

30-015-413173



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Cimarex

Eddy County, NM (NAD 83)
(Cabrera) SEC 34_T-26-S_R-27-E
Cabrera 34 Federal #4H

OWB

Design: AWB

Survey Report - Geographic

02 July, 2019

INTREPID



Microsoft
Survey Report - Geographic



Company:	Cimarex	Local Co-ordinate Reference:	Well: Cabrera 34 Federal #4H
Project:	Eddy County, NM (NAD 83)	TVD Reference:	KB @ 3259.4usft (H&P 393)
Site:	(Cabrera) SEC 34 T-26-S R-27-E	MD Reference:	KB @ 3259.4usft (H&P 393)
Well:	Cabrera 34 Federal #4H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM 10_13

Project	Eddy County, NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	(Cabrera) SEC 34 T-26-S R-27-E		
Site Position:		Northing:	364,888.71 usft
From:	Map	Easting:	591,937.91 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 0' 10.995 N
		Longitude:	104° 10' 12.341 W
		Grid Convergence:	0.09 °

Well	Cabrera 34 Federal #4H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 0' 10.994 N
		Longitude:	104° 10' 12.573 W
		Ground Level:	3,233.4 usft

Wellbore	OWB		
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Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	User Defined	02/01/2019	7.09	59.62	47,794.00000000

Design	AWB		
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Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0

Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	269.86

Survey Program	Date: 07/02/2019		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		Description
204.0	7,124.0	Extreme MWD (OWB)	MWD+IFR1+MS
7,214.0	12,316.0	Intrepid MWD (OWB)	MWD+IFR1+MS
			OWSG MWD + IFR1 + Multi-Station Correction
			OWSG MWD + IFR1 + Multi-Station Correction

Survey										
Measured			Vertical			Map	Map			
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)			
0.0	0.00	0.00	0.0	0.0	0.0	364,888.66	591,917.91	32° 0' 10.994 N	104° 10' 12.573 W	
204.0	2.44	205.24	203.9	-3.9	-1.9	364,884.73	591,916.06	32° 0' 10.956 N	104° 10' 12.594 W	
301.0	2.72	207.73	300.8	-7.8	-3.8	364,880.82	591,914.11	32° 0' 10.917 N	104° 10' 12.617 W	
392.0	2.48	209.84	391.7	-11.5	-5.8	364,877.21	591,912.13	32° 0' 10.881 N	104° 10' 12.640 W	
482.0	1.92	221.10	481.7	-14.3	-7.7	364,874.38	591,910.17	32° 0' 10.853 N	104° 10' 12.663 W	
573.0	1.58	292.25	572.6	-15.0	-9.9	364,873.71	591,908.00	32° 0' 10.847 N	104° 10' 12.688 W	
664.0	1.93	316.32	663.6	-13.4	-12.1	364,875.29	591,905.78	32° 0' 10.862 N	104° 10' 12.714 W	
754.0	1.70	331.03	753.6	-11.1	-13.8	364,877.55	591,904.09	32° 0' 10.885 N	104° 10' 12.734 W	
940.0	1.27	348.26	939.5	-6.7	-15.6	364,881.99	591,902.33	32° 0' 10.929 N	104° 10' 12.754 W	
1,129.0	1.87	351.72	1,128.4	-1.6	-16.4	364,887.09	591,901.46	32° 0' 10.979 N	104° 10' 12.764 W	
1,224.0	1.84	2.75	1,223.4	1.5	-16.6	364,890.15	591,901.31	32° 0' 11.009 N	104° 10' 12.766 W	



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Survey Report - Geographic



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Project:	Eddy County, NM (NAD:83)	TVD Reference:	KB @ 3259.4usft (H&P:393)
Site:	(Cabrera) SEC 34-T-26-S-R-27-E	MD Reference:	KB @ 3259.4usft (H&P:393)
Well:	Cabrera 34 Federal #4H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM 10_13

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,318.0	1.93	348.73	1,317.3	4.5	-16.8	364,893.21	591,901.08	32° 0' 11.040 N	104° 10' 12.768 W
1,412.0	2.16	335.24	1,411.3	7.7	-17.9	364,896.37	591,900.03	32° 0' 11.071 N	104° 10' 12.780 W
1,503.8	2.15	333.96	1,503.0	10.8	-19.4	364,899.48	591,898.54	32° 0' 11.102 N	104° 10' 12.798 W
HL Crossing									
1,507.0	2.15	333.91	1,506.2	10.9	-19.4	364,899.59	591,898.49	32° 0' 11.103 N	104° 10' 12.798 W
1,601.0	2.42	337.55	1,600.1	14.4	-21.0	364,903.01	591,896.96	32° 0' 11.137 N	104° 10' 12.816 W
1,696.0	2.17	349	1,695.1	18.0	-21.6	364,906.66	591,896.30	32° 0' 11.173 N	104° 10' 12.824 W
1,885.0	2.62	343.05	1,883.9	25.7	-22.7	364,914.36	591,895.26	32° 0' 11.249 N	104° 10' 12.835 W
1,980.0	2.46	10.47	1,978.8	29.8	-22.9	364,918.44	591,895.00	32° 0' 11.290 N	104° 10' 12.838 W
2,147.0	2.62	25.12	2,145.6	36.8	-20.6	364,925.43	591,897.27	32° 0' 11.359 N	104° 10' 12.812 W
2,255.0	2.51	22.42	2,253.5	41.2	-18.7	364,929.85	591,899.22	32° 0' 11.402 N	104° 10' 12.789 W
2,349.0	2.63	19.61	2,347.4	45.1	-17.2	364,933.78	591,900.73	32° 0' 11.441 N	104° 10' 12.772 W
2,538.0	2.57	11.32	2,536.2	53.4	-14.9	364,942.02	591,903.02	32° 0' 11.523 N	104° 10' 12.745 W
2,633.0	3.49	6.65	2,631.1	58.3	-14.1	364,946.98	591,903.77	32° 0' 11.572 N	104° 10' 12.736 W
2,727.0	5.05	4.65	2,724.8	65.3	-13.5	364,953.95	591,904.43	32° 0' 11.641 N	104° 10' 12.728 W
2,822.0	6.91	3.09	2,819.3	75.2	-12.8	364,963.82	591,905.08	32° 0' 11.739 N	104° 10' 12.721 W
3,011.0	9.45	0.69	3,006.4	102.0	-12.0	364,990.69	591,905.88	32° 0' 12.004 N	104° 10' 12.711 W
3,199.0	11.24	0.67	3,191.3	135.8	-11.6	365,024.45	591,906.28	32° 0' 12.339 N	104° 10' 12.706 W
3,389.0	12.37	358.08	3,377.3	174.6	-12.1	365,063.31	591,905.82	32° 0' 12.723 N	104° 10' 12.710 W
3,577.0	12.72	355.30	3,560.8	215.4	-14.5	365,104.06	591,903.45	32° 0' 13.126 N	104° 10' 12.737 W
3,672.0	13.00	353.34	3,653.4	236.4	-16.6	365,125.10	591,901.35	32° 0' 13.335 N	104° 10' 12.761 W
3,766.0	11.63	355.91	3,745.3	256.4	-18.5	365,145.05	591,899.45	32° 0' 13.532 N	104° 10' 12.783 W
3,861.0	10.78	356.74	3,838.5	274.8	-19.7	365,163.47	591,898.26	32° 0' 13.714 N	104° 10' 12.796 W
3,955.0	10.25	0.34	3,930.9	292.0	-20.1	365,180.61	591,897.81	32° 0' 13.884 N	104° 10' 12.801 W
4,050.0	10.09	0.20	4,024.4	308.7	-20.0	365,197.39	591,897.89	32° 0' 14.050 N	104° 10' 12.800 W
4,144.0	10.08	358.92	4,116.9	325.2	-20.2	365,213.85	591,897.76	32° 0' 14.213 N	104° 10' 12.801 W
4,239.0	10.31	1.10	4,210.4	342.0	-20.1	365,230.66	591,897.77	32° 0' 14.379 N	104° 10' 12.801 W
4,333.0	10.54	1.69	4,302.9	359.0	-19.7	365,247.66	591,898.18	32° 0' 14.548 N	104° 10' 12.796 W
4,427.0	10.03	359.25	4,395.4	375.8	-19.6	365,264.44	591,898.33	32° 0' 14.714 N	104° 10' 12.794 W
4,522.0	9.33	357.09	4,489.0	391.7	-20.1	365,280.40	591,897.83	32° 0' 14.872 N	104° 10' 12.799 W
4,617.0	9.31	2.29	4,582.8	407.1	-20.2	365,295.77	591,897.75	32° 0' 15.024 N	104° 10' 12.800 W
4,711.0	8.78	3.13	4,675.6	421.9	-19.5	365,310.53	591,898.44	32° 0' 15.170 N	104° 10' 12.792 W
4,806.0	9.28	3.38	4,769.4	436.8	-18.6	365,325.42	591,899.29	32° 0' 15.317 N	104° 10' 12.781 W
4,900.0	9.04	2.68	4,862.2	451.7	-17.8	365,340.36	591,900.08	32° 0' 15.465 N	104° 10' 12.772 W
4,994.0	8.54	1.76	4,955.1	466.1	-17.3	365,354.72	591,900.64	32° 0' 15.607 N	104° 10' 12.765 W
5,089.0	9.47	2.40	5,048.9	480.9	-16.7	365,369.57	591,901.19	32° 0' 15.754 N	104° 10' 12.759 W
5,183.0	9.36	2.94	5,141.7	496.3	-16.0	365,384.93	591,901.90	32° 0' 15.906 N	104° 10' 12.750 W
5,277.0	9.06	2.18	5,234.5	511.3	-15.3	365,399.96	591,902.57	32° 0' 16.055 N	104° 10' 12.742 W
5,372.0	8.82	1.87	5,328.3	526.1	-14.8	365,414.72	591,903.10	32° 0' 16.201 N	104° 10' 12.736 W
5,466.0	8.65	2.14	5,421.2	540.3	-14.3	365,428.98	591,903.60	32° 0' 16.342 N	104° 10' 12.730 W
5,561.0	8.11	0.11	5,515.2	554.2	-14.0	365,442.82	591,903.88	32° 0' 16.479 N	104° 10' 12.726 W
5,655.0	6.60	6.10	5,608.4	566.2	-13.5	365,454.83	591,904.46	32° 0' 16.598 N	104° 10' 12.719 W
5,750.0	5.13	12.62	5,702.9	575.7	-11.9	365,464.40	591,905.97	32° 0' 16.692 N	104° 10' 12.701 W
5,844.0	2.88	26.22	5,796.7	582.0	-10.0	365,470.62	591,907.93	32° 0' 16.754 N	104° 10' 12.679 W
5,939.0	2.03	33.36	5,891.6	585.5	-8.0	365,474.17	591,909.91	32° 0' 16.789 N	104° 10' 12.656 W
6,128.0	1.71	22.36	6,080.5	590.9	-5.1	365,479.57	591,912.83	32° 0' 16.842 N	104° 10' 12.622 W
6,317.0	1.07	354.78	6,269.5	595.3	-4.2	365,483.94	591,913.74	32° 0' 16.886 N	104° 10' 12.611 W
6,412.0	1.10	334.20	6,364.4	597.0	-4.7	365,485.64	591,913.26	32° 0' 16.903 N	104° 10' 12.616 W
6,506.0	1.34	330.74	6,458.4	598.8	-5.6	365,487.41	591,912.33	32° 0' 16.920 N	104° 10' 12.627 W
6,600.0	1.07	308.56	6,552.4	600.3	-6.8	365,488.92	591,911.11	32° 0' 16.935 N	104° 10' 12.641 W
6,695.0	1.34	288.53	6,647.4	601.2	-8.6	365,489.82	591,909.36	32° 0' 16.944 N	104° 10' 12.662 W
6,884.0	2.03	254.07	6,836.3	601.0	-13.9	365,489.61	591,904.05	32° 0' 16.942 N	104° 10' 12.723 W
7,072.0	2.22	234.83	7,024.2	597.9	-20.0	365,486.60	591,897.87	32° 0' 16.912 N	104° 10' 12.795 W
7,124.0	2.09	234.00	7,076.1	596.8	-21.6	365,485.46	591,896.28	32° 0' 16.901 N	104° 10' 12.814 W

TIE ON/KOP



Microsoft
Survey Report - Geographic



Company:	Cimarex	Local Co-ordinate Reference:	Well: Cabrera 34 Federal #4H
Project:	Eddy County, NM (NAD 83)	TVD Reference:	KB @ 3259.4usft (H&P 393)
Site:	(Cabrera) SEC 34 T-26 S R-27-E	MD Reference:	KB @ 3259.4usft (H&P 393)
Well:	Cabrera 34 Federal #4H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM 10_13

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
7,199.0	4.13	257.82	7,151.0	595.4	-25.4	365,484.09	591,892.53	32° 0' 16.887 N	104° 10' 12.857 W
KOP @ 7199' MD									
7,214.0	4.58	259.94	7,166.0	595.2	-26.5	365,483.87	591,891.41	32° 0' 16.885 N	104° 10' 12.870 W
7,261.0	12.69	263.24	7,212.4	594.3	-33.5	365,482.93	591,884.42	32° 0' 16.876 N	104° 10' 12.951 W
7,309.0	19.45	266.61	7,258.5	593.2	-46.7	365,481.84	591,871.20	32° 0' 16.865 N	104° 10' 13.105 W
7,356.0	24.01	269.97	7,302.2	592.7	-64.1	365,481.37	591,853.81	32° 0' 16.861 N	104° 10' 13.307 W
7,403.0	28.61	270.40	7,344.3	592.8	-84.9	365,481.44	591,832.99	32° 0' 16.862 N	104° 10' 13.549 W
7,450.0	34.30	269.88	7,384.4	592.8	-109.4	365,481.49	591,808.47	32° 0' 16.863 N	104° 10' 13.834 W
7,498.0	39.23	267.78	7,422.8	592.2	-138.2	365,480.88	591,779.76	32° 0' 16.857 N	104° 10' 14.167 W
7,545.0	43.07	265.13	7,458.2	590.3	-169.0	365,478.94	591,748.91	32° 0' 16.839 N	104° 10' 14.525 W
7,593.0	48.23	263.47	7,491.7	586.8	-203.1	365,475.51	591,714.77	32° 0' 16.805 N	104° 10' 14.922 W
7,640.0	53.98	264.04	7,521.2	582.9	-239.5	365,471.54	591,678.42	32° 0' 16.766 N	104° 10' 15.344 W
7,687.0	58.37	266.45	7,547.4	579.7	-278.4	365,468.32	591,639.52	32° 0' 16.735 N	104° 10' 15.796 W
7,734.0	62.07	267.44	7,570.7	577.5	-319.1	365,466.15	591,598.79	32° 0' 16.714 N	104° 10' 16.269 W
7,782.0	67.18	266.94	7,591.3	575.4	-362.4	365,464.03	591,555.49	32° 0' 16.694 N	104° 10' 16.772 W
7,829.0	72.62	266.72	7,607.4	572.9	-406.5	365,461.58	591,511.44	32° 0' 16.670 N	104° 10' 17.284 W
7,877.0	78.09	268.78	7,619.6	571.1	-452.9	365,459.77	591,465.05	32° 0' 16.653 N	104° 10' 17.822 W
7,924.0	82.79	270.15	7,627.4	570.7	-499.2	365,459.34	591,418.72	32° 0' 16.650 N	104° 10' 18.360 W
7,971.0	86.57	270.54	7,631.7	571.0	-546.0	365,459.63	591,371.93	32° 0' 16.653 N	104° 10' 18.904 W
8,018.0	88.52	271.13	7,633.7	571.7	-592.9	365,460.31	591,324.98	32° 0' 16.661 N	104° 10' 19.449 W
8,138.0	90.56	272.15	7,634.7	575.1	-712.9	365,463.74	591,205.05	32° 0' 16.696 N	104° 10' 20.842 W
8,232.0	88.77	271.46	7,635.3	578.0	-806.8	365,466.70	591,111.10	32° 0' 16.727 N	104° 10' 21.933 W
8,327.0	87.60	271.48	7,638.3	580.5	-901.7	365,469.14	591,016.18	32° 0' 16.753 N	104° 10' 23.035 W
8,421.0	87.01	271.54	7,642.7	583.0	-995.6	365,471.62	590,922.32	32° 0' 16.778 N	104° 10' 24.125 W
8,515.0	87.96	271.85	7,646.8	585.7	-1,089.5	365,474.39	590,828.45	32° 0' 16.807 N	104° 10' 25.216 W
8,610.0	88.67	271.84	7,649.6	588.8	-1,184.4	365,477.45	590,733.54	32° 0' 16.839 N	104° 10' 26.318 W
8,705.0	89.31	272.40	7,651.3	592.3	-1,279.3	365,480.96	590,638.62	32° 0' 16.875 N	104° 10' 27.420 W
8,800.0	88.54	271.71	7,653.1	595.7	-1,374.2	365,484.37	590,543.70	32° 0' 16.910 N	104° 10' 28.522 W
8,894.0	89.15	271.28	7,655.0	598.2	-1,468.2	365,486.82	590,449.75	32° 0' 16.936 N	104° 10' 29.613 W
8,988.0	89.41	270.78	7,656.1	599.9	-1,562.1	365,488.51	590,355.77	32° 0' 16.954 N	104° 10' 30.705 W
9,083.0	90.46	270.56	7,656.2	601.0	-1,657.1	365,489.62	590,260.78	32° 0' 16.966 N	104° 10' 31.808 W
9,178.0	91.36	271.10	7,654.7	602.3	-1,752.1	365,491.00	590,165.81	32° 0' 16.981 N	104° 10' 32.911 W
9,273.0	93.28	270.71	7,650.9	603.8	-1,847.0	365,492.50	590,070.90	32° 0' 16.997 N	104° 10' 34.013 W
9,368.0	93.45	269.32	7,645.3	603.9	-1,941.8	365,492.52	589,976.07	32° 0' 16.999 N	104° 10' 35.115 W
9,463.0	93.75	268.63	7,639.3	602.2	-2,036.6	365,490.83	589,881.27	32° 0' 16.984 N	104° 10' 36.216 W
9,557.0	94.55	268.97	7,632.5	600.2	-2,130.4	365,488.86	589,787.54	32° 0' 16.965 N	104° 10' 37.304 W
9,652.0	91.90	268.56	7,627.2	598.2	-2,225.2	365,486.82	589,692.72	32° 0' 16.947 N	104° 10' 38.406 W
9,747.0	91.85	268.66	7,624.1	595.9	-2,320.1	365,484.52	589,597.80	32° 0' 16.925 N	104° 10' 39.508 W
9,841.0	91.18	268.38	7,621.6	593.4	-2,414.1	365,482.09	589,503.86	32° 0' 16.902 N	104° 10' 40.599 W
9,936.0	91.46	268.62	7,619.4	590.9	-2,509.0	365,479.60	589,408.92	32° 0' 16.879 N	104° 10' 41.702 W
10,031.0	91.75	269.14	7,616.8	589.1	-2,603.9	365,477.75	589,313.98	32° 0' 16.862 N	104° 10' 42.804 W
10,126.0	92.28	269.81	7,613.4	588.2	-2,698.9	365,476.88	589,219.04	32° 0' 16.855 N	104° 10' 43.907 W
10,221.0	92.67	269.96	7,609.3	588.0	-2,793.8	365,476.69	589,124.13	32° 0' 16.854 N	104° 10' 45.009 W
10,316.0	91.74	270.09	7,605.7	588.1	-2,888.7	365,476.73	589,029.20	32° 0' 16.856 N	104° 10' 46.112 W
10,411.0	91.60	269.63	7,602.9	587.8	-2,983.7	365,476.49	588,934.24	32° 0' 16.855 N	104° 10' 47.215 W
10,506.0	91.85	269.96	7,600.0	587.5	-3,078.6	365,476.15	588,839.28	32° 0' 16.853 N	104° 10' 48.317 W
10,601.0	90.28	270.03	7,598.3	587.5	-3,173.6	365,476.15	588,744.30	32° 0' 16.854 N	104° 10' 49.421 W
10,695.0	89.59	270.00	7,598.4	587.5	-3,267.6	365,476.17	588,650.30	32° 0' 16.856 N	104° 10' 50.512 W
10,790.0	89.99	270.62	7,598.7	588.0	-3,362.6	365,476.69	588,555.31	32° 0' 16.862 N	104° 10' 51.616 W
10,885.0	90.00	270.80	7,598.7	589.2	-3,457.6	365,477.86	588,460.31	32° 0' 16.875 N	104° 10' 52.719 W
10,980.0	90.53	271.85	7,598.3	591.4	-3,552.6	365,480.06	588,365.34	32° 0' 16.898 N	104° 10' 53.822 W
11,075.0	89.85	271.42	7,598.0	594.1	-3,647.5	365,482.77	588,270.38	32° 0' 16.927 N	104° 10' 54.924 W
11,170.0	89.44	270.92	7,598.6	596.1	-3,742.5	365,484.71	588,175.40	32° 0' 16.947 N	104° 10' 56.028 W
11,265.0	88.37	270.38	7,600.4	597.1	-3,837.5	365,485.79	588,080.43	32° 0' 16.959 N	104° 10' 57.131 W
11,359.0	87.89	269.54	7,603.4	597.1	-3,931.4	365,485.72	587,986.48	32° 0' 16.960 N	104° 10' 58.222 W



Microsoft
Survey Report - Geographic



Company:	Cimarex	Local Co-ordinate Reference:	Well, Cabrera 34 Federal #4H
Project:	Eddy County, NM (NAD 83)	TVD Reference:	KB @ 3259.4usft (H&P 393)
Site:	(Cabrera) SEC 34 T-26-S R-27-E	MD Reference:	KB @ 3259.4usft (H&P 393)
Well:	Cabrera 34 Federal #4H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM10_13

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,454.0	87.79	269.92	7,607.0	596.6	-4,026.4	365,485.27	587,891.55	32° 0' 16.957 N	104° 10' 59.324 W
11,549.0	88.19	269.88	7,610.4	596.5	-4,121.3	365,485.11	587,796.61	32° 0' 16.956 N	104° 11' 0.427 W
11,643.0	88.61	269.13	7,613.0	595.6	-4,215.3	365,484.30	587,702.65	32° 0' 16.949 N	104° 11' 1.518 W
11,738.0	89.62	269.46	7,614.4	594.5	-4,310.2	365,483.13	587,607.67	32° 0' 16.939 N	104° 11' 2.621 W
11,832.0	90.35	269.63	7,614.5	593.7	-4,404.2	365,482.38	587,513.67	32° 0' 16.933 N	104° 11' 3.713 W
11,927.0	89.36	269.35	7,614.7	592.9	-4,499.2	365,481.54	587,418.68	32° 0' 16.926 N	104° 11' 4.816 W
12,022.0	89.82	269.04	7,615.4	591.5	-4,594.2	365,480.20	587,323.69	32° 0' 16.914 N	104° 11' 5.919 W
12,116.0	90.29	268.53	7,615.3	589.5	-4,688.2	365,478.21	587,229.71	32° 0' 16.896 N	104° 11' 7.011 W
12,210.0	89.87	268.34	7,615.2	587.0	-4,782.2	365,475.64	587,135.75	32° 0' 16.872 N	104° 11' 8.102 W
12,233.0	89.95	268.48	7,615.2	586.3	-4,805.2	365,475.00	587,112.76	32° 0' 16.866 N	104° 11' 8.369 W
LAST SVY									
12,316.0	89.95	268.48	7,615.3	584.1	-4,888.1	365,472.80	587,029.79	32° 0' 16.845 N	104° 11' 9.333 W
PTD @ 12316.0' MD, 101' FWL, 403' FNL									

Design Targets									
Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude Longitude
Vertical Box (5'E, 40'V)	- actual wellpath hits target center - Rectangle (sides W45.0 H720.0 D0.0)	0.00	0.00	0.0	0.0	0.0	364,888.66	591,917.91	32° 0' 10.994 N 104° 10' 12.573 W
SHL (1108' FSL, 290')	- actual wellpath hits target center - Point	0.00	0.00	0.0	0.0	0.0	364,888.66	591,917.91	32° 0' 10.994 N 104° 10' 12.573 W
3150'VS (Cabrera #4)	- actual wellpath misses target center by 4.3usft at 10578.9usft MD (7598.4 TVD, 587.5 N, -3151.5 E) - Rectangle (sides W50.0 H1,610.0 D20.0)	2.09	89.86	7,600.0	591.5	-3,151.5	365,480.16	588,766.41	32° 0' 16.894 N 104° 10' 49.164 W
PBHL (400' FNL, 100')	- actual wellpath misses target center by 6.2usft at 12316.0usft MD (7615.3 TVD, 584.1 N, -4888.1 E) - Rectangle (sides W50.0 H1,738.0 D20.0)	-0.42	89.96	7,610.0	587.3	-4,889.2	365,475.96	587,028.69	32° 0' 16.876 N 104° 11' 9.345 W
1540'VS (Cabrera #4)	- actual wellpath misses target center by 4.2usft at 8967.3usft MD (7655.9 TVD, 599.6 N, -1541.4 E) - Rectangle (sides W50.0 H1,070.0 D20.0)	-0.80	89.86	7,655.0	595.5	-1,541.5	365,484.14	590,376.41	32° 0' 16.910 N 104° 10' 30.465 W

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,503.8	1,503.0	10.8	-19.4	HL Crossing	
7,124.0	7,076.1	596.8	-21.6	TIE ON/KOP	
7,199.0	7,151.0	595.4	-25.4	KOP @ 7199' MD	
12,233.0	7,615.2	586.3	-4,805.2	LAST SVY	
12,316.0	7,615.3	584.1	-4,888.1	PTD @ 12316.0' MD, 101' FWL, 403' FNL	

Checked By: _____ Approved By: _____ Date: _____

