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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.
NMNM138865

6. If Indian, Allotee or Tribe Name
32714

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.
BOROS FED COM
215H

2. Name of Operator
MATADOR PRODUCTION COMPANY

9. API Well No.
30 015 46748

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory
5400 LBJ Freeway, Suite 1500 Dallas TX 75240	(972)371-5200	WOLFCAMP / PURPLE SAGE; WOLFCA

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

At surface NWNW / 400 FNL / 514 FWL / LAT 32.0490248 / LONG -103.7729971

At proposed prod. zone SWSW / 240 FSL / 991 FWL / LAT 32.0214766 / LONG -103.7713751

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 15 / T26S / R31E / NMP

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

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
400 feet	1240	640

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
30 feet	11712 feet / 21882 feet	FED: NMB001079

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3231 feet	12/01/2019	60 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Lara Thompson / Ph: (505)254-1115	07/04/2019
Title: Assistant Project Manager		
Approved by *(Signature)* (Electronic Submission)	Name *(Printed/Typed)* Cody Layton / Ph: (575)234-5959	Date 02/12/2020
Title: Assistant Field Manager Lands & Minerals	Office: CARLSBAD	

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

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

APPROVED WITH CONDITIONS

Approval Date: 02/12/2020

KS 2-18-20

(Continued on page 2)

*(Instructions on page 2)

AFMSS

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

Operator Certification Data Report

02/12/2020

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Lara Thompson

Signed on: 07/04/2019

Title: Assistant Project Manager

Street Address: 5647 Jefferson Street NE

City: Albuquerque State: NM Zip: 87109

Phone: (505)254-1115

Email address: Lara.Thompson@swca.com

Field Representative

Representative Name:

Street Address:

City: State: Zip:

Phone:

Email address:

AFMSS

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

Application Data Report

02/12/2020

APD ID: 10400042893 | Submission Date: 07/04/2019

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: BOROS FED COM | Well Number: 215H

Well Type: OIL WELL | Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400042893 | Tie to previous NOS? N | Submission Date: 07/04/2019

BLM Office: CARLSBAD | User: Lara Thompson | Title: Assistant Project Manager

Federal/Indian APD: FED | Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMNM138865 | Lease Acres: 1240

Surface access agreement in place? | Allotted? | Reservation:

Agreement in place? NO | Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? YES | APD Operator: MATADOR PRODUCTION COMPANY

Operator letter of designation:

Operator Info

Operator Organization Name: MATADOR PRODUCTION COMPANY

Operator Address: 5400 LBJ Freeway, Suite 1500 | Zip: 75240

Operator PO Box:

Operator City: Dallas | State: TX

Operator Phone: (972)371-5200

Operator Internet Address: amonroe@matadorresources.com

Section 2 - Well Information

Well in Master Development Plan? NO | Master Development Plan name:

Well in Master SUPO? EXISTING | Master SUPO name: Boros Federal Well Project

Well in Master Drilling Plan? NO | Master Drilling Plan name:

Well Name: BOROS FED COM | Well Number: 215H | Well API Number:

Field/Pool or Exploratory? Field and Pool | Field Name: WOLFCAMP | Pool Name: PURPLE SAGE; WOLFCAMP

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: BOROS FED COM Well Number: 215H

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Is the proposed well in a Helium production area? N Use Existing Well Pad? NO New surface disturbance?

Type of Well Pad: MULTIPLE WELL Multiple Well Pad Name: SLOT 1 Number: 11

Well Class: HORIZONTAL Number of Legs: 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: APPRAISAL

Describe sub-type:

Distance to town: Distance to nearest well: 30 FT Distance to lease line: 400 FT

Reservoir well spacing assigned acres Measurement: 640 Acres

Well plat: Boros_Fed_Com_215H_1.7.20_20200107123123.pdf

Well work start Date: 12/01/2019 Duration: 60 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 Vertical Datum: NAVD88

Survey number: Reference Datum:

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	400	FNL	514	FWL	26S	31E	15	Aliquot NWNW	32.0490248	-103.7729971	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 138865	3231	0	0	
KOP Leg #1	400	FNL	514	FWL	26S	31E	15	Aliquot NWNW	32.0490248	-103.7729971	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 138865	-7908	11170	11139	
PPP Leg #1-1	0	FNL	991	FWL	26S	31E	22	Aliquot NWNW	32.0354699	-103.771415	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 018626	-8481	17070	11712	

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: BOROS FED COM Well Number: 215H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-2	330	FNL	991	FWL	26S	31E	15	Aliquot NWNW	32.04921 96	-103.7714 566	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 138865	-8481	12070	11712	
EXIT Leg #1	330	FSL	991	FWL	26S	31E	22	Aliquot SWSW	32.02172 4	-103.7713 759	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 138865	-8481	21792	11712	
BHL Leg #1	240	FSL	991	FWL	26S	31E	22	Aliquot SWSW	32.02147 66	-103.7713 751	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 138865	-8481	21882	11712	

Drilling Plan Data Report
02/12/2020

APD ID: 10400042893
Submission Date: 07/04/2019
Highlighted data reflects the most recent changes
Show Final Text

Operator Name: MATADOR PRODUCTION COMPANY
Well Name: BOROS FED COM
Well Number: 215H
Well Type: OIL WELL
Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
480871	RUSTLER	3231	1329	1329	ANHYDRITE	NONE	N
480872	TOP SALT	1717	1513	1513	SALT	NONE	N
480901	CASTILE	-160	3391	3391	SALT	NONE	N
480864	BASE OF SALT	-846	4076	4076	SALT	NONE	N
480873	BELL CANYON	-876	4106	4106	SANDSTONE	NATURAL GAS, OIL	N
480865	CHERRY CANYON	-1983	5213	5213	SANDSTONE	NATURAL GAS, OIL	N
480866	BRUSHY CANYON	-3141	6371	6371	SANDSTONE	NATURAL GAS, OIL	N
480868	BONE SPRING LIME	-4836	8066	8066	LIMESTONE	NATURAL GAS, OIL	N
480867	BONE SPRING 1ST	-5799	9029	9029	SANDSTONE	NATURAL GAS, OIL	N
480869	BONE SPRING 2ND	-6203	9433	9433	OTHER : Carbonate	NATURAL GAS, OIL	N
480870	BONE SPRING 3RD	-6933	10163	10163	OTHER : Carbonate	NATURAL GAS, OIL	N
480862	WOLFCAMP	-8112	11342	11378	SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M
Rating Depth: 18000

Equipment: A 18,000' 10,000-psi BOP stack consisting of 3 rams with 2 pipe rams, 1 blind ram, and one annular preventer will be utilized below surface casing to TD. See attachments for BOP and choke manifold diagrams. An accumulator complying with Onshore Order#2 requirements for the pressure rating of the BOP stack will be present. A rotating head will also be installed as needed.
Requesting Variance? YES

Variance request: Matador requests a variance to have the option of running a speed head for setting the Intermediate 1, Intermediate 2, and Production Strings. The BOPs will not be tested again unless any flanges are separated. Matador requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-

flex hose is attached. The hose is not required by the manufacturer to be anchored. If the specific hose is not available, then one of equal or higher rating will be used. Matador requests a variance to have the option of batch drilling this well with other wells on the same pad. In the event that this well is batch drilled, the wellbore will be secured with a blind flange of like pressure. When the rig returns to this well and BOPs are installed, the operator will perform a full BOP test. Matador requests a variance to drill this well using a 5M annular preventer with a 10M BOP ram stack. The "Well Control Plan For 10M MASP Section of Wellbore" is attached.
Testing Procedure: BOP will be inspected and operated as required in Onshore Order#2. Kelly cock and sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position. A third party company will test the BOPs. After setting surface casing, a minimum 10M BOPE system will be installed. Test pressures will be 250psi low and 10,000psi high with the annular being tested to 250psi low and 5000psi high before drilling below surface shoe. In the event that the rig drills multiple wells on the pad and any seal subject to test pressures are broken, a full BOP test will be performed when the rig returns and the 10M BOPE system is re-installed.

Choke Diagram Attachment:

Boros_Fed_Com_215H_10M_Choke_Manifold_Arrangement_20200107165327.pdf

BOP Diagram Attachment:

Boros_Fed_Com_215H_Co_Flex_Certs_20190618130933.pdf

Boros_Fed_Com_215H_10M_BOP_20200107165340.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	1354	0	1354			1354	J-55	54.5	BUTT	1.125	1.125	BUOY	1.8	BUOY	1.8
2	INTERMEDIATE	8.75	7.625	NEW	API	Y	0	3831	0	3831			3831	P-110	29.7	BUTT	1.125	1.125	BUOY	1.8	BUOY	1.8
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4131	0	4131			4131	J-55	40	BUTT	1.125	1.125	BUOY	1.8	BUOY	1.8
4	PRODUCTION	6.75	5.5	NEW	NON API	Y	0	11700	0	11623			11700	P-110	20	OTHER - DWC/C-IS MS	1.125	1.125	BUOY	1.8	BUOY	1.8
5	INTERMEDIATE	8.75	7.625	NEW	NON API	Y	3831	11800	3831	11649			7969	P-110	29.7	OTHER - VAM HTF-NR	1.125	1.125	BUOY	1.8	BUOY	1.8
6	PRODUCTION	6.75	5.5	NEW	NON API	Y	11700	21882	11623	11712			10182	P-110	20	OTHER - VAM EDGE SF	1.125	1.125	BUOY	1.8	BUOY	1.8

Casing Attachments

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: BOROS FED COM Well Number: 215H

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Boros_Fed_Com_215H_BLM_Casing_Design_Assumptions_4_string_20190618131042.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Boros_Federal__215H_Tapered_String_Spec_20190618131219.pdf

Casing Design Assumptions and Worksheet(s):

Boros_Fed_Com_215H_BLM_Casing_Design_Assumptions_4_string_20190618131245.pdf

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Boros_Fed_Com_215H_BLM_Casing_Design_Assumptions_4_string_20190618131317.pdf

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: BOROS FED COM Well Number: 215H

Casing Attachments

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Boros_Fed_Com_215H_Casing_Specs_5.5in_20lb_VAM_DWCC_IS_MS_20190704195140.PDF

Tapered String Spec:

Boros_Federal__215H_Tapered_String_Spec_20190618131421.pdf

Casing Design Assumptions and Worksheet(s):

Boros_Fed_Com_215H_BLM_Casing_Design_Assumptions_4_string_20190618131447.pdf

Casing ID: 5 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Boros_Fed_Com_215H_Casing_Specs_7.625in_29.7lb_VAM_HTF_NR_20190704195228.pdf

Tapered String Spec:

Boros_Federal__215H_Tapered_String_Spec_20190618131534.pdf

Casing Design Assumptions and Worksheet(s):

Boros_Fed_Com_215H_BLM_Casing_Design_Assumptions_4_string_20190618131556.pdf

Casing ID: 6 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Boros_Fed_Com_215H_Casing_Specs_5.5in_20lb_VAM_EDGE_SF_20190704195436.pdf

Tapered String Spec:

Boros_Federal__215H_Tapered_String_Spec_20190618131702.pdf

Casing Design Assumptions and Worksheet(s):

Boros_Fed_Com_215H_BLM_Casing_Design_Assumptions_4_string_20190618131724.pdf

Section 4 - Cement

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: BOROS FED COM Well Number: 215H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1054	680	1.72	12.5	1170		C	5% NaCl + LCM
SURFACE	Tail		1054	1354	250	1.38	14.8	347		C	5% NaCl + LCM
INTERMEDIATE	Lead		0	3305	780	2.13	12.6	1653		C	Bentonite + 1% CaCl2 + 8% NaCl + LCM
INTERMEDIATE	Tail		3305	4131	310	1.38	14.8	422		C	5% NaCl + LCM
INTERMEDIATE	Lead		3831	10800	440	2.13	11	945		TXI	Fluid Loss + Dispersant + Retarder + LCM
INTERMEDIATE	Tail		10800	11800	110	1.46	13.2	156		TXI	Fluid Loss + Dispersant + Retarder + LCM
INTERMEDIATE	Lead		3831	10800	440	2.13	11	945		TXI	Fluid Loss + Dispersant + Retarder + LCM
INTERMEDIATE	Tail		10800	11800	110	1.46	13.2	156		TXI	Fluid Loss + Dispersant + Retarder + LCM
PRODUCTION	Lead		11300	21882	840	1.17	14.5	987		H	Fluid Loss + Dispersant + Retarder + LCM

PRODUCTION	Lead		11300	21882	840	1.17	14.5	987		H	Fluid Loss + Dispersant + Retarder + LCM

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 Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: All necessary mud products (barite, bentonite, LCM) for weight addition and fluid loss control will be on location at all times. Mud program is subject to change due to hole conditions.

Describe the mud monitoring system utilized: An electronic Pason mud monitoring system complying with Onshore Order 2 will be used.

Circulating Medium Table

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: BOROS FED COM Well Number: 215H

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
1354	4131	SALT SATURATED	9.5	10.2							
4131	11649	OTHER : FW/Cut Brine	8.4	9.4							
11649	11712	OIL-BASED MUD	11.5	12.4							
0	1354	SPUD MUD	8.4	8.8							

Section 6 - Test, Logging, Coring

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

A 2-person mud logging program will be used from Intermediate 2 Casing shoe to TD.
No electric logs are planned at this time. GR will be collected through the MWD tools from Intermediate casing to TD.
CBL with CCL will be run as far as gravity will let it fall to top of curve.

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

CBL,GR

Coring operation description for the well:

No core or drill stem test is planned.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7552 Anticipated Surface Pressure: 4975.36

Anticipated Bottom Hole Temperature(F): 191

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? NO

Hydrogen sulfide drilling operations plan:

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: BOROS FED COM Well Number: 215H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Boros_Fed_Com__215H_Directional_AC_Report_v1_20190618132636.pdf

Boros_Fed_Com__215H_Directional_Well_Plan_v1_20190618132639.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Boros_Fed_Com_215H_Closed_Loop_System_20190618132724.pdf

Boros_Fed_Com_215H_4_String_Wellhead_Diagram_20190618132722.pdf

H2S_Plan_20190618132733.pdf

Gas_Capture_Plan___Boros_Federal_Com__101H___105H___111H___121H___131H___201H___215H___221H___225H___241H_20190618132801.pdf

Boros_Federal__215H_Drill_Plan_20200107165446.pdf

Boros_Fed_Com_215H_10M_Well_Control_Plan_20200107165446.pdf

Other Variance attachment:

Tapered String Specification Sheet

Boros Federal #215H
SHL: 400' FNL & 514' FWL Section 15
BHL: 240' FSL & 991' FWL Section 22
Township/Range: 26S 31E
Elevation Above Sea Level: 3,231'

String	Hole Size (in)	Set MD (ft)	Set TVD (ft)	Casing Size (in)	Wt. (lb/ft)	Grade	Joint	Collapse	Burst	Tension
Surface	17.5	0 - 1354	0 - 1354	13.375	54.5	J-55	BUTT	1.125	1.125	1.8
Intermediate 1	12.25	0 - 4131	0 - 4131	9.625	40	J-55	BUTT	1.125	1.125	1.8
Intermediate 2 Top	8.75	0 - 3831	0 - 3831	7.625	29.7	P-110	BUTT	1.125	1.125	1.8
Intermediate 2 Bottom	8.75	3831 - 11800	3831 - 11649	7.625	29.7	P-110	VAM HTF-NR	1.125	1.125	1.8
Production Top	6.75	0 - 11700	0 - 11623	5.5	20	P-110	DWC/C-IS MS	1.125	1.125	1.8
Production Bottom	6.75	11700 - 21882	11623 - 11712	5.5	20	P-110	VAM EDGE SF	1.125	1.125	1.8

Casing Design Criteria and Load Case Assumptions

Surface Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.43 psi/ft). The effects of axial load on collapse will be considered.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and an internal force equal to mud gradient of displacement fluid (0.52 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.43 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=1.8

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (8.3 ppg).

Intermediate #1 Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.52 psi/ft). The effects of axial load on collapse will be considered.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.47 psi/ft). External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft) which is a more conservative backup force than pore pressure.

Tensile: DF_t=1.8

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (10.0 ppg).

Intermediate #2 Casing

Collapse: DF_C=1.125

- Partial Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.47 psi/ft). The effects of axial load on collapse will be considered. Internal force equal to gas gradient over half of setting depth and mud gradient with which the next hole section will be run below that (0.65 psi/ft).

- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and mud gradient in which the casing will be run above that (0.47 psi/ft) and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.47 psi/ft), which is a more conservative backup force than pore pressure.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 100 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.65 psi/ft). External force will be equal to the mud gradient in which the casing will be run (0.47 psi/ft), which is a more conservative backup force than pore pressure.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be run (0.47 psi/ft) which is a more conservative backup force than pore pressure.

Tensile: DF_t=1.8

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (9.0 ppg).

Production Casing

Collapse: DF_c=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.65 psi/ft). The effects of axial load on collapse will be considered.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and mud gradient in which the casing will be run above that (0.65 psi/ft) and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: 8000 psi casing test with an external force equal to the mud gradient in which the casing will be run (0.65 psi/ft), which is a more conservative backup force than pore pressure.
- Injection Down Casing: 9500 psi surface injection pressure plus an internal pressure gradient of 0.65 psi/ft with an external force equal to the mud gradient in which the casing will be run (0.65 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=1.8

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (12.5 ppg).

Matador Production Company

Rustler Breaks
Boros
Boros Fed Com #215H

Wellbore #1

Plan: BLM Plan #1

Standard Planning Report

20 May, 2019

Planning Report

Database:	EDM 5000.14 Server	**Local Co-ordinate Reference:**	Well Boros Fed Com #215H
Company:	Matador Production Company	**TVD Reference:**	KB @ 3259.5usft
Project:	Rustler Breaks	**MD Reference:**	KB @ 3259.5usft
Site:	Boros	**North Reference:**	Grid
Well:	Boros Fed Com #215H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

Project	Rustler Breaks		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		Using geodetic scale factor

Site	Boros				
Site Position:		**Northing:**	381,953.36 usft	**Latitude:**	32° 2' 55.786 N
From:	Lat/Long	**Easting:**	676,179.89 usft	**Longitude:**	103° 45' 52.934 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.30 °

Well	Boros Fed Com #215H					
Well Position	**+N/-S**	12.9 usft	**Northing:**	381,966.30 usft	**Latitude:**	32° 2' 56.039 N
	+E/-W	-2,422.8 usft	**Easting:**	673,757.27 usft	**Longitude:**	103° 46' 21.081 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,231.0 usft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF200510	12/31/2009	7.83	60.04	48,665.89512400

Design	BLM Plan #1				
Audit Notes:					
Version:	1	**Phase:**	PLAN	**Tie On Depth:**	0.0
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.0	0.0	0.0	179.56	

Plan Survey Tool Program **Date** 5/20/2019

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	21,882.2	BLM Plan #1 (Wellbore #1)	MWD	
				OWSG MWD - Standard	

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	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,300.0	8.00	42.73	2,297.4	41.0	37.8	1.00	1.00	0.00	42.73	
5,092.2	8.00	42.73	5,062.4	326.4	301.5	0.00	0.00	0.00	0.00	
5,625.5	0.00	0.00	5,594.0	353.7	326.7	1.50	-1.50	0.00	180.00	
11,170.5	0.00	0.00	11,139.0	353.7	326.7	0.00	0.00	0.00	0.00	VP - Boros Fed Com
12,070.5	90.00	169.30	11,712.0	-209.3	433.1	10.00	10.00	0.00	169.30	
12,583.5	90.00	179.56	11,712.0	-719.2	482.8	2.00	0.00	2.00	90.00	
21,882.2	90.00	179.56	11,712.0	-10,017.6	554.3	0.00	0.00	0.00	0.00	BHL - Boros Fed Com

Database:	EDM 5000.14 Server	**Local Co-ordinate Reference:**	Well Boros Fed Com #215H
Company:	Matador Production Company	**TVD Reference:**	KB @ 3259.5usft
Project:	Rustler Breaks	**MD Reference:**	KB @ 3259.5usft
Site:	Boros	**North Reference:**	Grid
Well:	Boros Fed Com #215H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

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)
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
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,328.6	0.00	0.00	1,328.6	0.0	0.0	0.0	0.00	0.00	0.00
Rustler									
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 1.00									
1,512.7	0.13	42.73	1,512.7	0.0	0.0	0.0	1.00	1.00	0.00
Salado (Top Salt)									
1,600.0	1.00	42.73	1,600.0	0.6	0.6	-0.6	1.00	1.00	0.00
1,700.0	2.00	42.73	1,700.0	2.6	2.4	-2.5	1.00	1.00	0.00
1,800.0	3.00	42.73	1,799.9	5.8	5.3	-5.7	1.00	1.00	0.00
1,900.0	4.00	42.73	1,899.7	10.3	9.5	-10.2	1.00	1.00	0.00
2,000.0	5.00	42.73	1,999.4	16.0	14.8	-15.9	1.00	1.00	0.00
2,100.0	6.00	42.73	2,098.9	23.1	21.3	-22.9	1.00	1.00	0.00
2,200.0	7.00	42.73	2,198.3	31.4	29.0	-31.1	1.00	1.00	0.00
2,300.0	8.00	42.73	2,297.4	41.0	37.8	-40.7	1.00	1.00	0.00
Start 2792.2 hold at 2300.0 MD									
2,400.0	8.00	42.73	2,396.4	51.2	47.3	-50.8	0.00	0.00	0.00
2,500.0	8.00	42.73	2,495.5	61.4	56.7	-61.0	0.00	0.00	0.00
2,600.0	8.00	42.73	2,594.5	71.6	66.2	-71.1	0.00	0.00	0.00
2,700.0	8.00	42.73	2,693.5	81.9	75.6	-81.3	0.00	0.00	0.00
2,800.0	8.00	42.73	2,792.5	92.1	85.1	-91.4	0.00	0.00	0.00
2,900.0	8.00	42.73	2,891.6	102.3	94.5	-101.6	0.00	0.00	0.00
3,000.0	8.00	42.73	2,990.6	112.5	103.9	-111.7	0.00	0.00	0.00
3,100.0	8.00	42.73	3,089.6	122.7	113.4	-121.9	0.00	0.00	0.00
3,200.0	8.00	42.73	3,188.6	133.0	122.8	-132.0	0.00	0.00	0.00
3,300.0	8.00	42.73	3,287.7	143.2	132.3	-142.2	0.00	0.00	0.00
3,400.0	8.00	42.73	3,386.7	153.4	141.7	-152.3	0.00	0.00	0.00
3,500.0	8.00	42.73	3,485.7	163.6	151.2	-162.5	0.00	0.00	0.00
3,600.0	8.00	42.73	3,584.8	173.9	160.6	-172.6	0.00	0.00	0.00
3,700.0	8.00	42.73	3,683.8	184.1	170.0	-182.8	0.00	0.00	0.00
3,800.0	8.00	42.73	3,782.8	194.3	179.5	-192.9	0.00	0.00	0.00
3,900.0	8.00	42.73	3,881.8	204.5	188.9	-203.1	0.00	0.00	0.00
4,000.0	8.00	42.73	3,980.9	214.8	198.4	-213.2	0.00	0.00	0.00
4,095.6	8.00	42.73	4,075.5	224.5	207.4	-222.9	0.00	0.00	0.00
Base Salt									
4,100.0	8.00	42.73	4,079.9	225.0	207.8	-223.4	0.00	0.00	0.00
4,126.2	8.00	42.73	4,105.8	227.7	210.3	-226.0	0.00	0.00	0.00
Bell Canyon									
4,200.0	8.00	42.73	4,178.9	235.2	217.3	-233.5	0.00	0.00	0.00

Database:	EDM 5000.14 Server	**Local Co-ordinate Reference:**	Well Boros Fed Com #215H
Company:	Matador Production Company	**TVD Reference:**	KB @ 3259.5usft
Project:	Rustler Breaks	**MD Reference:**	KB @ 3259.5usft
Site:	Boros	**North Reference:**	Grid
Well:	Boros Fed Com #215H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

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)
4,300.0	8.00	42.73	4,277.9	245.4	226.7	-243.7	0.00	0.00	0.00
4,400.0	8.00	42.73	4,377.0	255.6	236.1	-253.8	0.00	0.00	0.00
4,500.0	8.00	42.73	4,476.0	265.9	245.6	-264.0	0.00	0.00	0.00
4,600.0	8.00	42.73	4,575.0	276.1	255.0	-274.1	0.00	0.00	0.00
4,700.0	8.00	42.73	4,674.0	286.3	264.5	-284.3	0.00	0.00	0.00
4,800.0	8.00	42.73	4,773.1	296.5	273.9	-294.4	0.00	0.00	0.00
4,900.0	8.00	42.73	4,872.1	306.8	283.4	-304.6	0.00	0.00	0.00
5,000.0	8.00	42.73	4,971.1	317.0	292.8	-314.7	0.00	0.00	0.00
5,092.2	8.00	42.73	5,062.4	326.4	301.5	-324.1	0.00	0.00	0.00
Start Drop -1.50									
5,100.0	7.88	42.73	5,070.2	327.2	302.2	-324.9	1.50	-1.50	0.00
5,200.0	6.38	42.73	5,169.4	336.3	310.7	-333.9	1.50	-1.50	0.00
5,244.2	5.72	42.73	5,213.4	339.7	313.8	-337.3	1.50	-1.50	0.00
Cherry Canyon									
5,300.0	4.88	42.73	5,268.9	343.5	317.3	-341.1	1.50	-1.50	0.00
5,400.0	3.38	42.73	5,368.6	348.8	322.2	-346.3	1.50	-1.50	0.00
5,500.0	1.88	42.73	5,468.5	352.2	325.3	-349.7	1.50	-1.50	0.00
5,600.0	0.38	42.73	5,568.5	353.7	326.7	-351.1	1.50	-1.50	0.00
5,625.5	0.00	0.00	5,594.0	353.7	326.7	-351.2	1.50	-1.50	0.00
Start 5545.0 hold at 5625.5 MD									
5,700.0	0.00	0.00	5,668.5	353.7	326.7	-351.2	0.00	0.00	0.00
5,800.0	0.00	0.00	5,768.5	353.7	326.7	-351.2	0.00	0.00	0.00
5,900.0	0.00	0.00	5,868.5	353.7	326.7	-351.2	0.00	0.00	0.00
6,000.0	0.00	0.00	5,968.5	353.7	326.7	-351.2	0.00	0.00	0.00
6,100.0	0.00	0.00	6,068.5	353.7	326.7	-351.2	0.00	0.00	0.00
6,200.0	0.00	0.00	6,168.5	353.7	326.7	-351.2	0.00	0.00	0.00
6,300.0	0.00	0.00	6,268.5	353.7	326.7	-351.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,368.5	353.7	326.7	-351.2	0.00	0.00	0.00
6,402.6	0.00	0.00	6,371.1	353.7	326.7	-351.2	0.00	0.00	0.00
Brushy Canyon									
6,500.0	0.00	0.00	6,468.5	353.7	326.7	-351.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,568.5	353.7	326.7	-351.2	0.00	0.00	0.00
6,700.0	0.00	0.00	6,668.5	353.7	326.7	-351.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,768.5	353.7	326.7	-351.2	0.00	0.00	0.00
6,900.0	0.00	0.00	6,868.5	353.7	326.7	-351.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,968.5	353.7	326.7	-351.2	0.00	0.00	0.00
7,100.0	0.00	0.00	7,068.5	353.7	326.7	-351.2	0.00	0.00	0.00
7,200.0	0.00	0.00	7,168.5	353.7	326.7	-351.2	0.00	0.00	0.00
7,300.0	0.00	0.00	7,268.5	353.7	326.7	-351.2	0.00	0.00	0.00
7,400.0	0.00	0.00	7,368.5	353.7	326.7	-351.2	0.00	0.00	0.00
7,500.0	0.00	0.00	7,468.5	353.7	326.7	-351.2	0.00	0.00	0.00
7,503.8	0.00	0.00	7,472.3	353.7	326.7	-351.2	0.00	0.00	0.00
L. Brushy Canyon									
7,600.0	0.00	0.00	7,568.5	353.7	326.7	-351.2	0.00	0.00	0.00
7,700.0	0.00	0.00	7,668.5	353.7	326.7	-351.2	0.00	0.00	0.00
7,800.0	0.00	0.00	7,768.5	353.7	326.7	-351.2	0.00	0.00	0.00
7,900.0	0.00	0.00	7,868.5	353.7	326.7	-351.2	0.00	0.00	0.00
8,000.0	0.00	0.00	7,968.5	353.7	326.7	-351.2	0.00	0.00	0.00
8,097.3	0.00	0.00	8,065.7	353.7	326.7	-351.2	0.00	0.00	0.00
BSGL									
8,100.0	0.00	0.00	8,068.5	353.7	326.7	-351.2	0.00	0.00	0.00
8,200.0	0.00	0.00	8,168.5	353.7	326.7	-351.2	0.00	0.00	0.00
8,202.4	0.00	0.00	8,170.9	353.7	326.7	-351.2	0.00	0.00	0.00

Database:	EDM 5000.14 Server	**Local Co-ordinate Reference:**	Well Boros Fed Com #215H
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Site:	Boros	**North Reference:**	Grid
Well:	Boros Fed Com #215H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

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)
Avalon-SS									
8,300.0	0.00	0.00	8,268.5	353.7	326.7	-351.2	0.00	0.00	0.00
8,400.0	0.00	0.00	8,368.5	353.7	326.7	-351.2	0.00	0.00	0.00
8,500.0	0.00	0.00	8,468.5	353.7	326.7	-351.2	0.00	0.00	0.00
8,600.0	0.00	0.00	8,568.5	353.7	326.7	-351.2	0.00	0.00	0.00
8,700.0	0.00	0.00	8,668.5	353.7	326.7	-351.2	0.00	0.00	0.00
8,800.0	0.00	0.00	8,768.5	353.7	326.7	-351.2	0.00	0.00	0.00
8,900.0	0.00	0.00	8,868.5	353.7	326.7	-351.2	0.00	0.00	0.00
9,000.0	0.00	0.00	8,968.5	353.7	326.7	-351.2	0.00	0.00	0.00
9,060.0	0.00	0.00	9,028.5	353.7	326.7	-351.2	0.00	0.00	0.00
FBSG									
9,100.0	0.00	0.00	9,068.5	353.7	326.7	-351.2	0.00	0.00	0.00
9,200.0	0.00	0.00	9,168.5	353.7	326.7	-351.2	0.00	0.00	0.00
9,300.0	0.00	0.00	9,268.5	353.7	326.7	-351.2	0.00	0.00	0.00
9,400.0	0.00	0.00	9,368.5	353.7	326.7	-351.2	0.00	0.00	0.00
9,464.9	0.00	0.00	9,433.4	353.7	326.7	-351.2	0.00	0.00	0.00
SBSC									
9,500.0	0.00	0.00	9,468.5	353.7	326.7	-351.2	0.00	0.00	0.00
9,600.0	0.00	0.00	9,568.5	353.7	326.7	-351.2	0.00	0.00	0.00
9,700.0	0.00	0.00	9,668.5	353.7	326.7	-351.2	0.00	0.00	0.00
9,739.0	0.00	0.00	9,707.5	353.7	326.7	-351.2	0.00	0.00	0.00
SBSG									
9,800.0	0.00	0.00	9,768.5	353.7	326.7	-351.2	0.00	0.00	0.00
9,900.0	0.00	0.00	9,868.5	353.7	326.7	-351.2	0.00	0.00	0.00
10,000.0	0.00	0.00	9,968.5	353.7	326.7	-351.2	0.00	0.00	0.00
10,100.0	0.00	0.00	10,068.5	353.7	326.7	-351.2	0.00	0.00	0.00
10,194.1	0.00	0.00	10,162.6	353.7	326.7	-351.2	0.00	0.00	0.00
TBSC									
10,200.0	0.00	0.00	10,168.5	353.7	326.7	-351.2	0.00	0.00	0.00
10,300.0	0.00	0.00	10,268.5	353.7	326.7	-351.2	0.00	0.00	0.00
10,400.0	0.00	0.00	10,368.5	353.7	326.7	-351.2	0.00	0.00	0.00
10,500.0	0.00	0.00	10,468.5	353.7	326.7	-351.2	0.00	0.00	0.00
10,600.0	0.00	0.00	10,568.5	353.7	326.7	-351.2	0.00	0.00	0.00
10,700.0	0.00	0.00	10,668.5	353.7	326.7	-351.2	0.00	0.00	0.00
10,800.0	0.00	0.00	10,768.5	353.7	326.7	-351.2	0.00	0.00	0.00
10,900.0	0.00	0.00	10,868.5	353.7	326.7	-351.2	0.00	0.00	0.00
10,976.3	0.00	0.00	10,944.8	353.7	326.7	-351.2	0.00	0.00	0.00
TBSG									
11,000.0	0.00	0.00	10,968.5	353.7	326.7	-351.2	0.00	0.00	0.00
11,100.0	0.00	0.00	11,068.5	353.7	326.7	-351.2	0.00	0.00	0.00
11,170.5	0.00	0.00	11,139.0	353.7	326.7	-351.2	0.00	0.00	0.00
Start Build 10.00 - VP - Boros Fed Com #215H									
11,200.0	2.95	169.30	11,168.5	353.0	326.9	-350.4	10.00	10.00	0.00
11,296.7	12.62	169.30	11,264.2	340.1	329.3	-337.6	10.00	10.00	0.00
L. TBSG									
11,300.0	12.95	169.30	11,267.4	339.4	329.4	-336.9	10.00	10.00	0.00
11,378.5	20.80	169.30	11,342.5	317.0	333.7	-314.4	10.00	10.00	0.00
WFMP-A									
11,400.0	22.95	169.30	11,362.4	309.2	335.2	-306.6	10.00	10.00	0.00
11,500.0	32.95	169.30	11,450.6	263.2	343.9	-260.5	10.00	10.00	0.00
11,600.0	42.95	169.30	11,529.4	202.8	355.3	-200.1	10.00	10.00	0.00
11,700.0	52.95	169.30	11,596.3	129.9	369.0	-127.1	10.00	10.00	0.00
11,800.0	62.95	169.30	11,649.3	46.8	384.7	-43.8	10.00	10.00	0.00

Database:	EDM 5000.14 Server	**Local Co-ordinate Reference:**	Well Boros Fed Com #215H
Company:	Matador Production Company	**TVD Reference:**	KB @ 3259.5usft
Project:	Rustler Breaks	**MD Reference:**	KB @ 3259.5usft
Site:	Boros	**North Reference:**	Grid
Well:	Boros Fed Com #215H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

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)
11,867.9	69.74	169.30	11,676.5	-14.3	396.3	17.4	10.00	10.00	0.00
WFMP A-Fat									
11,900.0	72.95	169.30	11,686.8	-44.2	401.9	47.3	10.00	10.00	0.00
12,000.0	82.95	169.30	11,707.6	-140.2	420.1	143.4	10.00	10.00	0.00
12,070.5	90.00	169.30	11,712.0	-209.3	433.1	212.6	10.00	10.00	0.00
Start DLS 2.00 TFO 90.00									
12,100.0	90.00	169.89	11,712.0	-238.3	438.4	241.7	2.00	0.00	2.00
12,200.0	90.00	171.89	11,712.0	-337.0	454.3	340.5	2.00	0.00	2.00
12,300.0	90.00	173.89	11,712.0	-436.3	466.7	439.8	2.00	0.00	2.00
12,400.0	90.00	175.89	11,712.0	-535.9	475.6	539.5	2.00	0.00	2.00
12,500.0	90.00	177.89	11,712.0	-635.7	481.0	639.4	2.00	0.00	2.00
12,583.5	90.00	179.56	11,712.0	-719.2	482.8	722.9	2.00	0.00	2.00
Start 9298.7 hold at 12583.5 MD									
12,600.0	90.00	179.56	11,712.0	-735.7	483.0	739.4	0.00	0.00	0.00
12,700.0	90.00	179.56	11,712.0	-835.7	483.7	839.4	0.00	0.00	0.00
12,800.0	90.00	179.56	11,712.0	-935.7	484.5	939.4	0.00	0.00	0.00
12,900.0	90.00	179.56	11,712.0	-1,035.7	485.3	1,039.4	0.00	0.00	0.00
13,000.0	90.00	179.56	11,712.0	-1,135.7	486.0	1,139.4	0.00	0.00	0.00
13,100.0	90.00	179.56	11,712.0	-1,235.7	486.8	1,239.4	0.00	0.00	0.00
13,200.0	90.00	179.56	11,712.0	-1,335.7	487.6	1,339.4	0.00	0.00	0.00
13,300.0	90.00	179.56	11,712.0	-1,435.7	488.3	1,439.4	0.00	0.00	0.00
13,400.0	90.00	179.56	11,712.0	-1,535.7	489.1	1,539.4	0.00	0.00	0.00
13,500.0	90.00	179.56	11,712.0	-1,635.6	489.9	1,639.4	0.00	0.00	0.00
13,600.0	90.00	179.56	11,712.0	-1,735.6	490.7	1,739.4	0.00	0.00	0.00
13,700.0	90.00	179.56	11,712.0	-1,835.6	491.4	1,839.4	0.00	0.00	0.00
13,800.0	90.00	179.56	11,712.0	-1,935.6	492.2	1,939.4	0.00	0.00	0.00
13,900.0	90.00	179.56	11,712.0	-2,035.6	493.0	2,039.4	0.00	0.00	0.00
14,000.0	90.00	179.56	11,712.0	-2,135.6	493.7	2,139.4	0.00	0.00	0.00
14,100.0	90.00	179.56	11,712.0	-2,235.6	494.5	2,239.4	0.00	0.00	0.00
14,200.0	90.00	179.56	11,712.0	-2,335.6	495.3	2,339.4	0.00	0.00	0.00
14,300.0	90.00	179.56	11,712.0	-2,435.6	496.0	2,439.4	0.00	0.00	0.00
14,400.0	90.00	179.56	11,712.0	-2,535.6	496.8	2,539.4	0.00	0.00	0.00
14,500.0	90.00	179.56	11,712.0	-2,635.6	497.6	2,639.4	0.00	0.00	0.00
14,600.0	90.00	179.56	11,712.0	-2,735.6	498.3	2,739.4	0.00	0.00	0.00
14,700.0	90.00	179.56	11,712.0	-2,835.6	499.1	2,839.4	0.00	0.00	0.00
14,800.0	90.00	179.56	11,712.0	-2,935.6	499.9	2,939.4	0.00	0.00	0.00
14,900.0	90.00	179.56	11,712.0	-3,035.6	500.6	3,039.4	0.00	0.00	0.00
15,000.0	90.00	179.56	11,712.0	-3,135.6	501.4	3,139.4	0.00	0.00	0.00
15,100.0	90.00	179.56	11,712.0	-3,235.6	502.2	3,239.4	0.00	0.00	0.00
15,200.0	90.00	179.56	11,712.0	-3,335.6	502.9	3,339.4	0.00	0.00	0.00
15,300.0	90.00	179.56	11,712.0	-3,435.6	503.7	3,439.4	0.00	0.00	0.00
15,400.0	90.00	179.56	11,712.0	-3,535.6	504.5	3,539.4	0.00	0.00	0.00
15,500.0	90.00	179.56	11,712.0	-3,635.6	505.2	3,639.4	0.00	0.00	0.00
15,600.0	90.00	179.56	11,712.0	-3,735.6	506.0	3,739.4	0.00	0.00	0.00
15,700.0	90.00	179.56	11,712.0	-3,835.6	506.8	3,839.4	0.00	0.00	0.00
15,800.0	90.00	179.56	11,712.0	-3,935.6	507.5	3,939.4	0.00	0.00	0.00
15,900.0	90.00	179.56	11,712.0	-4,035.6	508.3	4,039.4	0.00	0.00	0.00
16,000.0	90.00	179.56	11,712.0	-4,135.6	509.1	4,139.4	0.00	0.00	0.00
16,100.0	90.00	179.56	11,712.0	-4,235.6	509.9	4,239.4	0.00	0.00	0.00
16,200.0	90.00	179.56	11,712.0	-4,335.6	510.6	4,339.4	0.00	0.00	0.00
16,300.0	90.00	179.56	11,712.0	-4,435.6	511.4	4,439.4	0.00	0.00	0.00
16,400.0	90.00	179.56	11,712.0	-4,535.6	512.2	4,539.4	0.00	0.00	0.00
16,500.0	90.00	179.56	11,712.0	-4,635.6	512.9	4,639.4	0.00	0.00	0.00

Database:	EDM 5000.14 Server	**Local Co-ordinate Reference:**	Well Boros Fed Com #215H
Company:	Matador Production Company	**TVD Reference:**	KB @ 3259.5usft
Project:	Rustler Breaks	**MD Reference:**	KB @ 3259.5usft
Site:	Boros	**North Reference:**	Grid
Well:	Boros Fed Com #215H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

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)
16,600.0	90.00	179.56	11,712.0	-4,735.6	513.7	4,739.4	0.00	0.00	0.00
16,700.0	90.00	179.56	11,712.0	-4,835.6	514.5	4,839.4	0.00	0.00	0.00
16,800.0	90.00	179.56	11,712.0	-4,935.6	515.2	4,939.4	0.00	0.00	0.00
16,900.0	90.00	179.56	11,712.0	-5,035.5	516.0	5,039.4	0.00	0.00	0.00
17,000.0	90.00	179.56	11,712.0	-5,135.5	516.8	5,139.4	0.00	0.00	0.00
17,100.0	90.00	179.56	11,712.0	-5,235.5	517.5	5,239.4	0.00	0.00	0.00
17,200.0	90.00	179.56	11,712.0	-5,335.5	518.3	5,339.4	0.00	0.00	0.00
17,300.0	90.00	179.56	11,712.0	-5,435.5	519.1	5,439.4	0.00	0.00	0.00
17,400.0	90.00	179.56	11,712.0	-5,535.5	519.8	5,539.4	0.00	0.00	0.00
17,500.0	90.00	179.56	11,712.0	-5,635.5	520.6	5,639.4	0.00	0.00	0.00
17,600.0	90.00	179.56	11,712.0	-5,735.5	521.4	5,739.4	0.00	0.00	0.00
17,700.0	90.00	179.56	11,712.0	-5,835.5	522.1	5,839.4	0.00	0.00	0.00
17,800.0	90.00	179.56	11,712.0	-5,935.5	522.9	5,939.4	0.00	0.00	0.00
17,900.0	90.00	179.56	11,712.0	-6,035.5	523.7	6,039.4	0.00	0.00	0.00
18,000.0	90.00	179.56	11,712.0	-6,135.5	524.4	6,139.4	0.00	0.00	0.00
18,100.0	90.00	179.56	11,712.0	-6,235.5	525.2	6,239.4	0.00	0.00	0.00
18,200.0	90.00	179.56	11,712.0	-6,335.5	526.0	6,339.4	0.00	0.00	0.00
18,300.0	90.00	179.56	11,712.0	-6,435.5	526.7	6,439.4	0.00	0.00	0.00
18,400.0	90.00	179.56	11,712.0	-6,535.5	527.5	6,539.4	0.00	0.00	0.00
18,500.0	90.00	179.56	11,712.0	-6,635.5	528.3	6,639.4	0.00	0.00	0.00
18,600.0	90.00	179.56	11,712.0	-6,735.5	529.0	6,739.4	0.00	0.00	0.00
18,700.0	90.00	179.56	11,712.0	-6,835.5	529.8	6,839.4	0.00	0.00	0.00
18,800.0	90.00	179.56	11,712.0	-6,935.5	530.6	6,939.4	0.00	0.00	0.00
18,900.0	90.00	179.56	11,712.0	-7,035.5	531.4	7,039.4	0.00	0.00	0.00
19,000.0	90.00	179.56	11,712.0	-7,135.5	532.1	7,139.4	0.00	0.00	0.00
19,100.0	90.00	179.56	11,712.0	-7,235.5	532.9	7,239.4	0.00	0.00	0.00
19,200.0	90.00	179.56	11,712.0	-7,335.5	533.7	7,339.4	0.00	0.00	0.00
19,300.0	90.00	179.56	11,712.0	-7,435.5	534.4	7,439.4	0.00	0.00	0.00
19,400.0	90.00	179.56	11,712.0	-7,535.5	535.2	7,539.4	0.00	0.00	0.00
19,500.0	90.00	179.56	11,712.0	-7,635.5	536.0	7,639.4	0.00	0.00	0.00
19,600.0	90.00	179.56	11,712.0	-7,735.5	536.7	7,739.4	0.00	0.00	0.00
19,700.0	90.00	179.56	11,712.0	-7,835.5	537.5	7,839.4	0.00	0.00	0.00
19,800.0	90.00	179.56	11,712.0	-7,935.5	538.3	7,939.4	0.00	0.00	0.00
19,900.0	90.00	179.56	11,712.0	-8,035.5	539.0	8,039.4	0.00	0.00	0.00
20,000.0	90.00	179.56	11,712.0	-8,135.5	539.8	8,139.4	0.00	0.00	0.00
20,100.0	90.00	179.56	11,712.0	-8,235.5	540.6	8,239.4	0.00	0.00	0.00
20,200.0	90.00	179.56	11,712.0	-8,335.5	541.3	8,339.4	0.00	0.00	0.00
20,300.0	90.00	179.56	11,712.0	-8,435.4	542.1	8,439.4	0.00	0.00	0.00
20,400.0	90.00	179.56	11,712.0	-8,535.4	542.9	8,539.4	0.00	0.00	0.00
20,500.0	90.00	179.56	11,712.0	-8,635.4	543.6	8,639.4	0.00	0.00	0.00
20,600.0	90.00	179.56	11,712.0	-8,735.4	544.4	8,739.4	0.00	0.00	0.00
20,700.0	90.00	179.56	11,712.0	-8,835.4	545.2	8,839.4	0.00	0.00	0.00
20,800.0	90.00	179.56	11,712.0	-8,935.4	545.9	8,939.4	0.00	0.00	0.00
20,900.0	90.00	179.56	11,712.0	-9,035.4	546.7	9,039.4	0.00	0.00	0.00
21,000.0	90.00	179.56	11,712.0	-9,135.4	547.5	9,139.4	0.00	0.00	0.00
21,100.0	90.00	179.56	11,712.0	-9,235.4	548.2	9,239.4	0.00	0.00	0.00
21,200.0	90.00	179.56	11,712.0	-9,335.4	549.0	9,339.4	0.00	0.00	0.00
21,300.0	90.00	179.56	11,712.0	-9,435.4	549.8	9,439.4	0.00	0.00	0.00
21,400.0	90.00	179.56	11,712.0	-9,535.4	550.5	9,539.4	0.00	0.00	0.00
21,500.0	90.00	179.56	11,712.0	-9,635.4	551.3	9,639.4	0.00	0.00	0.00
21,600.0	90.00	179.56	11,712.0	-9,735.4	552.1	9,739.4	0.00	0.00	0.00
21,700.0	90.00	179.56	11,712.0	-9,835.4	552.9	9,839.4	0.00	0.00	0.00
21,800.0	90.00	179.56	11,712.0	-9,935.4	553.6	9,939.4	0.00	0.00	0.00
21,882.2	90.00	179.56	11,712.0	-10,017.6	554.3	10,021.6	0.00	0.00	0.00

Database:	EDM 5000.14 Server	**Local Co-ordinate Reference:**	Well Boros Fed Com #215H
Company:	Matador Production Company	**TVD Reference:**	KB @ 3259.5usft
Project:	Rustler Breaks	**MD Reference:**	KB @ 3259.5usft
Site:	Boros	**North Reference:**	Grid
Well:	Boros Fed Com #215H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

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)
TD at 21882.2 - BHL - Boros Fed Com #215H									

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
VP - Boros Fed Com #2 - plan hits target center - Point	0.00	0.00	11,139.0	353.7	326.7	382,320.00	674,084.00	32° 2' 59.523 N	103° 46' 17.263 W
BHL - Boros Fed Com #: - plan hits target center - Point	0.00	0.00	11,712.0	-10,017.6	554.3	371,947.74	674,311.57	32° 1' 16.865 N	103° 46' 15.247 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,328.6	1,328.6	Rustler			
1,512.7	1,512.7	Salado (Top Salt)			
4,095.6	4,075.5	Base Salt			
4,126.2	4,105.8	Bell Canyon			
5,244.2	5,213.4	Cherry Canyon			
6,402.6	6,371.1	Brushy Canyon			
7,503.8	7,472.3	L. Brushy Canyon			
8,097.3	8,065.7	BSGL			
8,202.4	8,170.9	Avalon-SS			
9,060.0	9,028.5	FBSG			
9,464.9	9,433.4	SBSC			
9,739.0	9,707.5	SBSG			
10,194.1	10,162.6	TBSC			
10,976.3	10,944.8	TBSG			
11,296.7	11,264.2	L. TBSG			
11,378.5	11,342.5	WFMP-A			
11,867.9	11,676.5	WFMP A-Fat			

Database:	EDM 5000.14 Server	**Local Co-ordinate Reference:**	Well Boros Fed Com #215H
Company:	Matador Production Company	**TVD Reference:**	KB @ 3259.5usft
Project:	Rustler Breaks	**MD Reference:**	KB @ 3259.5usft
Site:	Boros	**North Reference:**	Grid
Well:	Boros Fed Com #215H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
1,500.0	1,500.0	0.0	0.0	Start Build 1.00
2,300.0	2,297.4	41.0	37.8	Start 2792.2 hold at 2300.0 MD
5,092.2	5,062.4	326.4	301.5	Start Drop -1.50
5,625.5	5,594.0	353.7	326.7	Start 5545.0 hold at 5625.5 MD
11,170.5	11,139.0	353.7	326.7	Start Build 10.00
12,070.5	11,712.0	-209.3	433.1	Start DLS 2.00 TFO 90.00
12,583.5	11,712.0	-719.2	482.8	Start 9298.7 hold at 12583.5 MD
21,882.2	11,712.0	-10,017.6	554.3	TD at 21882.2

Hydrogen Sulfide Drilling Operations Plan Matador Resources

1 H2S safety instructions to the following:

- Characteristics of H2S
- Physical effects and hazards
- Principal and operation of H2S detectors, warning system and briefing areas
- Evacuation procedures, routes and first aid
- Proper use of safety equipment & life support systems
- Essential personnel meeting medical evaluation criteria will receive additional training on the proper use of 30min pressure demand air packs

2 H2S Detection and Alarm Systems:

- H2S sensor/detectors to be located on the drilling rig floor, in the base of the sub structure / cellar area, on the mud pits in the shale shaker area. Additional H2S detectors may be placed as deemed necessary
- An audio alarm system will be installed on the derrick floor and in the doghouse

3 Windsocks and / Wind Streamers:

- Windsocks at mud pit area should be high enough to be visible
- Windsock on the rig floor and / top of doghouse should be high enough to be visible

4 Condition Flags and Signs:

- Warning sign on access road to location
- Flags to be displayed on sign at entrance to location
    - Green Flag – Normal Safe Operation Condition
    - Yellow Flag – Potential Pressure and Danger
    - Red Flag – Danger (H2S present in dangerous concentrations) Only H2S trained personnel admitted on location

5 Well Control Equipment:

- See Exhibit E-1

6 Communication:

- While working under masks chalkboards will be used for communications
- Hand signals will be used where chalk board is inappropriate
- Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.

7 Drilling Stem Testing:

- No DST cores are planned at this time

8 Drilling contractor supervisor will be required to be familiar with the effects H2S has on tubulars good and other mechanical equipment
9 If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavengers if necessary
11 Emergency Contacts

- See exhibit E-6

Boros Federal #215H
SHL: 400' FNL & 514' FWL Section 15
BHL: 240' FSL & 991' FWL Section 22
Township/Range: 26S 31E
Elevation Above Sea Level: 3,231'

Drilling Operation Plan

Proposed Drilling Depth: 21882' MD / 11712' TVD

Type of well: Horizontal well, no pilot hole

Permitted Well Type: Gas

Geologic Name of Surface Formation Quaternary Deposits

KOP Lat/Long (NAD83): 32.0499924800 N / -103.7719368174 W
TD Lat/Long (NAD83): 32.0214766113 N / -103.7713755490 W

1. Estimated Tops

Formation	MD (ft)	TVD (ft)	Thickness (ft)	Lithology	Resource
Rustler	1,329	1,329	184	Anhydrite	Barren
Top of Salt	1,513	1,513	1,878	Salt	Barren
Castile	3,391	3,391	685	Salt	Barren
Base of Salt	4,076	4,076	30	Salt	Barren
Bell Canyon	4,106	4,106	1,107	Sandstone	Oil/Natural Gas
Cherry Canyon	5,213	5,213	1,158	Sandstone	Oil/Natural Gas
Brushy Canyon	6,371	6,371	1,695	Sandstone	Oil/Natural Gas
Bone Spring Lime	8,066	8,066	963	Limestone	Oil/Natural Gas
1st Bone Spring Sand	9,029	9,029	404	Sandstone	Oil/Natural Gas
2nd Bone Spring Carbonate	9,433	9,433	275	Carbonate	Oil/Natural Gas
2nd Bone Spring Sand	9,708	9,708	455	Sandstone	Oil/Natural Gas
3rd Bone Spring Carbonate	10,163	10,163	782	Carbonate	Oil/Natural Gas
3rd Bone Spring Sand	10,945	10,945	397	Sandstone	Oil/Natural Gas
KOP	**11,170**	**11,139**	**-**	**Shale**	**Oil/Natural Gas**
Wolfcamp	11,378	11,342	-	Shale	Oil/Natural Gas
TD	**21,882**	**11,712**		**Shale**	**Oil/Natural Gas**

2. Notable Zones

Wolfcamp is the goal. All perforations will be within the setback requirements as prescribed or permitted by the New Mexico Oil Conservation Division. OSE estimated ground water depth at this location is 230'

3. Pressure Control

Equipment
A 18,000' 10,000-psi BOP stack consisting of 3 rams with 2 pipe rams, 1 blind ram, and one annular preventer will be utilized below surface casing to TD. See attachments for BOP and choke manifold diagrams.

An accumulator complying with Onshore Order #2 requirements for the pressure rating of the BOP stack will be present. A rotating head will also be installed as needed.

Testing Procedure
BOP will be inspected and operated as required in Onshore Order #2. Kelly cock and sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position.

A third party company will test the BOPs.

After setting surface casing, a minimum 10M BOPE system will be installed. Test pressures will be 250 psi low and 10,000 psi high with the annular preventer being tested to 250 psi low and 5000 psi high before drilling below surface shoe. In the event that the rig drills multiple wells on the pad and any seal subject to test pressures are broken, a full BOP test will be performed when the rig returns and the 10M BOPE system is re-installed.

Variance Request
Matador requests a variance to have the option of running a multi-bowl wellhead assembly for setting the Intermediate 1, Intermediate 2, and Production Strings. The BOPs will not be tested again unless any flanges are separated.

Matador requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. If the specific hose is not available, then one of equal or higher rating will be used.

Matador requests a variance to have the option of batch drilling this well with other wells on the same pad. In the event that this well is batch drilled, the wellbore will be secured with a blind flange of like pressure. When the rig returns to this well and BOPs are installed, the operator will perform a full BOP test.

Matador requests a variance to drill this well using a 5M annular preventer with a 10M BOP ram stack. The "Well Control Plan For 10M MASP Section of Wellbore" is attached.

4. Casing & Cement

All casing will be API and new. See attached casing assumption worksheet.

String	Hole Size (in)	Set MD (ft)	Set TVD (ft)	Casing Size (in)	Wt. (lb/ft)	Grade	Joint	Collapse	Burst	Tension
Surface	17.5	0 - 1354	0 - 1354	13.375	54.5	J-55	BUTT	1.125	1.125	1.8
Intermediate 1	12.25	0 - 4131	0 - 4131	9.625	40	J-55	BUTT	1.125	1.125	1.8
Intermediate 2 Top	8.75	0 - 3831	0 - 3831	7.625	29.7	P-110	BUTT	1.125	1.125	1.8
Intermediate 2 Bottom	8.75	3831 - 11800	3831 - 11649	7.625	29.7	P-110	VAM HTF-NR	1.125	1.125	1.8
Production Top	6.75	0 - 11700	0 - 11623	5.5	20	P-110	DWC/C-IS MS	1.125	1.125	1.8
Production Bottom	6.75	11700 - 21882	11623 - 11712	5.5	20	P-110	VAM EDGE SF	1.125	1.125	1.8

- All casing strings will be tested in accordance with Onshore Order #2 - III.B.1.h
- Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed

Variance Request

Matador requests a variance to run 7-5/8" BTC casing inside 9-5/8" BTC casing which will be less than the 0.422" stand off regulation. Matador has met with Christopher Walls and Mustafa Haque as well as other BLM representatives and determined that this would be acceptable as long as the 7-5/8" flush casing was run throughout the entire 300' cement tie back section between 9-5/8" and 7-5/8" casing.

Matador request a variance to wave the centralizer requirement for the 7-5/8" flush casing in the last 800' of 8-3/4" hole and the 5-1/2" SF/Flush casing in the 6-3/4" hole.

String	Type	Sacks	Yield	Cu. Ft.	Weight	Percent Excess	Top of Cement	Class	Blend
Surface	Lead	680	1.72	1170	12.5	50%	0	C	5% NaCl + LCM
	Tail	250	1.38	347	14.8	50%	1054	C	5% NaCl + LCM
Intermediate 1	Lead	780	2.13	1653	12.6	50%	0	C	Bentonite + 1% CaCL2 + 8% NaCl + LCM
	Tail	310	1.38	422	14.8	50%	3305	C	5% NaCl + LCM
Intermediate 2	Lead	440	2.13	945	11.0	35%	3831	TXI	Fluid Loss + Dispersant + Retarder + LCM
	Tail	110	1.46	156	13.2	35%	10800	TXI	Fluid Loss + Dispersant + Retarder + LCM
Production	Tail	840	1.17	987	14.5	10%	11300	H	Fluid Loss + Dispersant + Retarder + LCM

5. Mud Program

An electronic Pason mud monitoring system complying with Onshore Order 2 will be used. All necessary mud products (barite, bentonite, LCM) for weight addition and fluid loss control will be on location at all times. Mud program is subject to change due to hole conditions.

Hole Section	Hole Size (in)	Mud Type	Interval MD (ft)	Density (lb/gal)	Viscosity	Fluid Loss
Surface	17.5	Spud Mud	0 - 1354	8.4 - 8.8	28-30	NC
Intermediate 1	12.25	Brine Water	1354 - 4131	9.5 - 10.2	28-30	NC
Intermediate 2	8.75	FW/Cut Brine	4131 - 11800	8.4 - 9.4	28-30	NC
Production	6.75	OBM	11800 - 21882	11.5 - 12.4	30-35	<20

6. Cores, Test, & Logs

No core or drill stem test is planned.

A 2-person mud logging program will be used from Intermediate 2 Casing shoe to TD.

No electric logs are planned at this time. GR will be collected through the MWD tools from Intermediate casing to TD. CBL with CCL will be run as far as gravity will let it fall to top of curve.

7. Down Hole Conditions

No abnormal pressure or temperature is expected. Maximum anticipated surface pressure is 4975 psi. Expected bottom hole temperature is 191° F.

In accordance with Onshore Order 6, Matador does not anticipate that there will be enough H2S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H2S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H2S safety package on all wells, attached is an "H2S Drilling Operations Plan". Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

Exhibit E-6: H2S Contingency Plan Emergency Contacts
Matador Resources Company

Company Office			
Matador Resources Company	(972)-371-5200		
Key Personnel			
Name	**Title**	**Office**	**Mobile**
Billy Goodwin	Vice President Drilling	972-371-5210	817-522-2928
Gary Martin	Drilling Superintendent		601-669-1774
Dee Smith	Drilling Superintendent	972-371-5447	972-822-1010
Blake Hermes	Drilling Engineer	972-371-5485	713-876-8558
	Construction Superintendent		
	Construction Superintendent		
Artesia			
Ambulance		911	
State Police		575-746-2703	
City Police		575-746-2703	
Sheriff's Office		575-746-9888	
Fire Department		575-746-2701	
Local Emergency Planning Committee		575-746-2122	
New Mexico Oil Conservation Division		575-748-1283	
Carlsbad			
Ambulance		911	
State Police		575-885-3137	
City Police		575-885-2111	
Sheriff's Office		575-887-7551	
Fire Department		575-887-3798	
Local Emergency Planning Committee		575-887-6544	
New Mexico Oil Conservation Division		575-887-6544	
Santa Fe			
New Mexico Emergency Response Comission (Santa Fe)		505-476-9600	
New Mexico Emergency Response Comission (Santa Fe) 24 hrs		505-827-9126	
New Mexico State Emergency Operations Center		505-476-9635	
National			
National Emegency Response Center (Washington, D.C.)		800-424-8802	
Medical			
Flight for Life- 4000 24th St.; Lubbock, TX		806-743-9911	
Aerocare- R3, Box 49F; Lubbock, TX		806-747-8923	
Med Flight Air Amb- 2301 Yale Blvd S.E., D3; Albuquerque, NM		505-842-4433	
SB Air Med Service- 2505 Clark Carr Loop S.E.; Albuquerque, NM		505-842-4949	
Other			
Boots & Coots IWC		800-256-9688	or 281-931-8884
Cudd Pressure Control		432-699-0139	or 432-563-3356
Haliburton		575-746-2757	
B.J. Services		575-746-3569	

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	MATADOR PRODUCTION COMPANY
LEASE NO.:	NMNM138865
WELL NAME & NO.:	215H – BOROS FED COM
SURFACE HOLE FOOTAGE:	400'/N & 514'/W
BOTTOM HOLE FOOTAGE	240'/S & 991'/W
LOCATION:	SECTION 15, T26S, R31E, NMPM
COUNTY:	EDDY

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
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **1354** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after

completing the cement job.

b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (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 **9-5/8** inch intermediate casing shall be set at approximately **4131** feet. The minimum required fill of cement behind the Choose an item. inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

Option 2:

Operator has proposed 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.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

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

3. The minimum required fill of cement behind the **7-5/8** inch 2nd intermediate casing is:

Option 1 (Single Stage):

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

Option 2:

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

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:

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

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.

Option 1:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 2nd intermediate casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

Option 2:

1. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling

below the surface casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) 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 Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, 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.
- 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
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

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

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

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

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

A. CASING

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

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

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

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

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

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

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

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

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

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

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

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

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

lead when specified), 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).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

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

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

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

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

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

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.

NMK242020

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

Environmental Assessment DOI-BLM-NM-P020-2020-0098-EA

Matador Production Company,
Boros Fed Com Slots 1-4
Oil Wells Project in
Eddy County, New Mexico
BLM Lease Number: NMNM-140693

Project Features	Legal Location within Section 15, Township 26 South, Range 31 East, NMPM
Well Number	**Surface Hole Location**
Boros Fed Com Slot 1	
021H	400 FNL, and 100 FSL
101H	430 FNL, and 514 FWL
105H	430 FNL and 624 FWL
111H	430 FNL and 594 FWL
121H	400 FNL and 594 FWL
131H	430 FNL and 704 FWL
201H	430 FNL and 484 FWL
215H	400 FNL and 514 FWL
221H	400 FNL and 484 FWL
225H	430 FNL and 734 FWL
241H	400 FNL and 704 FWL
Boros Fed Com Slot 2	
022H	400 FNL and 1,960 FWL
102H	430 FNL and 1,850 FWL
106H	430 FNL and 1,960 FWL
112H	430 FNL and 1,930 FWL
122H	400 FNL and 1,930 FWL
132H	430 FNL and 2,040 FWL
202H	430 FNL and 1,820 FWL

Approval Date: 02/12/2020

216H	400 FNL and 1,850 FWL
222H	400 FNL and 1,820 FWL
226H	430 FNL and 2,070 FWL
242H	400 FNL and 2,040 FWL
Boros Fed Com Slot 3	
023H	400 FNL and 2,294 FEL
103H	430 FNL and 2,403 FEL
107H	430 FNL and 2,293 FEL
113H	430 FNL and 2,323 FEL
123H	400 FNL and 2,324 FEL
133H	430 FNL and 2,213 FEL
Project Features	**Legal Location within Section 15, Township 26 South, Range 31 East, NMPM**
203H	430 FNL and 2,434 FEL
217H	400 FNL and 2,404 FEL
223H	400 FNL and 2,434 FEL
227H	430 FNL and 2,183 FEL
243H	400 FNL and 2,214 FEL
Boros Fed Com Slot 4	
024H	400 FNL and 711 FEL
104H	430 FNL and 820 FEL
108H	430 FNL and 710 FEL
114H	430 FNL and 740 FEL
124H	400 FNL and 741 FEL
134H	430 FNL and 630 FEL
204H	430 FNL and 851 FEL
218H	400 FNL and 821 FEL
224H	400 FML and 851 FEL
228H	430 FNL and 600 FEL
244H	400 FNL and 631 FEL

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - **Wildlife: Phantom Banks Heronry SMA**
  - Watershed
  - Cave/Karst
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- ☐ **Construction**
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  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☒ **Production (Post Drilling)**
  - Well Structures & Facilities
  - Pipelines
  - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Wildlife: Phantom Banks Heronry SMA

Surface disturbance will not be allowed within up to 200 meters of active heronries or by delaying activity for up to 120 days, or a combination of both.

Exhaust noise from engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

Watershed:

The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

VRM IV:

- Above-ground structures including meter housing that are not subject to safety requirements are painted a flat non-reflective paint color, Shale Green from the BLM Standard Environmental Color Chart (CC-001: June 2013).

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production:

Construction:

General Construction:

- No blasting
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction, and no additional construction shall occur until clearance has been issued by the Authorized Officer.

- All linear surface disturbance activities will avoid sinkholes and other karst features to lessen the possibility of encountering near surface voids during construction, minimize changes to runoff, and prevent untimely leaks and spills from entering the karst drainage system.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

Pad Construction:

- The pad will be constructed and leveled by adding the necessary fill and caliche – no blasting.
- The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.
- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g., caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised (i.e. an access road crossing the berm cannot be lower than the berm height).
- Following a rain event, all fluids will vacuumed off of the pad and hauled off-site and disposed at a proper disposal facility.

Tank Battery Construction:

- The pad will be constructed and leveled by adding the necessary fill and caliche – no blasting.
- All tank battery locations and facilities will be lined and bermed.
- The liner should be at least 20 mil in thickness and installed with a 4 oz. felt backing, or equivalent, to prevent tears or punctures.
- Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Road Construction:

- Turnout ditches and drainage leadoffs will not be constructed in such a manner as to alter the natural flow of water into or out of cave or karst features.
- Special restoration stipulations or realignment may be required if subsurface features are discovered during construction.

Buried Pipeline/Cable Construction:

- Rerouting of the buried line(s) may be required if a subsurface void is encountered during construction to minimize the potential subsidence/collapse of the feature(s) as well as the possibility of leaks/spills entering the karst drainage system.

Powerline Construction:

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems.
- Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- Special restoration stipulations or realignment may be required if subsurface voids are encountered.

Surface Flowlines Installation:

- Flowlines will be routed around sinkholes and other karst features to minimize the possibility of leaks/spills from entering the karst drainage system.

Leak Detection System:

- A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present.
- A leak detection plan will be submitted to BLM that incorporates an automatic shut off system (see below) to minimize the effects of an undesirable event that could negatively sensitive cave/karst resources.
- Well heads, pipelines (surface and buried), storage tanks, and all supporting equipment should be monitored regularly after installation to promptly identify and fix leaks.

Automatic Shut-off Systems:

- Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and groundwater concerns:

Closed Loop System:

- A closed loop system using steel tanks will be utilized during drilling – no pits
- All fluids and cuttings will be hauled off-site and disposed of properly at an authorized site

Rotary Drilling with Fresh Water:

- Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:

- The kick off point for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:

- ALL lost circulation zones between surface and the base of the cave occurrence zone will be logged and reported in the drilling report.
- If a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, regardless of the type of drilling machinery used, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:

- Additional plugging conditions of approval may be required upon well abandonment in high and medium karst potential occurrence zones.
- The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:

- The operator will perform annual pressure monitoring on all casing annuli and reported in a sundry notice.
- If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be

redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

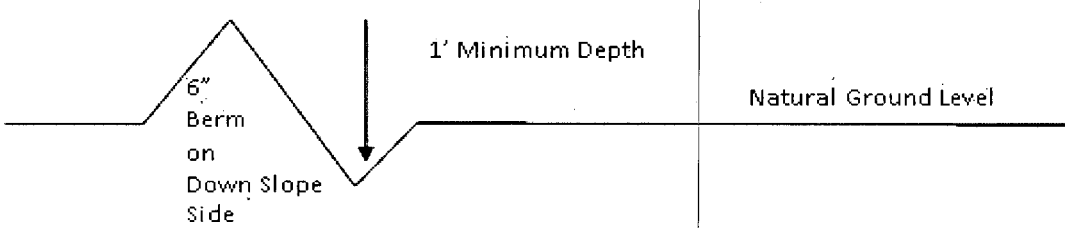
Ditching
Ditching shall be required on both sides of the road.

Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$\text{400 foot road with 4\% road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

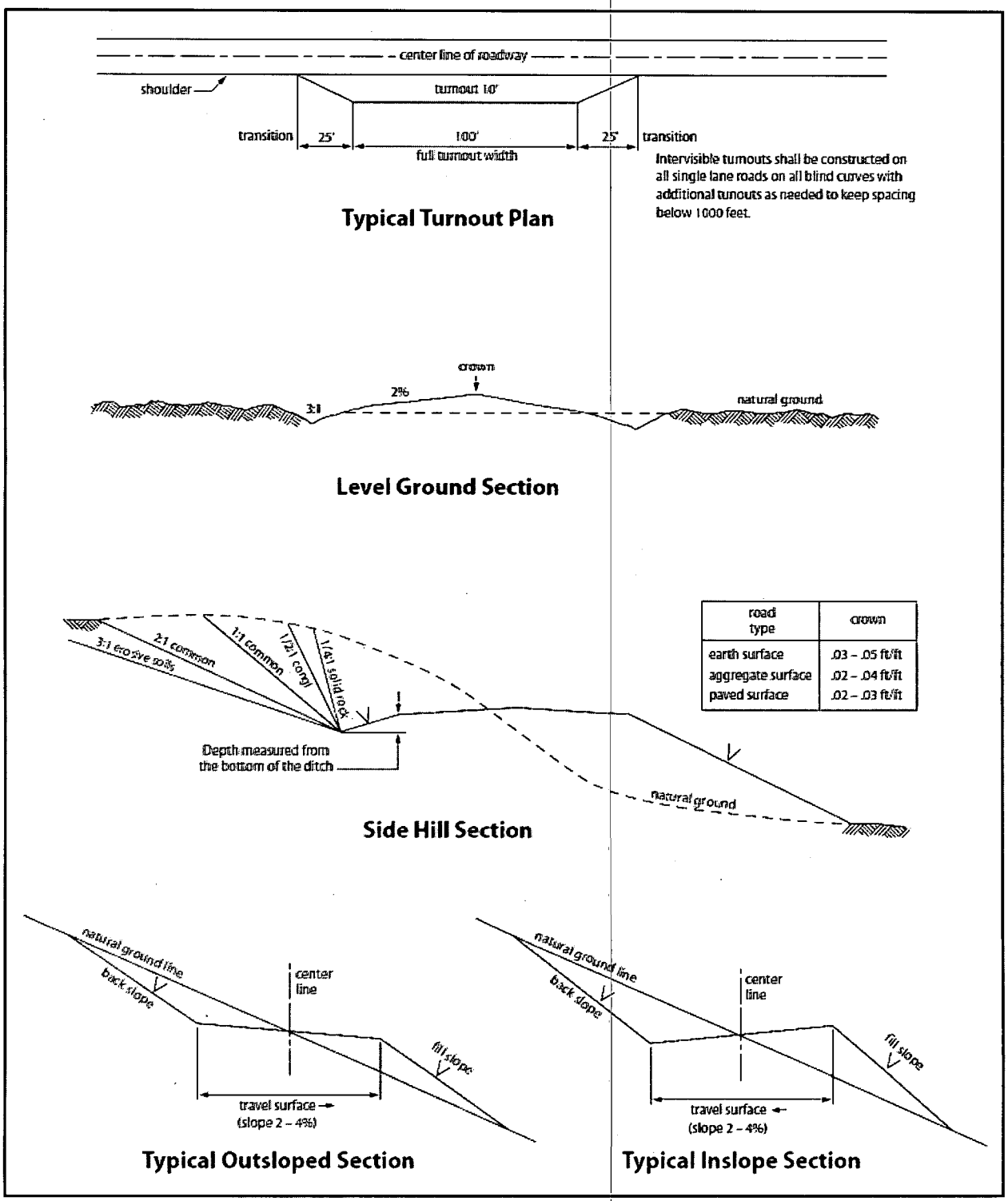


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, passages, or voids are intersected by trenching, and no pipe will be laid in the trench at that point until clearance has been issued by the Authorized Officer.
- If a void is encountered alignments may be rerouted to avoid the karst feature and lessen; the potential of subsidence or collapse of karst features, buildup of toxic or combustible gas, or other possible impacts to cave and karst resources from the buried pipeline.
- Special restoration stipulations or realignment may be required at such intersections, if any.
- A leak detection plan **will be submitted to the BLM Carlsbad Field Office for approval** prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating values and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.
- Regular monitoring is required to quickly identify leaks for their immediate and proper treatment.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

( ) seed mixture 1	( ) seed mixture 3
(X) seed mixture 2	( ) seed mixture 4
( ) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 17 for more information.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

17. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

18. Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

19. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

20. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the Grant and attachments, including stipulations, survey plat(s) and/or map(s), shall be on location during construction. BLM personnel may request to review a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, Holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC § 2601 *et seq.* (1982) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant (*see* 40 CFR, Part 702-799 and in particular, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. Holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9601, *et seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way Holder's activity on the Right-of-Way), or resulting from the

activity of the Right-of-Way Holder on the Right-of-Way. This provision applies without regard to whether a release is caused by Holder, its agent, or unrelated third parties.

4. Holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. Holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of Holder including, but not limited to: construction, operation, maintenance, and termination of the facility;

b. Activities of other parties including, but not limited to:
   (1) Land clearing
   (2) Earth-disturbing and earth-moving work
   (3) Blasting
   (4) Vandalism and sabotage;

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of Holder, regardless of fault. Upon failure of Holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he/she deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of Holder. Such action by the Authorized Officer shall not relieve Holder of any responsibility as provided herein.

6. All construction and maintenance activity shall be confined to the authorized right-of-way width of **30** feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline shall be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline shall be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity shall be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation shall be allowed unless approved in writing by the Authorized Officer.

8. Holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline shall be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried with a minimum of 6 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized

Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 16 for more information.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

16. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

17. Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

18. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, powerline corridor, and adjacent land affected by

the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

19. Surface pipelines shall be less than or equal to 4 inches and a working pressure below 125 psi.

C. ELECTRIC LINES

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems. Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction.
- No further construction will be done until clearance has been issued by the Authorized Officer.
- Special restoration stipulations or realignment may be required.

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the

release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends

service to an active, adjoining facility or facilities.

10. Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 11 for more information.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

11. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

12. Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or

scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

13. Special Stipulations:
For reclamation remove poles, lines, transformer, etc. and dispose of properly.
Fill in any holes from the poles removed.

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 2, for Sandy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed