

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CONCHO ARTESIA

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

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 reverse side.

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM97136
2. Name of Operator COG OPERATING LLC Contact: MAYTE X REYES E-Mail: mreyes1@concho.com		6. If Indian, Allottee or Tribe Name
3a. Address ONE CONCHO CENTER 600 W ILLINOIS AVENUE MIDLAND, TX 79701	3b. Phone No. (include area code) Ph: 575-748-6945	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 31 T19S R31E NWNE 330FNL 1650FEL		8. Well Name and No. MARAUDE 31 FEDERAL 3H
		9. API Well No. 30-015-41569-00-X1
		10. Field and Pool, or Exploratory GATUNA CANYON
		11. County or Parish, and State EDDY COUNTY, NM

12. CHECK 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	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

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 shall 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 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.)

COG Operating LLC respectfully requests approval for the following change to the original APD.

TD MD = 13,274'
TD TVD = 8,900'

Please see attached updated well plan.

Accepted for record
NMOCD 105
6-23-14

NM OIL CONSERVATION
ARTESIA DISTRICT
JUN 20 2014

RECEIVED

Work has been completed

14. I hereby certify that the foregoing is true and correct. Electronic Submission #243417 verified by the BLM Well Information System For COG OPERATING LLC, sent to the Carlsbad Committed to AFMSS for processing by ANGEL MAYES on 05/29/2014 (14AXM0193SE)	
Name (Printed/Typed) MAYTE X REYES	Title REGULATORY ANALYST
Signature (Electronic Submission)	Date 04/25/2014

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By ACCEPTED	CHRISTOPHER WALLS Title PETROLEUM ENGINEER	Date 06/12/2014
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.

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



COG Operating LLC

Well: Marauder 31 Federal Well No. 3H
 Site: Marauder 31 Federal
 Project: Eddy County, New Mexico
 Design: rev3
 Rig: Patriot 6

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	8835.00	47.00	194.80	8763.86	-237.01	-11.14	0.00	0.00	237.24	Survey Begin 5°/100' build
2	8895.00	50.00	194.80	8803.61	-280.46	-22.61	5.00	0.00	281.33	Begin 14.42°/100' build/turn
3	9181.76	90.00	183.30	8899.99	-541.20	-60.60	14.42	-17.56	543.97	Begin 90.00° lateral
4	13274.06	90.00	183.30	8900.00	-4626.70	-296.50	0.00	0.00	4636.19	PBHL/TD

Surface Location: RKB=3447.9+18 @ 3465.90usft (Patriot 6)
 US State Plane 1927 (Exact solution)
 New Mexico East 3001

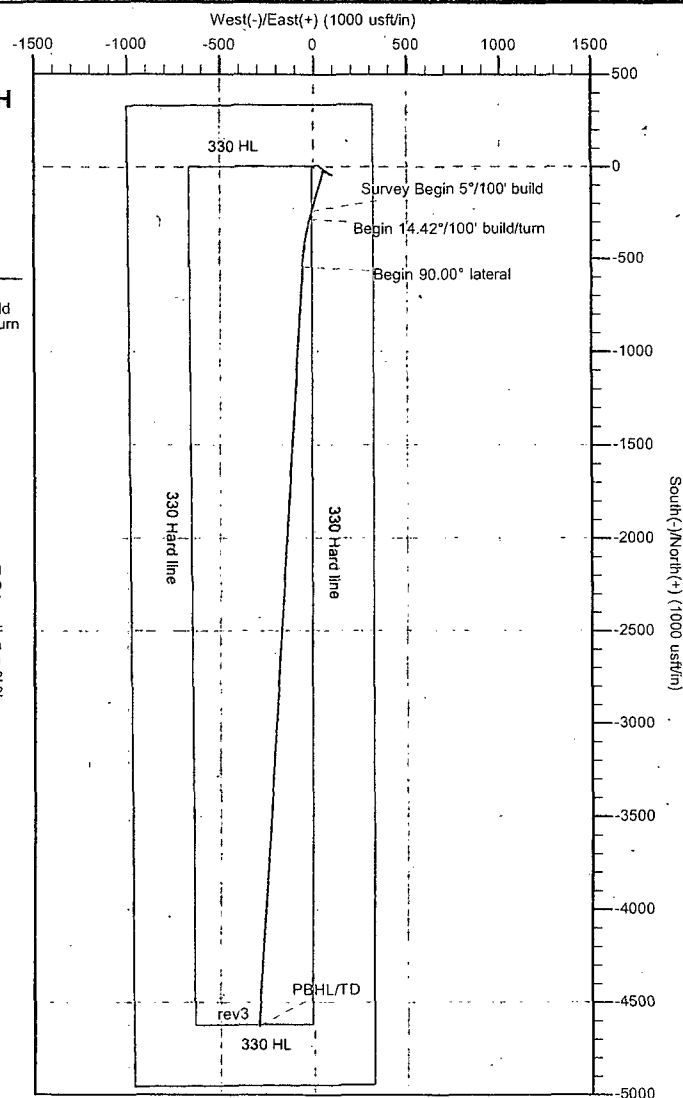
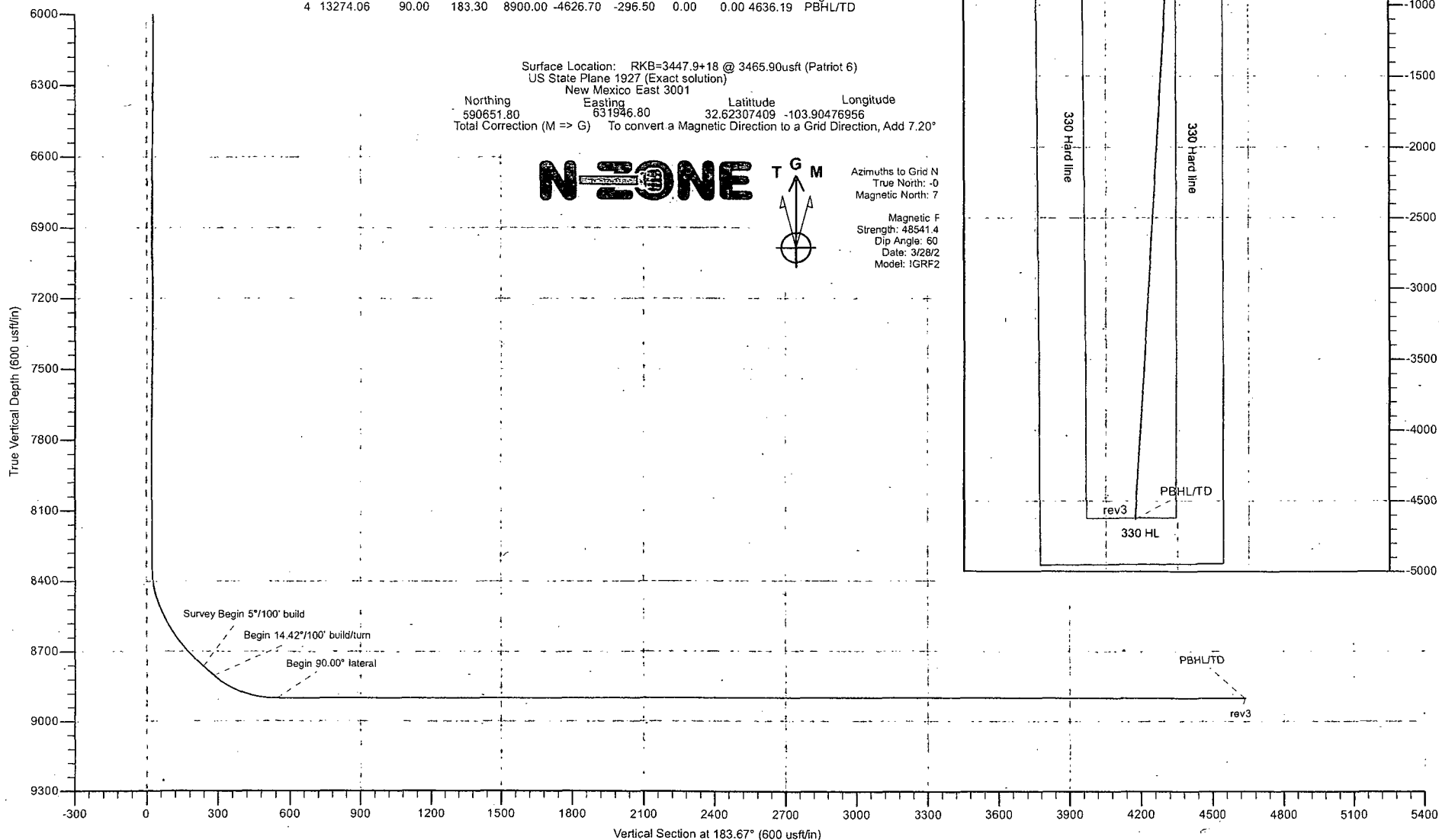
Northing: 590651.80 Easting: 631946.80 Latitude: 32.62307409 Longitude: -103.90476956
 Total Correction (M => G) To convert a Magnetic Direction to a Grid Direction, Add 7.20°

N-ZONE



Azimuths to Grid N
 True North: -0
 Magnetic North: 7

Magnetic F
 Strength: 48541.4
 Dip Angle: 60
 Date: 3/28/2
 Model: IGRF2





Standard_report

Company	COG Operating LLC	Local Co-ordinate Reference	Well Marauder 31 Federal Well No. 3H
Project	Eddy County, New Mexico	TVD Reference	RKB=3447.9+18 @ 3465.90usft (Patriot 6)
Site	Marauder 31 Federal	MD Reference	RKB=3447.9+18 @ 3465.90usft (Patriot 6)
Well	Marauder 31 Federal Well No. 3H	North Reference	Grid
Wellbore	Original Hole	Survey Calculation Method	Minimum Curvature
Design	rev3	Database	EDM 5000.1 Database

Project	Eddy County, New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Marauder 31 Federal		
Site Position:		Northing:	590,651.80 usft
From:	Map	Easting:	631,946.80 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.62307409
		Longitude:	-103.90476956
		Grid Convergence:	0.23 °

Well:	Marauder 31 Federal Well No. 3H					
Well Position	+N-S	0.00 usft	Northing:	590,651.80 usft	Latitude:	32.62307409
	+E-W	0.00 usft	Easting:	631,946.80 usft	Longitude:	-103.90476956
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft	Ground Level:	3,447.90 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/28/2014	7.43	60.43	48,541

Design:	rev3			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	8,835.00
Vertical Section	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.00	0.00	0.00	183.67



Standard_report

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Site:	Marauder 31 Federal	MD Reference:	RKB=3447.9+18 @ 3465.90usft (Patriot 6)
Well:	Marauder 31 Federal Well No. 3H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	rev3	Database:	EDM 5000.1 Database

Survey Tool Program		Date			
		4/22/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	6,300.00	Gyro (Original Hole)	NS-GYRO-MS	North sensing gyrocompassing m/s	
6,441.00	8,835.00	MWD (Original Hole)	MWD	MWD - Standard	
8,835.00	13,274.01	rev3 (Original Hole)	MWD	MWD - Standard	

Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100ft)	V. Sec (usft)	Northing (usft)	Easting (usft)	
8,835.00	47.00	194.80	8,763.86	-237.01	-11.14	0.00	237.24	590,414.79	631,935.66	
Survey Begin 5°/100' build										
8,895.00	50.00	194.80	8,803.61	-280.46	-22.61	5.00	281.33	590,371.34	631,924.19	
Begin 14.42°/100' build/turn										
8,900.00	50.69	194.52	8,806.80	-284.18	-23.59	14.42	285.11	590,367.62	631,923.21	
9,000.00	64.55	189.79	8,860.25	-366.55	-41.06	14.42	368.43	590,285.25	631,905.74	
9,100.00	78.53	186.07	8,891.84	-460.27	-53.98	14.42	462.78	590,191.53	631,892.82	
9,181.76	90.00	183.30	8,899.99	-541.20	-60.60	14.42	543.97	590,110.60	631,886.20	
Begin 90.00° lateral										
9,200.00	90.00	183.30	8,899.99	-559.42	-61.65	0.00	562.21	590,092.38	631,885.15	
9,300.00	90.00	183.30	8,899.99	-659.25	-67.41	0.00	662.21	589,992.55	631,879.39	
9,400.00	90.00	183.30	8,899.99	-759.08	-73.18	0.00	762.21	589,892.72	631,873.62	
9,500.00	90.00	183.30	8,899.99	-858.92	-78.94	0.00	862.21	589,792.88	631,867.86	
9,600.00	90.00	183.30	8,899.99	-958.75	-84.71	0.00	962.20	589,693.05	631,862.09	
9,700.00	90.00	183.30	8,899.99	-1,058.58	-90.47	0.00	1,062.20	589,593.22	631,856.33	
9,800.00	90.00	183.30	8,899.99	-1,158.42	-96.24	0.00	1,162.20	589,493.38	631,850.56	
9,900.00	90.00	183.30	8,899.99	-1,258.25	-102.00	0.00	1,262.20	589,393.55	631,844.80	
10,000.00	90.00	183.30	8,899.99	-1,358.08	-107.77	0.00	1,362.20	589,293.72	631,839.03	
10,100.00	90.00	183.30	8,899.99	-1,457.92	-113.53	0.00	1,462.19	589,193.88	631,833.27	
10,200.00	90.00	183.30	8,899.99	-1,557.75	-119.30	0.00	1,562.19	589,094.05	631,827.50	
10,300.00	90.00	183.30	8,899.99	-1,657.59	-125.06	0.00	1,662.19	588,994.21	631,821.74	



Standard_report

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Site:	Marauder 31 Federal	MD Reference:	RKB=3447.9+18 @ 3465.90usft (Patriot 6)
Well:	Marauder 31 Federal Well No. 3H	North Reference:	Grid
Wellbore:	Original Hole	Survey/Calculation Method:	Minimum Curvature
Design:	rev3	Database:	EDM 5000.1 Ddatabase

Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	D Leg (°/100ft)	V. Sec (usft)	Northing (usft)	Easting (usft)	
10,400.00	90.00	183.30	8,899.99	-1,757.42	-130.82	0.00	1,762.19	588,894.38	631,815.98	
10,500.00	90.00	183.30	8,900.00	-1,857.25	-136.59	0.00	1,862.19	588,794.55	631,810.21	
10,600.00	90.00	183.30	8,900.00	-1,957.09	-142.35	0.00	1,962.18	588,694.71	631,804.45	
10,700.00	90.00	183.30	8,900.00	-2,056.92	-148.12	0.00	2,062.18	588,594.88	631,798.68	
10,800.00	90.00	183.30	8,900.00	-2,156.75	-153.88	0.00	2,162.18	588,495.05	631,792.92	
10,900.00	90.00	183.30	8,900.00	-2,256.59	-159.65	0.00	2,262.18	588,395.21	631,787.15	
11,000.00	90.00	183.30	8,900.00	-2,356.42	-165.41	0.00	2,362.18	588,295.38	631,781.39	
11,100.00	90.00	183.30	8,900.00	-2,456.26	-171.18	0.00	2,462.17	588,195.54	631,775.62	
11,200.00	90.00	183.30	8,900.00	-2,556.09	-176.94	0.00	2,562.17	588,095.71	631,769.86	
11,300.00	90.00	183.30	8,900.00	-2,655.92	-182.70	0.00	2,662.17	587,995.88	631,764.10	
11,400.00	90.00	183.30	8,900.00	-2,755.76	-188.47	0.00	2,762.17	587,896.04	631,758.33	
11,500.00	90.00	183.30	8,900.00	-2,855.59	-194.23	0.00	2,862.17	587,796.21	631,752.57	
11,600.00	90.00	183.30	8,900.00	-2,955.42	-200.00	0.00	2,962.16	587,696.38	631,746.80	
11,700.00	90.00	183.30	8,900.00	-3,055.26	-205.76	0.00	3,062.16	587,596.54	631,741.04	
11,800.00	90.00	183.30	8,900.00	-3,155.09	-211.53	0.00	3,162.16	587,496.71	631,735.27	
11,900.00	90.00	183.30	8,900.00	-3,254.93	-217.29	0.00	3,262.16	587,396.87	631,729.51	
12,000.00	90.00	183.30	8,900.00	-3,354.76	-223.06	0.00	3,362.16	587,297.04	631,723.74	
12,100.00	90.00	183.30	8,900.00	-3,454.59	-228.82	0.00	3,462.15	587,197.21	631,717.98	
12,200.00	90.00	183.30	8,900.00	-3,554.43	-234.59	0.00	3,562.15	587,097.37	631,712.21	
12,300.00	90.00	183.30	8,900.00	-3,654.26	-240.35	0.00	3,662.15	586,997.54	631,706.45	
12,400.00	90.00	183.30	8,900.00	-3,754.09	-246.11	0.00	3,762.15	586,897.71	631,700.69	
12,500.00	90.00	183.30	8,900.00	-3,853.93	-251.88	0.00	3,862.15	586,797.87	631,694.92	
12,600.00	90.00	183.30	8,900.00	-3,953.76	-257.64	0.00	3,962.14	586,698.04	631,689.16	
12,700.00	90.00	183.30	8,900.00	-4,053.60	-263.41	0.00	4,062.14	586,598.20	631,683.39	
12,800.00	90.00	183.30	8,900.00	-4,153.43	-269.17	0.00	4,162.14	586,498.37	631,677.63	
12,900.00	90.00	183.30	8,900.00	-4,253.26	-274.94	0.00	4,262.14	586,398.54	631,671.86	
13,000.00	90.00	183.30	8,900.00	-4,353.10	-280.70	0.00	4,362.14	586,298.70	631,666.10	



Standard_report

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well Marauder 31 Federal Well No: 3H
Project:	Eddy County, New Mexico	TVD Reference:	RKB=3447.9+18 @ 3465.90usft (Patriot 6)
Site:	Marauder 31 Federal	MD Reference:	RKB=3447.9+18 @ 3465.90usft (Patriot 6)
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Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	rev3	Database:	EDM 5000.1 Ddatabase

Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100ft)	V- Sec (usft)	Northing (usft)	Easting (usft)	
13,100.00	90.00	183.30	8,900.00	-4,452.93	-286.47	0.00	4,462.13	586,198.87	631,660.33	
13,200.00	90.00	183.30	8,900.00	-4,552.76	-292.23	0.00	4,562.13	586,099.04	631,654.57	
13,274.06	90.00	183.30	8,900.00	-4,626.70	-296.50	0.00	4,636.19	586,025.10	631,650.30	
PBHL/TD										

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N-S (usft)	+E/W (usft)		
8,835.00	8,763.86	-237.01	-11.14	Survey Begin 5°/100' build	
8,895.00	8,803.61	-280.46	-22.61	Begin 14.42°/100' build/turn	
9,181.76	8,899.99	-541.20	-60.60	Begin 90.00° lateral	
13,274.06	8,900.00	-4,626.70	-296.50	PBHL/TD	