Form 3160-3 FORM APPROVED OMB No. 1004-0137 (June 2015) Expires: January 31, 2018 **UNITED STATES** DEPARTMENT OF THE INTERIOR 5. Lease Serial No. BUREAU OF LAND MANAGEMENT APPLICATION FOR PERMIT TO DRILL OR REENTER 6. If Indian, Allotee or Tribe Name 7. If Unit or CA Agreement, Name and No. DRILL REENTER 1a. Type of work: 1b. Type of Well: Oil Well Gas Well Other 8. Lease Name and Well No. 1c. Type of Completion: Hydraulic Fracturing Single Zone Multiple Zone 2. Name of Operator 9. API Well No. 30-015-53800 10. Field and Pool, or Exploratory 3a. Address 3b. Phone No. (include area code) 4. Location of Well (Report location clearly and in accordance with any State requirements.\*) 11. Sec., T. R. M. or Blk. and Survey or Area At surface At proposed prod. zone 14. Distance in miles and direction from nearest town or post office\* 12. County or Parish 13. State 15. Distance from proposed\* 16. No of acres in lease 17. Spacing Unit dedicated to this well location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 18. Distance from proposed location\* 19. Proposed Depth 20. BLM/BIA Bond No. in file to nearest well, drilling, completed, applied for, on this lease, ft. 22. Approximate date work will start\* 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 23. Estimated duration 24. Attachments The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable) 1. Well plat certified by a registered surveyor. 4. Bond to cover the operations unless covered by an existing bond on file (see 2. A Drilling Plan. Item 20 above). 3. A Surface Use Plan (if the location is on National Forest System Lands, the 5. Operator certification. SUPO must be filed with the appropriate Forest Service Office). 6. Such other site specific information and/or plans as may be requested by the 25. Signature Name (Printed/Typed) Date Title Approved by (Signature) Name (Printed/Typed) Date Title Office Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditions of approval, if any, are attached. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction APPROVED WITH CONDITIONS

(Continued on page 2)

\*(Instructions on page 2)

#### **INSTRUCTIONS**

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

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

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

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

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

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

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

# NOTICES

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

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

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

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

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

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

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

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

# **Additional Operator Remarks**

## **Location of Well**

0. SHL: LOT 5 / 2047 FNL / 387 FWL / TWSP: 21S / RANGE: 27E / SECTION: 3 / LAT: 32.517057 / LONG: -104.184699 ( TVD: 0 feet, MD: 0 feet ) PPP: LOT 2 / 790 FNL / 2492 FEL / TWSP: 21S / RANGE: 27E / SECTION: 1 / LAT: 32.5205116 / LONG: -104.1425616 ( TVD: 9479 feet, MD: 22500 feet ) PPP: LOT 4 / 790 FNL / 184 FWL / TWSP: 21S / RANGE: 27E / SECTION: 1 / LAT: 32.5205128 / LONG: -104.150996 ( TVD: 9439 feet, MD: 19900 feet ) PPP: LOT 3 / 790 FNL / 1484 FWL / TWSP: 21S / RANGE: 27E / SECTION: 1 / LAT: 32.5205123 / LONG: -104.1467788 ( TVD: 9459 feet, MD: 21200 feet ) PPP: LOT 5 / 790 FNL / 173 FWL / TWSP: 21S / RANGE: 27E / SECTION: 2 / LAT: 32.5205136 / LONG: -104.1681891 ( TVD: 9357 feet, MD: 14600 feet ) PPP: LOT 4 / 789 FNL / 623 FWL / TWSP: 21S / RANGE: 27E / SECTION: 3 / LAT: 32.5205123 / LONG: -104.18388 ( TVD: 9283 feet, MD: 9763 feet ) BHL: LOT 1 / 790 FNL / 20 FEL / TWSP: 21S / RANGE: 27E / SECTION: 1 / LAT: 32.52051 / LONG: -104.13454 ( TVD: 9106 feet, MD: 24545 feet )

## **BLM Point of Contact**

Name: Candy Vigil

Title: LIE

Phone: (575) 234-5982 Email: cvigil@blm.gov

# **Review and Appeal Rights**

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



DISTRICT I 1625 N. FRENCH DR., HOBBS, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720

State of New Mexico Energy, Minerals & Natural Resources Department CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.

Santa Fe, New Mexico 87505

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

□ AMENDED REPORT

DISTRICT II 811 S. FIRST ST., ARTESIA, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III 1000 RIO BRAZOS RD., AZTEC, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV 1220 S. ST. FRANCIS DR., SANTA FE, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

WELL LOCATION AND ACREAGE DEDICATION PLAT

	WILLIAM BOCKTION	AND ACIMENUE DEDICAL	TON THAT		
API Number	Pool Code		Pool Name		
30-015-5380	0 98315	WC BURTON FL	AT UPPER WC		
Property Code		Property Name			
334043	BURTON F	FLAT 3-1 FED STATE C	<b>OM</b> 822H		
OGRID No.		Operator Name	Elevation		
6137	DEVON ENERG	DEVON ENERGY PRODUCTION COMPANY, L.P.			

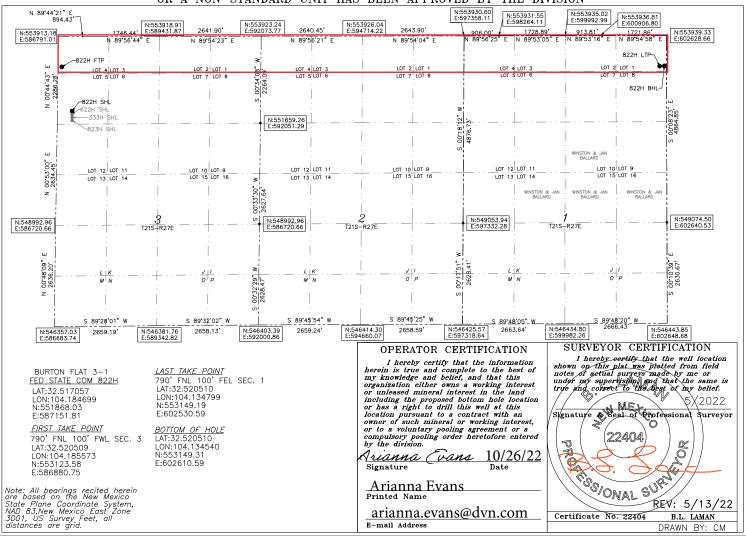
#### Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
LOT 5	3	21-S	27-Е		2047	NORTH	387	WEST	EDDY

#### Bottom Hole Location If Different From Surface

UL or lot No		Section	Townsh	ip	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
LOT 1		1	21-	-S	27-E		790	NORTH	20	EAST	EDDY
Dedicated Acres   Joint or Infill   Consolidation Code   0		Code Or	der No.								
343.92											

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



Inten	t	As Dril	led											
API#														
Operator Name:					Property Name:						Well Number			
Kick C	Off Point	(KOP)				l								
UL Section Township Range Lot Feet				Feet		From N	/S	Feet		From	n E/W	County		
Latitu	ıde				Longitu	ıde				<u> </u>			NAD	
	Take Poin			1	I = .			16				- //-/-		
UL	Section	Township	Range	Lot	Feet		From N	/\$	Feet		From	n E/W	County	
Latitu	ıde				Longitu	Longitude NAI					NAD			
Last T UL Latitu	Section	t (LTP)  Township	Range	Lot	Feet Longitu	From	ı N/S	Feet		From E	/W	Count	.y	
Is this	well the	defining w	vell for th	e Hori	zontal Տր	pacing	Unit?							
s this	well an i	infill well?												
Spacii	ng Unit.	lease provi	de API if	availal	ole, Opei	rator N	lame :	and w	vell ni	umber	for [	Definir	ng well fo	or Horizontal
API#														
Ope	rator Nar	me:				Prope	erty N	ame:						Well Number
														<u> </u>

KZ 06/29/2018

# 1. Geologic Formations

TVD of target	9517	Pilot hole depth	N/A
MD at TD:	24973	Deepest expected fresh water	

# Basin

Dasin	D 4	XX7-4/N/C1	
	Depth	Water/Mineral	
Formation	(TVD)	Bearing/Target	Hazards*
	from KB	Zone?	
Rustler	42		
Salt	200		
Base of Salt	310		
Capitan Reef Top	767		
Delaware	2650		
Cherry Canyon	2802		
Brushy Canyon	3684		
1st Bone Spring Lime	5090		
Bone Spring 1st	6318		
Bone Spring 2nd	7034		
3rd Bone Spring Lime	7468		
Bone Spring 3rd	8425		
Wolfcamp	8812		

<sup>\*</sup>H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program (Primary Design)

Hole Size	Csg. Size	Wt (PPF)	Grade	Conn	Top (MD)	Bottom (MD)	Top (TVD)	Bottom (TVD)
17 1/2	13 3/8	54.5	J-55	ВТС	0.0	200 MD	0	200 TVD
12 1/4	10 3/4	45.5	J-55	BTC SC	0.0	717 MD	0	717 TVD
9 7/8	8 5/8	32.0	P110	TLW	0	2700 MD	0	2700 TVD
7 7/8	5 1/2	17.0	P110EC	WC/C IS	0	24973 MD	0	9517 TVD

- All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 IILB.1.h Must have table for contingency casing.
- The Rustler top will be validated via drilling parameters (i.e. reduction in ROP), and the surface casing setting depth will be revised accordingly. In addition, surface casing will be set a minimum of 25' above the top of the salt.

3. Cementing Program (Primary Design)

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft3/sack)	Slurry Description
Surface	183	Surf	13.2	1.44	Lead: Class C Cement + additives
T4	17	Surf	9	3.27	Lead: Class C Cement + additives
Int	101	500' above shoe	13.2	1.44	Tail: Class H / C + additives
Int 1	83	Surf	9	3.27	Lead: Class C Cement + additives
Int 1	67	4000' above shoe	13.2	1.44	Tail: Class H / C + additives
Int 1	As Needed	Surf	9	1.44	Squeeze Lead: Class C Cement + additives
Intermediate	17	Surf	9	3.27	Lead: Class C Cement + additives
Squeeze	101	4000' above shoe	13.2	1.44	Tail: Class H / C + additives
Production	475	717	9	3.27	Lead: Class H /C + additives
Production	2131	8872	13.2	1.44	Tail: Class H / C + additives

If a DV tool is ran the depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. Slurry weights will be adjusted based on estimated fracture gradient of the formation. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. If cement is not returned to surface during the primary cement job on the surface casing string, a planned top job will be conducted immediately after completion of the primary job.

Casing String	% Excess
Surface	50%
Intermediate and Intermediate 1	30%
Intermediate 1 (Two Stage)	25%
Prod	10%

4. Pressure Control Equipment (Four String Design)

BOP installed and tested before drilling which hole?	Size?	Min. Require d WP	Ty	ype	<b>✓</b>	Tested to:		
			Anı	Annular		Annular		50% of rated working pressure
Int	13-5/8"	5M	Bline	l Ram	X			
IIIt	13-3/6	JIVI	Pipe	Ram		5M		
			Doub	le Ram	X	JIVI		
			Other*					
	13-5/8"	5M	Annular (5M)		X	100% of rated working pressure		
T . 1			Blind Ram		X			
Int 1			Pipe Ram			] <sub>5M</sub>		
			Double Ram		X	5M		
			Other*			1		
			Annula	ar (5M)	X	100% of rated working pressure		
Production	13-5/8"	5M	Bline	l Ram	X	514		
Floduction	13-3/6	JIVI	Pipe	Ram				
			Double Ram		X	5M		
			Other*					
N A variance is requested for	r the use of a	diverter or	the surface	casing. See	attached for s	schematic.		
N A variance is requested to	run a 5 M an	nular on a	10M system					

5. Mud Program (Four String Design)

Section	Туре	Weight (ppg)
Surface	WBM	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Intermediate 1	WBM	8.5-9
Production	OBM	10-10.5

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

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
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6. Logging and Testing Procedures

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

Additional	logs planned	Interval		
	Resistivity	Int. shoe to KOP		
	Density	Int. shoe to KOP		
X	CBL	Production casing		
X	Mud log	Intermediate shoe to TD		
	PEX			

7. Drilling Conditions

Condition	Specfiy what type and where?
BH pressure at deepest TVD	5196
Abnormal temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogren Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered measured values and formations will be provided to the BLM.

N H2S is present
Y H2S plan attached.

#### 8. Other facets of operation

Is this a walking operation? Potentially

- 1 If operator elects, drilling rig will batch drill the surface holes and run/cement surface casing; walking the rig to next wells on the pad.
- 2 The drilling rig will then batch drill the intermediate sections and run/cement intermediate casing; the wellbore will be isolated with a blind flange and pressure gauge installed for monitoring the well before walking to the next well.
- 3 The drilling rig will then batch drill the production hole sections on the wells with OBM, run/cement production casing, and install TA caps or tubing heads for completions.

NOTE: During batch operations the drilling rig will be moved from well to well however, it will not be removed from the pad until all wells have production casing run/cemented.

Will be pre-setting casing? Potentially

- 1 Spudder rig will move in and batch drill surface hole.
  - a. Rig will utilize fresh water based mud to drill surface hole to TD. Solids control will be handled entirely on a closed loop basis.,
- 2 After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
- The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
- 4 A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
- 5 Spudder rig operations is expected to take 4-5 days per well on a multi-well pa.
- 6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 7 Drilling operations will be performed with drilling rig. A that time an approved BOP stack will be nippled up and tested on the wellhead before drilling operations commences on each well.
  - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

Attachments	
X	Directional Plan
	Other describe



# Commitment Runs Deep



Design Plan
Operation and Maintenance Plan
Closure Plan

SENM - Closed Loop Systems June 2010

# I. Design Plan

Devon uses MI SWACO closed loop system (CLS). The MI SWACO CLS is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This insures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

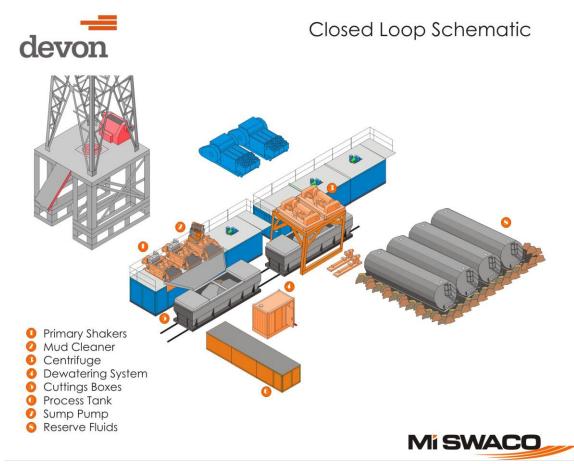
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

Signs will be posted on the fence surrounding the closed-loop system unless the closed-loop system is located on a site where there is an existing well, that is operated by Devon.

# II. Operations and Maintenance Plan

*Primary Shakers:* The primary shakers make the first removal of drill solids from the drilling mud as it leaves the well bore. The shakers are sized to handle maximum drilling rate at optimal screen size. The shakers normally remove solids down to 74 microns.

Mud Cleaner: The Mud Cleaner cleans the fluid after it leaves the shakers. A set of hydrocyclones are sized to handle 1.25 to 1.5 times the maximum circulating rate. This ensures all the fluid is being processed to an average cut point of 25 microns. The wet discharged is dewatered on a shaker equipped with ultra fine mesh screens and generally cut at 40 microns.



Centrifuges: The centrifuges can be one or two in number depending on the well geometry or depth of well. The centrifuges are sized to maintain low gravity solids at 5% or below. They may or may not need a dewatering system to enhance the removal rates. The centrifuges can make a cut point of 8-10 microns depending on bowl speed, feed rate, solids loading and other factors.

The centrifuge system is designed to work on the active system and be flexible to process incoming fluids from other locations. This set-up is also dependant on well factors.

Dewatering System: The dewatering system is a chemical mixing and dosing system designed to enhance the solids removal of the centrifuge. Not commonly used in shallow wells. It may contain pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing. Chemical flocculation binds ultra fine solids into a mass that is within the centrifuge operating design. The

dewatering system improves the centrifuge cut point to infinity or allows for the return of clear water or brine fluid. This ability allows for the ultimate control of low gravity solids.

Cuttings Boxes: Cuttings boxes are utilized to capture drill solids that are discarded from the solids control equipment. These boxes are set upon a rail system that allows for the removal and replacement of a full box of cuttings with an empty one. They are equipped with a cover that insures no product is spilled into the environment during the transportation phase.

*Process Tank*: (Optional) The process tank allows for the holding and process of fluids that are being transferred into the mud system. Additionally, during times of lost circulation the process tank may hold active fluids that are removed for additional treatment. It can further be used as a mixing tank during well control conditions.

Sump and Sump Pump: The sump is used to collect storm water and the pump is used to transfer this fluid to the active system or to the tank for to hold in reserve. It can also be used to collect fluids that may escape during spills. The location contains drainage ditches that allow the location fluids to drain to the sump.

Reserve Fluids (Tank Farm): A series of frac tanks are used to replace the reserve pit. These are steel tanks that are equipped with a manifold system and a transfer pump. These tanks can contain any number of fluids used during the drilling process. These can include fresh water, cut brine, and saturated salt fluid. The fluid can be from the active well or reclaimed fluid from other locations. A 20 ml liner and berm system is employed to ensure the fluids do not migrate to the environment during a spill.

If a leak develops, the appropriate division district office will be notified within 48 hours of the discovery and the leak will be addressed. Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and testing will be performed to determine if a release has occurred.

All trash is kept in a wire mesh enclosure and removed to an approved landfill when full. All spent motor oils are kept in separate containers and they are removed and sent to an approved recycling center. Any spilled lubricants, pipe

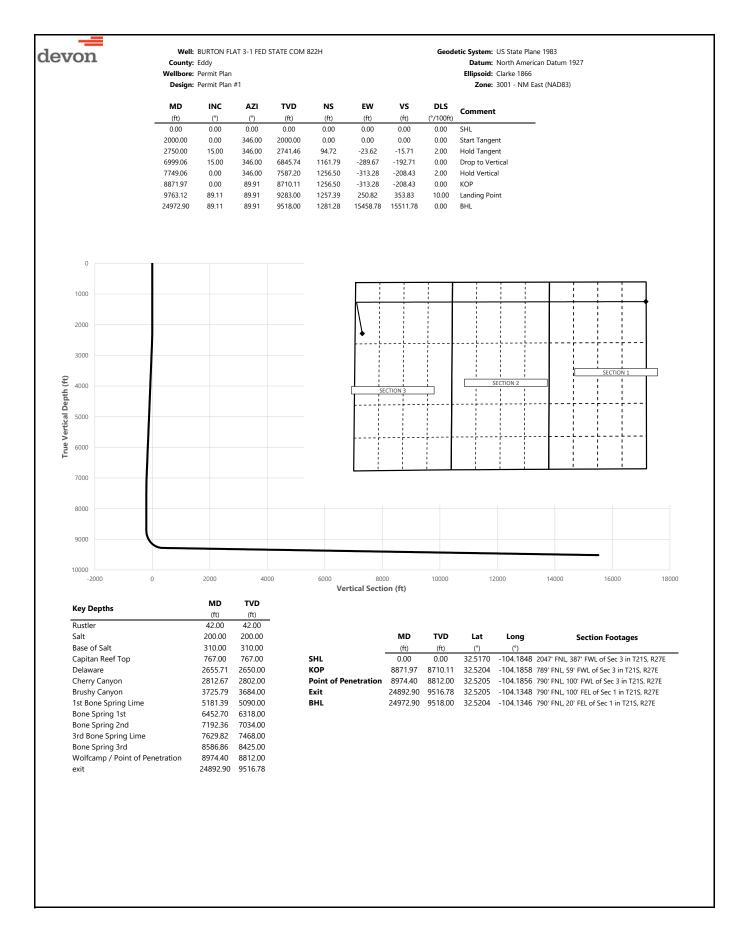
dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

These operations are monitored by Mi Swaco service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

A MI SWACO field supervisor manages from 3-5 wells. They are responsible for training personnel, supervising installations, and inspecting sites for compliance of MI SWACO safety and operational policy.

# III. Closure Plan

A maximum 340' X 340' caliche pad is built per well. All of the trucks and steel tanks fit on this pad. All fluid cuttings go to the steel tanks to be hauled by various trucking companies to an agency approved disposal.





County: Eddy Wellbore: Permit Plan

Design: Permit Plan #1 Geodetic System: US State Plane 1983

Datum: North American Datum 1927

Ellipsoid: Clarke 1866

	Design: Permit Plan #1						<b>Zone:</b> 3001 - NM East (NAD83)			
MD (ft)	INC (°)	<b>AZI</b> (°)	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	<b>DLS</b> (°/100ft)	Comment		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL		
42.00	0.00	346.00	42.00	0.00	0.00	0.00	0.00	Rustler		
100.00	0.00	346.00	100.00	0.00	0.00	0.00	0.00			
200.00	0.00	346.00	200.00	0.00	0.00	0.00	0.00	Salt,		
300.00	0.00	346.00	300.00	0.00	0.00	0.00	0.00			
310.00	0.00	346.00	310.00	0.00	0.00	0.00	0.00	Base of Salt		
400.00	0.00	346.00	400.00	0.00	0.00	0.00	0.00			
500.00 600.00	0.00	346.00 346.00	500.00 600.00	0.00	0.00	0.00 0.00	0.00			
700.00	0.00	346.00	700.00	0.00	0.00	0.00	0.00			
767.00	0.00	346.00	767.00	0.00	0.00	0.00	0.00	Capitan Reef Top		
800.00	0.00	346.00	800.00	0.00	0.00	0.00	0.00			
900.00	0.00	346.00	900.00	0.00	0.00	0.00	0.00			
1000.00	0.00	346.00	1000.00	0.00	0.00	0.00	0.00			
1100.00	0.00	346.00	1100.00	0.00	0.00	0.00	0.00			
1200.00	0.00	346.00	1200.00	0.00	0.00	0.00	0.00			
1300.00	0.00	346.00	1300.00	0.00	0.00	0.00	0.00			
1400.00 1500.00	0.00	346.00 346.00	1400.00 1500.00	0.00	0.00	0.00	0.00			
1600.00	0.00	346.00	1600.00	0.00	0.00	0.00	0.00			
1700.00	0.00	346.00	1700.00	0.00	0.00	0.00	0.00			
1800.00	0.00	346.00	1800.00	0.00	0.00	0.00	0.00			
1900.00	0.00	346.00	1900.00	0.00	0.00	0.00	0.00			
2000.00	0.00	346.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent		
2100.00	2.00	346.00	2099.98	1.69	-0.42	-0.28	2.00			
2200.00	4.00	346.00	2199.84	6.77	-1.69	-1.12	2.00			
2300.00	6.00	346.00	2299.45	15.23	-3.80	-2.53	2.00			
2400.00	8.00	346.00 346.00	2398.70 2497.47	27.05	-6.74 10.53	-4.49 -7.01	2.00 2.00			
2500.00 2600.00	10.00 12.00	346.00	2595.62	42.23 60.74	-10.53 -15.15	-10.08	2.00			
2655.71	13.11	346.00	2650.00	72.49	-18.08	-12.03	2.00	Delaware		
2700.00	14.00	346.00	2693.06	82.57	-20.59	-13.70	2.00			
2750.00	15.00	346.00	2741.46	94.72	-23.62	-15.71	2.00	Hold Tangent		
2800.00	15.00	346.00	2789.76	107.27	-26.75	-17.79	0.00			
2812.67	15.00	346.00	2802.00	110.45	-27.54	-18.32	0.00	Cherry Canyon		
2900.00	15.00	346.00	2886.35	132.39	-33.01	-21.96	0.00			
3000.00	15.00	346.00	2982.94	157.50	-39.27	-26.13	0.00			
3100.00 3200.00	15.00 15.00	346.00 346.00	3079.54 3176.13	182.61 207.72	-45.53 -51.79	-30.29 -34.46	0.00			
3300.00	15.00	346.00	3272.72	232.84	-58.05	-34.40	0.00			
3400.00	15.00	346.00	3369.31	257.95	-64.32	-42.79	0.00			
3500.00	15.00	346.00	3465.91	283.06	-70.58	-46.96	0.00			
3600.00	15.00	346.00	3562.50	308.18	-76.84	-51.12	0.00			
3700.00	15.00	346.00	3659.09	333.29	-83.10	-55.29	0.00			
3725.79	15.00	346.00	3684.00	339.77	-84.71	-56.36	0.00	Brushy Canyon		
3800.00	15.00	346.00	3755.68	358.40	-89.36	-59.45	0.00			
3900.00	15.00	346.00	3852.28	383.52	-95.62 101.88	-63.62	0.00			
4000.00 4100.00	15.00 15.00	346.00 346.00	3948.87 4045.46	408.63 433.74	-101.88 -108.15	-67.78 -71.95	0.00			
4200.00	15.00	346.00	4142.05	458.85	-106.13	-71.93 -76.12	0.00			
4300.00	15.00	346.00	4238.65	483.97	-120.67	-80.28	0.00			
4400.00	15.00	346.00	4335.24	509.08	-126.93	-84.45	0.00			
4500.00	15.00	346.00	4431.83	534.19	-133.19	-88.61	0.00			
4600.00	15.00	346.00	4528.42	559.31	-139.45	-92.78	0.00			
4700.00	15.00	346.00	4625.02	584.42	-145.71	-96.95	0.00			
4800.00	15.00	346.00 346.00	4721.61	609.53	-151.98 159.24	-101.11 105.28	0.00			
4900.00 5000.00	15.00 15.00	346.00 346.00	4818.20 4914.80	634.65 659.76	-158.24 -164.50	-105.28 -109.44	0.00			
5100.00	15.00	346.00	5011.39	684.87	-170.76	-109.44	0.00			
5181.39	15.00	346.00	5090.00	705.31	-175.86	-117.00	0.00	1st Bone Spring Lime		
5200.00	15.00	346.00	5107.98	709.99	-177.02	-117.77	0.00			
5300.00	15.00	346.00	5204.57	735.10	-183.28	-121.94	0.00			
5400.00	15.00	346.00	5301.17	760.21	-189.55	-126.11	0.00			
5500.00	15.00	346.00	5397.76	785.32	-195.81	-130.27	0.00			
5600.00	15.00	346.00	5494.35	810.44	-202.07	-134.44	0.00			
5700.00	15.00	346.00	5590.94	835.55	-208.33	-138.60	0.00			
5800.00 5900.00	15.00 15.00	346.00 346.00	5687.54 5784.13	860.66 885.78	-214.59 -220.85	-142.77 -146.94	0.00			
6000.00	15.00	346.00	5880.72	910.89	-220.65	-146.94	0.00			
6100.00	15.00	346.00	5977.31	936.00	-233.38	-155.27	0.00			



County: Eddy
Wellbore: Permit Plan
Design: Permit Plan #1

**Geodetic System:** US State Plane 1983 **Datum:** North American Datum 1927

Ellipsoid: Clarke 1866

Zone: 3001 - NM East (NAD83)

MD (ft) 6200.00 6300.00 6400.00 6452.70 6500.00 6600.00 6700.00	(°) 15.00 15.00	(°) 346.00	TVD (ft)	NS (ft)	EW	vs	DLS	Comment
6200.00 6300.00 6400.00 6452.70 6500.00	15.00		(ft)	(f+)				
6300.00 6400.00 6452.70 6500.00 6600.00		346.00		(ft)	(ft)	(ft)	(°/100ft)	Comment
6400.00 6452.70 6500.00 6600.00	15.00		6073.91	961.12	-239.64	-159.43	0.00	
6452.70 6500.00 6600.00		346.00	6170.50	986.23	-245.90	-163.60	0.00	
6500.00 6600.00	15.00	346.00	6267.09	1011.34	-252.16	-167.76	0.00	
6600.00	15.00	346.00	6318.00	1024.58	-255.46	-169.96	0.00	Bone Spring 1st
	15.00	346.00	6363.68	1036.46	-258.42	-171.93	0.00	
6700.00	15.00	346.00	6460.28	1061.57	-264.68	-176.10	0.00	
	15.00	346.00	6556.87	1086.68	-270.95	-180.26	0.00	
6800.00	15.00	346.00	6653.46	1111.79	-277.21	-184.43	0.00	
6900.00	15.00	346.00	6750.05	1136.91	-283.47	-188.59	0.00	
6999.06	15.00	346.00	6845.74	1161.79	-289.67	-192.71	0.00	Drop to Vertical
7000.00	14.98	346.00	6846.65	1162.02	-289.72	-192.75	2.01	Diop to Vertical
7100.00	12.98	346.00	6943.68	1185.46	-295.57	-196.64	2.00	
7192.36	11.13	346.00	7034.00	1204.18	-300.24	-199.75	2.00	Bone Spring 2nd
7200.00	10.98	346.00	7041.50	1205.61	-300.59	-199.98	2.00	bone Spring End
7300.00	8.98	346.00	7139.98	1222.42	-304.78	-202.77	2.00	
7400.00	6.98	346.00	7239.00	1235.89	-308.14	-205.01	2.00	
7500.00	4.98	346.00	7338.45	1246.00	-310.66	-206.69	2.00	
7600.00	2.98	346.00	7438.21	1252.74	-312.34	-207.80	2.00	
7629.82	2.38	346.00	7468.00	1254.09	-312.68	-208.03	2.00	3rd Bone Spring Lime
7700.00	0.98	346.00	7538.14	1256.09	-313.18	-208.36	2.00	
7749.06	0.00	346.00	7587.20	1256.50	-313.28	-208.43	2.00	Hold Vertical
7800.00	0.00	89.91	7638.14	1256.50	-313.28	-208.43	0.00	
7900.00	0.00	89.91	7738.14	1256.50	-313.28	-208.43	0.00	
8000.00	0.00	89.91	7838.14	1256.50	-313.28	-208.43	0.00	
8100.00	0.00	89.91	7938.14	1256.50	-313.28	-208.43	0.00	
8200.00	0.00	89.91	8038.14	1256.50	-313.28	-208.43	0.00	
8300.00	0.00	89.91	8138.14	1256.50	-313.28	-208.43	0.00	
8400.00	0.00	89.91	8238.14	1256.50	-313.28	-208.43	0.00	
8500.00	0.00	89.91	8338.14	1256.50	-313.28	-208.43	0.00	
8586.86	0.00	89.91	8425.00	1256.50	-313.28	-208.43	0.00	Bone Spring 3rd
8600.00	0.00	89.91	8438.14	1256.50	-313.28	-208.43	0.00	, 3
8700.00	0.00	89.91	8538.14	1256.50	-313.28	-208.43	0.00	
8800.00	0.00	89.91	8638.14	1256.50	-313.28	-208.43	0.00	
8871.97	0.00	89.91	8710.11	1256.50	-313.28	-208.43	0.00	KOP
8900.00	2.80	89.91	8738.13	1256.50	-312.60	-207.74	10.00	
8974.40	10.24	89.91	8812.00	1256.52	-304.15	-199.32	10.00	Wolfcamp / Point of Penetration
9000.00	12.80		8837.08	1256.52	-299.04		10.00	Wollcamp / Folit of Felletiation
		89.91				-194.23		
9100.00	22.80	89.91	8932.17	1256.57	-268.50	-163.79	10.00	
9200.00	32.80	89.91	9020.51	1256.65	-221.92	-117.36	10.00	
9300.00	42.80	89.91	9099.42	1256.74	-160.70	-56.35	10.00	
9400.00	52.80	89.91	9166.51	1256.86	-86.71	17.40	10.00	
9500.00	62.80	89.91	9219.72	1256.99	-2.19	101.64	10.00	
9600.00	72.80	89.91	9257.45	1257.14	90.28	193.81	10.00	
9700.00	82.80	89.91	9278.55	1257.29	187.90	291.11	10.00	
9763.12	89.11	89.91	9283.00	1257.39	250.82	353.83	10.00	Landing Point
9800.00	89.11	89.91	9283.57	1257.45	287.70	390.58	0.00	
9900.00	89.11	89.91	9285.12	1257.60	387.69	490.24	0.00	
10000.00	89.11	89.91	9286.66	1257.76	487.68	589.90	0.00	
10100.00	89.11	89.91	9288.21	1257.92	587.67	689.56	0.00	
10200.00	89.11	89.91	9289.75	1258.07	687.65	789.22	0.00	
10300.00	89.11	89.91	9291.30	1258.23	787.64	88.88	0.00	
10400.00	89.11	89.91	9292.84	1258.39	887.63	988.54	0.00	
10500.00	89.11	89.91	9294.39	1258.55	987.62	1088.20	0.00	
10600.00	89.11	89.91	9295.93	1258.70	1087.61	1187.86	0.00	
10700.00	89.11	89.91	9297.48	1258.86	1187.59	1287.52	0.00	
10800.00	89.11	89.91	9299.02	1259.02	1287.58	1387.18	0.00	
10900.00	89.11	89.91	9300.57	1259.18	1387.57	1486.84	0.00	
11000.00	89.11	89.91	9302.11	1259.33	1487.56	1586.50	0.00	
11100.00	89.11	89.91	9303.66	1259.49	1587.55	1686.15	0.00	
11200.00	89.11	89.91	9305.20	1259.49	1687.53	1785.81	0.00	
11300.00	89.11	89.91	9306.75	1259.80	1787.52	1885.47	0.00	
11400.00	89.11	89.91	9308.29	1259.96	1887.51	1985.13	0.00	
11500.00	89.11	89.91	9309.84	1260.12	1987.50	2084.79	0.00	
11600.00	89.11	89.91	9311.38	1260.28	2087.49	2184.45	0.00	
11700.00	89.11	89.91	9312.93	1260.43	2187.47	2284.11	0.00	
11800.00	89.11	89.91	9314.47	1260.59	2287.46	2383.77	0.00	
11900.00	89.11	89.91	9316.02	1260.75	2387.45	2483.43	0.00	
12000.00	89.11	89.91	9317.56	1260.90	2487.44	2583.09	0.00	
12100.00	89.11	89.91	9319.11	1261.06	2587.43	2682.75	0.00	
12200.00	89.11	89.91	9320.65	1261.22	2687.41	2782.41	0.00	



County: Eddy
Wellbore: Permit Plan
Design: Permit Plan #1

**Geodetic System:** US State Plane 1983 **Datum:** North American Datum 1927

Datum: North American Datum 19 Ellipsoid: Clarke 1866

Zone: 3001 - NM East (NAD83)

	Design: Permit Plan #1						<b>Zone:</b> 3001 - NM East (NAD83)			
MD	INC	AZI	TVD	NS	EW	vs	DLS	Comment		
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)			
12300.00	89.11	89.91	9322.20	1261.38	2787.40	2882.07	0.00			
12400.00	89.11	89.91	9323.74	1261.53	2887.39	2981.72	0.00			
12500.00	89.11	89.91	9325.29	1261.69	2987.38	3081.38	0.00			
12600.00	89.11	89.91	9326.84	1261.85	3087.36	3181.04	0.00			
12700.00	89.11	89.91	9328.38	1262.00	3187.35	3280.70	0.00			
12800.00	89.11	89.91	9329.93	1262.16	3287.34	3380.36	0.00			
12900.00	89.11	89.91	9331.47	1262.32	3387.33	3480.02	0.00			
13000.00	89.11	89.91	9333.02	1262.48	3487.32	3579.68	0.00			
13100.00	89.11	89.91	9334.56	1262.63	3587.30	3679.34	0.00			
13200.00	89.11	89.91	9336.11	1262.79	3687.29	3779.00	0.00			
13300.00	89.11	89.91	9337.65	1262.95	3787.28	3878.66	0.00			
13400.00	89.11	89.91	9339.20	1263.10	3887.27	3978.32	0.00			
13500.00	89.11	89.91	9340.74	1263.26	3987.26	4077.98	0.00			
13600.00	89.11	89.91	9342.29	1263.42	4087.24	4177.64	0.00			
13700.00	89.11	89.91	9343.83	1263.58	4187.23	4277.29	0.00			
13800.00	89.11	89.91	9345.38	1263.73	4287.22	4376.95	0.00			
13900.00	89.11	89.91	9346.92	1263.89	4387.21	4476.61	0.00			
14000.00	89.11	89.91	9348.47	1264.05	4487.20	4576.27	0.00			
14100.00	89.11	89.91	9350.01	1264.03	4587.18	4675.93	0.00			
14200.00	89.11	89.91	9350.01	1264.21	4587.18	4775.59	0.00			
	89.11	89.91	9351.56	1264.50	4787.16	4875.25				
14300.00				1264.52			0.00			
14400.00	89.11	89.91	9354.65	1264.68	4887.15	4974.91	0.00			
14500.00	89.11	89.91	9356.19		4987.14	5074.57	0.00			
14600.00	89.11	89.91	9357.74	1264.99	5087.12	5174.23	0.00			
14700.00	89.11	89.91	9359.28	1265.15	5187.11	5273.89	0.00			
14800.00	89.11	89.91	9360.83	1265.31	5287.10	5373.55	0.00			
14900.00	89.11	89.91	9362.37	1265.46	5387.09	5473.21	0.00			
15000.00	89.11	89.91	9363.92	1265.62	5487.08	5572.87	0.00			
15100.00	89.11	89.91	9365.46	1265.78	5587.06	5672.52	0.00			
15200.00	89.11	89.91	9367.01	1265.93	5687.05	5772.18	0.00			
15300.00	89.11	89.91	9368.56	1266.09	5787.04	5871.84	0.00			
15400.00	89.11	89.91	9370.10	1266.25	5887.03	5971.50	0.00			
15500.00	89.11	89.91	9371.65	1266.41	5987.01	6071.16	0.00			
15600.00	89.11	89.91	9373.19	1266.56	6087.00	6170.82	0.00			
15700.00	89.11	89.91	9374.74	1266.72	6186.99	6270.48	0.00			
15800.00	89.11	89.91	9376.28	1266.88	6286.98	6370.14	0.00			
15900.00	89.11	89.91	9377.83	1267.03	6386.97	6469.80	0.00			
16000.00	89.11	89.91	9379.37	1267.19	6486.95	6569.46	0.00			
16100.00	89.11	89.91	9380.92	1267.35	6586.94	6669.12	0.00			
16200.00	89.11	89.91	9382.46	1267.51	6686.93	6768.78	0.00			
16300.00	89.11	89.91	9384.01	1267.66	6786.92	6868.44	0.00			
16400.00	89.11	89.91	9385.55	1267.82	6886.91	6968.09	0.00			
16500.00	89.11	89.91	9387.10	1267.98	6986.89	7067.75	0.00			
16600.00	89.11	89.91	9388.64	1268.14	7086.88	7167.41	0.00			
16700.00	89.11	89.91	9390.19	1268.29	7186.87	7267.07	0.00			
16800.00	89.11	89.91	9390.19	1268.45	7286.86	7366.73	0.00			
16900.00	89.11	89.91	9393.28	1268.61	7386.85	7466.39	0.00			
17000.00	89.11	89.91	9393.28	1268.76	7486.83	7566.05	0.00			
17100.00	89.11	89.91	9396.37	1268.92	7586.82 7686.81	7665.71	0.00			
17200.00	89.11	89.91	9397.91	1269.08	7686.81	7765.37	0.00			
17300.00	89.11	89.91	9399.46	1269.24	7786.80	7865.03	0.00			
17400.00	89.11	89.91	9401.00	1269.39	7886.79	7964.69	0.00			
17500.00	89.11	89.91	9402.55	1269.55	7986.77	8064.35	0.00			
17600.00	89.11	89.91	9404.09	1269.71	8086.76	8164.01	0.00			
17700.00	89.11	89.91	9405.64	1269.86	8186.75	8263.66	0.00			
17800.00	89.11	89.91	9407.18	1270.02	8286.74	8363.32	0.00			
17900.00	89.11	89.91	9408.73	1270.18	8386.73	8462.98	0.00			
18000.00	89.11	89.91	9410.28	1270.34	8486.71	8562.64	0.00			
18100.00	89.11	89.91	9411.82	1270.49	8586.70	8662.30	0.00			
18200.00	89.11	89.91	9413.37	1270.65	8686.69	8761.96	0.00			
18300.00	89.11	89.91	9414.91	1270.81	8786.68	8861.62	0.00			
18400.00	89.11	89.91	9416.46	1270.96	8886.67	8961.28	0.00			
18500.00	89.11	89.91	9418.00	1271.12	8986.65	9060.94	0.00			
18600.00	89.11	89.91	9419.55	1271.28	9086.64	9160.60	0.00			
18700.00	89.11	89.91	9421.09	1271.44	9186.63	9260.26	0.00			
18800.00	89.11	89.91	9422.64	1271.59	9286.62	9359.92	0.00			
18900.00	89.11	89.91	9424.18	1271.75	9386.60	9459.58	0.00			
19000.00	89.11	89.91	9425.73	1271.91	9486.59	9559.23	0.00			
19100.00	89.11	89.91	9427.27	1271.07	9586.58	9658.89	0.00			
	89.11	89.91	9428.82	1272.07	9686.57	9758.55	0.00			
19200.00										



County: Eddy
Wellbore: Permit Plan
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Geodetic System: US State Plane 1983

Datum: North American Datum 1927

Ellipsoid: Clarke 1866

Zone: 3001 - NM East (NAD83)

MD	INC	AZI	TVD	NS	EW	vs	DLS	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	Comment
19300.00	89.11	89.91	9430.36	1272.38	9786.56	9858.21	0.00	
19400.00	89.11	89.91	9431.91	1272.54	9886.54	9957.87	0.00	
19500.00	89.11	89.91	9433.45	1272.69	9986.53	10057.53	0.00	
19600.00	89.11	89.91	9435.00	1272.85	10086.52	10157.19	0.00	
19700.00	89.11	89.91	9436.54	1273.01	10186.51	10256.85	0.00	
19800.00	89.11	89.91	9438.09	1273.17	10286.50	10356.51	0.00	
19900.00	89.11	89.91	9439.63	1273.32	10386.48	10456.17	0.00	
20000.00	89.11	89.91	9441.18	1273.48	10486.47	10555.83	0.00	
20100.00	89.11	89.91	9442.72	1273.64	10586.46	10655.49	0.00	
20200.00	89.11	89.91	9444.27	1273.79	10686.45	10755.15	0.00	
20300.00 20400.00	89.11 89.11	89.91 89.91	9445.81 9447.36	1273.95 1274.11	10786.44 10886.42	10854.80 10954.46	0.00	
20500.00	89.11	89.91	9448.90	1274.11	10986.41	11054.12	0.00	
20600.00	89.11	89.91	9450.45	1274.42	11086.40	11153.78	0.00	
20700.00	89.11	89.91	9452.00	1274.58	11186.39	11253.44	0.00	
20800.00	89.11	89.91	9453.54	1274.74	11286.38	11353.10	0.00	
20900.00	89.11	89.91	9455.09	1274.89	11386.36	11452.76	0.00	
21000.00	89.11	89.91	9456.63	1275.05	11486.35	11552.42	0.00	
21100.00	89.11	89.91	9458.18	1275.21	11586.34	11652.08	0.00	
21200.00	89.11	89.91	9459.72	1275.37	11686.33	11751.74	0.00	
21300.00	89.11	89.91	9461.27	1275.52	11786.32	11851.40	0.00	
21400.00	89.11	89.91	9462.81	1275.68	11886.30	11951.06	0.00	
21500.00	89.11	89.91	9464.36	1275.84	11986.29	12050.72	0.00	
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21700.00	89.11	89.91	9467.45	1276.15		12250.03	0.00	
21800.00	89.11	89.91	9468.99	1276.31	12286.25	12349.69	0.00	
21900.00 22000.00	89.11 89.11	89.91 89.91	9470.54 9472.08	1276.47 1276.62	12386.24 12486.23	12449.35 12549.01	0.00	
22100.00	89.11	89.91	9473.63	1276.02	12586.22	12648.67	0.00	
22200.00	89.11	89.91	9475.17	1276.76	12686.21	12748.33	0.00	
22300.00	89.11	89.91	9476.72	1277.10	12786.19	12847.99	0.00	
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22800.00	89.11	89.91	9484.44	1277.88	13286.13	13346.29	0.00	
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23400.00	89.11	89.91	9493.72 9495.26	1278.82	13886.06	13944.24 14043.90	0.00	
23500.00 23600.00	89.11 89.11	89.91 89.91	9495.26	1278.98 1279.14	13986.05 14086.04	14143.56	0.00	
23700.00	89.11	89.91	9498.35	1279.14	14186.03	14243.22	0.00	
23800.00	89.11	89.91	9499.90	1279.45	14286.01	14342.88	0.00	
23900.00	89.11	89.91	9501.44	1279.61	14386.00	14442.54	0.00	
24000.00	89.11	89.91	9502.99	1279.77	14485.99	14542.20	0.00	
24100.00	89.11	89.91	9504.53	1279.92	14585.98	14641.86	0.00	
24200.00	89.11	89.91	9506.08	1280.08	14685.97	14741.52	0.00	
24300.00	89.11	89.91	9507.62	1280.24	14785.95	14841.17	0.00	
24400.00	89.11	89.91	9509.17	1280.40	14885.94	14940.83	0.00	
24500.00	89.11	89.91	9510.71	1280.55	14985.93		0.00	
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24700.00	89.11	89.91	9513.80	1280.87	15185.91		0.00	
24800.00	89.11	89.91	9515.35	1281.03	15285.89		0.00	
24892.90	89.11	89.91	9516.78	1281.17	15378.79		0.00	exit
24900.00 24972.90	89.11 89.11	89.91 89.91	9516.89 9518.00	1281.18 1281.28	15385.88 15458.78		0.00	BHL
24312.90	03.11	03.31	33 18.UU	1201.20	13438./8	13311./8	0.00	DITE

INC

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AZI

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MD

(ft)

TVD

(ft)

Well: BURTON FLAT 3-1 FED STATE COM 822H Geodetic System: US State Plane 1983 County: Eddy Datum: North American Datum 1927 Wellbore: Permit Plan Ellipsoid: Clarke 1866 **Zone:** 3001 - NM East (NAD83)

٧S

(ft)

DLS

(°/100ft)

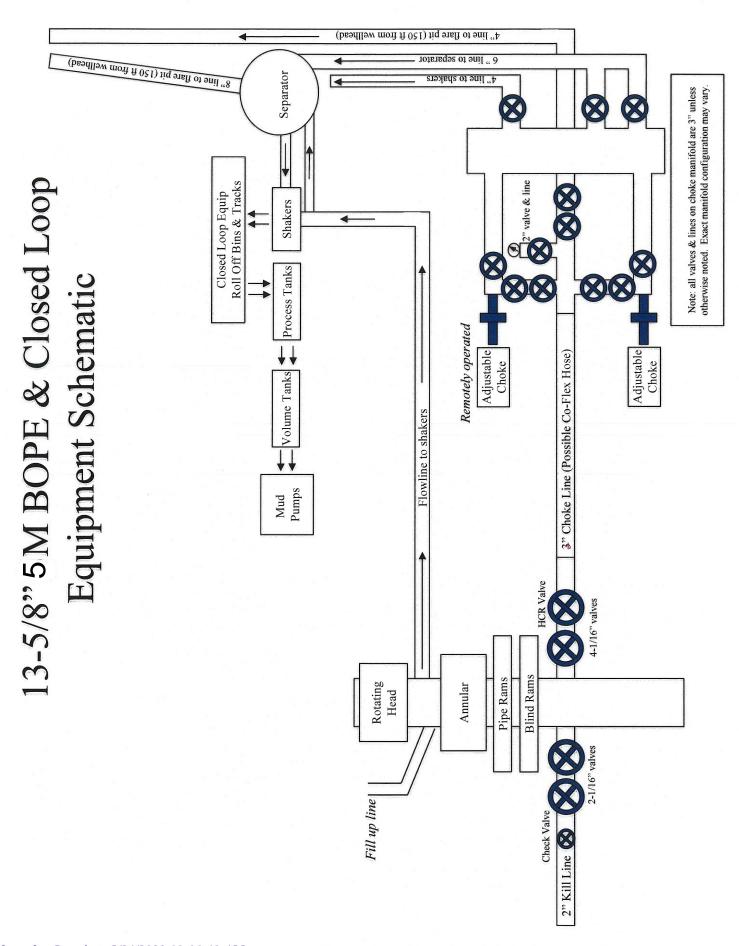
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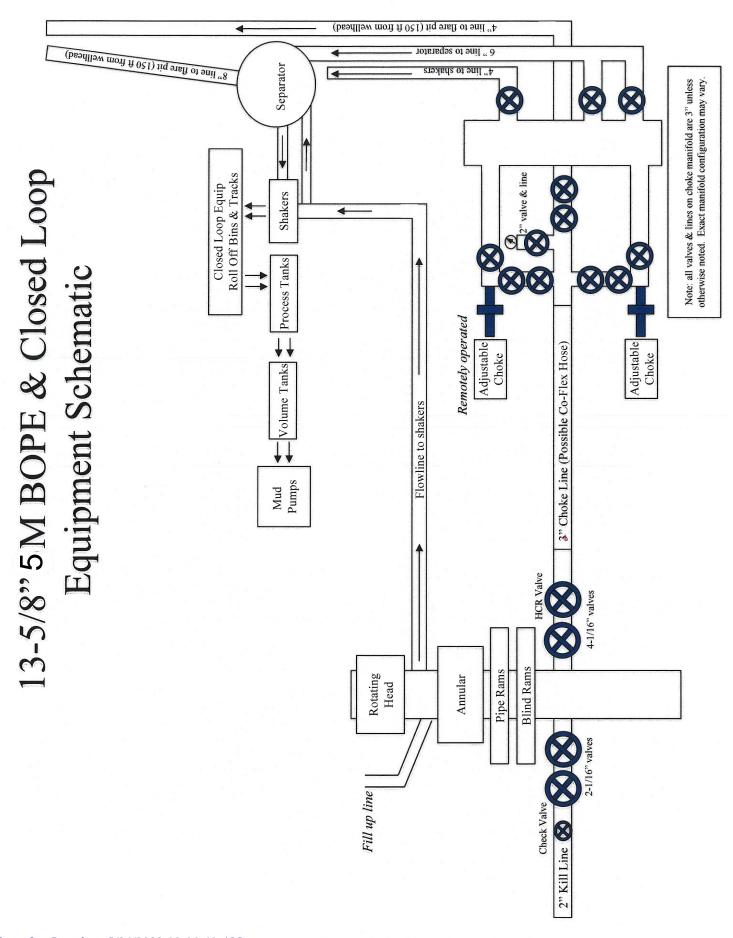
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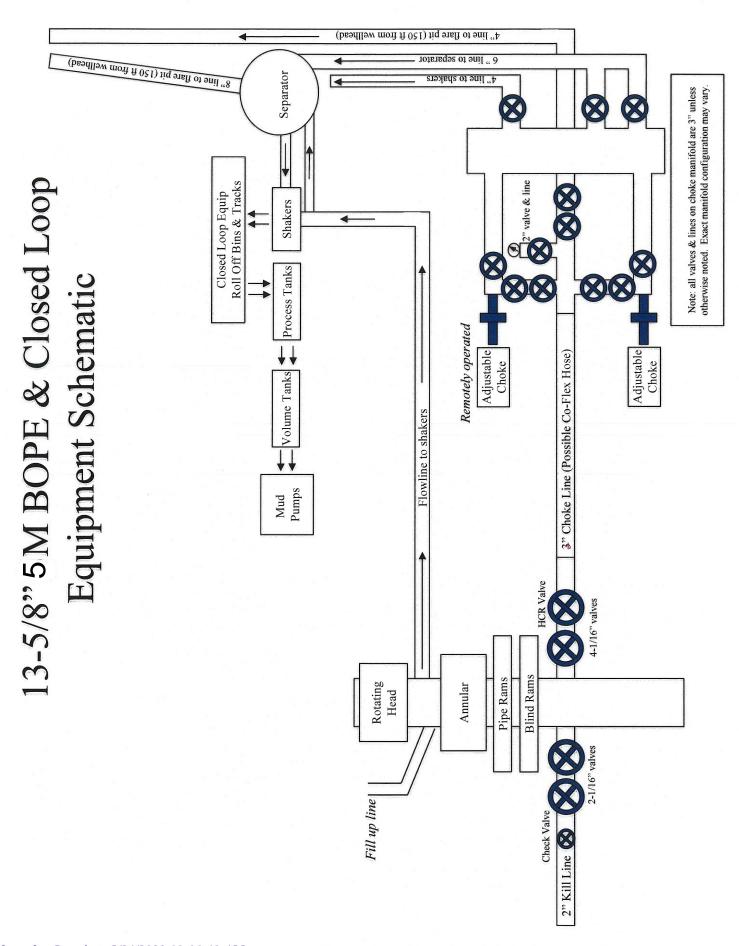
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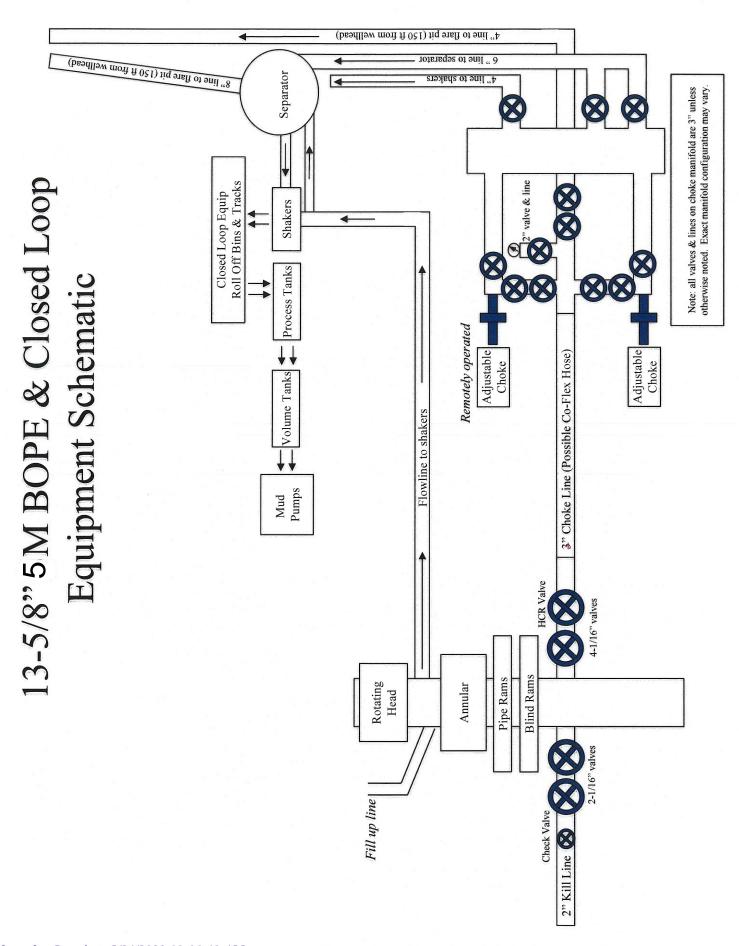
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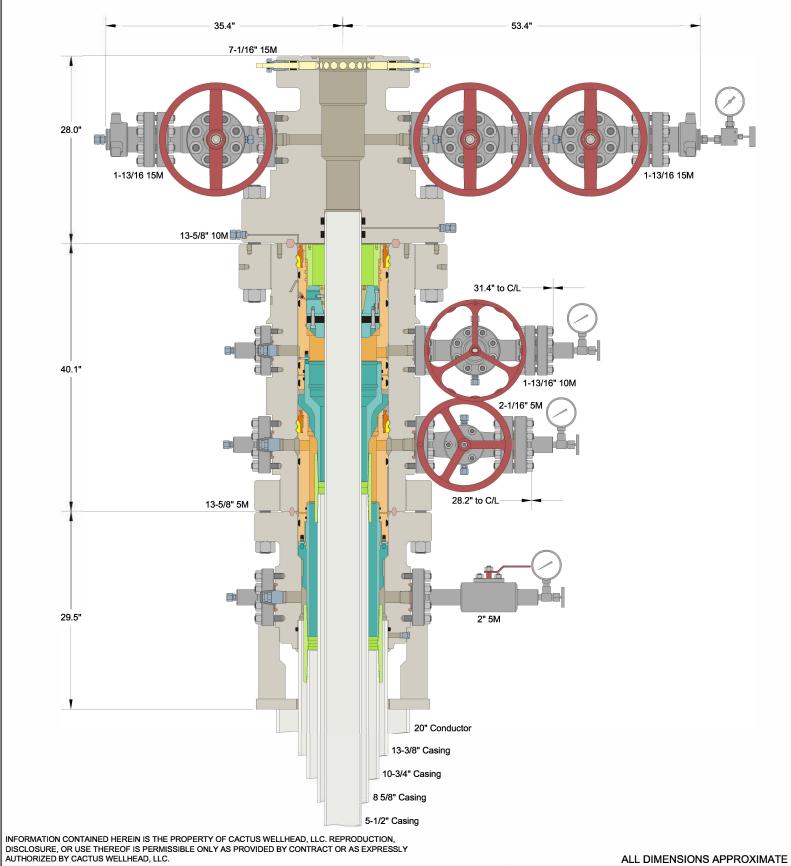
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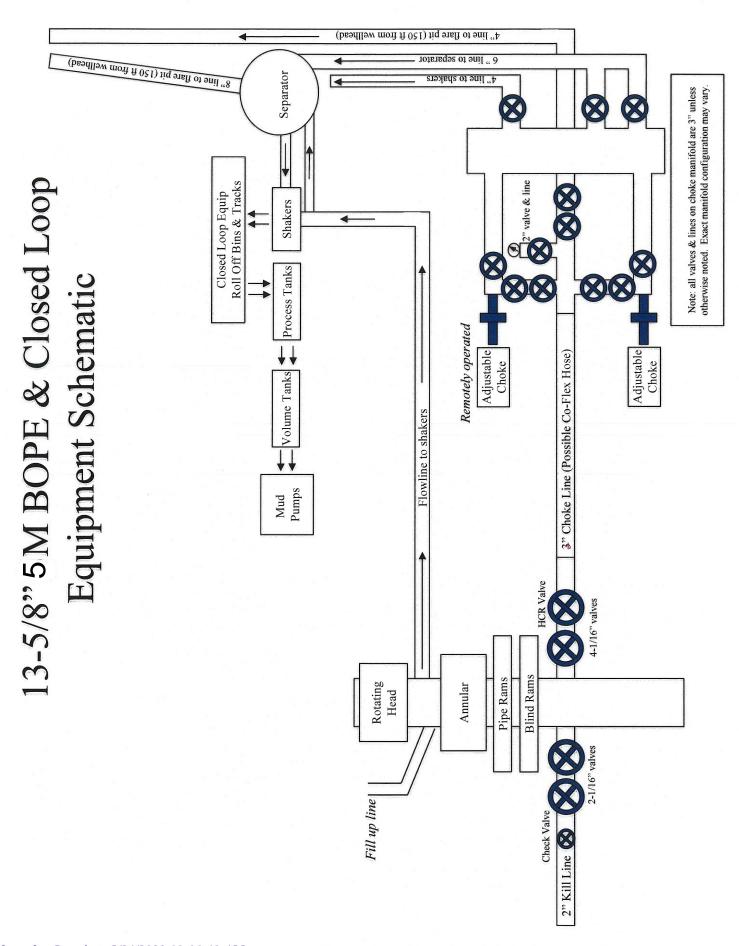
CACTUS WELLHEAD LLC

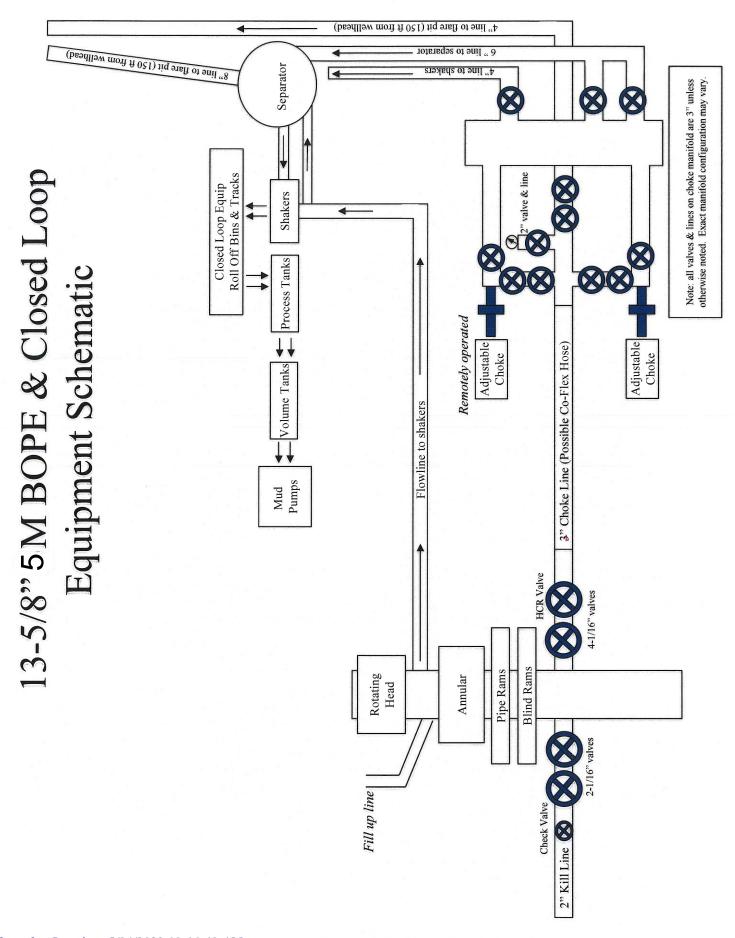
20" x 13-3/8" x 10-3/4" x 8-5/8" x 5-1/2" MBU-4T-SOW Wellhead With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head, 10-3/4" & 8-5/8" Mandrel Hangers And 5-1/2" Slip Casing Hanger

MATADOR RESOURCES WOLFCAMP A WELLS (TEXAS)

DRAWN DLE 09AUG19
APPRV

DRAWING NO. HBE0000156





# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

**OPERATOR'S NAME:** Devon Energy Production Company LP

LEASE NO.: NMNM109754

**LOCATION:** | Section 3, T.21 S., R.27 E., NMPM

**COUNTY:** Eddy County, New Mexico

WELL NAME & NO.: | Burton Flat 3-1 Fed State Com 822H

**SURFACE HOLE FOOTAGE:** 2047'/N & 387'/W **BOTTOM HOLE FOOTAGE** 790'/N & 20'/E

ATS/API ID: ATS-23-322 APD ID: 10400086969

Sundry ID: N/a

WELL NAME & NO.: | Burton Flat 3-1 Fed State Com 331H

**SURFACE HOLE FOOTAGE:** 1001'/N & 369'/W **BOTTOM HOLE FOOTAGE** 330'/N & 20'/E

ATS/API ID: ATS-21-2113 APD ID: 10400068978

Sundry ID: N/a

COA

H2S	Yes ▼		
Potash	None		
Cave/Karst Potential	High ▼		
Cave/Karst Potential	Critical		
Variance	□ None	Flex Hose	C Other
Wellhead	Conventional and Multibov	/l <b>-</b>	
Other	✓ 4 String	Capitan Reef Int 2	□WIPP
Other	Pilot Hole  None	☐ Open Annulus	
Cementing	Contingency Squeeze Int 2	Echo-Meter None	Primary Cement Squeeze None
Special Requirements	☐ Water Disposal/Injection	<b>☑</b> COM	☐ Unit
Special Requirements	☐ Batch Sundry		
Special Requirements Variance	▼ Break Testing	☐ Offline Cementing	Casing Clearance

#### A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Bone Springs** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

## **B. CASING**

- 1. The 13-3/8 inch surface casing shall be set at approximately 200 feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. The surface hole shall be 17 1/2 inch in diameter.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of

- six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
- b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8** hours or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The minimum required fill of cement behind the 10-3/4 inch intermediate casing shall be set at approximately 750 feet is:
  - 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, potash or capitan reef.
  - ❖ In <u>High Cave/Karst Areas</u> 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 8-5/8 inch intermediate casing shall be set at approximately 2700 feet is:

# **Option 1 (Single Stage):**

• Cement should tie-back at least **50 feet** on top of Capitan Reef top **or 200 feet** into the previous casing, whichever is greater. 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, potash or capitan reef.

## 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 **50 feet** on top of Capitan Reef top **or 200 feet** into the previous casing, whichever is greater. 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, potash or capitan reef.

Operator has proposed to pump down 10-3/4" X 8-5/8" annulus after primary cementing stage. Operator must run a CBL from TD of the 8-5/8" casing to surface. Submit results to the BLM.

If cement does not tie-back into the previous casing shoe, a third stage remediation BH may be performed. The appropriate BLM office shall be notified.

- 4. The minimum required fill of cement behind the 5-1/2 inch production casing is:
  - Cement should tie-back at least 200 feet into previous casing string.
     Operator shall provide method of verification.
     Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef.
     Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

#### 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 10-3/4 intermediate casing shoe shall be 5000 (5M) psi.
- c. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 8-5/8 inch intermediate casing shoe shall be 5000 (5M) psi.

# **Option 2:**

- a. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the 13-3/8 inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 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 Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in Onshore Order 1 and 2.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

# **BOPE Break Testing Variance**

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. (Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP)
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer (575-706-2779) prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-361-2822 Eddy County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 14-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per Onshore Oil and Gas Order No. 2.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

## **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) 689-5981
- 1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig
    - Notify the BLM when moving in and removing the Spudder Rig.
    - Notify the BLM when moving in the 2<sup>nd</sup> 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.

#### Α. **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 cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
- 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 cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to 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.

LVO 5/9/2023



Devon Energy Center 333 West Sheridan Avenue Oklahoma City, Oklahoma 73102-5015

# Hydrogen Sulfide (H₂S) Contingency Plan

For

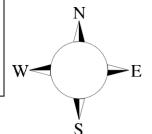
**Burton Flat 3-1 Fed State Com 822H** 

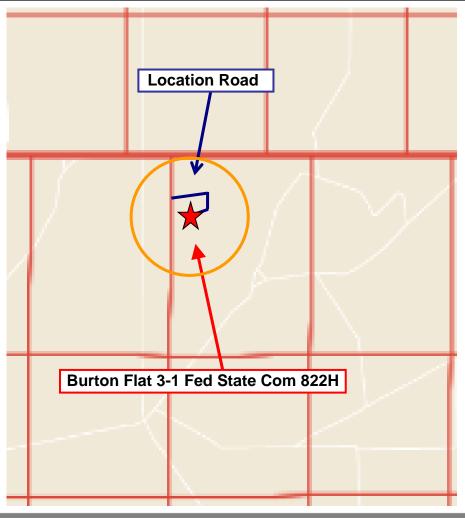
Sec-3 T-21S R-27E 2047' FNL & 387 FWL LAT. = 32.517057 N (NAD83) LONG = 104.184699 W

**Eddy County NM** 

## **Burton Flat 3-1 Fed State Com 822H**

This is an open drilling site. H<sub>2</sub>S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H<sub>2</sub>S, including warning signs, wind indicators and H<sub>2</sub>S monitor.





Assumed 100 ppm ROE = 3000' (Radius of Exposure)
100 ppm H2S concentration shall trigger activation of this plan.

#### **Escape**

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated from the location entrance road. Crews should then block the entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. There are no homes or buildings in or near the ROE.

## **Assumed 100 ppm ROE = 3000'**

100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.

### **Emergency Procedures**

In the event of a release of gas containing H<sub>2</sub>S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H<sub>2</sub>S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
  - o Detection of H₂S, and
  - Measures for protection against the gas,
  - Equipment used for protection and emergency response.

## **Ignition of Gas Source**

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

#### Characteristics of H<sub>2</sub>S and SO<sub>2</sub>

a-a		uu. U U L			
Common	Chemical	Specific	Threshold	Hazardous Limit	Lethal
Name	Formula	Gravity	Limit	nazaruous Liiiit	Concentration
Hydrogen Sulfide	H <sub>2</sub> S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO <sub>2</sub>	2.21 Air = 1	2 ppm	N/A	1000 ppm

## **Contacting Authorities**

Devon Energy Corp. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. Devon Energy Corp. Company response must be in coordination with

the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

## **Hydrogen Sulfide Drilling Operation Plan**

## I. HYDROGEN SULFIDE (H<sub>2</sub>S) TRAINING

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

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

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

- The effects of H<sub>2</sub>S metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
- 2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
- 3. The contents and requirements of the H<sub>2</sub>S Drilling Operations Plan.

There will be weekly H<sub>2</sub>S and well control drills for all personnel in each crew.

#### II. HYDROGEN SULFIDE TRAINING

Note: All H<sub>2</sub>S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H<sub>2</sub>S.

## 1. Well Control Equipment

- A. Flare line
- B. Choke manifold Remotely Operated
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
- D. Auxiliary equipment may include if applicable: annular preventer and rotating head.
- E. Mud/Gas Separator

## 2. Protective equipment for essential personnel:

30-minute SCBA units located at briefing areas, as indicated on well site diagram, with escape units available in the top doghouse. As it may be difficult to communicate audibly while wearing these units, hand signals shall be utilized.

Fire extinguishers are located at various locations around the rig. First Aid supplies are located in the top doghouse and the rig manger's office.

#### 3. H<sub>2</sub>S detection and monitoring equipment:

Portable H<sub>2</sub>S monitors positioned on location for best coverage and response. These units have warning lights which activate when H<sub>2</sub>S levels reach 10 ppm and audible sirens which activate at 15 ppm. Sensor locations:

- Bell nipple
- Possum Belly/Shale shaker
- Rig floor
- Choke manifold
- Cellar

### 4. Visual warning systems:

- a. Wind direction indicators as shown on well site diagram
- b. Caution/Danger signs shall be posted on roads providing direct access to locations. Signs will be painted a high visibility yellow with black lettering of sufficient size to be read a reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

## 5. Mud program:

The mud program has been designed to minimize the volume of H<sub>2</sub>S circulated to surface. Proper mud weight, safe drilling practices and the use of H<sub>2</sub>S scavengers will minimize hazards when penetrating H<sub>2</sub>S bearing zones.

## 6. Metallurgy:

All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold lines, and valves shall be  $H_2S$  trim.

All elastomers used for packing and seals shall be H<sub>2</sub>S trim.

#### 7. Communication:

- a. Company personnel have/use cellular telephones in the field.
- b. Land line (telephone) communications at Office

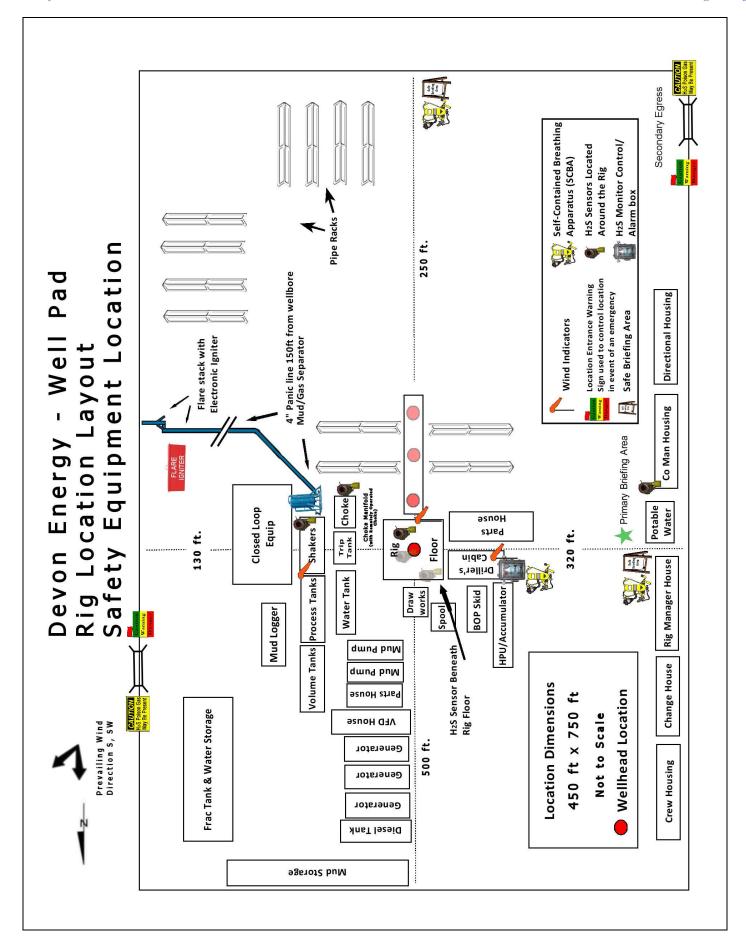
#### 8. Well testing:

- a. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safety and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H<sub>2</sub>S environment will use the closed chamber method of testing.
- b. There will be no drill stem testing.

Devon En	nergy Corp. Company C	Call List						
	ee/Company Contact Representative	Position	Phone Number	After Hours Number				
Jonathan	Fisher (North)	Drilling Manager	832-967-7912					
Jason Hild	debrand (South)	Drilling Manager	405-552-6514					
Rich Dow	ney	Drilling VP	405-228-2415					
Josh Harv	rey	EHS Manger	405-228-2440	918-500-5536				
Laura Wri	ght	EHS Supervisor	405-552-5334	832-969-8145				
Robert Glo		EHS Professional	575-703-5712	575-703-5712				
Lane Fran		Lead EHS	580-579-7052	580-579-7052				
Rickey Po		Lead EHS	903-720-8315	903-720-8315				
Brock Vise	Э	Lead EHS	918-413-3291	918-413-3291				
Agency	Call List							
<u>County</u>	Lea County Communic	eation Authority		397-9265				
(575)	State Police		885-3138					
(3.0)	City Police		397-9265					
	Sheriff's Office		396-3611					
	Ambulance		911					
	Fire Department		397-9308					
	LEPC (Local Emergend	201	393-2870					
	NMOCD	by I lariffing Committee	30)	393-6161				
		lanagement (Hobbs Office Closed) 393-000						
<u>Eddy</u>	Carlsbad							
County	State Police	885-3137						
(575)	City Police			885-2111				
	Sheriff's Office		887-7551					
	Ambulance		911					
	Fire Department		885-3125					
	LEPC (Local Emergen	cy Planning Committe	ee)	887-3798				
	US Bureau of Land M	anagement (Carlsba	ad)	(575)-706-1920				
				(575)-234-5909				
	BLM – CFO			(575) 234-5972				
	BLM – PET Petroleur Cement Notifications			(575) 689-5981				
	NM Emergency Respo			(505) 476-9600				
	24 HR		(505) 827-9126					
	National Emergency R		(800) 424-8802					
	National Pollution Conf	•		(703) 872-6000				
	For Oil Spills	TO OCHIGH. DIEGO		(800) 280-7118				
	Emergency Services			(000) 200-1110				
	Wild Well Control			(201) 704 4700				
		/04	E) 600 0120	(281) 784-4700				
	Cudd Pressure Control	(91)	5) 699-0139	(915) 563-3356				
	Halliburton			(575) 746-2757				
	B. J. Services			(575) 746-3569				

Give	Native Air – Emergency Helicopter – Hobbs	(575) 347-9836
GPS	For Air Ambulance - Eddy County Dispatch	(575)-616-7155
position:	For Air Ambulance - Lea County (LCCA)	(575)-397-9265
	Poison Control (24/7)	(800) 222-1222
	Oil & Gas Pipeline 24 Hour Service	(800) 364-4366
	NOAA – Website - www.nhc.noaa.gov	
	National Pollution Control Center	202-795-6958
	NPCC – Oil Spills	800-280-7118
	BNSF Railroad Resource Operations	800-832-5452
	NM OSHA – Santa Fe	505-222-9595
		877-610-6742
		505-476-8700

Prepared in conjunction with Dave Small



## State of New Mexico Energy, Minerals and Natural Resources Department

Submit Electronically Via E-permitting

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

## NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

## Section 1 – Plan Description Effective May 25, 2021

I. Operator: DEVON EN	NERGY PRODUC	CTION COMPANY, LP	OGRID:	6137	Date:	11 / 18 / 2022
II. Type: ☑ Original □	l Amendment	due to □ 19.15.27.	9.D(6)(a) NMA	C □ 19.15.27.9.D(	6)(b) NMAC □ (	Other.
If Other, please describe	:					
III. Well(s): Provide the be recompleted from a si					wells proposed to	be drilled or proposed to
Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
See attachment						
V. Anticipated Schedul proposed to be recomple Well Name					Initial F	
See attachment						
VII. Operational Pract Subsection A through F	ices:  Attacof 19.15.27.8	h a complete descr NMAC.	iption of the ac	tions Operator wil	l take to comply	at to optimize gas capture.  with the requirements of tices to minimize venting

III. Wellis): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

									Anticipated	
							Anticipated Oil	Anticipated Gas	Produced Water	Central Delivery Point
Well Name	API	ULSTR		FOOTA	GES		BBL/D	MCF/D	BBL/D	Name:
BURTON FLAT 3-1 FED STATE COM 331H		3-21S-27E	1001 F	NL	369	FWL	(+/-)973bopd	(+/-)2194mcfd	(+/-)2965bwpd	BFDU 3 Facility 1
BURTON FLAT 3-1 FED STATE COM 621H		3-21S-27E	1031 F	NL	369	FWL	(+/-)1245bopd	(+/-)2995mcfd	(+/-)3115bwpd	BFDU 3 Facility 1
BURTON FLAT 3-1 FED STATE COM 332H		3-21S-27E	1061 F	NL	369	FWL	(+/-)973bopd	(+/-)2194mcfd	(+/-)2965bwpd	BFDU 3 Facility 1
BURTON FLAT 3-1 FED STATE COM 822H		3-21S-27E	2047 F	NL	387	FWL	(+/-)626bopd	(+/-)6778mcfd	(+/-)2539bwpd	BFDU 3 Facility 1
BURTON FLAT 3-1 FED STATE COM 622H		3-21S-27E	2077 F	NL	387	FWL	(+/-)1245bopd	(+/-)2995mcfd	(+/-)3115bwpd	BFDU 3 Facility 1
BURTON FLAT 3-1 FED STATE COM 333H		3-21S-27E	2107 F	NL	387	FWL	(+/-)973bopd	(+/-)2194mcfd	(+/-)2965bwpd	BFDU 3 Facility 1
BURTON FLAT 3-1 FED STATE COM 823H		3-21S-27E	2137 F	NL	387	FWL	(+/-)626bopd	(+/-)6778mcfd	(+/-)2539bwpd	BFDU 3 Facility 1
BURTON FLAT 3-1 FED STATE COM 623H		3-21S-27E	2988 F	SL	150	FWL	(+/-)1245bopd	(+/-)2995mcfd	(+/-)3115bwpd	BFDU 3 Facility 1
BURTON FLAT 3-1 FED STATE COM 335H		3-21S-27E	2958 F	FSL	150	FWL	(+/-)973bopd	(+/-)2194mcfd	(+/-)2965bwpd	BFDU 3 Facility 1
BURTON FLAT 3-1 FED STATE COM 625H		3-21S-27E	2928 F	SL	150	FWL	(+/-)1245bopd	(+/-)2995mcfd	(+/-)3115bwpd	BFDU 3 Facility 1
BURTON FLAT 3-1 FED STATE COM 824H		3-21S-27E	2186 F	SL	150	FWL	(+/-)626bopd	(+/-)6778mcfd	(+/-)2539bwpd	BFDU 3 Facility 1
BURTON FLAT 3-1 FED STATE COM 337H		3-21S-27E	2156 F	-SL	150	FWL	(+/-)973bopd	(+/-)2194mcfd	(+/-)2965bwpd	BFDU 3 Facility 1
BURTON FLAT 3-1 FED STATE COM 624H		3-21S-27E	2126 F	-SL	150	FWL	(+/-)1245bopd	(+/-)2995mcfd	(+/-)3115bwpd	BFDU 3 Facility 1
BURTON FLAT 3-1 FED STATE COM 338H		3-21S-27E	2096 F	-SL	150	FWL	(+/-)973bopd	(+/-)2194mcfd	(+/-)2965bwpd	BFDU 3 Facility 1
BURTON FLAT 3-1 FED STATE COM 825H		3-21S-27E	265 F	-SL	205	FWL	(+/-)626bopd	(+/-)6778mcfd	(+/-)2539bwpd	BFDU 3 Facility 1
BURTON FLAT 3-1 FED STATE COM 626H		3-21S-27E	235 F	-SL	205	FWL	(+/-)1245bopd	(+/-)2995mcfd	(+/-)3115bwpd	BFDU 3 Facility 1
BURTON FLAT 3-1 FED STATE COM 339H		3-21S-27E	205 F	-SL	205	FWL	(+/-)973bopd	(+/-)2194mcfd	(+/-)2965bwpd	BFDU 3 Facility 1
BURTON FLAT 3-1 FED STATE COM 826H		3-21S-27E	175 F	FSL	205	FWL	(+/-)626bopd	(+/-)6778mcfd	(+/-)2539bwpd	BFDU 3 Facility 1

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

				Completion		First
			TD Reached	Commencem	Initial Flow	Production
Well Name	API	Spud Date	Date	ent Date	back Date	Date
BURTON FLAT 3-1 FED STATE COM 331H	n/a	8/16/2023	9/15/2023	1/13/2024	1/13/2024	1/13/2024
BURTON FLAT 3-1 FED STATE COM 621H	n/a	9/28/2023	10/28/2023	2/25/2024	2/25/2024	2/25/2024
BURTON FLAT 3-1 FED STATE COM 332H	n/a	9/2/2023	10/2/2023	1/30/2024	1/30/2024	1/30/2024
BURTON FLAT 3-1 FED STATE COM 822H	n/a	8/15/2023	9/14/2023	1/12/2024	1/12/2024	1/12/2024
BURTON FLAT 3-1 FED STATE COM 622H	n/a	10/10/2023	11/9/2023	3/8/2024	3/8/2024	3/8/2024
BURTON FLAT 3-1 FED STATE COM 333H	n/a	9/13/2023	10/13/2023	2/10/2024	2/10/2024	2/10/2024
BURTON FLAT 3-1 FED STATE COM 823H	n/a	10/8/2023	11/7/2023	3/6/2024	3/6/2024	3/6/2024
BURTON FLAT 3-1 FED STATE COM 623H	n/a	3/12/2024	4/11/2024	8/9/2024	8/9/2024	8/9/2024
BURTON FLAT 3-1 FED STATE COM 335H	n/a	2/14/2024	3/15/2024	7/13/2024	7/13/2024	7/13/2024
BURTON FLAT 3-1 FED STATE COM 625H	n/a	4/20/2024	5/20/2024	9/17/2024	9/17/2024	9/17/2024
BURTON FLAT 3-1 FED STATE COM 824H	n/a	3/26/2024	4/25/2024	8/23/2024	8/23/2024	8/23/2024
BURTON FLAT 3-1 FED STATE COM 337H	n/a	3/21/2024	4/20/2024	8/18/2024	8/18/2024	8/18/2024
BURTON FLAT 3-1 FED STATE COM 624H	n/a	2/19/2024	3/20/2024	7/18/2024	7/18/2024	7/18/2024
BURTON FLAT 3-1 FED STATE COM 338H	n/a	4/16/2024	5/16/2024	9/13/2024	9/13/2024	9/13/2024
BURTON FLAT 3-1 FED STATE COM 825H	n/a	5/10/2024	6/9/2024	10/7/2024	10/7/2024	10/7/2024
BURTON FLAT 3-1 FED STATE COM 626H	n/a	6/14/2024	7/14/2024	11/11/2024	11/11/2024	11/11/2024
BURTON FLAT 3-1 FED STATE COM 339H	n/a	2/16/2024	3/17/2024	7/15/2024	7/15/2024	7/15/2024
BURTON FLAT 3-1 FED STATE COM 826H	n/a	5/15/2024	6/14/2024	10/12/2024	10/12/2024	10/12/2024

## Section 2 – Enhanced Plan EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

🗵 Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

#### IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

#### X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. $\square$ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the
production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of
the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural	gas gathering system	□ will □ will r	not have capacity to	o gather 10	00% of the antic	ipated nat	tural gas
production volume from the well	prior to the date of firs	t production.					

XIII. Line Pressure. Operator $\square$ does $\square$ does not anticipate that its existing well(s) connected to the same segment, or portion, of the
natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s)

l Attach (	Onerator's nla	an to manag	nroduction i	n response to	the increased	l line pressure

XIV. Confidentiality: $\square$ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information pro	vided in
Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific info	ormation
for which confidentiality is asserted and the basis for such assertion.	

# Section 3 - Certifications Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

- 🖾 Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or
- D Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. If Operator checks this box, Operator will select one of the following:

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. □ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- **(b)** power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (t) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

## Section 4 - Notices

- 1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:
- (a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or
- (b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.
- 2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:
Printed Name: Jeff Walla
Title: Surface Land and Regulatory Manager
E-mail Address: jeff.walla@dvn.com
Date: 11-18-2022
Phone: 405-552-8154
OIL CONSERVATION DIVISION
(Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:



#### VI. Separation Equipment

Devon Energy Production Company, L.P. utilizes a "stage separation" process in which oil and gas separation is carried out through a series of separators operating at successively reduced pressures. Hydrocarbon liquids are produced into a high-pressure inlet separator, then carried through one or more lower pressure separation vessels before entering the storage tanks. The purpose of this separation process is to attain maximum recovery of liquid hydrocarbons from the fluids and allow maximum capture of produced gas into the sales pipeline. Devon utilizes a series of Low-Pressure Compression units to capture gas off the staged separation and send it to the sales pipeline. This process minimizes the amount of flash gas that enters the end-stage storage tanks that is subsequently vented or flared.



#### VII. Operational Practices

Devon Energy Production Company, L. P. will employ best management practices and control technologies to maximize the recovery and minimize waste of natural gas through venting and flaring.

- During drilling operations, Devon will utilize flares and/or combustors to capture and control
  natural gas, where technically feasible. If flaring is deemed technically in-feasible, Devon will
  employ best management practices to minimize or reduce venting to the extent possible.
- During completions operations, Devon will utilize Green Completion methods to capture gas
  produced during well completions that is otherwise vented or flared. If capture is technically
  in-feasible, flares and/or combustors will be used to capture and control flow back fluids
  entering into frac tanks during initial flowback. Upon indication of first measurable hydrocarbon
  volumes, Devon will turn operations to onsite separation vessels and flow to the gathering
  pipeline.
- During production operations, Devon will take every practical effort to minimize waste of natural gas through venting and flaring by:
  - Designing and constructing facilities in a manner consistent to achieve maximum capture and control of hydrocarbon liquids & produced gas
  - Utilizing a closed-loop capture system to collect and route produced gas to sales line via low pressure compression, or to a flare/combustor
  - o Flaring in lieu of venting, where technically feasible
  - Utilizing auto-ignitors or continuous pilots, with thermocouples connected to Scada, to quickly detect and resolve issues related to malfunctioning flares/combustors
  - Employ the use of automatic tank gauging to minimize storage tank venting during loading events
  - Installing air-driven or electric-driven pneumatics & combustion engines, where technically feasible to minimize venting to the atmosphere
  - Confirm equipment is properly maintained and repaired through a preventative maintenance and repair program to ensure equipment meets all manufacturer specifications
  - Conduct and document AVO inspections on the frequency set forth in Part 27 to detect and repair any onsite leaks as quickly and efficiently as is feasible



VIII. Best Management Practices during Maintenance

Devon Energy Production Company, L.P. will utilize best management practices to minimize venting during active and planned maintenance activities. Devon is operating under guidance that production facilities permitted under NOI permits have no provisions to allow high pressure flaring and high pressure flaring is only allowed in disruption scenarios so long as the duration is less than eight hours. When technically feasible, flaring during maintenance activities will be utilized in lieu of venting to the atmosphere. Devon will work with third-party operators during scheduled maintenance of downstream pipeline or processing plants to address those events ahead of time to minimize venting. Actions considered include identifying alternative capture approaches or planning to temporarily reduce production or shut in the well to address these circumstances.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III 1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 219747

#### **CONDITIONS**

Operator:	OGRID:
DEVON ENERGY PRODUCTION COMPANY, LP	6137
333 West Sheridan Ave.	Action Number:
Oklahoma City, OK 73102	219747
	Action Type:
	[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

#### CONDITIONS

Created By	Condition	Condition Date
john.harrison	Notify OCD 24 hours prior to casing & cement	5/24/2023
john.harrison	Will require a File As Drilled C-102 and a Directional Survey with the C-104	5/24/2023
john.harrison	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	5/24/2023
john.harrison	Cement is required to circulate on both surface and intermediate1 strings of casing	5/24/2023
john.harrison	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	5/24/2023