

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTCarlsbad Field Office
OCD ArtesiaFORM 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**

1. Type of Well ☐ Oil Well ☒ Gas Well ☐ Other		5. Lease Serial No. NMNM120350
2. Name of Operator CIMAREX ENERGY COMPANY OF CO		6. If Indian, Allottee or Tribe Name
Contact: ARICKA EASTERLING E-Mail: aeasterling@cimarex.com		7. If Unit or CA/Agreement, Name and/or No.
3a. Address 202 S CHEYENNE AVE SUITE 1000 TULSA, OK 74103.4346	3b. Phone No. (include area code) Ph: 918-560-7060	8. Well Name and No. HORNSBY 35 FEDERAL COM 10H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 35 T26S R27E Lot 1 0240 FSL 0820 FEL 32.000207 N Lat, 104.091722 W Lon		9. API Well No. 30-015-42170-00-X1
		10. Field and Pool or Exploratory Area WILDCAT
		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 recompleat 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 recompleat 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 has modified the drilling plan. Please see the drilling plan.

* Approved sundry (Electronic Submission # 321179) SHL 290 FSL 820 FEL 35-265-27
BHL 330 FNL 550 FEL 26-265-27

* All previous COAs still apply

* Additional cement maybe required on surface + production strings

NM OIL CONSERVATION
ARTESIA DISTRICT

FEB 06 2017

RECEIVED

14. I hereby certify that the foregoing is true and correct. Electronic Submission #359431 verified by the BLM Well Information System For CIMAREX ENERGY COMPANY OF CO, sent to the Carlsbad Committed to AFMSS for processing by JENNIFER SANCHEZ on 12/13/2016 (17JAS0119SE)	
Name (Printed/Typed) ARICKA EASTERLING	Title REGULATORY ANALYST
Signature (Electronic Submission)	Date 11/30/2016

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By CHARLES NIMMER	Title PETROLEUM ENGINEER	Date 01/23/2017
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 Carlsbad

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 ****

1. Geological Formations

TVD of target 7,710
MD at TD 14,416

Pilot Hole TD N/A
Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
OSE Ground water	100	N/A	
Salado	1575	N/A	
Castille	2120	N/A	
Bell Canyon	2285	N/A	
Cherry Canyon	3260	N/A	
Brushy Canyon	4440	N/A	
Brushy Canyon Lower	5735	N/A	
Bone Spring	5950	Hydrocarbons	
Bone Spring A Shale	6165	Hydrocarbons	
Bone Spring C Shale	6565	Hydrocarbons	
1st Bone Spring Ss	6890	Hydrocarbons	
2nd Bone Spring Ss	7390	Hydrocarbons	
2nd BS Ss Horz target	7745	Hydrocarbons	
3rd BS Limestone	7830	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	400	13-3/8"	48.00	H-40	ST&C	4.29	10.02	16.77
12 1/4	0	2200	9-5/8"	36.00	J-55	LT&C	1.73	3.02	5.72
8 3/4	0	7151	5-1/2"	17.00	L-80	LT&C	1.84	2.26	2.58
8 3/4	7151	14416	5-1/2"	17.00	L-80	BT&C	1.71	2.10	41.78
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.	N
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 ft ³ /sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	60	13.50	1.75	8.83	15.5	Lead: Class C + Bentonite + Calcium Chloride + LCM
	195	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	421	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	129	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	689	10.80	2.35	9.60	17:43	Lead: Tuned Light I Class H
	1556	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	31
Intermediate	0	45
Production	2000	16

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		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. <i>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.</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 400'	FW Spud Mud	7.80 - 8.30	28	N/C
400' to 2200'	Brine Water	9.70 - 10.20	30-32	N/C
2200' to 14426'	FW/Cut Brine	8.70 - 9.20	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	
	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
X	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	3688 psi
Abnormal Temperature	No

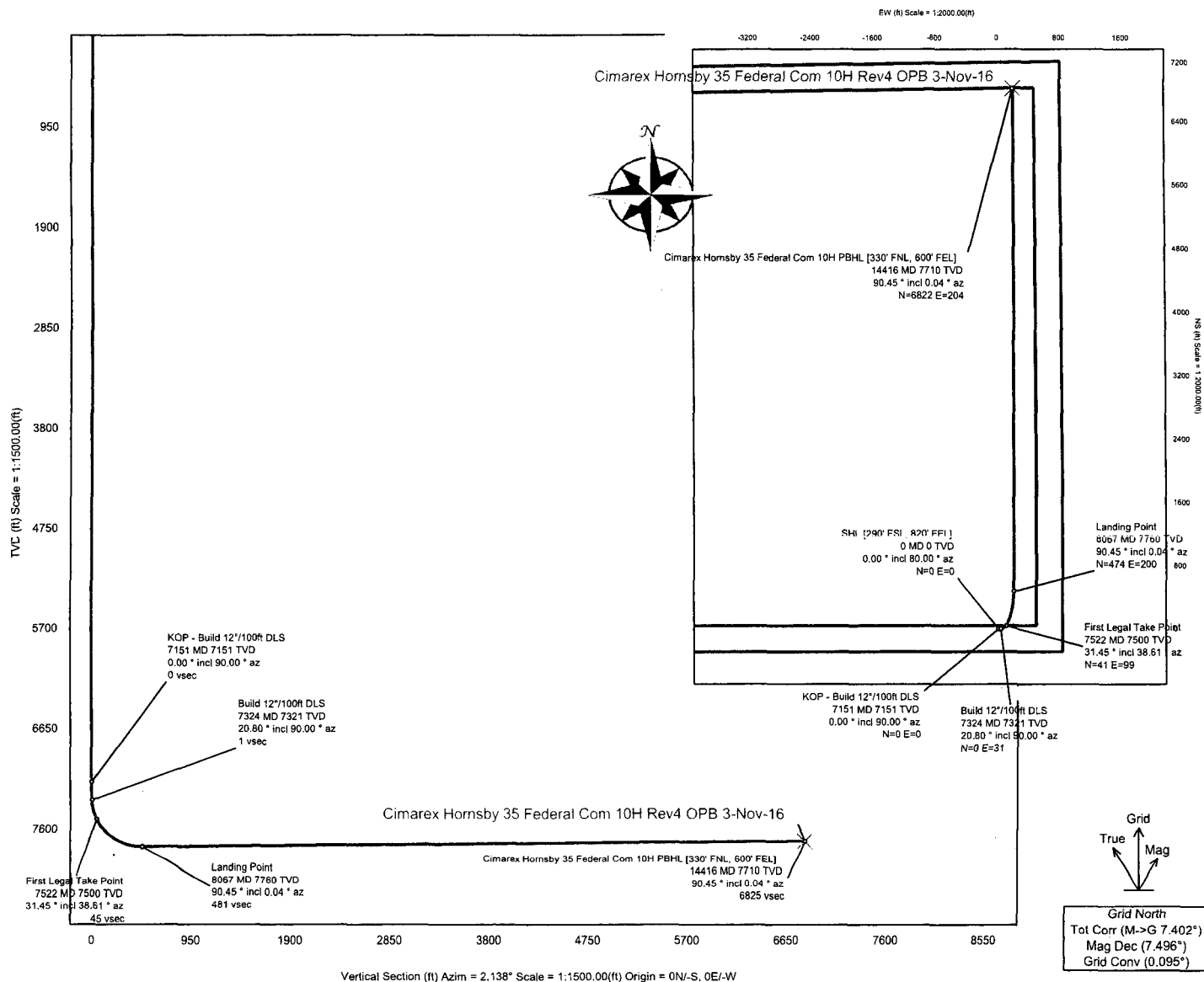
Hydrogen Sulfide (H₂S) monitors will be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be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

X	H ₂ S is present
X	H ₂ S plan is attached

8. Other Facets of Operation

Borehole:	Well:	Field:	Structure:
Original Borehole	Hornsby 35 Federal Com 10H	NM Eddy County (NAD 83)	TBD

Gravity & Magnetic Parameters	Surface Location	Miscellaneous
Model: HDGM 2015 Dip: 59.722° Date: 20-Jul-2015	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Hornsby 35
MagDec: 7.496° FS: 48182.141nT Gravity FS: 998.684mgN (9.80665 Based)	Lat: N 32 0 2.85 Northing: 364073.29ftUS Grid Conv: 0.0946°	Slot: Federal Com
	Lon: W 104 9 17.58 Easting: 596654.54ftUS Scale Fact: 0.9999126	10H
		Plan: Hornsby 35 Federal Com 10H Rev4 OPB 3-Nov-16



Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [290° FSL, 820° FEL]	0.00	0.00	80.00	0.00	0.00	0.00	0.00	
KOP - Build 12°/100ft DLS	7151.00	0.00	90.00	7151.00	0.00	0.00	0.00	0.00
Build 12°/100ft DLS	7324.33	20.80	90.00	7320.55	1.16	0.00	31.12	12.00
First Legal Take Point	7522.00	31.45	38.61	7499.90	44.57	40.90	99.40	12.17
Landing Point	8067.12	90.45	0.04	7760.00	481.22	474.10	199.82	12.17
Cimarex Hornsby 35 Federal Com 10H PBHL [330° FNL, 600° FEL]	14415.51	90.45	0.04	7710.00	6825.16	6822.28	204.44	0.00

CONTROLLED		
Plan ref	Cimarex Hornsby 35 Federal Com 10H Rev4 OPB 3-Nov-16	
Drawing ref		
Copy number	of 3	
Date	03-Nov-2016	
1	Client	
2	Client	
3	Office	
4	Office	
Copy number for		

Cimarex Hornsby 35 Federal Com 10H Rev4 OPB 3-Nov-16 Proposal

Geodetic Report

(Non-Def Plan)

Report Date: November 03, 2016 - 03:42 PM
Client: Cimarex
Field: NM Eddy County (NAD 83)
Structure / Slot: Cimarex Hornsby 35 Federal Com 10H / Cimarex Hornsby 35 Federal Com 10H
Well: Cimarex Hornsby 35 Federal Com 10H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Hornsby 35 Federal Com 10H Rev4 OPB 3-Nov-16
Survey Date: October 14, 2013
Tort / AHD / DDI / ERD Ratio: 111.217 ° / 6912.870 ft / 6.155 / 0.891
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 0' 2.85120", W 104° 9' 17.57880"
Location Grid N/E Y/X: N 364073.286 ftUS, E 596654.538 ftUS
CRS Grid Convergence Angle: 0.0946 °
Grid Scale Factor: 0.9999126
Version / Patch: 2.10.254.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 2.138 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: Ground level
TVD Reference Elevation: 3225.100 ft above MSL
Seabed / Ground Elevation: 3225.100 ft above MSL
Magnetic Declination: 7.496 °
Total Gravity Field Strength: 998.6843mgn (9.80665 Based)
Gravity Model: DOX
Total Magnetic Field Strength: 48182.141 nT
Magnetic Dip Angle: 59.722 °
Declination Date: July 20, 2015
Magnetic Declination Model: HDGM 2015
North Reference: Grid North
Total Corr Mag North->Grid North: 0.0946 °
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 290' FSL, 820' FEL	0.00	0.00	80.00	0.00	0.00	0.00	0.00	N/A	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	100.00	0.00	90.00	100.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	200.00	0.00	90.00	200.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	300.00	0.00	90.00	300.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	400.00	0.00	90.00	400.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	500.00	0.00	90.00	500.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	600.00	0.00	90.00	600.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	700.00	0.00	90.00	700.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	800.00	0.00	90.00	800.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	900.00	0.00	90.00	900.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	1000.00	0.00	90.00	1000.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	1100.00	0.00	90.00	1100.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	1200.00	0.00	90.00	1200.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	1300.00	0.00	90.00	1300.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	1400.00	0.00	90.00	1400.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	1500.00	0.00	90.00	1500.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	1600.00	0.00	90.00	1600.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	1700.00	0.00	90.00	1700.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	1800.00	0.00	90.00	1800.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	1900.00	0.00	90.00	1900.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	2000.00	0.00	90.00	2000.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	2100.00	0.00	90.00	2100.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	2200.00	0.00	90.00	2200.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	2300.00	0.00	90.00	2300.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	2400.00	0.00	90.00	2400.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	
	2500.00	0.00	90.00	2500.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	

Comments	MD (ft)	Incl (°)	Azim Grd (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	2600.00	0.00	90.00	2600.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	2700.00	0.00	90.00	2700.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	2800.00	0.00	90.00	2800.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	2900.00	0.00	90.00	2900.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	3000.00	0.00	90.00	3000.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	3100.00	0.00	90.00	3100.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	3200.00	0.00	90.00	3200.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	3300.00	0.00	90.00	3300.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	3400.00	0.00	90.00	3400.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	3500.00	0.00	90.00	3500.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	3600.00	0.00	90.00	3600.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	3700.00	0.00	90.00	3700.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	3800.00	0.00	90.00	3800.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	3900.00	0.00	90.00	3900.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	4000.00	0.00	90.00	4000.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	4100.00	0.00	90.00	4100.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	4200.00	0.00	90.00	4200.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	4300.00	0.00	90.00	4300.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	4400.00	0.00	90.00	4400.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	4500.00	0.00	90.00	4500.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	4600.00	0.00	90.00	4600.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	4700.00	0.00	90.00	4700.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	4800.00	0.00	90.00	4800.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	4900.00	0.00	90.00	4900.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	5000.00	0.00	90.00	5000.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	5100.00	0.00	90.00	5100.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	5200.00	0.00	90.00	5200.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	5300.00	0.00	90.00	5300.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	5400.00	0.00	90.00	5400.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	5500.00	0.00	90.00	5500.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	5600.00	0.00	90.00	5600.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	5700.00	0.00	90.00	5700.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	5800.00	0.00	90.00	5800.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	5900.00	0.00	90.00	5900.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	6000.00	0.00	90.00	6000.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	6100.00	0.00	90.00	6100.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	6200.00	0.00	90.00	6200.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	6300.00	0.00	90.00	6300.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	6400.00	0.00	90.00	6400.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	6500.00	0.00	90.00	6500.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	6600.00	0.00	90.00	6600.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	6700.00	0.00	90.00	6700.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	6800.00	0.00	90.00	6800.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	6900.00	0.00	90.00	6900.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	7000.00	0.00	90.00	7000.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	7100.00	0.00	90.00	7100.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
	7151.00	0.00	90.00	7151.00	0.00	0.00	0.00	0.00	364073.29	596654.54	N 32 0 2.85 W 104 9 17.58	9 17.58
KOP - Build 12°/100ft DLS	7200.00	5.88	90.00	7199.91	0.09	0.00	2.51	12.00	364073.29	596657.05	N 32 0 2.85 W 104 9 17.55	9 17.55
	7300.00	17.88	90.00	7297.59	0.86	0.00	23.06	12.00	364073.29	596677.60	N 32 0 2.85 W 104 9 17.31	9 17.31
Build 12°/100ft DLS	7324.33	20.80	90.00	7320.55	1.16	0.00	31.12	12.00	364073.29	596685.65	N 32 0 2.85 W 104 9 17.22	9 17.22
	7400.00	22.69	65.49	7390.97	8.22	6.07	57.89	12.17	364079.35	596712.43	N 32 0 2.91 W 104 9 16.91	9 16.91
	7500.00	29.54	42.31	7480.94	35.81	32.40	92.17	12.17	364105.68	596746.70	N 32 0 3.17 W 104 9 16.51	9 16.51
First Legal Take Point	7522.00	31.45	38.61	7499.90	44.57	40.90	99.40	12.17	364114.18	596753.93	N 32 0 3.25 W 104 9 16.42	9 16.42
	7600.00	38.89	28.31	7563.67	83.00	78.44	123.77	12.17	364151.72	596778.29	N 32 0 3.63 W 104 9 16.14	9 16.14
	7700.00	49.33	19.26	7635.45	147.66	142.11	151.27	12.17	364215.38	596805.79	N 32 0 4.25 W 104 9 15.82	9 15.82
	7800.00	60.28	12.74	7693.04	226.88	220.56	173.44	12.17	364293.83	596827.96	N 32 0 5.03 W 104 9 15.56	9 15.56

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 ° ' '')
Landing Point	7900.00	71.49	7.52	7733.86	317.10	310.26	189.28	12.17	364383.52	596843.80	N 32 0 5.82 W 104 9 15.37	
	8000.00	82.82	2.96	7756.06	414.27	407.17	198.08	12.17	364480.42	596852.60	N 32 0 6.88 W 104 9 15.37	
	8067.12	90.45	0.04	7760.00	481.22	474.10	199.82	12.17	364547.34	596854.34	N 32 0 7.54 W 104 9 15.25	
	8100.00	90.45	0.04	7759.74	514.07	506.97	199.85	0.00	364580.21	596854.37	N 32 0 7.86 W 104 9 15.25	
	8200.00	90.45	0.04	7758.95	614.00	606.97	199.92	0.00	364680.20	596854.44	N 32 0 8.85 W 104 9 15.25	
	8300.00	90.45	0.04	7758.15	713.93	706.97	199.99	0.00	364780.19	596854.51	N 32 0 9.84 W 104 9 15.24	
	8400.00	90.45	0.04	7757.36	813.86	806.96	200.07	0.00	364880.18	596854.59	N 32 0 10.83 W 104 9 15.24	
	8500.00	90.45	0.04	7756.57	913.79	906.96	200.14	0.00	364980.16	596854.66	N 32 0 11.82 W 104 9 15.24	
	8600.00	90.45	0.04	7755.77	1013.72	1006.96	200.21	0.00	365080.15	596854.73	N 32 0 12.81 W 104 9 15.23	
	8700.00	90.45	0.04	7754.98	1113.65	1106.95	200.28	0.00	365180.14	596854.80	N 32 0 13.80 W 104 9 15.23	
	8800.00	90.45	0.04	7754.19	1213.58	1206.95	200.36	0.00	365280.13	596854.88	N 32 0 14.79 W 104 9 15.23	
	8900.00	90.45	0.04	7753.40	1313.51	1306.95	200.43	0.00	365380.12	596854.95	N 32 0 15.78 W 104 9 15.23	
	9000.00	90.45	0.04	7752.61	1413.44	1406.94	200.50	0.00	365480.10	596855.02	N 32 0 16.77 W 104 9 15.22	
	9100.00	90.45	0.04	7751.81	1513.37	1506.94	200.58	0.00	365580.09	596855.10	N 32 0 17.76 W 104 9 15.22	
	9200.00	90.45	0.04	7751.02	1613.30	1606.94	200.65	0.00	365680.08	596855.17	N 32 0 18.75 W 104 9 15.22	
	9300.00	90.45	0.04	7750.23	1713.23	1706.93	200.72	0.00	365780.07	596855.24	N 32 0 19.74 W 104 9 15.22	
	9400.00	90.45	0.04	7749.44	1813.16	1806.93	200.79	0.00	365880.06	596855.31	N 32 0 20.73 W 104 9 15.21	
	9500.00	90.45	0.04	7748.65	1913.09	1906.93	200.87	0.00	365980.04	596855.39	N 32 0 21.72 W 104 9 15.21	
	9600.00	90.45	0.04	7747.86	2013.02	2006.93	200.94	0.00	366080.03	596855.46	N 32 0 22.71 W 104 9 15.21	
	9700.00	90.45	0.04	7747.07	2112.95	2106.92	201.01	0.00	366180.02	596855.53	N 32 0 23.70 W 104 9 15.20	
	9800.00	90.45	0.04	7746.28	2212.88	2206.92	201.09	0.00	366280.01	596855.60	N 32 0 24.69 W 104 9 15.20	
	9900.00	90.45	0.04	7745.49	2312.81	2306.92	201.16	0.00	366380.00	596855.68	N 32 0 25.68 W 104 9 15.20	
	10000.00	90.45	0.04	7744.70	2412.74	2406.91	201.23	0.00	366479.98	596855.75	N 32 0 26.67 W 104 9 15.20	
	10100.00	90.45	0.04	7743.91	2512.67	2506.91	201.30	0.00	366579.97	596855.82	N 32 0 27.65 W 104 9 15.19	
	10200.00	90.45	0.04	7743.12	2612.60	2606.91	201.38	0.00	366679.96	596855.90	N 32 0 28.64 W 104 9 15.19	
	10300.00	90.45	0.04	7742.33	2712.53	2706.90	201.45	0.00	366779.95	596855.97	N 32 0 29.63 W 104 9 15.19	
	10400.00	90.45	0.04	7741.54	2812.46	2806.90	201.52	0.00	366879.94	596856.04	N 32 0 30.62 W 104 9 15.18	
	10500.00	90.45	0.04	7740.75	2912.39	2906.90	201.59	0.00	366979.92	596856.11	N 32 0 31.61 W 104 9 15.18	
	10600.00	90.45	0.04	7739.96	3012.32	3006.89	201.67	0.00	367079.91	596856.19	N 32 0 32.60 W 104 9 15.18	
	10700.00	90.45	0.04	7739.17	3112.25	3106.89	201.74	0.00	367179.90	596856.26	N 32 0 33.59 W 104 9 15.18	
	10800.00	90.45	0.04	7738.38	3212.18	3206.89	201.81	0.00	367279.89	596856.33	N 32 0 34.58 W 104 9 15.17	
	10900.00	90.45	0.04	7737.60	3312.11	3306.88	201.89	0.00	367379.87	596856.41	N 32 0 35.57 W 104 9 15.17	
	11000.00	90.45	0.04	7736.81	3412.04	3406.88	201.96	0.00	367479.86	596856.48	N 32 0 36.56 W 104 9 15.17	
	11100.00	90.45	0.04	7736.02	3511.97	3506.88	202.03	0.00	367579.85	596856.55	N 32 0 37.55 W 104 9 15.17	
	11200.00	90.45	0.04	7735.23	3611.90	3606.87	202.10	0.00	367679.84	596856.62	N 32 0 38.54 W 104 9 15.16	
	11300.00	90.45	0.04	7734.44	3711.83	3706.87	202.18	0.00	367779.83	596856.70	N 32 0 39.53 W 104 9 15.16	
	11400.00	90.45	0.04	7733.66	3811.76	3806.87	202.25	0.00	367879.81	596856.77	N 32 0 40.52 W 104 9 15.16	
	11500.00	90.45	0.04	7732.87	3911.69	3906.87	202.32	0.00	367979.80	596856.84	N 32 0 41.51 W 104 9 15.15	
	11600.00	90.45	0.04	7732.08	4011.62	4006.86	202.39	0.00	368079.79	596856.91	N 32 0 42.50 W 104 9 15.15	
	11700.00	90.45	0.04	7731.30	4111.55	4106.86	202.47	0.00	368179.78	596857.06	N 32 0 43.49 W 104 9 15.15	
	11800.00	90.45	0.04	7730.51	4211.48	4206.86	202.54	0.00	368279.77	596857.13	N 32 0 44.48 W 104 9 15.15	
	11900.00	90.45	0.04	7729.72	4311.41	4306.85	202.61	0.00	368379.75	596857.21	N 32 0 45.47 W 104 9 15.14	
	12000.00	90.45	0.04	7728.94	4411.34	4406.85	202.69	0.00	368479.74	596857.28	N 32 0 46.46 W 104 9 15.14	
	12100.00	90.45	0.04	7728.15	4511.27	4506.85	202.76	0.00	368579.73	596857.35	N 32 0 47.45 W 104 9 15.13	
	12200.00	90.45	0.04	7727.36	4611.20	4606.84	202.83	0.00	368679.72	596857.42	N 32 0 48.43 W 104 9 15.13	
	12300.00	90.45	0.04	7726.58	4711.13	4706.84	202.90	0.00	368779.71	596857.50	N 32 0 49.42 W 104 9 15.13	
	12400.00	90.45	0.04	7725.79	4811.06	4806.84	202.98	0.00	368879.69	596857.57	N 32 0 50.41 W 104 9 15.13	
	12500.00	90.45	0.04	7725.01	4910.99	4906.83	203.05	0.00	368979.68	596857.64	N 32 0 51.40 W 104 9 15.12	
	12600.00	90.45	0.04	7724.22	5010.92	5006.83	203.12	0.00	369079.67	596857.71	N 32 0 52.39 W 104 9 15.12	
	12700.00	90.45	0.04	7723.44	5110.85	5106.83	203.19	0.00	369179.66	596857.79	N 32 0 53.38 W 104 9 15.12	
	12800.00	90.45	0.04	7722.65	5210.78	5206.82	203.27	0.00	369279.65	596857.86	N 32 0 54.37 W 104 9 15.12	
	12900.00	90.45	0.04	7721.87	5310.71	5306.82	203.34	0.00	369379.63	596857.93	N 32 0 55.36 W 104 9 15.12	
	13000.00	90.45	0.04	7721.08	5410.64	5406.82	203.41	0.00	369479.62	596858.00	N 32 0 56.35 W 104 9 15.11	
	13100.00	90.45	0.04	7720.30	5510.57	5506.82	203.48	0.00	369579.61	596858.08	N 32 0 57.34 W 104 9 15.11	
	13200.00	90.45	0.04	7719.52	5610.50	5606.81	203.56	0.00	369679.60	596858.15	N 32 0 58.33 W 104 9 15.11	
	13300.00	90.45	0.04	7718.73	5710.43	5706.81	203.63	0.00	369779.59	596858.22	N 32 0 59.32 W 104 9 15.10	
	13400.00	90.45	0.04	7717.95	5810.36	5806.81	203.70	0.00	369879.57	596858.30	N 32 1 0.31 W 104 9 15.10	
	13500.00	90.45	0.04	7717.16	5910.29	5906.80	203.78	0.00	369979.56	596858.37	N 32 1 1.30 W 104 9 15.10	
	13600.00	90.45	0.04	7716.38	6010.22	6006.80	203.85	0.00	370079.55	596858.44	N 32 1 2.29 W 104 9 15.10	

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (RUS)	Easting (RUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	13700.00	90.45	0.04	7715.60	6110.15	6106.80	203.92	0.00	370179.54	596858.44	N 32 1 3.28 W 104 9 15.09	
	13800.00	90.45	0.04	7714.81	6210.08	6206.79	203.99	0.00	370279.53	596858.51	N 32 1 4.27 W 104 9 15.09	
	13900.00	90.45	0.04	7714.03	6310.01	6306.79	204.07	0.00	370379.51	596858.59	N 32 1 5.26 W 104 9 15.09	
	14000.00	90.45	0.04	7713.25	6409.94	6406.79	204.14	0.00	370479.50	596858.66	N 32 1 6.25 W 104 9 15.08	
	14100.00	90.45	0.04	7712.47	6509.87	6506.78	204.21	0.00	370579.49	596858.73	N 32 1 7.24 W 104 9 15.08	
	14200.00	90.45	0.04	7711.69	6609.80	6606.78	204.28	0.00	370679.48	596858.80	N 32 1 8.23 W 104 9 15.08	
	14300.00	90.45	0.04	7710.90	6709.73	6706.78	204.36	0.00	370779.47	596858.88	N 32 1 9.21 W 104 9 15.08	
	14400.00	90.45	0.04	7710.12	6809.66	6806.78	204.43	0.00	370879.45	596858.95	N 32 1 10.20 W 104 9 15.07	
Cimarex Hornsby 35												
Federal Com 10H PBHL [330' FNL, 600' FEL]	14415.51	90.45	0.04	7710.00	6825.16	6822.28	204.44	0.00	370894.96	596858.96	N 32 1 10.36 W 104 9 15.07	

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	14415.509	1/100.000	30.000	30.000		SLB_MWD-STD	Original Borehole / Cimarex Hornsby 35 Federal Com 10H