Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on page 2

5. Lease Serial No.
NMNM92167

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
DAVINCI 7-18 FEDERAL COM 6H

2. Name of Operator
CIMAREX ENERGY COMPANY
Contact: ARICKA EASTERLING
E-Mail: aeasterling@cimarex.com

9. API Well No.
30-015-44220-00-X1

3a. Address
202 S CHEYENNE AVE SUITE 1000
TULSA, OK 74103.4346

3b. Phone No. (include area code)
Ph: 918-560-7060

10. Field and Pool or Exploratory Area
WOLFCAMP

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 6 T25S R27E 350FSL 1190FWL
32.152740 N Lat, 104.234146 W Lon

11. County or Parish, State
EDDY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original A PD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily 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 must 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 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Cimarex respectfully request approval to change the original drilling plan for the above referenced well. Cimarex proposes to change the BHL there by changing the directional plan. No additional disturbance is required for the well pad.
Approved:
BHL: 330 FSL & 250 FWL
Proposed
BHL: 330 FSL & 380 FWL

Please see attached plat, directional prelim & drilling plan for changes.

Cimarex also requests approval for a multibowl well head, please see attached diagram and procedure.

SEE ATTACHED FOR CONDITIONS OF APPROVAL

NM OIL CONSERVATION
ARTESIA DISTRICT
OCT 03 2017

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #386150 verified by the BLM Well Information System
For CIMAREX ENERGY COMPANY, sent to the Carlsbad
Committed to AFMSS for processing by CHRISTOPHER WALLS on 09/22/2017 (17CRW0052SE)

RECEIVED

Name *(Printed/Typed)* ARICKA EASTERLING — Title REGULATORY ANALYST

Signature (Electronic Submission) — Date 08/25/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By [signature] — Title Eng — Date 9/22/17

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 CFO

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.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

RWP 10-3-17

Additional data for EC transaction #386150 that would not fit on the form

32. Additional remarks, continued

Please update COA for WOC time and remove section 6B in COA.

Also attached is the previously approved rig layout diagram. The Rig layout, including v-door and flare line may change depending on rig availability. The pad dimensions and orientation will remain the same. There will be no additional disturbance if a rig layout change is necessary to accommodate the drilling rig.

NM OIL CONSERVATION
ARTESIA DISTRICT
OCT 03 2017
RECEIVED

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-44220	98220	Purple SageWolfcamp

[4] Property Code	[5] Property Name	[6] Well Number
317791	DAVINCI 7-18 FEDERAL COM	6H

[7] OGRID No.	[8] Operator Name	[9] Elevation
215099	CIMAREX ENERGY CO.	3281.3'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
LOT 7	6	25S	27E		350	SOUTH	1190	WEST	EDDY

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
LOT 4	18	25S	27E		330	SOUTH	380	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
640			

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.

[16]

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S48°47'12"W	1075.06'
L2	S89°24'51"W	2622.35'

NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 32°09'09.86" (32.152739)
LONGITUDE = 104°14'02.92" (104.234144)
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32°09'09.42" (32.152617)
LONGITUDE = 104°14'01.13" (104.233647)
STATE PLANE NAD 83 (N.M. EAST)
N: 419315.44 E: 572034.16
STATE PLANE NAD 27 (N.M. EAST)
N: 419257.94 E: 530851.24

NAD 83 (BOTTOM HOLE LOCATION)
LATITUDE = 32°07'24.72" (32.123533)
LONGITUDE = 104°14'12.29" (104.236747)
NAD 27 (BOTTOM HOLE LOCATION)
LATITUDE = 32°07'24.28" (32.123411)
LONGITUDE = 104°14'10.50" (104.236250)
STATE PLANE NAD 83 (N.M. EAST)
N: 408690.71 E: 571237.66
STATE PLANE NAD 27 (N.M. EAST)
N: 408633.42 E: 530054.60

NOTE:
- Distances referenced on plat to section lines are perpendicular.
- Basis of Bearing is a Transverse Mercator Projection with a Central Meridian of W103°53'00"

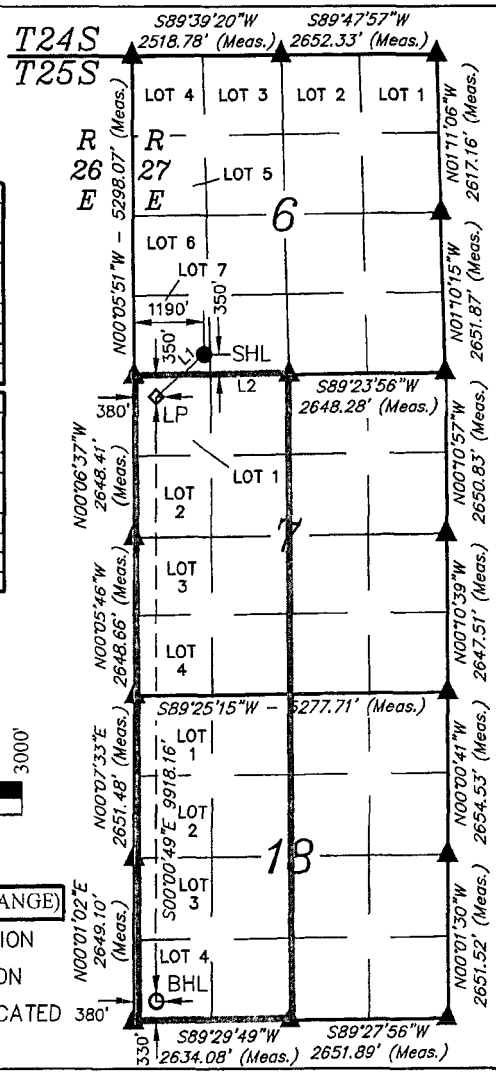
3000' 1500' 0' 3000'

SCALE

DRAWN BY: S.F. 10-24-16

REV: 1 07-10-17 D.P. (BHL & LP CHANGE)

● = SURFACE HOLE LOCATION
○ = BOTTOM HOLE LOCATION
▲ = SECTION CORNERS LOCATED
◇ = LANDING POINT



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature — Date: 8/11/17

Aricka Easterling
Printed Name

aeasterling@cimarex.com
E-mail Address

[18] SURVEYOR CERTIFICATION

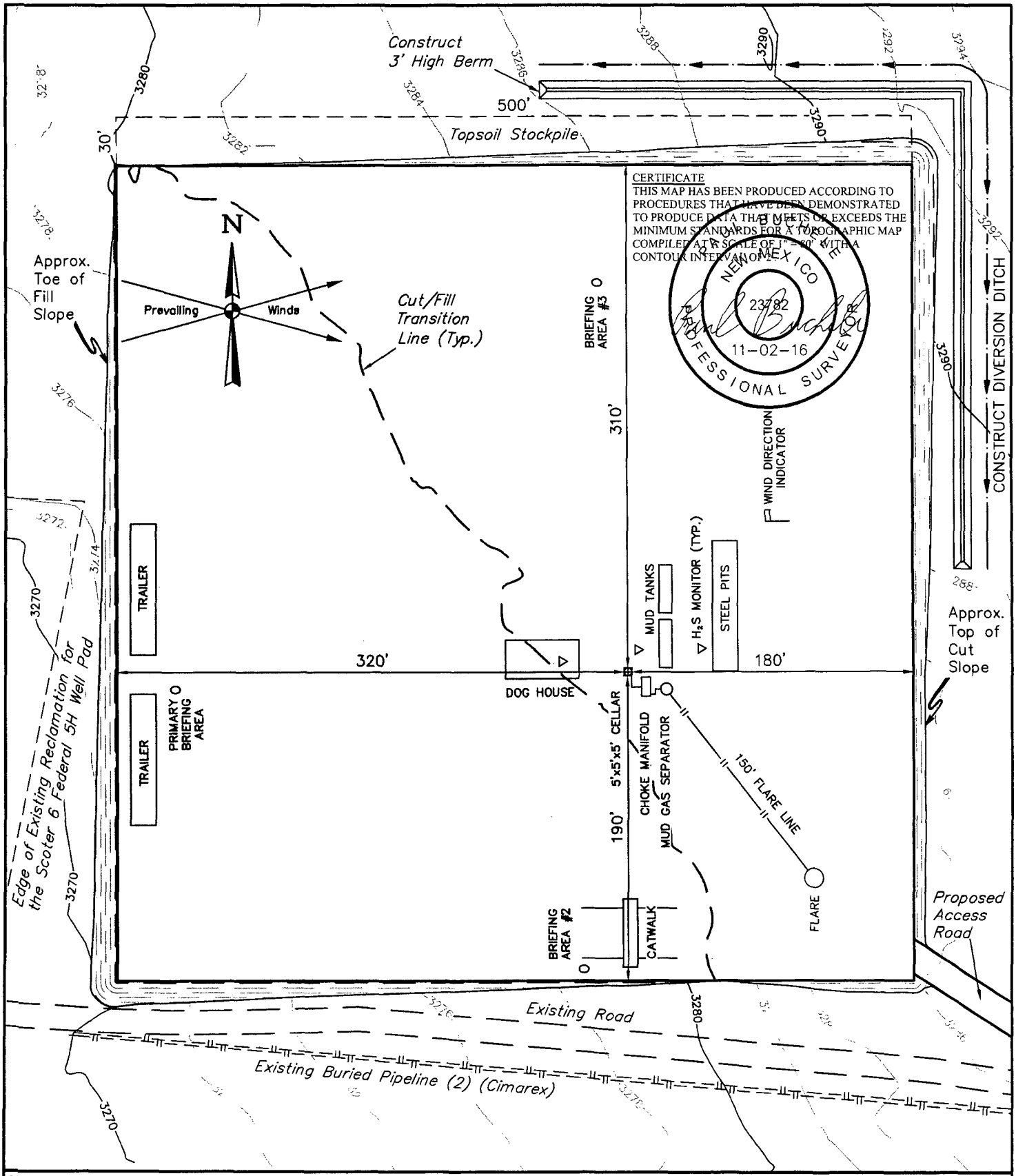
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

October 17, 2016
Date of Survey

Signature and Seal of Professional Surveyor:

PAUL BUCHELE
NEW MEXICO
23782
07-10-17
PROFESSIONAL SURVEYOR

Certificate Number:



NOTES:

- Contours shown at 2' intervals.

CIMAREX ENERGY CO.

DAVINCI 7-18 FEDERAL COM 6H
350' FSL 1190' FWL
LOT 7, SECTION 6, T25S, R27E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SURVEYED BY	A.H., J.F.	10-17-16	SCALE
DRAWN BY	S.F.	10-24-16	1" = 80'

TYPICAL RIG LAYOUT **EXHIBIT D**

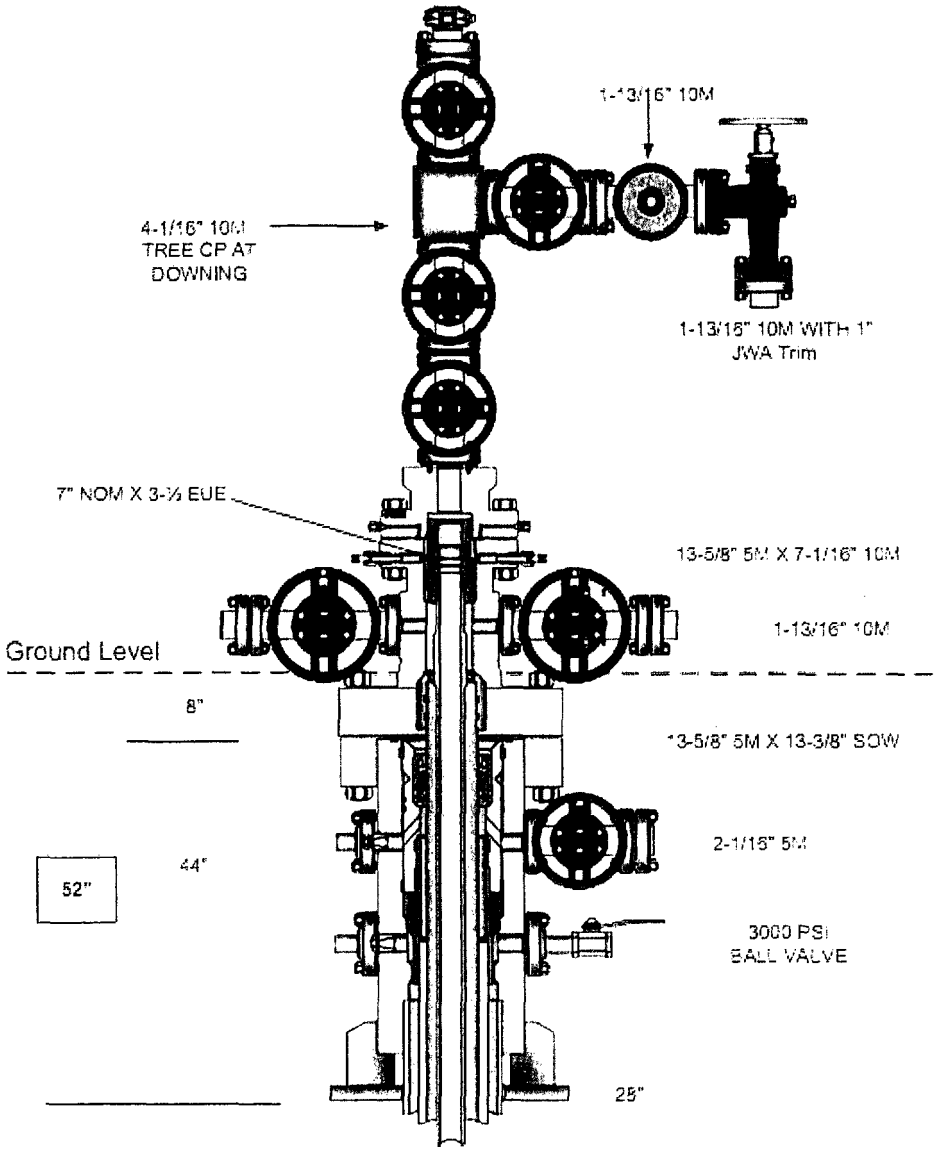
UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

Cactus Multi-Bowl Wellhead Steps:

1. Drill 17.5" Hole to Surface TD.
2. Trip out of hole.
3. Run and cement 13-3/8" casing.
4. Weld on Cactus Multi-Bowl Wellhead per Manufacturer's procedure.
5. Test weld to 70% of 13-3/8" surface casing.
6. Manufacturer representative will install test plug
7. Test BOPE equipment to 3,000 psi per permitted test pressure for drilling below 9-5/8" intermediate shoe.
8. Install Wear Bushing
9. Drill to 9-5/8" casing shoe
10. Trip out of hole.
11. Remove Wear Bushing.
12. Run 9-5/8" casing and land 9-5/8" casing hanger.
13. Cement casing.
14. Washout stack. Run wash tool to clean hanger.
15. Run and Install Packoff.
16. Test Packoff Seals.
17. Run Wear Bushing.
18. TIH to float collar.
19. Test Casing per COA WOC times. (500 psi compressive strength and 8 hours, whichever is greater)
20. Drill to production hole TD.
21. Trip out of hole.
22. Run 7" Production Casing.
23. Cement 7" Casing.
24. N/D and Set 7" Casing Slips.
25. N/U and Test BOPs per COA requirements
26. Drill out 7" casing
27. Drill 6" hole
28. Run 4.5" Completion system (Liner).
29. Cement 4.5" Liner
30. L/D Drill Pipe, N/D and move rig.

Note: We will not Test BOP's after welding on the Surface head until the 7" casing is ran and cemented unless we exceed the 30 day limit per Onshore Order #2.



PREPARED ON 6-1-17

1. Geological Formations

TVD of target 9,750
MD at TD 20,596

Pilot Hole TD N/A
Deepest expected fresh water 1,200

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	0	N/A	
Salado (Top Salt)	1200	N/A	
Castille (Base Salt)	1735	N/A	
Bell canyon	2010	Hydrocarbons	
Cherry Canyon	2850	Hydrocarbons	
Brushy Canyon	3930	Hydrocarbons	
Bone Spring	5450	Hydrocarbons	
1st Bone Spring SS	6380	Hydrocarbons	
2nd Bone Spring LS	6650	N/A	
2nd Bone Spring SS	6930	Hydrocarbons	
3rd BS Limestone	7310	Hydrocarbons	
3rd Bone Spring SS	8230	Hydrocarbons	
Wolfcamp	8500	Hydrocarbons	
Wolfcamp B	9140	Hydrocarbons	
Wolfcamp C	9340	Hydrocarbons	
Wolfcamp D	9390	Hydrocarbons	
Wolfcamp Lower	9760	Hydrocarbons	

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	450	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	3.68	8.60	14.91
12 1/4	0	1990	9-5/8"	36.00	J-55	LT&C	1.91	3.33	6.32
8 3/4	0	9084	7"	26.00	L-80	LT&C	1.27	1.71	2.02
8 3/4	9084	10452	7"	26.00	L-80	BT&C	1.19	1.59	34.88
6	9084	20596	4-1/2"	11.60	P-110	BT&C	1.20	1.69	47.50
					BLM Minimum Safety Factor		1.125	1	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	N
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	N
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	N
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	N
Is 2nd string set 100' to 600' below the base of salt?	N
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	N
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	N
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	N

3. Cementing Program

Casing	# Sks	Wt. lb/gal	Yld ft3/sack	H2O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	91	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	195	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	376	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	116	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	222	9.20	6.18	28.80		Lead: Class C + Extender + Salt + Strength Enhancement + LCM + Fluid Loss + Retarder
	175	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS
Completion System	715	14.80	1.34	6.32	9.5	Tail: Class C + LCM

Casing String	TOC	% Excess
Surface	0	33
Intermediate	0	44
Production	1790	23
Completion System	10452	10

4. Pressure Control Equipment

	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested *before drilling which hole?*	Size	Min Required WP	Type		Tested To
12 1/4	13 5/8	2M	Annular	X	50% of working pressure
			Blind Ram	X	2M
			Pipe Ram		
			Double Ram	X	
			Other		
8 3/4	13 5/8	3M	Annular	X	50% of working pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	X	
			Other		
6	13 5/8	5M	Annular	X	50% of working pressure
			Blind Ram		5M
			Pipe Ram	X	
			Double Ram	X	
			Other		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

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. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.	
X	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.	
	N	Are anchors required by manufacturer?

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 450'	FW Spud Mud	8.10 - 8.60	28	N/C
450' to 1990'	Brine Water	9.70 - 10.20	30-32	N/C
1990' to 10452'	FW/Cut Brine	8.50 - 9.00	30-32	N/C
10452' to 20596'	Oil Based Mud	12.00 - 12.50	50-70	N/C

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

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

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

Additional Logs Planned	Interval

7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	6337 psi
Abnormal Temperature	No

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

8. Other Facets of Operation

Multibowl Wellhead
Conditions of Approval
Davinci 7-18 Fed Com 6H

A. 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. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) psi.**

    a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**
    b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**
    c. **Manufacturer representative shall install the test plug for the initial BOP test.**
    d. **Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.**
    e. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.**

4. 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.