Well Name: BUCKSKIN FED COM

Well Location: T16S / R17E / SEC 35 / NWSW /

County or Parish/State:

Well Number: 2H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM141395

Unit or CA Name:

Unit or CA Number:

US Well Number: 3001553480

Well Status: Approved Application for Permit to Drill

Operator: MR NM OPERATING LLC

Notice of Intent

Sundry ID: 2718986

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 03/03/2023

Time Sundry Submitted: 05:02

Date proposed operation will begin: 03/20/2023

Procedure Description: As per the conversation between Zota Stevens (BLM engineer) and Joe Young (MR NM Engineer), MR NM Operating, LLC wishes to change their well design from a 3-string to a 2-string with a contingency 3rd string. Please see the attached drill plan for more details.

NOI Attachments

Procedure Description

Buckskin_2H_2string_Well_Design_Sundry_03.03.23_20230303170107.pdf

Conditions of Approval

Additional

Buckskin_Fed_Com_2H_COA_20230421092952.pdf

Well Name: BUCKSKIN FED COM

Well Location: T16S / R17E / SEC 35 / NWSW /

County or Parish/State:

Well Number: 2H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM141395

Unit or CA Name:

Unit or CA Number:

US Well Number: 3001553480

Well Status: Approved Application for Permit to Drill

Operator: MR NM OPERATING LLC

Operator

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: BRIAN WOOD

Signed on: MAR 03, 2023 05:01 PM

Name: MR NM OPERATING LLC

Title: President

Street Address: 37 VERANO LOOP

City: SANTA FE **State:** NM

Phone: (505) 466-8120

Email address: AFMSS@PERMITSWEST.COM

Field

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: cwalls@blm.gov

Disposition: Approved

Disposition Date: 06/28/2023

Signature: Chris Walls

Drilling Plan: Supplement to BLM 3160-3

MR NM Operating LLC (OGRID: 330508)
Buckskin Fed Com 2H
SHL: S 35 T 16S R 27E 2,533' FSL & 777' FWL
Eddy County, NM

1. **Estimated Tops:**

Formation	TVD	MD	Lithologies	Bearing
Yates	188	188	Anhydrite / Dolomitic Anhydrite	Fresh water
Seven Rivers	338	338	Dolomite / Anhydrite	Fresh water, Oil
Queen	738	738	Sandstone	Oil
Grayburg	1,148	1,152	Dolomite/Anhydrite/Shale/Sandstone	Oil
San Andres	1,508	1,522	Dolomite / Anhydrite	Oil
Glorieta	2,933	3,000	Sandy Dolomite	Oil
Yeso	2,978	3,046	Anhydritic Dolomite / Sandstone	Oil
Tubb	4,203	4,319	Anhydritic Dolomite / Sandstone	Oil
Drinkard	4,383	4,506	Anhydritic Dolomite / Sandstone	Oil
Abo	4,938	5,079	Anhydrite / Shale / Dolomite	Oil

2. **Formation Notes:**

The target formation for this well is the Abo.

No other formations are expected to be able to produce oil, gas, or fresh water in measurable quantities.

Surface fresh water sands will be protected by surface casing and circulating cement to surface.

The Rustler Anhydrite does not exist at this location.

3. **Casing and Cement Program:**

MR NM Operating requests the approval of a contingency hole size and casing string if the risk for losses in the upper (above 400') zones is deemed high. If the risk is deemed to be low, MR NM will drill the well as described in the primary hole design described below. However, if the risk is deemed high then the contingency plan will be drilled from spud. If complete losses are encountered near surface (shallower than 400' MD) while drilling the primary hole design, and returns are unable to be regained, the surface hole will be reamed out to a larger diameter and casing and cement designs would be modified as shown in the contingency tables below. Also, should a contingency string be needed, the wellhead would be changed from a conventional two-string design to a multi-bowl design.

Primary Hole and String Design

			Top		Bottom					Min. Design Factors		
String	Hole OD	Casing OD	MD	TVD	MD	TVD	Weight	Grade	Thread	Coll.	Burst	Tens.
Surf.	12 1/4	9 5/8	0	0	1,205	1,200	48.0	H-40	STC	1.125	1.25	1.6
Prod.	8 3/4	5 1/2	0	0	16,373	6,280	17.0	L-80	BTC	1.125	1.25	1.6

Contingency Hole and String Design

			Top		Bottom					Min. Design Factors		
String	Hole OD	Casing OD	MD	TVD	MD	TVD	Weight	Grade	Thread	Coll.	Burst	Tens.
Surf.	17 1/2	13 3/8	0	0	500	500	48.0	H-40	STC	1.125	1.25	1.6
Int.	12 1/4	9 5/8	0	0	1,625	1,613	40.0	J-55	LTC	1.125	1.25	1.6
Prod.	8 3/4	5 1/2	0	0	16,373	6,280	17.0	L-80	BTC	1.125	1.25	1.6

String depths are estimates based on planned formation depths and directional plans. Actual depths will vary due to actual formation tops and well path.

All of the casing strings below the conductor will be pressure tested to the greater of 1,500 psi or Casing string length (ft) x 0.22 psi/ft, but not to exceed 70% of casing burst pressure (minimum internal yield). If a pressure drop of more than 10% is seen in 30 minutes corrective action will be taken.

Primary Cementing Design

String	Type	Slurry Top	Sacks	Weight	Yield	Cu. Ft.	Excess %	Cmt Type	Additives
Surface	Lead	0	244	12.5	2.31	564	100%	Class C	5% Salt + 2% Extender
	Tail	900	143	14.8	1.34	191	100%	Class C	2% Calcium
Prod.	Lead	0	698	11.5	2.8	1,954	35%	50/50 Poz/C	10% Bentonite + 5% Salt + 0.3% Antisettling + 0.1% Retarder
	Tail	5,650	1895	13.2	1.93	3,657	35%	25/75 Poz/C	10% Pumice + 5% Bentonite + 5% Salt + 0.4% Fluid Loss + 0.55% Antisettling + 0.15% Retarder

Contingency String Cementing Design

String	Type	Slurry Top	Sacks	Weight	Yield	Cu. Ft.	Excess %	Cmt Type	Additives
Surface	Lead	0							No Lead Slurry
	Tail	0	518	14.8	1.34	695	100%	Class C	2% Calcium Chloride
Int.	Lead	0	441	12.5	2.17	957	100%	35/65 Poz/C	5% Salt + 5% Strength Enhancer + 4% Bentonite
	Tail	1,300	154	14.8	1.32	204	100%	Class C	Neat
Prod.	Lead	1,325	526	11.5	2.81	1,478	35%	50/50 Poz/C	10% Bentonite + 5% Salt
	Tail	5,650	2631	14.0	1.39	3,657	35%	50/50 Poz/C	5%Salt + 2% Bentonite

4. **Pressure Control:**

A 3M (minimum) BOP system will be used. The minimum blowout prevention equipment (BOPE) shown in Exhibit #1 will consist of a 3,000-psi working pressure double ram BOP with blind ram and pipe ram inserts. A 3,000-psi annular preventer will be placed on top of the double ram BOP. Both units will be hydraulically operated. All BOPE will be tested in accordance with Onshore Oil & Gas Order No. 2.

Prior to drilling out of the surface casing, ram type BOPE and accessory equipment will be tested to 250/3,000 psig and the annular preventer to 250/1,500 psig. All installed casing strings will be tested to the greater of 1,500 psi or Casing string length (ft) x 0.22 psi/ft, but not to exceed 70% of casing burst pressure (minimum internal yield).

BOPE function tests will be performed daily for pipe rams and when drill pipe is out of the hole for blind rams. Function tests will be noted in the daily driller's log.

MR NM requests a variance to use a flexible choke line from the BOP stack to the choke manifold. If flex hose is utilized the company man will have all proper certified paperwork for that hose available on location. Example flex hose specifications shown in Exhibit 2.

5. **Auxiliary Well Control and Monitoring:**

A Kelly cock will be kept in the drill string at all times

A full opening drill pipe stabbing valve with proper drill pipe connections will always be on the rig floor.

H_2S monitoring and detection equipment will be utilized from surface casing point to TD.

6. **Proposed Fluid System:**

During this operation a closed loop system will be utilized.

Anticipated depths and types of fluids are outlined below.

Primary Mud System

Section	Interval Start	Interval TD	Fluid Type	Weight (ppg)	Viscosity (s/qt)	Fluid Loss (cc)
Surface	0	1205	Fresh Water	8.6-8.8	28-32	NC
Production	1205	16373	Cut Brine	8.8-9.4	30-34	NC

Contingency Mud System

Section	Interval Start	Interval TD	Fluid Type	Weight (ppg)	Viscosity (s/qt)	Fluid Loss (cc)
Surf.	0	500	Fresh Water	8.6-8.8	28-32	NC
Int.	500	1,625	Cut Brine	8.8-9.4	30-34	NC
Prod.	1,625	16,373	Cut Brine	8.8-9.4	30-34	NC

An electronic pit volume totalizer (PVT) will be utilized on the rig pits to monitor pit volumes, flow rates, pump pressures, and stroke rates.

Sufficient mud materials will be on location to maintain mud properties and meet minimum loss control and weight increase requirements.

7. **Logging, Coring, and Testing Program:**

Open hole logs are not planned for this well.

No cores, DSTs, or mud logs are planned at this time.

Directional surveys will be run with GR from below surface casing.

8. **Downhole Conditions :**

Estimated BHP at TD : 2,750 psi

Estimated BHT at TD : 140 deg. F

Hydrogen Sulfide is known to exist in this area. H_2S monitoring and detection equipment will be utilized from surface casing point to TD.

Severe lost circulation has been seen between spud and surface casing depth in this area.

9. **Anticipated Start Date and Duration of Operations:**

No construction or drilling operations will begin until BLM has approved APD. Once the pad is constructed, drilling operations are estimated to take 25 days. After production casing has been run, an additional 90 days will be needed to complete well and construct surface facilities and/or lay flow lines to place the well on production.

A variance is requested to utilize a surface rig on this well. The surface rig will drill the surface section, run surface casing, and cement the surface casing in place. If timing does not allow for a surface rig to be used, then the primary rig will drill the entire well.

A variance is requested for the option to batch drill the different hole sections in this well. If a BOPE seal is broken or the BOP moved a full BOPE test will be completed per Onshore Order 2. Prior to moving the rig off of a well, the wellhead will be secured.

10. **Wellhead:**

The primary casing design will utilize a conventional wellhead system.

In the case of the contingency casing design, a multi-bowl wellhead system will be used.

The wellhead system will be installed by vendor's representative. Any required welding will be monitored by vendor's representative.

A BOP system with a minimum working pressure of 3,000 psi will be installed on the wellhead system and will be pressure tested to 250/3,000 psi. The pressure test will be repeated no less than every 30 days per Onshore Order No. 2.

All BOP equipment will be tested utilizing a conventional test plug.

Exhibit 1 – BOPE

MR NM Operating

3,000 psi BOP Equipment

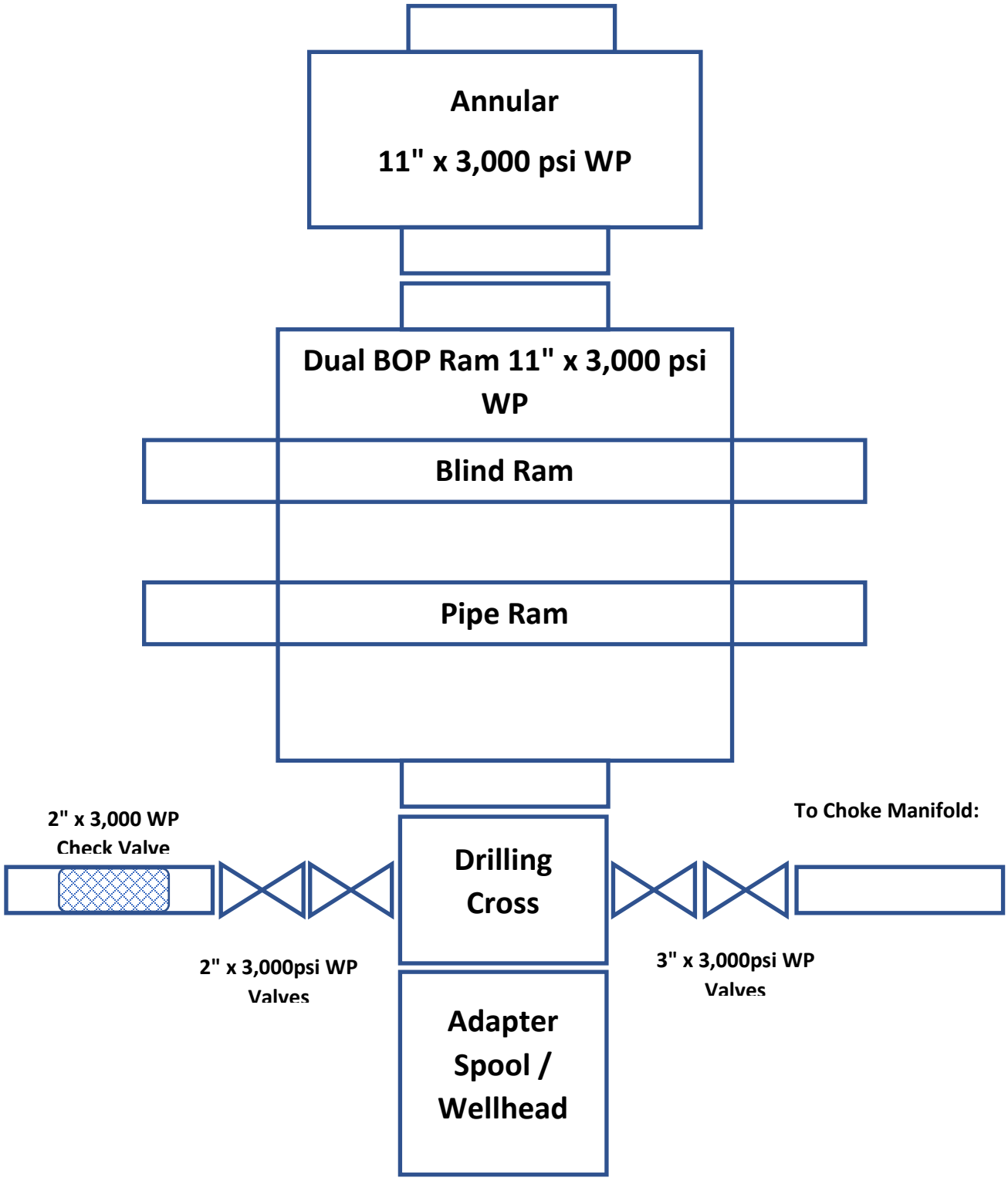


Exhibit 1a – Choke Manifold

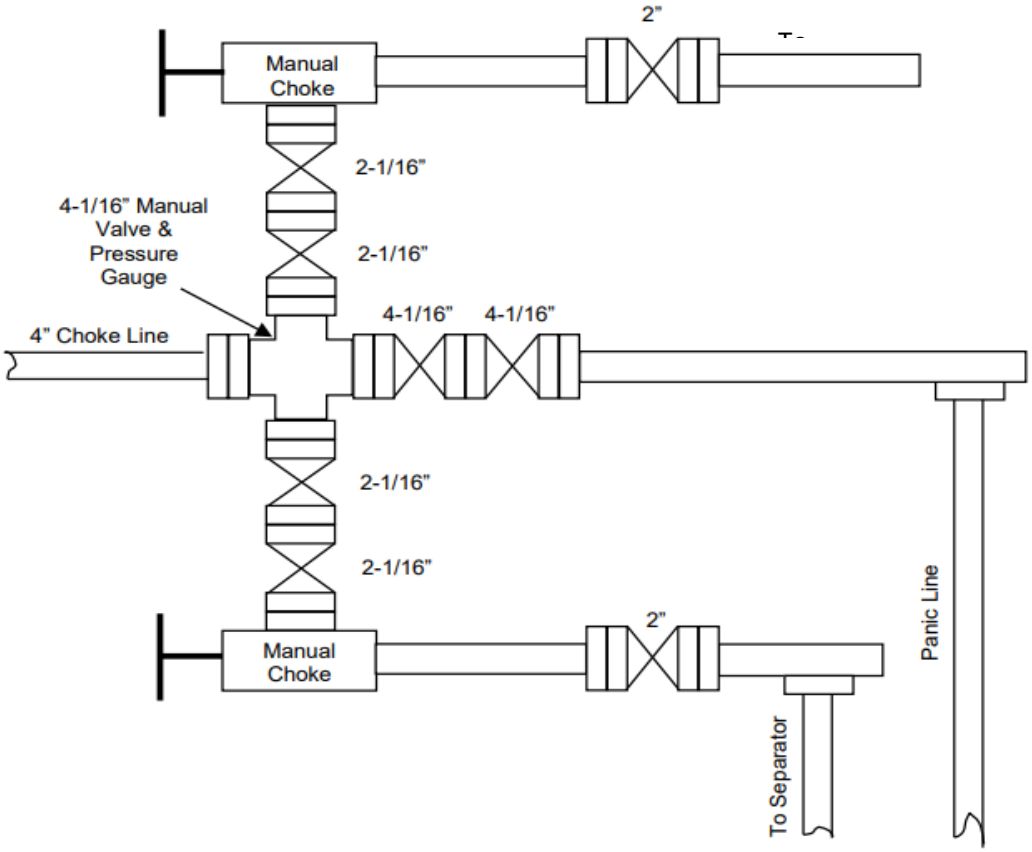


Exhibit 2 – Flex Line for Choke

Continental

ContiTech

CONTITECH RUBBER Industrial Kft.	No: QC-DB-205 / 2015
	Page: 8 / 128

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°:	581	
PURCHASER:	ContiTech Oil & Marine Corp.			P.O. N°:	4500511543	
CONTITECH RUBBER order N°:	540352	HOSE TYPE:	3" ID	Choke and Kill Hose		
HOSE SERIAL N°:	69915	NOMINAL / ACTUAL LENGTH:		10,67 m / 10,76 m		
W.P. 68,9 MPa	10000 psi	T.P. 103,4 MPa	15000 psi	Duration:	60	min.

Pressure test with water at ambient temperature

See attachment. (1 page)

COUPLINGS Type	Serial N°	Quality	Heat N°
3" coupling with	7563 7565	AISI 4130	A0996X
4 1/16" 10K API b.w. Flange end		AISI 4130	036282

NOT DESIGNED FOR WELL TESTING **API Spec 16 C**

Temperature rate:"B"

All metal parts are flawless

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

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

COUNTRY OF ORIGIN HUNGARY/EU

Date:	Inspector	Quality Control
18. March 2015.		ContiTech Rubber Industrial Kft. Quality Control Dept. (3)

ContiTech Rubber Industrial Kft. | Budapesti út 10. H-6728 Szeged | H-6701 P.O.Box 152 Szeged, Hungary
Phone: +36 62 566 737 | Fax: +36 62 566 738 | e-mail: info@fluid.contitech.hu | Internet: www.contitech-rubber.hu; www.contitech.hu
The Court of Csongrád County as Registry Court | Registry Court No: Cg.06-09-002502 | EU VAT No: HU11087209
Bank data Commerzbank Zrt., Budapest | 14220108-26830003

Choke Hose

AustinHOSE

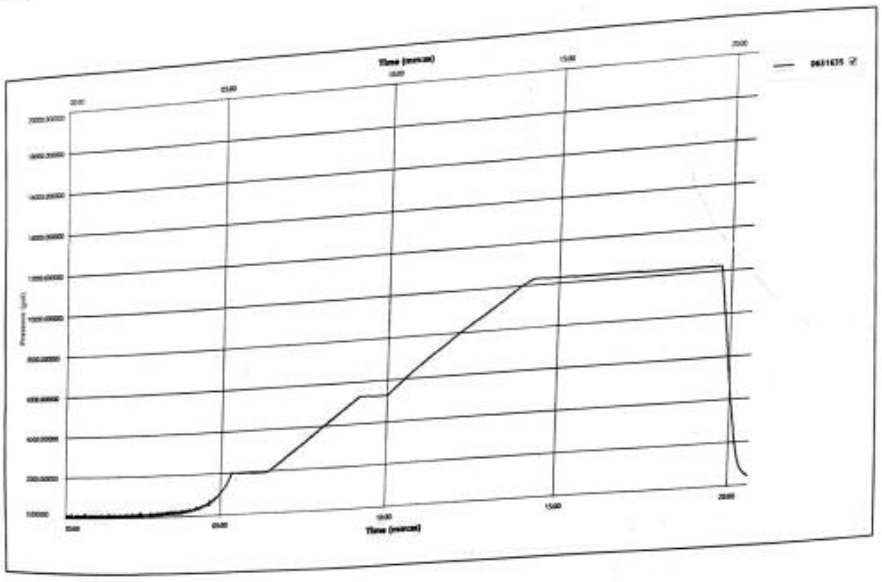
14210 W
Hwy 80 E
Odessa, TX 79765

www.austinhose.com
432.333.3619

Pressure Test Certificate

Test Object Identification

Customer:	ENSIGN 436 4 1/16-	**Test Date:**	02/10/2022 16:27:35
Part No:	CHOKELINE-10K PSI	**Test Engineer:**	BILLY J JENKINS
Serial No:	OD-021022-02		



Test Engineer: BILLY J JENKINS **Signature:** _____

Witness: _____ **Signature:** _____

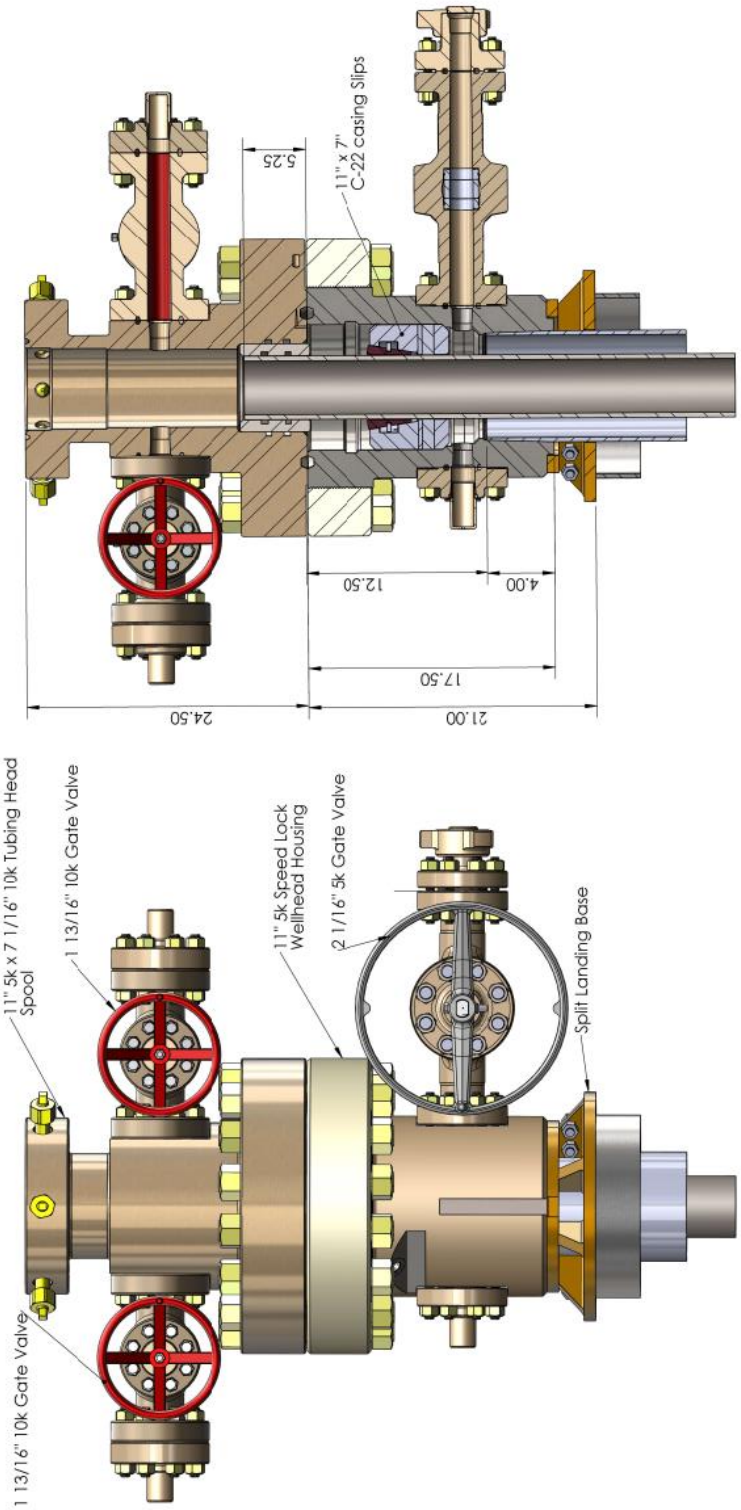
Exhibit 3 – Example Wellheads

Primary Casing Design

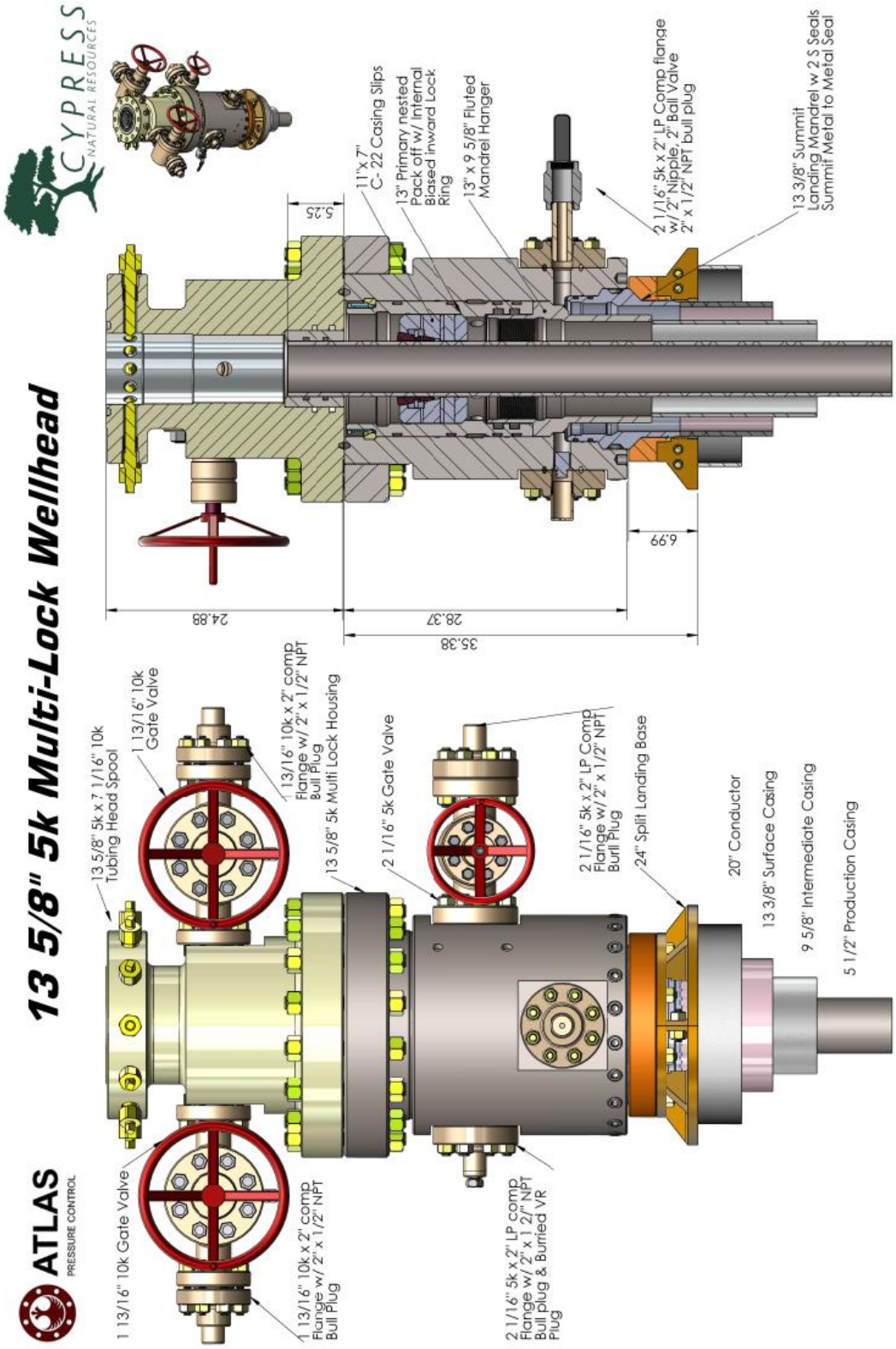
CYPRESS NATURAL RESOURCES

11" 5k Conventional Wellhead System
9 5/8" x 7" Casing
Q-10247

ATLAS PRESSURE CONTROL



Contingency Casing Design



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

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

CONDITIONS

Action 234011

CONDITIONS

Operator: MR NM Operating LLC 5950 Berkshire Lane Dallas, TX 75225	OGRID: 330506
	Action Number: 234011
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
dmcclure	APD COAs still apply	6/28/2023
dmcclure	If intermediate casing is not ran, then cement shall be returned to surface for the production casing.	6/28/2023