Form 3160-5 (August 2007)

Approved By

# UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED OMB NO 1004-0135 Expires: July 31, 2010

BUREAU OF LAND MANAGEMENT Lease Serial No. SUNDRY NOTICES AND REPORTS ON WELLS NMNM7724 Do not use this form for proposals to drill or to re-enter an If Indian, Allottee or Tribe Name abandoned well. Use form 3160-3 (APD) for such proposals. . If Unit or CA/Agreement, Name and/or No. SUBMIT IN TRIPLICATE - Other instructions on reverse side. Well Name and No Type of Well COLORADO 19 FEDERAL 1 Oil Well Gas Well Other SORINA L FLORES 9. API Well No. Name of Operator Contact: APACHE CORPORATION 30-015-40479 E-Mail: sorina.flores@apachecorp.com 10. Field and Pool, or Exploratory 3a. Address 3b Phone No (include area code) Ph: 432-818-1167 303 VETERANS AIRPARK LN #3000 YESO Fx: 432-818-1193 MIDLAND, TX 79705 4 Location of Well (Footage, Sec., T, R., M., or Survey Description) 11. County or Parish, and State Sec 19 T16S R30E 1650FSL 330FEL EDDY COUNTY, NM 32.904235 N Lat, 104.003356 W Lon 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA TYPE OF ACTION TYPE OF SUBMISSION □ Water Shut-Off ☐ Production (Start/Resume) □ Acidize □ Deepen Notice of Intent Well Integrity ☐ Alter Casing ☐ Fracture Treat □ Reclamation □ Subsequent Report Other Change to Original A ■ New Construction Casing Repair Recomplete Final Abandonment Notice ☐ Change Plans ☐ Temporarily Abandon ☐ Plug and Abandon Convert to Injection □ Plug Back ☐ Water Disposal 13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection ) Accepted for record BOND#: BLM-CO-1463 / NMB000736 Apache proposes to change well from horizontal to vertical. Below is change in csg, cmt & rnud program: Proposed Csg: Hole Depth OD Csg Wt Collar Grade Collapse Burst Tension 11 0-340' 8-5/8" 24# STC J55 1.0 1.21 1.8 7-7/8" 0-5550' 5-1/2" 17# STC J55 1.0 1.21 1.8 DD MANAGEMENT SEE ATTACHED FOR Proposed Cmt: REAU OF L CARLSBAD FIELD OFFICE CONDITIONS OF APPROVAL 14. Thereby certify that the foregoing is true and correct Electronic Submission #154817 verified by the BLM Well Information System For APACHE CORPORAT ON, sent to the Carlsbad Committed to AFMSS for processing by KURT SIMMONS on 10/22/2012 () RECEIVED Name(Printed/Typed) SORINA L FLORES SUPV DRLG SERVICES NOV 0 1 2012 (Electronic Submission) Signature Date 10/15/2012 NMOCD ARTESIA THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Conditions of approval, if any, are attached Approval of this notice 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.

Office

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.

### Additional data for EC transaction #154817 that would not fit on the form

#### 32. Additional remarks, continued

8-5/8" Surf (100% excess, cmt to surf) Lead: 200sx CI C w/0.25% Defoamer (14.8wt, 1.33yld) Comp Strength: 12hr - 813psi 24hr - 1205psi

5-1/2" Prod (35% excess, cmt to surf) Lead: 200sx Cl H 50/50 w/10% Gel + 2# Star seal + 0.25% Defoamer (11.9wt, 2.24yld) Tail: 655sx Cl C w/1% CaCl + 0.25% Defoamer (14.8wt, 1.34yld) Comp Strength: 12hr - 813psi 24hr - 1205psi

#### Proposed Mud Program:

Interval MWppg Visc(sec/qt) Fluid Loss (cc) Mud Type 0-340' 8.6-8.8 20-30 NC FW 340-5550' 9.5-10.2 28-36 NC Brine/Cut Brine

DISTRICT 1
1625 N. French Dr., Holbs, NM 88240
Phone: (575) 393-6161 Fex: (575) 393-0720
DISTRICT II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fex: (575) 748-9720

Phone: (575) 748-1283 Fax: (575) 748-9720 DISTRICT III 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 DISTRICT IV

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

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

□AMENDED REPORT

DISTRICT IV 1220 S. St. Francis Dr., Santa Fc, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

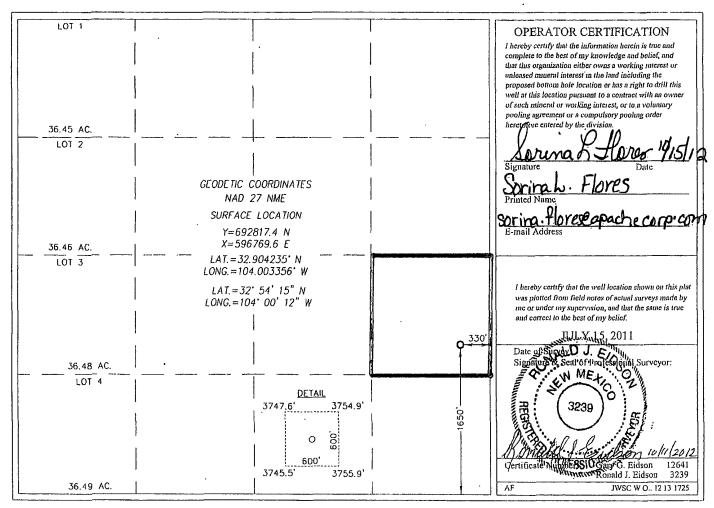
## WELL LOCATION AND ACREAGE DEDICATION PLAT

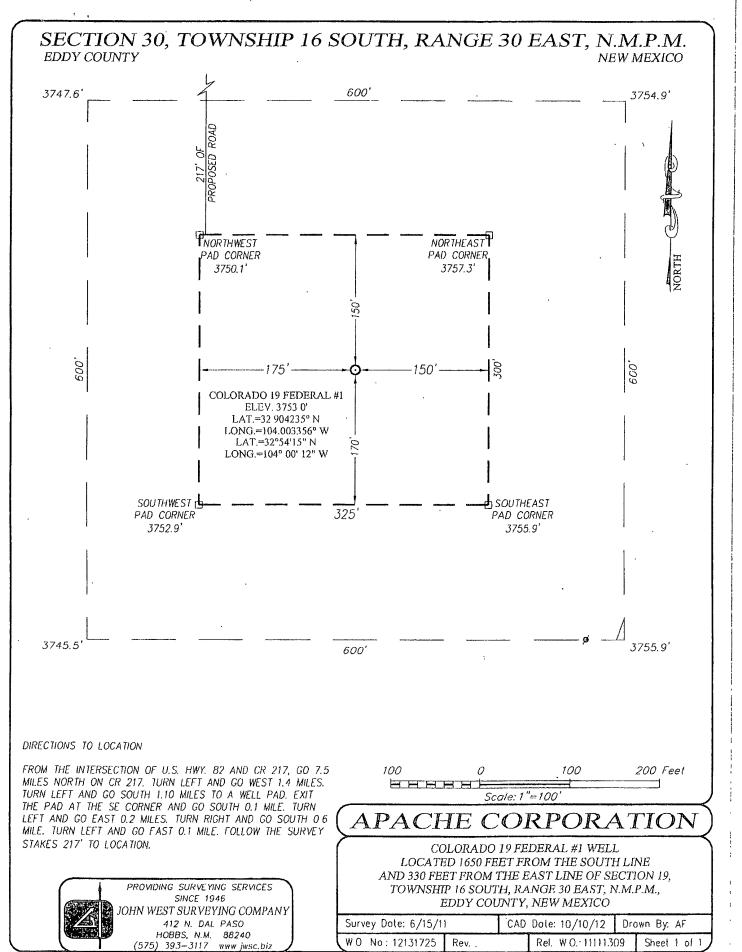
State of New Mexico

Energy, Minerals & Natural Resources Department

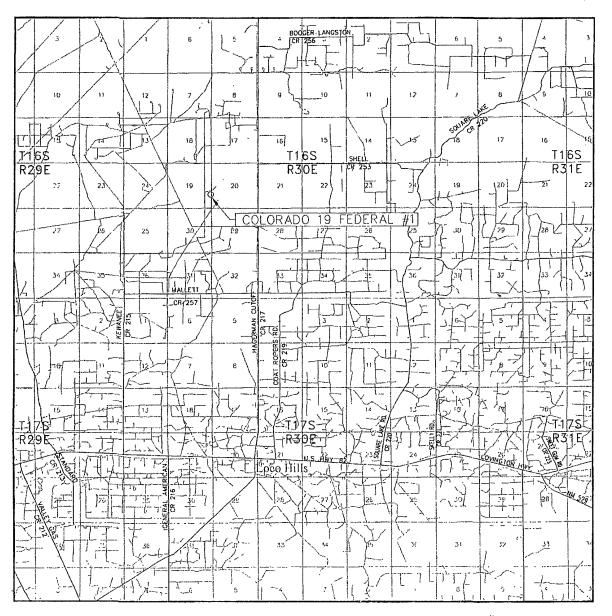
30-015-			967	Pool Code		Loco Hills Glorieta - Yeso				
Property Code			Property Name						Well Number	
39.331			COLORADO 19 FEDERAL						1	
OGRID No.			Operator Name						Elevation	
873			APACHE CORPORATION					}	3753	
		·			Surface Locat	ion				
UL or lot No.	Section	Township	Range	.Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
1	19	16-S	30-E		1650'	SOUTH	330'	EAST	EDDY	
· · · · · · · · · · · · · · · · · · ·				Bottom Hol	e Location If Diffe	erent From Surface		······································		
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
D-C-4-14	Tatas	1-511 0			N <sub>1</sub> -					
Dedicated Acres	Joint or	лин С	onsolidation C	.oae Ord	er No.					
70				}						

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





## VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 19 TWP. 16-S RGE. 30-E

SURVEY N.M.P M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1650' FSL & 330' FEL

ELEVATION 3753

OPERATOR APACHE CORPORATION

LEASE COLORADO 19 FEDERAL

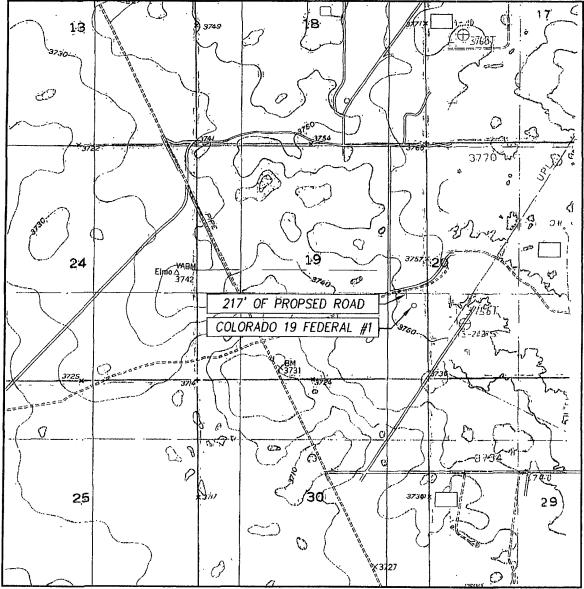
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PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N M. 88240
(575) 393-3117

NORTH

## LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

SEC. 19 TWP. 16-S RGE. 30-E

SURVEY\_\_\_\_\_N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1650' FSL & 330' FEL

ELEVATION 3753

OPERATOR APACHE CORPORATION

LEASE COLORADO 19 FEDERAL

U.S.G.S. TOPOGRAPHIC MAP HENSHAW TANK AND BASIN WELL, NM CONTOUR INTERVAL: 10' HENSHAW TANK, NM BASIN WELLS, NM



PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(575) 393-3117

DRILLING PLAN: BLM COMPLIANCE

(Supplement to BLM 3160-3)

#### APACHE CORPORATION (OGRID: 873) COLORADO 19 FEDERAL #1

Lease #: NMNM-007724 Projected TD: 5500' GL: 3753'

SHL: 1650' FSL & 330' FEL UL: 1 SEC: 19 T165 R30E EDDY COUNTY, NM

1. GEOLOGIC NAME OF SURFACE FORMATION: Eolian/Piedmond Alluvial Deposits

#### 2. ESTIMATED TOPS OF GEOLOGICAL MARKERS & DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:

Rustler	335'	Grayburg	2378′ (Oil)
Salt Top:	584'	San Andres	2754' (Oil)
Salt Bottom	1048'	Glorieta	4200! (Oil)
Yates	1196′	Yeso	4266' (Oil)
Seven Rivers	1426' (Oil)		
Queen	1961' (Oil)	TD	5500'

Depth to Ground Water:

~ 914

Fresh water & prospectively valuable minerals, as described by BLM, encountered during drilling, will be recorded by depth & adequately protected. All oil & gas shows within zones of correlative rights will be tested to determine commercial potential. Surface fresh water sands will be protected by setting 8-5/8" csg @ 340' & circ cmt back to surface. All intervals will be isolated by setting 5-1/2" csg to TD & circ cmt to surface.

3. CASING PROGRAM:

All casing is new & API approved

HOLE SIZE	DEPTH	OD CSG	WEIGHT	COLLAR	GRADE	COLLAPSE	BURST	TENSION
11"	0-466:340	8-5/8"	24#	ŞTC	J-55	1.0	1.21	1.8
7-7/8"	0-5550′	5-1 <u>/</u> 2"	17#	STC	J-55	1:0	1.21	1.8

#### 4. CEMENT PROGRAM:

A. 8-5/8" Surface: \*\*100% excess cmt; cmt to surface\*\*\*

<u>Lead</u>: 200 sx Cl C w/ 0:25% Defoamer (14.8 wt, 1.33 yld) <u>Compressive Strengths</u>: **12** hr – 813 psi **24** hr – 1205 psi

B. 5-1/2" Production: \*\*35% excess cmt; cmt to surface\*\*

<u>Lead</u>: 200 sx Cl H 50/50 w/10% Gel + 2# Star seal + 0.25% Defoamer (11.9 wt, 2.24 yld)

Compressive Strengths: 12 hr - 540 psi 24 hr - 866 psi

<u>Tail:</u> 655 sx Cl C w/1% CaCl + 0.25% Defoamer (14:8 wt, 1.34 yld)

Compressive Strengths: 12 hr - 813 psi 24 psi - 1205 psi

#### 5. PROPOSED CONTROL EQUIPMENT

"EXHIBIT 3" shows an 11" 3M psi WP BOP consisting of an annular bag type preventer, middle blind rams, bottom pipe rams. This BOP will be nippled up on the 8-5/8" surface csg and utilized continuously until TD is reached. The BOP will be tested at 2000 psi (maximum surface pressure is not expected to exceed 2M psi). BHP is calculated to be approximately 2442 psi. \*All BOP's and associated equipment will be tested as per BLM Drilling Operations Order #2. The BOP will be operated and checked each 24 hr period & the blind rams will be operated & checked when the drill pipe is out of the hole. Functional tests will be documented on the daily driller's log. "EXHIBIT 3" also shows a 3M psi choke manifold with a 3" blow down line. Full opening stabbing valve & Kelly cock will be on derrick floor in case of need. No abnormal pressures of temperatures are expected in this well. No nearby wells have encountered any problems.



<sup>\*\*</sup> The above cmt volumes could be revised pending caliper measurement from open hole logs. For Surface csg: If cmt does not circ to surface, the appropriate BLM office shall be notified & TOC shall be determined as directed by the BLM for the specific set of circumstances. If depth is greater than 100' or water is standing in the annulus, remedial cementing will be done. If no water & TOC tag is less than 100', when 100% excess cmt of the annulus volume is run on the primary job, ready-mix will be used to bring cmt to surface.

## 6. PROPOSED MUD CIRCULATION SYSTEM: (Closed Loop System)

INTERVAL	MW (ppg)	VISC (sec/qt)	FLUID LOSS (cc)	MUD TYPE
0' -400'	8.6 – 8.8	20-30	NC	FW
400-5550'	9.8 - 10.2	28-36	NC	Brine

<sup>\*\*</sup> The necessary mud products for weight addition and fluid loss control will be on location at all times. In order to run open hole logs & casing, the above mud properties may have to be altered to meet these needs.

#### 7. AUXILIARY WELL CONTROL EQUIPMENT / MONITORING EQUIPMENT:

11" x 3000 psi Double BOP/Blind & pipe ram (3M BOP/BOPE to be used as 2M system)

4-1/2" x 3000 psi Kelly valve

11" x 3000 psi mud cross - H2S detector on production hole

Gate-type safety valve 3" choke line from BOP to manifold

2" adjustable chokes - 3" blow down line

Fill up line as per Onshore Order 2

#### 8. LOGGING, CORING & TESTING PROGRAM:

- A. OH logs: Dual Laterolog, MSFL, CNL, Litho-Density, Gamma Ray, Caliper & Sonic from TD back to 8-5/8" csg shoe.
- B. Run CNL, Gamma Ray from 8-5/8" csg shoe back to surface.
- C. No cores, DST's or mud logger are planned at this time.
- **D.** Additional testing will be initiated subsequent to setting the 5-1/2" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows & drill stem tests.

#### 9. POTENTIAL HAZARDS:

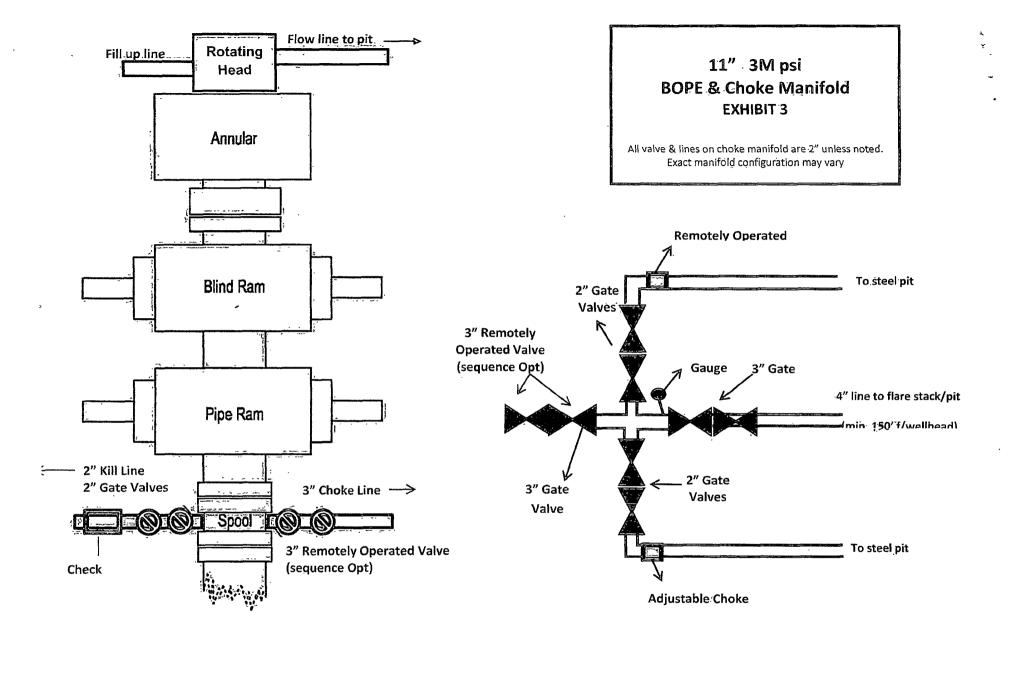
No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered, however, the proposed mud program will be modified to increase the mud-weight. There is known presence of H<sub>2</sub>S in this area. If H<sub>2</sub>S is encountered the operator will comply with the provisions of *Onshore Oil & Gas Order No. 6*. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP: 2442 psi and estimated BHT: 115°.

#### 10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

Road and location construction will begin after & BLM has approved APD. Anticipated spud date will be as soon after Santa Fe and BLM approval and as soon as rig will be available. Move in operations and drilling is expected to take  $\sim 10$  days. If production casing is run then an additional 90 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

#### 11. OTHER FACETS OF OPERATION:

After running csg, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The Loco Hills; Glorieta-Yeso formation will be perforated and stimulated in order to establish production. The well will be swab tested & potentialed as an oil well.



## CONDITIONS OF APPROVAL

OPERATOR'S NAME: | Apache Corporation

LEASE NO.: NM-7724

WELL NAME & NO.: | Colorado 19 Federal #1H SURFACE HOLE FOOTAGE: | 1650' FSL & 330' FEL

LOCATION: | Section 19, T.16 S., R.30 E., NMPM

COUNTY: | Eddy County, New Mexico

### I. 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. Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts 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. 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.

#### B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. 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.). 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 lost circulation in the San Andres Formation.

- 1. The 8-5/8 inch surface casing shall be set at approximately 340 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job 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:
  - Cement as proposed (TOC 500' from surface). Operator shall provide method of verification.

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 **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. 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 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.

#### 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 103112**