ATS-13-313

Form 3160-3 March 2012) IIGH CAVEKARST UNITED STATES DEPARTMENT OF THE I BUREAU OF LAND MAN	NTERIOR	OCD Artes	ia i	OMB		37	7 <i>0</i> 9 4/2
APPLICATION FOR PERMIT TO I				6. If Indian, Allote			
Ia. Type of work: 🔽 DRILL 🗌 REENTE	ER			7. If Unit or CA Ag	reement, N	ame and No.	-
Ib. Type of Well: 🔽 Oil Well 🔲 Gas Well 🛄 Other	🖌 Sin	igle Zone 🔲 Multip	ole Zone	8. Lease Name and Stebbins GQ Fed	l Well No. eral Com	#2H C/	- 279
2. Name of Operator Yates Petroleum Corporation	(25575	7	9. API Well No.	5-41	17.36	_ , ,
^{3a.} Address 105 S. Fourth St. Artesia, NM 88210		(include area code)	we	10. Field and Bool, or Undooignated/2nd	r Explorato	1 29.80 K	ō; Ā
4. Location of Well (Report location clearly and in accordance with any At surface 660' FNL & 350' FWL At proposed prod. zone 860' FNL & 330' FEL	y State requireme	ents.*)		11. Sec., T. R. M. or Sec. 20, T20S-R2		rvey or Area	<u> </u>
 Distance in miles and direction from nearest town or post office* 20 miles East of Carlsbad 				12. County or Parish Eddy County		13. State NM	
5. Distance from proposed* 350 location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of ac 2150.97	cres in lease	-	ng Unit dedicated to this 160 acres	ng Unit dedicated to this well		-
8. Distance from proposed location* 100' from lateral to nearest well, drilling, completed, 2900' from SHL applied for, on this lease, ft.	19. Proposed Depth 20. BLM/E 7980' TVD NMB000 12314' TD NMB000				_		
 Elevations (Show whether DF, KDB, RT, GL, etc.) 3261' 	22. Approxin 10/15/2013	nate date work will sta 3	rt*	23. Estimated duration 30 days		_	
 Well plat certified by a registered surveyor. A Drilling Plan. A Surface Use Plan (if the location is on National Forest System I SUPO must be filed with the appropriate Forest Service Office). 	Lands, the	Item 20 above). 5. Operator certific	ation	ons unless covered by a	-		5
25. Signature 72ah.		(Printed/Typed) Hahn		<u> </u>	Date 01/15/	2013	=
Land Regulatory Agent		•					-
pproved by (Signature) /s/ Don Peterson	Name	(Printed/Typed)			Date MAR	2 7 201	- # }
tle FIELD MANAGER	Office	CARLSBA					
pplication approval does not warrant or certify that the applicant holds nduct operations thereon. onditions of approval, if any, are attached.	s legal or equit	able title to those righ		bject lease which would PROVAL FO		••	6
tle 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a criates any false, fictitious or fraudulent statements or representations as to	ime for any pe o any matter w	erson knowingly and v ithin its jurisdiction.	villfully to 1	nake to any department	or agency	of the United	-
	ECEI Apr 01	ſ	<u></u>	*(Ins Capitan Con		s on page 2) Water Ba	
		RTESIA					
oval Subject to General Requirements & Special Stipulations Attached		<u>1</u>	SEE CON	ATTACH DITIONS	ED F OF /	'OR APPRO	VA

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CERTIFICATION YATES PETROLEUM CORPORATION Stebbins GQ Federal Com #2H

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

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Executed this <u>15</u>	day of <u></u>	2	2013
Signature	. That		
Name	<u>Travis Hahn</u>		
Position Title	Land Regulatory Ag	gent	
Address	105 South Fourth St	reet, Artesia,]	New Mexico 88210
Telephone	(575) 748-4120		
Field Representative	(if not above signator	y) <u>Tim</u>	Bussell, Drilling Supervisor
Address (if different f	rom above) <u>S</u>	ame as above	
Telephone (if differen	t from above)(5	575) 748-4221	

DISTRICT I 1625 N. French Dr., Hobbs, NM 88240 Phone (676) 393-6161 Fax: (676) 393-0720 DISTRICT II 1301 W. Grand Avenue, Artesia, NM 88210 Phone (675) 748-1283 Fax: (576) 748-9720 DISTRICT III 1000 Rio Brazos Rd., Aztec, NM 87410 Phone (505) 334-6170 Fax: (505) 334-6170 DISTRICT IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone (506) 476-3460 Fax: (505) 476-3462

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State of New Mexico Energy, Minerals and Natural Resources Department

Submit one copy to appropriate District Office

OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

□ AMENDED REPORT

30-015-4123	36 9): BS né Spring_					
Property Code		Well Nu 2H	ımber				
0gRID №. 025575			Operator Na			Elevation 3261'	
025575		TATES	S PETROLEU Surface Loc	······		520	
UL or lot No. Section	Township Rar	nge Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D 20	20 S 29	E	660	NORTH	350	WEST	EDDY
	Bot	tom Hole Loc	cation If Diff	erent From Sur	face		
	-	nge Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A 20 Dedicated Acres Joint or		E ation Code Ord	860 der No.	NORTH	330	EAST	EDDY
NO ALLOWABLE WI	ILL BE ASSIGN	NED TO THIS	COMPLETION	UNTIL ALL INTER	ESTS HAVE BE	EN CONSOLIDA	ATED
	OR A NON-	STANDARD UN	IIT HAS BEEN	APPROVED BY 7	THE DIVISION		
	Penetration 681' FNL &	819 FWL Project		PROPOSED BOTTOM HOLE LOCATION Lat - N 32°33'49.79 .ong - W 104°05'22.88 VMSPCE- E 616390.50 (NAD-83)	I hereby cer contained herein the best of my interest or unlead land including to location or has or to a volunitar owner of such a or to a volunitar compulsory pooli- the division. Signature Travis Ha Printed Name thahn@yat Email Address SURVEYO! I hereby certify on this plat was actual surveys supervison and correct to the Date Surves Signature & Surves Supervison and correct to the Signature & Surves Supervison & Surves Signature & Surves Supervison & Supervison & Supervis	hn espetroleum R CERTIFICAT that the well locati s plotted from field made by me or t that the same is best of my belief FFR Jon 12 Set 5 FFR Jon 12 FFR J	ation iete to and that ing in the sole well at with an interest, or a intered by 15/2013 Date . COM ION on showm notes of under my true and







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YATES PETROLEUM CORPORATION

Stebbins GQ Federal Com #2H 660' FNL & 350' FWL, Surface Hole 860' FNL & 330' FEL, Bottom Hole Section 20 -T20S-R29E Eddy County, New Mexico

1. The estimated tops of geologic markers are as follows:

Rustler	170'	Brushy Canyon	4320' Oil
Top of Salt	430'	Bone Spring Lime	5770' Oil
Base of Salt	740'	Bone Springs 1/SD	6885' Oil
Tansill	980'	Bone Springs 2/SD	7625' Oil
Yates	1080'	Target Zone SBSG	8178 <u>'</u>
Seven Rivers	1380'	TD (Lateral Hole)	12314' MD
Capitan Reef	1510' Water		
Cherry Canyon	3430' Oil		

2. The estimated depths at which anticipated water, oil or gas formations are expected to be encountered:

Water: Approx: 0' - 400' & 1510' - 3200' See above--All Potential Zones Oil or Gas:

- Pressure Control Equipment: Yates Petroleum Corporation hereby request a variance to allow us to place 3. a 2000 PSI annular system with a 21.25" opening will be installed on the 20" casing, a pressure test will be conducted by pressuring up to 1000 PSI and hold for 30 minutes before drilling begins. A 3000 PSI BOP with a 13.625" opening will be installed on the 13.375" casing and also a 5000 PSI BOP on the 9.625" casing. Pressure tests to 3000 PSI and 5000 on each, and held for 30 minutes will be conducted before drilling. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. See Exhibits.
- Auxiliary Equipment:
 - A. Auxiliary Equipment: Kelly cock, pit level indicators, flow sensor equipment and a sub with full opening valve to fit the drill pipe and collars will be available on the rig floor in the open position at all times for use when kelly is not in use.
- THE PROPOSED CASING AND CEMENTING PROGRAM: 1.
 - Α. Casing Program: (All New) 13 3/8" 48# will be J-55/H-40 Hybird

Casing Prog	gram: (All New)	13 3/8" 48	3# will be	J-55/H-40 Hybird	~05	CON
Hole Size	Casing Size	<u>Wt./Ft</u>	<u>Grade</u>	Coupling	Interval	Length
26"	20"	94#	H-40	ST&C	0'-400'	400'
17 1/2"	13 3/8"	54.5#	J-55	ST&C	0'-80'	- 80'
17 1/2"	13 3/8"	48#	J-55	ST&C	80-1200/133	p '/120'
17 1/2"	13 3/8"	54.5#	J-55	ST&C	1200 4450	250'
12 1/4"	9 5/8"	36#	J-55	LT&C	0'-3470'30	50' 3470'
. 8 3/4"	5 1/2"	17#	P-110	LT&C	0'-7400'	7400'
8 1/2"	5 1/2"	17#	P-110	Buttress Thread	7400'-12314'	4914'

Minimum Casing Design Factors: Burst 1.0, Tensile 1.8, Collapse 1.125

B. CEMENTING PROGRAM: See COPP Surface casing: Lead in with 590 sacks of Class C +2% CaCl (YLD 1.71 WT 13.50); tail in with 150 sacks of Class C + 2% CaCl2 (YLD 1.34 WT 14.80). Designed with 100% excess, TOC-Surface.

Intermediate Casing 1 0'-1450': Lead with 1380 sacks of Class PozC 35:65:6 (YLD 2.00 WT 12.50); tail in with 200 sacks of Class C + 2% CaCl2 (YLD 1.34 WT. 14.80). Designed with 100% excess, TOC-Surface.

 $9\frac{5}{8}$ Intermediate Casing 2 0'-3470': Lead with 955 sacks of Class PozC 35:65:6 (YLD 2.00 WT 12.50); tail in with 200 sacks of Class C + 2% CaCl2 (YLD 1.34 WT 14.80). Designed with 100% excess, TOC-Surface.

Production Casing: Cement to be done with a DV tool set between 3900' and 4400' (cement will be distributed proportionately).

Stage 1 from 4150'-12314'; Lead with 675 sacks Class PozC 35:65:6 (YLD 2.00 WT 12.50); tail in with 1020 sacks of Pecos Valley Lite (YLD 1.41 WT. 13.00). 30% CaCO, 3.2% Expansion additive, 2% Antifoam, .8% Retarder, 15 Fluid loss. TOC- 4150' Designed with 35% excess.

Stage 2 from 1300'-4150'; Lead cement with 350 sacks of Class PozC 35:65:6 (YLD 2.00 WT. 12.50); tail in with 200 sacks of Class C + 2% CaCl2 (YLD 1.34 WT 14.80). Designed with 35% excess, TOC-1300'.

Well will be drilled vertically depth to 7435' then kicked off and drilled directionally at 12 degrees per 100' with a 8 $\frac{3}{4}$ " hole to 8178' MD (7913' TVD). Hole will then be reduced to 8 $\frac{1}{2}$ " and drilled to 12314' MD (7980' TVD) where 5 $\frac{1}{2}$ " casing will be set and cemented to approximately 1300' in two stages with a DV/Packer Stage Tool. Penetration point of producing zone will be encountered at 681' FNL & 819' FWL, Section 20-20S-29E. Deepest TVD is 7980' in the lateral.

5. Mud Program and Auxiliary Equipment:

Interval	Type	Weight	<u>Viscosity</u>	Fluid Loss
0-400'	Fresh Water	8.6-9.2	32-34	N/C
400'-1450' 1330	Brine Water	10.0-10.2	28-29	N/C
1450'-3470' 3050	Fresh Water	8.6-9.2	32-34	N/C
3470-12314'	Cut Brine	8.7-9.0	28-32	N/C

Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blow out will be available at the well site during drilling operations. Mud will be checked hourly by rig personnel.

6. EVALUATION PROGRAM:

Samples: 30' samples to 3470'. 10' samples 3470' to TD (12314').

Logging: Platform HRLA CMR to 30 degree deviation.

Coring: As warranted.

DST's: As warranted.

Mudlogging: After surface casing is set an electronic PVT system will be installed as our primary mud level monitoring system. A secondary system will also be implemented as to insure the PVT system is functioning properly. The secondary system will be comprised of the derrick hand visually checking the fluid level in the pits periodically using a nut on the end of a rope hanging just above the fluid level in the pit.

7. Abnormal Conditions, Bottom hole pressure and potential hazards:

Anticipated BHP:

Anticip	aleu DHF.					
From:	· 0		400' Juco	Anticipated Max. BHP:	191	PSI
	400'		1450' 1330'	Anticipated Max. BHP:	769	PSI
From:	1450	To:	3470' 3050'	Anticipated Max. BHP:	1660	PSI
From:	3470'	To:	7980'	Anticipated Max. BHP:	3735	PSI
	/ ·			4 · · · ·		

No abnormal pressures or temperatures are anticipated.

Lost Circulation Zones Anticipated: Possible in Capitan Reef

H2S is not anticipated.

8. ANTICIPATED STARTING DATE:

Plans are to drill this well as soon as possible after receiving approval. It should take approximately 65 days to drill the well with completion taking another 30 days.



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Typical 2,000 psi choke manifold assembly with at least these minimun features





Typical 3,000 psi choke manifold assembly with at least these minimun features



YATES PETROLEUM CORPORATION

Piping from Choke Manifold to the Closed Loop Drilling Mud System



Yates Petroleum Corporation Closed Loop System

Equipment Design Plan

Closed Loop System will consist of:

1 – double panel shale shaker

1 – (minimum) Centrifuge, certain wells and flow rates may require 2 centrifuges
On certain wells, the Centrifuge will be replaced by a Clackco Settling Tank System
1 – minimum centrifugal pump to transfer fluids
2- 500 bbl. FW Tanks

1-500 bbl. BW Tank

1 - half round frac tank -250 bbl. capacity as necessary to catch cement / excess mud returns generated during a cement job.

1 Set of rail cars / catch bins

Certain wells will use an ASC Auger Tank

Operation Plan

All equipment will be inspected at least hourly by rig personnel and daily by contractors' personnel.

Any spills / leaks will be reported to YPC, NMOCD, and cleaned up without delay.

Closure Plan

Drilling with Closed Loop System, haul off bins will be taken to Gandy Marley, Lea Land Farm, CRI or Sundance Services Inc.







Plans for Interim and Final Surface Reclamation.

1. Well location will be contoured to resemble the original topography as closely as possible. Surface reclamation measures will be taken to avoid new erosion on the well location and the area surrounding the well location. These measures will be overseen by Yates' personnel following a structured plan for the reclamation of each individual site.

2. Major drainage systems will be avoided as determined at the onsite with the BLM. Minor drainages may be rerouted around the well site within the 600' x 600' cleared area to avoid moving the well location.

3. Segregation of topsoil or like soils will be placed in low lift rows rather than in a stockpile just off the caliche well pad. Placement of these lift rows will be determined at the BLM onsite or at the time of construction by Yates Personnel.

4. Yates will use prudent oil field practices when constructing well locations and related facilities. Yates personnel will determine the size of the well location needed for safe working conditions for personnel during all aspects on the drilling and production process.

5. Back fill requirements for above ground reserve pits will be met by using cut, fill, and contouring of available top soil and like soils from the pit area. Should additional material be needed it will be brought in from a BLM approved source.

6. All topsoil will be spread over the area reclaimed during interim reclamation using a front end loader. For final reclamation enough topsoil will be evenly distributed between the interim reclaimed area and the final reclaimed area. This method of soil stabilization should help maintain the productivity and viability of the topsoil.

7. Soil treatments will be determined at the time of final reclamation by Yates' Environmental Specialist or other designated personnel to meet BLM final reclamation goals.

8. Reseeding of disturbed areas will be accordance with the seed mixtures attached to the approved APD as Conditions of Approval. Planting and soil preparation will be done during the rainy season between June 1st and September 1st.

9. Yates' personnel will control weeds during the productive period through final abandonment of the well. Yates may also use the option to hire a third party to be in charge of weed control or participate in the Chaves Soil and Water District program to pool monies for weed control.

10. Well pads, roads and related facilities with caliche or other surfacing material will be picked up or turned over at the time of final abandonment. These materials may be used on other projects in the area if possible or placed back in the caliche pit or other designated site. Buried pipelines will be left in place after being bled down and purged. Above surface support equipment will be removed or cut down below plow depth and removed. Pipeline right-of-ways will be reseeded according to BLM Best Management Practices.

YATES PETROLEUM CORPORATION Surface Use Plan of Operations Stebbins GQ Federal Com #2H 660' FNL and 350' FWL, Surface Hole 860' FNL and 330' FEL, Bottom Hole

This plan is submitted with Form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated with the operations.

1. EXISTING ROADS:

Attached is a portion of the BLM map showing the well and roads in the vicinity of the proposed location. The proposed wellsite is located approximately 20 miles, east of Carlsbad, New Mexico and the access route to the location is indicated in yellow and green on the attached plats.

DIRECTIONS:

Go east of Carlsbad, NM on Highway 62/180 for approximately 7.5 mile to the intersection of 62/180 and CR 243 (Magnum Rd). Turn left (north) on Magnum Rd. and continue to Burton Flats Rd. Turn right (east) onto Burton Flats Rd. and continue for 1 mile lease road will be to the south and be 102.6' long to the northwest corner of the location.

2. PLANNED ACCESS ROAD:

- A. The proposed new access will be approximately 102.6' feet in length from the point of origin to the northwest corner of the drilling pad.
- B. The new road will be 30 feet in width with 16 feet in width (driving surface) and will be adequately drained to control runoff and soil erosion.
- C. The new road will be bladed with drainage on both sides if needed. No traffic turnouts will be needed.
- D. The route of the road is visible.
- E. Existing roads will be maintained in the same or better condition.

3. LOCATION OF EXISTING WELL:

- A. There is no drilling activity within a one-mile radius of the well site.
- B. Attachment shows existing wells within a one-mile radius of the proposed well site.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

- A. We are planning to place the production on this location.
- B. If the well is productive oil, a gas or diesel self-contained unit will be used to provide the necessary power until an electric line can be built, if needed. Power should not be required if the well is productive of gas.
- C. Should a Pipeline Right-Of-Way be required it will be filed under a separate application and/or by 3rd party if applicable.

5. LOCATION AND TYPE OF WATER SUPPLY:

- A. It is planned to drill the proposed well with a fresh water system. The water will be obtained from commercial sources and will be hauled to the location by truck over the existing and proposed roads shown in the attached maps.
- 6. SOURCE OF CONSTRUCTION MATERIALS:
 - A. Dirt contractor will locate nearest pit and obtain any permits and materials needed for construction.

Stebbins GQ Federal Com #2H Page Two

7. METHODS OF HANDLING WASTE DISPOSAL:

- A. Drill cuttings will be collected in tanks until hauled to an approved disposal system.
- B. A closed loop system will be constructed, maintained and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division—the "Pit Rule" 19.15.17 NMAC. Form C-144 attached.
- C. Drilling fluids will be removed after drilling and completions are finalized.
- D. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or separate disposal application will be submitted.
- E. Oil produced during operations will be stored in tanks until sold.
- F. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- G. All trash, junk, and other waste materials will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not approved.

8. ANCILLARY FACILITIES: NONE

9. WELLSITE LAYOUT:

- A. Attached plat shows the relative location and dimensions of the well pad, the closed loop design plan, the location of the drilling equipment, orientation and access road approach (Approximately 3.5 acres)
- B. The closed loop system will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division the "Pit Rule" 19.15.17 NMAC. Form C-144 is attached Exhibit E.
- C. A 600' x 600' area has been staked and flagged.

10. PLANS FOR RESTORATION:

- A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleaned of all trash and junk to leave the well site in as aesthetically pleasing a condition as possible.
- B. If the proposed well is plugged and abandoned, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible.
- 11. SURFACE OWNERSHIP: Federal

Minerals: USA-Federal-NM-82902 Administered by: Bureau of Land Management Carlsbad Field Office 620 E. Greene Street Carlsbad, NM 88220-6292

12. OTHER INFORMATION:

- A. The primary use of the surface is for grazing.
- B. Refer to the archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, and historical and cultural sites.

PECOS DISTRICT CONDITIONS OF APPROVAL

	Yates Petroleum Corporation
LEASE NO.:	NMNM-03677
WELL NAME & NO.:	Stebbins GQ Federal Com 2H
SURFACE HOLE FOOTAGE:	0660' FNL & 0350' FWL
BOTTOM HOLE FOOTAGE	0860' FNL & 0330' FEL
LOCATION:	Section 20, T. 20 S., R 29 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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

General Provisions **Permit Expiration** Archaeology, Paleontology, and Historical Sites **Noxious Weeds** Special Requirements Communitization Agreement **Construction** Notification Topsoil Closed Loop System Federal Mineral Material Pits Well Pads Roads **Road Section Diagram** 🛛 Drilling 🗉 High Cave/Karst Capitan Reef Logging Requirements Waste Material and Fluids **Production** (Post Drilling) Well Structures & Facilities Pipelines **Electric Lines Interim Reclamation** Final Abandonment & Reclamation

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. ON LEASE ACCESS ROADS

Road Width

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

Surfacing

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

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

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

Crowning

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

Ditching

Ditching shall be required on both sides of the road.

Turnouts

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

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

High Cave/Karst

Possibility of lost circulation in the Grayburg, San Andres, Capitan Reef, Delaware, and Bone Spring formations.

- 1. The 20 inch surface casing shall be set at approximately 400 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. If salt is encountered, set casing at least 25 feet above the salt.
 - 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 is to include the lead cement slurry.

- 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 **13-3/8** inch first intermediate casing, which shall be set at approximately **1330** 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.

- 3. The minimum required fill of cement behind the **9-5/8** inch second intermediate casing, which shall be set at **3050** feet in the base of the Capitan Reef, 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.

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

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

Operator has proposed DV tool at depth between 3900' and 4400', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range.

- a. First stage to DV tool:
- Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.
- b. Second stage above DV tool:
- Cement should tie-back at least 50 feet above the top of the Capitan Reef (approximately 1800 feet into previous casing string). Operator shall provide method of verification.
- 4. 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.

C. 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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000** (**2M**) psi.
 - a. For surface casing only: If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.
- 3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8** intermediate casing shoe shall be **3000 (3M)** psi.
- 4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 intermediate casing shoe shall be 5000 (5M) psi. 5M 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.
- 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 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).
 - c. 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.
 - d. The results of the test shall be reported to the appropriate BLM office.

- e. 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.
- f. 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.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. 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.

JAM 032113

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

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

Containment Structures

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement

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

VRM Facility Requirement

Low-profile tanks not greater than eight-feet-high shall be used.

B. PIPELINES

Not applied for in permit.

C. ELECTRIC LINES

Not applied for in permit.

IX. INTERIM RECLAMATION

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

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

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

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

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

X. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

Seed Mixture 1, for Loamy Sites

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

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

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

Species.

	<u>lb/acre</u>
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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