

HOBBS OCD

Schlumberger

Reservoir Development
Drilling & Measurements (Extreme Engineering)
6724 Corporation Pkwy Suite 100
Forth Worth, Texas
Phone: (817)-717-1820
Fax: (817) 546-7551

SEP 15 2016

RECEIVED

August 8, 2016

Cimarex
600 N MARIENFELD STREET SUITE 600

MIDLAND, TX 79701

Re:

Sec 30, T20S, R35E Lea NM
N 32.54331 W 103.50256

CLIENT: Cimarex Energy Co.
WELL: Chief 30 State #6
FIELD: Berry; Bone Spring, North
RIG: H&P 497
COUNTY: Lea
API NO: 30-025-43292
JOB NO: 16MLD1631

Enclosed, please find the original copy of the survey performed on the referenced well by Drilling & Measurements (formerly Extreme), a division of Schlumberger Technology Corporation .
Other information required by your office is as follows.

<u>Name & Title of</u> <u>Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Troy Miller MWD	Chief 30 State #6 Original Hole	180.00 Ft to 11641.00 Ft	July 21, 2016 to August 7, 2016	Xpulse

If any other information is required, please contact the undersigned at the above letterhead and phone number.
Sincerely,

Marcus Williams
Field Service Manager

Reservoir Development

Drilling & Measurements (Extreme Engineering)

6724 Corporation Pkwy Suite 100

Forth Worth, Texas

Phone: (817)-717-1820

Fax: (817) 546-7551

Well Reference:

Sec 30, T20S, R35E Lea NM

N 32.54331 W 103.50256

I, Troy Miller certify that; I am employed by Drilling & Measurements (formerly Extreme), a division of Schlumberger Technology Corporation; that I did on the day(s) of July 21, 2016 through August 07, 2016, conduct or supervise the taking of the Xpulse surveys from a depth of 180.00 feet to a depth of 11641.00 feet referenced to driller's depth; that the data is true, correct, complete and within the limitations of the tool as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I am authorized and qualified to make this report; that this survey was conducted at the request of Cimarex Energy Co. for the Chief 30 State #6 Well (Original Hole) API No. 30-025-43292 and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation.

By  ON BEHALF OF Troy Miller
Troy Miller
MWD

Subscribed and Sworn to before me this 4th day of August (month) 2016 (yr)

My Commission expires:

September 5, 2016



Notary Public

Midland, Texas
(County State)



Borehole:	Well:	Field:	Structure:
Original Borehole	Cimarex Chief 30 State #6	NM Lea County (NAD 83)	Cimarex Chief 30 State #6

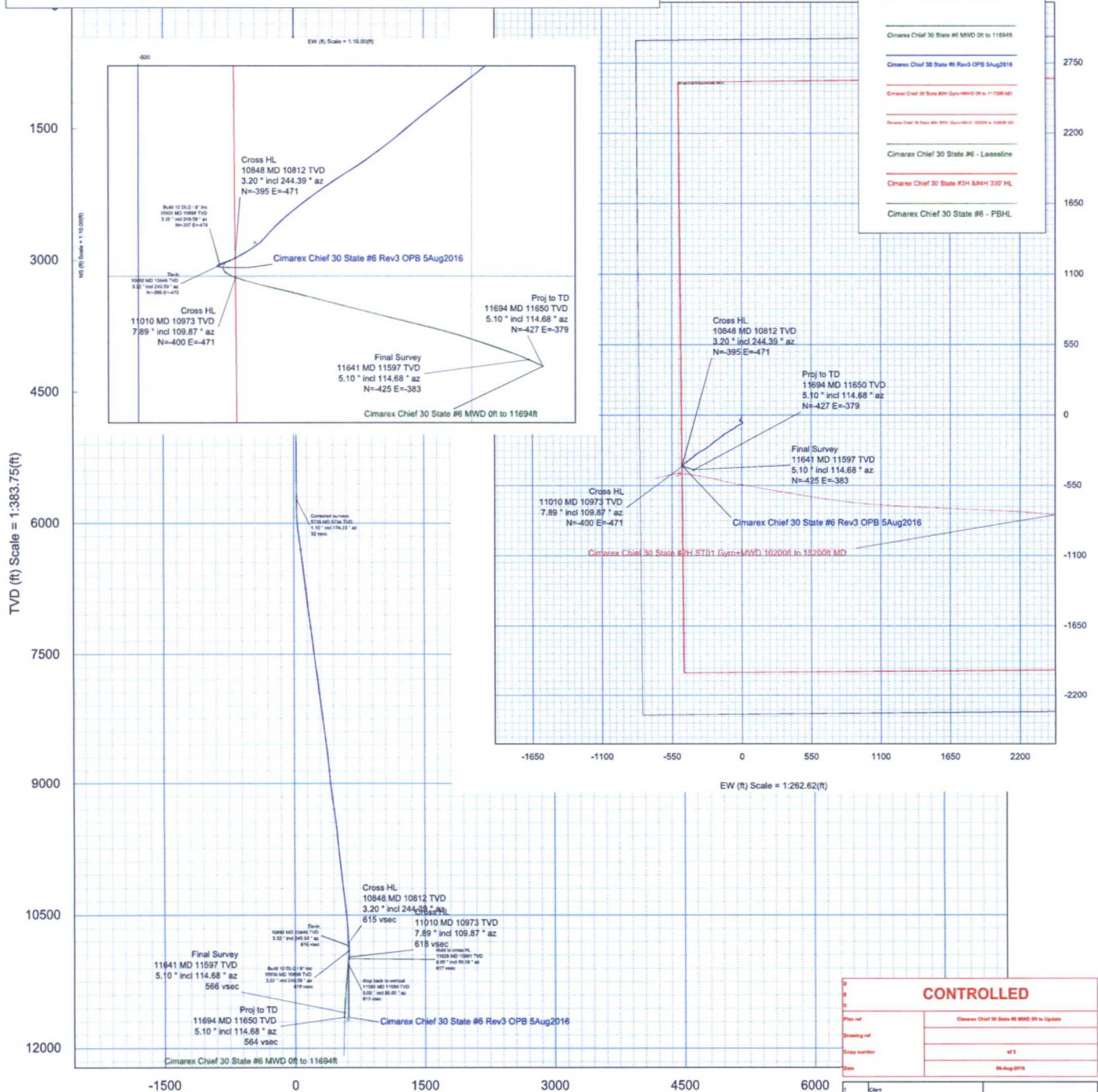
Gravity & Magnetic Parameters	Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Miscellaneous
Model: HDGM 2016 Dip: 60.55° Date: 22-Jul-2016	Lat: N 32 32 35.90	Northings: 562383.55NUS	Cimarex Chief 30 State #6
MagDec: 6.836° FS: 48397.258nT Gravity FS: 998.496mg (9.80665 Based)	Lon: W 103 30 9.23	Easting: 797339.77NUS	Slot: Cimarex Chief 30 State #6
		Grid Conv: 0.4469°	TVD Ref: RKB(3749.8ft above MSL)
		Scale Fact: 0.99998415	Plan: Cimarex Chief 30 State #6 MWD Off to Update

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)S(-)	E(+)W(-)	DLS
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Corrected surveys	5735.00	1.10	174.23	5734.18	32.29	-60.73	8.81	0.38
Cross HL	10848.00	3.19	244.39	10811.58	614.52	-394.68	-471.02	0.94
Cross HL	11010.00	7.89	109.87	10973.23	618.09	-400.40	-470.89	13.37
Final Survey	11641.00	5.10	114.68	11597.45	566.42	-424.78	-382.98	3.35
Proj to TD	11694.00	5.10	114.68	11650.24	564.41	-426.74	-378.70	0.00



Grid
True
Mag

Grid North
Tot Corr (M→G 6.389°)
Mag Dec (6.836°)
Grid Conv (0.447°)



Vertical Section (ft) Azim = 230° Scale = 1:383.75(11) Origin = 0N/-S, 0E/-W

CONTROLLED

Plan ref	Cimarex Chief 30 State #6 MWD Off to Update
Survey ref	
Copy number	of 3
Date	08-Aug-2016
1	Client
2	Client
3	Office
4	Office
Copy number	for

Cimarex Chief 30 State #6 MWD 0ft to 11694ft Survey Report

(Def Survey)

Report Date: August 08, 2016 - 09:03 AM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Chief 30 State #6 / Cimarex Chief 30 State #6
Well: Cimarex Chief 30 State #6
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Chief 30 State #6 MWD 0ft to 11694ft
Survey Date: July 22, 2016
Tort / AHD / DDI / ERD Ratio: 74.352 ° / 784.404 ft / 4.767 / 0.067
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 32' 35.89968", W 103° 30' 9.23014"
Location Grid N/E Y/X: N 562383.650 ftUS, E 797339.770 ftUS
CRS Grid Convergence Angle: 0.4469 °
Grid Scale Factor: 0.99998415
Version / Patch: 2.9.370.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 230.000 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3749.800 ft above MSL
Seabed / Ground Elevation: 3724.800 ft above MSL
Magnetic Declination: 6.836 °
Total Gravity Field Strength: 998.4964mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48397.258 nT
Magnetic Dip Angle: 60.550 °
Declination Date: July 22, 2016
Magnetic Declination Model: HDGM 2016
North Reference: Grid North
Grid Convergence Used: 0.4469 °
Total Corr Mag North->Grid North: 6.3892 °
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 ° ' ")
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	562383.65	797339.77	N 32 32 35.90	W 103 30 9.23
	180.00	0.71	169.76	180.00	0.55	-1.10	0.20	0.39	562382.55	797339.97	N 32 32 35.89	W 103 30 9.23
	240.00	1.02	169.14	239.99	1.00	-1.99	0.36	0.52	562381.66	797340.13	N 32 32 35.88	W 103 30 9.23
	384.00	1.19	175.35	383.96	2.49	-4.74	0.73	0.14	562378.91	797340.50	N 32 32 35.85	W 103 30 9.22
	481.00	1.10	171.74	480.94	3.56	-6.66	0.94	0.12	562376.99	797340.71	N 32 32 35.83	W 103 30 9.22
	574.00	0.88	172.67	573.93	4.42	-8.25	1.16	0.24	562375.40	797340.93	N 32 32 35.82	W 103 30 9.22
	665.00	0.88	172.97	664.92	5.17	-9.64	1.34	0.01	562374.01	797341.11	N 32 32 35.80	W 103 30 9.22
	754.00	0.88	179.19	753.91	5.98	-11.00	1.43	0.11	562372.65	797341.20	N 32 32 35.79	W 103 30 9.21
	846.00	0.80	179.19	845.90	6.83	-12.35	1.45	0.09	562371.30	797341.22	N 32 32 35.78	W 103 30 9.21
	939.00	1.02	188.49	938.89	7.86	-13.82	1.34	0.28	562369.83	797341.11	N 32 32 35.76	W 103 30 9.22
	1034.00	0.88	190.91	1033.87	9.06	-15.37	1.07	0.15	562368.28	797340.84	N 32 32 35.75	W 103 30 9.22
	1129.00	0.88	195.14	1128.86	10.22	-16.79	0.74	0.07	562366.86	797340.51	N 32 32 35.73	W 103 30 9.22
	1224.00	1.02	194.44	1223.85	11.51	-18.32	0.34	0.15	562365.34	797340.11	N 32 32 35.72	W 103 30 9.23
	1318.00	1.02	195.41	1317.83	12.88	-19.93	-0.09	0.02	562363.72	797339.68	N 32 32 35.70	W 103 30 9.23
	1411.00	1.02	209.68	1410.82	14.34	-21.45	-0.72	0.27	562362.20	797339.05	N 32 32 35.69	W 103 30 9.24
	1506.00	1.02	219.60	1505.80	15.96	-22.84	-1.67	0.19	562360.82	797338.10	N 32 32 35.67	W 103 30 9.25
	1655.00	1.02	217.60	1654.78	18.56	-24.91	-3.33	0.02	562358.74	797336.44	N 32 32 35.65	W 103 30 9.27
	1693.00	1.19	222.68	1692.77	19.28	-25.47	-3.80	0.52	562358.18	797335.97	N 32 32 35.65	W 103 30 9.28
	1787.00	1.10	225.90	1786.75	21.15	-26.81	-5.11	0.12	562356.84	797334.66	N 32 32 35.63	W 103 30 9.29
	1883.00	1.19	224.89	1882.74	23.06	-28.16	-6.48	0.10	562355.49	797333.29	N 32 32 35.62	W 103 30 9.31
	1977.00	1.10	237.53	1976.72	24.93	-29.33	-7.93	0.28	562354.32	797331.84	N 32 32 35.61	W 103 30 9.33
	2070.00	0.71	237.84	2069.70	26.39	-30.12	-9.17	0.42	562353.53	797330.60	N 32 32 35.60	W 103 30 9.34
	2164.00	0.62	231.54	2163.70	27.47	-30.75	-10.06	0.12	562352.90	797329.71	N 32 32 35.60	W 103 30 9.35
	2258.00	0.71	217.09	2257.69	28.55	-31.53	-10.81	0.20	562352.12	797328.96	N 32 32 35.59	W 103 30 9.36
	2352.00	0.71	218.19	2351.68	29.68	-32.45	-11.52	0.01	562351.20	797328.25	N 32 32 35.58	W 103 30 9.37
	2446.00	0.80	215.76	2445.68	30.89	-33.44	-12.26	0.10	562350.21	797327.51	N 32 32 35.57	W 103 30 9.38
	2540.00	0.88	210.48	2539.67	32.21	-34.60	-13.01	0.12	562349.06	797326.76	N 32 32 35.56	W 103 30 9.39
	2634.00	0.88	204.26	2633.66	33.54	-35.88	-13.68	0.10	562347.78	797326.09	N 32 32 35.55	W 103 30 9.39

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 ° ' ")
	2728.00	1.02	204.04	2727.64	34.94	-37.30	-14.31	0.15	562346.35	797325.46	N 32 32 35.53	W 103 30 9.40
	2822.00	0.88	203.56	2821.63	36.34	-38.72	-14.94	0.15	562344.93	797324.83	N 32 32 35.52	W 103 30 9.41
	2919.00	0.88	196.51	2918.62	37.63	-40.12	-15.45	0.11	562343.53	797324.32	N 32 32 35.50	W 103 30 9.41
	3014.00	1.10	186.42	3013.60	38.90	-41.73	-15.76	0.29	562341.92	797324.01	N 32 32 35.49	W 103 30 9.42
	3109.00	1.19	155.13	3108.59	39.81	-43.53	-15.45	0.66	562340.12	797324.32	N 32 32 35.47	W 103 30 9.41
	3202.00	1.41	144.29	3201.56	40.15	-45.33	-14.38	0.35	562338.32	797325.39	N 32 32 35.45	W 103 30 9.40
	3298.00	1.59	131.07	3297.53	40.03	-47.17	-12.68	0.41	562336.48	797327.09	N 32 32 35.43	W 103 30 9.38
	3392.00	1.72	122.52	3391.49	39.41	-48.78	-10.51	0.30	562334.87	797329.26	N 32 32 35.42	W 103 30 9.36
	3487.00	1.41	70.17	3486.46	37.88	-49.15	-8.21	1.48	562334.50	797331.56	N 32 32 35.41	W 103 30 9.33
	3581.00	1.81	57.12	3580.42	35.32	-47.95	-5.87	0.57	562335.70	797333.90	N 32 32 35.43	W 103 30 9.30
	3675.00	1.81	60.16	3674.38	32.39	-46.41	-3.34	0.10	562337.24	797336.43	N 32 32 35.44	W 103 30 9.27
	3770.00	0.49	44.30	3769.35	30.51	-45.37	-1.75	1.42	562338.28	797338.02	N 32 32 35.45	W 103 30 9.25
	3864.00	0.40	17.73	3863.35	29.83	-44.77	-1.37	0.24	562338.88	797338.40	N 32 32 35.46	W 103 30 9.25
	3958.00	0.49	15.92	3957.35	29.22	-44.07	-1.16	0.10	562339.58	797338.61	N 32 32 35.46	W 103 30 9.25
	4052.00	0.49	27.86	4051.35	28.51	-43.33	-0.86	0.11	562340.32	797338.91	N 32 32 35.47	W 103 30 9.24
	4145.00	0.31	34.56	4144.34	27.90	-42.77	-0.54	0.20	562340.88	797339.23	N 32 32 35.48	W 103 30 9.24
	4240.00	0.22	49.41	4239.34	27.47	-42.44	-0.25	0.12	562341.21	797339.52	N 32 32 35.48	W 103 30 9.24
	4334.00	0.31	80.12	4333.34	27.07	-42.28	0.14	0.18	562341.37	797339.91	N 32 32 35.48	W 103 30 9.23
	4437.00	0.48	150.89	4436.34	26.91	-42.61	0.62	0.46	562341.04	797340.39	N 32 32 35.48	W 103 30 9.23
	4522.00	0.71	154.42	4521.33	27.11	-43.40	1.02	0.27	562340.26	797340.79	N 32 32 35.47	W 103 30 9.22
	4615.00	0.88	157.73	4614.33	27.47	-44.58	1.54	0.19	562339.07	797341.31	N 32 32 35.46	W 103 30 9.22
	4709.00	0.80	160.42	4708.32	27.92	-45.86	2.03	0.09	562337.79	797341.80	N 32 32 35.45	W 103 30 9.21
	4803.00	1.02	154.51	4802.30	28.36	-47.24	2.61	0.25	562336.42	797342.38	N 32 32 35.43	W 103 30 9.20
	4896.00	0.71	149.88	4895.29	28.67	-48.48	3.26	0.34	562335.17	797343.03	N 32 32 35.42	W 103 30 9.20
	4991.00	0.80	148.30	4990.28	28.86	-49.55	3.90	0.10	562334.10	797343.67	N 32 32 35.41	W 103 30 9.19
	5085.00	0.80	149.18	5084.28	29.06	-50.68	4.58	0.01	562332.97	797344.35	N 32 32 35.40	W 103 30 9.18
	5184.00	0.80	160.11	5183.27	29.41	-51.92	5.17	0.15	562331.73	797344.94	N 32 32 35.39	W 103 30 9.17
	5277.00	0.79	153.70	5276.26	29.79	-53.11	5.68	0.10	562330.55	797345.45	N 32 32 35.37	W 103 30 9.17
	5372.00	0.88	155.81	5371.25	30.14	-54.36	6.27	0.10	562329.29	797346.04	N 32 32 35.36	W 103 30 9.16
	5468.00	1.01	152.08	5467.23	30.52	-55.78	6.97	0.15	562327.87	797346.74	N 32 32 35.35	W 103 30 9.15
	5562.00	1.19	158.04	5561.22	30.99	-57.42	7.72	0.23	562326.24	797347.49	N 32 32 35.33	W 103 30 9.15
	5601.00	1.19	157.62	5600.21	31.24	-58.17	8.02	0.02	562325.49	797347.79	N 32 32 35.32	W 103 30 9.14
	5645.00	1.19	157.62	5644.20	31.52	-59.01	8.37	0.00	562324.64	797348.14	N 32 32 35.32	W 103 30 9.14
Corrected surveys	5735.00	1.10	174.23	5734.18	32.29	-60.73	8.81	0.38	562322.92	797348.58	N 32 32 35.30	W 103 30 9.13
	5829.00	1.12	177.91	5828.16	33.36	-62.55	8.94	0.08	562321.10	797348.71	N 32 32 35.28	W 103 30 9.13
	5862.00	1.05	208.87	5861.16	33.84	-63.14	8.80	1.77	562320.51	797348.57	N 32 32 35.27	W 103 30 9.13
	5893.00	1.46	237.13	5892.15	34.50	-63.60	8.34	2.36	562320.05	797348.11	N 32 32 35.27	W 103 30 9.14
	5923.00	2.28	245.52	5922.13	35.45	-64.05	7.47	2.87	562319.60	797347.24	N 32 32 35.27	W 103 30 9.15
	5955.00	3.49	250.36	5954.09	36.98	-64.65	5.97	3.85	562319.01	797345.74	N 32 32 35.26	W 103 30 9.17
	5987.00	4.88	244.92	5986.01	39.20	-65.55	3.82	4.51	562318.10	797343.59	N 32 32 35.25	W 103 30 9.19
	6017.00	5.90	244.76	6015.87	41.93	-66.75	1.27	3.40	562316.90	797341.04	N 32 32 35.24	W 103 30 9.22
	6112.00	7.62	244.76	6110.21	52.74	-71.52	-8.84	1.81	562312.13	797330.93	N 32 32 35.19	W 103 30 9.34
	6206.00	8.23	245.53	6203.31	65.25	-76.96	-20.60	0.66	562306.69	797319.17	N 32 32 35.14	W 103 30 9.48
	6300.00	7.57	237.12	6296.42	77.88	-83.11	-31.93	1.41	562300.54	797307.85	N 32 32 35.08	W 103 30 9.61
	6393.00	6.58	229.43	6388.72	89.29	-89.90	-41.12	1.47	562293.75	797298.65	N 32 32 35.01	W 103 30 9.72
	6491.00	7.35	235.65	6485.99	101.14	-97.09	-50.56	1.10	562286.56	797289.21	N 32 32 34.94	W 103 30 9.83
	6585.00	7.47	237.03	6579.21	113.19	-103.81	-60.65	0.23	562279.84	797279.12	N 32 32 34.88	W 103 30 9.95
	6679.00	7.37	238.82	6672.42	125.21	-110.25	-70.93	0.27	562273.40	797268.84	N 32 32 34.81	W 103 30 10.07
	6773.00	7.28	237.69	6765.65	137.07	-116.56	-81.13	0.18	562267.09	797258.65	N 32 32 34.75	W 103 30 10.19
	6866.00	7.30	239.52	6857.90	148.73	-122.71	-91.20	0.25	562260.95	797248.57	N 32 32 34.69	W 103 30 10.31
	6959.00	6.95	240.23	6950.18	160.10	-128.50	-101.17	0.39	562255.16	797238.60	N 32 32 34.64	W 103 30 10.42
	7056.00	7.28	238.42	7046.44	171.95	-134.63	-111.50	0.41	562249.02	797228.27	N 32 32 34.58	W 103 30 10.54
	7150.00	7.48	240.50	7139.66	183.86	-140.76	-121.90	0.36	562242.89	797217.87	N 32 32 34.52	W 103 30 10.67
	7244.00	7.72	234.46	7232.83	196.17	-147.44	-132.37	0.89	562236.21	797207.41	N 32 32 34.45	W 103 30 10.79
	7338.00	7.79	232.57	7325.97	208.83	-154.99	-142.56	0.28	562228.67	797197.21	N 32 32 34.38	W 103 30 10.91
	7432.00	7.24	231.65	7419.17	221.12	-162.53	-152.27	0.60	562221.12	797187.51	N 32 32 34.30	W 103 30 11.02
	7527.00	7.41	232.71	7513.39	233.22	-169.96	-161.83	0.23	562213.69	797177.94	N 32 32 34.23	W 103 30 11.14

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 ° ' ")
	7620.00	7.09	232.78	7605.65	244.94	-177.06	-171.18	0.34	562206.59	797168.60	N 32 32 34.16	W 103 30 11.25
	7715.00	7.19	234.75	7699.91	256.72	-184.04	-180.70	0.28	562199.61	797159.07	N 32 32 34.09	W 103 30 11.36
	7809.00	7.36	233.33	7793.15	268.60	-191.03	-190.33	0.26	562192.62	797149.44	N 32 32 34.02	W 103 30 11.47
	7903.00	7.41	235.34	7886.37	280.64	-198.07	-200.15	0.28	562185.58	797139.63	N 32 32 33.96	W 103 30 11.59
	7998.00	8.00	235.22	7980.52	293.32	-205.33	-210.62	0.62	562178.32	797129.16	N 32 32 33.88	W 103 30 11.71
	8092.00	7.28	230.81	8073.68	305.79	-212.82	-220.60	0.99	562170.83	797119.17	N 32 32 33.81	W 103 30 11.83
	8186.00	7.56	227.60	8166.90	317.93	-220.76	-229.79	0.53	562162.90	797109.99	N 32 32 33.73	W 103 30 11.93
	8280.00	7.44	228.70	8260.09	330.19	-228.94	-238.93	0.20	562154.71	797100.85	N 32 32 33.65	W 103 30 12.04
	8374.00	7.31	233.36	8353.31	342.24	-236.53	-248.30	0.65	562147.13	797091.48	N 32 32 33.58	W 103 30 12.15
	8468.00	7.39	233.99	8446.54	354.24	-243.65	-257.98	0.12	562140.00	797081.79	N 32 32 33.51	W 103 30 12.27
	8564.00	7.60	236.83	8541.72	366.71	-250.76	-268.29	0.44	562132.90	797071.48	N 32 32 33.44	W 103 30 12.39
	8658.00	6.84	237.05	8634.98	378.43	-257.20	-278.19	0.81	562126.45	797061.58	N 32 32 33.38	W 103 30 12.50
	8752.00	6.02	233.35	8728.38	388.91	-263.19	-286.85	0.98	562120.47	797052.93	N 32 32 33.32	W 103 30 12.60
	8847.00	5.66	243.61	8822.89	398.44	-268.24	-295.04	1.16	562115.41	797044.74	N 32 32 33.27	W 103 30 12.70
	8941.00	5.42	240.69	8916.46	407.30	-272.48	-303.06	0.39	562111.18	797036.71	N 32 32 33.23	W 103 30 12.80
	9036.00	6.88	239.91	9010.91	417.32	-277.53	-311.90	1.54	562106.13	797027.88	N 32 32 33.18	W 103 30 12.90
	9130.00	7.55	242.27	9104.16	428.90	-283.22	-322.24	0.78	562100.43	797017.54	N 32 32 33.12	W 103 30 13.02
	9224.00	7.14	237.78	9197.39	440.72	-289.21	-332.64	0.75	562094.44	797007.13	N 32 32 33.06	W 103 30 13.14
	9319.00	8.51	236.00	9291.50	453.56	-296.29	-343.47	1.46	562087.36	796996.31	N 32 32 32.99	W 103 30 13.27
	9414.00	8.22	233.50	9385.49	467.33	-304.26	-354.75	0.49	562079.39	796985.02	N 32 32 32.92	W 103 30 13.40
	9508.00	6.35	231.85	9478.73	479.24	-311.47	-364.24	2.00	562072.19	796975.53	N 32 32 32.85	W 103 30 13.51
	9602.00	5.52	226.88	9572.23	488.95	-317.77	-371.63	1.04	562065.88	796968.14	N 32 32 32.78	W 103 30 13.60
	9699.00	5.56	232.40	9668.77	498.30	-323.83	-378.76	0.55	562059.83	796961.02	N 32 32 32.72	W 103 30 13.68
	9793.00	6.26	231.42	9762.27	507.97	-329.80	-386.38	0.75	562053.85	796953.40	N 32 32 32.67	W 103 30 13.77
	9887.00	6.42	230.96	9855.70	518.35	-336.31	-394.46	0.18	562047.35	796945.31	N 32 32 32.60	W 103 30 13.87
	9982.00	6.51	232.68	9950.09	529.04	-342.92	-402.87	0.22	562040.74	796936.91	N 32 32 32.54	W 103 30 13.97
	10076.00	7.00	232.30	10043.44	540.09	-349.65	-411.64	0.52	562034.00	796928.14	N 32 32 32.47	W 103 30 14.07
	10170.00	6.56	229.87	10136.78	551.18	-356.61	-420.28	0.56	562027.04	796919.50	N 32 32 32.40	W 103 30 14.17
	10264.00	6.48	233.47	10230.18	561.84	-363.23	-428.65	0.44	562020.42	796911.13	N 32 32 32.34	W 103 30 14.27
	10359.00	6.84	238.46	10324.54	572.79	-369.38	-437.78	0.72	562014.27	796902.00	N 32 32 32.28	W 103 30 14.38
	10453.00	6.58	233.85	10417.89	583.70	-375.49	-446.90	0.64	562008.17	796892.88	N 32 32 32.22	W 103 30 14.48
	10484.00	6.65	232.90	10448.69	587.27	-377.62	-449.76	0.42	562006.04	796890.02	N 32 32 32.20	W 103 30 14.52
	10516.00	6.22	231.93	10480.49	590.85	-379.81	-452.60	1.39	562003.85	796887.17	N 32 32 32.18	W 103 30 14.55
	10547.00	5.36	230.02	10511.33	593.98	-381.77	-455.04	2.84	562001.89	796884.74	N 32 32 32.16	W 103 30 14.58
	10579.00	5.01	227.69	10543.20	596.87	-383.67	-457.21	1.28	561999.98	796882.56	N 32 32 32.14	W 103 30 14.61
	10610.00	5.12	224.73	10574.07	599.60	-385.57	-459.19	0.91	561998.09	796880.59	N 32 32 32.12	W 103 30 14.63
	10642.00	4.60	220.91	10605.96	602.28	-387.55	-461.03	1.91	561996.11	796878.74	N 32 32 32.10	W 103 30 14.65
	10673.00	4.16	224.75	10636.87	604.63	-389.29	-462.64	1.70	561994.37	796877.14	N 32 32 32.08	W 103 30 14.67
	10704.00	4.02	235.16	10667.79	606.83	-390.71	-464.32	2.43	561992.95	796875.46	N 32 32 32.07	W 103 30 14.69
	10736.00	3.11	238.07	10699.73	608.81	-391.81	-465.98	2.90	561991.85	796873.80	N 32 32 32.06	W 103 30 14.71
	10767.00	2.74	239.10	10730.69	610.37	-392.63	-467.33	1.21	561991.02	796872.45	N 32 32 32.05	W 103 30 14.72
	10830.00	3.14	241.48	10793.61	613.55	-394.23	-470.14	0.66	561989.43	796869.64	N 32 32 32.04	W 103 30 14.76
Cross HL	10848.00	3.19	244.39	10811.58	614.52	-394.68	-471.02	0.94	561988.97	796868.76	N 32 32 32.03	W 103 30 14.77
	10882.00	3.32	249.59	10845.52	616.37	-395.43	-472.80	0.94	561988.22	796866.98	N 32 32 32.02	W 103 30 14.79
	10956.00	2.59	170.58	10919.45	619.24	-397.83	-474.54	5.14	561985.82	796865.24	N 32 32 32.00	W 103 30 14.81
	10987.00	5.19	123.12	10950.38	619.19	-399.29	-473.25	12.68	561984.37	796866.53	N 32 32 31.99	W 103 30 14.79
Cross HL	11010.00	7.89	109.87	10973.23	618.09	-400.40	-470.89	13.37	561983.26	796868.89	N 32 32 31.97	W 103 30 14.77
	11019.00	9.01	106.90	10982.13	617.40	-400.81	-469.63	13.37	561982.85	796870.14	N 32 32 31.97	W 103 30 14.75
	11050.00	10.10	104.40	11012.70	614.49	-402.19	-464.68	3.76	561981.47	796875.10	N 32 32 31.96	W 103 30 14.69
	11082.00	10.02	102.68	11044.21	611.17	-403.50	-459.25	0.97	561980.16	796880.53	N 32 32 31.94	W 103 30 14.63
	11113.00	9.71	103.91	11074.75	607.99	-404.72	-454.08	1.21	561978.94	796885.70	N 32 32 31.93	W 103 30 14.57
	11145.00	9.40	104.62	11106.31	604.89	-406.03	-448.93	1.04	561977.63	796890.85	N 32 32 31.92	W 103 30 14.51
	11207.00	9.32	104.31	11167.48	599.03	-408.55	-439.16	0.15	561975.11	796900.61	N 32 32 31.89	W 103 30 14.40
	11302.00	8.79	103.61	11261.30	590.24	-412.16	-424.66	0.57	561971.50	796915.12	N 32 32 31.85	W 103 30 14.23
	11396.00	7.78	104.09	11354.32	582.24	-415.40	-411.50	1.08	561968.26	796928.27	N 32 32 31.82	W 103 30 14.07
	11490.00	7.38	108.00	11447.50	575.31	-418.81	-399.59	0.69	561964.85	796940.19	N 32 32 31.79	W 103 30 13.94
	11585.00	6.90	109.58	11541.76	569.19	-422.61	-388.41	0.55	561961.05	796951.36	N 32 32 31.75	W 103 30 13.81
Final Survey	11641.00	5.10	114.68	11597.45	566.42	-424.78	-382.98	3.35	561958.88	796956.80	N 32 32 31.73	W 103 30 13.74

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 ° ' ")
Proj to TD	11694.00	5.10	114.68	11650.24	564.41	-426.74	-378.70	0.00	561956.91	796961.08	N 32 32 31.71	W 103 30 13.69

Survey Type: Def Survey

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)	Survey Tool Type	Borehole / Survey
	1	0.000	25.000	1/98.425	30.000	30.000	NAL_MWD_PLUS_0.5_DEG- Depth Only	Original Borehole / Cimarex Chief 30 State #6 MWD 0ft to11694ft
	1	25.000	25.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG- Depth Only	Original Borehole / Cimarex Chief 30 State #6 MWD 0ft to11694ft
	1	25.000	5645.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Cimarex Chief 30 State #6 MWD 0ft to11694ft
	1	5645.000	10882.000	Act Stns	30.000	30.000	NAL_MWD_HDGM+MS	Original Borehole / Cimarex Chief 30 State #6 MWD 0ft to11694ft
	1	10882.000	11694.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Cimarex Chief 30 State #6 MWD 0ft to11694ft