#### **OCD Artesia** Form 3160-3 FORM APPROVED (August 2007) OMB No 1004-0137 Expires July 31, 2010 D STATES Lease Serial No. OF THE INTERIOR NM-14847 U OF LAND MANAGEMENT If Indian, Allotee or Tribe Name PPLICATION FOR PERMIT TO DRILL OR REENTER 7. If Unit or CA Agreement, Name and No **V** DRILL REENTER la. Type of work: 8. Lease Name and Well No. lb. Type of Well: ✓ Oil Well Gas Well Other ✓ Single Zone Multiple Zone Phillips -19- Federal #29 9 API Well No Name of Operator Clayton Williams Energy, Inc. 30-015- 32 Phone No Unclude area code) 3a. Address 10 Field and Pool, or Explorate Suite 3000, 6 Desta Drive (432) 682-6324 Midland, Texas 79705 Empire, Glorieta-Yeso 11. Sec, T. R M or Blk and Survey or Area 4. Location of Well (Report location clearly and in accordance with any State requirements \*) At surface 560' FNL, 480' FWL Lot 1 Section 19, T-17-S, R-29-E At proposed prod. zone 13 State 12 County or Parish 14 Distance in miles and direction from nearest town or post office\* NM 7 miles NW of Loco Hills, New Mexico Eddy Distance from proposed\* 17 Spacing Unit dedicated to this well 16 No. of acres in lease 480 location to nearest 40 acres property or lease line, ft 1054.42 (Also to nearest drig, unit line, if any) 20 BLM/BIA Bond No. on file 18 Distance from proposed location\* 19. Proposed Depth to nearest well, drilling, completed, NM 2787 6 000 applied for, on this lease, ft. Elevations (Show whether DF, KDB, RT, GL, etc.) 22. Approximate date work will start\* Estimated duration 3709' GL 06/30/2010 20 days 24. Attachments The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form: Bond to cover the operations unless covered by an existing bond on file (see 1. Well plat certified by a registered surveyor. Item 20 above). 2. A Drilling Plan. Operator certification 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office) Such other site specific information and/or plans as may be required by the 25 Signature Name (Printed/Typed) Matt Swierc Title **Production Superintendent** Approved by (Signature) Name (Printed/Typed) /s/ James Stovall Office Title ""FIELD MANAGER CARLSBAD FIELD 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.

APPROVAL FOR TWO YEARS

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.

(Continued on page 2)

\*(Instructions on page 2)

Roswell Controlled Water Basin

SEE ATTACHED FOR CONDITIONS OF APPROVAL

# **EXHIBIT 1**

DISTRICT I 1625 N. FRENCH DR., HOBBS, NM 88240

# State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102

Revised October 12, 2005 Submit to Appropriate District Office State Lease - 4 Copies Fee Lease - 3 Copies

DISTRICT II 1301 W GRAND AVENUE, ARTESIA, NM 88210

11885 S ST. FRANCIS DR., SANTA FE, NM 87505

# OIL CONSERVATION DIVISION 11885 SOUTH ST. FRANCIS DR.

11885 SOUTH ST. FRANCIS DI Santa Fe, New Mexico 87505

1000 RIO BRAZOS RD, AZTEC, NM 87410

**DISTRICT III** 

DISTRICT IV

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

30-015- 38/6/	Pool Code 96210	Empire, Glarieta - Ye	50
Property Code 26582	PHILLIP	Well Number 29	
25706	CLAYTON WIL	Elevation 3709	

### Surface Location

UL or lot No	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	19	17-S	29-E		560	NORTH	480	WEST	EDDY

### Bottom Hole Location If Different From Surface

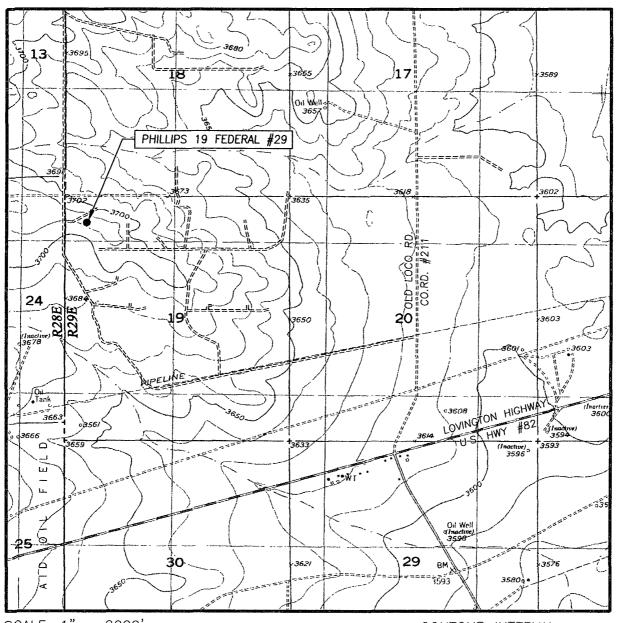
UL or lot No	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres	Joint o	or Infill	Consolidation Co	ie Ore	ler No.	4	1	4	

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

3709 4' 2 3699 7'		OPERATOR CERTIFICATION
480' 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.
LOT 2		Signature Date  James C. Hunnicutt  Printed Name
07.00.40		SURVEYOR CERTIFICATION
27 28 AC		
LOT 3	GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION	I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.
	Y=664162 9 N X=565733 3 E	ME SO SOM
27 40 AC LOT 4	LAT = 32 825688* N   LONG = 104 119347* W	Date Surveyed 12641 D3S Signature & Seall of Professional Surveyor
		hay hudson 2/15/10
27.50 AC		Certificate No. GARY G EIDSON 12641 RONALD J. EIDSON 3239
1 27.50 7.0		

# **EXHIBIT 2**

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL RED LAKE SE, N.M. - 10'

SEC. 19 TWP 17-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 560' FNL & 480' FWL

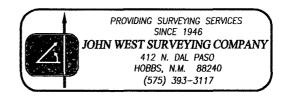
ELEVATION 3709'

OPERATOR CLAYTON WILLIAMS ENERGY, INC

LEASE PHILLIPS 19 FEDERAL

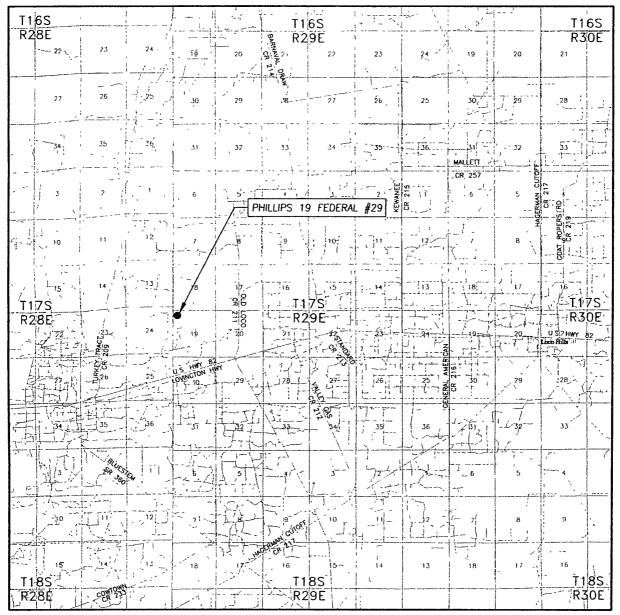
U.S.G.S. TOPOGRAPHIC MAP

RED LAKE SE, N.M.



# **EXHIBIT 3**

# VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 19 TWP. 17-S RGE. 29-E

SURVEY N.M.P.M

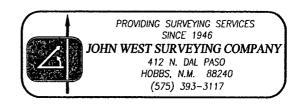
COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 560' FNL & 480' FWL

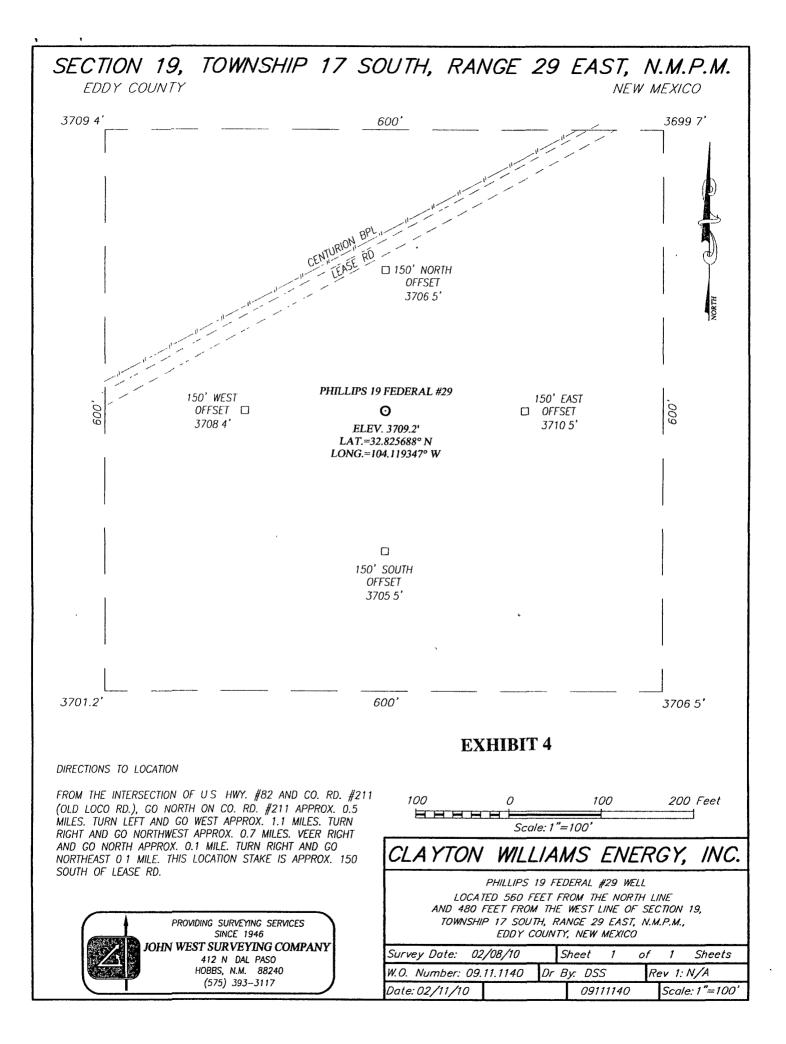
ELEVATION 3709'

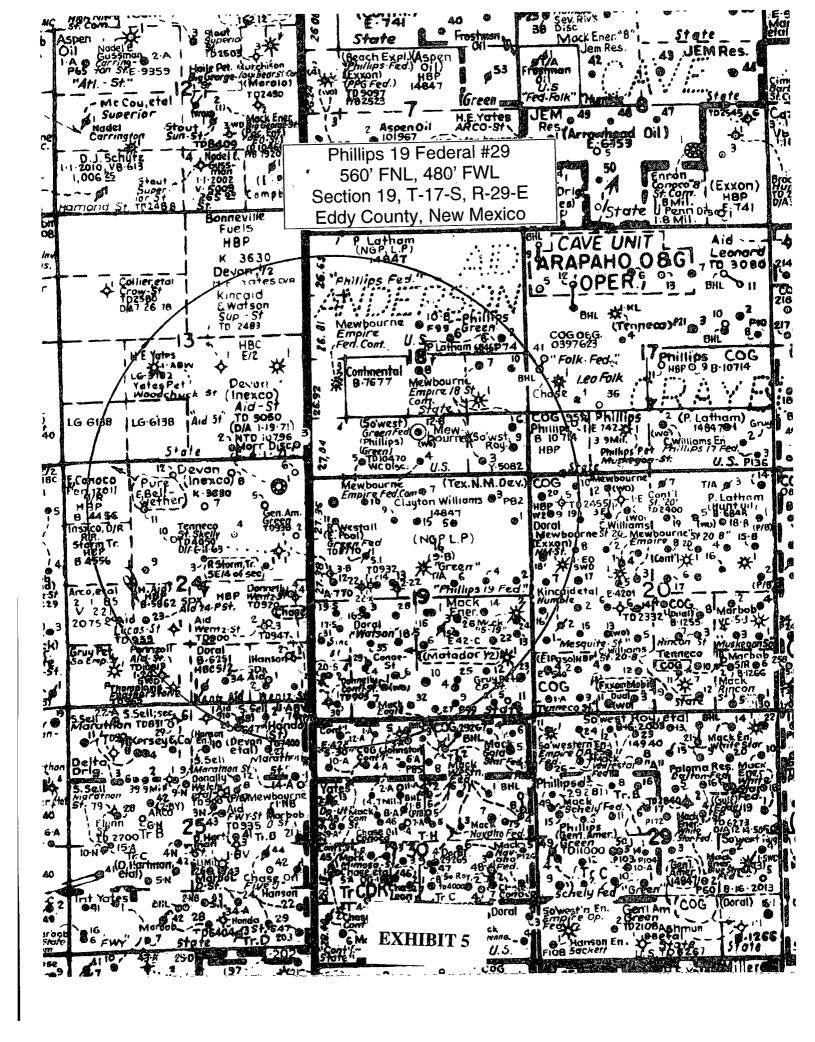
OPERATOR CLAYTON WILLIAMS ENERGY, INC.

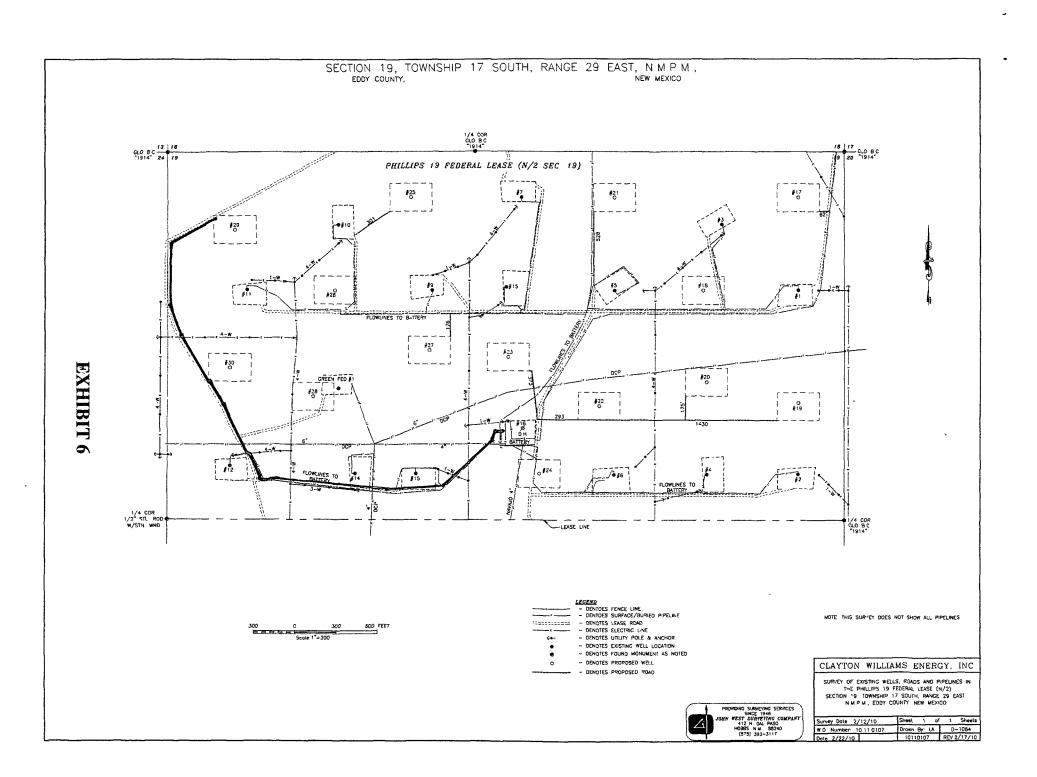
LEASE PHILLIPS 19 FEDERAL











# CLAYTON WILLIAMS ENERGY, INC. DRILLING PROGRAM

Attached to BLM Form 3160-3

Lease Name:

Phillips Federal 19

Well No:

79

Location:

Sec. 19, T-17-S, R-29-E

Eddy Co., NM

1. Geological name of surface location: Triassic

2. Estimated tops of important geological markers:

<u>Name</u>	Depth(MD)	Depth(SS)	Rock Type
Rustler	300	3390	<b>Red Bed Evaporites</b>
Yates	820'	2870	Limestone
Seven Rivers	1080'	2610	Dolomite
Queen	1660'	2030	Dolomite/Sandstone
Grayburg	2055'	1635	Dolomite/Sandstone
San Andres	2350'	1340	Dolomite/Anhydrite
Glorieta	3790'	-100	Dolomite/Sandstone
Yeso	3860'	-170	Dolomite
Base of Yeso	6000'	-1970	

3. Estimated name of anticipated fresh water, oil and gas:

<b>Formation</b>	Depth(MD)	Depth(SS)	Fresh Water/Oil/Gas
Rustler	100	3390	Fresh Water
Yates	820'	2870	Oil
Seven Rivers	1146′	2610	Oil
Queen	1724'	2030	Oil
Grayburg	2105'	1635	Oil
San Andres	2414'	1340	Oil
Glorieta	3841'	-100	Oil
Yeso	3860'	-170	Oil

No other formations expected to produce fresh water or hydrocarbons. Surface casing set at 300' and circulating cement to surface will protect the surface fresh water sand. Production casing cemented back to surface will isolate intervals capable of producing oil and gas.

### 4. CASING PROGRAM

<u>Hole Size</u>	<u>Interval</u>	OD Csg	<u>Weight</u>	<u>Grade</u>	<u>Conn</u>	BUR/COL/TENS
11"	300'	8-5/8"	24#	J-55	STC/New	2.86/4.57/33.89
7-7/8"	6000'	5-1/2"	17#	J-55	LTC/New	2.65/1.30/2.56

### 5. CEMENT PROGRAM



8-5/8" Surface Casing

125 SX CI "C" + 2% CaCl<sub>2</sub>: 1.35ft3/sx yield - circulated to surface. 100% excess.

5-1/2" Production Casing:

Stage tool @ +/-2600'

1<sup>st</sup> Stage:

Lead: 215 sx EconoCem C; 2.42 ft3/sx yield

Tail: 325 sx Class VersaCem "C"+ 0.4% LAP1+0.4%CFR3+0.25lb/sx D-AlR3000; 1.22 ft3/sx yield-circulated

to above DV Tool; 50% excess

2<sup>nd</sup> Stage:

Lead: 230 sx EconoCem C; 2.42 ft3/sx yield

Tail: 100 sx HalCem C + 2% CaCl2; 1.35 ft3/sx yield -circulated to surface; 50% excess

#### 6. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) schematic attached will consist of a double ram-type (3000 psi WP) preventer and/or a bag-type (hydril) preventer (3000 psi WP). BOP will be hydraulically operated and the ram-type preventer will be equipped with blind rams and appropriate pipe rams. The BOP will be nippled up on the surface casing and used continuously until TD is reached. All BOP's and accessory equipment will be tested before drilling out of surface casing. Before drilling out of surface casing, the ram-type BOP and accessory equipment will be tested to 3000 psi and the hydril to 50% of rated working pressure (1500 psi). Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A 2" kill line and 3" choke line will be attached to a drilling spool or BOP side outlets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold with 3000 psi WP rating.

### 7. Type & Characteristics of the Proposed Mud System:

The well will be drilled to TD with a combination of Fresh Water Gel/Brine System.

The applicable depths and properties of this system are as follows:

<u>Depth</u>	<u>Туре</u>	Weight (ppg)	Viscosity (sec)	Water Loss (cc)
300'	FW Gel	8.6-9.0	34-45	N/C
	Brine	9.8-10.1	28-30	12

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

### 8. Auxiliary Well Control and Monitoring Equipment

- A. A Kelly cock will be kept in the drill string at all times.
- B. A full opening drill pipe stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- C. The drilling fluids system will be visually monitored at all times.
- D. A mudlogging unit will be continuously monitoring drilling penetration rate and hydrocarbon shows from surface to casing to TD.
- E. A fixed electronic H₂S monitoring system, including alarms with monitors at the shaker and the bell nipple, will be in operation from surface to TD.

# 9. Logging, Testing & Coring Program: See COA

- A. Drill stem tests: None anticipated.
- B. Electronic logging program: DSN, MSFL, DLL, FMI (optional) from TD to surface casing
- C. Coring: None

### 10. <u>Abnormal Conditions, Pressures, Temperatures & Potential Hazards:</u>

Possible sulfur water flows in the Queen/Grayburg intervals. Estimated bottom hole temp of 110 deg. F, and maximum bottom hole pressure of 2500 psi.

### 11. Anticipated Starting Date & Duration of Operations:

Road and location work will not begin until approval has been received from the BLM. The anticipated spud date is upon approval of APD. Once commenced, the drilling operations should be finished within approximately 10 days. If the well is productive, an additional 10 days will be required for completion and testing.

### 12. <u>Safety</u>

Tour Safety Meeting will be conducted with all crews and reported on IADC morning report. Topics and attendance will be recorded for each meeting and kept on file in company representatives office for inspection.

### 13. Miscellaneous Notes

H2S Contingency plan attached Totco inclination surveys every 500' or bit trip. Mud Disposal: closed loop system, haul off all cuttings and fluids.

BHA - Surface and Production hole; slick assembly, no stabilizers or reamers

Bit Program

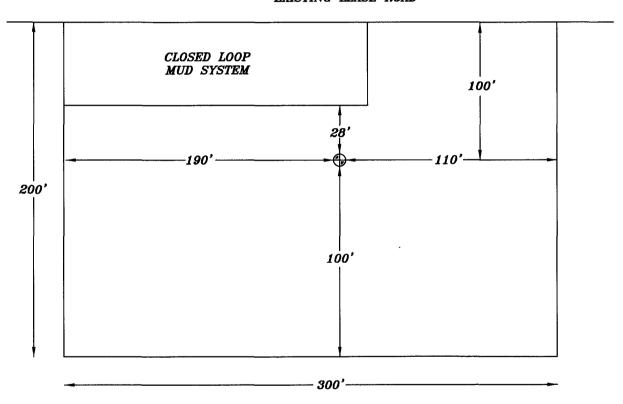
 Surface
 11"
 Tri-Cone
 60-100 RPM
 25-35K WOB

 Production
 7-7/8"
 PDC/Tri-Cone
 60-90 RPM
 30-40K WOB

Well	: Phill	ips Fed	eral 19 Type	Wel	l; Cla	yton	Willia	ams En	ergy,	Inc.	
Type V			RIG: TBD					DATE: May	13, 201	ro	
Field Lo			County: Eddy				Elevation: Varies				
Gas/Oil			Mud Company: TBD Cement: Halliburton								
		n 19, T17S, F	129E Eddy County, I	MV							
Comme	ents:										
Mud Logger	Surveys	WOB/GPM Bit Type	Formantion Tops Hole Sizes				Mud Weight	Open Hole	Cemen	Wellhead	Remarks
LOBBEI		5K-15K	Tible Sizes				Ivveignt	Lrogs	L	<u> </u>	
		300GPM					Cunch	ter Native Mud	1.04+-0	Cona	
		Rock Bit					LIG2H MG	No Open Hole		o hhR	j
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		Rock/PDC bits	· ·		2033		POIENT	AL WATER FLO	W 3 III GI a	IYUUIB	
		NOCKY I DC DIG	San Andres		2350						
			Juli Allai CS		2550						
					DV Tool						l
					2600'						
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							CEMENT:				ļ
							Stage 1:				
								Lead: 215 sxs	EconoCer	n C	1
								Tail: 325 sxs			.AP1+
			Glorieta		3790			0.4% CFR3 + 0			Ì
							Stage 2:		•		
							-	Lead. 230 sxs	EconoCer	n C	
			Top Yeso		3860			Tail: 100 sxs	HalCem "	C" + 2% Calciu	ım Chlor.
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								Density/Neut			ection
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			Base of Yeso		6000'	X					
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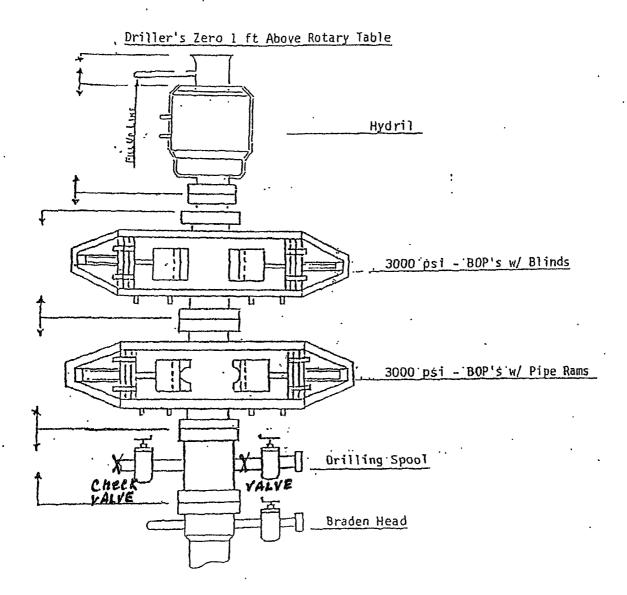


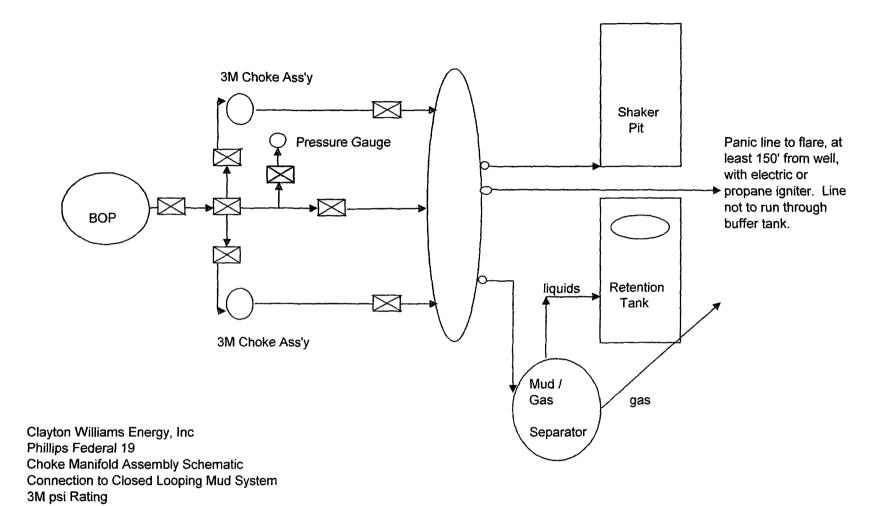


DATE:
2/4/10
DINN. BY:
JJ
FILE:
PAGE:
PAGE

CLAYTON WILLIAMS ENERGY, INC. RIG LAYOUT

NOT TO SCALE





### SURFACE USE PLAN OF OPERATIONS

Clayton Williams Energy, Inc.
Phillips 19 Federal Lease
Well # 29
Section 19
T-17-S, R-29-E, NMPM, Eddy County, New Mexico

### 1. Existing Access Roads

- A. The well site survey and elevation plat for the proposed well is shown in Exhibit 4. It was staked by John West Surveying Company, Hobbs, NM.
- B. All existing roads to the location are shown in the topographic map (Exhibit 2) and/or the plan of development (POD) plat (Exhibit 6). The existing lease roads are illustrated and are adequate for travel during drilling and production operations. Upgrading existing roads prior to drilling the well will be done where necessary.
- C. Directions to Location:

From the intersection of Highway 82 and County Road 211 (Old Loco Road), go north on CR 211 approximately 0.4 mile. Turn left and go west approximately 1.1 mile. Veer right and go north approximately 0.1 mile. Turn right and go northeast 0.1 mile to location on south side of road.

D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.

### 2. Proposed Access Road:

The elevation plat (Exhibit 4) shows that no new road will be required for this location, as indicated on Exhibits 2 and/or 6. Should any new road be required, it would be constructed as follows:

- A. The maximum width of the running surface will be 14 feet. The road will be crowned, ditched and constructed of 6" rolled and compacted caliche. Ditches will be at 3:1 slope and 4 feet wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and be consistent with local drainage patterns.
- B. The average grade will be less than 1%.
- C. No turnouts are planned.
- D. No culverts, cattleguard, gates, low water crossings or fence cuts are necessary.
- E. Surfacing material will consist of native caliche. Caliche will be obtained from the nearest BLM approved caliche pit or from a private source.

# 3. Locations of Existing Wells:

Exhibit 5 shows all existing wells within a one-mile radius of this well.

## 4. Location of Existing and/or Proposed Facilities:

- A. Clayton Williams Energy, Inc. ("CWEI") will use its existing production facility located on the surface of Section 19, as shown in Exhibit 6. If the well is productive, contemplated facilities will be as follows:
  - 1) Production will be sent to the existing production facility described in "A" above.
  - 2) Additions, if needed, to the existing tank battery and facilities including any piping will be installed according to API specifications.
  - Any additional caliche will be obtained from a BLM-approved caliche pit or from a private source. Any additional construction materials will be purchased from contractors.
  - 4) 4147' of flow line will be constructed to this well from the existing tank battery and will be laid alongside the access road and/or existing flow lines. The flow line will be constructed of a 4" SDRIL poly line which will be laid on the surface. The proposed route is shown in red on Exhibit 6. Flow lines will be kept at least 3' apart.
  - 5) Electric service will be provided from a power line owned by Central Valley Electric Cooperative, Inc., which will be responsible for ROW and construction. Power lines will be constructed alongside access roads existing at the time of construction. The existing and proposed access roads are included in Exhibit 6.

### 6) Location and Type of Water Supply:

The well will be drilled with a combination brine and fresh water mud system as outlined in the drilling program. The water will be obtained from commercial water stations in the area and hauled to location by transport truck over the existing and proposed access roads shown on the Plan of Development map. If a commercial fresh water source is nearby, temporary "fast line" may be laid alongside access roads existing at the time the line is laid and fresh water pumped to the well. No water well will be drilled on the location.

### 6. Source of Construction Materials:

All caliche required for construction of the drill pad and proposed new access road (approximately 1833 cubic yards) will be obtained from a BLM-approved caliche pit or from a private source.

## 7. Methods of Handling Waste:

- A. The well will be drilled utilizing a closed loop mud system. Drill cuttings will be held in rolloff style mud boxes and taken to an NMOCD-approved disposal site.
- B. Drilling fluids will be contained in steel mud pits.
- C. Water produced from the well during completion will be held temporarily in steel tanks and then taken to an NMOCD-approved commercial disposal facility.
- D. Garbage and trash produced during drilling or completion operations will be collected in a trash bin and hauled to an approved landfill. No toxic waste or hazardous chemicals will be produced by this operation.
- E. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. In the event of a dry hole, only a dry hole marker will remain.

## 8. Ancillary Facilities:

No airstrip, campsite or other facilities will be built as a result of the operation on this well.

# 9. Well Site Layout:

- A. The drill pad layout, with elevations staked by John West Surveying Company, is shown in Exhibit 4. Dimensions of the pad, including the closed loop mud system, are shown on Exhibit 8. Topsoil, if available, will be stockpiled per BLM specifications. Because the pad is almost level, no major cuts will be required.
- B. Exhibit 8 also shows the proposed orientation of the closed loop mud system, and access road. No permanent living facilities are planned; however, a temporary foreman/toolpusher trailer and crew quarters trailers will be on location during the drilling operations.

### 10. Plans for Restoration of the Surface:

- A. If the well is found to be non-commercial upon completion of the drilling and/or completion operations, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations in the area. The road will be reclaimed as directed by the BLM. The original top soil will be returned to the pad and contoured, as close as possible to the original topography, and reseeded as per BLM specifications.
- B. Upon completion of drilling and completion operations, the well pad will be reduced to a size suitable for continued operations, including workovers and other well servicing activities. The pad will be scraped

such that the only portion of the pad remaining will be: (i) the area inside the anchors; and (ii) an area outside the anchors 50 feet in width. The caliche removed during the scraping operation will be stockpiled and either saved for use on future roads or pads, or returned to the pit from which it was originally removed.

### 11. Surface Ownership:

- A. The surface at this location is owned by the Federal government. The minerals are owned by the Federal government and are administered by the Bureau of Land Management. The surface has multiple uses, which are primarily grazing of livestock and the production of oil and gas.
- B. The surface tenant for this site is:

Bogle Ltd. P.O. Box 460 Dexter, NM 88231-0460

C. The proposed road routes and surface location will be restored as directed by the BLM.

### 12. Other Information:

- A. The area around the well site is grassland and the topsoil is sandy. The vegetation is moderately sparse with native prairie grasses, some mesquite and shinnery oak. No wildlife was observed but it is likely that mule deer, rabbits, coyotes and rodents traverse the area.
- B. There is no permanent or live water in the immediate area.
- C. There are no dwellings within two (2) miles of this location.
- D. This project is being administered by a MOA with the Carlsbad, New Mexico Bureau of Land Management office.

### 13. Bond Coverage:

Bond Coverage is Nationwide Bond # NM 2787.

# 14. Lessee's and Operator's Representative:

The CWEI representatives responsible for assuring compliance with the surface use plan are as follows:

John F. Kennedy Drilling Manager Suite 3000, 6 Desta Drive Midland, Texas 79705 (432) 682-6324 Matt Swierc Production Superintendent Suite 3000, 6 Desta Drive Midland, Texas 79705 (432) 682-6324

### CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or Clayton Williams Energy, Inc., 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.

Executed this 19 day of \_\_\_\_\_\_, 2010.

Signed: MM SWu\_\_\_\_

Printed Name: Matt Swierc

Position: Production Superintendent

Address: Suite 3000, 6 Desta Drive, Midland, Texas 79705

Telephone: (432) 682-6324

Field Representative (if not above signatory): Mike Langford, Sierra Engineering

E-mail: MSwierc@claytonwilliams.com

# **EXHIBITS AND ATTACHMENTS**

Exhibit 1 Plat Page (Form C-102) Exhibit 2 **Topographic Map** Vicinity Map and Area Roads Exhibit 3 Exhibit 4 **Elevation Plat** Exhibit 5 Ownership Map with Well Location and Wells in 1-mile Radius Exhibit 6 Plan of Development (Roads, Flow Lines, Power Lines and Tank Battery) **Drilling Plan** Exhibit 7 Exhibit 8 **Rig Layout** Exhibit 9 **BOP, Choke Manifold and Closed Loop Schematics** Exhibit 10 C-144 CLEZ, Closed Loop System Permit Application **H2S Plan** Exhibit 11

**Surface Use Plan of Operations and Operator Certification** 

Exhibit 12

# PECOS DISTRICT CONDITIONS OF APPROVAL

Clayton Williams Energy, Inc.
NM14847
Phillips 19 Federal 1# 29
560' FNL & 480' FWL
Same
Section 19, T. 17 S., R 29 E., NMPM
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
<b>◯</b> Construction
Notification
V-Door Direction
Topsoil
Closed Loop System
Federal Mineral Material Pits
Well Pads
Roads
Road Section Diagram
☑ Drilling
Logging Requirements
H2S Requirements-Onshore Order #6
☑ Production (Post Drilling)
Well Structures & Facilities
Pipelines
Interim Reclamation
Final Abandonment & Reclamation

# I. GENERAL PROVISIONS

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

# II. PERMIT EXPIRATION

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

# III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

### IV. NOXIOUS WEEDS

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

# V. SPECIAL REQUIREMENT(S)

# VI. CONSTRUCTION

### A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

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

### B. V-DOOR DIRECTION: NORTHEAST

### C. TOPSOIL

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be used for interim and final reclamation.

### D. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

# E. FEDERAL MINERAL MATERIALS PIT

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

# F. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

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

### G. ON LEASE ACCESS ROADS

### Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) 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**

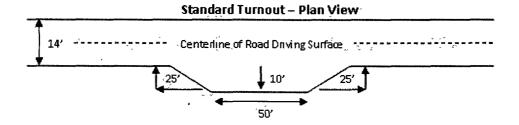
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

### 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:

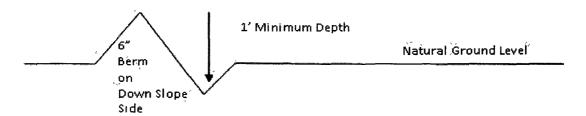


### Drainage

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

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

## Cross Section of a Typical Lead-off Ditch



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

### Formula for Spacing Interval of Lead-off Ditches

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

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

### **Culvert Installations**

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

### Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

# **Fence Requirement**

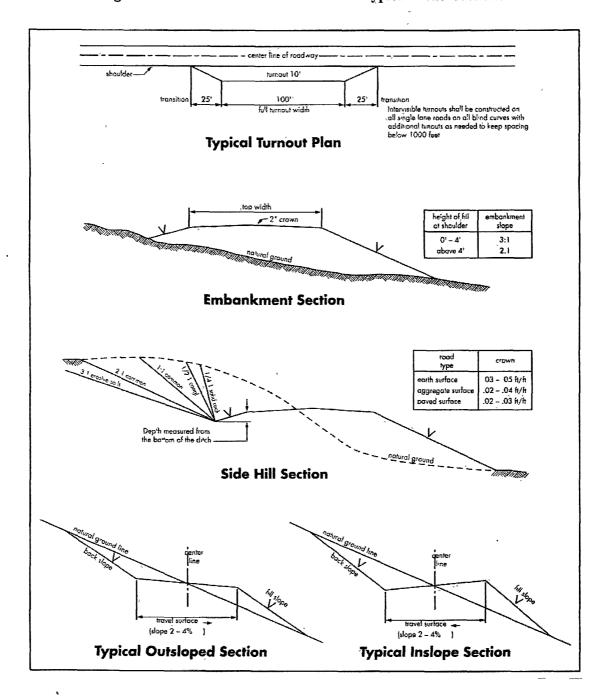
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

# **Public Access**

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

Figure 1 - Cross Sections and Plans For Typical Road Sections



# VII. DRILLING

## A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

# **⊠** Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

- 1. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the Grayburg 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.
- 2. 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. If the drilling rig is removed without approval an Incident of Non-Compliance will be written and will be a "Major" violation.
- 3. 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.
- 4. The record of the drilling rate along with the GR/N well log run from TD to surface will 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.

### B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

## 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.

Possible water flows in the Salado and Artesia Groups.

Possible lost circulation in the Grayburg and San Andres Formations.

- 1. The 8-5/8 inch surface casing shall be set at approximately 300 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. If salt is encountered set the casing 25 feet above the top of the salt. Additional cement may be required as the excess cement calculates to 17%.
  - 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 5-1/2 inch production casing is:
  - a. First stage to DV tool, cement shall:
  - 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 shall:
- Cement to surface. If cement does not circulate, contact the appropriate BLM office.
- 3. 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 **3000 (3M)** psi.
- 3. 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 or where the float does not hold, the minimum wait time before cut-off is eight hours after bumping the plug or when the cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. BOP/BOPE testing can begin after the above conditions are satisfied.
  - 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) prior to initiating the test.
  - c. The results of the test shall be reported to the appropriate BLM office.
  - d. 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.

e. 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.

# D. DRILL STEM TEST

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

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# 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 Shale Green, Munsell Soil Color Chart # 5Y 4/2

### B. PIPELINES

## STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

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

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

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

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

- 4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:
- a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
- b. Activities of other parties including, but not limited to:
  - (1) Land clearing.
  - (2) Earth-disturbing and earth-moving work.
  - (3) Blasting.
  - (4) Vandalism and sabotage.
- c. Acts of God.

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

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

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder.

Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

- 6. All construction and maintenance activity will be confined to the authorized right-of-way width of \_\_\_\_\_\_\_ feet.
- 7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.
- 8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.
- 9. The pipeline shall be buried with a minimum of 24 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.
- 10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.
- 11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.
- 12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.
- 13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

- 14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.
- 15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

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# Additional data for transaction #91458 that would not fit on the form

32. Additional remarks, continued