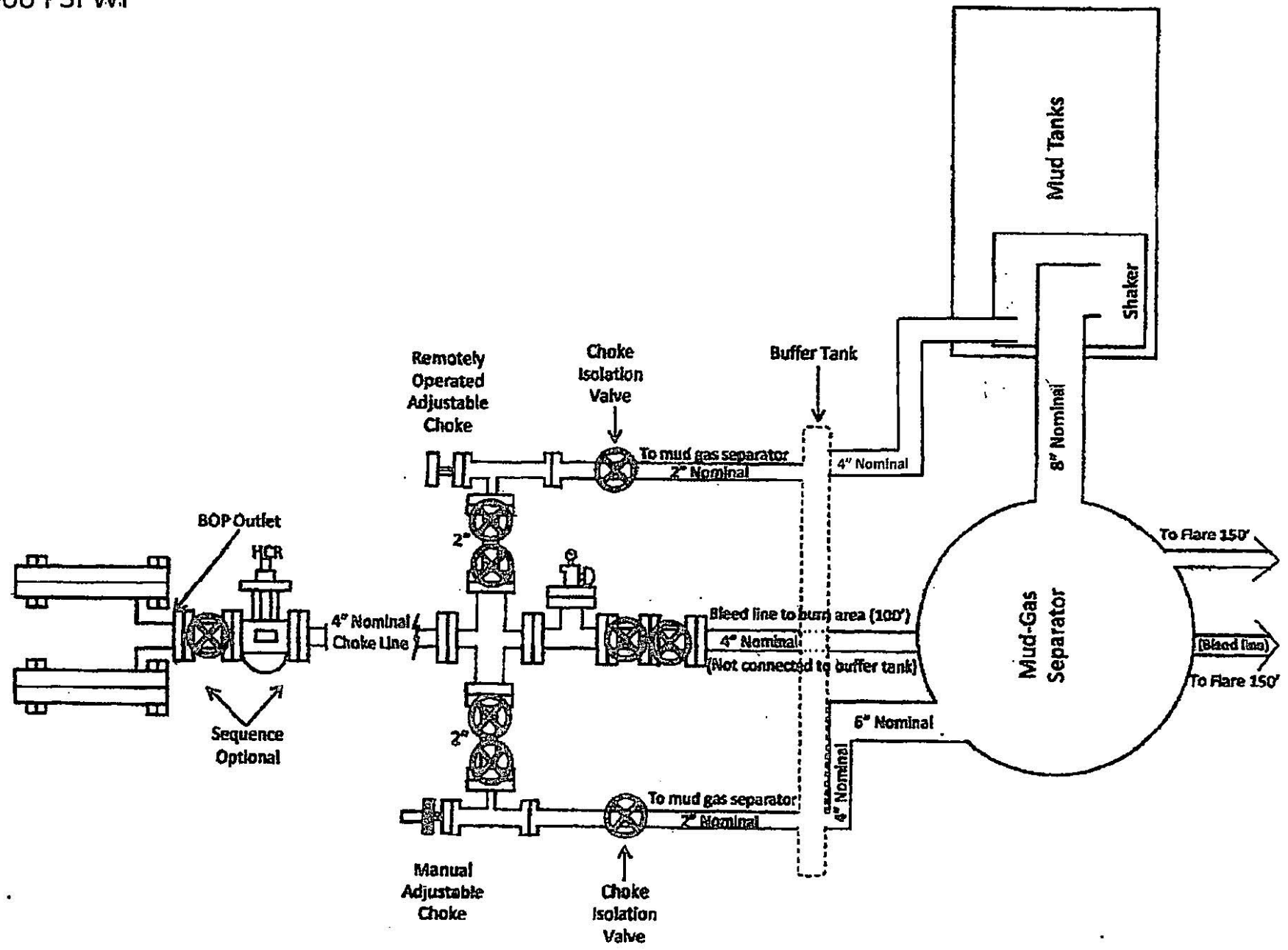
Requesting Variance? NO

Variance request:

Testing Procedure: The BOP/BOPE test shall include a low pressure test from 250 to 2,000psi. 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. The estimated bottom hole at TD is 120 degrees and estimated maximum bottom hole pressure is 2540psig (0.052*5310*9.2ppg)less than 2900 bottom hole pressure.

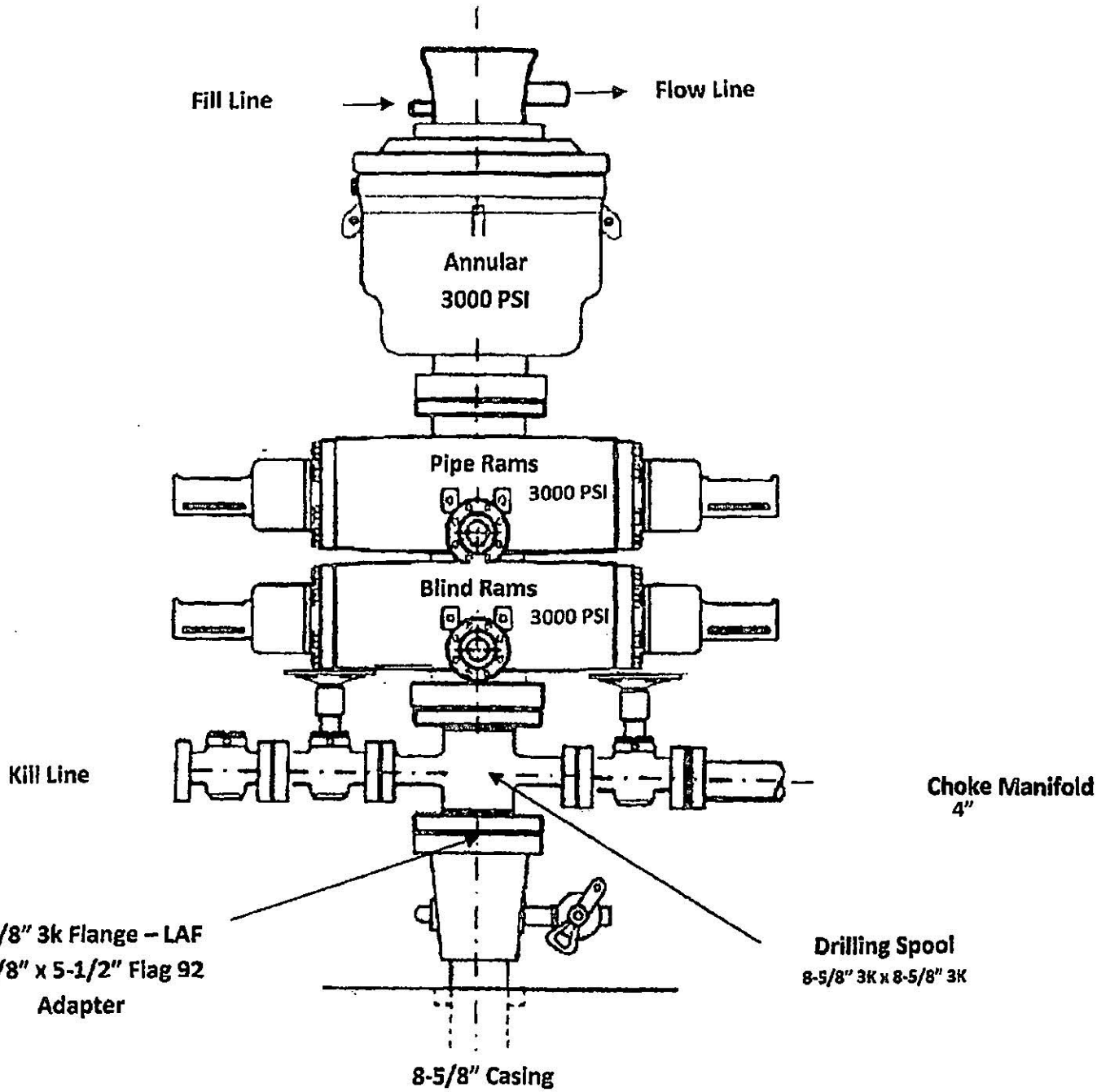
Choke Manifold

3000 PSI WP



BOP Diagram

Dual Ram BOP
3000 PSI WP



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

CONDITIONS

Operator: MACK ENERGY CORP P.O. Box 960 Artesia, NM 882110960	OGRID: 13837
	Action Number: 445739
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
dweaver	Cement is required to circulate on both surface and intermediate1 strings of casing.	3/26/2025
dweaver	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	3/26/2025
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	4/11/2025
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	4/11/2025
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.	4/11/2025
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.	4/11/2025