



January 13, 2015

3001542748

Concho Resources, Inc.  
One Concho Center  
600 W. Illinois Avenue  
Midland, Texas 79701

**NM OIL CONSERVATION**  
ARTESIA DISTRICT

**MAR 16 2015**

**RECEIVED**

Attn: Kanicia Castillo

**RE: Burch Keely Unit 935H**

Please find enclosed a copy of the survey from 0.00' to 4246.00' ran on the above referenced well.

If I can be of any further service, please do not hesitate to call me at 800-606-4976.

Sincerely,

Keith Havelka  
Operations

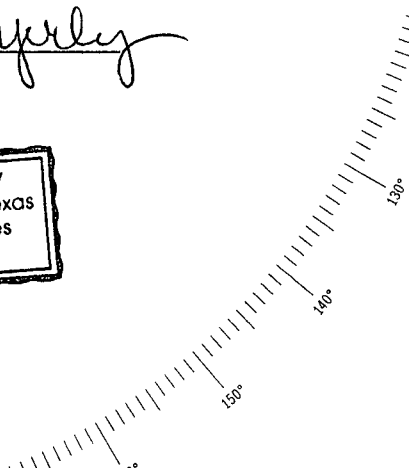
STATE OF TEXAS §

§

COUNTY OF NUECES §

This instrument was acknowledged before me on the 13 day of January A.D., 2015, by Keith Havelka.

Jennifer Ann Byerly  
Notary Public, State of Texas





Company: COG Operating  
 Lease/Well: Burch Keely Unit/935H  
 Location: S18 - T17/S - R30/E  
 Rig Name: United #43  
 State/County: New Mexico/Eddy  
 Latitude: 32.83, Longitude: -104.04  
 GRID North is 0.16 Degrees East of True North  
 VS-Azi: 0.00 Degrees



Depth Reference : RKB = 12.5 FT

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut  
 Minimum Curvature Method  
 Report Date/Time: 1/13/2015 / 14:21

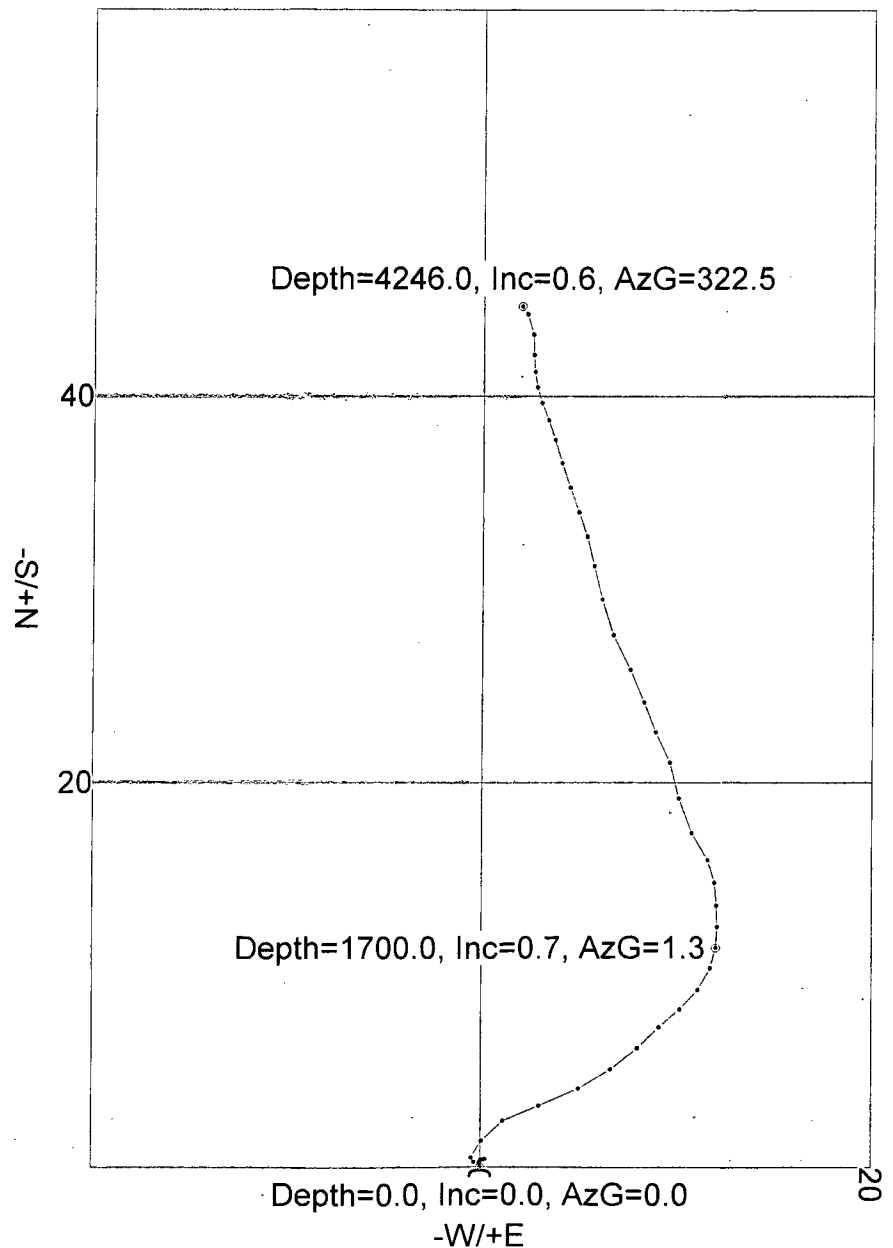
VES Survey International  
 West Texas  
 (432) 563-5444  
 Surveyor: Cody Johnson  
 Burch Keely Unit 935H / API 30-015-42748

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.25	349.26	100.00	0.22	-0.04	0.22	0.22	349.26	0.25
200.00	0.15	116.40	200.00	0.38	0.03	0.38	0.38	5.03	0.36
300.00	0.14	36.12	300.00	0.42	0.22	0.42	0.48	27.87	0.19
400.00	0.28	236.78	400.00	0.39	0.09	0.39	0.40	13.42	0.42
500.00	0.26	273.05	500.00	0.27	-0.34	0.27	0.43	308.60	0.17
600.00	0.27	21.09	600.00	0.50	-0.48	0.50	0.69	316.45	0.43
700.00	0.90	33.51	699.99	1.38	0.04	1.38	1.38	1.79	0.64
800.00	0.87	61.44	799.98	2.40	1.15	2.40	2.66	25.55	0.43
900.00	1.43	70.30	899.96	3.18	2.99	3.18	4.37	43.22	0.59
1000.00	1.14	61.23	999.93	4.08	5.04	4.08	6.49	50.99	0.35
1100.00	1.05	55.64	1099.92	5.08	6.67	5.08	8.39	52.71	0.14
1200.00	0.95	46.31	1199.90	6.17	8.03	6.17	10.13	52.45	0.19
1300.00	0.85	42.66	1299.89	7.29	9.13	7.29	11.68	51.40	0.12
1400.00	0.77	55.35	1399.88	8.21	10.18	8.21	13.08	51.11	0.19
1500.00	0.83	30.27	1499.87	9.22	11.10	9.22	14.43	50.28	0.35
1600.00	0.64	28.59	1599.86	10.34	11.74	10.34	15.64	48.61	0.19
1700.00	0.67	1.28	1699.85	11.42	12.02	11.42	16.58	46.46	0.31
1800.00	0.57	6.03	1799.85	12.51	12.09	12.51	17.39	44.02	0.11

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	0.70	351.32	1899.84	13.61	12.05	13.61	18.17	41.52	0.20
2000.00	0.68	359.68	1999.84	14.80	11.95	14.80	19.03	38.91	0.10
2100.00	0.77	328.41	2099.83	15.97	11.59	15.97	19.74	35.98	0.40
2200.00	1.11	329.92	2199.81	17.38	10.76	17.38	20.44	31.75	0.34
2300.00	1.12	349.92	2299.80	19.19	10.10	19.19	21.68	27.76	0.39
2400.00	1.09	341.90	2399.78	21.05	9.63	21.05	23.15	24.59	0.16
2500.00	0.93	327.25	2499.76	22.63	8.90	22.63	24.32	21.47	0.30
2600.00	0.99	349.69	2599.75	24.17	8.31	24.17	25.55	18.97	0.38
2700.00	1.14	326.54	2699.73	25.85	7.60	25.85	26.95	16.39	0.45
2800.00	1.16	340.90	2799.71	27.64	6.72	27.64	28.44	13.67	0.29
2900.00	1.06	345.31	2899.69	29.49	6.16	29.49	30.13	11.79	0.13
3000.00	0.99	347.53	2999.68	31.23	5.73	31.23	31.75	10.40	0.08
3100.00	0.80	344.68	3099.66	32.75	5.36	32.75	33.18	9.30	0.20
3200.00	0.74	338.14	3199.65	34.02	4.94	34.02	34.38	8.26	0.10
3300.00	0.79	341.91	3299.65	35.28	4.48	35.28	35.56	7.24	0.07
3400.00	0.75	340.29	3399.64	36.55	4.05	36.55	36.77	6.32	0.05
3500.00	0.68	347.14	3499.63	37.75	3.69	37.75	37.93	5.59	0.11
3600.00	0.57	334.50	3599.62	38.77	3.35	38.77	38.92	4.94	0.17
3700.00	0.54	342.32	3699.62	39.67	2.99	39.67	39.78	4.31	0.08
3800.00	0.42	346.28	3799.61	40.47	2.76	40.47	40.57	3.90	0.12
3900.00	0.50	355.34	3899.61	41.27	2.64	41.27	41.35	3.66	0.11
4000.00	0.50	356.86	3999.61	42.15	2.58	42.15	42.23	3.50	0.01
4100.00	0.71	359.50	4099.60	43.20	2.55	43.20	43.28	3.38	0.20
4200.00	0.61	325.65	4199.60	44.26	2.24	44.26	44.31	2.90	0.39
4246.00	0.58	322.46	4245.59	44.64	1.96	44.64	44.69	2.52	0.10



VES Survey International  
West Texas  
(432) 563-5444  
Surveyor: Cody Johnson  
Burch Keely Unit 935H / API 30-015-42748



VES Survey Date: 12/28/2014

RECEIVED

WELL NAME AND NUMBER Burch Keely Unit No. 935H  
LOCATION Section 13, T17S, R29E, Unit L, 1650 FSL, 200 FWL, Eddy County  
OPERATOR COG Operating LLC  
DRILLING CONTRACTOR United Drilling, Inc.

The undersigned hereby certifies that he is an authorized representative of the drilling contractor who drilled the above described well and had conducted deviation test and obtained the following results:

Degrees @ Depth	Degrees @ Depth	Degrees @ Depth
.5° @ 295'	18.5° @ 4576'	90.9° @ 5238'
.5° @ 450'	21.9° @ 4608'	91.4° @ 5301'
1.0° @ 744'	25.5° @ 4639'	90.1° @ 5582'
1.0° @ 1037'	28.4° @ 4671'	91.9° @ 5771'
.9° @ 1389'	31.6° @ 4702'	92.1° @ 5865'
.3° @ 1705'	34.8° @ 4734'	92.2° @ 6054'
1.0° @ 1988'	37.3° @ 4765'	90.2° @ 6149'
1.2° @ 2272'	39.8° @ 4800'	90.7° @ 6622'
1.2° @ 2586'	45.3° @ 4860'	90.9° @ 6717'
.7° @ 2900'	48.0° @ 4892'	90.8° @ 6906'
.7° @ 3214'	50.5° @ 4923'	90.9° @ 7001'
.6° @ 3500'	54.1° @ 4955'	91.5° @ 7095'
.5° @ 3848'	57.9° @ 4986'	90.9° @ 7379'
1.4° @ 4142'	62.4° @ 5018'	90.4° @ 7568'
.6° @ 4287'	66.8° @ 5049'	90.6° @ 7663'
3.9° @ 4450'	75.8° @ 5113'	90.9° @ 7758'
11.3° @ 4513'	79.9° @ 5144'	90.7° @ 7853'
15.0° @ 4545'	84.0° @ 5175'	90.9° @ 7948'

Drilling Contractor- UNITED DRILLING, INC.

By: Angel Salazar  
(Angel Salazar)

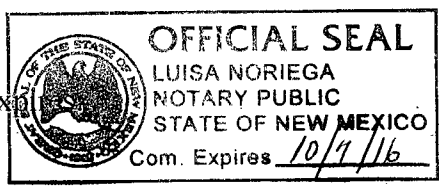
Title: Vice President

Subscribed and sworn to before me this 9<sup>th</sup> day of January 2015.

Luis Noriega  
Notary Public

Chaves NM  
County State

My Commission Expires



WELL NAME AND NUMBER Burch Keely Unit No. 935H  
 LOCATION Section 13, T17S, R29E, Unit L, 1650 FSL, 200 FWL, Eddy County  
 OPERATOR COG Operating LLC  
 DRILLING CONTRACTOR United Drilling, Inc.

The undersigned hereby certifies that he is an authorized representative of the drilling contractor who drilled the above described well and had conducted deviation test and obtained the following results:

Degrees @ Depth	Degrees @ Depth	Degrees @ Depth
91.0° @ 8042'	91.6° @ 9934'	
91.0° @ 8137'	90.9° @ 10029'	
91.2° @ 8232'		
90.2° @ 8327'		
90.3° @ 8422'		
91.2° @ 8611'		
91.5° @ 8706'		
91.6° @ 8801'		
91.8° @ 8896'		
92.0° @ 8990'		
90.4° @ 9178'		
90.0° @ 9272'		
89.8° @ 9367'		
90.3° @ 9462'		
90.0° @ 9556'		
89.9° @ 9651'		
91.0° @ 9745'		
91.7° @ 9840'		

Drilling Contractor- UNITED DRILLING, INC.

**NM OIL CONSERVATION**  
 ARTESIA DISTRICT  
 MAR 16 2015

By: *Angel Salazar*  
 (Angel Salazar)

Title: Vice President

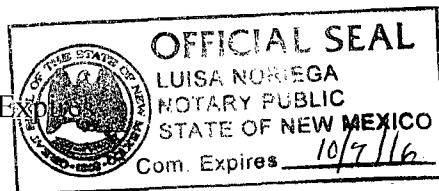
RECEIVED

Subscribed and sworn to before me this 9<sup>th</sup> day of January 2014.

*Luisa Noriega*  
 Notary Public

Chaves NM  
 County State

My Commission Expires





COG Operating LLC

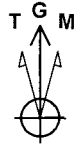
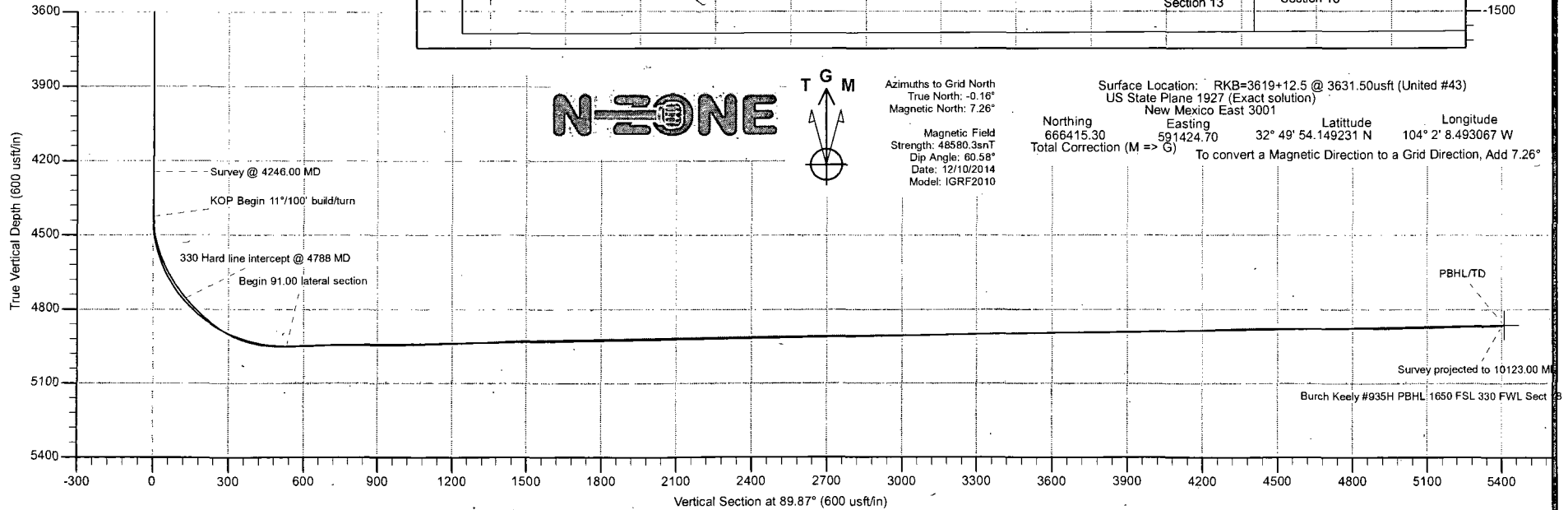
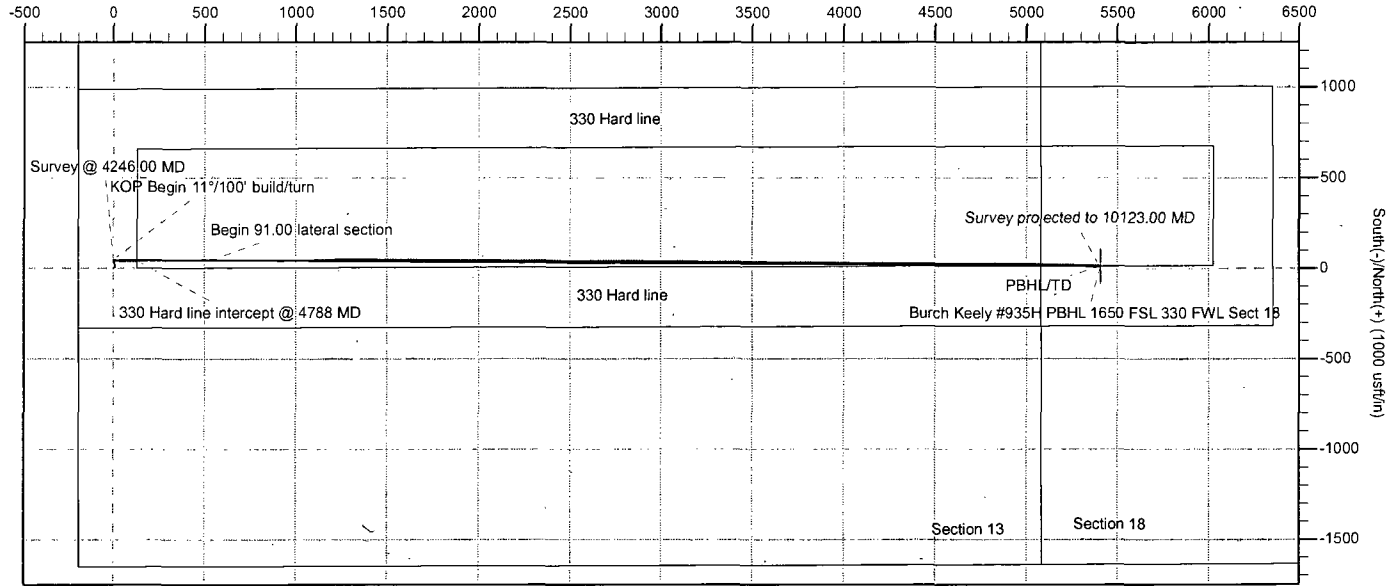
Well: Burch Keely Unit Well No. 935H  
 Site: Burch Keely  
 Project: Eddy County, New Mexico  
 Design: rev1  
 Rig: United #43

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	4246.00	0.58	322.46	4245.59	44.59	1.95	0.00	0.00	2.05	Survey @ 4246.00 MD
2	4426.42	0.58	322.46	4426.00	46.04	0.83	0.00	0.00	0.94	KOP Begin 11°/100' build/turn
3	5256.91	91.00	90.40	4950.02	46.59	530.79	11.00	127.93	530.89	Begin 91.00 lateral section
4	10136.89	91.00	90.40	4865.00	12.50	5409.90	0.00	0.00	5409.91	PBHL/TD

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Departure	Annotation
100.00	100.00	0.25	349.26	0.21	-0.04	-0.04	0.22	Gyro
4323.59	4324.00	0.40	298.40	45.03	1.47	1.57	55.36	MWD surveys
4756.52	4788.00	38.81	87.26	42.32	130.45	130.55	185.54	330 Hard line intercept @ 4788 MD
4865.22	10123.00	90.90	90.80	18.61	5400.31	5400.34	5455.63	Survey projected to 10123.00 MD



Azimuths to Grid North  
 True North: -0.16°  
 Magnetic North: 7.26°

Magnetic Field  
 Strength: 48580.3snT  
 Dip Angle: 60.58°  
 Date: 12/10/2014  
 Model: IGRF2010

Surface Location: RKB=3619+12.5 @ 3631.50usft (United #43)  
 US State Plane 1927 (Exact solution)  
 New Mexico East 3001

Northing	Easting	Latitude	Longitude
666415.30	591424.70	32° 49' 54.149231 N	104° 2' 8.493067 W
Total Correction (M => G)			

To convert a Magnetic Direction to a Grid Direction, Add 7.26°



<b>Company:</b>	COG Operating LLC	<b>Local Co-ordinate Reference:</b>	Well: Burch Keely Unit Well No: 935H
<b>Project:</b>	Eddy County, New Mexico	<b>TVD Reference:</b>	RKB=3619+12.5 @ 3631.50usft (United #43)
<b>Site:</b>	Burch Keely	<b>MD Reference:</b>	RKB=3619+12.5 @ 3631.50usft (United #43)
<b>Well:</b>	Burch Keely Unit Well No: 935H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original hole	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys Original hole	<b>Database:</b>	Dbase: Nov09:14

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

<b>Site:</b>	Burch Keely				
<b>Site Position:</b>		<b>Northing:</b>	663,867.50 usft	<b>Latitude:</b>	32° 49' 28.796714 N
<b>From:</b>	Map	<b>Easting:</b>	596,362.80 usft	<b>Longitude:</b>	104° 1' 10.707385 W
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.17 °

<b>Well:</b>	Burch Keely Unit Well No: 935H, Surf Loc: 1650, FSL 200, FWL Sect: 13					
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	666,415.30 usft	<b>Latitude:</b>	32° 49' 54.149231 N
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	591,424.70 usft	<b>Longitude:</b>	104° 2' 8.493067 W
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	3,619.00 usft

<b>Wellbore:</b>	Original hole				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
	IGRF2010	12/10/2014	(°) 7.42	(°) 60.58	(nT) 48,580

<b>Design:</b>	Surveys Original hole				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	89.87	

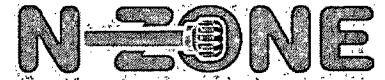
<b>Survey Program</b>	<b>Date</b>	1/6/2015		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
100.00	4,246.00	Gyro (Original hole)	NS-GYRO-MS	North sensing gyrocompassing m/s
4,324.00	10,123.00	MWD (Original hole)	MWD	MWD - Standard

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	666,415.30	591,424.70	32° 49' 54.149231 N	104° 2' 8.493067 W
100.00	0.25	349.26	100.00	0.21	-0.04	666,415.52	591,424.66	32° 49' 54.151353 N	104° 2' 8.493537 W
Gyro									
200.00	0.15	116.40	200.00	0.37	0.04	666,415.68	591,424.74	32° 49' 54.152896 N	104° 2' 8.492634 W
300.00	0.14	36.12	300.00	0.41	0.23	666,415.72	591,424.93	32° 49' 54.153292 N	104° 2' 8.490415 W
400.00	0.28	236.78	400.00	0.38	0.09	666,415.68	591,424.80	32° 49' 54.152947 N	104° 2' 8.491967 W
500.00	0.26	273.05	500.00	0.25	-0.34	666,415.56	591,424.37	32° 49' 54.151754 N	104° 2' 8.497023 W
600.00	0.27	21.09	600.00	0.49	-0.48	666,415.79	591,424.22	32° 49' 54.154053 N	104° 2' 8.498677 W
700.00	0.90	33.51	699.99	1.36	0.04	666,416.67	591,424.74	32° 49' 54.162693 N	104° 2' 8.492572 W
800.00	0.87	61.44	799.98	2.38	1.14	666,417.68	591,425.84	32° 49' 54.172734 N	104° 2' 8.479642 W
900.00	1.43	70.30	899.96	3.16	2.98	666,418.47	591,427.68	32° 49' 54.180436 N	104° 2' 8.458033 W





Survey Report - Geographic



<b>Company:</b>	COG Operating, LLC	<b>Local Co-ordinate Reference:</b>	Well Burch Keely Unit Well No. 935H
<b>Project:</b>	Eddy County, New Mexico	<b>TVD Reference:</b>	RKB=3619+12.5 @ 3631.50usft (United #43)
<b>Site:</b>	Burch Keely	<b>MD Reference:</b>	RKB=3619+12.5 @ 3631.50usft (United #43)
<b>Well:</b>	Burch Keely Unit Well No. 935H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original hole	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys Original hole	<b>Database:</b>	Dbase Nov09.14

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
1,000.00	1.14	61.23	999.93	4.06	5.03	666,419.37	591,429.73	32° 49' 54.189279 N	104° 2' 8.434016 W	
1,100.00	1.05	55.64	1,099.92	5.06	6.66	666,420.36	591,431.36	32° 49' 54.199089 N	104° 2' 8.414899 W	
1,200.00	0.95	46.31	1,199.90	6.15	8.01	666,421.45	591,432.71	32° 49' 54.209834 N	104° 2' 8.398973 W	
1,300.00	0.85	42.66	1,299.89	7.27	9.11	666,422.57	591,433.82	32° 49' 54.220867 N	104° 2' 8.386020 W	
1,400.00	0.77	55.35	1,399.88	8.19	10.17	666,423.50	591,434.87	32° 49' 54.230016 N	104° 2' 8.373620 W	
1,500.00	0.83	30.27	1,499.87	9.20	11.09	666,424.51	591,435.79	32° 49' 54.239960 N	104° 2' 8.362829 W	
1,600.00	0.64	28.59	1,599.86	10.32	11.72	666,425.62	591,436.42	32° 49' 54.250985 N	104° 2' 8.355381 W	
1,700.00	0.67	1.28	1,699.85	11.39	12.00	666,426.70	591,436.70	32° 49' 54.261614 N	104° 2' 8.352060 W	
1,800.00	0.57	6.03	1,799.85	12.47	12.06	666,427.78	591,436.77	32° 49' 54.272291 N	104° 2' 8.351259 W	
1,900.00	0.70	351.32	1,899.84	13.57	12.02	666,428.87	591,436.73	32° 49' 54.283162 N	104° 2' 8.351691 W	
2,000.00	0.68	359.68	1,999.84	14.77	11.93	666,430.07	591,436.63	32° 49' 54.295012 N	104° 2' 8.352771 W	
2,100.00	0.77	328.41	2,099.83	15.93	11.57	666,431.24	591,436.28	32° 49' 54.306558 N	104° 2' 8.356896 W	
2,200.00	1.11	329.92	2,199.81	17.34	10.74	666,432.65	591,435.44	32° 49' 54.320538 N	104° 2' 8.366665 W	
2,300.00	1.12	349.92	2,299.80	19.14	10.08	666,434.45	591,434.78	32° 49' 54.338372 N	104° 2' 8.374300 W	
2,400.00	1.09	341.90	2,399.78	21.01	9.61	666,436.31	591,434.32	32° 49' 54.356853 N	104° 2' 8.379706 W	
2,500.00	0.93	327.25	2,499.76	22.60	8.88	666,437.90	591,433.58	32° 49' 54.372573 N	104° 2' 8.388262 W	
2,600.00	0.99	349.69	2,599.75	24.13	8.29	666,439.43	591,432.99	32° 49' 54.387754 N	104° 2' 8.395169 W	
2,700.00	1.14	326.54	2,699.73	25.81	7.58	666,441.11	591,432.29	32° 49' 54.404397 N	104° 2' 8.403354 W	
2,800.00	1.16	340.90	2,799.71	27.59	6.70	666,442.90	591,431.41	32° 49' 54.422098 N	104° 2' 8.413605 W	
2,900.00	1.06	345.31	2,899.69	29.45	6.14	666,444.75	591,430.84	32° 49' 54.440433 N	104° 2' 8.420175 W	
3,000.00	0.99	347.53	2,999.68	31.18	5.72	666,446.49	591,430.42	32° 49' 54.457645 N	104° 2' 8.425053 W	
3,100.00	0.80	344.68	3,099.66	32.70	5.34	666,448.01	591,430.05	32° 49' 54.472664 N	104° 2' 8.429351 W	
3,200.00	0.74	338.14	3,199.66	33.97	4.92	666,449.28	591,429.62	32° 49' 54.485269 N	104° 2' 8.434288 W	
3,300.00	0.79	341.91	3,299.65	35.23	4.47	666,450.53	591,429.17	32° 49' 54.497697 N	104° 2' 8.439574 W	
3,400.00	0.75	340.29	3,399.64	36.50	4.03	666,451.80	591,428.73	32° 49' 54.510290 N	104° 2' 8.444627 W	
3,500.00	0.68	347.14	3,499.63	37.69	3.68	666,453.00	591,428.38	32° 49' 54.522121 N	104° 2' 8.448723 W	
3,600.00	0.57	334.50	3,599.62	38.72	3.33	666,454.03	591,428.03	32° 49' 54.532298 N	104° 2' 8.452746 W	
3,700.00	0.54	342.32	3,699.62	39.62	2.97	666,454.92	591,427.68	32° 49' 54.541193 N	104° 2' 8.456904 W	
3,800.00	0.42	346.28	3,799.62	40.42	2.74	666,455.73	591,427.45	32° 49' 54.549166 N	104° 2' 8.459573 W	
3,900.00	0.50	355.34	3,899.61	41.22	2.62	666,456.52	591,427.32	32° 49' 54.556996 N	104° 2' 8.460982 W	
4,000.00	0.50	356.86	3,999.61	42.09	2.56	666,457.39	591,427.27	32° 49' 54.565612 N	104° 2' 8.461648 W	
4,100.00	0.71	359.50	4,099.60	43.14	2.53	666,458.45	591,427.24	32° 49' 54.576054 N	104° 2' 8.461957 W	
4,200.00	0.61	325.65	4,199.60	44.20	2.23	666,459.51	591,426.93	32° 49' 54.586542 N	104° 2' 8.465506 W	
4,246.00	0.58	322.46	4,245.59	44.59	1.95	666,459.89	591,426.65	32° 49' 54.590378 N	104° 2' 8.468775 W	
4,324.00	0.40	298.40	4,323.59	45.03	1.47	666,460.33	591,426.17	32° 49' 54.594770 N	104° 2' 8.474386 W	
<b>MWD surveys</b>										
4,356.00	0.40	308.30	4,355.59	45.15	1.28	666,460.46	591,425.98	32° 49' 54.595986 N	104° 2' 8.476561 W	
4,387.00	0.40	323.40	4,386.59	45.31	1.13	666,460.61	591,425.83	32° 49' 54.597513 N	104° 2' 8.478308 W	
4,419.00	0.90	90.20	4,418.59	45.39	1.32	666,460.70	591,426.02	32° 49' 54.598387 N	104° 2' 8.476140 W	
4,450.00	3.90	90.20	4,449.56	45.39	2.61	666,460.69	591,427.32	32° 49' 54.598306 N	104° 2' 8.460927 W	
4,482.00	7.60	95.00	4,481.39	45.20	5.81	666,460.51	591,430.52	32° 49' 54.596353 N	104° 2' 8.423460 W	
4,513.00	11.30	95.90	4,511.97	44.71	10.88	666,460.02	591,435.58	32° 49' 54.591353 N	104° 2' 8.364114 W	
4,545.00	15.00	93.70	4,543.12	44.12	18.13	666,459.43	591,442.83	32° 49' 54.585316 N	104° 2' 8.279122 W	
4,576.00	18.50	92.80	4,572.80	43.62	27.05	666,458.93	591,451.75	32° 49' 54.580127 N	104° 2' 8.174614 W	
4,608.00	21.90	92.00	4,602.83	43.17	38.09	666,458.47	591,462.79	32° 49' 54.575302 N	104° 2' 8.045261 W	
4,639.00	25.50	91.90	4,631.21	42.74	50.54	666,458.05	591,475.24	32° 49' 54.570768 N	104° 2' 7.899348 W	
4,671.00	28.40	91.10	4,659.73	42.37	65.03	666,457.67	591,489.74	32° 49' 54.566658 N	104° 2' 7.729466 W	
4,702.00	31.60	91.50	4,686.57	42.01	80.53	666,457.32	591,505.23	32° 49' 54.562720 N	104° 2' 7.547890 W	
4,734.00	34.80	90.50	4,713.35	41.71	98.04	666,457.02	591,522.75	32° 49' 54.559271 N	104° 2' 7.342605 W	
4,765.00	37.30	88.80	4,738.41	41.83	116.28	666,457.14	591,540.99	32° 49' 54.559945 N	104° 2' 7.128831 W	
4,788.00	38.81	87.26	4,756.52	42.32	130.45	666,457.63	591,555.16	32° 49' 54.564400 N	104° 2' 6.962775 W	
<b>330 Hard line intercept @ 4788 MD</b>										
4,800.00	39.60	86.50	4,765.82	42.74	138.03	666,458.04	591,562.73	32° 49' 54.568276 N	104° 2' 6.874001 W	
4,828.00	42.70	85.70	4,786.90	43.99	156.40	666,459.30	591,581.11	32° 49' 54.580201 N	104° 2' 6.658553 W	
4,860.00	45.30	87.80	4,809.92	45.24	178.59	666,460.55	591,603.30	32° 49' 54.591954 N	104° 2' 6.398452 W	

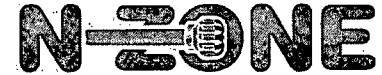


Survey Report - Geographic



<b>Company:</b>	COG Operating LLC	<b>Local Co-ordinate Reference:</b>	Well Burch Keely Unit Well No. 935H
<b>Project:</b>	Eddy County, New Mexico	<b>TVD Reference:</b>	RKB=3619+12.5 @ 3631.50usft (United #43)
<b>Site:</b>	Burch Keely	<b>MD Reference:</b>	RKB=3619+12.5 @ 3631.50usft (United #43)
<b>Well:</b>	Burch Keely Unit Well No. 935H	<b>North Reference:</b>	Grid:
<b>Wellbore:</b>	Original hole	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys Original hole	<b>Database:</b>	Dbase Nov0914

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,892.00	48.00	89.00	4,831.88	45.89	201.85	666,461.19	591,626.56	32° 49' 54.597680 N	104° 2' 6.125851 W
4,923.00	50.50	90.10	4,852.12	46.07	225.33	666,461.37	591,650.04	32° 49' 54.598807 N	104° 2' 5.850645 W
4,955.00	54.10	89.70	4,871.68	46.12	250.65	666,461.42	591,675.35	32° 49' 54.598558 N	104° 2' 5.553954 W
4,986.00	57.90	90.00	4,889.02	46.18	276.34	666,461.49	591,701.05	32° 49' 54.598490 N	104° 2' 5.252803 W
5,018.00	62.40	90.10	4,904.94	46.16	304.09	666,461.46	591,728.79	32° 49' 54.597470 N	104° 2' 4.927604 W
5,049.00	66.80	90.20	4,918.23	46.08	332.09	666,461.39	591,756.79	32° 49' 54.595957 N	104° 2' 4.599489 W
5,081.00	71.30	90.50	4,929.67	45.90	361.96	666,461.20	591,786.67	32° 49' 54.593303 N	104° 2' 4.249346 W
5,113.00	75.80	90.10	4,938.73	45.74	392.65	666,461.04	591,817.35	32° 49' 54.590867 N	104° 2' 3.889761 W
5,144.00	79.90	90.10	4,945.25	45.69	422.94	666,460.99	591,847.65	32° 49' 54.589496 N	104° 2' 3.534658 W
5,175.00	84.00	89.90	4,949.60	45.69	453.63	666,460.99	591,878.34	32° 49' 54.588639 N	104° 2' 3.174996 W
5,207.00	88.40	89.80	4,951.72	45.77	485.55	666,461.08	591,910.26	32° 49' 54.588573 N	104° 2' 2.800871 W
5,238.00	90.90	90.70	4,951.90	45.64	516.55	666,460.94	591,941.25	32° 49' 54.586365 N	104° 2' 2.437599 W
5,269.00	91.40	90.50	4,951.28	45.31	547.54	666,460.62	591,972.25	32° 49' 54.582285 N	104° 2' 2.074385 W
5,301.00	91.40	90.40	4,950.50	45.06	579.53	666,460.36	592,004.24	32° 49' 54.578902 N	104° 2' 1.699477 W
5,396.00	90.80	90.10	4,948.68	44.64	674.51	666,459.95	592,099.22	32° 49' 54.572136 N	104° 2' 0.586315 W
5,491.00	90.30	89.80	4,947.77	44.73	769.51	666,460.03	592,194.21	32° 49' 54.570288 N	104° 1' 59.472971 W
5,582.00	90.10	89.80	4,947.45	45.05	860.51	666,460.35	592,285.21	32° 49' 54.570872 N	104° 1' 58.406456 W
5,677.00	90.20	89.30	4,947.20	45.79	955.50	666,461.10	592,380.21	32° 49' 54.575581 N	104° 1' 57.293075 W
5,771.00	91.90	89.30	4,945.48	46.94	1,049.48	666,462.24	592,474.18	32° 49' 54.584295 N	104° 1' 56.191666 W
5,865.00	92.10	89.00	4,942.20	48.33	1,143.41	666,463.64	592,568.11	32° 49' 54.595436 N	104° 1' 55.090736 W
5,960.00	92.10	88.90	4,938.71	50.07	1,238.33	666,465.38	592,663.03	32° 49' 54.609970 N	104° 1' 53.978214 W
6,054.00	92.20	90.00	4,935.19	50.97	1,332.26	666,466.28	592,756.96	32° 49' 54.616238 N	104° 1' 52.877349 W
6,149.00	92.20	90.30	4,931.54	50.73	1,427.19	666,466.03	592,851.89	32° 49' 54.611094 N	104° 1' 51.764786 W
6,244.00	91.90	90.60	4,928.14	49.98	1,522.12	666,465.29	592,946.83	32° 49' 54.601026 N	104° 1' 50.652162 W
6,338.00	90.50	90.90	4,926.17	48.75	1,616.09	666,464.06	593,040.80	32° 49' 54.586190 N	104° 1' 49.550890 W
6,433.00	91.00	90.70	4,924.93	47.42	1,711.07	666,462.73	593,135.78	32° 49' 54.570370 N	104° 1' 48.437745 W
6,527.00	91.00	90.70	4,923.29	46.28	1,805.05	666,461.58	593,229.76	32° 49' 54.556339 N	104° 1' 47.336356 W
6,622.00	90.70	90.60	4,921.88	45.20	1,900.04	666,460.50	593,324.74	32° 49' 54.542975 N	104° 1' 46.223190 W
6,717.00	90.90	90.30	4,920.55	44.45	1,995.02	666,459.76	593,419.73	32° 49' 54.532888 N	104° 1' 45.109963 W
6,812.00	91.30	90.20	4,918.73	44.04	2,090.01	666,459.34	593,514.71	32° 49' 54.526081 N	104° 1' 44.000979 W
6,906.00	90.80	90.60	4,917.01	43.38	2,183.99	666,458.69	593,608.69	32° 49' 54.516908 N	104° 1' 42.895360 W
7,001.00	90.90	90.10	4,915.60	42.80	2,278.97	666,458.11	593,703.68	32° 49' 54.508454 N	104° 1' 41.782129 W
7,095.00	91.50	89.90	4,913.63	42.80	2,372.95	666,458.11	593,797.66	32° 49' 54.505768 N	104° 1' 40.680699 W
7,190.00	90.50	90.60	4,911.97	42.39	2,467.94	666,457.69	593,892.64	32° 49' 54.498949 N	104° 1' 39.567517 W
7,284.00	90.80	90.30	4,910.91	41.65	2,561.93	666,456.95	593,986.63	32° 49' 54.488952 N	104° 1' 38.465972 W
7,379.00	90.90	89.90	4,909.50	41.48	2,656.92	666,456.79	594,081.62	32° 49' 54.484589 N	104° 1' 37.352707 W
7,474.00	91.00	89.90	4,907.92	41.65	2,751.90	666,456.95	594,176.61	32° 49' 54.483504 N	104° 1' 36.239459 W
7,568.00	90.40	90.60	4,906.77	41.24	2,845.89	666,456.54	594,270.60	32° 49' 54.476745 N	104° 1' 35.137901 W
7,663.00	90.60	90.50	4,905.94	40.33	2,940.89	666,455.63	594,365.59	32° 49' 54.464991 N	104° 1' 34.024629 W
7,758.00	90.90	89.80	4,904.70	40.08	3,035.88	666,455.38	594,460.58	32° 49' 54.459796 N	104° 1' 32.911348 W
7,853.00	90.70	91.10	4,903.37	39.33	3,130.86	666,454.64	594,555.57	32° 49' 54.449677 N	104° 1' 31.798144 W
7,948.00	90.90	90.80	4,902.05	37.76	3,225.84	666,453.06	594,650.54	32° 49' 54.431353 N	104° 1' 30.685065 W
8,042.00	91.00	90.40	4,900.49	36.77	3,319.82	666,452.08	594,744.52	32° 49' 54.418901 N	104° 1' 29.583636 W
8,137.00	91.00	90.40	4,898.83	36.11	3,414.80	666,451.41	594,839.51	32° 49' 54.409595 N	104° 1' 28.470458 W
8,232.00	91.20	90.00	4,897.01	35.78	3,509.79	666,451.08	594,934.49	32° 49' 54.403566 N	104° 1' 27.357288 W
8,327.00	90.20	90.40	4,895.85	35.45	3,604.78	666,450.75	595,029.48	32° 49' 54.397534 N	104° 1' 26.244009 W
8,422.00	90.30	90.30	4,895.43	34.87	3,699.77	666,450.17	595,124.48	32° 49' 54.389039 N	104° 1' 25.130664 W
8,517.00	90.50	90.10	4,894.77	34.53	3,794.77	666,449.84	595,219.48	32° 49' 54.383001 N	104° 1' 24.017314 W
8,611.00	91.20	91.00	4,893.37	33.63	3,888.76	666,448.94	595,313.46	32° 49' 54.371345 N	104° 1' 22.915859 W
8,706.00	91.50	90.70	4,891.14	32.22	3,983.72	666,447.53	595,408.42	32° 49' 54.354643 N	104° 1' 21.802946 W
8,801.00	91.60	90.90	4,888.57	30.90	4,078.67	666,446.20	595,503.38	32° 49' 54.338759 N	104° 1' 20.690112 W
8,896.00	91.80	91.00	4,885.75	29.32	4,173.62	666,444.63	595,598.32	32° 49' 54.320415 N	104° 1' 19.577414 W
8,990.00	92.00	90.70	4,882.63	27.93	4,267.56	666,443.23	595,692.26	32° 49' 54.303885 N	104° 1' 18.476514 W
9,085.00	91.70	89.90	4,879.56	27.43	4,362.51	666,442.74	595,787.21	32° 49' 54.296195 N	104° 1' 17.363742 W
9,178.00	90.40	89.90	4,877.86	27.59	4,455.49	666,442.90	595,880.19	32° 49' 54.295084 N	104° 1' 16.273988 W



<b>Company:</b>	COG Operating LLC	<b>Local Co-ordinate Reference:</b>	Well Burch Keely Unit Well No.: 935H
<b>Project:</b>	Eddy County New Mexico	<b>TVD Reference:</b>	RKB=3619+12.5 @ 3631.50usft (United #43)
<b>Site:</b>	Burch Keely	<b>MD Reference:</b>	RKB=3619+12.5 @ 3631.50usft (United #43)
<b>Well:</b>	Burch Keely Unit Well No. 935H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original hole	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys Original hole	<b>Database:</b>	Dbase:Nov0914

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,272.00	90.00	90.00	4,877.53	27.68	4,549.49	666,442.98	595,974.19	32° 49' 54.293147 N	104° 1' 15.172319 W
9,367.00	89.80	89.90	4,877.70	27.76	4,644.49	666,443.06	596,069.19	32° 49' 54.291186 N	104° 1' 14.058923 W
9,462.00	90.30	90.50	4,877.62	27.43	4,739.49	666,442.73	596,164.19	32° 49' 54.285122 N	104° 1' 12.945555 W
9,556.00	90.00	90.50	4,877.37	26.61	4,833.48	666,441.91	596,258.18	32° 49' 54.274248 N	104° 1' 11.843955 W
9,651.00	89.90	90.00	4,877.45	26.19	4,928.48	666,441.50	596,353.18	32° 49' 54.267357 N	104° 1' 10.730588 W
9,745.00	91.00	90.90	4,876.71	25.45	5,022.47	666,440.76	596,447.18	32° 49' 54.257291 N	104° 1' 9.629034 W
9,840.00	91.70	91.00	4,874.48	23.88	5,117.43	666,439.19	596,542.14	32° 49' 54.238916 N	104° 1' 8.516163 W
9,934.00	91.60	91.50	4,871.77	21.83	5,211.37	666,437.14	596,636.07	32° 49' 54.215867 N	104° 1' 7.415281 W
10,029.00	90.90	90.80	4,869.70	19.92	5,306.33	666,435.23	596,731.03	32° 49' 54.194207 N	104° 1' 6.302456 W
10,123.00	90.90	90.80	4,868.22	18.61	5,400.31	666,433.92	596,825.01	32° 49' 54.178449 N	104° 1' 5.201070 W

Survey projected to 10123.00 MD

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
100.00	100.00	0.21	-0.04	Gyro
4,324.00	4,323.59	45.03	1.47	MWD surveys
4,788.00	4,756.52	42.32	130.45	330 Hard line intercept @ 4788 MD
10,123.00	4,868.22	18.61	5,400.31	Survey projected to 10123.00 MD