Form 3160-3 (June 2015)				FORM APPF OMB No. 100 Expires: January	04-0137		
UNITED STATES DEPARTMENT OF THE II BUREAU OF LAND MANA	NTERIOR			5. Lease Serial No. NMNM119276			
APPLICATION FOR PERMIT TO D	RILL OR I	REENTER		6. If Indian, Allotee or Tribe Name			
1a. Type of work: DRILL R	EENTER			7. If Unit or CA Agreeme	ent, Name and No.		
	ther ngle Zone	Multiple Zone		8. Lease Name and Well MODELO 10 FED COM	L J		
2. Name of Operator EOG RESOURCES, INCORPORATED [7377]				9. API Well No. 30-025-5	52014		
3a. Address 1111 BAGBY SLY LOBBY 2. HOUSTON TX 77002	3b. Phone N (713) 651-7	o. (include area code 000	e)	10. Field and Pool, or ExTRISTE DRAW; BONE			
4. Location of Well (Report location clearly and in accordance v	with any State	requirements.*)		11. Sec., T. R. M. or Blk.	and Survey or Area		
At surface NENE 565' FNL/1207 FEL LAT 32.2378224 At proposed prod. zone	/LONG -103	.6578594		10-24S-32E			
14. Distance in miles and direction from nearest town or post offi	ice*			12. County or Parish LEA	13. State NM		
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	res in lease		17. Spacing Unit dedicated to this well 1000				
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed 9,742/17,39	•	20. BLM/ NM2308	BLM/BIA Bond No. in file //2308			
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3640'	22. Approxii 9/21/2023	mate date work will	start*	23. Estimated duration 25 DAYS			
	24. Attac	hments					
The following, completed in accordance with the requirements of (as applicable)	f Onshore Oil	and Gas Order No. 1	, and the H	Hydraulic Fracturing rule pe	er 43 CFR 3162.3-3		
 Well plat certified by a registered surveyor. A Drilling Plan. 		4. Bond to cover th Item 20 above).	e operation	s unless covered by an exis	ting bond on file (see		
3. A Surface Use Plan (if the location is on National Forest System SUPO must be filed with the appropriate Forest Service Office		5. Operator certific 6. Such other site sp BLM.		mation and/or plans as may	be requested by the		
25. Signature Star L Harrell		(Printed/Typed) L HARRELL		Date 9/2	1/2023		
Title Sr Regulatory Specialist	'			,			
Approved by (Signature) CHRISTOPHER WALLS Digitally signed by CHR Date: 2023.09.25 12:13:	RISTOPHERWAI	(Pgrinted/Typed)		Date			
Title Sup PE	Office			,			
Application approval does not warrant or certify that the applicar applicant to conduct operations thereon. Conditions of approval, if any, are attached.	nt holds legal o	or equitable title to the	nose rights	in the subject lease which v	would entitle the		
	anko it o omir	for any name I	wingly or 1	willfully to make to are- 1	anartment or access		
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, n of the United States any false, fictitious or fraudulent statements					epartment or agency		

KZ 09/25/2023

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

INSTRUCTIONS

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

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

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

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

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

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

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

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

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

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

(Form 3160-3, page 2)

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-0161 Fast: (575) 393-0720
DISTRICT II
811 S. First St., Artesin, NM 88210
Phone: (575) 748-1283 Fast: (575) 748-9720
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone: (505) 334-6178 Fast: (505) 334-6170
DISTRICT IV
1220 S. St. Framis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

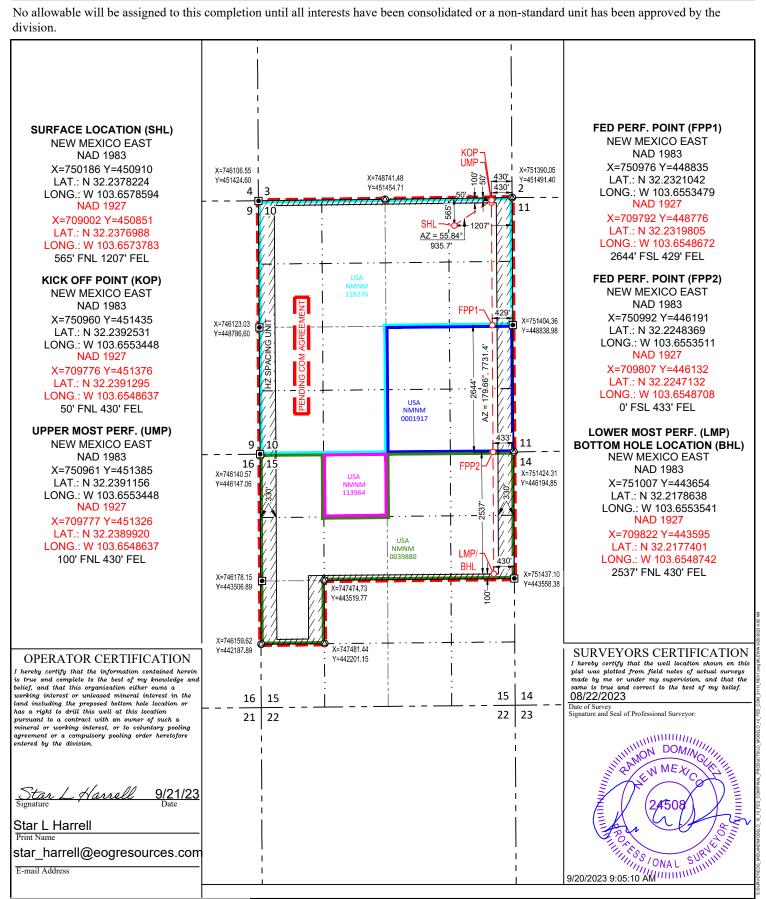
State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

	PI Number	:0044	l l	Pool Code 96603		Tris	Pool Name te Draw; Bone S	Spring			
3	30-025-5	2014		30003							
Property Coo					Property Name			Well Num	lber		
325486	;		MODELO 10 FED COM								
OGRID N	lo.				Operator Name			Elevatio	on		
7377	7			EC	G RESOURC	ES, INC.		36	40'		
					Surface Location	on					
UL or lot no.	Section	Townsh	ip Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County		
Α	10	24-9	32-E	-	565'	NORTH	1207'	EAST	LEA		
		-	Bottom Ho	le Locatio	n If Different I	From Surface	-				
UL or lot no.	Section	Townsh	ip Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County		
Н	15	24-9	32-E	32-E - 2537' NORTH 430' EAST LEA							
Dedicated Acres	Joint or I	nfill	Consolidated Code	onsolidated Code Order No.							
1000.00				PENDING COM AGREEMENT							





Revised Permit Information 08/01/2023:

Well Name: Modelo 10 Fed Com 311H

Location: SHL: 565' FNL & 1207' FEL, Section 10, T-24-S, R-32-E, Lea Co., N.M.

BHL: 2537' FNL & 430' FEL, Section 15, T-24-S, R-32-E, Lea Co., N.M.

Casing Program A:

Hole	Interv	al MD	Interva	Interval TVD				
Size	From (ft)	To (ft)	From (ft)	To (ft)	OD	Weight	Grade	Conn
16"	0	1,000	0	1,000	13-3/8"	54.5#	J-55	STC
11"	0	4,676	0	4,590	9-5/8"	40#	J-55	LTC
6-3/4"	0	17,399	0	9,742	5-1/2"	17#	HCP-110	LTC

Variance is requested to waive the centralizer requirements for the 9-5/8" casing in the 11" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 11" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive any centralizer requirements for the 5-1/2" casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

EOG requests permission to allow deviation from the 0.422" annulus clearance requirement for the intermediate (salt) section from Onshore Order #2 under the following conditions:

- The variance is not applicable within the Potash Boundaries or Capitan Reef areas.
- Operator takes responsibility to get casing to set point in the event that the clearance causes stuck pipe issues.

Cementing Program:

Ctin	mung rrog	51 am.		
Depth	No. Sacks	Wt.	Yld Ft3/sk	Slurry Description
1,000' 13-3/8"	260	13.5	1.73	Lead: Class C + 4.0% Bentonite Gel + 0.5% CaCl2 + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	160	14.8	1.34	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 800')
4,590' 9-5/8"	430	12.7	2.22	Lead: Class C + 10% NaCl + 6% Bentonite Gel + 3% MagOx (TOC @ Surface)
	90	14.8	1.32	Tail: Class C + 10% NaCL + 3% MagOx (TOC @ 3,670')
17,399' 5-1/2"	290	10.5	3.21	Lead: Class H + 0.4% Halad-344 + 0.35% HR-601 + 3% Microbond (TOC @ 4,090')
	570	13.2	1.52	Tail: Class H + 5% NEX-020 + 0.2% NAC-102 + 0.15% NAS-725 + 0.5% NFL-549 + 0.2% NFP-703 + 1% NBE-737 + 0.3% NRT-241 (TOC @ 9350')



Additive	Purpose
Bentonite Gel	Lightweight/Lost circulation prevention
Calcium Chloride	Accelerator
Cello-flake	Lost circulation prevention
Sodium Metasilicate	Accelerator
MagOx	Expansive agent
Pre-Mag-M	Expansive agent
Sodium Chloride	Accelerator
FL-62	Fluid loss control
Halad-344	Fluid loss control
Halad-9	Fluid loss control
HR-601	Retarder
Microbond	Expansive Agent

Note: Cement volumes based on bit size plus at least 25% excess in the open hole plus 10% excess in the cased-hole overlap section.

Mud Program:

Depth (TVD)	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,000'	Fresh - Gel	8.6-8.8	28-34	N/c
1,000' – 4,590'	Brine	8.6-8.8	28-34	N/c
4,590' – 17,399'	Oil Base	8.8-9.5	58-68	N/c - 6



TUBING REQUIREMENTS

EOG respectively requests an exception to the following NMOCD rule:

• 19.15.16.10 Casing AND TUBING RQUIREMENTS:

J (3): "The operator shall set tubing as near the bottom as practical and tubing perforations shall not be more than 250 feet above top of pay zone."

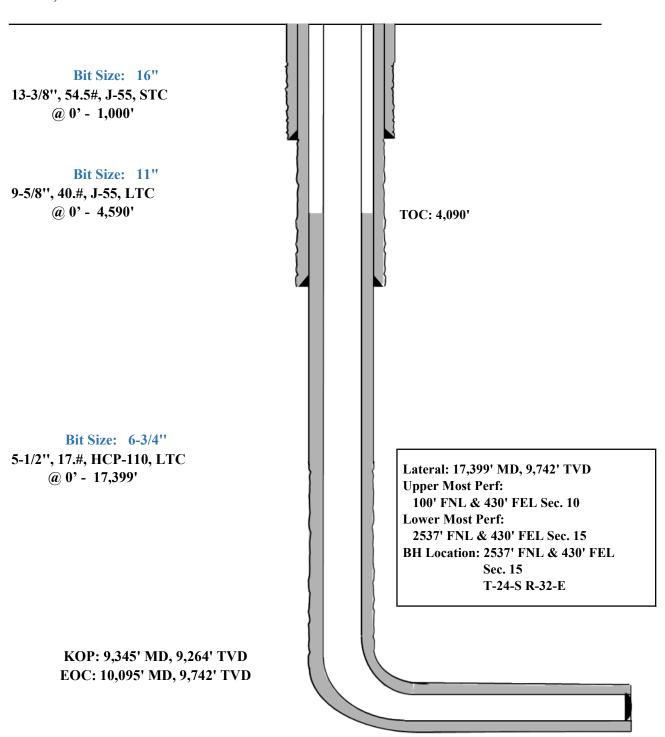
With horizontal flowing and gas lifted wells an end of tubing depth placed at or slightly above KOP is a conservative way to ensure the tubing stays clean from debris, plugging, and allows for fewer well interventions post offset completion. The deeper the tubulars are run into the curve, the higher the probability is that the tubing will become stuck in sand and or well debris as the well produces over time. An additional consideration for EOT placement during artificial lift installations is avoiding the high dog leg severity and inclinations found in the curve section of the wellbore to help improve reliability and performance. Dog leg severity and inclinations tend not to hamper gas lifted or flowing wells, but they do effect other forms of artificial lift like rod pump or ESP (electric submersible pump). Keeping the EOT above KOP is an industry best practice for those respective forms of artificial lift.



565' FNL Revised Wellbore A: KB: 3665' 1207' FEL GL: 3640'

Section 10

T-24-S, R-32-E API: 30-025-****





Revised Permit Information 08/01/2023:

Well Name: Modelo 10 Fed Com 311H

Location: SHL: 565' FNL & 1207' FEL, Section 10, T-24-S, R-32-E, Lea Co., N.M.

BHL: 2537' FNL & 430' FEL, Section 15, T-24-S, R-32-E, Lea Co., N.M.

Casing Program B:

Hole	Interv	al MD	Interval TVD		Csg			
Size	From (ft)	To (ft)	From (ft)	To (ft)	OD	Weight	Grade	Conn
13-1/2"	0	1,000	0	1,000	10-3/4"	40.5#	J-55	STC
9-7/8"	0	4,085	0	4,000	8-5/8"	32#	J-55	BTC-SC
9-7/8"	4,085	4,675	4,000	4,590	8-5/8"	32#	P110-EC	BTC-SC
6-3/4"	0	17,399	0	9,742	5-1/2"	17#	HCP-110	LTC

Cementing Program:

Depth	No. Sacks	Wt.	Yld Ft3/sk	Slurry Description
1,000'	340	13.5	1.73	Lead: Class C + 4.0% Bentonite Gel + 0.5% CaCl2 + 0.25 lb/sk Cello- Flake (TOC @ Surface)
	110	14.8	1.34	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 800')
4,590' 8-5/8"	310	12.7	2.22	Lead: Class C + 10% NaCl + 6% Bentonite Gel + 3% MagOx (TOC @ Surface)
	100	14.8	1.32	Tail: Class C + 10% NaCL + 3% MagOx (TOC @ 3,670')
17,399' 5-1/2"	540	10.5	3.21	Lead: Class H + 0.4% Halad-344 + 0.35% HR-601 + 3% Microbond (TOC @ 4,090')
	590	13.2	1.52	Tail: Class H + 5% NEX-020 + 0.2% NAC-102 + 0.15% NAS-725 + 0.5% NFL-549 + 0.2% NFP-703 + 1% NBE-737 + 0.3% NRT-241 (TOC @ 9350')



Variance is requested to waive the centralizer requirements for the 8-5/8" casing in the 9-7/8" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 9-7/8" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive any centralizer requirements for the 5-1/2" casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

EOG requests permission to allow deviation from the 0.422" annulus clearance requirement for the intermediate (salt) section from Onshore Order #2 under the following conditions:

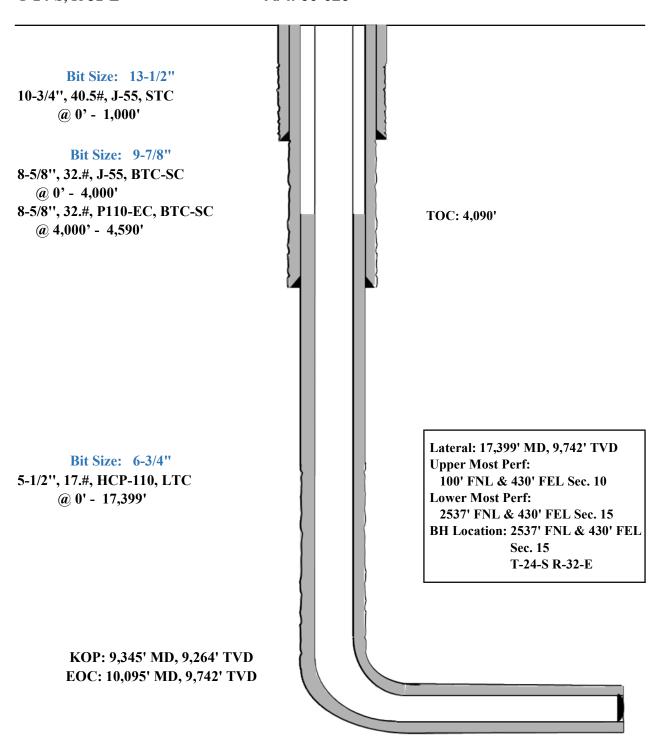
- The variance is not applicable within the Potash Boundaries or Capitan Reef areas.
- Operator takes responsibility to get casing to set point in the event that the clearance causes stuck pipe issues.



565' Revised Wellbore B: KB: 3665' 1207' GL: 3640'

Section 10

T-24-S, R-32-E API: 30-025-*****





GEOLOGIC NAME OF SURFACE FORMATION:

Permian

ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	896'
Tamarisk Anhydrite	977'
Top of Salt	1,208'
Base of Salt	4,491'
Lamar	4,643'
Bell Canyon	4,682'
Cherry Canyon	5,574'
Brushy Canyon	6,933'
Bone Spring Lime	8,559'
Leonard (Avalon) Shale	8,680'
1st Bone Spring Sand	9,678'
2nd Bone Spring Shale	9,887'
2nd Bone Spring Sand	10,250'
3rd Bone Spring Carb	10,721'
3rd Bone Spring Sand	11,302'
Wolfcamp	11,791'
TD	9,742'

ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:

Upper Permian Sands	0- 400'	Fresh Wate
Bell Canyon	4,682'	Oil
Cherry Canyon	5,574'	Oil
Brushy Canyon	6,933'	Oil
Leonard (Avalon) Shale	8,680'	Oil
1st Bone Spring Sand	9,678'	Oil
2nd Bone Spring Shale	9,887'	Oil
2nd Bone Spring Sand	10,250'	Oil



Midland

Lea County, NM (NAD 83 NME) Modelo 10 Fed Com #311H 75973 OH

Plan: Plan #0.1 RT

Standard Planning Report

20 September, 2023



Planning Report

PEDM Database: Company:

Midland

Project: Lea County, NM (NAD 83 NME)

Modelo 10 Fed Com Site: Well: #311H

Wellbore: OH Plan #0.1 RT Design:

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well #311H

KB = 25' @ 3667.0usft (Patterson 885) KB = 25' @ 3667.0usft (Patterson 885)

Minimum Curvature

Project Lea County, NM (NAD 83 NME)

US State Plane 1983 Map System: North American Datum 1983 Geo Datum: New Mexico Eastern Zone Map Zone:

System Datum:

Mean Sea Level

Modelo 10 Fed Com Site

Northing: 451,286.00 usft Site Position: Latitude: 32.2388418°N From: Мар Easting: 750,991.00 usft Longitude: 103.6552489°W

Position Uncertainty: 0.0 usft Slot Radius: 13-3/16 "

Well #311H

Well Position +N/-S 0.0 usft Northing: 450,910.00 usft Latitude: 32.2378222°N +E/-W 0.0 usft Easting: 750,186.00 usft Longitude: 103.6578600°W

Position Uncertainty 0.0 usft Wellhead Elevation: usft **Ground Level:** 3,642.0 usft

0.36 **Grid Convergence:**

ОН Wellbore

Declination Magnetics **Model Name** Sample Date Dip Angle Field Strength (°) (°) (nT) 47,252.59072331 IGRF2020 10/1/2023 6.32 59.82

Plan #0.1 RT Design

Audit Notes:

PROTOTYPE Tie On Depth: 0.0 Version: Phase:

Vertical Section: Depth From (TVD) +N/-S +E/-W Direction (usft) (usft) (usft) (°) 173.54 0.0 0.0 0.0

Plan Survey Tool Program Date 9/20/2023

Depth From Depth To

(usft) (usft) Survey (Wellbore) **Tool Name** Remarks

17,398.7 Plan #0.1 RT (OH) EOG MWD+IFR1 0.0

MWD + IFR1



Planning Report

Database: PEDM Company: Midland

Project: Lea County, NM (NAD 83 NME)

Site: Modelo 10 Fed Com

Well: #311H Wellbore: OH

Design: Plan #0.1 RT

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well #311H

KB = 25' @ 3667.0usft (Patterson 885) KB = 25' @ 3667.0usft (Patterson 885)

Grid

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,208.0	0.00	0.00	1,208.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,716.3	10.17	55.85	1,713.7	25.3	37.2	2.00	2.00	0.00	55.85	
6,505.2	10.17	55.85	6,427.3	499.7	736.8	0.00	0.00	0.00	0.00	
7,013.5	0.00	0.01	6,933.0	525.0	774.0	2.00	-2.00	0.00	180.00	
9,345.0	0.00	0.01	9,264.5	525.0	774.0	0.00	0.00	0.00	0.00	KOP (Modelo 10 FC
9,565.5	26.46	178.85	9,477.2	475.0	775.0	12.00	12.00	81.13	178.85	FTP (Modelo 10 FC #
10,095.0	90.00	179.71	9,741.9	47.6	779.1	12.00	12.00	0.16	0.95	
12,217.6	90.00	179.71	9,742.0	-2,075.0	790.0	0.00	0.00	0.00	0.00	FPP1 (Modelo 10 FC
14,861.6	90.00	179.60	9,742.0	-4,719.0	806.0	0.00	0.00	0.00	-87.70	FPP2 (Modelo 10 FC
17,398.7	90.00	179.72	9,742.0	-7,256.0	821.0	0.00	0.00	0.00	92.01	LMP/BHL (Modelo 10

eog resources

Planning Report

Database: PEDM Company: Midland

Project: Lea County, NM (NAD 83 NME)

Site: Modelo 10 Fed Com

 Well:
 #311H

 Wellbore:
 OH

 Design:
 Plan #0.1 RT

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well #311H

KB = 25' @ 3667.0usft (Patterson 885) KB = 25' @ 3667.0usft (Patterson 885)

Grid

sigii.	Fiail #0.1 IXI								
anned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,208.0	0.00	0.00	1,208.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	1.84	55.85	1,300.0	8.0	1.2	-0.7	2.00	2.00	0.00
1,400.0	3.84	55.85	1,399.9	3.6	5.3	-3.0	2.00	2.00	0.00
1,500.0	5.84	55.85	1,499.5	8.3	12.3	-6.9	2.00	2.00	0.00
1,600.0	7.84	55.85	1,598.8	15.0	22.2	-12.4	2.00	2.00	0.00
1,700.0	9.84	55.85	1,697.6	23.7	34.9	-19.6	2.00	2.00	0.00
1,716.3	10.17	55.85	1,713.7	25.3	37.2	-20.9	2.00	2.00	0.00
1,800.0	10.17	55.85	1,796.0	33.5	49.4	-27.8	0.00	0.00	0.00
1,900.0	10.17	55.85	1,894.5	43.4	64.1	-36.0	0.00	0.00	0.00
2,000.0	10.17	55.85	1,992.9	53.4	78.7	-44.2	0.00	0.00	0.00
2,100.0	10.17	55.85	2,091.3	63.3	93.3	-52.4	0.00	0.00	0.00
			,						
2,200.0	10.17	55.85	2,189.7	73.2	107.9	-60.6	0.00	0.00	0.00
2,300.0	10.17	55.85	2,288.2	83.1	122.5	-68.8	0.00	0.00	0.00
2,400.0	10.17	55.85	2,386.6	93.0	137.1	-77.0	0.00	0.00	0.00
2,500.0	10.17	55.85	2,485.0	102.9	151.7	-85.2	0.00	0.00	0.00
		55.85				-93.4			
2,600.0	10.17		2,583.5	112.8	166.3		0.00	0.00	0.00
2,700.0	10.17	55.85	2,681.9	122.7	180.9	-101.6	0.00	0.00	0.00
2,800.0	10.17	55.85	2,780.3	132.6	195.5	-109.8	0.00	0.00	0.00
2,900.0	10.17	55.85	2,878.8	142.5	210.1	-118.0	0.00	0.00	0.00
3,000.0	10.17	55.85	2,977.2	152.4	224.7	-126.2	0.00	0.00	0.00
3,100.0	10.17	55.85	3,075.6	162.3	239.3	-134.4	0.00	0.00	0.00
3,200.0	10.17	55.85	3,174.0	172.3	254.0	-142.6	0.00	0.00	0.00
3,300.0	10.17	55.85	3,272.5	182.2	268.6	-150.8	0.00	0.00	0.00
3,400.0	10.17	55.85	3,370.9	192.1	283.2	-159.0	0.00	0.00	0.00
3,500.0	10.17	55.85	3,469.3	202.0	297.8	-167.2	0.00	0.00	0.00
3,600.0	10.17	55.85	3,567.8	211.9	312.4	-175.4	0.00	0.00	0.00
3,700.0	10.17	55.85	3,666.2	221.8	327.0	-183.6	0.00	0.00	0.00
3,800.0	10.17	55.85	3,764.6	231.7	341.6	-191.8	0.00	0.00	0.00
3,900.0	10.17	55.85	3,863.0	241.6	356.2	-200.0	0.00	0.00	0.00
4,000.0	10.17	55.85	3,961.5	251.5	370.8	-208.2	0.00	0.00	0.00
4,100.0	10.17	55.85	4,059.9	261.4	385.4	-216.4	0.00	0.00	0.00
4,200.0	10.17	55.85	4,158.3	271.3	400.0	-224.6	0.00	0.00	0.00
4,300.0	10.17	55.85	4,256.8	281.3	414.6	-232.8	0.00	0.00	0.00
4,400.0	10.17	55.85	4,355.2	291.2	429.3	-241.1	0.00	0.00	0.00
4,500.0	10.17	55.85	4,453.6	301.1	443.9	-249.3	0.00	0.00	0.00
4,600.0	10.17	55.85	4,552.1	311.0	458.5	-257.5	0.00	0.00	0.00
4,700.0	10.17	55.85	4,650.5	320.9	473.1	-265.7	0.00	0.00	0.00
4,800.0	10.17	55.85	4,748.9	330.8	487.7	-273.9	0.00	0.00	0.00
4,900.0	10.17	55.85	4,847.3	340.7	502.3	-282.1	0.00	0.00	0.00
5,000.0	10.17	55.85	4,945.8	350.6	516.9	-290.3	0.00	0.00	0.00
5,100.0	10.17	55.85	5,044.2	360.5	531.5	-298.5	0.00	0.00	0.00
5,100.0	10.17	55.85	5,142.6	370.4	546.1	-306.7	0.00	0.00	0.00

eog resources

Planning Report

Database: Company:

Project:

PEDM Midland

Lea County, NM (NAD 83 NME)

Site: Modelo 10 Fed Com

Well: #311H Wellbore: 0H

Design: Plan #0.1 RT

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well #311H

KB = 25' @ 3667.0usft (Patterson 885) KB = 25' @ 3667.0usft (Patterson 885)

C=:4

n:	Plati #0.1 KT								
ned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,300.0	10.17	55.85	5,241.1	380.3	560.7	-314.9	0.00	0.00	0.00
5,400.0	10.17	55.85	5,339.5	390.2	575.3	-323.1	0.00	0.00	0.00
5,500.0	10.17	55.85	5,437.9	400.2	589.9	-331.3	0.00	0.00	0.00
5,600.0	10.17	55.85	5,536.4	410.1	604.5	-339.5	0.00	0.00	0.00
5,700.0	10.17	55.85	5,634.8	420.0	619.2	-347.7	0.00	0.00	0.00
5,800.0	10.17	55.85	5,733.2	429.9	633.8	-355.9	0.00	0.00	0.00
5.900.0	10.17	55.85	5.831.6	439.8	648.4	-364.1	0.00	0.00	0.00
6,000.0	10.17	55.85	5.930.1	449.7	663.0	-372.3	0.00	0.00	0.00
6,100.0	10.17	55.85	6,028.5	459.6	677.6	-380.5	0.00	0.00	0.00
6,200.0	10.17	55.85	6,126.9	469.5	692.2	-388.7	0.00	0.00	0.00
6,300.0	10.17	55.85	6,225.4	479.4	706.8	-396.9	0.00	0.00	0.00
6,400.0	10.17	55.85	6,323.8	489.3	721.4	-405.1	0.00	0.00	0.00
6,505.2	10.17	55.85	6,427.3	499.7	736.8	-413.7	0.00	0.00	0.00
6,600.0	8.27	55.85	6,520.9	508.3	749.3	-420.8	2.00	-2.00	0.00
6,700.0	6.27	55.85 55.85	6,620.1	515.4 520.5	759.8 767.4	-426.7	2.00	-2.00 2.00	0.00
6,800.0	4.27	55.85	6,719.7	520.5	767.4	-431.0	2.00	-2.00	0.00
6,900.0	2.27	55.85	6,819.5	523.7	772.1	-433.6	2.00	-2.00	0.00
7,000.0	0.27	55.85	6,919.5	525.0	774.0	-434.6	2.00	-2.00	0.00
7,013.5	0.00	0.01	6,933.0	525.0	774.0	-434.7	2.00	-2.00	0.00
7,100.0	0.00	0.00	7,019.5	525.0	774.0	-434.7	0.00	0.00	0.00
7,200.0	0.00	0.00	7,119.5	525.0	774.0	-434.7	0.00	0.00	0.00
7,300.0	0.00	0.00	7,219.5	525.0	774.0	-434.7	0.00	0.00	0.00
7,400.0	0.00	0.00	7,319.5	525.0	774.0	-434.7	0.00	0.00	0.00
7,500.0	0.00	0.00	7,419.5	525.0	774.0	-434.7	0.00	0.00	0.00
7,600.0	0.00	0.00	7,519.5	525.0	774.0	-434.7	0.00	0.00	0.00
7,700.0	0.00	0.00	7,619.5	525.0	774.0	-434.7	0.00	0.00	0.00
7,800.0	0.00	0.00	7,719.5	525.0	774.0	-434.7	0.00	0.00	0.00
7,900.0	0.00	0.00	7,819.5	525.0	774.0	-434.7	0.00	0.00	0.00
8,000.0	0.00	0.00	7,919.5	525.0	774.0	-434.7	0.00	0.00	0.00
8,100.0	0.00	0.00	8,019.5	525.0	774.0	-434.7	0.00	0.00	0.00
8,200.0	0.00	0.00	8,119.5	525.0	774.0	-434.7	0.00	0.00	0.00
8,300.0	0.00	0.00	8,219.5	525.0	774.0	-434.7	0.00	0.00	0.00
8,400.0	0.00	0.00	8,319.5	525.0	774.0	-434.7	0.00	0.00	0.00
8,500.0	0.00	0.00	8,419.5	525.0	774.0	-434.7	0.00	0.00	0.00
8,600.0	0.00	0.00	8,519.5	525.0	774.0	-434.7	0.00	0.00	0.00
8,700.0	0.00	0.00	8,619.5	525.0	774.0	-434.7	0.00	0.00	0.00
8,800.0	0.00	0.00	8.719.5	525.0	774.0	-434.7	0.00	0.00	0.00
8.900.0	0.00	0.00	8,819.5	525.0	774.0	-434.7	0.00	0.00	0.00
9,000.0	0.00	0.00	8,919.5	525.0	774.0	-434.7	0.00	0.00	0.00
9,100.0	0.00	0.00	9,019.5	525.0	774.0	-434.7	0.00	0.00	0.00
9,200.0	0.00	0.00	9,119.5	525.0	774.0	-434.7	0.00	0.00	0.00
9,300.0	0.00	0.00	9,219.5	525.0	774.0	-434.7	0.00	0.00	0.00
9,345.0	0.00	0.01	9,264.5	525.0	774.0	-434.7	0.00	0.00	0.00
•	o 10 FC #311H)								
9,350.0	0.60	178.85	9,269.5	525.0	774.0	-434.6	12.00	12.00	0.00
9,375.0	3.60	178.85	9,294.5	524.1	774.0	-433.7	12.00	12.00	0.00
9,400.0	6.60	178.85	9,319.4	521.8	774.1	-431.5	12.00	12.00	0.00
9,425.0	9.60	178.85	9,344.1	518.3	774.1	-428.0	12.00	12.00	0.00
9,450.0	12.60	178.85	9,368.6	513.5	774.2	-423.2	12.00	12.00	0.00
9,465.1	14.41	178.85	9,383.3	510.0	774.3	-419.7	12.00	12.00	0.00
	o 10 Fed Com #3								
9,475.0	15.60	178.85	9,392.9	507.4	774.4	-417.1	12.00	12.00	0.00
9,500.0	18.60	178.85	9,416.8	500.1	774.5	-409.8	12.00	12.00	0.00



Planning Report

Database: PEDM Company: Midland

Project: Lea County, NM (NAD 83 NME)

Site: Modelo 10 Fed Com

 Well:
 #311H

 Wellbore:
 OH

 Design:
 Plan #0.1 RT

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well #311H

KB = 25' @ 3667.0usft (Patterson 885) KB = 25' @ 3667.0usft (Patterson 885)

Grid

11.	Flall #U. I KI								
ned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,525.0 9,550.0 9,565.5	21.60 24.60 26.46	178.85 178.85 178.85	9,440.2 9,463.2 9,477.2	491.5 481.7 475.0	774.7 774.9 775.0	-401.3 -391.5 -384.9	12.00 12.00 12.00	12.00 12.00 12.00	0.00 0.00 0.00
	lo 10 FC #311H)	170.00	3,411.2	470.0	773.0	-304.3	12.00	12.00	0.00
9,575.0 9,600.0	27.61 30.60	178.90 178.99	9,485.7 9,507.5	470.7 458.5	775.1 775.3	-380.5 -368.4	12.00 12.00	12.00 12.00	0.43 0.38
9,625.0 9,650.0	33.60 36.60	179.07 179.14	9,528.7 9,549.2	445.2 430.9	775.5 775.8	-355.2 -340.9	12.00 12.00	12.00 12.00	0.32 0.27
9,675.0	39.60	179.19	9,568.8	415.4	776.0	-325.6	12.00	12.00	0.23
9,700.0 9,725.0	42.60 45.60	179.25 179.29	9,587.7 9,605.6	399.0 381.6	776.2 776.4	-309.2 -291.9	12.00 12.00	12.00 12.00	0.21 0.18
9,750.0	48.60	179.33	9,622.6	363.3	776.6	-273.7	12.00	12.00	0.17
9,775.0 9,800.0	51.60 54.60	179.37 179.41	9,638.7 9,653.7	344.1 324.1	776.9 777.1	-254.6 -234.7	12.00 12.00	12.00 12.00	0.15 0.14
9,825.0	57.60	179.44	9,667.6	303.4	777.3	-214.1	12.00	12.00	0.13
9,850.0	60.60	179.47	9,680.4	281.9	777.5	-192.7	12.00	12.00	0.12
9,875.0	63.60	179.50	9,692.1	259.8	777.7	-170.8	12.00	12.00	0.11
9,900.0 9,925.0	66.60 69.60	179.52 179.55	9,702.7 9,712.0	237.2 214.0	777.9 778.1	-148.2 -125.1	12.00 12.00	12.00 12.00	0.11 0.10
9,950.0	72.60	179.57	9,720.1	190.3	778.3	-101.6	12.00	12.00	0.10
9,975.0	75.60	179.60	9,726.9	166.3	778.4	-77.7	12.00	12.00	0.10
10,000.0	78.60	179.62	9,732.5	141.9	778.6	-53.5	12.00	12.00	0.09
10,025.0	81.60 84.60	179.64 179.67	9,736.8 9,739.8	117.3	778.8	-29.0 -4.3	12.00	12.00 12.00	0.09
10,050.0 10,075.0	87.60	179.67	9,739.6 9,741.5	92.5 67.5	778.9 779.0	-4.3 20.5	12.00 12.00	12.00	0.09 0.09
10,095.0	90.00	179.71	9,741.9	47.6	779.1	40.3	12.00	12.00	0.09
10,100.0 10,200.0	90.00 90.00	179.71 179.71	9,741.9 9,741.9	42.5	779.2 779.7	45.3	0.00 0.00	0.00 0.00	0.00
10,300.0	90.00	179.71	9,741.9	-57.5 -157.5	780.2	144.7 244.2	0.00	0.00	0.00 0.00
10,400.0	90.00	179.71	9,741.9	-257.5	780.7	343.6	0.00	0.00	0.00
10,500.0	90.00	179.71	9,741.9	-357.4	781.2	443.0	0.00	0.00	0.00
10,600.0	90.00	179.71	9,741.9	-457.4	781.7	542.4	0.00	0.00	0.00
10,700.0	90.00	179.71	9,741.9	-557.4	782.2	641.9	0.00	0.00	0.00
10,800.0 10,900.0	90.00 90.00	179.71 179.71	9,741.9 9,742.0	-657.4 -757.4	782.8 783.3	741.3 840.7	0.00 0.00	0.00 0.00	0.00 0.00
11,000.0	90.00	179.71	9,742.0	-857.4	783.8	940.1	0.00	0.00	0.00
11,100.0	90.00	179.71	9,742.0	-957.4	784.3	1,039.5	0.00	0.00	0.00
11,200.0	90.00	179.71	9,742.0	-1,057.4	784.8	1,139.0	0.00	0.00	0.00 0.00
11,300.0 11,400.0	90.00 90.00	179.71 179.71	9,742.0 9,742.0	-1,157.4 -1,257.4	785.3 785.8	1,238.4 1,337.8	0.00 0.00	0.00 0.00	0.00
11,500.0	90.00	179.71	9,742.0	-1,357.4	786.3	1,437.2	0.00	0.00	0.00
11,600.0	90.00	179.71	9,742.0	-1,457.4	786.8	1,536.7	0.00	0.00	0.00
11,700.0	90.00	179.71	9,742.0	-1,557.4	787.4	1,636.1	0.00	0.00	0.00
11,800.0 11,900.0	90.00 90.00	179.71 179.71	9,742.0 9,742.0	-1,657.4 -1,757.4	787.9 788.4	1,735.5 1,834.9	0.00 0.00	0.00 0.00	0.00 0.00
12,000.0	90.00	179.71	9,742.0	-1,757.4	788.9	1,934.3	0.00	0.00	0.00
12,100.0	90.00	179.71	9,742.0	-1,957.4	789.4	2,033.8	0.00	0.00	0.00
12,200.0	90.00	179.71	9,742.0	-2,057.4	789.9	2,133.2	0.00	0.00	0.00
12,217.6	90.00	179.71	9,742.0	-2,075.0	790.0	2,150.7	0.00	0.00	0.00
•	elo 10 FC #311H)			:					
12,300.0 12,400.0	90.00 90.00	179.70 179.70	9,742.0 9,742.0	-2,157.4 -2,257.4	790.4 790.9	2,232.6 2,332.0	0.00 0.00	0.00 0.00	0.00 0.00
12,500.0	90.00	179.70	9,742.0	-2,357.4	791.5	2,431.5	0.00	0.00	0.00
12,600.0	90.00	179.69	9,742.0	-2,457.4	792.0	2,530.9	0.00	0.00	0.00

eog resources

Planning Report

Database: Company: PEDM

Midland

Project: Lea County, NM (NAD 83 NME)

Site: Well:

Wellbore:

Modelo 10 Fed Com #311H ОН

Design: Plan #0.1 RT Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well #311H

KB = 25' @ 3667.0usft (Patterson 885) KB = 25' @ 3667.0usft (Patterson 885)

Design:		Plan #0.1 RT								
Planned	Survey									
	Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
	12,700.0	90.00	179.69	9,742.0	-2,557.4	792.5	2,630.3	0.00	0.00	0.00
	12,800.0	90.00	179.68	9,742.0	-2,657.4	793.1	2,729.7	0.00	0.00	0.00
	12,900.0	90.00	179.68	9,742.0	-2,757.4	793.7	2,829.2	0.00	0.00	0.00
	13,000.0	90.00	179.68	9,742.0	-2,857.4	794.2	2,928.6	0.00	0.00	0.00
	13,100.0	90.00	179.67	9,742.0	-2,957.4	794.8	3,028.0	0.00	0.00	0.00
	13,200.0	90.00	179.67	9,742.0	-3,057.4	795.4	3,127.5	0.00	0.00	0.00
	13,300.0	90.00	179.66	9,742.0	-3,157.4	796.0	3,226.9	0.00	0.00	0.00
	13,400.0	90.00	179.66	9,742.0	-3,257.4	796.5	3,326.3	0.00	0.00	0.00
	13,500.0	90.00	179.65	9,742.0	-3,357.4	797.1	3,425.7	0.00	0.00	0.00
	13,600.0	90.00	179.65	9,742.0	-3,457.4	797.7	3,525.2	0.00	0.00	0.00
	13,700.0	90.00	179.65	9,742.0	-3,557.4	798.4	3,624.6	0.00	0.00	0.00
	13,800.0	90.00	179.64	9,742.0	-3,657.4	799.0	3,724.0	0.00	0.00	0.00
	13,900.0	90.00	179.64	9,742.0	-3,757.4	799.6	3,823.5	0.00	0.00	0.00
	14,000.0	90.00	179.63	9,742.0	-3,857.4	800.2	3,922.9	0.00	0.00	0.00
	14,100.0	90.00	179.63	9,742.0	-3,957.4	800.9	4,022.3	0.00	0.00	0.00
	14,200.0	90.00	179.63	9,742.0	-4,057.4	801.5	4,121.8	0.00	0.00	0.00
	14,300.0	90.00	179.62	9,742.0	-4,157.4	802.2	4,221.2	0.00	0.00	0.00
	14,400.0	90.00	179.62	9,742.0	-4,257.4	802.8	4,320.7	0.00	0.00	0.00
	14,500.0	90.00	179.61	9,742.0	-4,357.4	803.5	4,420.1	0.00	0.00	0.00
	14,600.0	90.00	179.61	9,742.0	-4,457.4	804.2	4,519.5	0.00	0.00	0.00
	14,700.0	90.00	179.61	9,742.0	-4,557.4	804.9	4,619.0	0.00	0.00	0.00
	14,800.0	90.00	179.60	9,742.0	-4,657.4	805.6	4,718.4	0.00	0.00	0.00
	14,861.6	90.00	179.60	9,742.0	-4,719.0	806.0	4,779.7	0.00	0.00	0.00
	FPP2 (Model	o 10 FC #311H)								
	14,900.0	90.00	179.60	9,742.0	-4,757.4	806.3	4,817.9	0.00	0.00	0.00
	15,000.0	90.00	179.61	9,742.0	-4,857.4	807.0	4,917.3	0.00	0.00	0.00
	15,100.0	90.00	179.61	9,742.0	-4,957.4	807.6	5,016.7	0.00	0.00	0.00
	15,200.0	90.00	179.62	9,742.0	-5,057.4	808.3	5,116.2	0.00	0.00	0.00
	15,300.0	90.00	179.62	9,742.0	-5,157.4	809.0	5,215.6	0.00	0.00	0.00
	15,400.0	90.00	179.63	9,742.0	-5,257.4	809.6	5,315.1	0.00	0.00	0.00
	15,500.0	90.00	179.63	9,742.0	-5,357.4	810.3	5,414.5	0.00	0.00	0.00
	15,600.0	90.00	179.64	9,742.0	-5,457.4	810.9	5,513.9	0.00	0.00	0.00
	15,700.0	90.00	179.64	9,742.0	-5,557.4	811.6	5,613.4	0.00	0.00	0.00
	15,800.0	90.00	179.65	9,742.0	-5,657.4	812.2	5,712.8	0.00	0.00	0.00
	15,900.0	90.00	179.65	9,742.0	-5,757.4	812.8	5,812.2	0.00	0.00	0.00
	16,000.0	90.00	179.65	9,742.0	-5,857.4	813.4	5,911.7	0.00	0.00	0.00
	16,100.0	90.00	179.66	9,742.0	-5,957.4	814.0	6,011.1	0.00	0.00	0.00
	16,200.0	90.00	179.66	9,742.0	-6,057.4	814.6	6,110.5	0.00	0.00	0.00
	16,263.7	90.00 In 10 End Com t	179.66	9,742.0	-6,121.1	815.0	6,173.9	0.00	0.00	0.00
	•	lo 10 Fed Com #	,							
	16,300.0	90.00	179.67	9,742.0	-6,157.3	815.2	6,210.0	0.01	0.00	0.01
	16,400.0	90.00	179.67	9,742.0	-6,257.3	815.7	6,309.4	0.00	0.00	0.00
	16,500.0	90.00	179.68	9,742.0	-6,357.3	816.3 816.0	6,408.8	0.00	0.00	0.00
	16,600.0 16,700.0	90.00 90.00	179.68 179.69	9,742.0 9,742.0	-6,457.3 -6,557.3	816.9 817.4	6,508.2 6,607.7	0.00 0.00	0.00 0.00	0.00 0.00
	,									
	16,800.0	90.00	179.69	9,742.0	-6,657.3	818.0	6,707.1	0.00	0.00	0.00
	16,900.0	90.00	179.70	9,742.0	-6,757.3	818.5	6,806.5	0.00	0.00	0.00
	17,000.0 17,100.0	90.00	179.70	9,742.0	-6,857.3	819.0 910.5	6,905.9	0.00	0.00	0.00
	17,100.0	90.00 90.00	179.71 179.71	9,742.0 9,742.0	-6,957.3 -7.057.3	819.5 820.0	7,005.4 7,104.8	0.00 0.00	0.00 0.00	0.00 0.00
				9,742.0	-7,057.3	820.0				
	17,300.0 17,388.7	90.00	179.72 170.72	9,742.0	-7,157.3 7.246.0	820.5 821.0	7,204.2	0.00	0.00	0.00
	17,388.7	90.00	179.72	9,742.0	-7,246.0	821.0	7,292.4	0.00	0.00	0.00
	PBHL (Model	o 10 Fed Com #	311H)							



Planning Report

PEDM Database:

Company: Midland

Project: Lea County, NM (NAD 83 NME)

Modelo 10 Fed Com Site: Well: #311H

Wellbore: ОН Design: Plan #0.1 RT Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

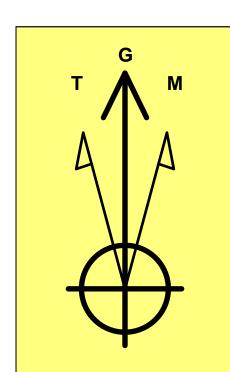
Well #311H

KB = 25' @ 3667.0usft (Patterson 885) KB = 25' @ 3667.0usft (Patterson 885)

Planned	l Survey									
	Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
	17,398.7	90.00	179.72	9,742.0	-7,256.0	821.0	7,302.3	0.05	0.00	0.05
	LMP/BHL (Me	odelo 10 FC #31	1H)							

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP (Modelo 10 FC #3 - plan hits target co - Point		0.01	9,264.5	525.0	774.0	451,435.00	750,960.00	32.2392519°N	103.6553461°W
FTP (Modelo 10 FC #3 - plan hits target of - Point		0.00	9,477.2	475.0	775.0	451,385.00	750,961.00	32.2391144°N	103.6553439°W
FPP2 (Modelo 10 FC # - plan hits target co - Point		0.00	9,742.0	-4,719.0	806.0	446,191.00	750,992.00	32.2248371°N	103.6553496°W
FPP1 (Modelo 10 FC # - plan hits target co - Point		0.00	9,742.0	-2,075.0	790.0	448,835.00	750,976.00	32.2321050°N	103.6553474°W
LMP/BHL (Modelo 10 I - plan hits target c - Point		0.00	9,742.0	-7,256.0	821.0	443,654.00	751,007.00	32.2178633°N	103.6553529°W





Azimuths to Grid North True North: -0.36° Magnetic North: 5.96°

Northing

450910.00

FPP1 (Modelo 10 FC #311H)

3600

Vertical Section at 173.54° (300 usft/in)

4200

4800

2700

2400

Magnetic Field Strength: 47252.6nT Dip Angle: 59.82° Date: 10/1/2023 Model: IGRF2020

To convert a Magnetic Direction to a Grid Direction, Add 5.96°
To convert a Magnetic Direction to a True Direction, Add 6.32° East
To convert a True Direction to a Grid Direction, Subtract 0.36°

Lea County, NM (NAD 83 NME)

Modelo 10 Fed Com #311H

Patterson 885

Plan #0.1 RT

PROJECT DETAILS: Lea County, NM (NAD 83 NME)

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

WELL DETAILS: #311H

3642.0

KB = 25' @ 3667.0usft (Patterson 885) **Easting Latittude** 32.2378222°N Longitude 103.6578600°W 750186.00

	SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1208.0	0.00	0.00	1208.0	0.0	0.0	0.00	0.00	0.0	
3	1716.3	10.17	55.85	1713.7	25.3	37.2	2.00	55.85	-20.9	
4	6505.2	10.17	55.85	6427.3	499.7	736.8	0.00	0.00	-413.7	
5	7013.5	0.00	0.00	6933.0	525.0	774.0	2.00	180.00	-434.7	
6	9345.0	0.00	0.00	9264.5	525.0	774.0	0.00	0.00	-434.7	KOP (Modelo 10 FC #311H)
7	9565.5	26.46	178.85	9477.2	475.0	775.0	12.00	178.85	-384.9	FTP (Modelo 10 FC #311H)
8	10095.0	90.00	179.71	9741.9	47.6	779.1	12.00	0.95	40.3	•
9	12217.6	90.00	179.71	9742.0	-2075.0	790.0	0.00	0.00	2150.7	FPP1 (Modelo 10 FC #311H)
10	14861.6	90.00	179.60	9742.0	-4719.0	806.0	0.00	-87.70	4779.7	FPP2 (Modelo 10 FC #311H)
11	17398.7	90.00	179.72	9742.0	-7256.0	821.0	0.00	92.01	7302.3	LMP/BHL (Modelo 10 FC #311H)

CASING DETAILS No casing data is available

2000-

2400-

2800-

KOP (Modelo 10 FC #311H)

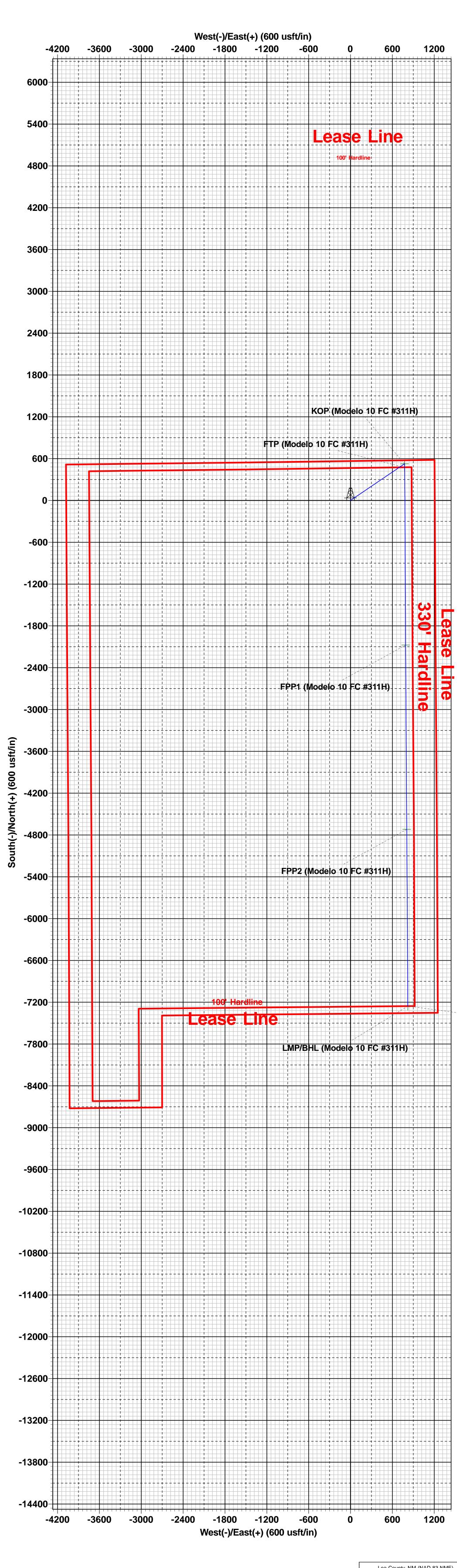
-600

FTP (Modelo 10 FC #311H)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES) +E/-W TVD +N/-S Northing **Easting KOP (Modelo 10 FC #311H)** 9264.5 525.0 750960.00 451435.00 FTP (Modelo 10 FC #311H) 475.0 775.0 451385.00 9477.2 750961.00 FPP1 (Modelo 10 FC #311H) 750976.00 9742.0 FPP2 (Modelo 10 FC #311H) 9742.0 -4719.0 750992.00 -7256.0 LMP/BHL (Modelo 10 FC #311H) 9742.0 751007.00 443654.00

FPP2 (Modelo 10 FC #311H)

LMP/BHL (Modelo 10 FC #311H)



Lea County, NM (NAD 83 NME) Modelo 10 Fed Com Patterson 885 Plan #0.1 RT 14:34, September 20 2023



Modelo 10 Fed Com Package

Wells in package:	Tgt TVD
Modelo 10 Fed Com #211H	9,328
Modelo 10 Fed Com #212H	9,328
Modelo 10 Fed Com #213H	9,328
Modelo 10 Fed Com #311H	9,742
Modelo 10 Fed Com #312H	9,742
Modelo 10 Fed Com #603H	11,760
Modelo 10 Fed Com #608H	11,760
Modelo 10 Fed Com #715H	11,940
Modelo 10 Fed Com #716H	11,940
Modelo 10 Fed Com #717H	11,940
Modelo 10 Fed Com #744H	12,365

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Salt Section Annular Clearance Variance Request

Daniel Moose

Current Design (Salt Strings)

0.422" Annular clearance requirement

- Casing collars shall have a minimum clearance of 0.422 inches on all sides in the hole/casing annulus, with recognition that variances can be granted for justified exceptions.
- 12.25" Hole x 9.625"40# J55/HCK55 LTC Casing
 - 1.3125" Clearance to casing OD
 - 0.8125" Clearance to coupling OD
- 9.875" Hole x 8.75" 38.5# P110 Sprint-SF Casing
 - 0.5625" Clearance to casing OD
 - 0.433" Clearance to coupling OD

Annular Clearance Variance Request

EOG request permission to allow deviation from the 0.422" annulus clearance requirement for the intermediate (salt) section from Onshore Order #2 under the following conditions:

- The variance is not applicable within the Potash Boundaries or Capitan Reef areas.
- Operator takes responsibility to get casing to set point in the event that the clearance causes stuck pipe issues

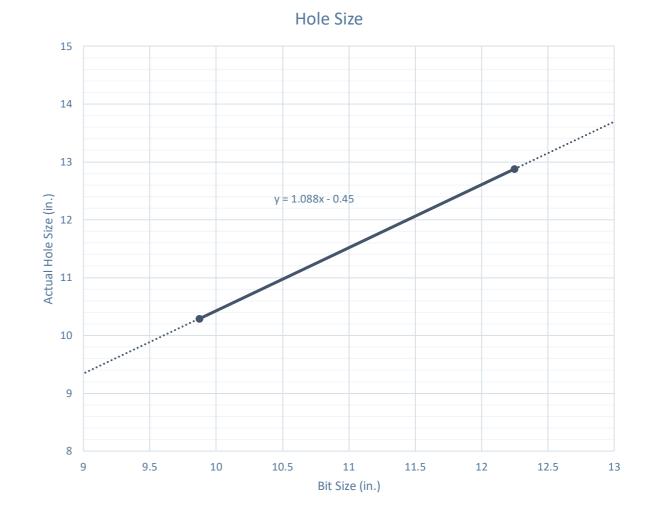
Volumetric Hole Size Calculation

Hole Size Calculations Off Cement Volumes

- Known volume of cement pumped
- Known volume of cement returned to surface
- Must not have had any losses
- Must have bumped plug

Average Hole Size

- 12.25" Hole
 - 12.88" Hole
 - 5.13% diameter increase
 - 10.52% area increase
 - 0.63" Average enlargement
 - 0.58" Median enlargement
 - 179 Well Count
- 9.875" Hole
 - 10.30" Hole
 - 4.24% diameter increase
 - 9.64% area increase
 - 0.42" Average enlargement
 - 0.46" Median enlargement
 - 11 Well Count

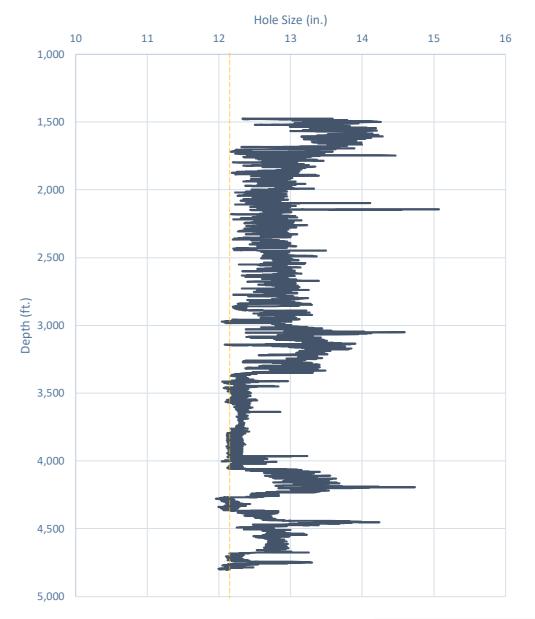


Modelo 10 Fed Com #501H

Caliper Hole Size (12.25")

Average Hole Size

- 12.25" Bit
 - 12.76" Hole
 - 4.14% diameter increase
 - 8.44% area increase
 - 0.51" Average enlargement
 - 0.52" Median enlargement
 - Brine

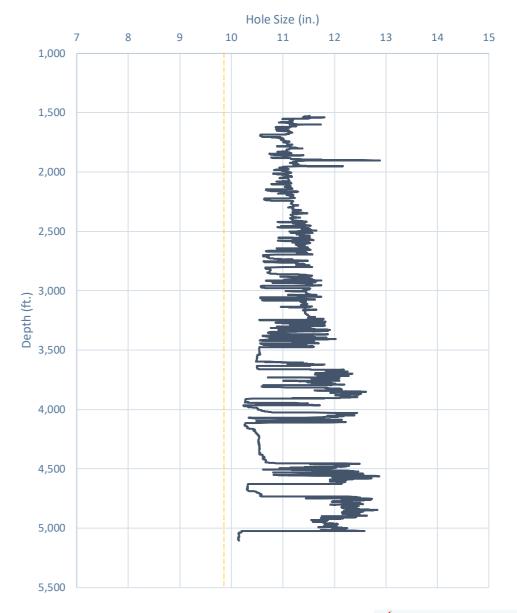


Caliper Hole Size (9.875")

Average Hole Size

- 9.875" Hole
 - 11.21" Hole
 - 13.54% diameter increase
 - 28.92% area increase
 - 1.33" Average enlargement
 - 1.30" Median enlargement
 - EnerLite

Whirling Wind 11 Fed Com #744H



Design A

Proposed 11" Hole with 9.625" 40# J55/HCK55 LTC Casing

- 11" Bit + 0.52" Average hole enlargement = 11.52" Hole Size
 - 0.9475" Clearance to casing OD

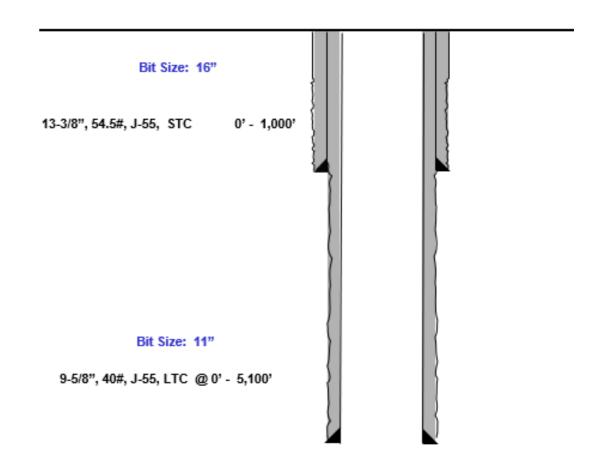
$$=\frac{11.52-9.625}{2}$$

• 0.4475" Clearance to coupling OD

$$=\frac{11.52-10.625}{2}$$

- Previous Shoe 13.375" 54.5# J55 STC
 - 0.995" Clearance to coupling OD (~1,200' overlap)

$$=\frac{12.615-10.625}{2}$$



Design B

Proposed 9.875" Hole with 8.625" 32# J55/P110 BTC-SC Casing

- 9.875" Bit + 0.42" Average hole enlargement = 10.295" Hole Size
 - 0.835" Clearance to casing OD

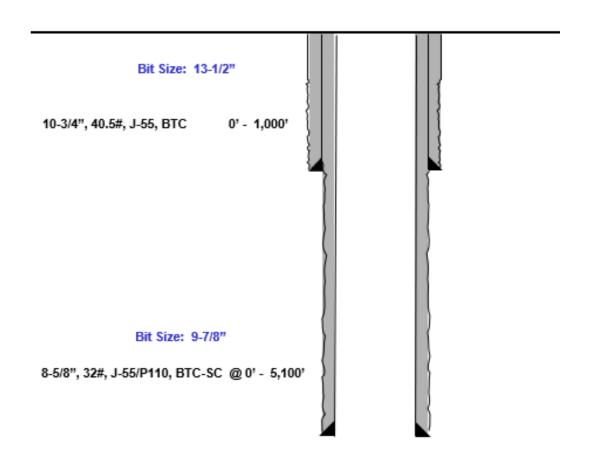
$$=\frac{10.295-8.625}{2}$$

• 0.585" Clearance to coupling OD

$$=\frac{10.295-9.125}{2}$$

- Previous Shoe 10.75" 40.5# J55 STC
 - 0.4625" Clearance to coupling OD (~1,200' overlap)

$$=\frac{10.05-9.125}{2}$$



Received by OCD: 9/25/2023 2:05:43 PM

Page 30 of 44



Index

Casing Spec Sheets

PERFORMANCE DATA

API LTC 9.625 in 40.00 lbs/ft K55 HC Technical Data Sheet

Tubular Parameters					
Size	9.625	in	Minimum Yield	55	ksi
Nominal Weight	40.00	lbs/ft	Minimum Tensile	95	ksi
Grade	K55 HC		Yield Load	629	kips
PE Weight	38.94	lbs/ft	Tensile Load	1088	kips
Wall Thickness	0.395	in	Min. Internal Yield Pressure	3,950	psi
Nominal ID	8.835	in	Collapse Pressure	3600	psi
Drift Diameter	8.750	in		1	1

in²

Connection Parameters							
Connection OD	10.625	in					
Coupling Length	10.500	in					
Threads Per Inch	8	tpi					
Standoff Thread Turns	3.50	turns					
Make-Up Loss	4.750	in					
Min. Internal Yield Pressure	3,950	psi					

11.454

Pipe Body and API Connections Performance Data

13.375 54.50/0.380 J55 PDF

New Search »



Page 31 of 44

6/8/2015 10:04:37 AM					
Mechanical Properties	Ptpe	втс	LTC	STC	
Minimum Yield Strength	55,000	-	-	-	psi
Maximum Yield Strength	80,000	-	-	-	psi
Minimum Tensile Strength	75,000	-	-	-	psi
Dimensions	P1pe	втс	LTC	STC	
Outside Diameter	13.375	14.375	-	14.375	in.
Wall Thickness	0.380	-	-	-	in.
Inside Diameter	12.615	12.615	-	12.615	in.
Standard Drift	12.459	12.459	-	12.459	in.
Alternate Drift	-	-	-	-	in.
Nominal Linear Weight, T&C	54.50	-	-	-	lbs/ft
Plain End Weight	52.79	-	-	-	lbs/ft
Performance	Pipe	втс	LTC	STC	
Minimum Collapse Pressure	1,130	1,130	-	1,130	psi
Minimum Internal Yield Pressure	2,740	2,740	-	2,740	psi
Minimum Pipe Body Yield Strength	853.00	-	-	-	1000 lbs
Joint Strength		909	-	514	1000 lbs
Reference Length	-	11,125	-	6,290	ft
Make-Up Data	Ptpe	втс	LTC	STC	
Make-Up Loss	-	4.81	-	3.50	in.
Minimum Make-Up Torque	-	-	-	3,860	ft-lbs
Maximum Make-Up Torque	-	-	-	6,430	ft-lbs

Nom. Pipe Body Area

Received by OCD: 9/25/2023 2:05:43 PM

Page 32 of 44

5,250

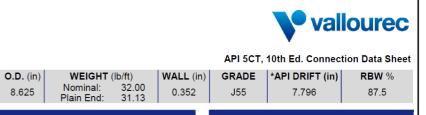
ft-lbs

Casing Spec Sheets

Pipe Body and API Connections Performance Data

10.750 40.50/0.350 J55 PDF

New Search » « Back to Previous List USC Metric 6/8/2015 10:14:05 AM BTC LTC Ptpe STC **Mechanical Properties** Minimum Yield Strength 55,000 psi Maximum Yield Strength 80,000 Minimum Tensile Strength 75,000 psi BTC LTC Pipe STC 11.750 Outside Diamete 10.750 11.750 in. Wall Thickness 0.350 Inside Diameter 10.050 10.050 10.050 Standard Drift 9.894 9.894 in. Alternate Drift in. 40.50 Nominal Linear Weight, T&C lbs/ft 38.91 lbs/ft Plain End Weight Performance Ptpe BTC STC Minimum Collapse Pressure psi Minimum Internal Yield Pressure 3.130 3.130 3.130 629.00 1000 lbs Minimum Pipe Body Yield Strength 700 420 Joint Strength 1000 lbs Reference Length 11,522 6,915 BTC STC Make-Up Data Ptpe 4.81 Make-Up Loss 3.50 in. Minimum Make-Up Torque 3,150 ft-lbs



Material Properties (PE)						
Pipe						
Minimum Yield Strength:	55 ksi					
Maximum Yield Strength:	80 ksi					
Minimum Tensile Strength:	75 ksi					
Coupling						
Minimum Yield Strength:	55 ksi					
Maximum Yield Strength:	80 ksi					
Minimum Tensile Strength:	75 ksi					

MADE IN USA

#Od

SLN

#0/M

DA

S

8.625

VALLOUREC STAR

Pipe Body Data (PE)							
Geometry							
Nominal ID:	7.92 inch						
Nominal Area:	9.149 in ²						
*Special/Alt. Drift:	7.875 inch						
Performance							
Pipe Body Yield Strength:	503 kips						
Collapse Resistance:	2,530 psi						
Internal Yield Pressure: (API Historical)	3,930 psi						

Coupling OD: 9.625"					
STC Performance					
STC Internal Pressure:	3,930 psi				
STC Joint Strength:	372 kips				
LTC Performance					
LTC Internal Pressure:	3,930 psi				
LTC Joint Strength:	417 kips				
SC-BTC Performance -	Cplg OD = 9.125"				
BTC Internal Pressure:	3,930 psi				
BTC Joint Strength:	503 kips				
	**** D.10 .00.1				

API Connection Data

API Connection Torque						
STC Torque (ft-lbs)						
Min:	2,793	Opti:	3,724	Max:	4,655	
LTC Torque (ft-lbs)						
Min:	3,130	Opti:	4,174	Max:	5,217	
PTC Torque (# lbs)						
BTC Torque (ft-lbs)						
follow API guidelines regarding positional make up						
ADI Drift	is specifier	l on order				

*Alt. Drift will be used unless API Drift is specified on order.

**If above API connections do not suit your needs, VAM® premium connections are available up to 100% of pipe body ratings.

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Maximum Make-Up Torque

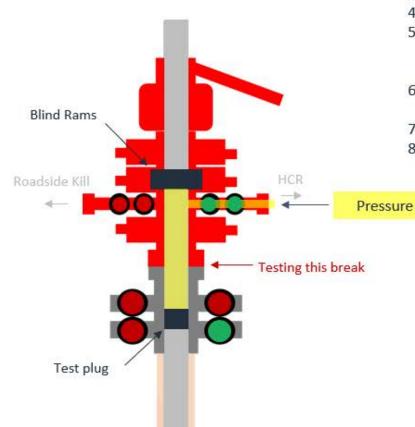


Break-test BOP & Offline Cementing:

EOG Resources Inc. (EOG) respectfully requests a variance from the minimum standards for well control equipment testing of ECFR Title 43 Part 3172.6(b)(9)(iv) to allow a testing schedule of the blow out preventer (BOP) and blow out prevention equipment (BOPE) along with Batch Drilling & Offline cement operations to include the following:

- Full BOPE test at first installation on the pad.
- Full BOPE test every 21 days.
- This test will be conducted for 5M rated hole intervals only.
- Each rig requesting the break-test variance is capable of picking up the BOP without damaging components using winches, following API Standard 53, Well Control Equipment Systems for Drilling Wells (Fifth edition, December 2018, Annex C. Table C.4) which recognizes break testing as an acceptable practice.
- Function tests will be performed on the following BOP elements:
 - Annular à during each full BOPE test
 - Upper Pipe Rams à On trip ins where FIT required
 - Blind Rams à Every trip
 - Lower Pipe Rams à during each full BOPE test
- Break testing BOP and BOPE coupled with batch drilling operations and option to offline cement and/or remediate (if needed) any surface or intermediate sections, according to attached offline cementing support documentation.
- After the well section is secured, the BOP will be disconnected from the wellhead and walked with the rig to another well on the pad.
- TA cap will also be installed per Wellhead vendor procedure and pressure inside the
 casing will be monitored via the valve on the TA cap as per standard batch drilling
 ops.

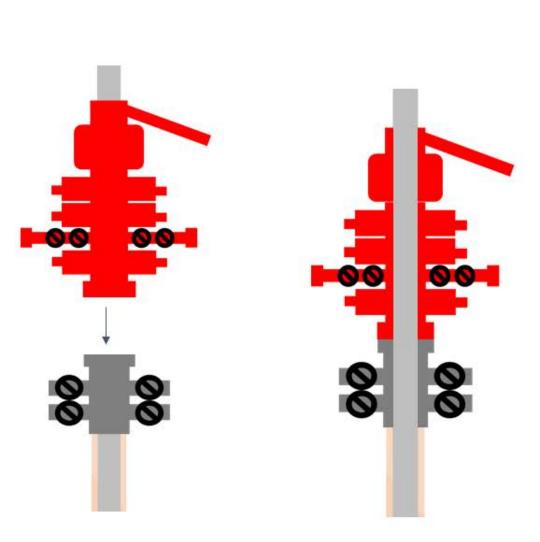
Break Test Diagram (HCR valve)

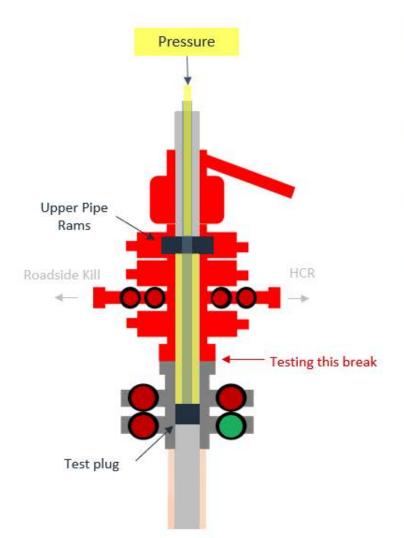


Steps

- 1. Set plug in wellhead (lower barrier)
- 2. Close Blind Rams (upper barrier)
- 3. Close roadside kill
- 4. Open HCR (pressure application)
- Open wellhead valves below test plug to ensure if leak past test plug, pressure won't be applied to wellbore
- Tie BOP testers high pressure line to main choke manifold crown valve
- 7. Pressure up to test break
- Bleed test pressure from BOP testing unit

Break Test Diagram (Test Joint)





Steps

- Set plug in with test joint wellhead (lower barrier)
- 2. Close Upper Pipe Rams (upper barrier)
- 3. Close roadside kill
- 4. Close HCR
- Open wellhead valves below test plug to ensure if leak past test plug, pressure won't be applied to wellbore
- Tie BOP testers high pressure line to top of test joint
- 7. Pressure up to test break
- Bleed test pressure from BOP testing unit



2/24/2022

Cement Program

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

Summarized Operational Procedure for Intermediate Casing

- 1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment back pressure valves.
 - a. Float equipment is equipped with two back pressure valves rated to a minimum of 5,000 psi.
- 2. Land production casing on mandrel hanger through BOP.
 - a. If casing is unable to be landed with a mandrel hanger, then the casing will be cemented online.
- 3. Break circulation and confirm no restrictions.
 - a. Ensure no blockage of float equipment and appropriate annular returns.
 - b. Perform flow check to confirm well is static.
- 4. Set pack-off
 - a. If utilizing a fluted/ported mandrel hanger, ensure well is static on the annulus and inside the casing by filling the pipe with kill weight fluid, remove landing joint, and set annular packoff through BOP. Pressure test to 5,000 psi for 10 min.
 - b. If utilizing a solid mandrel hanger, ensure well is static on the annulus and inside the casing by filling the pipe with kill weight fluid. Pressure test seals to 5,000 psi for 10 min. Remove landing joint through BOP.
- 5. After confirmation of both annular barriers and the two casing barriers, install TA plug and pressure test to 5,000 psi for 10 min. Notify the BLM with intent to proceed with nipple down and offline cementing.
 - a. Minimum 4 hrs notice.
- 6. With the well secured and BLM notified, nipple down BOP and secure on hydraulic carrier or cradle.
 - a. Note, if any of the barriers fail to test, the BOP stack will not be nippled down until after the cement job has concluded and both lead and tail slurry have reached 500 psi.
- 7. Skid/Walk rig off current well.
- 8. Confirm well is static before removing TA Plug.
 - a. Cementing operations will not proceed until well is under control. (If well is not static, notify BLM and proceed to kill)
 - b. Casing outlet valves will provide access to both the casing ID and annulus. Rig or third party pump truck will kill well prior to cementing.
 - c. Well control plan can be seen in Section B, Well Control Procedures.
 - d. If need be, rig can be moved back over well and BOP nippled back up for any further remediation.



2/24/2022

- e. Diagram for rig positioning relative to offline cementing can be seen in Figure 4.
- 9. Rig up return lines to take returns from wellhead to pits and rig choke.
 - a. Test all connections and lines from wellhead to choke manifold to 5,000 psi high for 10 min.
 - If either test fails, perform corrections and retest before proceeding.
 - c. Return line schematics can be seen in Figure 3.
- 10. Remove TA Plug from the casing.
- 11. Install offline cement tool.
 - a. Current offline cement tool schematics can be seen in Figure 1 (Cameron) and Figure 2 (Cactus).
- 12. Rig up cement head and cementing lines.
 - a. Pressure test cement lines against cement head to 80% of casing burst for 10 min.
- 13. Break circulation on well to confirm no restrictions.
 - a. If gas is present on circulation, well will be shut in and returns rerouted through gas buster.
 - b. Max anticipated time before circulating with cement truck is 6 hrs.
- 14. Pump cement job as per plan.
 - a. At plug bump, test casing to 0.22 psi/ft or 1500 psi, whichever is greater.
 - b. If plug does not bump on calculated, shut down and wait 8 hrs or 500 psi compressive strength, whichever is greater before testing casing.
- 15. Confirm well is static and floats are holding after cement job.
 - a. With floats holding and backside static:
 - i. Remove cement head.
 - b. If floats are leaking:
 - i. Shut-in well and WOC (Wait on Cement) until tail slurry reaches 500 psi compressive strength and the casing is static prior to removing cement head.
 - c. If there is flow on the backside:
 - i. Shut in well and WOC until tail slurry reaches 500 psi compressive strength. Ensure that the casing is static prior to removing cement head.
- 16. Remove offline cement tool.
- 17. Install night cap with pressure gauge for monitoring.
- 18. Test night cap to 5,000 psi for 10 min.



2/24/2022

Example Well Control Plan Content

A. Well Control Component Table

The table below, which covers the cementing of the <u>5M MASP (Maximum Allowable Surface Pressure) portion of the well</u>, outlines the well control component rating in use. This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the BOP nippled up to the wellhead.

Intermediate hole section, 5M requirement

Component	RWP
Pack-off	10M
Casing Wellhead Valves	10M
Annular Wellhead Valves	5M
TA Plug	10M
Float Valves	5M
2" 1502 Lo-Torque Valves	15M

B. Well Control Procedures

Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are the minimal high-level tasks prescribed to assure a proper shut-in while circulating and cementing through the Offline Cement Adapter.

General Procedure While Circulating

- 1. Sound alarm (alert crew).
- 2. Shut down pumps.
- 3. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
- 4. Confirm shut-in.
- 5. Notify tool pusher/company representative.

Page | 3



2/24/2022

- 6. Read and record the following:
 - a. SICP (Shut in Casing Pressure) and AP (Annular Pressure)
 - b. Pit gain
 - c. Time
 - d. Regroup and identify forward plan to continue circulating out kick via rig choke and mud/gas separator. Circulate and adjust mud density as needed to control well.

General Procedure While Cementing

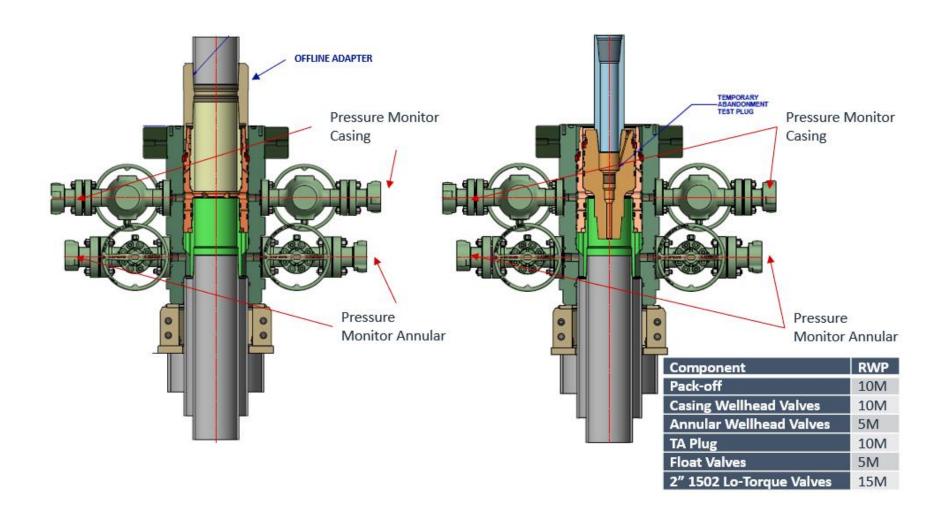
- 1. Sound alarm (alert crew).
- 2. Shut down pumps.
- 3. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
- 4. Confirm shut-in.
- 5. Notify tool pusher/company representative.
- 6. Open rig choke and begin pumping again taking returns through choke manifold and mud/gas separator.
- 7. Continue to place cement until plug bumps.
- 8. At plug bump close rig choke and cement head.
- 9. Read and record the following
 - a. SICP and AP
 - b. Pit gain
 - c. Time
 - d. Shut-in annulus valves on wellhead

General Procedure After Cementing

- 1. Sound alarm (alert crew).
- 2. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
- 3. Confirm shut-in.
- 4. Notify tool pusher/company representative.
- 5. Read and record the following:
 - a. SICP and AP
 - b. Pit gain
 - c. Time
 - d. Shut-in annulus valves on wellhead

2/24/2022

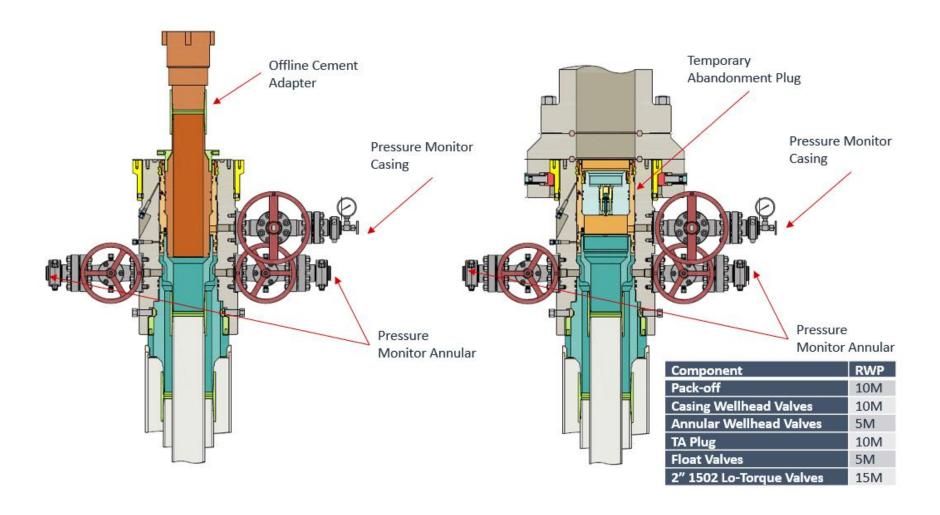
Figure 1: Cameron TA Plug and Offline Adapter Schematic





2/24/2022

Figure 2: Cactus TA Plug and Offline Adapter Schematic

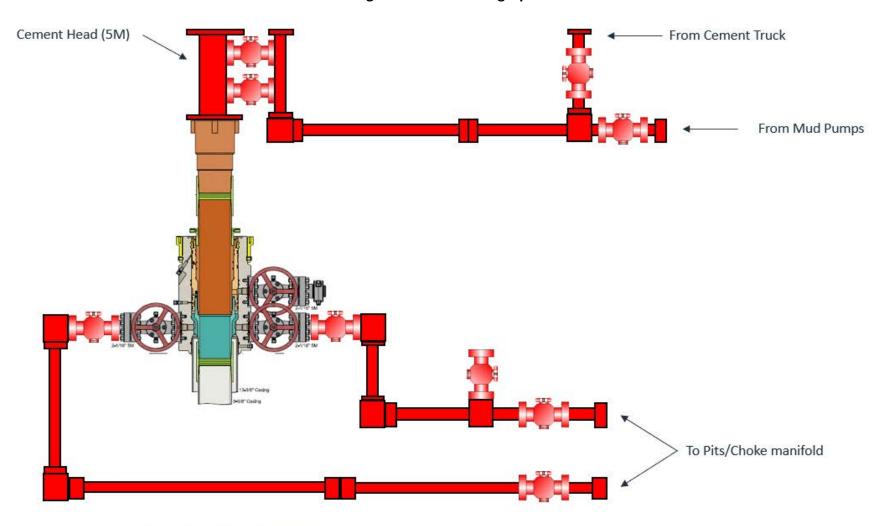


Page | 6



2/24/2022

Figure 3: Back Yard Rig Up



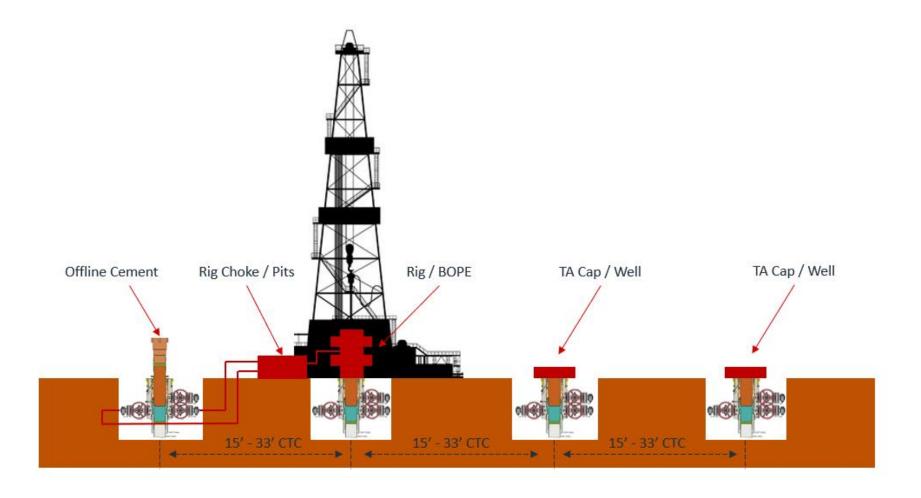
*** All Lines 10M rated working pressure

Page | 7



2/24/2022

Figure 4: Rig Placement Diagram



Page | 8

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

CONDITIONS

Action 268775

CONDITIONS

Operator:	OGRID:
EOG RESOURCES INC	7377
P.O. Box 2267	Action Number:
Midland, TX 79702	268775
	Action Type:
	[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	9/25/2023
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	9/25/2023
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	9/25/2023
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	9/25/2023
pkautz	IF ON ANY STRING CEMENT DOES NOT CIRCULATE, A RCBL MUST BE RUN ON THAT STRING OF CASING.	9/25/2023