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30.015-44697

Schlumberger

Cimarex DaVinci 7-18 Federal Com #9H Surcon Corrected 0ft-19984ft Final Survey Geodetic Report (Def Survey)

CIMAREX

Report Date: July 05, 2018 - 11:22 AM
Client: Cimarex
Field: NM Eddy County (NAD 83)
Structure / Slot: Cimarex DaVinci 7-18 Federal Com #9H / Cimarex DaVinci 7-18 Federal Com #9H
Well: Davinci 7-18 Federal Com 9H
Borehole: Davinci 7-18 Federal Com 9H
UW / API#: Unknown / Unknown
Survey Name: Cimarex DaVinci 7-18 Federal Com #9H Surcon Corrected 0ft-19984ft
Survey Date: July 05, 2018
Tort / AHD / DDI / ERD Ratio: 245.497' / 11192.971' R / 6.751' / 1.148
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 9' 10.43513", W 104° 14' 4.54526"
Location Grid N/E Y/X: N 419373.860 RUS, E 571894.030 RUS
CRS Grid Convergence Angle: 0.0525°
Grid Scale Factor: 0.99991018
Version / Patch: 2.10.715.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.965° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3305.100 ft above MSL
Seabed / Ground Elevation: 3279.100 ft above MSL
Magnetic Declination: 7.372°
Total Gravity Field Strength: 998.4380mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47904.509 nT
Magnetic Dip Angle: 59.844°
Declination Date: July 05, 2018
Magnetic Declination Model: HDGM 2018
North Reference: Grid North
Grid Convergence Used: 0.0525°
Total Corr Mag North→Grid: 7.3199°
North:
Local Coord Referenced To: Well Head

NM OIL CONSERVATION
ARTESIA DISTRICT

JAN 24 2019

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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 [410' FSL, 1050' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	419373.88	571894.03	N 32° 9' 10.44"	W 104° 14' 4.55"
	181.00	1.69	121.44	180.97	1.39	-1.39	2.28	0.93	419372.47	571896.31	N 32° 9' 10.42"	W 104° 14' 4.52"
	242.00	2.01	124.73	241.94	2.47	-2.47	3.92	0.55	419371.39	571897.95	N 32° 9' 10.41"	W 104° 14' 4.50"
	302.00	1.95	125.96	301.91	3.67	-3.67	5.61	0.12	419370.19	571899.64	N 32° 9' 10.40"	W 104° 14' 4.48"
	393.00	1.88	128.63	392.86	5.52	-5.51	8.03	0.12	419368.35	571902.06	N 32° 9' 10.38"	W 104° 14' 4.45"
	412.00	1.83	129.25	411.85	5.90	-5.90	8.51	0.28	419367.96	571902.54	N 32° 9' 10.38"	W 104° 14' 4.45"
	484.00	1.96	126.05	483.81	7.36	-7.35	10.40	0.23	419366.51	571904.43	N 32° 9' 10.36"	W 104° 14' 4.42"
	574.00	2.01	126.11	573.75	9.19	-9.19	12.92	0.06	419364.68	571906.95	N 32° 9' 10.34"	W 104° 14' 4.40"
	666.00	1.29	138.58	665.71	10.92	-10.91	14.91	0.87	419362.95	571908.94	N 32° 9' 10.33"	W 104° 14' 4.37"
	755.00	0.69	177.26	754.70	12.21	-12.20	15.59	0.97	419361.66	571909.82	N 32° 9' 10.31"	W 104° 14' 4.38"
	846.00	0.88	178.82	845.69	13.53	-13.52	15.66	0.32	419360.34	571909.69	N 32° 9' 10.30"	W 104° 14' 4.36"
	941.00	0.96	176.64	940.68	15.14	-15.13	15.76	0.02	419358.73	571909.78	N 32° 9' 10.29"	W 104° 14' 4.36"
	1035.00	1.10	292.76	1034.67	15.58	-15.57	14.97	1.86	419358.30	571909.00	N 32° 9' 10.28"	W 104° 14' 4.37"
	1129.00	0.93	283.38	1128.65	15.05	-15.04	13.40	0.25	419358.82	571907.42	N 32° 9' 10.29"	W 104° 14' 4.39"
	1224.00	0.17	256.72	1223.65	14.90	-14.89	12.51	0.82	419358.97	571906.54	N 32° 9' 10.29"	W 104° 14' 4.40"
	1318.00	0.71	71.81	1317.65	14.75	-14.74	12.93	0.94	419359.12	571906.96	N 32° 9' 10.29"	W 104° 14' 4.40"
	1412.00	1.29	41.43	1411.63	13.78	-13.77	14.18	0.82	419360.09	571908.21	N 32° 9' 10.30"	W 104° 14' 4.38"
	1506.00	1.33	316.18	1505.62	12.20	-12.19	14.12	1.89	419361.87	571908.15	N 32° 9' 10.31"	W 104° 14' 4.38"
	1601.00	1.39	314.90	1600.59	10.59	-10.58	12.54	0.07	419363.28	571906.57	N 32° 9' 10.33"	W 104° 14' 4.40"
	1695.00	1.64	308.61	1694.56	8.88	-8.87	10.66	0.35	419364.89	571904.69	N 32° 9' 10.35"	W 104° 14' 4.42"
	1884.00	1.92	264.48	1883.47	7.67	-7.66	5.33	0.69	419366.20	571899.38	N 32° 9' 10.36"	W 104° 14' 4.48"
	2069.00	2.38	261.10	2068.34	8.56	-8.56	-1.54	0.26	419365.30	571892.49	N 32° 9' 10.35"	W 104° 14' 4.56"
	2163.00	2.19	263.29	2162.27	9.07	-9.07	-5.26	0.22	419364.79	571888.77	N 32° 9' 10.35"	W 104° 14' 4.61"
	2257.00	3.12	261.12	2256.17	9.87	-9.87	-9.57	0.99	419364.19	571884.46	N 32° 9' 10.34"	W 104° 14' 4.68"
	2352.00	4.52	264.15	2350.95	10.44	-10.45	-15.85	1.49	419363.41	571878.18	N 32° 9' 10.33"	W 104° 14' 4.73"
	2446.00	5.79	264.59	2444.57	11.26	-11.26	-24.25	1.35	419362.58	571869.78	N 32° 9' 10.32"	W 104° 14' 4.83"
	2540.00	7.32	260.37	2537.95	12.71	-12.73	-34.88	1.71	419361.13	571859.18	N 32° 9' 10.31"	W 104° 14' 4.95"
	2634.00	7.40	259.07	2631.18	14.85	-14.88	-48.72	0.20	419358.98	571847.31	N 32° 9' 10.29"	W 104° 14' 5.09"
	2728.00	7.70	258.25	2724.36	17.27	-17.31	-58.83	0.34	419356.55	571835.20	N 32° 9' 10.28"	W 104° 14' 5.23"
	2822.00	7.54	255.90	2817.53	20.05	-20.09	-70.98	0.37	419353.77	571823.06	N 32° 9' 10.24"	W 104° 14' 5.37"
	2916.00	7.07	255.40	2910.77	23.00	-23.05	-82.56	0.50	419350.81	571811.48	N 32° 9' 10.21"	W 104° 14' 5.51"
	3010.00	7.10	251.37	3004.05	26.31	-26.37	-93.66	0.53	419347.50	571800.38	N 32° 9' 10.18"	W 104° 14' 5.63"
	3105.00	7.13	253.87	3098.32	29.82	-29.88	-104.89	0.33	419343.98	571789.15	N 32° 9' 10.14"	W 104° 14' 5.77"
	3199.00	7.25	252.98	3191.58	33.17	-33.24	-116.17	0.17	419340.63	571777.88	N 32° 9' 10.11"	W 104° 14' 5.90"
	3293.00	7.09	251.69	3284.85	36.72	-36.80	-127.34	0.24	419337.07	571766.70	N 32° 9' 10.07"	W 104° 14' 6.03"
	3388.00	7.02	251.23	3379.13	40.42	-40.51	-138.41	0.09	419333.38	571755.64	N 32° 9' 10.04"	W 104° 14' 6.16"
	3482.00	6.89	250.98	3472.44	44.10	-44.19	-149.18	0.14	419329.67	571744.87	N 32° 9' 10.00"	W 104° 14' 6.28"
	3576.00	6.66	247.63	3565.78	48.01	-48.10	-159.55	0.49	419325.78	571734.50	N 32° 9' 9.96"	W 104° 14' 6.40"
	3671.00	6.99	255.59	3660.11	51.54	-51.64	-170.24	1.05	419322.23	571723.80	N 32° 9' 9.93"	W 104° 14' 6.53"
	3765.00	6.70	255.89	3753.44	54.29	-54.40	-181.10	0.31	419318.47	571712.95	N 32° 9' 9.80"	W 104° 14' 6.65"
	3859.00	6.53	252.45	3846.81	57.23	-57.35	-191.51	0.46	419316.52	571702.53	N 32° 9' 9.87"	W 104° 14' 6.77"
	3954.00	7.54	250.25	3941.10	60.96	-61.08	-202.53	1.10	419312.78	571691.52	N 32° 9' 9.83"	W 104° 14' 6.90"
	4048.00	7.03	248.30	4034.34	65.35	-65.48	-213.60	0.76	419308.98	571680.45	N 32° 9' 9.79"	W 104° 14' 7.03"
	4142.00	5.93	244.82	4127.74	69.72	-69.86	-223.26	1.18	419304.01	571670.79	N 32° 9' 9.75"	W 104° 14' 7.14"
	4237.00	6.71	245.42	4222.16	74.11	-74.25	-232.75	0.82	419299.61	571661.30	N 32° 9' 9.70"	W 104° 14' 7.25"
	4331.00	6.33	245.14	4315.55	78.57	-78.72	-242.45	0.41	419295.15	571651.60	N 32° 9' 9.68"	W 104° 14' 7.37"
	4425.00	5.85	244.06	4409.02	82.84	-82.99	-251.46	0.52	419290.88	571642.60	N 32° 9' 9.62"	W 104° 14' 7.47"
	4519.00	6.92	245.73	4502.44	87.25	-87.41	-260.93	1.16	419286.45	571633.13	N 32° 9' 9.57"	W 104° 14' 7.58"
	4614.00	7.18	254.03	4596.72	91.23	-91.40	-271.85	1.11	419282.47	571622.20	N 32° 9' 9.53"	W 104° 14' 7.71"
	4708.00	6.67	252.34	4690.03	94.50	-94.67	-282.70	0.58	419279.20	571611.35	N 32° 9' 9.50"	W 104° 14' 7.83"
	4803.00	6.42	251.10	4784.42	97.89	-98.07	-292.98	0.30	419275.80	571601.07	N 32° 9' 9.47"	W 104° 14' 7.95"
	4897.00	7.81	255.31	4877.69	101.20	-101.39	-304.14	1.58	419272.48	571589.92	N 32° 9' 9.43"	W 104° 14' 8.08"
	4991.00	7.80	255.85	4970.81	104.39	-104.59	-316.58	0.12	419269.28	571577.48	N 32° 9' 9.40"	W 104° 14' 8.23"
	5085.00	6.95	251.25	5064.02	107.79	-107.99	-328.23	1.19	419265.88	571565.83	N 32° 9' 9.37"	W 104° 14' 8.36"
	5180.00	7.45	258.37	5158.27	110.88	-111.08	-339.70	1.08	419262.79	571554.36	N 32° 9' 9.34"	W 104° 14' 8.50"
	5274.00	7.10	257.71	5251.52	113.33	-113.55	-351.35	0.38	419260.32	571542.71	N 32° 9' 9.31"	W 104° 14' 8.63"
	5368.00	6.82	255.67	5344.82	115.95	-116.17	-362.43	0.40	419257.70	571531.63	N 32° 9' 9.29"	W 104° 14' 8.76"
	5462.00	6.96	258.10	5438.14	118.49	-118.72	-373.41	0.34	419255.15	571520.65	N 32° 9' 9.26"	W 104° 14' 8.89"
	5557.00	6.67	256.97	5532.47	120.92	-121.15	-384.42	0.34	419252.72	571509.65	N 32° 9' 9.24"	W 104° 14' 9.02"
	5651.00	7.29	261.74	5625.78	123.00	-123.24	-395.64	0.90	419250.63	571498.43	N 32° 9' 9.22"	W 104° 14' 9.15"
	5745.00	6.52	260.15	5719.09	124.76	-125.01	-406.80	0.84	419248.88	571487.27	N 32° 9' 9.20"	W 104° 14' 9.28"
	5840.00	5.61	252.71	5813.56	127.06	-127.31	-418.55	1.26	419246.58	571477.52	N 32° 9' 9.18"	W 104° 14' 9.39"
	5934.00	4.99	250.54	5907.16	129.78	-130.04	-424.79	0.69	419243.83	571469.28	N 32° 9' 9.15"	W 104° 14' 9.49"
	6028.00	4.87	257.15	6000.81	132.03	-132.29	-432.53	0.62	419241.58	571461.54	N 32° 9' 9.13"	W 104° 14' 9.58"
	6122.00	4.57	247.14	6094.50	134.36	-134.63	-439.88	0.93	419239.24	571454.19	N 32° 9' 9.11"	W 104° 14' 9.68"
	6217.00	5.29	239.27	6189.15	138.07	-138.34	-447.13	1.04	419235.53	571446.94	N 32° 9' 9.07"	W 104° 14' 9.75"
	6311.00	5.15	241.80	6282.76	142.27	-142.55	-454.57	0.29	419231.32	571439.50	N 32° 9' 9.03"	W 104° 14' 9.83"
	6405.00	5.60	249.33	6376.34	145.88	-146.16	-462.58	0.89	419227.71	571431.49	N 32° 9' 8.99"	W 104° 14' 9.93"
	6499.00	6.25	253.50	6469.84	148.95	-149.23	-471.78	0.83	419224.64	571422.30	N 32° 9' 8.96"	W 104° 14' 10.03"
	6593.00	6.80	253.88	6563.23	151.94	-152.23	-482.03	0.59	419221.64	571412.04	N 32° 9' 8.93"	W 104° 14' 10.15"
	6688.00	6.52	258.93	6657.59	154.53	-154.83	-492.73	0.68	419219.04	571401.35	N 32° 9' 8.91"	W 104° 14' 10.28"
	6782.00	5.79	259.58	6751.05	156.40	-156.71	-502.63	0.78	419217.16	571391.45	N 32° 9' 8.89"	W 104° 14' 10.39"
	6876.00	5.54	263.40	6844.59	157.78	-158.09	-511.80	0.46	419215.78	571382.28	N 32° 9' 8.88"	W 104° 14' 10.50"

Comments	MD	Incl	Azim Grad	TVD	VSEC	NS	EW	C/1000	DLG	Northing	Eastng	Latitude	Longitude
	(ft)		(°)	(ft)	(ft)	(ft)	(ft)			(NUS)	(NUS)	(N 32 9 3.84	(E/W 104 14 10.82
	7150.00	5.90	254.81	7126.18	181.80	-162.13	-539.68		0.78	418211.75	571354.40	N 32 9 3.84	W 104 14 10.82
	7250.00	6.28	258.41	7219.58	164.26	-164.59	-550.18	1.53		418208.28	571343.90	N 32 9 3.81	W 104 14 10.85
	7340.00	7.64	256.40	7312.84	166.76	-167.10	-561.45	0.54		418206.77	571332.63	N 32 9 3.79	W 104 14 11.08
	7440.00	8.50	251.84	7406.38	169.21	-169.56	-570.36	2.58		418204.32	571323.72	N 32 9 3.76	W 104 14 11.18
	7530.00	2.50	238.73	7501.20	171.43	-171.78	-575.63	2.20		418202.09	571318.45	N 32 9 3.74	W 104 14 11.28
	7620.00	2.41	221.63	7594.12	173.94	-174.30	-578.66	0.78		418199.58	571315.42	N 32 9 3.72	W 104 14 11.38
	7720.00	3.17	232.88	7689.01	177.02	-177.38	-582.09	0.88		418196.50	571312.00	N 32 9 3.69	W 104 14 11.32
	7810.00	1.21	248.16	7782.93	178.99	-179.35	-585.07	2.14		418194.53	571309.02	N 32 9 3.67	W 104 14 11.37
	7910.00	0.73	270.01	7876.92	179.39	-179.75	-588.57	0.66		418194.13	571307.51	N 32 9 3.65	W 104 14 11.35
	8006.00	0.97	155.15	7970.91	180.11	-180.47	-588.84	1.53		418193.41	571307.25	N 32 9 3.65	W 104 14 11.37
	8101.00	1.53	151.59	8065.69	181.98	-182.31	-585.90	0.88		418191.56	571308.19	N 32 9 3.62	W 104 14 11.35
	8195.00	0.84	174.87	8159.87	183.75	-184.10	-585.24	0.69		418189.77	571308.85	N 32 9 3.62	W 104 14 11.35
	8289.00	0.37	127.75	8253.87	184.62	-184.98	-584.93	0.28		418188.41	571309.81	N 32 9 3.61	W 104 14 11.34
	8383.00	0.63	125.97	8347.86	185.11	-185.47	-584.28	0.76		418188.31	571310.48	N 32 9 3.61	W 104 14 11.34
	8477.00	0.28	29.30	8441.86	185.21	-185.57	-583.65	0.34		418188.46	571310.48	N 32 9 3.61	W 104 14 11.34
	8572.00	0.07	149.44	8538.86	185.06	-185.42	-583.60	0.20		418188.46	571310.48	N 32 9 3.61	W 104 14 11.34
	8666.00	0.13	285.28	8630.86	185.06	-185.42	-583.60	0.20		418188.46	571310.48	N 32 9 3.61	W 104 14 11.34
	8760.00	0.37	275.50	8724.86	184.99	-185.35	-584.07	0.27		418188.53	571310.41	N 32 9 3.61	W 104 14 11.34
	8854.00	2.32	242.13	8818.83	184.95	-185.35	-584.07	0.27		418188.53	571310.41	N 32 9 3.61	W 104 14 11.34
	8948.00	2.89	237.10	8913.73	188.05	-188.41	-589.76	0.65		418183.15	571308.03	N 32 9 3.58	W 104 14 11.36
	9043.00	2.95	244.55	9007.61	190.37	-190.73	-593.94	0.41		418183.15	571308.03	N 32 9 3.58	W 104 14 11.36
	9137.00	2.75	256.20	9101.49	191.87	-192.23	-598.33	0.75		418181.64	571300.15	N 32 9 3.55	W 104 14 11.41
	9230.00	3.34	248.81	9184.38	193.15	-193.51	-602.53	0.93		418180.36	571295.78	N 32 9 3.54	W 104 14 11.51
	9323.00	6.69	226.63	9216.25	194.76	-195.13	-604.76	11.91		418178.75	571289.33	N 32 9 3.51	W 104 14 11.56
	9416.00	10.88	223.32	9246.88	198.13	-198.50	-608.08	13.81		418175.38	571286.01	N 32 9 3.48	W 104 14 11.62
	9510.00	14.54	218.05	9307.84	203.32	-203.70	-612.48	12.37		418170.18	571281.80	N 32 9 3.42	W 104 14 11.67
	9604.00	17.93	210.89	9377.00	210.71	-211.09	-617.49	12.28		418162.79	571276.59	N 32 9 3.42	W 104 14 11.79
	9700.00	21.95	205.78	9436.98	220.03	-220.41	-622.48	14.12		418153.47	571271.82	N 32 9 3.42	W 104 14 11.85
	9800.00	25.45	200.97	9496.28	231.83	-232.22	-627.53	12.49		418149.68	571268.56	N 32 9 3.42	W 104 14 11.85
	9900.00	28.22	196.17	9553.94	245.09	-245.48	-631.95	11.34		418148.40	571262.13	N 32 9 3.42	W 104 14 11.85
	10000.00	31.52	190.79	9612.69	260.58	-260.97	-635.63	13.27		418142.91	571258.46	N 32 9 3.42	W 104 14 11.85
	10100.00	35.40	188.22	9673.27	278.52	-278.91	-638.61	12.51		418094.97	571255.48	N 32 9 3.42	W 104 14 11.85
	10200.00	38.22	186.89	9734.87	297.10	-297.49	-641.41	12.39		418088.51	571252.88	N 32 9 3.42	W 104 14 12.05
	10300.00	43.87	189.82	9797.45	317.99	-318.38	-644.84	14.01		418083.58	571249.25	N 32 9 3.42	W 104 14 12.05
	10400.00	47.90	189.90	9860.44	339.91	-340.31	-648.41	13.81		418075.51	571245.68	N 32 9 3.42	W 104 14 12.05
	10500.00	51.83	189.90	9923.44	363.29	-363.69	-652.27	12.96		418070.21	571242.82	N 32 9 3.42	W 104 14 12.05
	10600.00	54.86	188.85	9986.44	386.61	-389.01	-656.13	9.86		418064.68	571237.06	N 32 9 3.42	W 104 14 12.16
	10700.00	57.25	188.85	10049.44	410.02	-414.43	-660.38	7.71		418059.47	571233.71	N 32 9 3.42	W 104 14 12.16
	10800.00	60.85	187.93	10112.44	434.34	-440.75	-663.87	12.99		418053.16	571230.22	N 32 9 3.42	W 104 14 12.16
	10900.00	64.83	184.70	10175.44	468.65	-469.05	-668.60	13.82		418048.85	571226.77	N 32 9 3.42	W 104 14 12.16
	11000.00	68.59	184.43	10238.44	502.97	-503.38	-673.33	10.85		418043.49	571223.32	N 32 9 3.42	W 104 14 12.16
	11100.00	72.58	180.71	10301.44	537.29	-537.69	-678.06	9.85		418038.02	571219.87	N 32 9 3.42	W 104 14 12.16
	11200.00	75.76	181.30	10364.44	571.61	-572.10	-682.79	7.27		418032.55	571216.42	N 32 9 3.42	W 104 14 12.16
	11300.00	77.95	181.22	10427.44	605.93	-606.34	-687.52	6.15		418027.08	571212.97	N 32 9 3.42	W 104 14 12.16
	11400.00	81.19	182.24	10490.44	640.25	-640.66	-692.25	5.54		418021.61	571209.52	N 32 9 3.42	W 104 14 12.16
	11500.00	82.73	181.01	10553.44	674.57	-674.98	-696.98	6.14		418016.14	571206.07	N 32 9 3.42	W 104 14 12.16
	11600.00	84.92	180.68	10616.44	708.90	-709.31	-701.71	7.45		418010.67	571202.62	N 32 9 3.42	W 104 14 12.16
	11700.00	85.01	180.64	10679.44	743.23	-743.64	-706.44	7.45		418005.20	571199.17	N 32 9 3.42	W 104 14 12.16
	11800.00	87.21	181.03	10742.44	777.56	-777.97	-711.17	6.98		418000.73	571195.72	N 32 9 3.42	W 104 14 12.16
	11900.00	90.34	178.81	10805.44	811.89	-812.30	-715.88	6.98		417996.26	571192.27	N 32 9 3.42	W 104 14 12.16
	12000.00	93.86	178.81	10868.44	846.22	-846.63	-720.59	6.59		417991.79	571188.82	N 32 9 3.42	W 104 14 12.16
	12100.00	97.38	178.81	10931.44	880.55	-880.96	-725.30	6.59		417987.32	571185.37	N 32 9 3.42	W 104 14 12.16
	12200.00	100.90	178.48	10994.44	914.88	-915.29	-730.01	6.59		417982.85	571181.92	N 32 9 3.42	W 104 14 12.16
	12300.00	104.42	178.48	11057.44	949.21	-949.62	-734.72	6.59		417978.38	571178.47	N 32 9 3.42	W 104 14 12.16
	12400.00	107.94	178.48	11120.44	983.54	-983.95	-739.43	6.59		417973.91	571175.02	N 32 9 3.42	W 104 14 12.16
	12500.00	111.46	178.48	11183.44	1017.87	-1018.28	-744.14	6.59		417969.44	571171.57	N 32 9 3.42	W 104 14 12.16
	12600.00	114.98	178.48	11246.44	1052.20	-1052.61	-748.85	6.59		417964.97	571168.12	N 32 9 3.42	W 104 14 12.16
	12700.00	118.50	178.48	11309.44	1086.53	-1086.94	-753.56	6.59		417960.50	571164.67	N 32 9 3.42	W 104 14 12.16
	12800.00	122.02	178.48	11372.44	1120.86	-1121.27	-758.27	6.59		417956.03	571161.22	N 32 9 3.42	W 104 14 12.16
	12900.00	125.54	178.48	11435.44	1155.19	-1155.60	-762.98	6.59		417951.56	571157.77	N 32 9 3.42	W 104 14 12.16
	13000.00	129.06	178.48	11498.44	1189.52	-1189.93	-767.69	6.59		417947.09	571154.32	N 32 9 3.42	W 104 14 12.16
	13100.00	132.58	178.48	11561.44	1223.85	-1224.26	-772.40	6.59		417942.62	571150.87	N 32 9 3.42	W 104 14 12.16
	13200.00	136.10	178.48	11624.44	1258.18	-1258.59	-777.11	6.59		417938.15	571147.42	N 32 9 3.42	W 104 14 12.16
	13300.00	139.62	178.48	11687.44	1292.51	-1292.92	-781.82	6.59		417933.68	571143.97	N 32 9 3.42	W 104 14 12.16
	13400.00	143.14	178.48	11750.44	1326.84	-1327.25	-786.53	6.59		417929.21	571140.52	N 32 9 3.42	W 104 14 12.16
	13500.00	146.66	178.48	11813.44	1361.17	-1361.58	-791.24	6.59		417924.74	571137.07	N 32 9 3.42	W 104 14 12.16
	13600.00	150.18	178.48	11876.44	1395.50	-1395.91	-795.95	6.59		417920.27	571133.62	N 32 9 3.42	W 104 14 12.16
	13700.00	153.70	178.48	11939.44	1429.83	-1430.24	-800.66	6.59		417915.80	571130.17	N 32 9 3.42	W 104 14 12.16
	13800.00	157.22	178.48	12002.44	1464.16	-1464.57	-805.37	6.59		417911.33	571126.72	N 32 9 3.42	W 104 14 12.16
	13900.00	160.74	178.48	12065.44	1498.49	-1498.90	-810.08	6.59		417906.86	571123.27	N 32 9 3.42	W 104 14 12.16
	14000.00	164.26	178.48	12128.44	1532.82	-1533.23	-814.79	6.59		417902.39	571119.82	N 32 9 3.42	W 104 14 12.16
	14100.00	167.78	178.48	12191.44	1567.15	-1567.56	-819.50	6.59		417897.92	571116.37	N 32 9 3.42	W 104 14 12.16
	14200.00	171.30	178.48	12254.44	1601.48	-1601.89	-824.21	6.59		417893.45	571112.92	N 32 9 3.42	W 104 14 12.16
	14300.00	174.82	178.48	12317.44	1635.81	-1636.22	-828.92	6.59		417888.98	571109.47	N 32 9 3.42	W 104 14 12.16
	14400.00	178.34											

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS C/100ft	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ° ' '')	Longitude (E/W ° ° ' '')
	15457.00	89.28	181.44	9714.83	6156.82	-6159.22	-653.71	2.24	413215.20	571230.38	N 32 8 9.49	W 104 14 12.21
	15552.00	89.69	182.04	9715.69	6253.77	-6254.18	-656.60	0.76	413120.26	571237.49	N 32 8 8.55	W 104 14 12.25
	15647.00	89.31	181.78	9716.51	6348.72	-6349.12	-659.76	0.48	413025.32	571234.33	N 32 8 7.61	W 104 14 12.29
	15742.00	89.38	181.52	9717.60	6443.67	-6444.07	-662.50	0.28	412930.38	571231.59	N 32 8 6.68	W 104 14 12.32
	15837.00	88.90	179.79	9719.03	6538.65	-6539.05	-663.58	1.89	412835.41	571230.51	N 32 8 5.74	W 104 14 12.33
	15932.00	89.24	180.31	9720.57	6633.63	-6634.04	-663.87	0.85	412740.43	571230.42	N 32 8 4.80	W 104 14 12.33
	16027.00	89.48	179.79	9721.63	6728.63	-6729.03	-663.75	0.60	412645.44	571230.34	N 32 8 3.86	W 104 14 12.34
	16121.00	89.79	179.56	9722.23	6822.62	-6823.03	-663.22	0.41	412551.46	571230.87	N 32 8 2.93	W 104 14 12.33
	16217.00	89.00	179.69	9723.24	6918.62	-6919.02	-662.59	0.83	412455.47	571231.50	N 32 8 1.98	W 104 14 12.32
	16311.00	89.86	180.00	9724.18	7012.61	-7013.02	-662.33	0.97	412361.49	571231.78	N 32 8 1.05	W 104 14 12.32
	16406.00	89.04	180.16	9725.09	7107.60	-7108.01	-662.47	0.88	412266.50	571231.82	N 32 8 0.11	W 104 14 12.32
	16501.00	89.17	180.99	9726.57	7202.59	-7202.99	-663.42	0.88	412171.53	571230.67	N 32 7 59.17	W 104 14 12.34
	16596.00	91.38	179.88	9726.12	7297.57	-7297.98	-664.22	2.56	412076.55	571229.87	N 32 7 58.23	W 104 14 12.35
	16691.00	90.93	180.01	9724.20	7392.55	-7392.96	-664.22	0.47	411981.58	571229.87	N 32 7 57.29	W 104 14 12.35
	16786.00	90.96	179.18	9722.63	7487.54	-7487.95	-663.53	0.90	411886.60	571230.56	N 32 7 56.35	W 104 14 12.34
	16881.00	90.96	179.94	9721.04	7582.52	-7582.93	-662.78	0.82	411791.63	571231.31	N 32 7 55.41	W 104 14 12.33
	16976.00	91.38	180.21	9719.10	7677.50	-7677.91	-662.91	0.53	411696.66	571231.18	N 32 7 54.47	W 104 14 12.34
	17070.00	91.31	179.66	9716.90	7771.48	-7771.88	-662.80	0.59	411602.69	571231.29	N 32 7 53.54	W 104 14 12.34
	17165.00	90.17	179.67	9715.67	7866.46	-7866.87	-662.24	1.20	411507.71	571231.85	N 32 7 52.60	W 104 14 12.33
	17260.00	89.42	178.70	9716.01	7961.45	-7961.86	-660.89	1.29	411412.73	571233.20	N 32 7 51.66	W 104 14 12.32
	17355.00	89.73	178.57	9716.71	8056.43	-8056.83	-658.63	0.35	411317.77	571235.48	N 32 7 50.72	W 104 14 12.29
	17451.00	89.42	178.13	9717.43	8152.38	-8152.79	-655.87	0.56	411221.82	571238.22	N 32 7 49.77	W 104 14 12.26
	17545.00	89.24	177.72	9718.53	8248.32	-8248.72	-652.46	0.48	411127.90	571241.63	N 32 7 48.84	W 104 14 12.22
	17639.00	89.07	177.12	9719.91	8340.21	-8340.61	-648.23	0.68	411034.01	571245.86	N 32 7 47.91	W 104 14 12.17
	17734.00	91.89	179.25	9719.12	8435.15	-8435.55	-645.22	3.72	410939.09	571248.87	N 32 7 46.97	W 104 14 12.14
	17829.00	91.88	178.47	9716.01	8530.08	-8530.48	-643.33	0.82	410844.17	571250.75	N 32 7 46.03	W 104 14 12.12
	17924.00	91.55	179.06	9713.18	8625.02	-8625.41	-641.29	0.70	410749.24	571252.80	N 32 7 45.09	W 104 14 12.09
	18019.00	91.38	181.52	9710.75	8719.98	-8720.37	-641.77	2.59	410654.29	571252.32	N 32 7 44.15	W 104 14 12.10
	18114.00	91.51	181.63	9708.36	8814.91	-8815.31	-644.38	0.18	410559.36	571249.71	N 32 7 43.21	W 104 14 12.13
	18209.00	90.62	181.72	9706.59	8909.85	-8910.25	-647.15	0.94	410464.43	571246.93	N 32 7 42.27	W 104 14 12.17
	18304.00	91.27	183.54	9705.02	9004.73	-9005.13	-651.51	2.03	410369.56	571242.58	N 32 7 41.33	W 104 14 12.22
	18398.00	90.62	182.31	9703.47	9098.59	-9098.99	-656.31	1.48	410275.70	571237.78	N 32 7 40.40	W 104 14 12.27
	18493.00	90.52	180.07	9702.53	9193.56	-9193.96	-658.28	2.38	410180.74	571235.81	N 32 7 39.46	W 104 14 12.30
	18588.00	89.90	178.61	9702.18	9288.55	-9288.95	-657.19	1.67	410085.78	571236.90	N 32 7 38.52	W 104 14 12.29
	18683.00	88.56	179.71	9703.48	9383.53	-9383.93	-655.79	1.82	409990.79	571238.30	N 32 7 37.58	W 104 14 12.27
	18778.00	87.42	178.16	9706.79	9478.45	-9478.85	-654.03	2.02	409895.88	571240.08	N 32 7 36.65	W 104 14 12.25
	18872.00	89.04	178.57	9709.69	9572.36	-9572.76	-651.35	1.78	409801.88	571242.74	N 32 7 35.72	W 104 14 12.22
	18967.00	87.52	181.39	9712.54	9667.31	-9667.71	-651.32	3.37	409707.04	571242.74	N 32 7 34.78	W 104 14 12.22
	19062.00	87.45	181.34	9716.71	9762.19	-9762.59	-653.58	0.09	409612.17	571240.51	N 32 7 33.84	W 104 14 12.25
	19157.00	88.18	180.47	9720.33	9857.10	-9857.51	-655.08	1.19	409517.26	571236.01	N 32 7 32.90	W 104 14 12.27
	19252.00	87.83	180.87	9723.64	9952.04	-9952.44	-656.19	0.56	409422.33	571237.90	N 32 7 31.96	W 104 14 12.28
	19347.00	88.04	180.25	9727.07	10046.97	-10047.38	-657.11	0.69	409327.41	571236.98	N 32 7 31.02	W 104 14 12.29
	19441.00	87.73	180.90	9730.53	10140.90	-10141.31	-658.06	0.77	409233.49	571236.03	N 32 7 30.09	W 104 14 12.31
	19536.00	87.80	180.65	9734.24	10235.82	-10236.23	-659.34	0.27	409138.57	571234.75	N 32 7 29.15	W 104 14 12.32
	19631.00	87.66	181.28	9738.00	10330.73	-10331.14	-660.94	0.68	409043.67	571233.15	N 32 7 28.21	W 104 14 12.34
	19726.00	88.04	180.38	9741.57	10425.65	-10426.06	-662.31	1.03	408948.76	571231.78	N 32 7 27.27	W 104 14 12.36
	19821.00	87.66	179.69	9745.13	10520.58	-10520.99	-662.37	0.83	408853.84	571231.72	N 32 7 26.33	W 104 14 12.36
	19916.00	91.34	179.29	9745.96	10615.56	-10615.97	-661.53	3.90	408758.87	571232.56	N 32 7 25.39	W 104 14 12.35
	19940.00	91.27	179.02	9745.41	10639.55	-10639.96	-661.17	1.16	408734.88	571232.92	N 32 7 25.16	W 104 14 12.35
TD, PTB (330' FSL, 376' FWL)	19984.00	91.27	179.02	9744.44	10683.54	-10683.94	-660.42	0.00	408690.90	571233.67	N 32 7 24.72	W 104 14 12.34

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	26.000	1/98.425	30.000	30.000	NAL_MWD_IFR1+MS-Depth Only	Devinci 7-18 Federal Com 9H / Cimarex DaVinci 7-18 Federal Com #9H Surcon Corrected Off- Devinci 7-18 Federal Com 9H / Cimarex DaVinci 7-18 Federal
	1	26.000	26.000	Act Strs	30.000	30.000	NAL_MWD_IFR1+MS-Depth Only	Com #9H Surcon Corrected Off- Devinci 7-18 Federal Com 9H / Cimarex DaVinci 7-18 Federal
	1	26.000	19984.000	Act Strs	30.000	30.000	NAL_MWD_IFR1+MS	Devinci 7-18 Federal Com 9H / Cimarex DaVinci 7-18 Federal

