Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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.
NMNM26870

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.
BONNIE 35 FEDERAL COM 2H

2. Name of Operator
CIMAREX ENERGY COMPANY
Contact: FATIMA VASQUEZ
E-Mail: fvasquez@cimarex.com

9. API Well No.
30-015-44111

3a. Address
600 N MARIENFELD ST SUITE 600
MIDLAND, TX 79701

3b. Phone No. (include area code)
Ph: 432-620-1933

10. Field and Pool or Exploratory Area
~~PURPLE SAGE;WOLFCAMP(GAS)~~
WC-015 G-03 S252636M Bone Spring

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 35 T25S R26E SESE 260FSL 1010FEL
32.079723 N Lat, 104.258443 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 APD
	☐ 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 requests approval to change the SHL and BHL of the Bonnie 35 Federal Com 2H well. There is no additional surface disturbance.

Cimarex also requests approval to change the completion formation to Bone Spring.

Approved:
SHL: 200' FSL & 1010' FEL Sec. 35
BHL: 330' FNL & 660' FEL Sec. 26
Proposed:
SHL: 260' FSL & 1010' FEL Sec. 35
BHL: 100' FNL & 990' FEL Sec. 35

RECEIVED
JAN 22 2019
DISTRICT II-ARTESIA O.C.D.

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #444128 verified by the BLM Well Information System
For CIMAREX ENERGY COMPANY, sent to the Carlsbad

Name *(Printed/Typed)* FATIMA VASQUEZ — Title REGULATORY ANALYST

Signature (Electronic Submission) — Date 11/14/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____ Title _____ Date _____

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.

(Instructions on page 2)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

RWP 3-6-19,
3-11-19 SHL

Additional data for EC transaction #444128 that would not fit on the form

32. Additional remarks, continued

Please see attached C-102 plat, directional plan, and drilling plan for changes.

Schlumberger

Cimarex Bonnie 35 Federal Com 2H Rev3 RM 26Oct18 Proposal Geodetic Report

(Non-Def Plan)

CIMAREX

RECEIVED

JAN 22 2019

DISTRICT II-ARTESIA O.C.D.

Report Date:	October 26, 2018 - 03:51 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Cimarex	**Vertical Section Azimuth:**	0.520 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Bonnie 35 Federal Com 2H / Cimarex Bonnie 35 Federal Com 2H	**TVD Reference Datum:**	RKB
Well:	Cimarex Bonnie 35 Federal Com 2H	**TVD Reference Elevation:**	3365.200 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3339.200 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	7.347 °
Survey Name:	Cimarex Bonnie 35 Federal Com 2H Rev3 RM 26Oct18	**Total Gravity Field Strength:**	998.4259mgn (9.80665 Based)
Survey Date:	October 15, 2018	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	90.479 ° / 4934.077 ft / 5.855 / 0.629	**Total Magnetic Field Strength:**	47823.421 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.716 °
Location Lat / Long:	N 32° 4' 47.00175", W 104° 15' 30.39623"	**Declination Date:**	October 26, 2018
Location Grid N/E Y/X:	N 392748.340 ftUS, E 564532.380 ftUS	**Magnetic Declination Model:**	HDGM 2018
CRS Grid Convergence Angle:	0.0398 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99990971	**Grid Convergence Used:**	0.0398 °
Version / Patch:	2.10.740.0	**Total Corr Mag North->Grid North:**	7.3069 °
		Local Coord Referenced To:	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL [260' FSL, 1010' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	100.00	0.00	5.61	100.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	200.00	0.00	5.61	200.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	300.00	0.00	5.61	300.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	400.00	0.00	5.61	400.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	500.00	0.00	5.61	500.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	600.00	0.00	5.61	600.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	700.00	0.00	5.61	700.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	800.00	0.00	5.61	800.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	900.00	0.00	5.61	900.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	1000.00	0.00	5.61	1000.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
Salado (Top Salt)	*1064.00*	*0.00*	*5.61*	*1064.00*	*0.00*	*0.00*	*0.00*	*0.00*	*392748.34*	*564532.38*	*N 32 4 47.00*	*W 104 15 30.40*
	1100.00	0.00	5.61	1100.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	1200.00	0.00	5.61	1200.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	1300.00	0.00	5.61	1300.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	1400.00	0.00	5.61	1400.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	1500.00	0.00	5.61	1500.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	1600.00	0.00	5.61	1600.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	1700.00	0.00	5.61	1700.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
Castilla (Base Salt)	*1775.00*	*0.00*	*5.61*	*1775.00*	*0.00*	*0.00*	*0.00*	*0.00*	*392748.34*	*564532.38*	*N 32 4 47.00*	*W 104 15 30.40*
	1800.00	0.00	5.61	1800.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	1900.00	0.00	5.61	1900.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
Bell Canyon (Top Delaware)	*1955.00*	*0.00*	*5.61*	*1955.00*	*0.00*	*0.00*	*0.00*	*0.00*	*392748.34*	*564532.38*	*N 32 4 47.00*	*W 104 15 30.40*
	2000.00	0.00	5.61	2000.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	2100.00	0.00	5.61	2100.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	2200.00	0.00	5.61	2200.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	2300.00	0.00	5.61	2300.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	2400.00	0.00	5.61	2400.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	2500.00	0.00	5.61	2500.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	2600.00	0.00	5.61	2600.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	2700.00	0.00	5.61	2700.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	2800.00	0.00	5.61	2800.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	2900.00	0.00	5.61	2900.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
Cherry Canyon	*2963.00*	*0.00*	*5.61*	*2963.00*	*0.00*	*0.00*	*0.00*	*0.00*	*392748.34*	*564532.38*	*N 32 4 47.00*	*W 104 15 30.40*
	3000.00	0.00	5.61	3000.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	3100.00	0.00	5.61	3100.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	3200.00	0.00	5.61	3200.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	3300.00	0.00	5.61	3300.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	3400.00	0.00	5.61	3400.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	3500.00	0.00	5.61	3500.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	3600.00	0.00	5.61	3600.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	3700.00	0.00	5.61	3700.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	3800.00	0.00	5.61	3800.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	3900.00	0.00	5.61	3900.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
Brushy Canyon	*3963.00*	*0.00*	*5.61*	*3963.00*	*0.00*	*0.00*	*0.00*	*0.00*	*392748.34*	*564532.38*	*N 32 4 47.00*	*W 104 15 30.40*
	4000.00	0.00	5.61	4000.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	4100.00	0.00	5.61	4100.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	4200.00	0.00	5.61	4200.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	4300.00	0.00	5.61	4300.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	4400.00	0.00	5.61	4400.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	4500.00	0.00	5.61	4500.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	4600.00	0.00	5.61	4600.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	4700.00	0.00	5.61	4700.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	4800.00	0.00	5.61	4800.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	4900.00	0.00	5.61	4900.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	5000.00	0.00	5.61	5000.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	5100.00	0.00	5.61	5100.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	5200.00	0.00	5.61	5200.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	5300.00	0.00	5.61	5300.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	5400.00	0.00	5.61	5400.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	5500.00	0.00	5.61	5500.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
Top Bone Spring	*5520.00*	*0.00*	*5.61*	*5520.00*	*0.00*	*0.00*	*0.00*	*0.00*	*392748.34*	*564532.38*	*N 32 4 47.00*	*W 104 15 30.40*
	5600.00	0.00	5.61	5600.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	5700.00	0.00	5.61	5700.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	5800.00	0.00	5.61	5800.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	5900.00	0.00	5.61	5900.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	6000.00	0.00	5.61	6000.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	6100.00	0.00	5.61	6100.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	6200.00	0.00	5.61	6200.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	6300.00	0.00	5.61	6300.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	6400.00	0.00	5.61	6400.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
Top 1st BSPG SS	*6490.00*	*0.00*	*5.61*	*6490.00*	*0.00*	*0.00*	*0.00*	*0.00*	*392748.34*	*564532.38*	*N 32 4 47.00*	*W 104 15 30.40*
	6500.00	0.00	5.61	6500.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	6600.00	0.00	5.61	6600.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	6700.00	0.00	5.61	6700.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	6800.00	0.00	5.61	6800.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	6900.00	0.00	5.61	6900.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	7000.00	0.00	5.61	7000.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
Top 2nd BSPG SS	*7020.00*	*0.00*	*5.61*	*7020.00*	*0.00*	*0.00*	*0.00*	*0.00*	*392748.34*	*564532.38*	*N 32 4 47.00*	*W 104 15 30.40*
	7100.00	0.00	5.61	7100.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	7200.00	0.00	5.61	7200.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	7300.00	0.00	5.61	7300.00	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
KOP - Build 12°/100' DLS	7363.86	0.00	5.61	7363.86	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
	7400.00	4.34	5.61	7399.97	1.36	1.36	0.13	12.00	392749.70	564532.51	N 32 4 47.02	W 104 15 30.39
	7500.00	16.34	5.61	7498.16	19.20	19.18	1.88	12.00	392767.52	564534.26	N 32 4 47.19	W 104 15 30.37
Top 3rd BSPG Carb	*7533.55*	*20.36*	*5.61*	*7530.00*	*29.72*	*29.69*	*2.92*	*12.00*	*392778.03*	*564535.30*	*N 32 4 47.30*	*W 104 15 30.36*
	7600.00	28.34	5.61	7590.49	56.99	56.94	5.59	12.00	392805.27	564537.97	N 32 4 47.57	W 104 15 30.33
Build & Turn 12°/100' DLS	7655.53	35.00	5.61	7637.72	86.01	85.93	8.44	12.00	392834.27	564540.82	N 32 4 47.85	W 104 15 30.30
	7700.00	40.31	4.72	7672.92	113.08	112.98	10.88	12.00	392861.31	564543.26	N 32 4 48.12	W 104 15 30.27
	7800.00	52.26	3.29	7741.90	185.10	184.96	15.82	12.00	392933.28	564548.20	N 32 4 48.83	W 104 15 30.21
Top Harkey SS	*7853.09*	*58.62*	*2.70*	*7772.00*	*228.75*	*228.60*	*18.10*	*12.00*	*392976.91*	*564550.48*	*N 32 4 49.26*	*W 104 15 30.18*
	7900.00	64.23	2.25	7794.43	269.91	269.74	19.87	12.00	393018.06	564552.25	N 32 4 49.67	W 104 15 30.16
	8000.00	76.21	1.41	7828.21	363.81	363.62	22.85	12.00	393111.93	564555.23	N 32 4 50.60	W 104 15 30.13
	8100.00	88.18	0.65	7841.77	462.70	462.50	24.62	12.00	393210.79	564557.00	N 32 4 51.58	W 104 15 30.11
Harkey SS Target	*8112.48*	*89.68*	*0.56*	*7842.00*	*475.17*	*474.97*	*24.75*	*12.00*	*393223.27*	*564557.13*	*N 32 4 51.70*	*W 104 15 30.10*
Harkey SS Target Landing Point	8117.85	90.32	0.52	7842.00	480.55	480.35	24.80	12.00	393228.64	564557.18	N 32 4 51.75	W 104 15 30.10
	8200.00	90.32	0.52	7841.54	562.70	562.49	25.55	0.00	393310.78	564557.93	N 32 4 52.57	W 104 15 30.09
	8300.00	90.32	0.52	7840.98	662.70	662.48	26.46	0.00	393410.76	564558.83	N 32 4 53.56	W 104 15 30.08
	8400.00	90.32	0.52	7840.42	762.69	762.48	27.36	0.00	393510.75	564559.74	N 32 4 54.55	W 104 15 30.07
	8500.00	90.32	0.52	7839.85	862.69	862.47	28.27	0.00	393610.73	564560.65	N 32 4 55.54	W 104 15 30.06
	8600.00	90.32	0.52	7839.29	962.69	962.47	29.18	0.00	393710.72	564561.56	N 32 4 56.53	W 104 15 30.05
	8700.00	90.32	0.52	7838.73	1062.69	1062.46	30.09	0.00	393810.70	564562.46	N 32 4 57.51	W 104 15 30.04
	8800.00	90.32	0.52	7838.17	1162.69	1162.45	30.99	0.00	393910.69	564563.37	N 32 4 58.50	W 104 15 30.03
	8900.00	90.32	0.52	7837.61	1262.69	1262.45	31.90	0.00	394010.67	564564.28	N 32 4 59.49	W 104 15 30.02
	9000.00	90.32	0.52	7837.05	1362.69	1362.44	32.81	0.00	394110.66	564565.19	N 32 5 0.48	W 104 15 30.00
	9100.00	90.32	0.52	7836.49	1462.68	1462.44	33.72	0.00	394210.64	564566.09	N 32 5 1.47	W 104 15 29.99
	9200.00	90.32	0.52	7835.92	1562.68	1562.43	34.62	0.00	394310.63	564567.00	N 32 5 2.46	W 104 15 29.98
	9300.00	90.32	0.52	7835.36	1662.68	1662.43	35.53	0.00	394410.61	564567.91	N 32 5 3.45	W 104 15 29.97
	9400.00	90.32	0.52	7834.80	1762.68	1762.42	36.44	0.00	394510.60	564568.82	N 32 5 4.44	W 104 15 29.96
	9500.00	90.32	0.52	7834.24	1862.68	1862.42	37.35	0.00	394610.58	564569.72	N 32 5 5.43	W 104 15 29.95
	9600.00	90.32	0.52	7833.68	1962.68	1962.41	38.25	0.00	394710.57	564570.63	N 32 5 6.42	W 104 15 29.94
	9700.00	90.32	0.52	7833.12	2062.67	2062.40	39.16	0.00	394810.55	564571.54	N 32 5 7.41	W 104 15 29.92
	9800.00	90.32	0.52	7832.56	2162.67	2162.40	40.07	0.00	394910.54	564572.45	N 32 5 8.40	W 104 15 29.91
	9900.00	90.32	0.52	7831.99	2262.67	2262.39	40.98	0.00	395010.52	564573.35	N 32 5 9.39	W 104 15 29.90
	10000.00	90.32	0.52	7831.43	2362.67	2362.39	41.88	0.00	395110.51	564574.26	N 32 5 10.38	W 104 15 29.89
	10100.00	90.32	0.52	7830.87	2462.67	2462.38	42.79	0.00	395210.49	564575.17	N 32 5 11.37	W 104 15 29.88
	10200.00	90.32	0.52	7830.31	2562.67	2562.38	43.70	0.00	395310.48	564576.08	N 32 5 12.36	W 104 15 29.87
	10300.00	90.32	0.52	7829.75	2662.66	2662.37	44.61	0.00	395410.46	564576.98	N 32 5 13.35	W 104 15 29.86
	10400.00	90.32	0.52	7829.19	2762.66	2762.36	45.51	0.00	395510.45	564577.89	N 32 5 14.34	W 104 15 29.84
	10500.00	90.32	0.52	7828.63	2862.66	2862.36	46.42	0.00	395610.43	564578.80	N 32 5 15.33	W 104 15 29.83
	10600.00	90.32	0.52	7828.06	2962.66	2962.35	47.33	0.00	395710.42	564579.71	N 32 5 16.31	W 104 15 29.82
	10700.00	90.32	0.52	7827.50	3062.66	3062.35	48.24	0.00	395810.40	564580.61	N 32 5 17.30	W 104 15 29.81
	10800.00	90.32	0.52	7826.94	3162.66	3162.34	49.15	0.00	395910.39	564581.52	N 32 5 18.29	W 104 15 29.80
	10900.00	90.32	0.52	7826.38	3262.66	3262.34	50.05	0.00	396010.37	564582.43	N 32 5 19.28	W 104 15 29.79
	11000.00	90.32	0.52	7825.82	3362.65	3362.33	50.96	0.00	396110.36	564583.34	N 32 5 20.27	W 104 15 29.78
	11100.00	90.32	0.52	7825.26	3462.65	3462.32	51.87	0.00	396210.34	564584.24	N 32 5 21.26	W 104 15 29.77
	11200.00	90.32	0.52	7824.70	3562.65	3562.32	52.78	0.00	396310.33	564585.15	N 32 5 22.25	W 104 15 29.75
	11300.00	90.32	0.52	7824.13	3662.65	3662.31	53.68	0.00	396410.31	564586.06	N 32 5 23.24	W 104 15 29.74
	11400.00	90.32	0.52	7823.57	3762.65	3762.31	54.59	0.00	396510.30	564586.97	N 32 5 24.23	W 104 15 29.73
	11500.00	90.32	0.52	7823.01	3862.65	3862.30	55.50	0.00	396610.28	564587.87	N 32 5 25.22	W 104 15 29.72
	11600.00	90.32	0.52	7822.45	3962.64	3962.30	56.41	0.00	396710.27	564588.78	N 32 5 26.21	W 104 15 29.71
	11700.00	90.32	0.52	7821.89	4062.64	4062.29	57.31	0.00	396810.25	564589.69	N 32 5 27.20	W 104 15 29.70
	11800.00	90.32	0.52	7821.33	4162.64	4162.28	58.22	0.00	396910.24	564590.60	N 32 5 28.19	W 104 15 29.69
	11900.00	90.32	0.52	7820.77	4262.64	4262.28	59.13	0.00	397010.23	564591.50	N 32 5 29.18	W 104 15 29.67
	12000.00	90.32	0.52	7820.20	4362.64	4362.27	60.04	0.00	397110.21	564592.41	N 32 5 30.17	W 104 15 29.66
	12100.00	90.32	0.52	7819.64	4462.64	4462.27	60.94	0.00	397210.20	564593.32	N 32 5 31.16	W 104 15 29.65
	12200.00	90.32	0.52	7819.08	4562.63	4562.26	61.85	0.00	397310.18	564594.23	N 32 5 32.15	W 104 15 29.64
	12300.00	90.32	0.52	7818.52	4662.63	4662.26	62.76	0.00	397410.17	564595.13	N 32 5 33.14	W 104 15 29.63
	12400.00	90.32	0.52	7817.96	4762.63	4762.25	63.67	0.00	397510.15	564596.04	N 32 5 34.13	W 104 15 29.62
	12500.00	90.32	0.52	7817.40	4862.63	4862.24	64.57	0.00	397610.14	564596.95	N 32 5 35.11	W 104 15 29.61
Cimarex Bonnie 35 Federal Com 2H - PBHL [100' FNL, 890' FEL]	12570.80	90.32	0.52	7817.00	4933.42	4933.04	65.22	0.00	397680.92	564597.59	N 32 5 35.82	W 104 15 29.60

Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
		1	0.000	26.000	1/100.000	30.000	30.000		NAL_MWD_IFR1+MS-Depth Only		Original Borehole / Cimarex Bonnie 35 Federal Com 2H Rev3 RM 26Oct18	
		1	26.000	12570.795	1/100.000	30.000	30.000		NAL_MWD_IFR1+MS		Original Borehole / Cimarex Bonnie 35 Federal Com 2H Rev3	

Schlumberger

Cimarex Bonnie 35 Federal Com 2H Rev3 RM 26Oct18 Proposal Geodetic Report

(Non-Def Plan)

CIMAREX

Report Date:	October 26, 2018 - 03:51 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Cimarex	**Vertical Section Azimuth:**	0.520 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Bonnie 35 Federal Com 2H / Cimarex Bonnie 35 Federal Com 2H	**TVD Reference Datum:**	RKB
Well:	Cimarex Bonnie 35 Federal Com 2H	**TVD Reference Elevation:**	3365.200 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3339.200 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	7.347 °
Survey Name:	Cimarex Bonnie 35 Federal Com 2H Rev3 RM 26Oct18	**Total Gravity Field Strength:**	998.4259mgn (9.80665 Based)
Survey Date:	October 15, 2018	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	90.479 ° / 4934.077 ft / 5.855 / 0.629	**Total Magnetic Field Strength:**	47823.421 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.715 °
Location Lat / Long:	N 32° 4' 47.00175", W 104° 15' 30.39623"	**Declination Date:**	October 26, 2018
Location Grid N/E Y/X:	N 392748.340 ftUS, E 564532.380 ftUS	**Magnetic Declination Model:**	HDGM 2018
CRS Grid Convergence Angle:	0.0398 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99990871	**Grid Convergence Used:**	0.0398 °
Version / Patch:	2.10.740.0	**Total Corr Mag North->Grid North:**	7.3069 °
		Local Coord Referenced To:	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL [260' FSL, 1010' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
KOP - Build 12°/100' DLS	7363.86	0.00	5.61	7363.86	0.00	0.00	0.00	0.00	392748.34	564532.38	N 32 4 47.00	W 104 15 30.40
Build & Turn 12°/100' DLS	7655.53	35.00	5.61	7637.72	86.01	85.93	8.44	12.00	392834.27	564540.82	N 32 4 47.85	W 104 15 30.30
Landing Point	8117.85	90.32	0.52	7842.00	480.55	480.35	24.80	12.00	393228.64	564557.18	N 32 4 51.75	W 104 15 30.10
Cimarex Bonnie 35 Federal Com 2H - PBHL [100' FNL, 990' FEL]	12570.80	90.32	0.52	7817.00	4933.42	4933.04	66.22	0.00	397680.92	564597.59	N 32 5 35.82	W 104 15 29.60

Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	26.000	1/100.000	30.000	30.000		NAL_MWD_IFR1+MS-Depth Only	Original Borehole / Cimarex Bonnie 35 Federal Com 2H Rev3 RM 26Oct18
	1	26.000	12570.795	1/100.000	30.000	30.000		NAL_MWD_IFR1+MS	Original Borehole / Cimarex Bonnie 35 Federal Com 2H Rev3

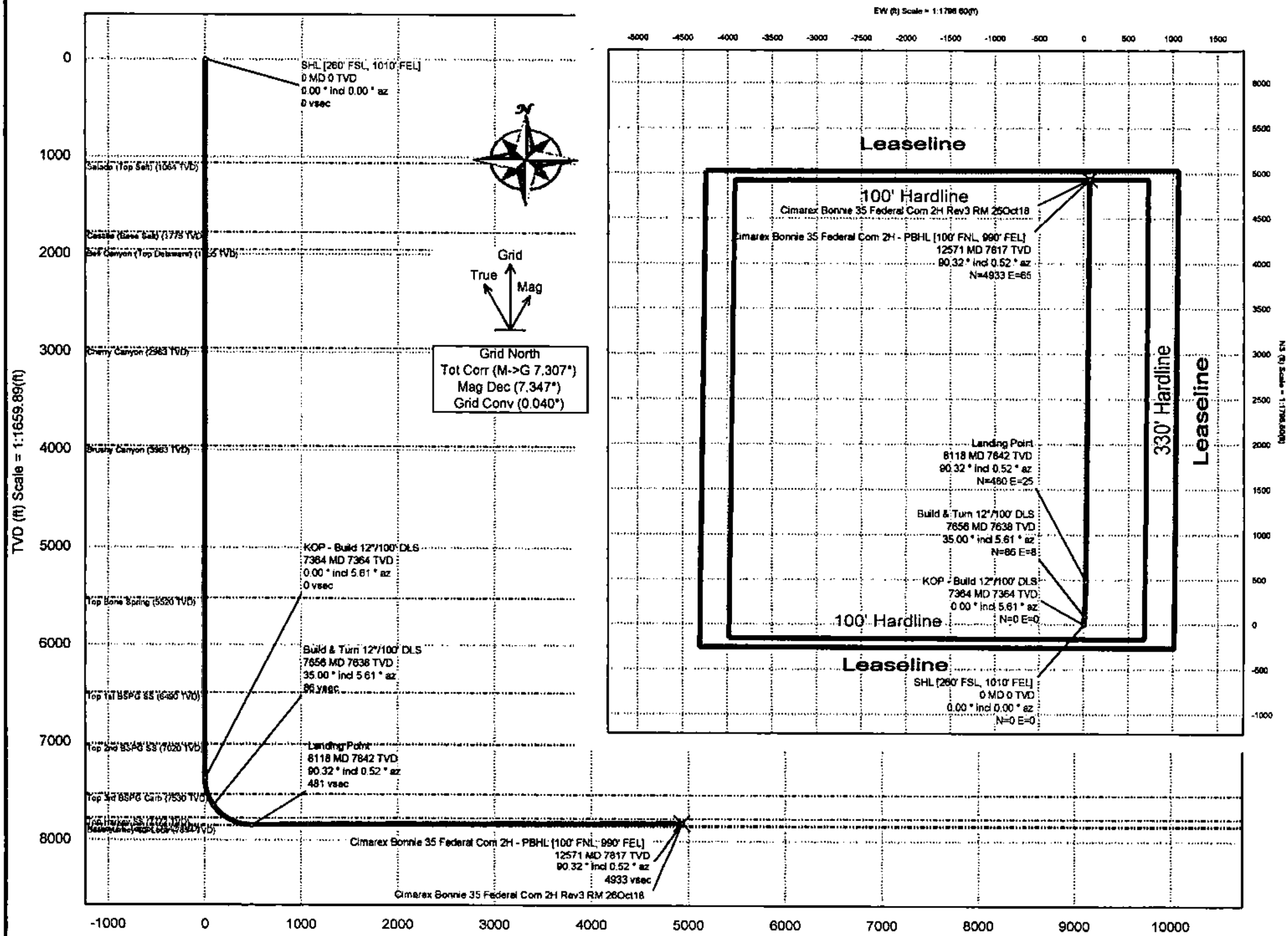
Schlumberger

Cimarex Rev 3

CIMAREX

Borehole:	Well:	Field:	Structure:
Original Borehole	Cimarex Bonnie 35 Federal Com 2H	NM Eddy County (NAD 83)	Cimarex Bonnie 35 Federal Com 2H

Gravity & Magnetic Parameters	Surface Location . NAD83 New Mexico State Plane, Eastern Zone, US Feet	Miscellaneous
Model: HDGM 2018 Dip: 59.716° Date: 26-Oct-2018	Lat: N 32 4 47.00 Northing: 382748.34ftUS Grid Conv: 0.0398°	Slot: Cimarex Bonnie 35 Federal Com 2H TVD Ref: RKB(3365.2ft above MSL)
MagDec: 7.347° FS: 47823.421nT Gravity FS: 998.426mgn (9.80665 Based)	Lon: W 104 15 30.40 Easting: 644532.38ftUS Scale Fact: 0.99990971	Plan: Cimarex Bonnie 35 Federal Com 2H Rev3 RM 26Oct18



TVD (ft) Scale = 1:1659.89(ft)
SHL [260' FSL, 1010' FEL]
0 MD 0 TVD
0.00 ° incl 0.00 ° az
0 vsec
KOP - Build 12°/100' DLS
7364 MD 7364 TVD
0.00 ° incl 5.61 ° az
0 vsec
Build & Turn 12°/100' DLS
7656 MD 7638 TVD
35.00 ° incl 5.61 ° az
86 vsec
Landing Point
8118 MD 7842 TVD
90.32 ° incl 0.52 ° az
481 vsec
Cimarex Bonnie 35 Federal Com 2H - PBHL [100' FNL, 990' FEL]
12571 MD 7817 TVD
90.32 ° incl 0.52 ° az
4933 vsec
Cimarex Bonnie 35 Federal Com 2H Rev3 RM 26Oct18
Grid
True
Mag
Grid North
Tot Corr (M->G 7.307°)
Mag Dec (7.347°)
Grid Conv (0.040°)
EW (ft) Scale = 1:1798.60(ft)
NS (ft) Scale = 1:1798.60(ft)
Leaseline
100' Hardline
330' Hardline
Cimarex Bonnie 35 Federal Com 2H - PBHL [100' FNL, 990' FEL]
12571 MD 7817 TVD
90.32 ° incl 0.52 ° az
N=4933 E=65
Landing Point
8118 MD 7842 TVD
90.32 ° incl 0.52 ° az
N=480 E=25
Build & Turn 12°/100' DLS
7656 MD 7638 TVD
35.00 ° incl 5.61 ° az
N=86 E=8
KOP - Build 12°/100' DLS
7364 MD 7364 TVD
0.00 ° incl 5.61 ° az
N=0 E=0
SHL [260' FSL, 1010' FEL]
0 MD 0 TVD
0.00 ° incl 0.00 ° az
N=0 E=0

Vertical Section (ft) Azim = 0.73° Scale = 1:1659.89(ft) Origin = 0N/-S, 0E/-W

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [260' FSL, 1010' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Salado (Top Salt)	1084.00	0.00	5.61	1084.00	0.00	0.00	0.00	0.00
Castile (Base Salt)	1775.00	0.00	5.61	1775.00	0.00	0.00	0.00	0.00
Bell Canyon (Top Delaware)	1955.00	0.00	5.61	1955.00	0.00	0.00	0.00	0.00
Cherry Canyon	2963.00	0.00	5.61	2963.00	0.00	0.00	0.00	0.00
Brushy Canyon	3963.00	0.00	5.61	3963.00	0.00	0.00	0.00	0.00
Top Bone Spring	5520.00	0.00	5.61	5520.00	0.00	0.00	0.00	0.00
Top 1st BSPG SS	6490.00	0.00	5.61	6490.00	0.00	0.00	0.00	0.00
Top 2nd BSPG SS	7020.00	0.00	5.61	7020.00	0.00	0.00	0.00	0.00
KOP - Build 12°/100' DLS	7363.86	0.00	5.61	7363.86	0.00	0.00	0.00	0.00
Top 3rd BSPG Carb	7533.55	20.36	5.61	7530.00	29.72	29.69	2.92	12.00
Build & Turn 12°/100' DLS	7655.53	35.00	5.61	7637.72	86.01	85.93	8.44	12.00
Top Harkey SS	7853.09	58.62	2.70	7772.00	228.75	228.60	18.10	12.00
Harkey SS Target	8112.48	89.68	0.56	7842.00	475.17	474.97	24.75	12.00
Landing Point	8117.85	90.32	0.52	7842.00	480.55	480.35	24.80	12.00
Harkey SS Target	8117.86	90.32	0.52	7842.00	480.56	480.36	24.80	0.00
Cimarex Bonnie 35 Federal Com 2H - PBHL [100' FNL, 990' FEL]	12570.80	90.32	0.52	7817.00	4933.42	4933.04	65.22	0.00
Base Harkey SS Lobe	NaN			7854.00				

1. Geological Formations

TVD of target 7,817 Pilot Hole TD N/A
MD at TD 12,571 Deepest expected fresh water 50

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Quarternary fill	0	N/A	
Rustler	0	N/A	
Salado	1199	N/A	
Castille	1763	N/A	
Lamar	1956	N/A	
Bell Canyon	2007	Hydrocarbons	
Cherry Canyon	2969	Hydrocarbons	
Brushy Canyon	3959	Hydrocarbons	
Brushy Canyon Lower	3959	Hydrocarbons	
Bone Spring	5524	Hydrocarbons	
Bone Spring A Shale	5645	Hydrocarbons	
Bone Spring C Shale	6031	Hydrocarbons	
1st Bone Spring Ss	6496	Hydrocarbons	
2nd Bone Spring Ls	6761	N/A	
2nd Bone Spring Ss	7023	Hydrocarbons	
2nd BS Ss Lower	7833	Hydrocarbons	
3rd Bone spring Ss	8353	Hydrocarbons	

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	450	450	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	3.59	8.40	14.91
12 1/4	0	1935	1935	9-5/8"	36.00	J-55	ST&C	1.97	3.43	8.10
8 3/4	0	7364	7364	5-1/2"	17.00	L-80	LT&C	1.83	2.25	2.54
8 3/4	7364	12571	7817	5-1/2"	17.00	L-80	BT&C	1.72	2.12	51.55
						BLM Minimum Safety Factor		1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations.
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
Is AC Report included?	N

3. Cementing Program

Casing	# Sks	Wt. lb/gal	Yld ft3/sack	H2O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	117	14.80	1.34	6.32	9.5	Lead: Class C + LCM
	192	14.80	1.36	6.57	9.5	Tail: Class C + Retarder
Intermediate	365	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	113	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	486	10.30	3.64	22.18		Lead: Tuned Light + LCM
	1114	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

Casing String	TOC	% Excess
Surface	0	33
Intermediate	0	50
Production	1735	18

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		

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.

	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	8.30 - 8.80	30-32	N/C
450' to 1935'	Brine Water	9.70 - 10.20	30-32	N/C
1935' to 12571'	FW/Cut Brine	8.50 - 9.00	30-32	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	3658 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

9. Wellhead

A multi-bowl wellhead system will be utilized.

After running the 13-3/8" surface casing, a 13 5/8" BOP/BOPE system with a minimum working pressure of 3000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 3000 psi test. Annular will be tested to 50% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2.

The multi-bowl wellhead will be installed by vendor's representative. A copy of the installation instructions has been sent to the BLM field office.

The wellhead will be installed by a third-party welder while being monitored by the wellhead vendor representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 3000 psi.

The surface casing string will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

The casing string utilizing steel body pack-off will be tested to 70% of casing burst.

If well conditions dictate conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.